APPENDIX PD-4
MASTER DRAINAGE STUDY

North Watt Specific Plan
Master Drainage Study

October 2026

Prepared for

SACRAMENTO COUNTY

Prepared by

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INTRODUCTION

The Sacramento County (County) General Plan encourages private infill development and public investment to improve streetscapes along the County's commercial corridors, including North Watt Avenue. The North Watt Avenue Specific Plan (Project) is designed to implement the County's General Plan for this corridor, and to accelerate infill development that will increase local economic activity, improve transit ridership, add housing near jobs and services, and create new public gathering spaces. The Project provides a flexible framework for development and identifies public infrastructure improvements needed to support new infill development, along with strategies to fund and implement these improvements in ways that can attract private investment in both existing properties and future infill projects. The Project is located in the North Highlands community and generally encompasses the boundaries of the former North Watt Corridor Plan area and the North Highlands Town Center Special Planning Area. In total the Project area consists of approximately 704 acres of land area distributed along a 4-mile segment of Watt Avenue, bounded by U Street/Antelope Road to the north, the "West of Watt" area and McClellan Business Park to the west, Interstate 80 (I-80) to the south, and single-family residential neighborhoods to the east. **Figure 1** shows the location of the Project.

PURPOSE

The purpose of this Master Drainage Study (Study) is to evaluate whether existing and proposed drainage facilities have sufficient capacity to accommodate flows from the Project. Additionally, the purpose of this Study is to document the assumptions and results of the hydrologic and hydraulic analysis conducted for the Project. All proposed design features are intended to meet applicable Sacramento County (County) design standards.

PROJECT APPROACH

Modeling Platforms

Several computer modeling platforms were used in evaluating the hydraulic and hydrologic performance of the on-site watersheds. These are detailed below:

1. XPSWMM: XPSWMM is a comprehensive software package for modeling stormwater, sanitary or river systems. The software allows the modeler to use many combinations of basic hydrologic processes, including the Sacramento County Method, to simulate the response of a watershed, route runoff through watersheds, and to estimate runoff as a result of rainfall. XPSWMM is a dynamic, unsteady flow model platform allowing simultaneous simulation of the hydrologic (storm event data and runoff) and hydraulic (conduit operation and hydraulic grade line data) conditions in real time, rather than a steady state or standard step model. Version 2020.1 was used in conducting this Study.

2. HEC-RAS: HEC-RAS is a software package developed by the USACE that allows the user to perform one-dimensional steady flow, one and two-dimensional unsteady flow calculations in natural or constructed open channels. The software can be used to determine riverine characteristics such as flow, velocity, and water surface elevations. Version 6.6 of the software was used in conducting this Study.

3. Sacramento Area Hydrology Model: The Sacramento Area Hydrology Model is a software package developed by the Sacramento Stormwater Quality Partnership to assist in designing BMPs that meet hydromodification management requirements as well as low impact development requirements.

Design Methodology

Below is an outline of the workflow followed for this Study and the methodology used in the computer modeling evaluation for the Project site:

1. Delineate existing conditions watershed boundaries tributary to drainage appurtenances within the Project area and create an XPSWMM model to generate runoff hydrographs for each watershed. This was done for the following storm events:
    a. 100-year 24-hour
2. Refine the XPSWMM model to represent the existing conditions and the existing on-site underground storm drain system within the Project area and hydraulically route flows from #1 to creek outfalls.
3. Develop HEC-RAS modeling to represent the streams and creeks flowing through the Project area and hydraulically route flows from #2 through the Project site. This was done for the following storm event:
    a. 100-year 24-hour
4. Delineate proposed conditions watershed boundaries tributary to drainage appurtenances within the Project area and generate runoff hydrographs for each watershed. This was done for the following storm events:
    a. Nolte
    b. 10-year 24-hour
    c. 100-year 24-hour
5. Refine the XPSWMM model to represent proposed conditions within the Project area and hydraulically route flows from #4 to creek outfalls.
6. Apply on-site hydrographs from #4 to the XPSWMM model to establish a 10-year tailwater to be used in evaluating the Nolte design event.
7. Generate Nolte flows within the XPSWMM model to ensure that on-site water surface elevations do not exceed County freeboard criteria for the Nolte design event.
8. Apply hydrographs from #4 to the XPSWMM model to ensure that on-site water surface elevations do not exceed County freeboard criteria for the 100-year storm event.
9. Apply hydrographs from the outfalls of the XPSWMM model and off-site XPSWMM watersheds to the HEC-RAS model representing proposed conditions and hydraulically route flows from the Project site. This was done for the following storm event:
    a. 100-year 24-hour

As part of this Study, model results for both short and long duration storm events were reviewed to determine which set of storm events would generate higher stages throughout the system. This review determined that peak stages and flow values were higher through the use of a 100-year 24-hour event in comparison to a 100-year 10-day event. Therefore, the results of this Study focus on the 100-year 24-hour event.

Datum and Projection

Work conducted for this Study was completed using the 1988 North American Vertical Datum (NAVD 88) and the California State Plane Zone II (US feet) projected coordinate system.

PREVIOUS STUDIES

Hydrologic and hydraulic modeling data from two previous studies were leveraged to support the analysis conducted for this Study. Modeling of Magpie Creek originally developed by Borcalli & Associates, Inc, and approved by Federal Emergency Management Agency (FEMA) in November 1999, was incorporated into this study as the modeling basis for Magpie Creek. The USACE software (HEC-2) was the modeling platform utilized for the 1999 study. As HEC-2 is no longer an accepted program by FEMA, the HEC-2 data was imported into HEC-RAS for this Study. The hydrologic data that was created in support of the Magpie Creek Letter of Map Revision (LOMR) was not included in the 1999 study. Therefore, new hydrologic data was developed as part of this Study for Magpie Creek in accordance with County standards.

This Study also utilizes hydrologic and hydraulic data from the Robla Creek LOMR, dated November 2012. XPStorm-2D was used to model the hydrologic and hydraulic data of Robla Creek and incorporates the physical geometry of Robal Creek between Watt Avenue and 34th Street. Model results representing the flow discharging into this reach are used as the upstream boundary condition of the Project.

EXISTING CONDITIONS

Topography

The Project is an infill development within Sacramento County. Elevations within the Project area range from approximately elevation 63 to elevation 104. **Figure 2** depicts the available topography for the Project site used in the Study.

Soils Data

Soil classifications for the Project site were taken from the published Natural Resources Conservation Service (NRCS) soil survey, which have been adopted by the County. The Project site consists of Type “C” and Type “D” soils. **Figure 3** shows the soils type at the Project.

FEMA Floodplain

Robla Creek and Magpie Creek pass through the Project area and both have been mapped by FEMA. The portion of Robla Creek within the Project area is depicted on Flood Insurance Rate Map (FIRM) panel numbers 06067C0067H, and 06067C0059H for Sacramento County, California and Incorporated Areas dated 8/16/2012. The portion of Magpie Creek within the Project area is depicted on FIRM panel number 06067C0069J, for Sacramento County, California and Incorporated Areas dated 2/22/2024. These FEMA FIRM panels have been included in **Appendix A** and the Project area in relation to SFHAs are shown on **Figure 4**. A review of the FIRM panels shows that portions of the Project area are located within areas designated by FEMA as a Special Flood Hazard Area (SFHA). Robla Creek contains SFHA Zone AE, Zone AH, and Zone AO in addition to areas mapped as shaded Zone X while Magpie Creek contains SFHA Zone AE in addition to areas mapped as shaded Zone X. FEMA defines these areas as follows:

- Zone AE to characterize areas within the 1% Annual Chance Flood Zone with determined Base Flood Elevations (BFE).
- Zone AH to characterize areas within the 1% Annual Chance Flood Zone with mapped flood depths between 1 to 3 feet with determined BFEs.
- Zone AO to characterize areas within the 1% Annual Chance Flood Zone with mapped flood depths between 1 to 3 feet, has calculated velocities, and determined BFEs.
- Shaded Zone X to characterize areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or drainage areas less than 1 square mile, and areas

protected by levees from the 1% annual chance flood.

Hydrology

Runoff from the Project area is divided into eight overarching major watersheds tributary to eight different streams and creeks; five of which are unnamed tributaries. From south to north these streams and creeks are Arcade Creek, Magpie Creek, Unnamed Creek 01, Unnamed Creek 02, Unnamed Creek 03, Robla Creek, Unnamed Creek 04, and Unnamed Creek 05. From the eight overarching major watersheds, watersheds tributary to drainage appurtenances within the Project area were delineated for this Study. Runoff hydrographs for each of these watersheds for the storm events analyzed in this Study were computed in XPSWMM using the travel time method to compute lag. Hydrology for the Robla Creek watershed upstream of the Project area was utilized from the Robla Creek LOMR, dated November 2012, provided by the County without modification. Due to the fact that flows are mitigated prior to Arcade Creek, Arcade Creek is not modeled as part of this Study. The existing conditions watersheds delineated as part of this Study, as well as the eight stream crossings within the Project limits, are shown in **Figure 5A** through **Figure 5F**. Watershed parameters used to represent existing conditions are presented in **Appendix B**. Digital copies of all SacCalc models have been included in **Appendix I**.

Hydraulics

The existing conditions hydrographs were applied directly to the storm drain system within XPSWMM and hydraulically routed through the storm drain system to where the systems outlet into the eight streams within the Project area. Storm drain system location, sizes, and inverts were obtained through field survey data collected by Wood Rodgers in the fall and winter of 2025. Hydrographs from XPSWMM were then applied to the HEC-RAS modeling and hydraulically routed downstream beyond the Project area. Where available, FEMA effective modeling was used as the basis for HEC-RAS geometry developed for this Study. Magpie Creek and Robla Creek were originally modeled in HEC-2 and Innovyze XPStorm respectively. These models were updated and converted to HEC-RAS and the resulting peak flow at the existing downstream limits of the HEC-RAS modeling are summarized in **Table 1**. Existing 100-year local floodplains were not established as part of this Study. In the future, to comply with the County Floodplain Management Ordinance, delineation of an existing 100-year floodplain shall be required for approval of the improvement plans. Digital copies of all HEC-RAS models have been included in **Appendix I**.

Table 1: Summary of Existing Conditions Peak Flow Rates

Location	100-year 24-hour Peak Flow (cfs)
Arcade Creek	372.0
Magpie Creek	1,034.7
Unnamed Creek 01	146.6
Unnamed Creek 02	80.9
Unnamed Creek 03	700.5
Robla Creek	389.8
Unnamed Creek 04	158.2
Unnamed Creek 05	144.8

Existing Deficiencies

Upon review of the XPSWMM model results from the existing conditions model, it was found that many locations within the existing storm drain system are undersized and are not able convey existing conditions flow to current published County drainage standards. The existing conditions analysis presented in the Study focused on providing storm drain sizing that, when combined with dual conveyance in the roadway, provides adequate drainage to meet County 100-year design standards. While a Nolte analysis is also County criteria for design of drainage facilities, the Nolte analysis often results in drainage facilities that do not provide capacity to adequately convey the 100-year design storm without enriching into required freeboard for pad elevations. Therefore, for development of this Study, all proposed drainage facilities were designed to meet 100-year design criteria as meeting this criteria will ensure that the Nolte criteria would also be met. Throughout all eight watersheds in the Project area, 100-year water surface elevations exceeded the rim or grate elevation, resulting in flooding of streets that was either within 1 foot of adjacent pad elevations or would completely inundate the street and not provide a drivable lane for emergency access vehicles. A graphical representation of the modeled nodes where the water surface elevations resulted in the violations of the criteria above can be found in **Appendix C**.

PROPOSED CONDITIONS

Land Use

The overarching land use definition for watersheds within the Project development area is shown in **Figure 6**. The proposed land use for the Project area consists of roadways, large lot mixed-use, small lot mixed-use, medium density residential lots, and parks areas of open space. Large lot mixed-use and small lot mixed use land uses are a combination of commercial land use with high density residential and medium density residential respectively. **Table 2** summarizes total area of land use classes.

Table 2: Land Use Summary

Land Use Code	Land Use Description	Total Area (Acres)
R1	Roadway	87.8
R2	Large Lot Mixed-Use	311.4
R3	Small Lot Mixed-Use	221.2
R4	Apartments/High Density Residential	32.7
R7	Medium Density Residential	2.9
R15	Park/Recreation	48.1
	Total	**704.1**

Hydrology

Watershed boundaries and parameters were created to reflect development and anticipated development of the Project site in proposed conditions. The runoff hydrographs for the proposed conditions watersheds were calculated using XPSWMM. The travel time component method was used to determine lag time with overland flow times computed using the gutter flow lengths to generate lag times for onsite and offsite watersheds. Offsite watersheds upstream of the Project area remain unchanged between existing and proposed conditions. **Figure 7** shows the proposed conditions watersheds. Proposed conditions

hydrological parameters are presented in **Appendix D** and digital copies of all XPSWMM models have been included as part of **Appendix I**.

Hydraulics

Evaluation of the storm drain system under proposed conditions was performed using an XPSWMM model. XPSWMM version 2020.1 was utilized as XPSWMM provides the flexibility to model the effect of dual conveyance through conduits, overland flow in streets, and detention basins. HEC-RAS was also utilized to evaluate the streams and creeks downstream of the Project areas. For locations where flow exchanged between modeling software the upstream HEC-RAS water surface elevation was used as tailwater condition in the XPSWMM model. For the analysis of design storm events, runoff hydrographs for each watershed were applied within XPSWMM at the respective drainage appurtenance locations, and then hydraulically routed through the Project area to determine if the existing pipe sizes would be adequate to convey proposed flow. For the analysis of Nolte flows, watershed areas and upstream land use were input into XPSWMM and then XPSWMM's Nolte Flow Module was utilized to generate Nolte flows and their resulting water surface elevations.

Proposed Improvements

As many locations within the existing storm drain system are undersized and are not able convey existing conditions flow to current published County drainage standards, it was necessary to appropriately and accurately determine improvements necessary for the Project. To do this, the following two scenarios were modeled:

1. Mitigation Scenario: Identifies drainage infrastructure improvements that new projects within the Project area would need to implement to offset their own increases (i.e., not worsening existing conditions and mitigate water surface elevations to existing conditions).
2. System Correction Scenario: Identifies both the improvements needed to develop the Project and additional improvements needed to address existing deficiencies in the storm drain system to ensure the system meets current County standards.

The Mitigation Scenario adheres to the following simplified County Standards:

1. Manning's n = 0.015
2. Nolte water surface elevation is a minimum of 1 foot below proposed rim/grate elevations
3. 100-year water surface elevation in proposed detention basins provides a minimum of 1 foot of freeboard
4. Water surface elevations in the proposed conditions shall not exceed the water surface elevations of the existing conditions.

The System Correction Scenario adheres to the following County Standards:

1. Manning's n = 0.015
2. Nolte water surface elevation is a minimum of 1 foot below proposed rim/grate elevations
3. 100-year water surface elevation is limited to keep the number one lane dry in streets for emergency access
4. 100-year water surface elevation in the detention basin provides a minimum of 1 foot of freeboard

Two types of drainage improvements were identified to achieve mitigation for the additional runoff volume that would result from the increase in impervious area within the Project area and to meet the criteria listed

in the scenarios above. These two types of drainage improvements were detention basins to capture additional runoff volume and replacement of storm drains with larger diameter pipes. All proposed detention basins were modeled assuming 4:1 side slopes, a 3:1 length to width ratio, a gravity outlet, and to provide required freeboard for the 100-year 24-hour storm event. The modeled detention basin configurations were conceptual in nature and were primarily devised to quantify the volumetric storage needed within each watershed to allow for the development of the project while meeting County storm drainage standards. The final location, size, outfall configurations and quantity of any detention basins will be determined at the project improvement plan stage and may require onsite mitigation in conjunction with the regional solutions identified in this Study. **Table 3** below shows the total detention storage and linear footage of storm drain improvement needed within each of the major watershed for each model scenario. A tabulated comparison of the XPSWMM of the Existing, Mitigation and System Correction water surface elevations can be found in **Appendix E.**

Table 3: Summary of Proposed Improvements

Major Watershed	Mitigation Detention Storage (AC-FT)	System Correction Detention Storage (AC-FT)	Mitigation Storm Drain Improvements (ft)	System Correction Storm Drain Improvements (ft)
Arcade Creek	4.8	21.0	3,350	8,670
Magpie Creek	8.6	8.6	4,580	12,860
Unnamed Creek 01	8.4	8.4	510	770
Unnamed Creek 02	3.3	3.4	660	790
Unnamed Creek 03	12.0	12.0	2,260	3,290
Robla Creek	10.3	10.3	1,130	4,120
Unnamed Creek 04	10.7	10.7	2,440	2,910
Unnamed Creek 05	9.8	9.8	1,040	2,380

Summary of Project Results

A review of the peak flow rates for each creek at the downstream limits of the Project area for both scenarios modeled demonstrates that the Project mitigates proposed peak flow rates to less than existing conditions peak flow rates. A comparison of existing and proposed peak flow rates at each creek is summarized in **Table 4**. A comparison of peak flow rates and water surface elevations within each HEC-RAS model reach is included in **Appendix E**. Proposed 100-year local floodplains were not established in this analysis. To comply with the County Floodplain Management Ordinance an existing 100-year floodplain shall be required for approval of the improvement plans. A tabulated summary for the storm drainage system as modeled within XPSWMM for each storm event and scenario analyzed has been included in **Appendix F** and a graphical representation of the XPSWMM model layout can be found in **Appendix G**. A graphical representation showing the extents of each major watershed, the segments of storm drain that are recommended to be increased in diameter, and the necessary mitigation volume by major watershed can be found in **Figure 8** and **Figure 9**. Digital copies of all XPSWMM and HEC-RAS input and output files have been included in **Appendix I**.

Table 4: Summary of 100-Year 24-Hour Peak Flow Rates					
Major Watershed	**Existing Conditions (cfs)**	**Mitigation Scenario (cfs)**	**Difference in Flow (cfs)**	**System Correction Scenario (cfs)**	**Difference in Flow (cfs)**
Arcade Creek	372.0	371.8	-0.2	305.7	-66.3
Magpie Creek	1,034.7	1,012.2	-22.5	1,019.3	-15.4
Unnamed Creek 01	146.6	54.9	-91.7	55.1	-91.5
Unnamed Creek 02	80.9	68.1	-12.8	71.3	-9.6
Unnamed Creek 03	700.5	646.3	-54.2	648	-52.5
Robla Creek	389.8	386.3	-3.5	386.3	-0.5
Unnamed Creek 04	158.2	136.1	-22.1	153.5	-4.7
Unnamed Creek 05	144.8	87.6	-57.2	122.0	-22.8

HYDROMODIFICATION

Hydromodification objectives are intended to combat increases in erosion potential from more frequent storm events than flood control design storm events. In Sacramento County erosion potential storms have been defined as storms producing 25 percent of the peak runoff of a 2-year storm up to and including the 2-year storm event. This Project's conformance with hydromodification objectives was conducted using the Sacramento Area Hydrology Model (SAHM). A SAHM model was developed for the Project to analyze the proposed watersheds and detention basin storage as previously described in this Study. Results from the SAHM model demonstrate that the Project is able to meet hydromodification objectives through proposed outlet configurations at proposed detention basins. Basin outlet configurations to ensure compliance with hydromodification objectives will be designed during the project improvement plan stage of the Project. A summary of the SAHM model has been included in **Appendix H** and digital copies of all SAHM input and output files have been included in **Appendix I**.

WATER QUALITY & LOW IMPACT DEVELOPMENT

Water quality treatment and low impact development (LID) measures are intended to promote evapotranspiration, infiltration, harvest/use, and bio-treatment (extended contact time with plant mediums) with the intent to mitigate for changes in runoff due to land use changes. Water quality treatment measures mitigate frequent storm events and the first flush of more severe storm events. Water quality considerations will be reviewed at the project improvement plan stage for individual new projects within the Project area, and appropriate analyses will be included in a project specific drainage report.

The Stormwater Quality Design Manual for the Sacramento Region, dated July 2018, will serve as the regulatory document related to reducing the discharge of pollutants associated with storm water drainage systems. It is also anticipated that any project's required treatment water quality volume (WQV) and LID points will be calculated using the County's Low Impact Development Credits spreadsheet and that LID credits for proposed improvement projects will be met through a combination of measures. The final water quality methods and details will be worked out at improvement plans stage.

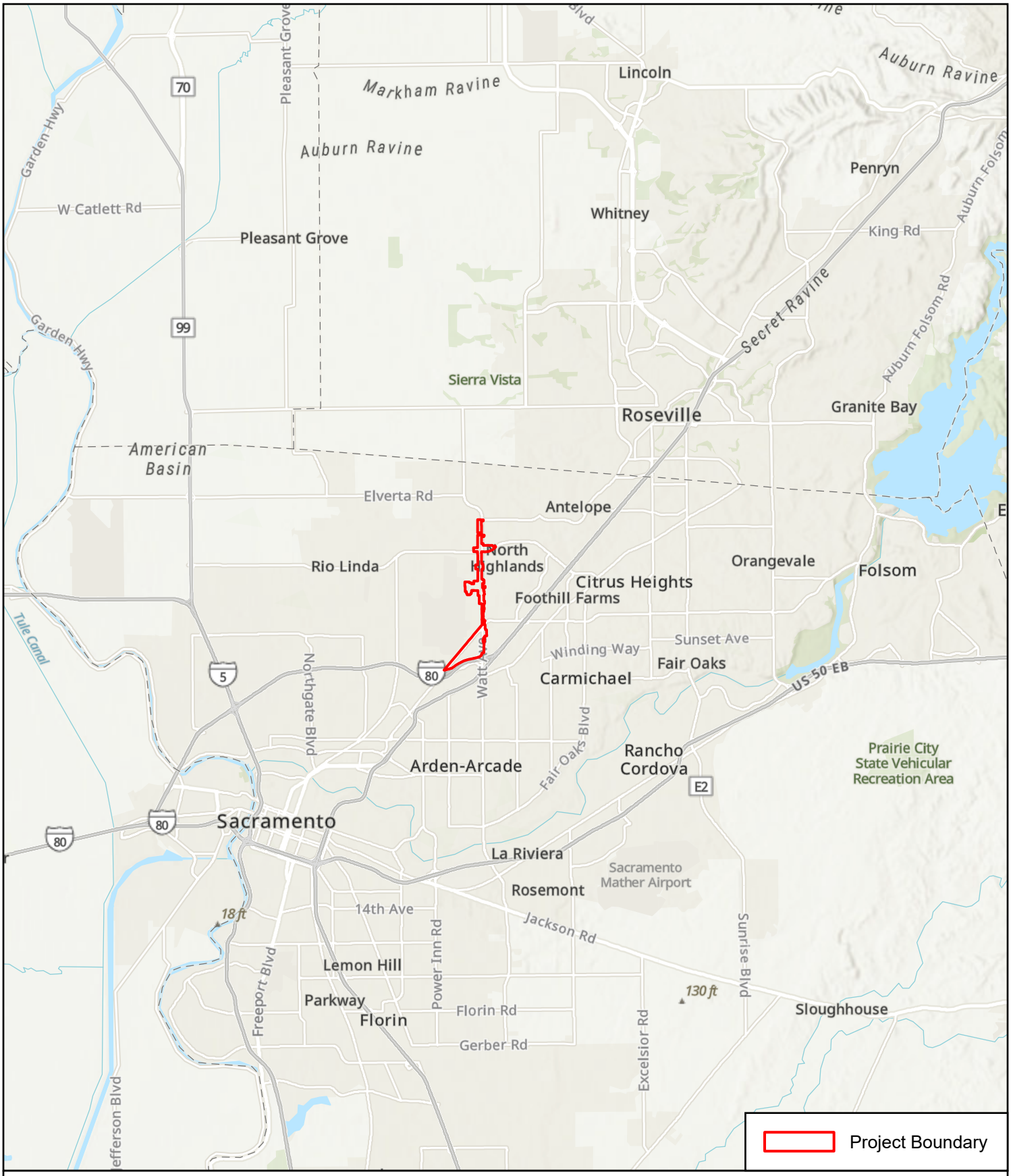
CONCLUSIONS

The North Watt Specific Plan development encompasses approximately 704 acres distributed along a 4-mile segment of Watt Avenue and consists of a mix of proposed land uses including roadways, large lot mixed-use, small lot mixed-use, medium density residential lots, and parks areas of open space. This Study analyzed two Project scenarios to support development within the Project area, and the Study demonstrates mitigation of runoff to less than existing conditions within the eight creeks flowing through the Project area. Additionally, proposed improvements have been schematically proposed in a manner to meet hydromodification objectives as required by the State of California and Sacramento County.

REFERENCES

1. Central Valley Regional Water Quality Control Board (2018). *Stormwater Quality Design Manual for the Sacramento Region, July 2018.* Sacramento, CA
2. County of Sacramento Department of Public Works (2013). *Section 9: Storm Drainage Design, April 2013.* Sacramento, CA.
3. Sacramento County Department of Water Resources (1996). *Volume 2, Sacramento City/County Drainage Manual.* Sacramento, CA

FIGURES



NORTH WATT SPECIFIC PLAN
MASTER DRAINAGE STUDY

LOCATION MAP

SACRAMENTO, CALIFORNIA
October 2026

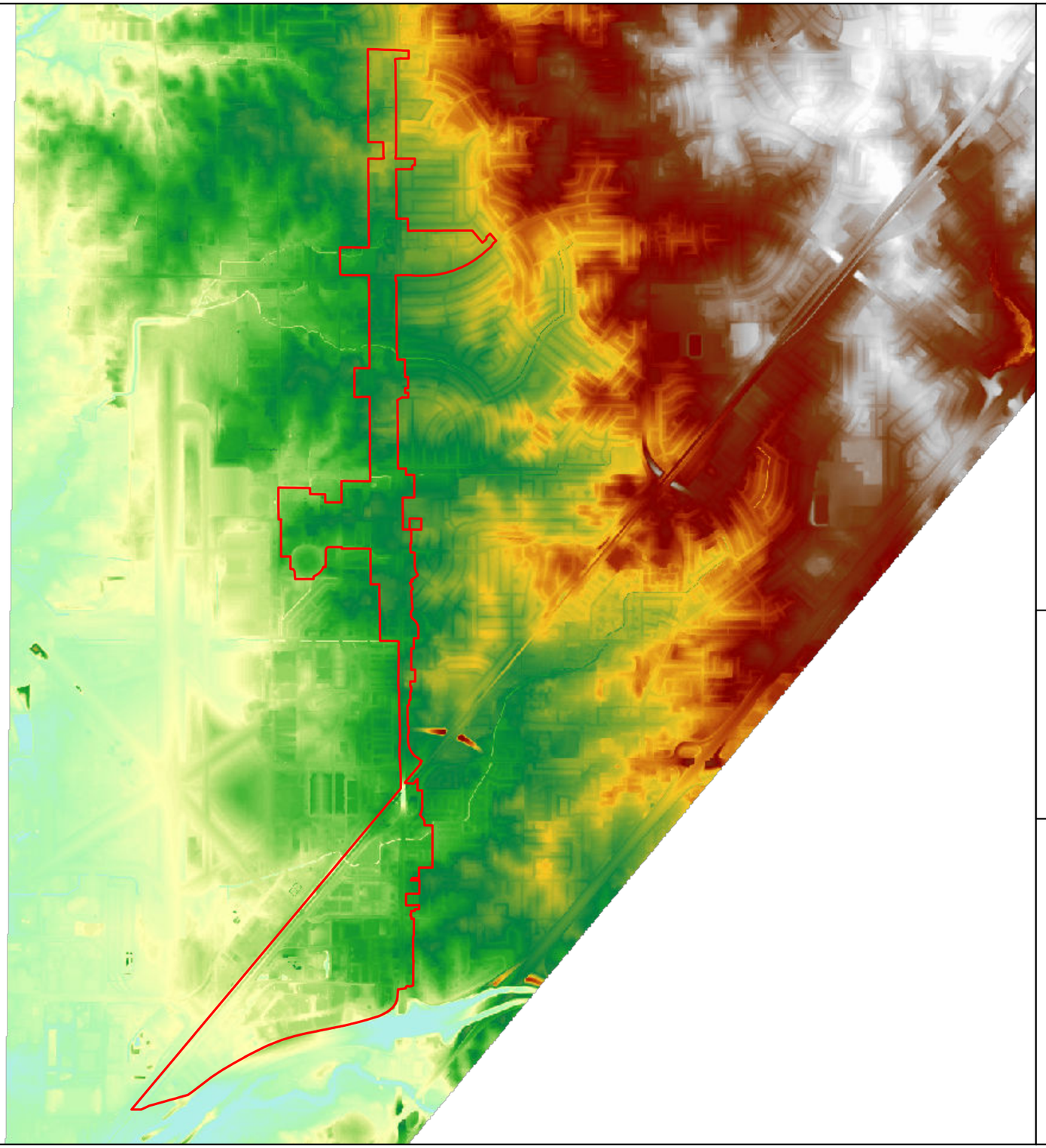
NORTH

0 10,000 20,000 40,000
FEET

SACRAMENTO COUNTY
WOOD RODGERS

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FIGURE 1



Project Boundary

Elevation (ft)

199.03

41.8978

NORTH

0 1,250 2,500 5,000

Feet

NORTH WATT SPECIFIC PLAN
MASTER DRAINAGE STUDY

TOPOGRAPHY MAP

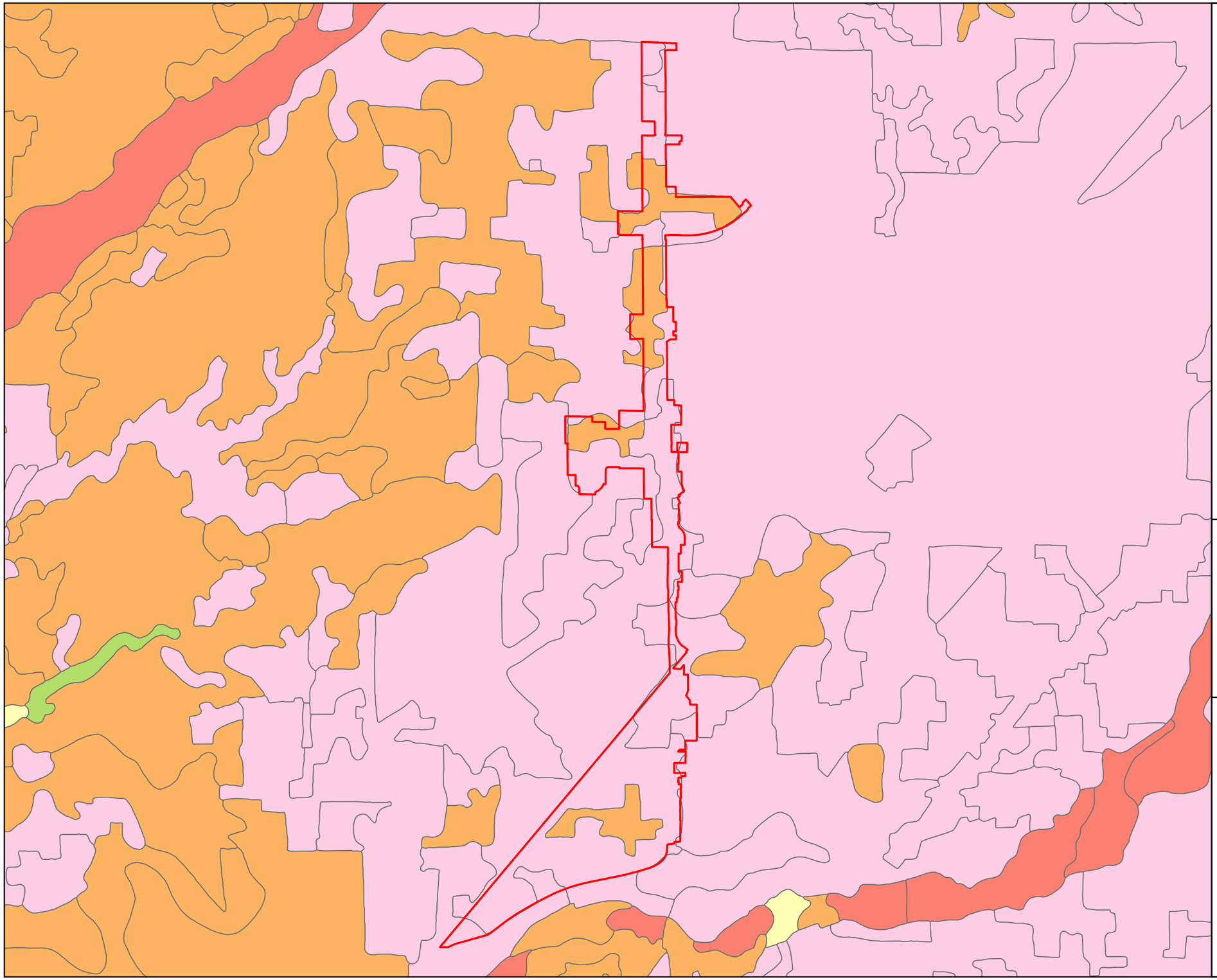
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

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FIGURE 2



Project Boundary

Hydrologic Soils Group:

- A
- B
- C
- C/D
- D

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

HYDROLOGIC SOILS GROUP MAP

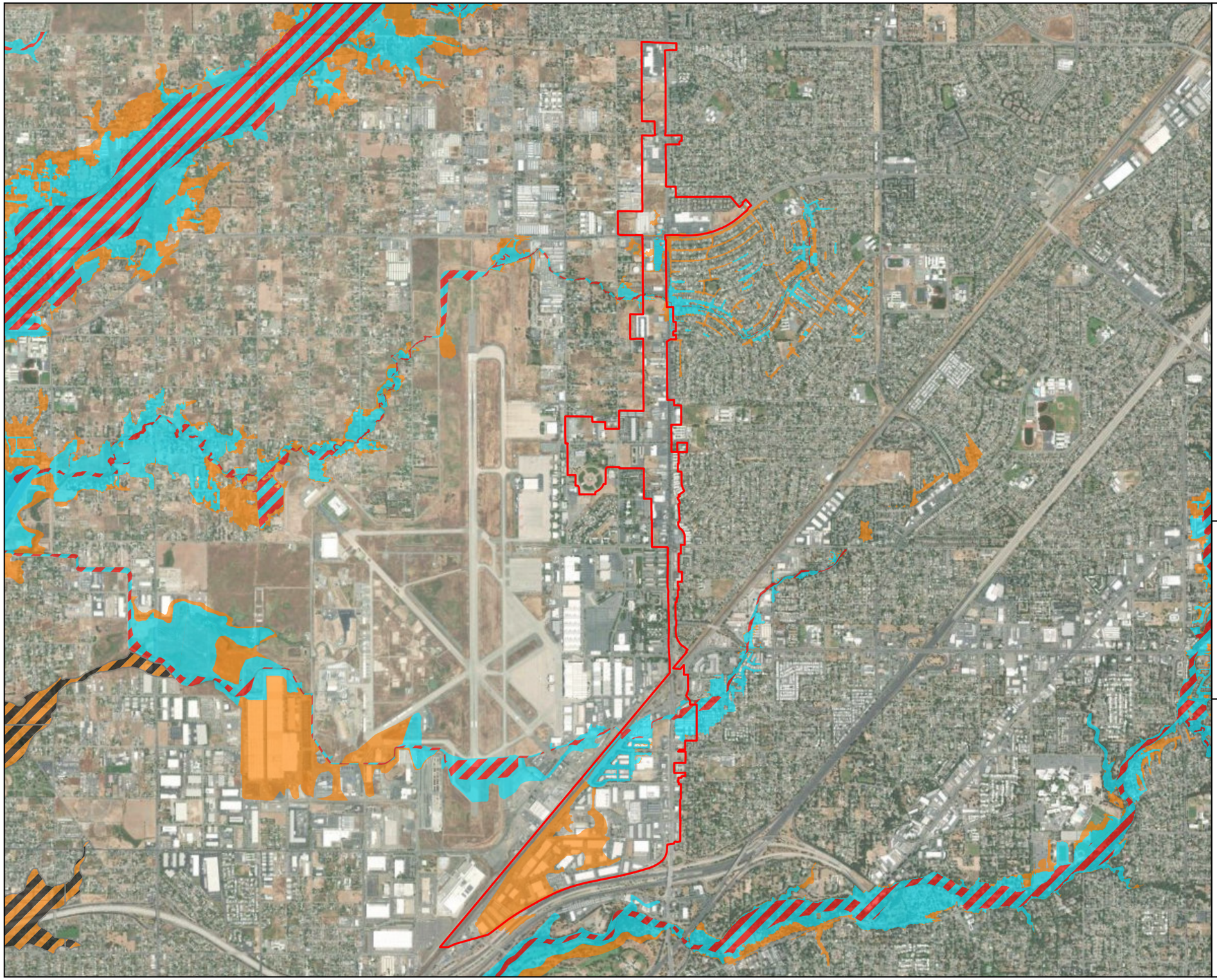
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October 2026

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FIGURE 3



Project Boundary
1% Annual Chance Flood Hazard
Regulatory Floodway
0.2% Annual Chance Flood Hazard
Area with Reduced Risk Due to Levee

NORTH

0 1,250 2,500 5,000
Feet

NORTH WATT SPECIFIC PLAN
MASTER DRAINAGE STUDY

FEMA FLOODPLAIN MAP

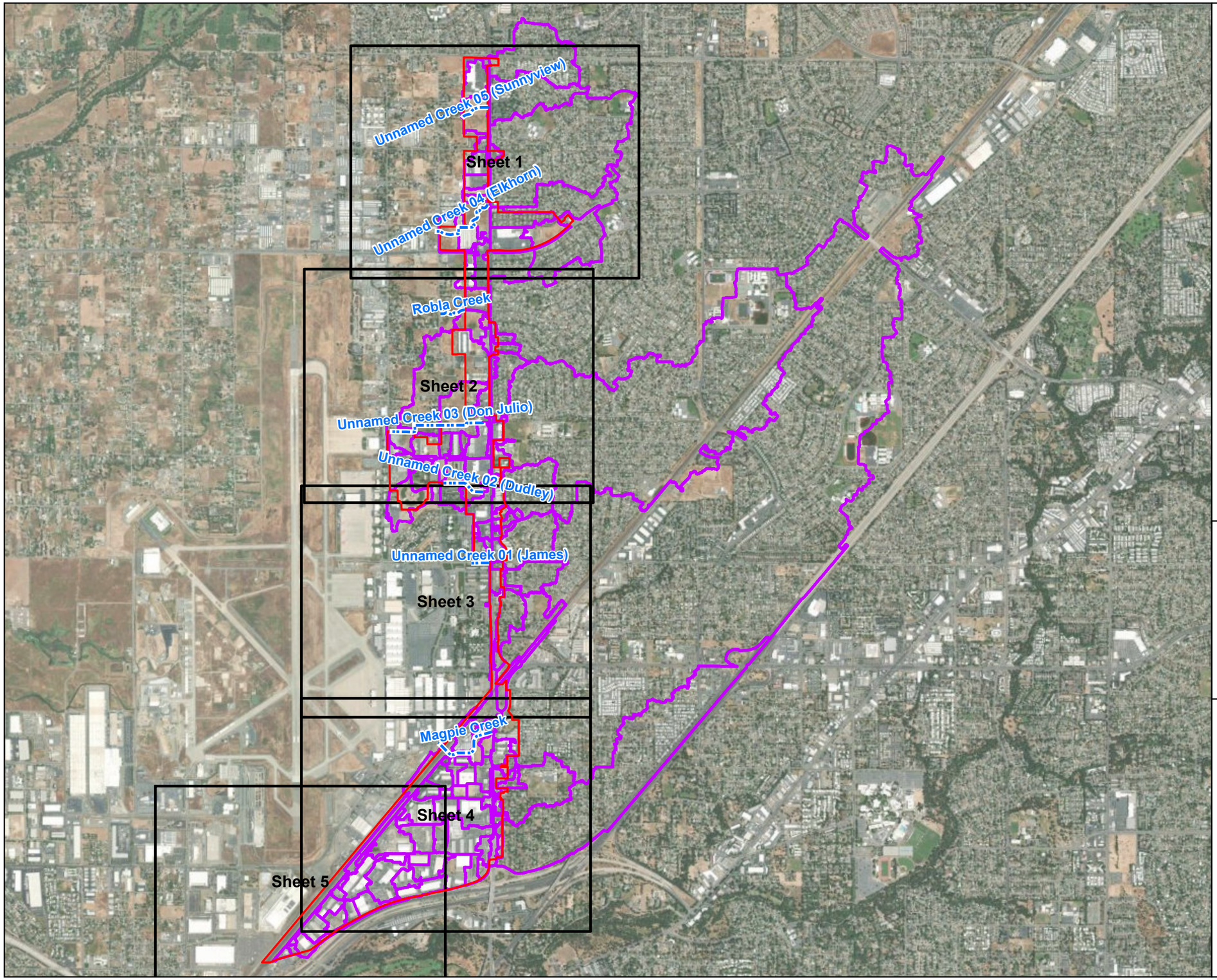
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FIGURE 4



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

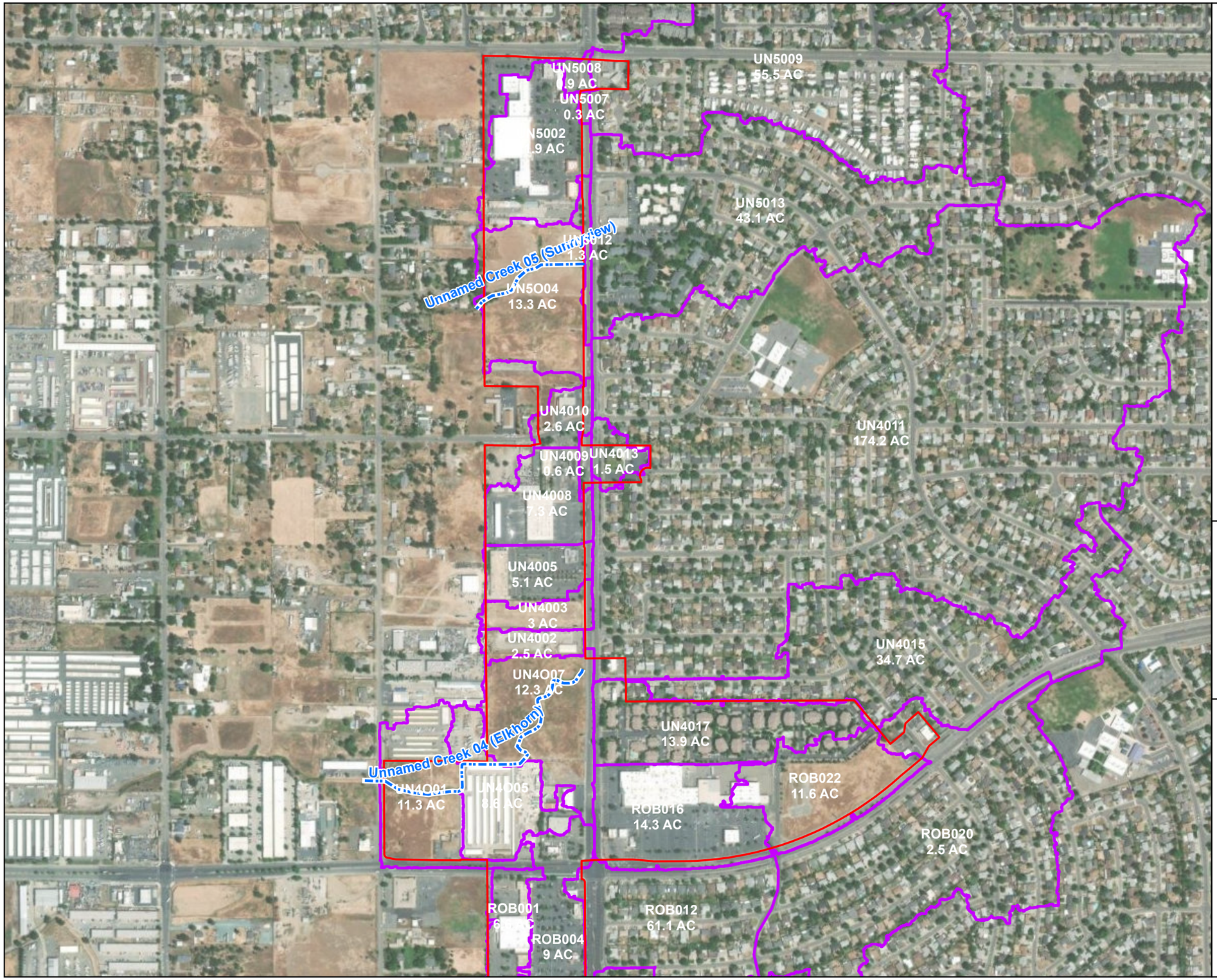
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SACRAMENTO COUNTY

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FIGURE 5A



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

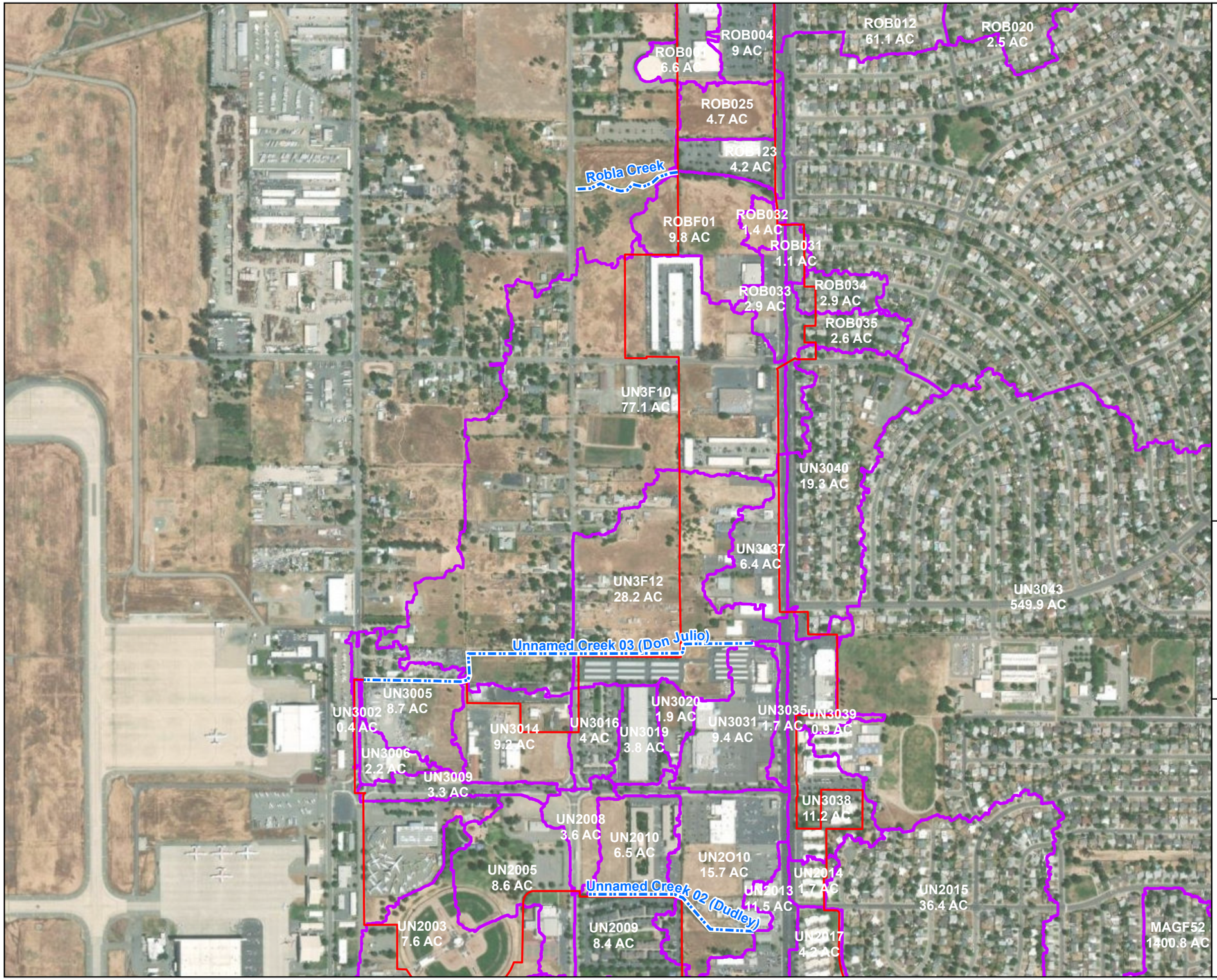
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 12:55 PM jcarey

FIGURE 5B



DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

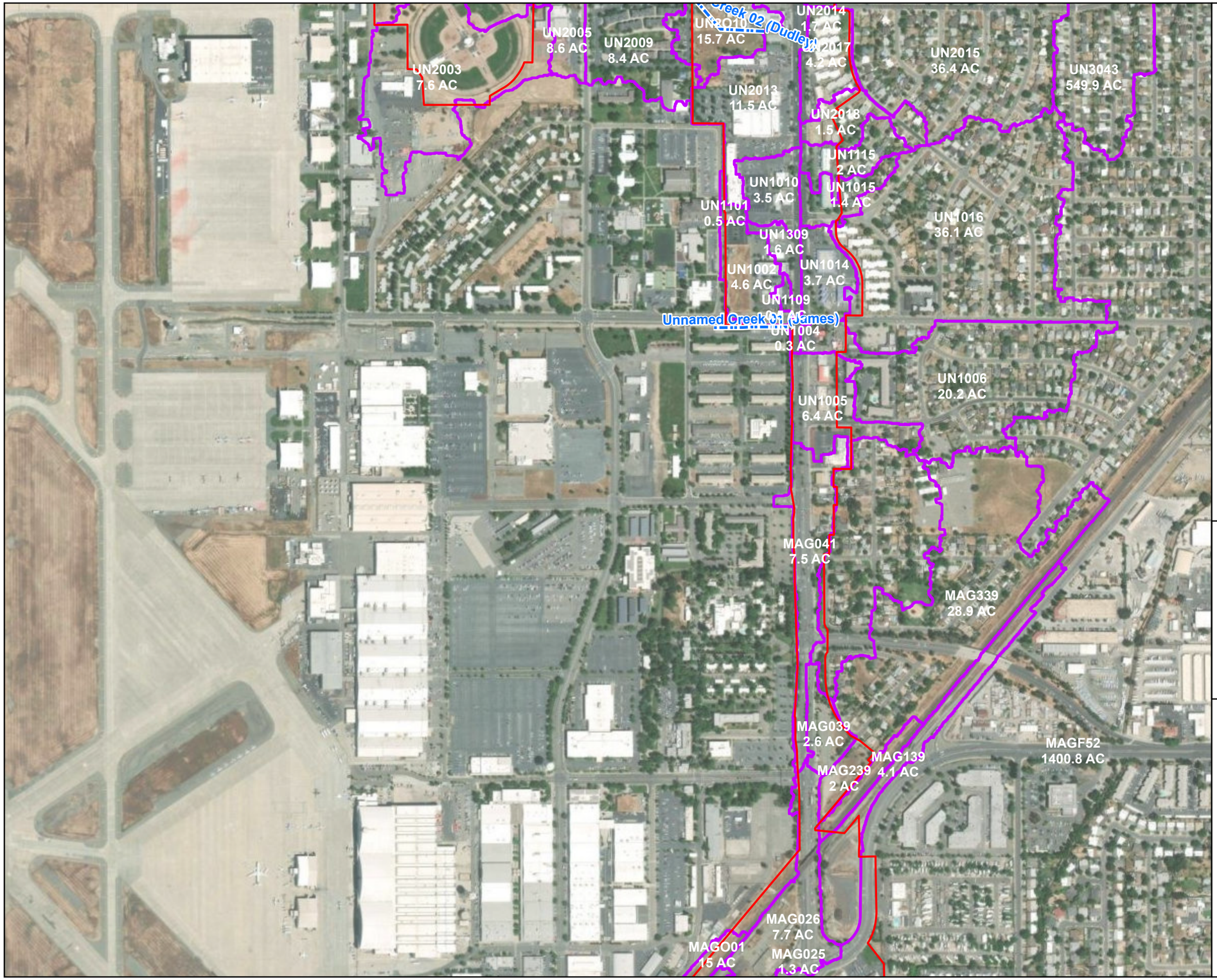
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 5C



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

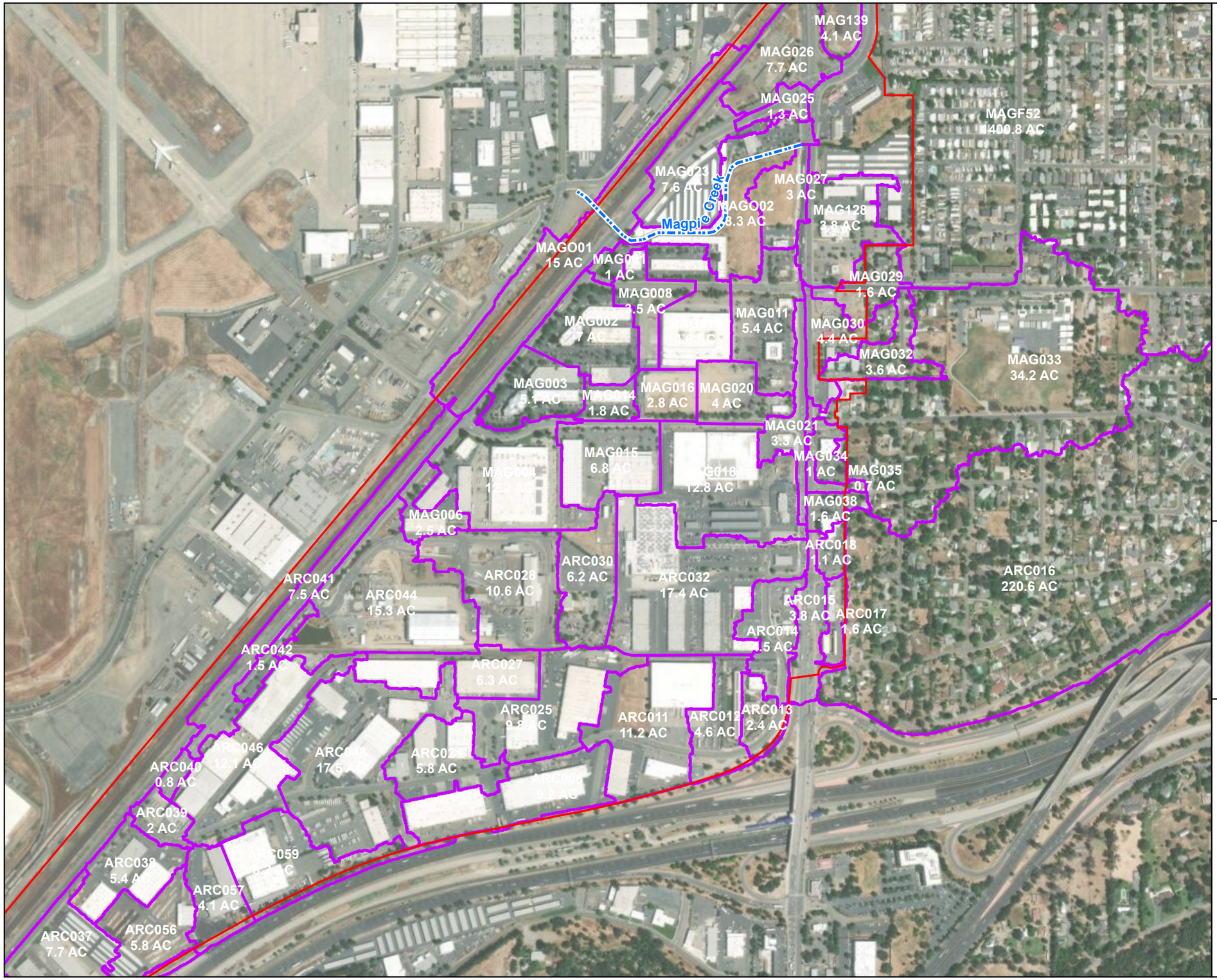
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 5D



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

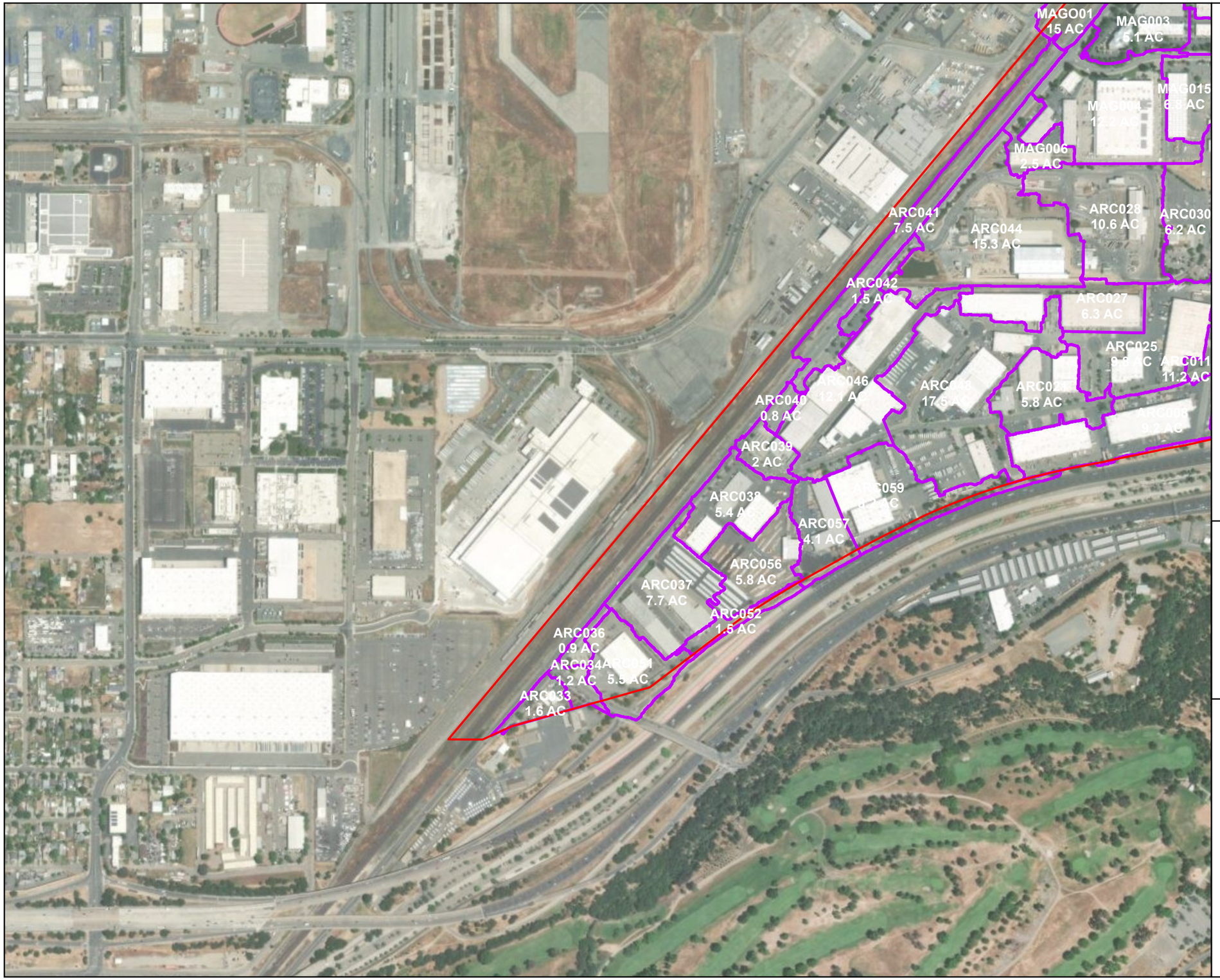
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 5E



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

EXISTING CONDITIONS WATERSHED MAP

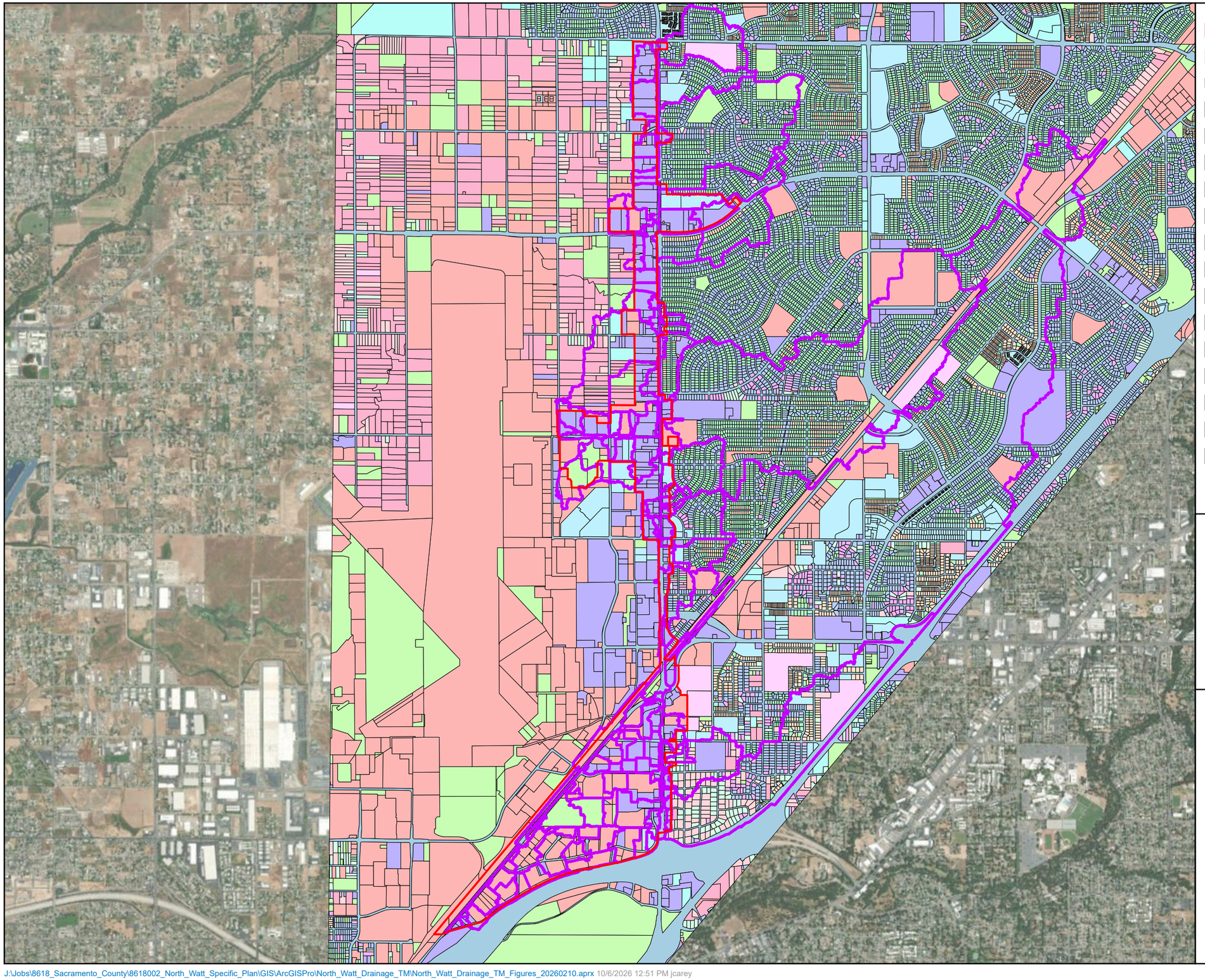
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 5F



Project Boundary

Watershed Boundary

Land Use Code:

- R01
- R02
- R03
- R04
- R05
- R07
- R08
- R09
- R10
- R11
- R12
- R13
- R15
- R16

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS LAND USE MAP

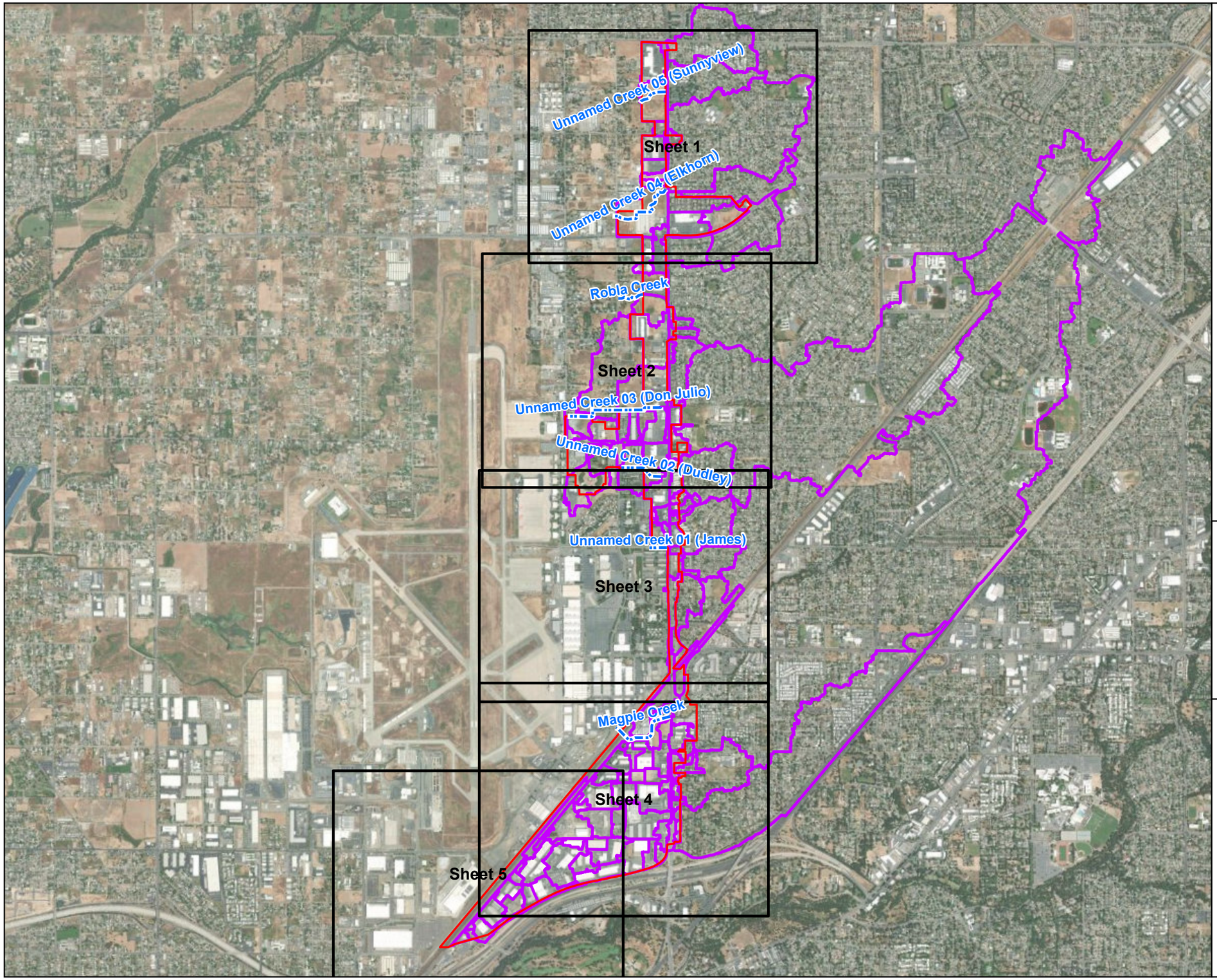
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 6



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS WATERSHED MAP

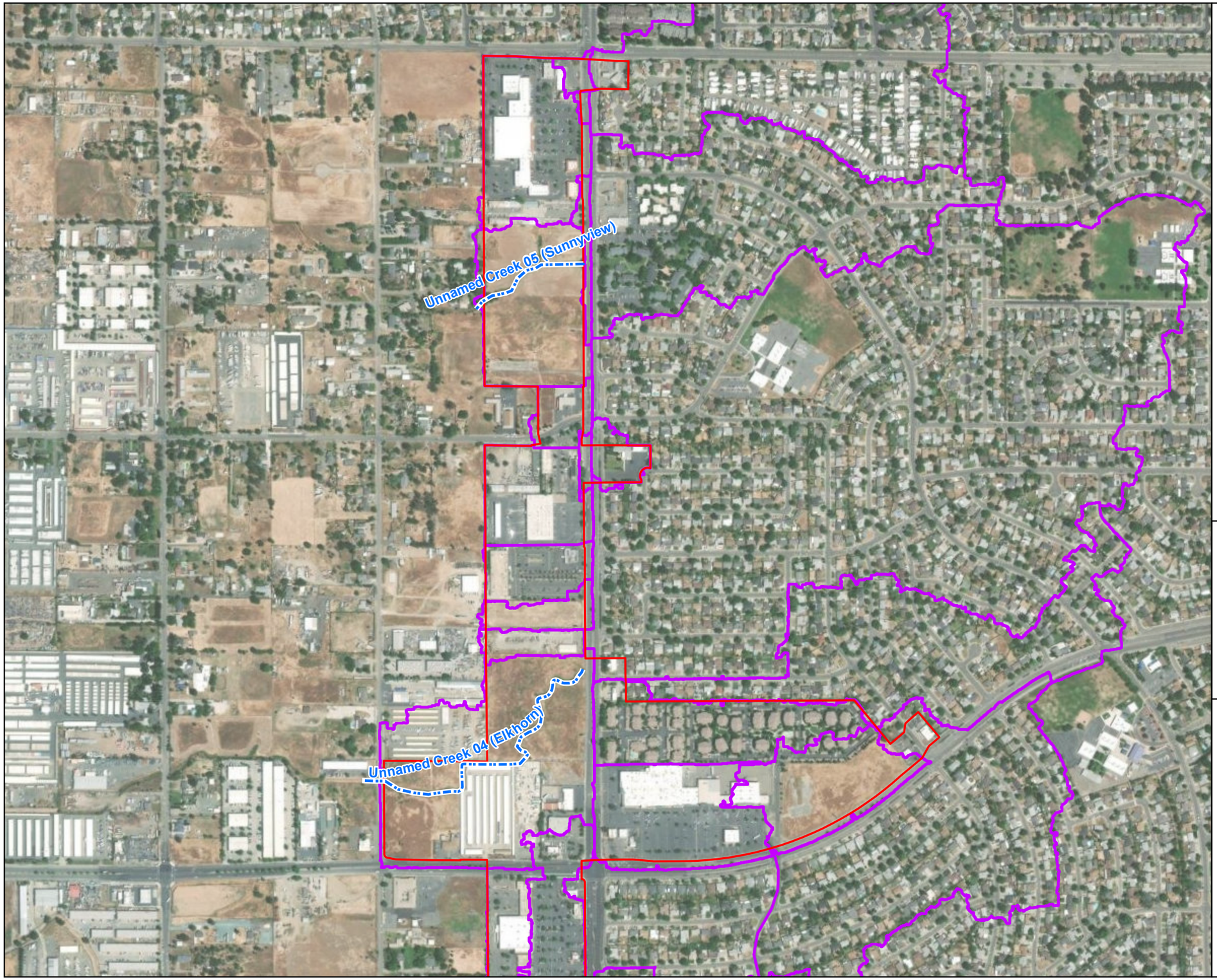
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 7A



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS WATERSHED MAP

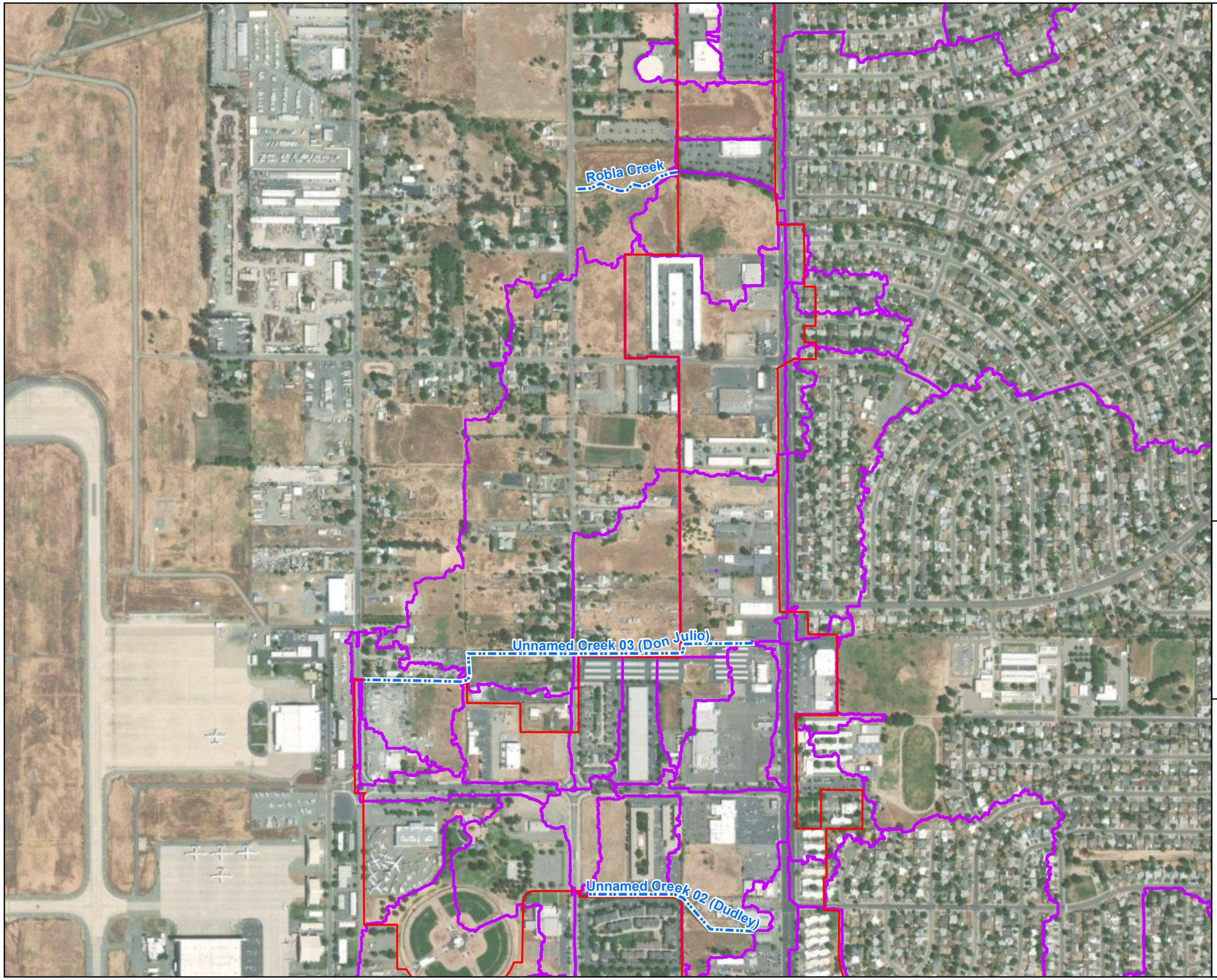
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 7B



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS WATERSHED MAP

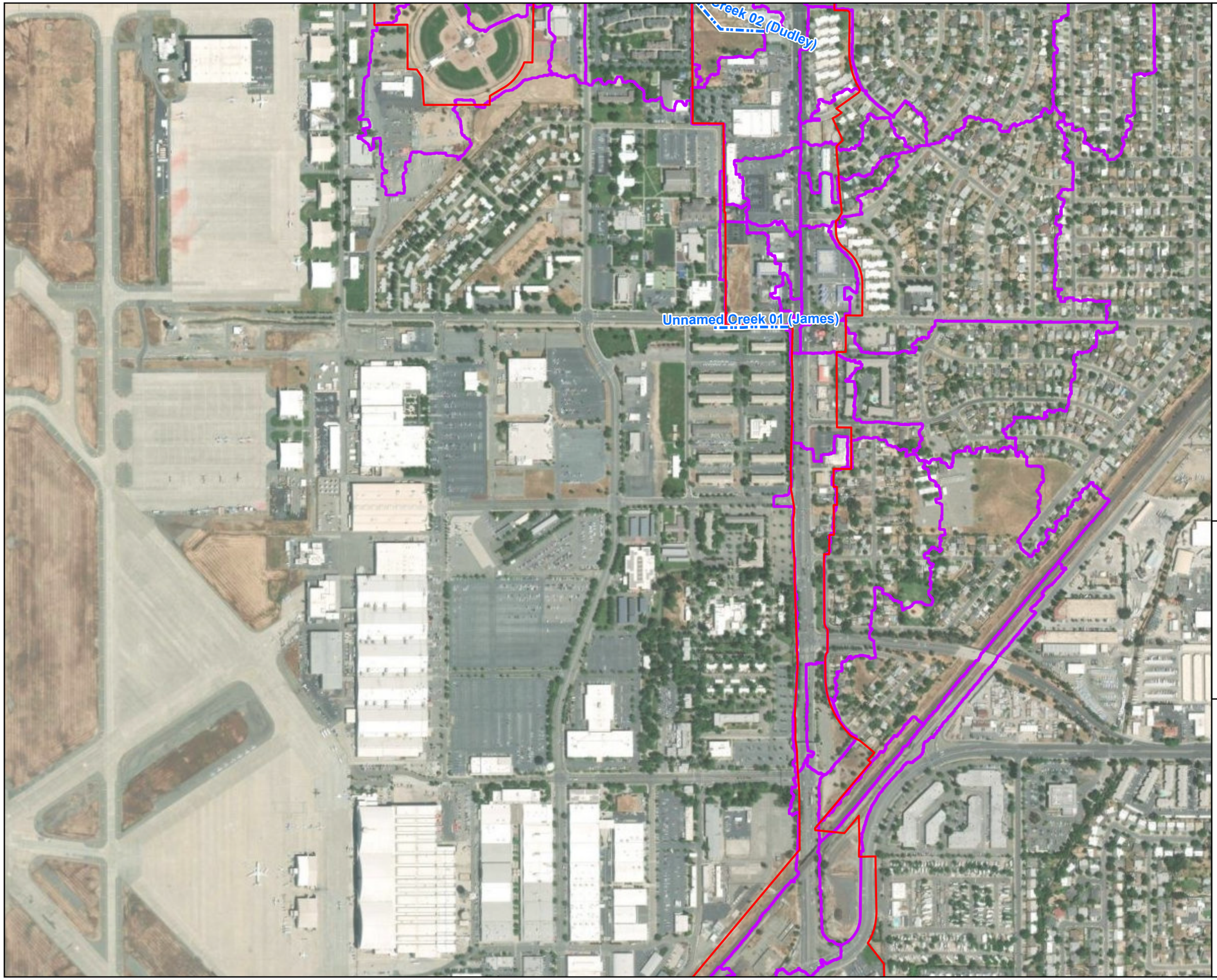
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 7C



Project Boundary

Watershed Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS WATERSHED MAP

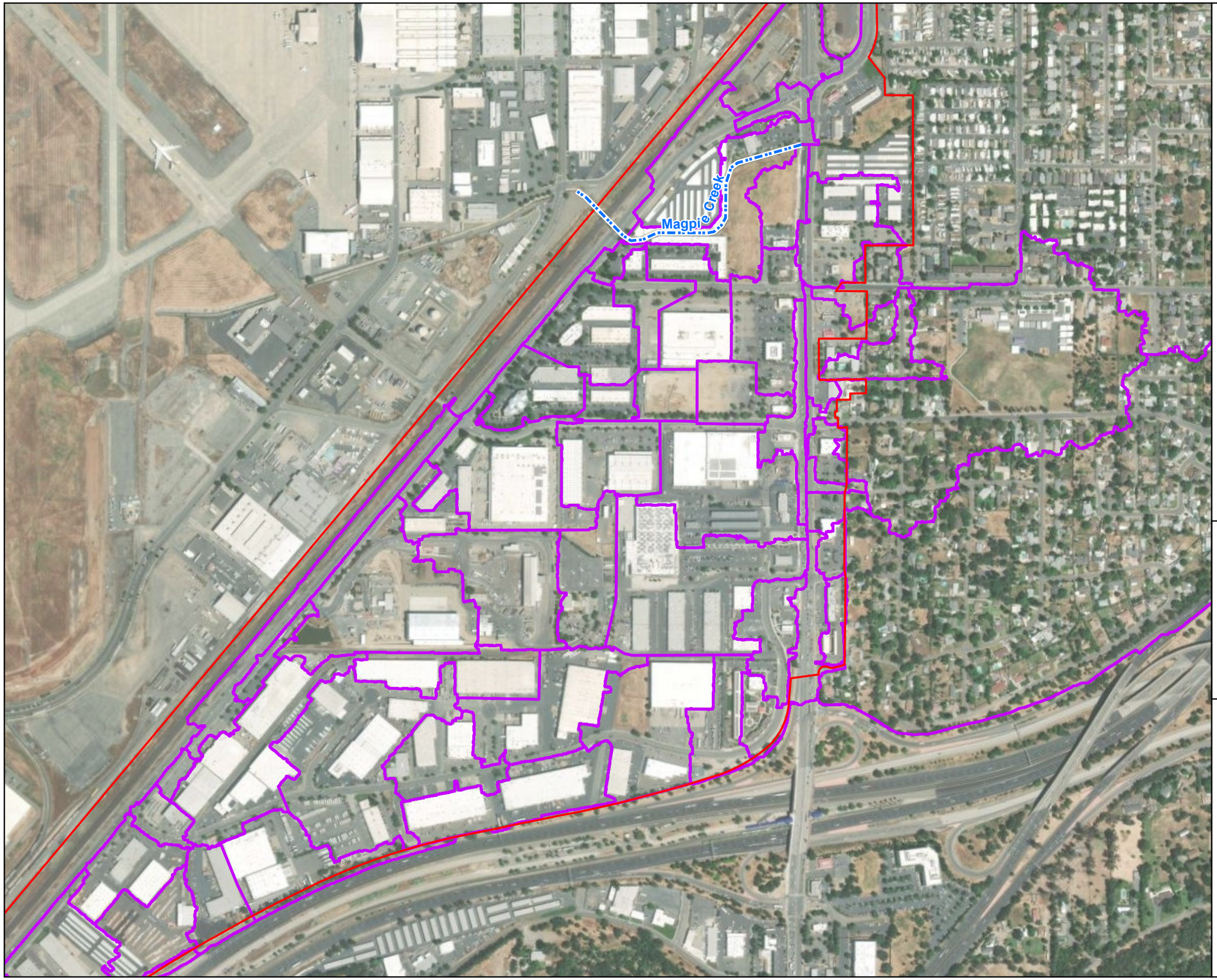
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 7D



Watershed Boundary

Project Boundary

Creek Centerline

NORTH

0 300 600 1,200

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS WATERSHED MAP

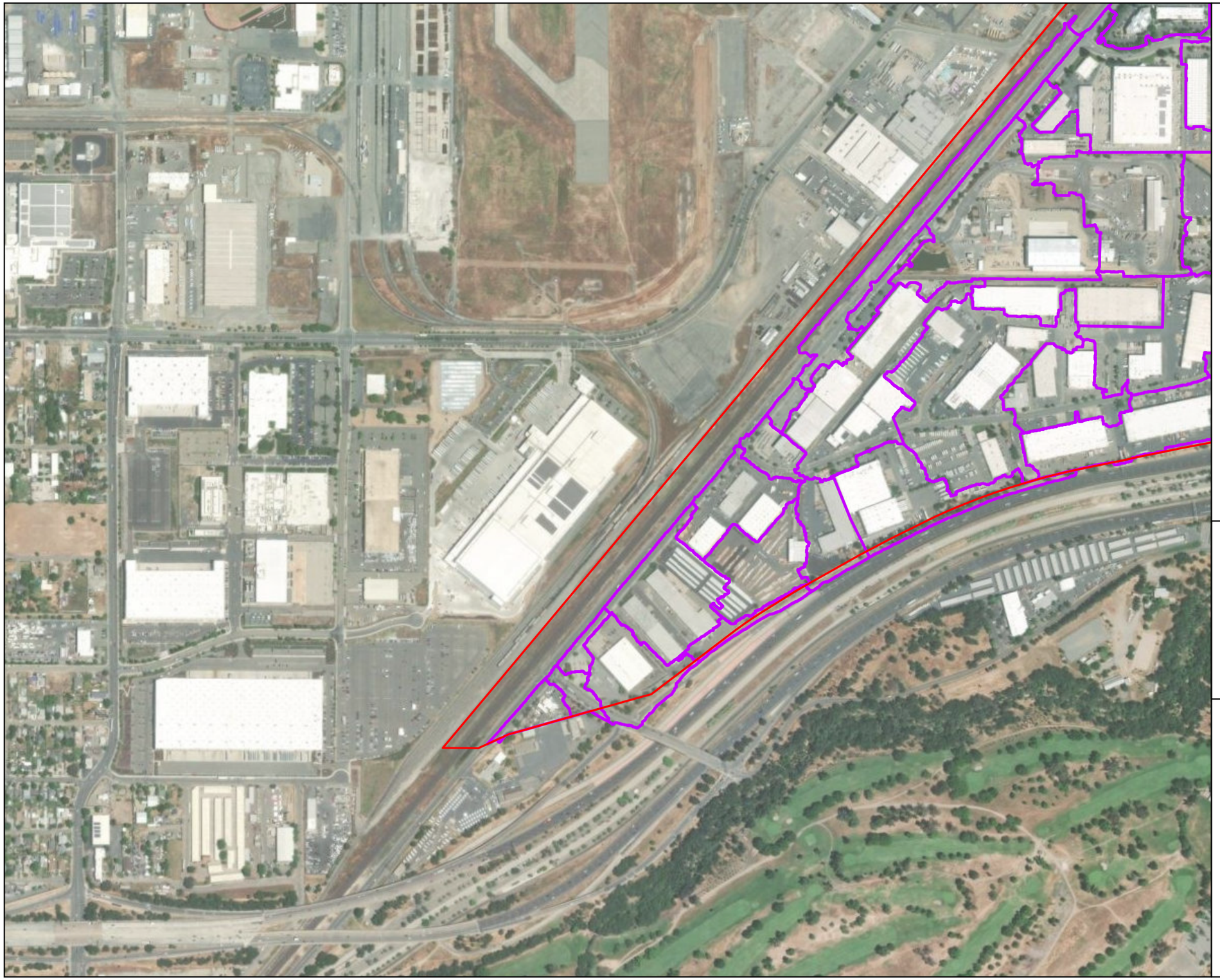
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE 7E



Watershed Boundary
Project Boundary
Creek Centerline

NORTH

0 250 500 1,000
Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

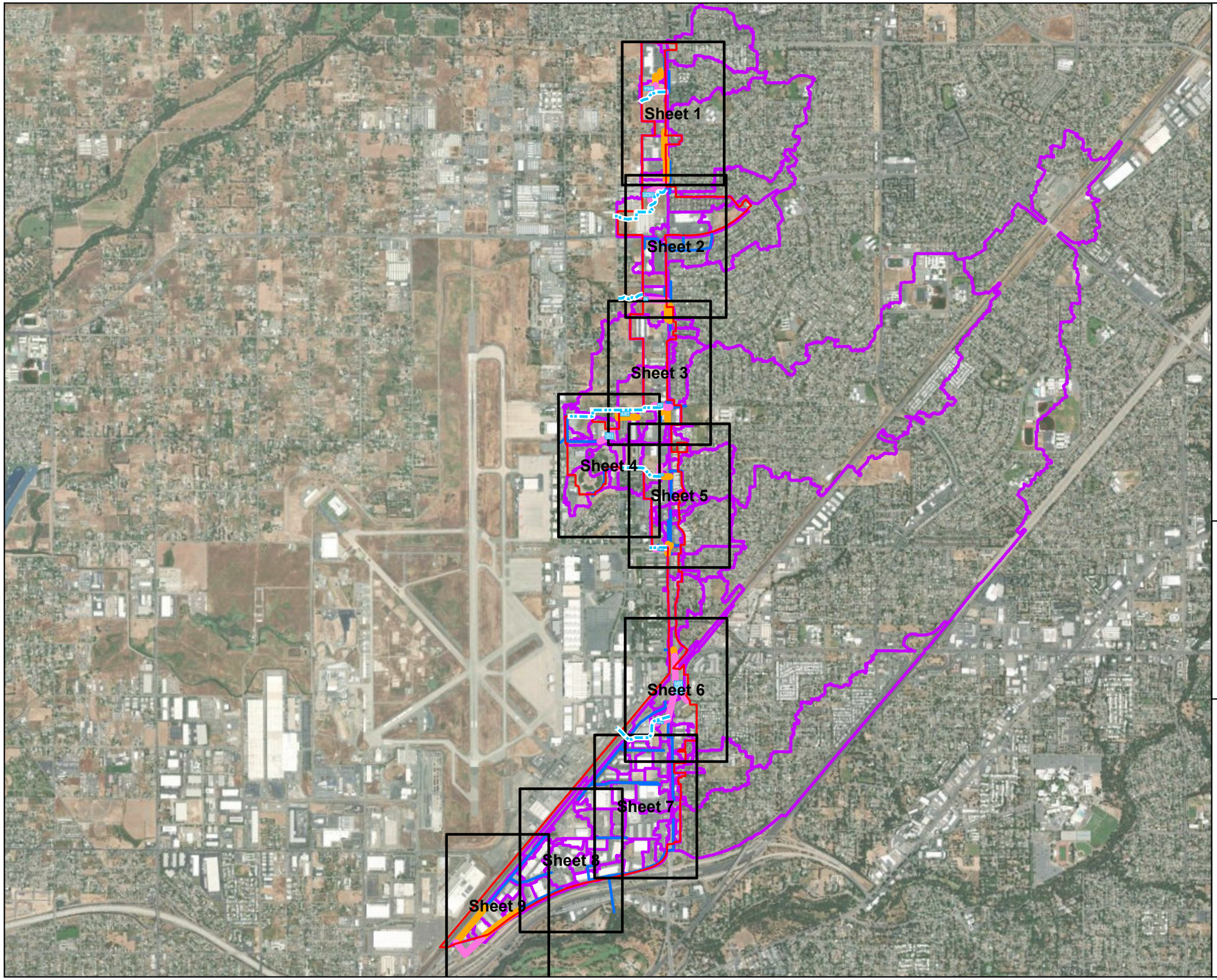
PROPOSED CONDITIONS WATERSHED MAP

SACRAMENTO COUNTY -
PLANNING AND ENVIRONMENTAL REVIEW
SACRAMENTO, CA
October 2026

WOOD RODGERS

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FIGURE 7E



North Watt

Watershed Boundary

Detenion Basin

Existing

Upsized

New

Creek Centerline

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT

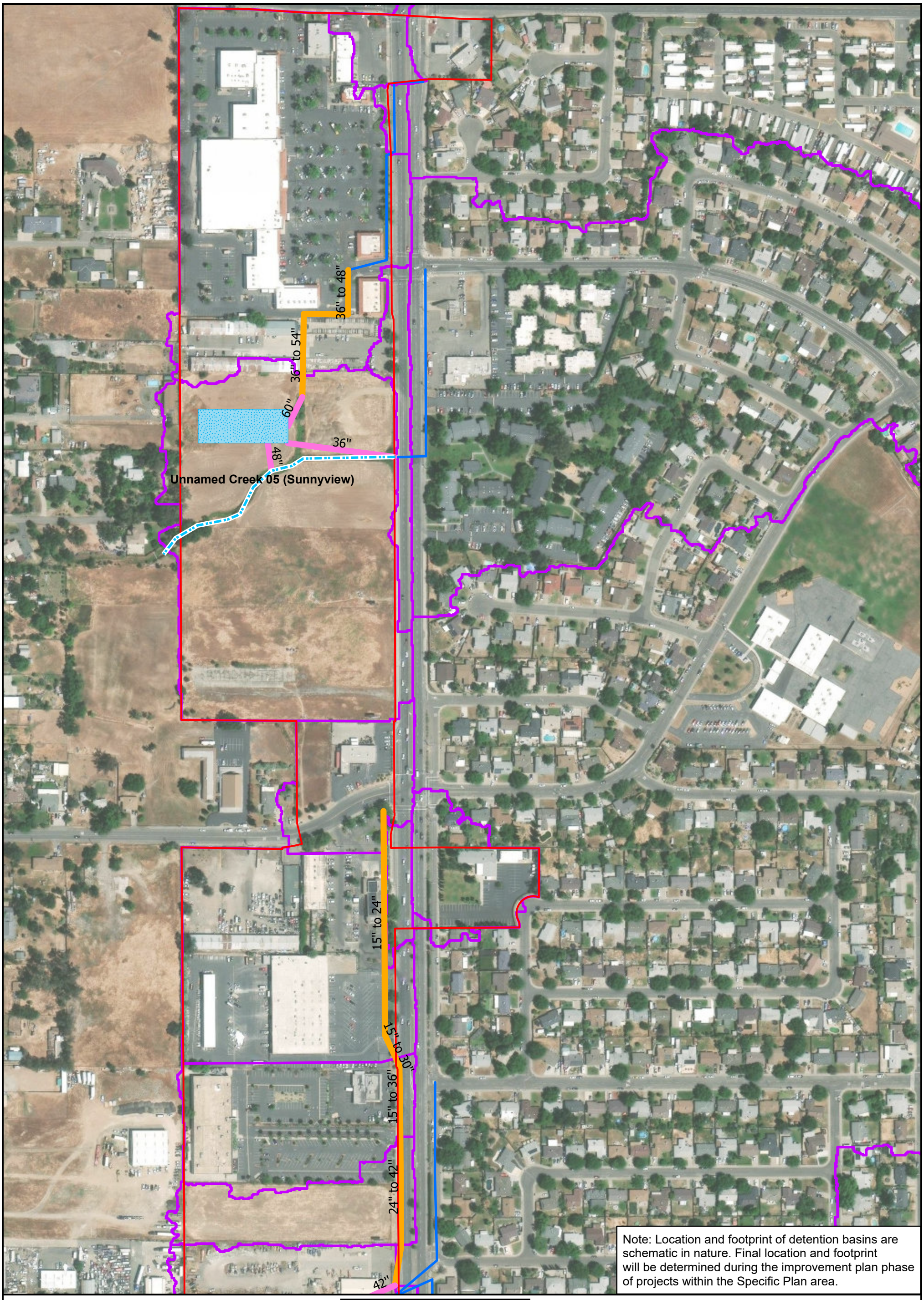
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE8A



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 1

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

Creek Centerline
North Watt
Watershed Boundary
Detention Basin

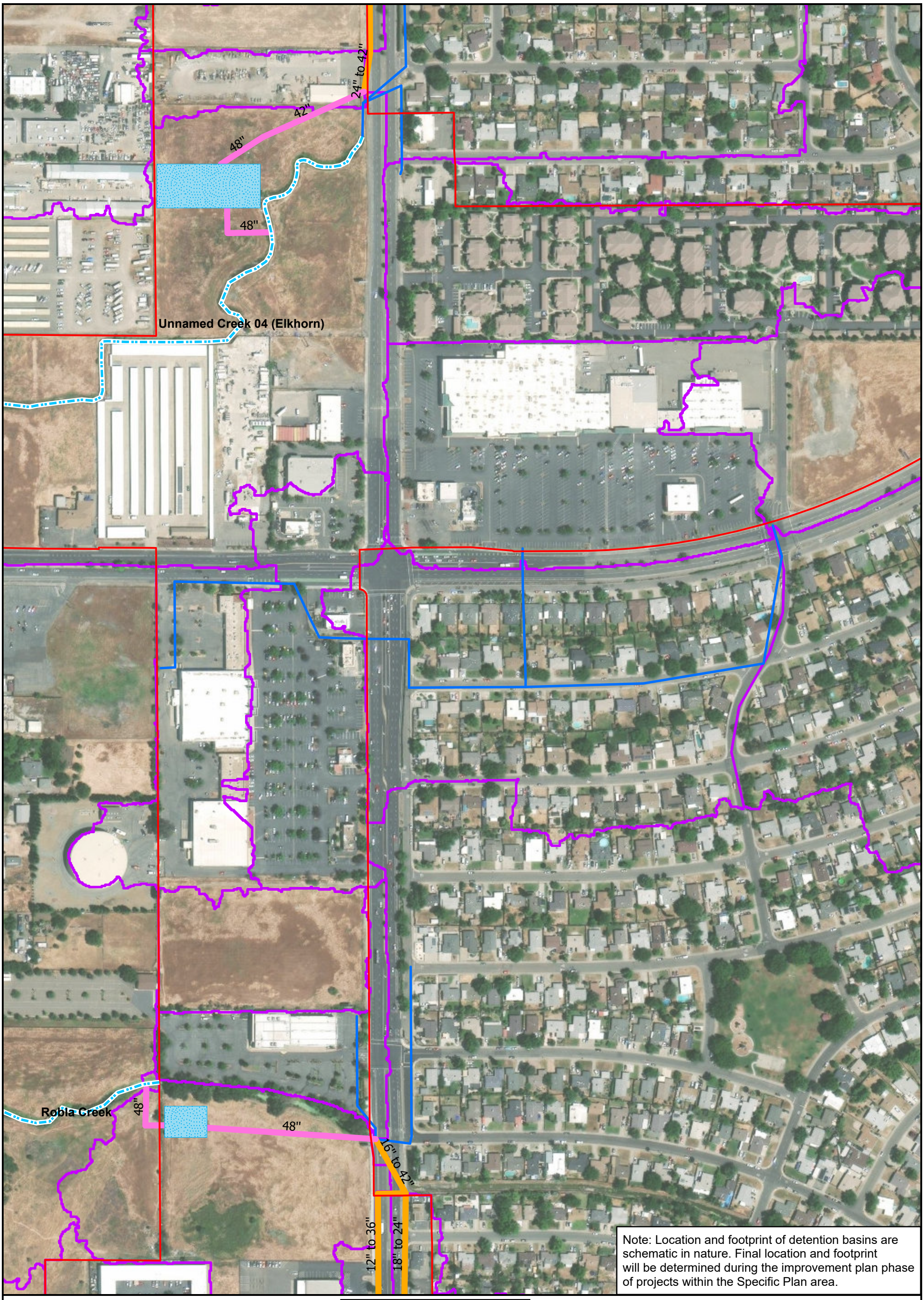
0 125 250 500
Feet

NORTH

WOOD RODGERS

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FIGURE 8B



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 2

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8C

12" to 42"
12" to 36"
18" to 24"
48"
16" to 24" 24"
Unnamed Creek 03 (Don Julio)
48"
30"
16" to 30"
16" to 24"
16" to 18"
30"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 3

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

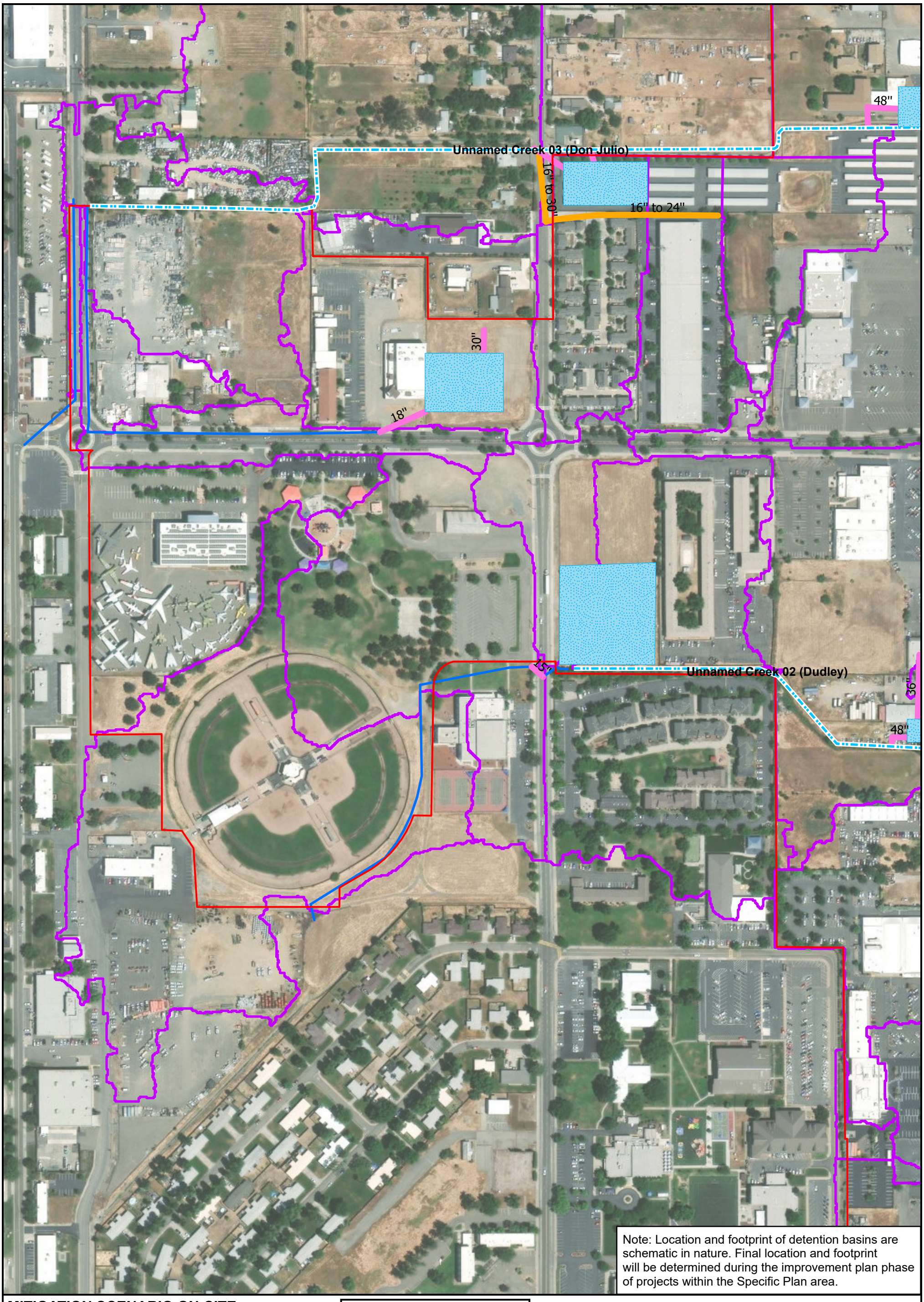
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8D



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 4

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8E

Unnamed Creek 02 (Dudley)

36"

48"

34" to 34"

Unnamed Creek 01 (James)

30" to 36"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 5

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

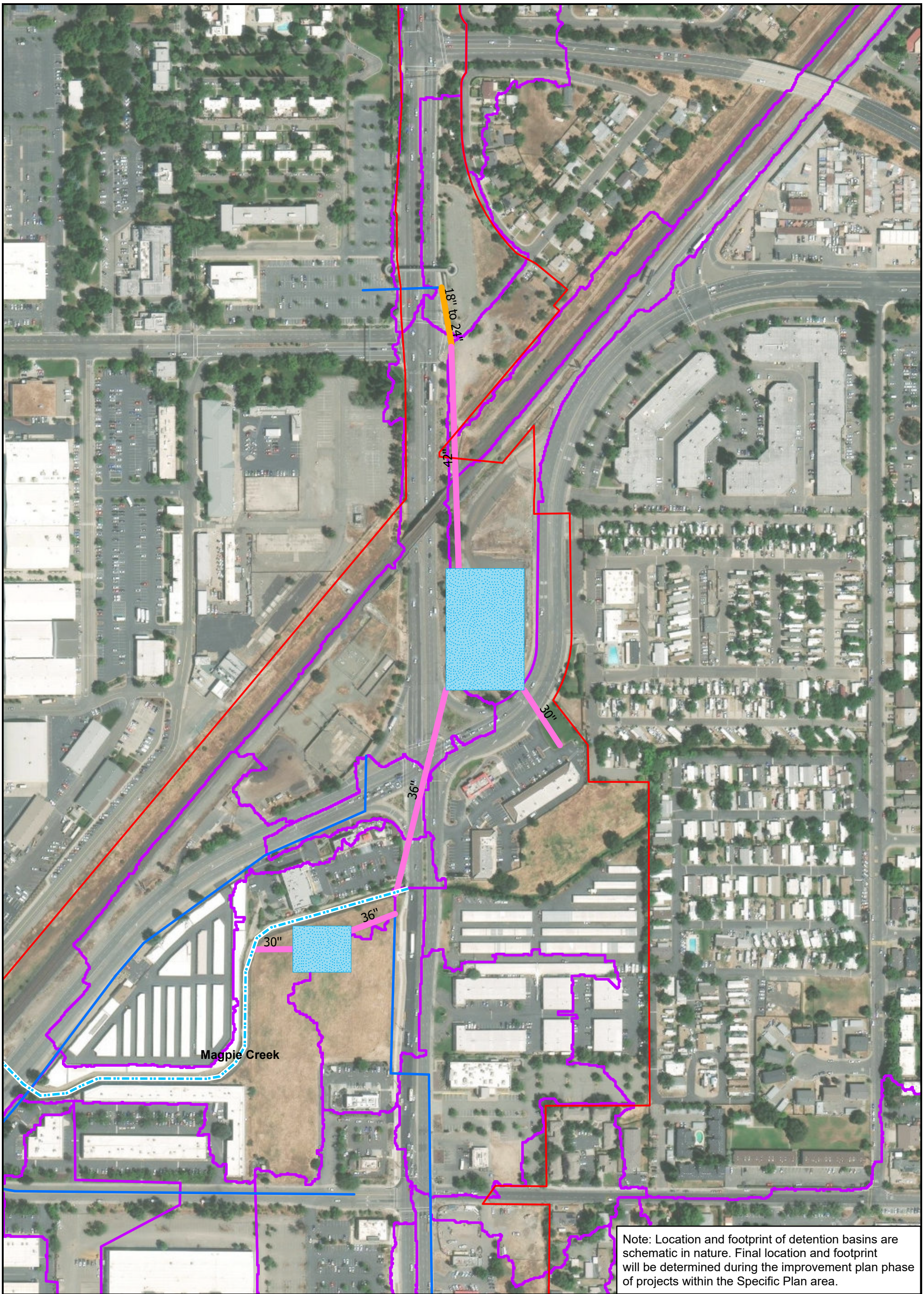
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8F



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 6

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

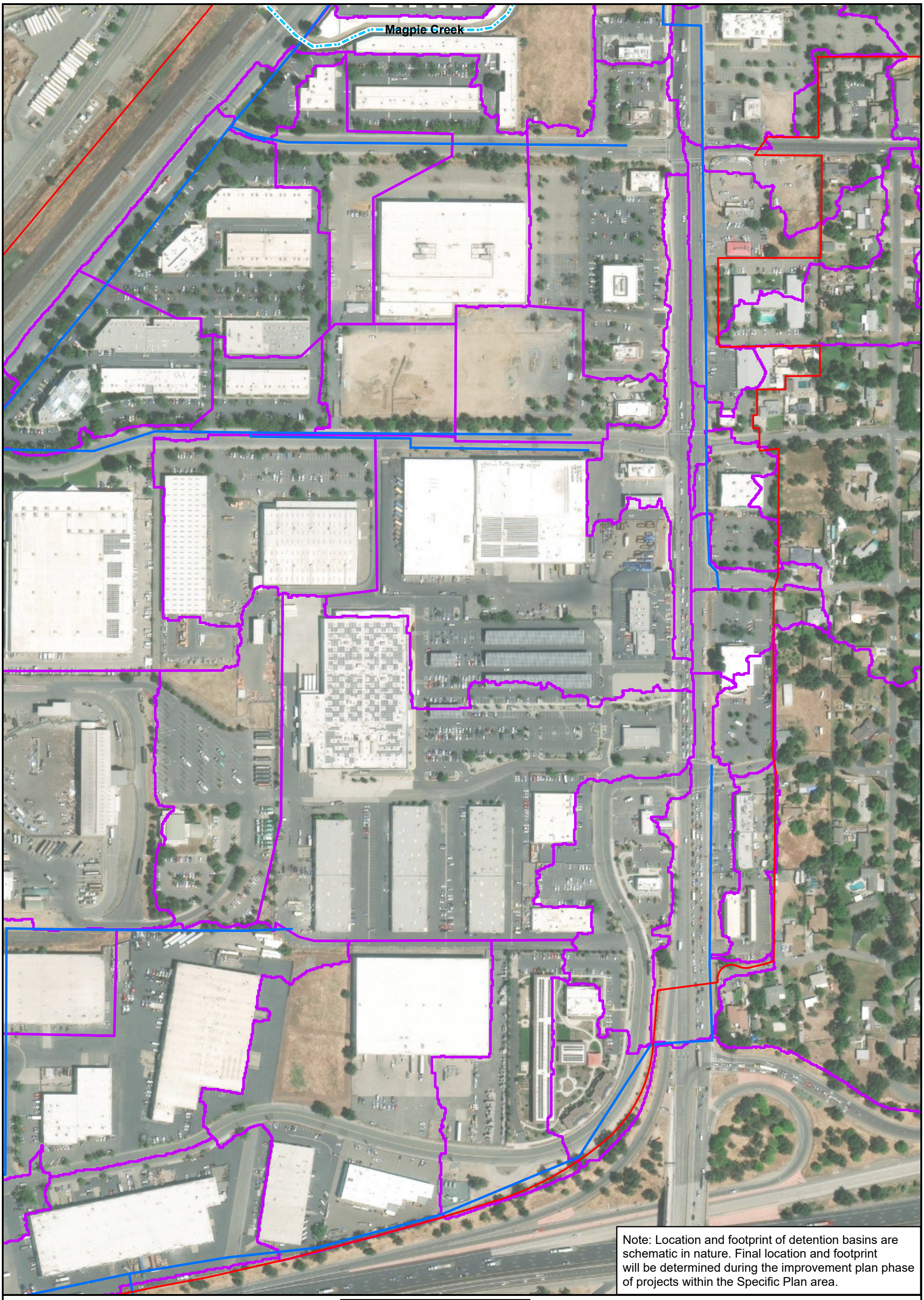
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8G



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 7

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8H

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 8

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

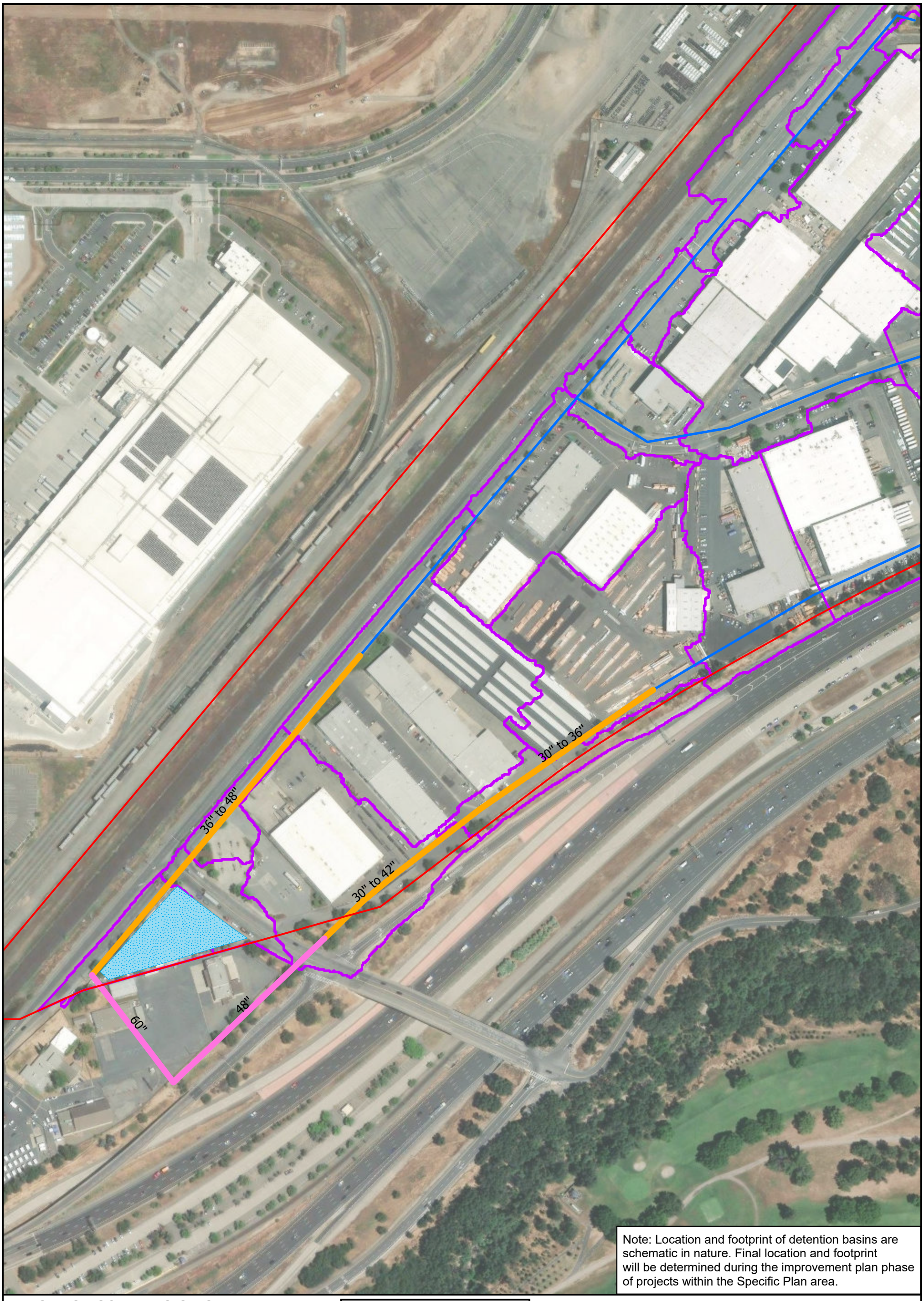
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8I



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 9

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

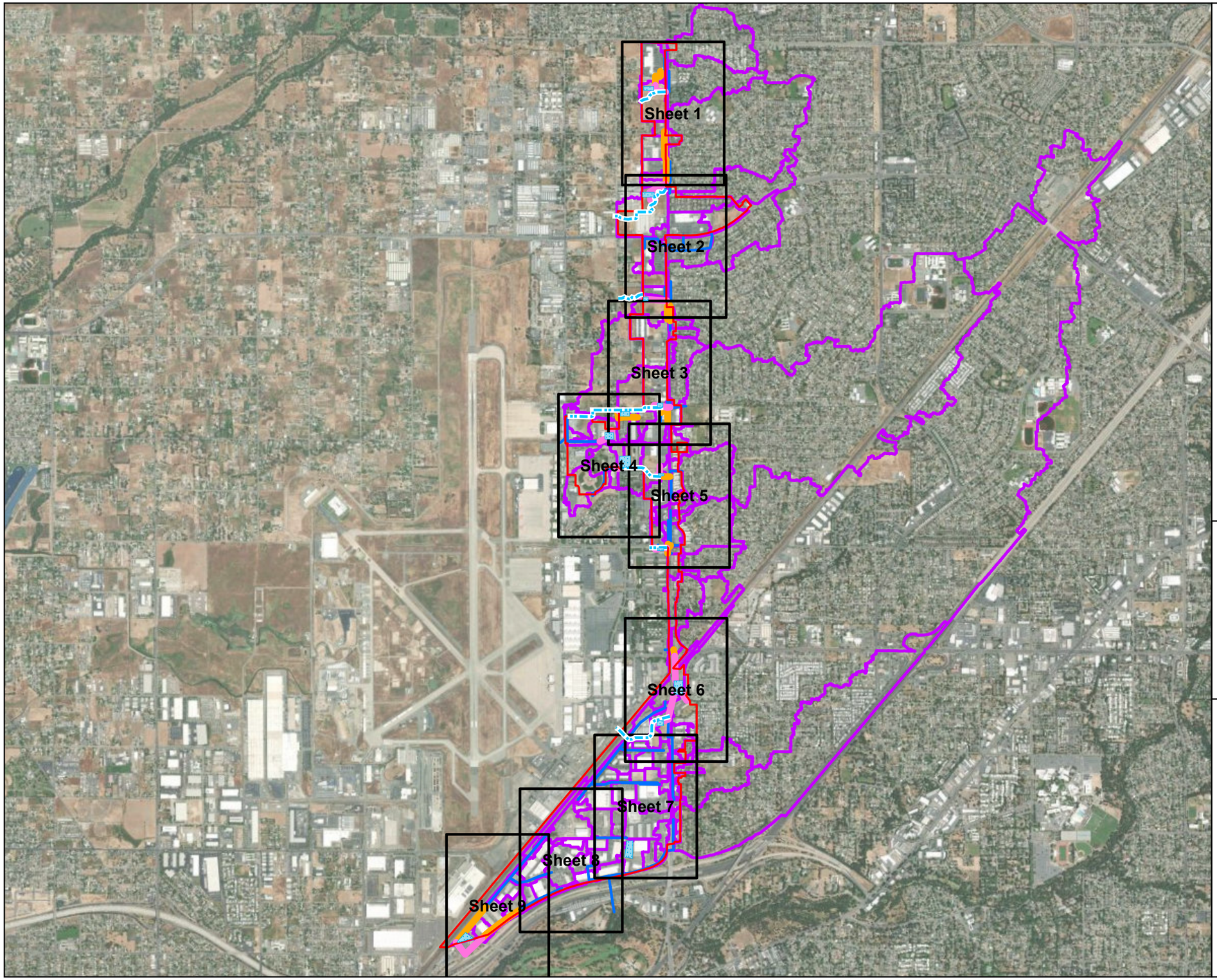
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 8J



North Watt

Watershed Boundary

Detention Basin

Existing

Upsized

New

Creek Centerline

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT

SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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FIGURE9A

36" to 42"
36" to 48"
36" to 60"
20" to 30"
22" to 36"
60"
36"
48"
28" to 36"
Unnamed Creek 05 (Sunnyview)
15" to 24"
15" to 30"
15" to 36"
24" to 42"
24" to 36"
42"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 1

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

Creek Centerline
North Watt
Watershed Boundary
Detention Basin

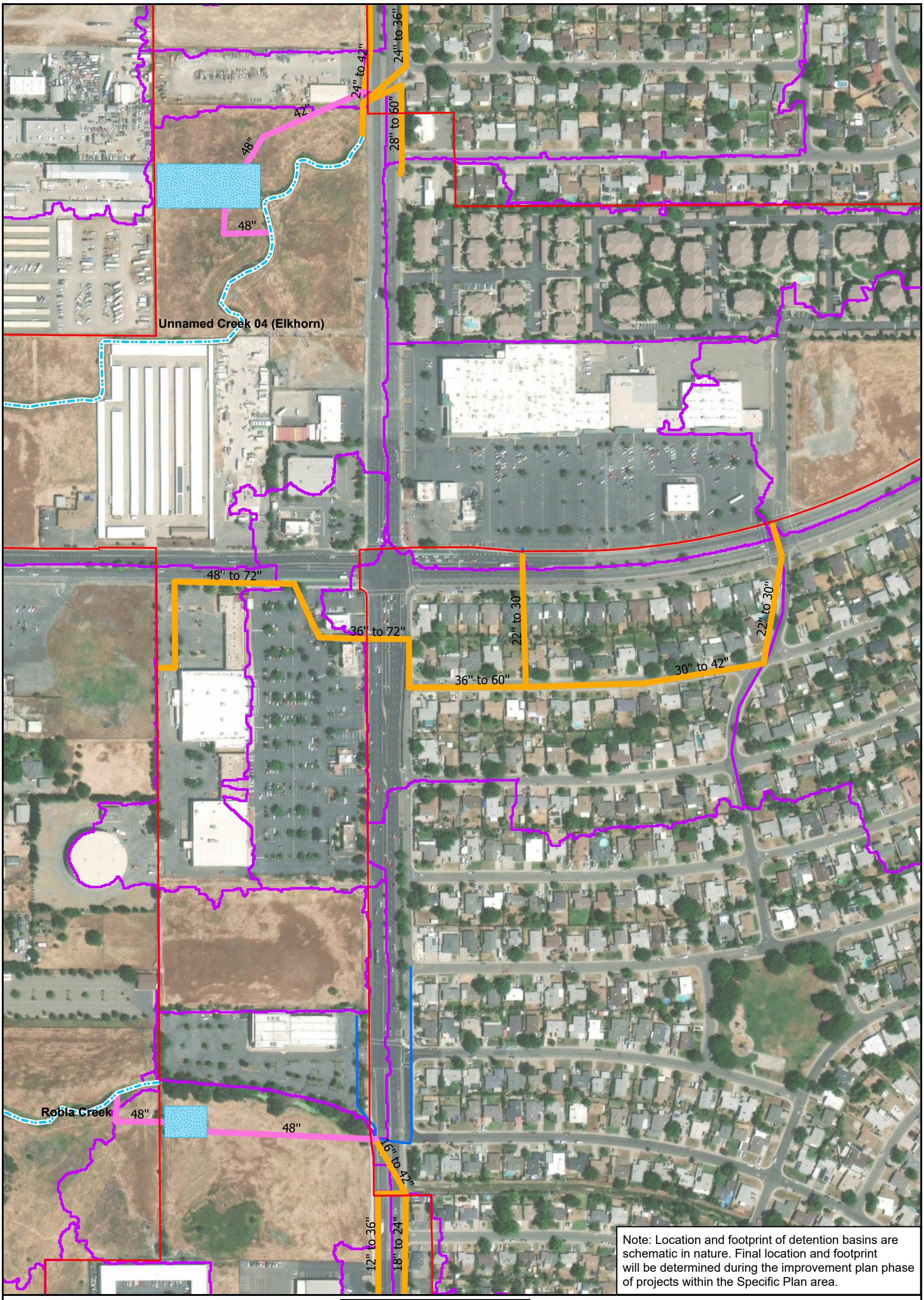
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 9B



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 2

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 9C

12" to 42"
12" to 36"
18" to 24"
48"
16" to 24"
10" to 48"
Unnamed Creek 03 (Don Julio)
48"
30"
16" to 30"
16" to 24"
16" to 18"
16" to 18"
30"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 3

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

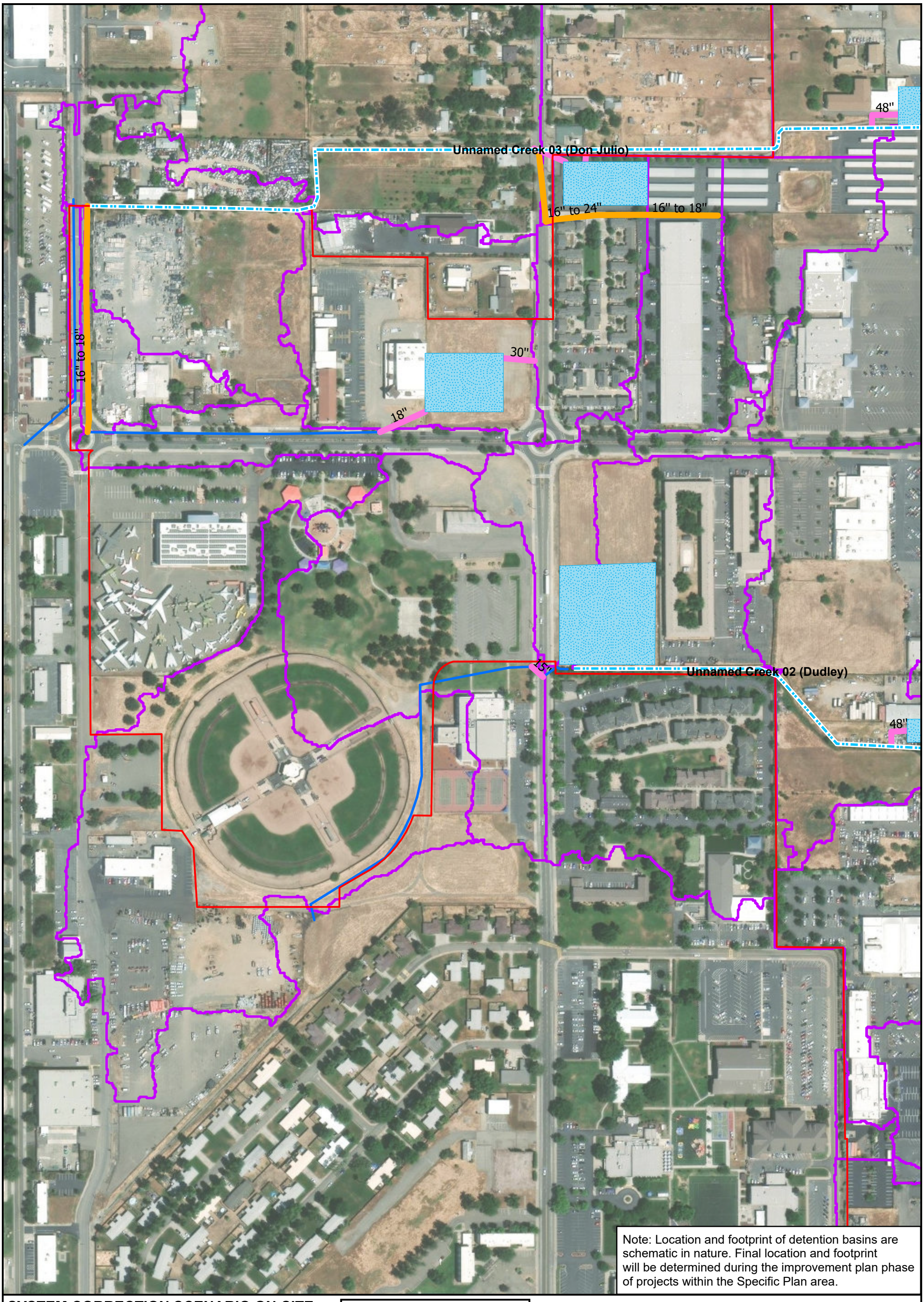
0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:36 PM jcarey

FIGURE 9D



SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 4

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

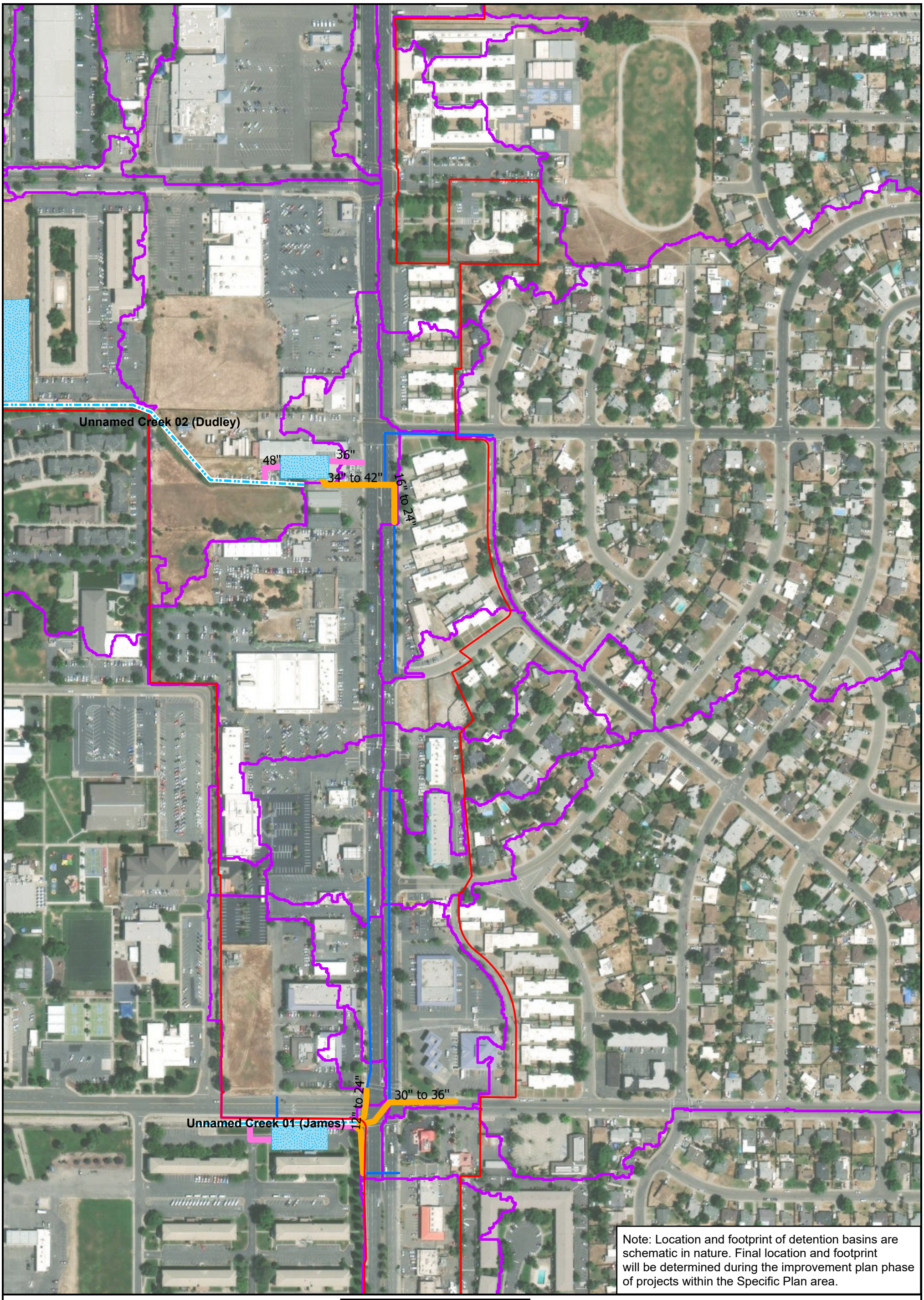
0 100 200 400
Feet

NORTH

WOOD RODGERS

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FIGURE 9E



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 5

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:36 PM jcarey

FIGURE 9F

18" to 24"
42"
30"
36"
10" to 18"
12" to 18"
10" to 24"
36"
30"
18" to 30"
Magpie Creek
30" to 48"
27" to 48"
27" to 30"
21" to 30"
18" to 24"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 6

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- Creek Centerline
- Upsized
- Detention Basin
- New
- North Watt
- Watershed Boundary

Storm_Drain
- Existing

0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:36 PM jcarey

FIGURE 9G

Magpie Creek
54" to 72"
27" to 36"
27" to 30"
21" to 30"
18" to 24"
30" to 48"
27" to 48"
24" to 48"
15" to 48"
48" to 60"
54" to 60"
36" to 54"
42" to 54"
24" to 42"
24" to 36"
10" to 48"
10" to 30"
10" to 18"
24" to 42"
24" to 36"
24" to 30"
54" to 72"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 7

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

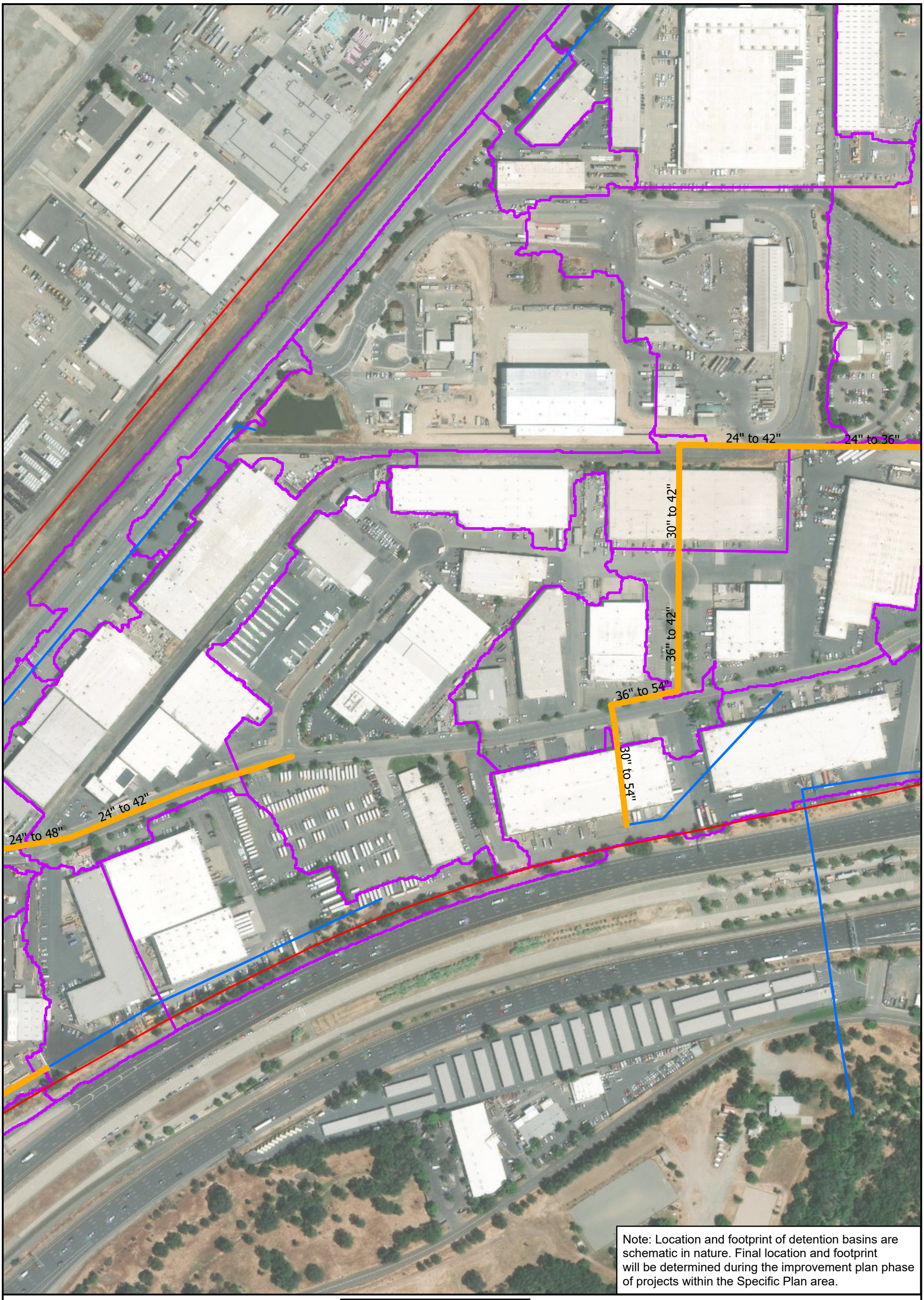
0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:36 PM jcarey

FIGURE 9H



Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 8

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:37 PM jcarey

FIGURE 9I

24" to 48"
24" to 42"
30" to 36"
30" to 42"
30" to 48"
36" to 60"
48"
60"

Note: Location and footprint of detention basins are schematic in nature. Final location and footprint will be determined during the improvement plan phase of projects within the Specific Plan area.

SYSTEM CORRECTION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 9

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Storm_Drain
- Existing
- Upsized
- New

- Creek Centerline
- North Watt
- Watershed Boundary
- Detention Basin

0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 2:37 PM jcarey

FIGURE 9J

APPENDIX A

FEMA FIRM Panels

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was California State Plane Zone II (FIPSZONE 0402). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the County of Sacramento Water Resources Department. This information was derived from digital orthophotos produced with 6-inch pixel resolution and 3.3-foot horizontal accuracy from aerial photography dated March 2001.

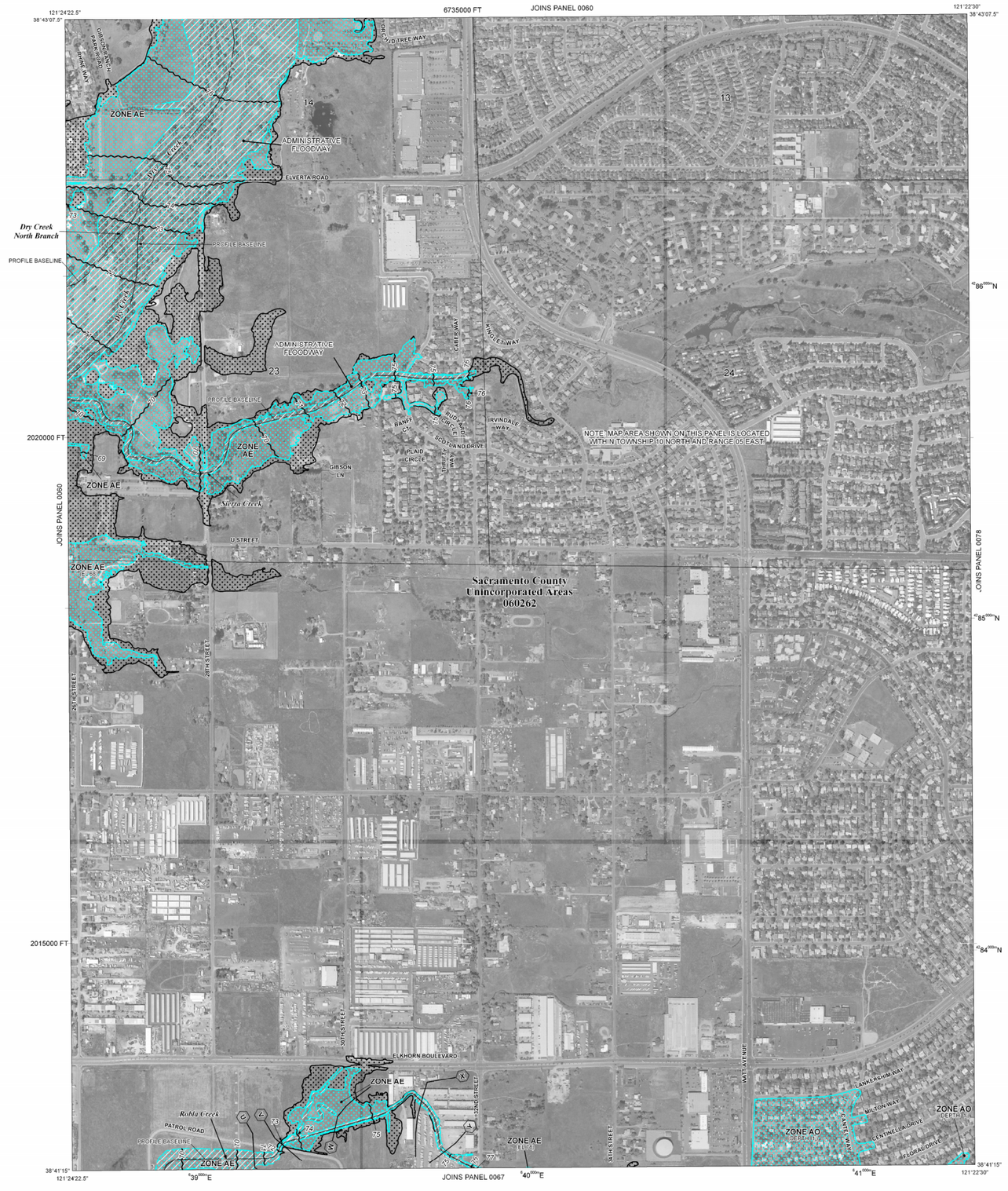
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Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Culvert, Flume, Penstock or Aqueduct
- Road or Railroad Bridge
- Footbridge
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- $^{39}76^{000}$N — 1000-meter Universal Transverse Mercator grid values, zone 10
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
AUGUST 16, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0059H

FIRM

FLOOD INSURANCE RATE MAP

SACRAMENTO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 59 OF 705

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SACRAMENTO COUNTY	060262	0059	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06067C0059H

EFFECTIVE DATE
AUGUST 16, 2012

Federal Emergency Management Agency

NOTES TO USERS

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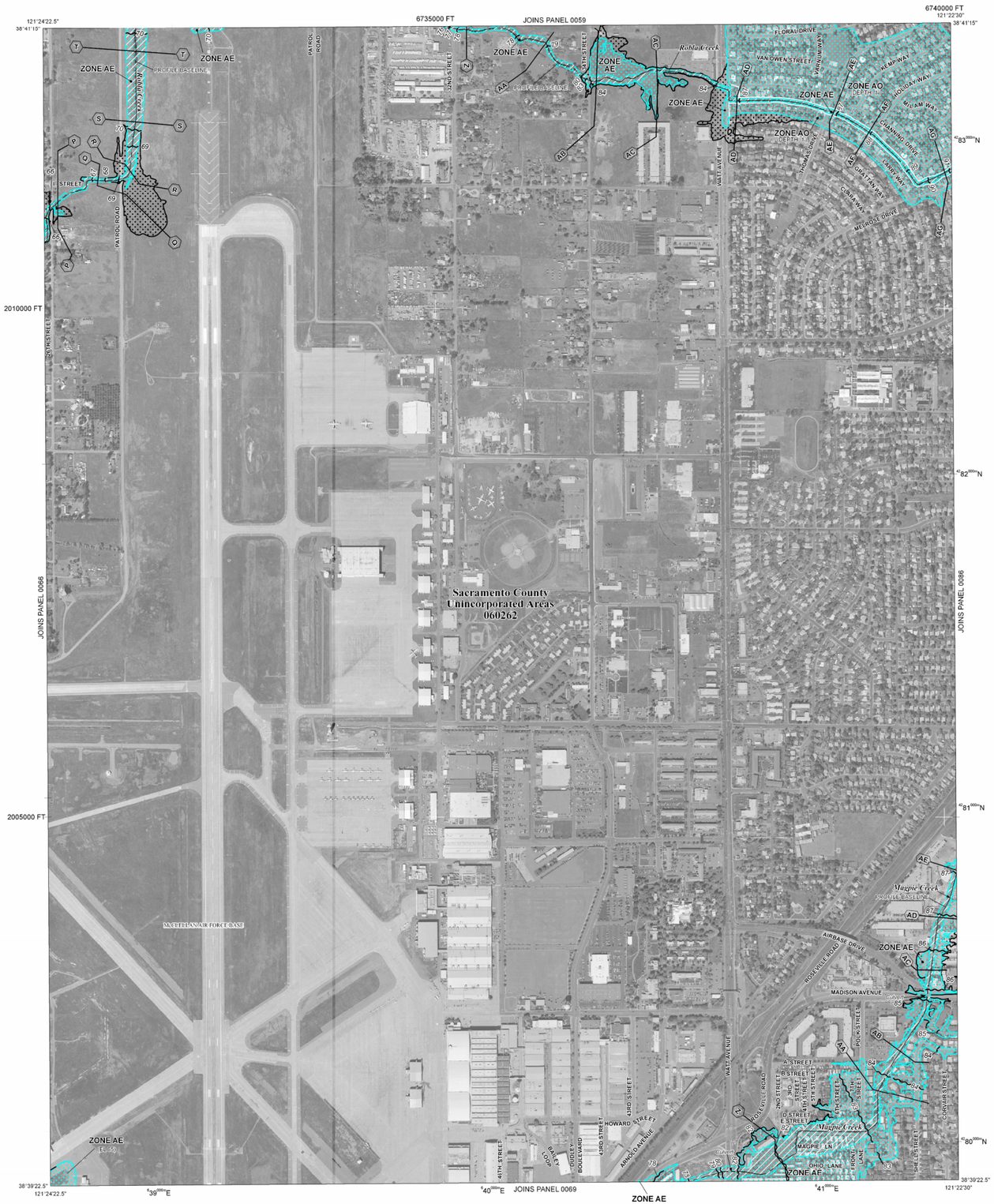
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LEGEND

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ZONE A	No Base Flood Elevations determined.
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ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

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OTHERWISE PROTECTED AREAS (OPAs)

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- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Culvert, Flume, Penstock or Aqueduct
- Road or Railroad Bridge
- Footbridge
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4376000mN — 1000-meter Universal Transverse Mercator grid values, zone 10
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
AUGUST 16, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

PANEL 0067H

FIRM

FLOOD INSURANCE RATE MAP

SACRAMENTO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 67 OF 705
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SACRAMENTO COUNTY	060262	0067	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06067C0067H

EFFECTIVE DATE
AUGUST 16, 2012

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available effective flood hazard information for your community, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be downloaded from the website. Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be acquired directly from the Flood Map Service Center at the website listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October, 2020.

Note: Some Special Flood Hazard Areas with elevations may not appear with elevation labels if the Base Flood Elevation or Cross-section line which communicates the elevation for the location appears on the adjacent panel. Please see the Panel Locator Diagram on this map panel to determine the adjacent panel and find the elevation feature there, or alternatively use the Flood Insurance Study report for detailed elevations by flood source.

SCALE

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 StatePlane California II FIPS 0402 Feet
Vertical Datum: NAVD88

PANEL LOCATOR



		0059	0078	0079
		0067	0086	0087
0062	0066			
0064	0068	**0069**	0088	0089
0177	0181	0182	0201	0202
0180	0183	0184	0205	

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

SACRAMENTO COUNTY CALIFORNIA AND INCORPORATED AREAS

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
SACRAMENTO COUNTY UNINCORPORATED AREAS	060262	0069	J
CITY OF SACRAMENTO	060266	0069	J

MAP NUMBER
06067C0069J
EFFECTIVE DATE
February 22, 2024

APPENDIX B

Existing Conditions Hydrology Parameters and Results

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Existing Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
ARC008	73.5	9.2	Commercial	0.016	1154.7	0.02	87.1	28.0
ARC011	75.6	11.2	Residential	0.015	1181.0	0.02	71.9	25.7
ARC012	78.1	4.6	Commercial	0.016	997.2	0.02	84.4	14.6
ARC013	80.2	2.4	Commercial	0.023	798.8	0.02	83.4	8.3
ARC014	82.0	4.5	Commercial	0.011	1114.8	0.02	90.4	13.2
ARC015	85.4	3.8	Commercial	0.014	1294.5	0.02	44.0	11.0
ARC016	108.0	220.6	Residential	0.036	10264.8	0.02	24.3	299.6
ARC017	82.9	1.6	Commercial	0.027	923.8	0.02	20.4	5.3
ARC018	84.5	1.1	Commercial	0.032	393.3	0.02	87.6	4.1
ARC021	73.4	5.8	Commercial	0.011	1016.7	0.02	86.4	17.6
ARC025	76.0	9.8	Commercial	0.015	1503.6	0.02	83.4	27.8
ARC027	74.3	6.3	Commercial	0.015	1186.2	0.02	83.4	18.9
ARC028	73.6	10.6	Open space	0.041	1394.8	0.02	9.1	12.8
ARC030	80.8	6.2	Residential	0.015	1267.5	0.02	70.5	14.1
ARC032	84.1	17.4	Commercial	0.016	2146.4	0.02	87.3	44.4
ARC033	64.1	1.6	Commercial	0.012	671.6	0.02	89.9	5.4
ARC034	65.3	1.2	Commercial	0.021	549.0	0.02	92.2	4.4
ARC036	64.4	0.9	Commercial	0.014	499.8	0.02	92.7	3.2
ARC037	64.9	7.7	Commercial	0.012	1288.9	0.02	86.2	22.0
ARC038	68.5	5.4	Commercial	0.01	1071.4	0.02	85.9	15.9
ARC039	69.8	2.0	Commercial	0.022	651.9	0.02	88.6	7.1
ARC040	70.5	0.8	Commercial	0.015	347.6	0.02	89.1	2.8
ARC041	73.4	7.5	Commercial	0.02	3036.0	0.02	89.6	17.4
ARC042	73.5	1.5	Commercial	0.02	835.7	0.02	84.4	5.1
ARC044	74.0	15.3	Residential	0.01	1827.1	0.02	17.6	29.5
ARC046	70.7	12.1	Commercial	0.025	1705.6	0.02	85.9	35.6
ARC048	73.3	17.5	Commercial	0.008	962.7	0.02	86.7	51.3
ARC051	64.1	5.5	Commercial	0.02	773.3	0.02	88.5	18.8
ARC052	65.3	1.5	Commercial	0.016	1021.3	0.02	92.1	4.7
ARC056	66.9	5.8	Commercial	0.016	1021.3	0.02	86.3	18.2
ARC057	69.9	4.1	Commercial	0.028	915.7	0.02	88.9	14.0
ARC059	74.0	8.2	Commercial	0.02	977.1	0.02	87.6	26.7
MAG001	77.3	1.0	Commercial	0.021	485.5	0.02	88.2	3.6
MAG002	78.7	7.0	Commercial	0.02	1145.0	0.02	87.4	21.9
MAG003	77.3	5.1	Commercial	0.019	868.3	0.02	88.9	16.8
MAG004	78.6	12.2	Commercial	0.026	1530.1	0.02	85.7	37.0
MAG006	76.5	2.5	Residential	0.022	1003.4	0.02	78.4	6.0
MAG008	77.2	3.5	Commercial	0.012	705.4	0.02	89.5	11.6
MAG010	78.2	4.6	Commercial	0.016	686.6	0.02	93.0	15.6
MAG011	78.5	5.4	Commercial	0.013	891.4	0.02	93.0	17.3
MAG014	77.9	1.8	Commercial	0.012	670.8	0.02	86.8	5.9
MAG015	83.6	6.8	Commercial	0.016	902.6	0.02	85.9	22.0
MAG016	78.0	2.8	Commercial	0.009	717.1	0.02	90.1	8.9
MAG018	82.3	12.9	Commercial	0.016	1599.6	0.02	88.2	35.9
MAG020	80.4	4.0	Commercial	0.01	1162.8	0.02	90.5	11.6
MAG021	82.4	3.3	Commercial	0.006	1050.7	0.02	92.4	9.0
MAG023	80.5	7.6	Commercial	0.01	727.4	0.02	86.8	24.4
MAG025	81.1	1.3	Commercial	0.014	677.2	0.02	93.7	4.4

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Existing Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

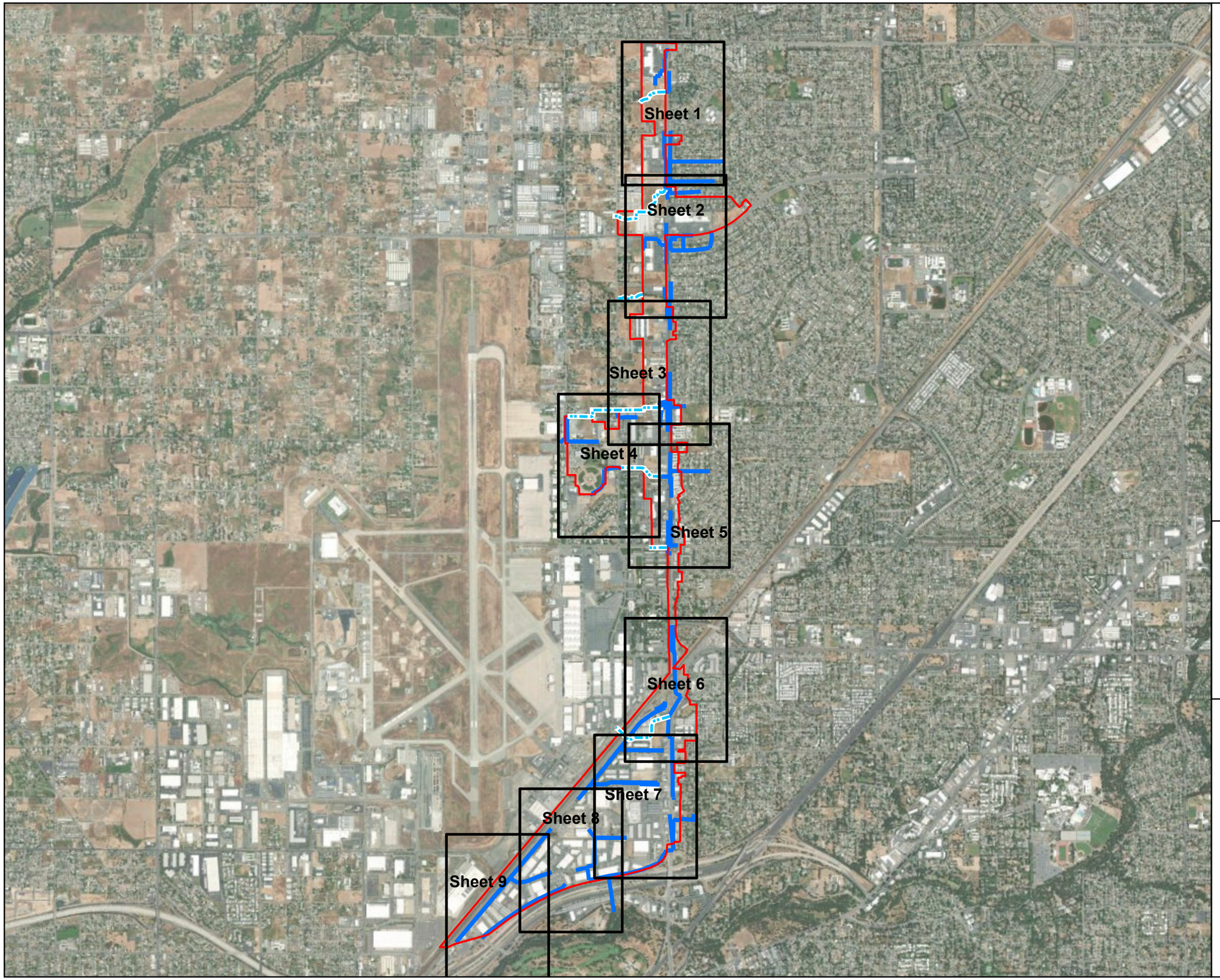
Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
MAG026	82.9	7.7	Residential	0.057	1426.7	0.02	95.0	18.9
MAG027	81.2	3.0	Residential	0.028	797.2	0.02	95.0	7.6
MAG029	86.4	1.6	Residential	0.027	1085.9	0.02	95.0	4.0
MAG030	82.6	4.4	Residential	0.013	1101.5	0.02	95.0	10.1
MAG032	87.4	3.6	Residential	0.018	1127.8	0.02	95.0	8.5
MAG033	85.3	34.2	Residential	0.013	2857.6	0.02	95.0	62.7
MAG034	82.4	1.0	Commercial	0.019	438.7	0.02	95.0	3.5
MAG035	84.4	0.7	Commercial	0.009	567.6	0.02	95.0	2.4
MAG038	85.5	1.6	Residential	0.018	467.3	0.02	95.0	4.1
MAG039	86.4	2.6	Commercial	0.014	743.2	0.02	92.1	8.6
MAG041	86.4	7.5	Commercial	0.012	2481.7	0.02	95.0	17.3
MAG128	81.7	3.8	Commercial	0.023	832.2	0.02	79.5	13.0
MAG139	89.6	4.1	Commercial	0.022	3078.0	0.02	63.7	9.5
MAG239	86.0	2.0	Commercial	0.016	748.0	0.02	85.0	6.6
MAG339	96.7	28.9	Residential	0.03	3193.0	0.02	95.0	57.6
ROB001	85.8	6.6	Commercial	0.012	650.5	0.02	86.0	21.9
ROB004	87.1	9.0	Commercial	0.014	1152.8	0.02	95.0	27.0
ROB012	109.0	61.1	Residential	0.015	1315.6	0.02	95.0	137.3
ROB016	92.6	14.3	Commercial	0.013	2101.3	0.02	89.8	35.4
ROB020	100.0	2.5	Residential	0.017	3123.5	0.02	95.0	4.5
ROB022	96.9	11.6	Residential	0.014	1364.3	0.02	43.8	25.1
ROB025	86.9	4.7	Open space	0.021	1061.0	0.02	2.9	5.5
ROB031	86.0	1.1	Commercial	0.014	478.1	0.02	88.0	3.7
ROB032	85.2	1.4	Open space	0.016	462.1	0.02	8.5	1.7
ROB033	89.7	2.9	Residential	0.014	855.3	0.02	53.3	7.0
ROB034	88.6	2.9	Residential	0.015	709.2	0.02	58.5	7.1
ROB035	93.3	2.6	Residential	0.012	1218.4	0.02	95.0	5.7
ROB036	83.7	9.8	Open space	0.03	718.8	0.02	17.8	12.1
UN1002	86.0	4.6	Residential	0.018	817.0	0.02	62.5	11.2
UN1004	83.7	0.3	Commercial	0.033	263.7	0.02	94.1	1.2
UN1005	93.3	6.4	Commercial	0.014	1276.1	0.02	95.0	18.9
UN1006	98.1	20.2	Residential	0.02	2490.2	0.02	95.0	40.9
UN1010	89.3	3.5	Commercial	0.009	929.8	0.02	90.8	10.6
UN1014	85.5	3.7	Commercial	0.009	2490.2	0.02	90.3	8.0
UN1015	92.1	1.4	Residential	0.016	903.6	0.02	95.0	3.4
UN1016	96.5	36.1	Residential	0.019	2721.3	0.02	60.5	69.6
UN1101	87.3	0.5	Commercial	0.02	330.1	0.02	90.0	1.9
UN1109	85.0	0.5	Commercial	0.019	323.3	0.02	91.5	1.9
UN1115	91.1	2.0	Residential	0.022	857.7	0.02	95.0	4.9
UN1309	86.7	1.6	Commercial	0.014	759.6	0.02	91.6	5.2
UN2003	80.8	7.6	Commercial	0.026	1925.4	0.02	95.0	21.8
UN2005	84.8	8.6	Residential	0.014	1221.0	0.02	95.0	19.6
UN2008	89.0	3.6	Residential	0.015	716.6	0.02	53.3	8.9
UN2009	83.4	8.4	Residential	0.009	1510.8	0.02	66.5	17.1
UN2010	81.8	6.5	Residential	0.015	1164.2	0.02	49.6	14.9
UN2011	83.4	14.9	Residential	0.009	1432.6	0.02	59.8	30.7
UN2013	88.2	11.5	Commercial	0.025	1929.8	0.02	89.9	32.5
UN2014	88.8	1.7	Residential	0.017	429.0	0.02	78.7	4.3

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Existing Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
UN2015	95.2	36.4	Residential	0.013	2144.0	0.02	56.7	71.4
UN2017	86.9	4.2	Commercial	0.014	615.8	0.02	83.9	14.5
UN2018	90.4	1.5	Residential	0.016	747.7	0.02	95.0	3.6
UN3002	76.1	0.4	Commercial	0.018	601.3	0.02	93.8	1.5
UN3005	76.6	8.7	Residential	0.025	1448.4	0.02	95.0	20.3
UN3006	79.7	2.2	Commercial	0.012	1091.7	0.02	84.9	6.7
UN3009	87.9	3.3	Residential	0.013	1317.2	0.02	68.5	7.3
UN3014	81.2	9.2	Residential	0.024	1347.5	0.02	53.3	21.1
UN3016	88.7	4.0	Commercial	0.02	861.2	0.02	82.9	13.2
UN3019	88.2	3.8	Residential	0.02	846.4	0.02	95.0	9.3
UN3020	86.6	1.9	Residential	0.021	604.6	0.02	95.0	5.0
UN3031	89.0	9.4	Commercial	0.018	1859.5	0.02	87.5	25.6
UN3035	87.6	1.7	Commercial	0.006	606.0	0.02	86.3	5.5
UN3037	91.0	6.4	Commercial	0.013	1067.8	0.02	95.0	19.5
UN3038	91.9	11.2	Commercial	0.013	2087.2	0.02	82.8	27.5
UN3039	89.9	0.9	Commercial	0.011	592.0	0.02	86.8	3.2
UN3040	89.5	19.3	Residential	0.009	2654.0	0.02	95.0	34.0
UN3043	137.6	549.9	Residential	0.04	11845.6	0.02	95.0	717.6
UN3045	83.4	28.2	Residential	0.015	2045.6	0.02	43.2	56.6
UN3046	80.0	77.1	Residential	0.024	2485.0	0.02	38.0	155.6
UN4002	88.6	2.5	Residential	0.014	839.3	0.02	17.5	5.7
UN4003	90.1	3.0	Residential	0.024	791.8	0.02	20.9	7.3
UN4005	90.6	5.1	Commercial	0.021	801.9	0.02	95.0	17.3
UN4008	93.2	7.3	Commercial	0.015	764.6	0.02	95.0	24.4
UN4009	95.0	0.6	Commercial	0.02	417.1	0.02	95.0	2.2
UN4010	98.5	2.6	Residential	0.013	649.9	0.02	95.0	6.6
UN4011	128.9	174.2	Residential	0.015	7238.0	0.02	48.6	222.7
UN4013	94.9	1.5	Commercial	0.015	956.8	0.02	95.0	4.7
UN4015	125.4	34.7	Residential	0.013	4995.1	0.02	57.3	50.2
UN4017	95.5	13.9	Residential	0.016	1956.7	0.02	79.8	28.7
UN4020	88.3	11.3	Residential	0.007	582.4	0.02	56.7	27.2
UN4021	89.0	8.6	Commercial	0.048	807.7	0.02	84.7	30.6
UN4022	87.9	12.3	Commercial	0.016	792.1	0.02	0.0	40.9
UN5002	97.8	11.9	Commercial	0.015	1440.3	0.02	95.0	34.1
UN5007	97.4	0.3	Commercial	0.019	248.5	0.02	93.7	1.2
UN5008	99.1	0.9	Commercial	0.021	310.5	0.02	95.0	3.2
UN5009	112.5	55.5	Residential	0.022	3307.2	0.02	95.0	105.3
UN5012	95.5	1.3	Commercial	0.007	602.7	0.02	95.0	4.3
UN5013	132.4	43.1	Residential	0.021	3154.4	0.02	64.0	81.3
UN5016	95.2	13.3	Open space	0.015	1284.9	0.02	7.1	26.7

APPENDIX C

Existing Storm Drain Deficiencies



North Watt

Creek Centerline

Storm Drain

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

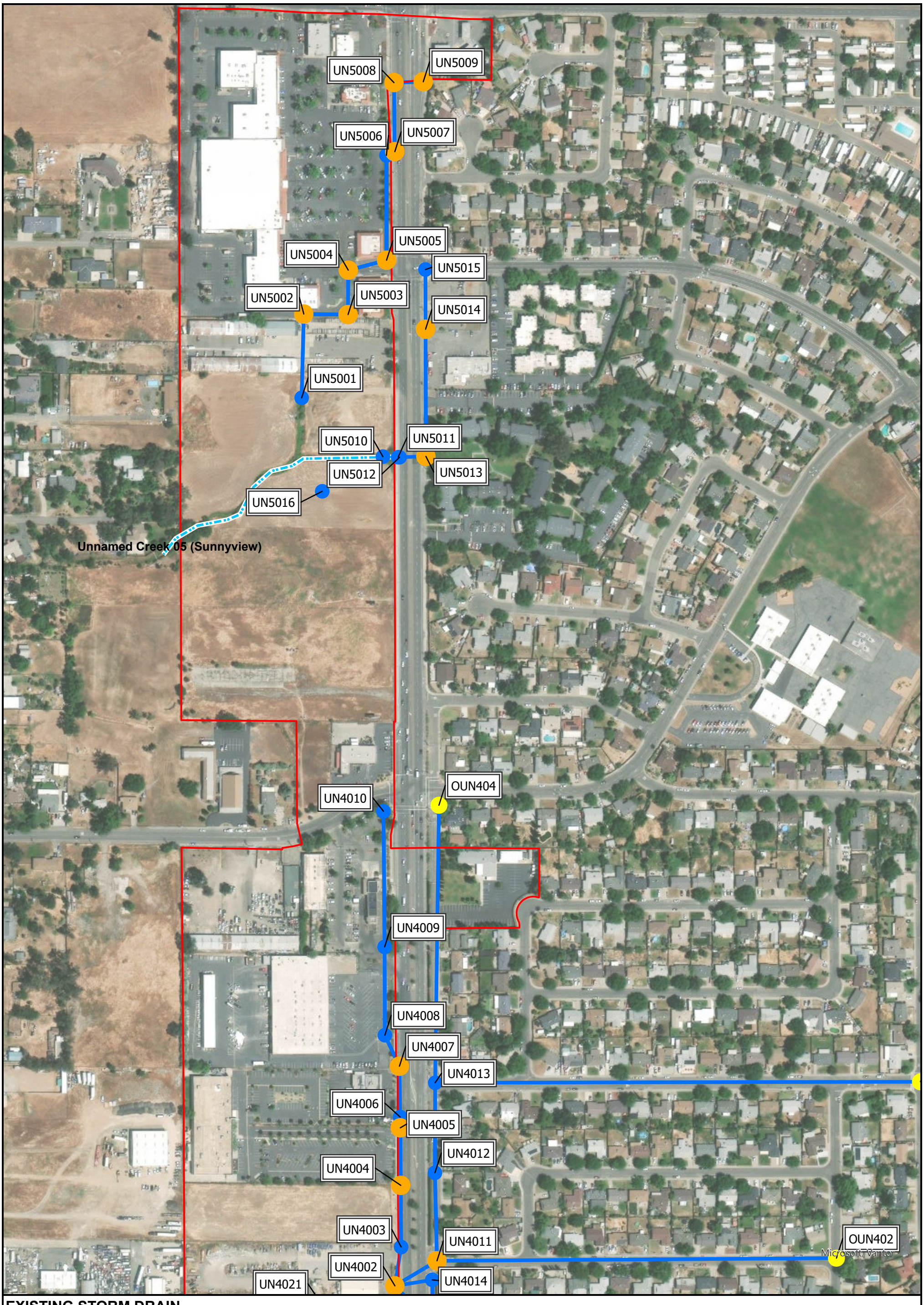
EXISTING STORN DRAIN DEFICIENCIES LAYOUT

SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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EXISTING STORM DRAIN DEFICIENCIES LAYOUT 1

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both

North Watt Storm Drain
Creek Centerline

0 100 200 400
Feet

NORTH

WOOD RODGERS

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APPPENDIX C



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MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 2

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both
- Creek Centerline

North Watt
Storm Drain

0 100 200 400
Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 3

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both

- North Watt Storm Drain
- Creek Centerline

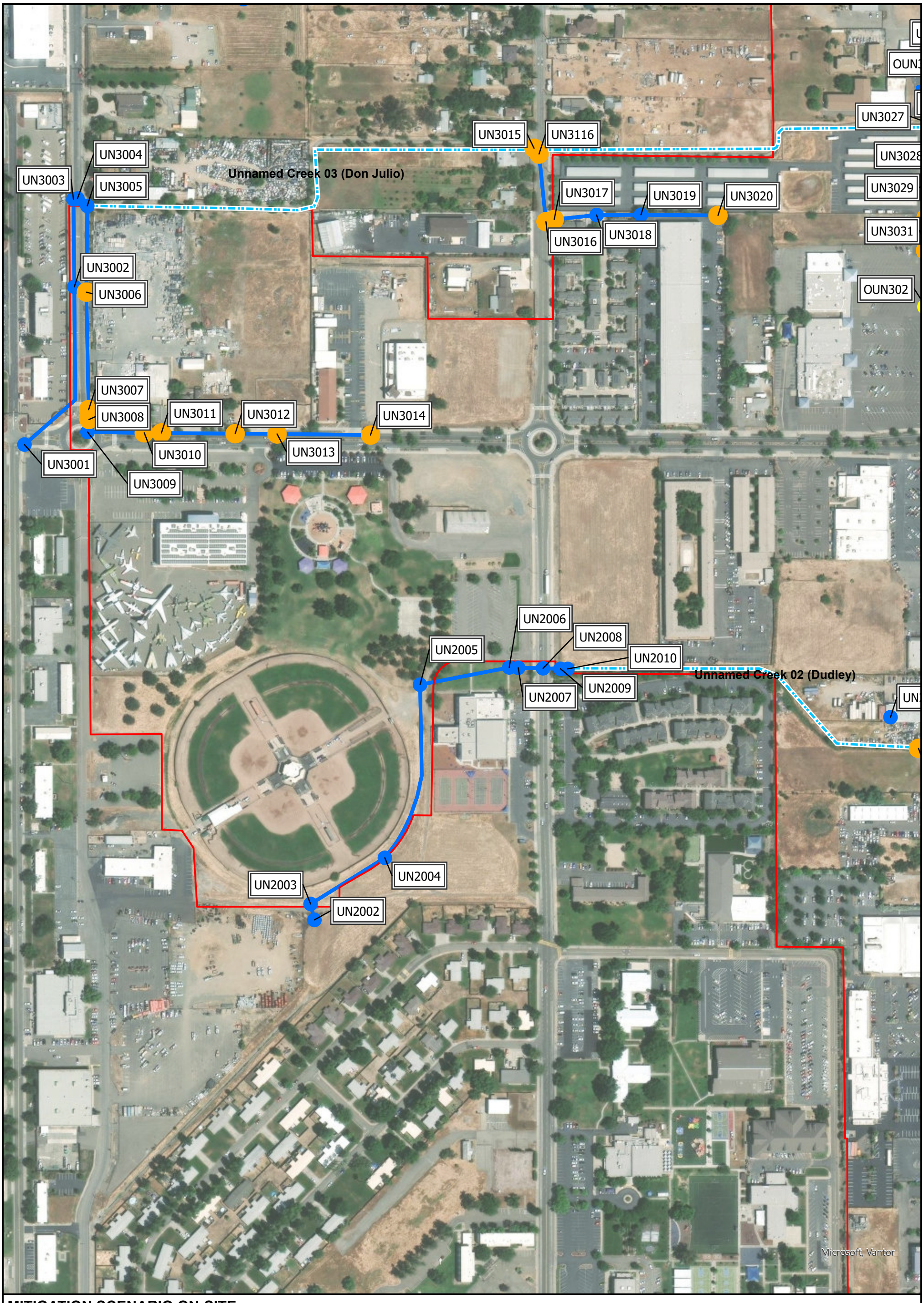
0 100 200 400
Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 4

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both

North Watt Storm Drain

Creek Centerline

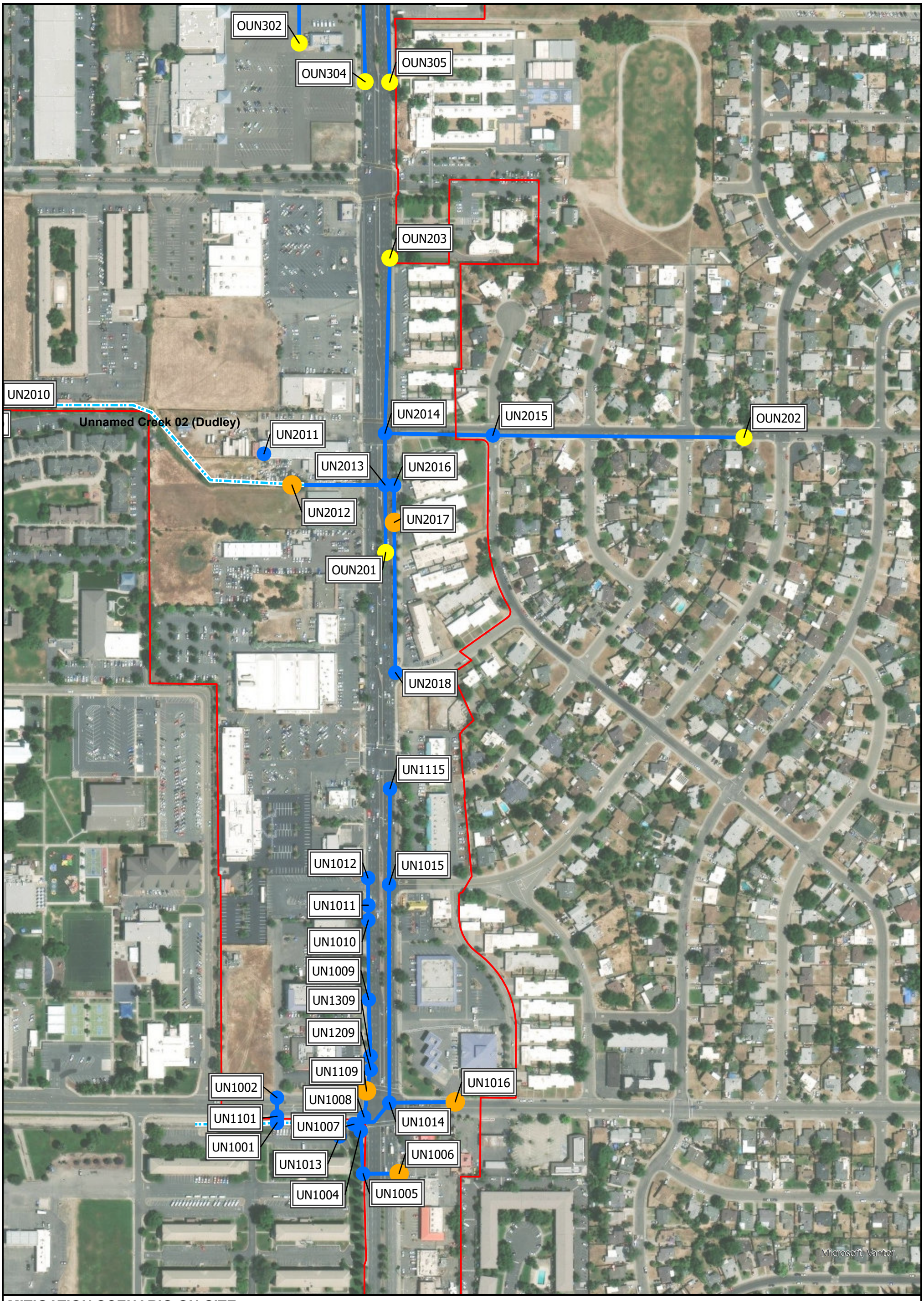
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Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 5

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both
- Creek Centerline
- North Watt
- Storm Drain

0 100 200 400
Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 6

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both
- Creek Centerline
- North Watt
- Storm Drain

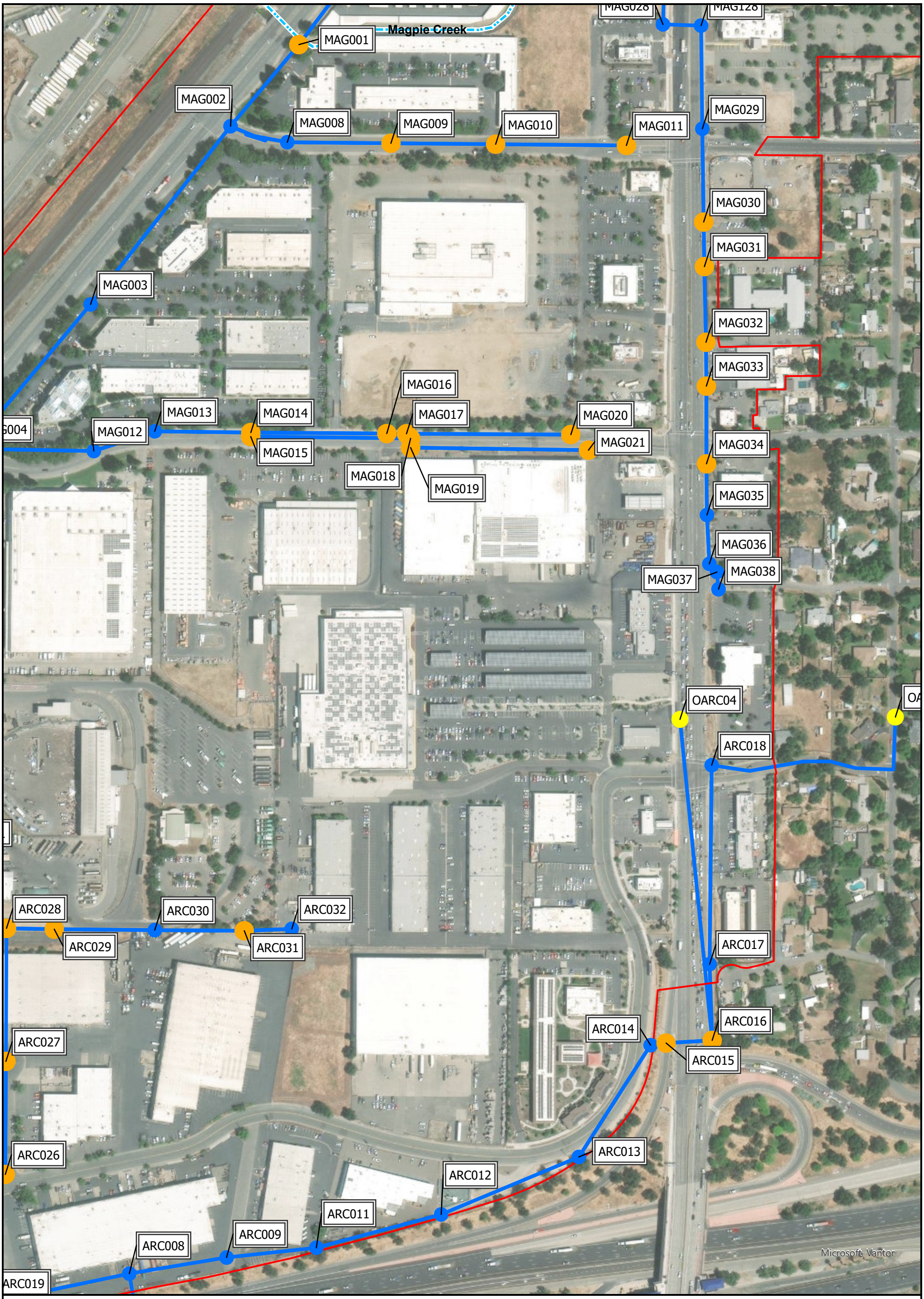
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Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 7

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both

North Watt Storm Drain
Creek Centerline

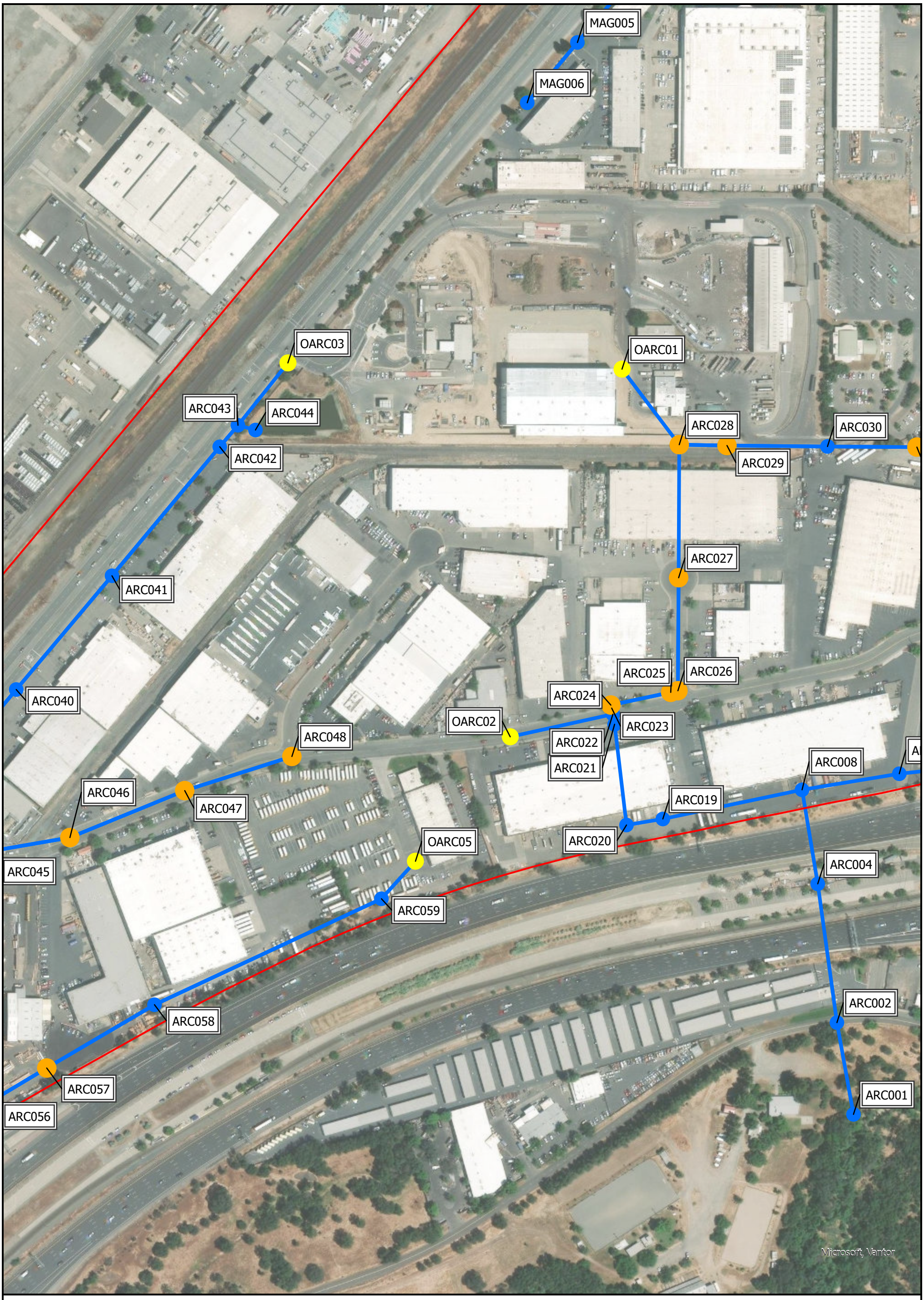
0 100 200 400
Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 8

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both
- Creek Centerline
- North Watt
- Storm Drain

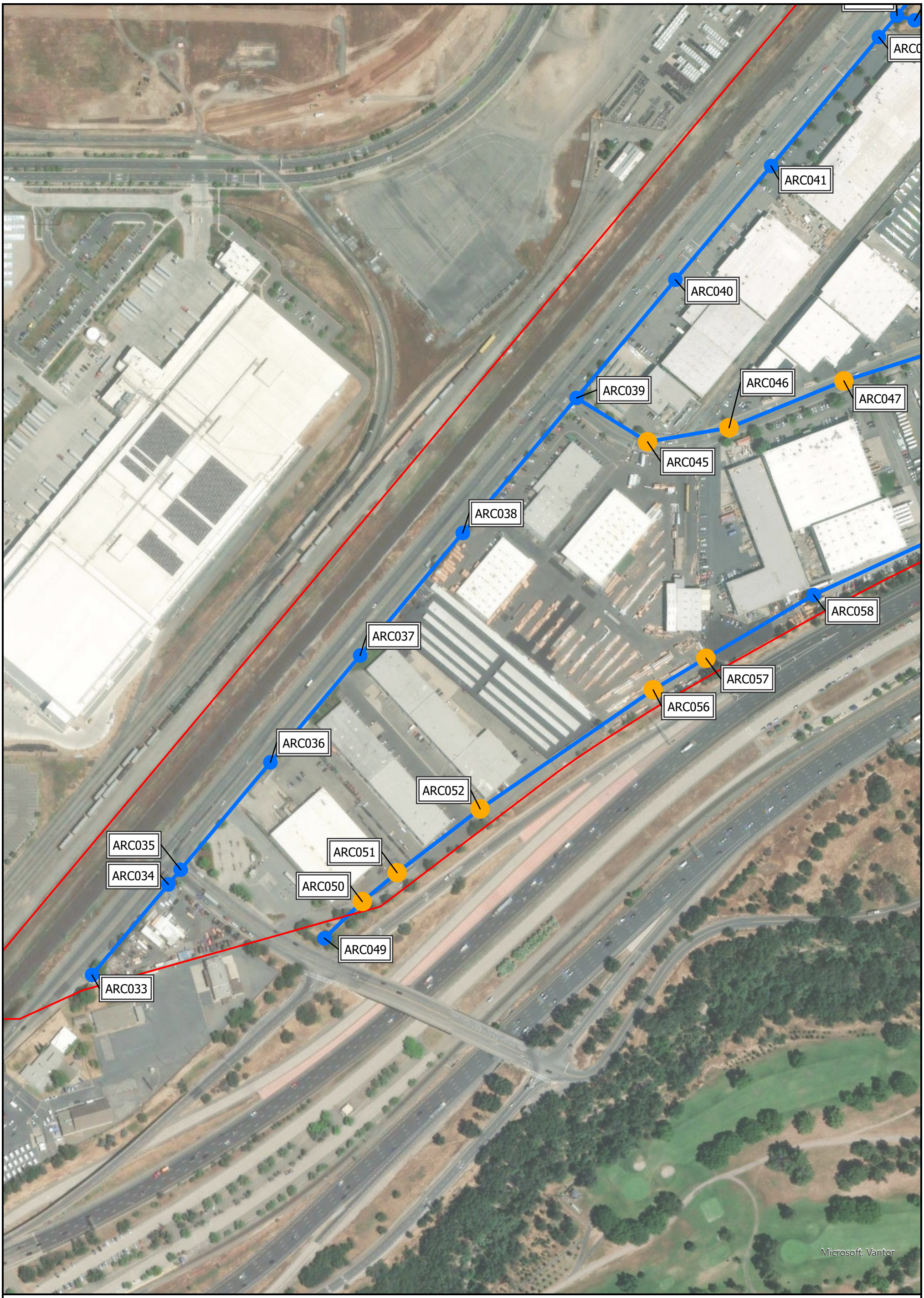
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Feet

NORTH

WOOD RODGERS

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APPPENDIX C



MITIGATION SCENARIO ON-SITE IMPROVEMENTS LAYOUT 9

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

Node Compliance
- Complies
- Fails in 100yr
- Fails in Nolte
- Fails in Both
- Creek Centerline
- North Watt
- Storm Drain

0 100 200 400
Feet

NORTH

WOOD RODGERS

J:\Jobs\8618_Sacramento_County\8618002_North_Watt_Specific_Plan\GIS\ArcGISPro\North_Watt_Drainage_TM\North_Watt_Drainage_TM_Figures_20260210.aprx 10/6/2026 12:52 PM jcarey

APPPENDIX C

APPENDIX D

Proposed Conditions Hydrology Parameters and Results

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Proposed Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
ARC008	73.5	9.2	Commercial	0.016	1154.7	0.02	87.1	28.0
ARC011	75.6	11.2	Residential	0.015	1181.0	0.02	86.0	25.8
ARC012	78.1	4.6	Commercial	0.016	997.2	0.02	84.4	14.6
ARC013	80.2	2.4	Commercial	0.023	798.8	0.02	83.4	8.3
ARC014	82.0	4.5	Commercial	0.011	1114.8	0.02	90.4	13.2
ARC015	85.4	3.8	Commercial	0.014	1294.5	0.02	95.0	11.0
ARC016	108.0	220.6	Residential	0.036	10264.8	0.02	95.0	299.2
ARC017	82.9	1.6	Commercial	0.027	923.8	0.02	95.0	5.3
ARC018	84.5	1.1	Commercial	0.032	393.3	0.02	87.6	4.1
ARC021	73.4	5.8	Commercial	0.011	1016.7	0.02	86.4	17.6
ARC025	76.0	9.8	Commercial	0.015	1503.6	0.02	85.2	27.8
ARC027	74.3	6.3	Commercial	0.015	1186.2	0.02	83.4	18.9
ARC028	73.6	10.6	Open space	0.041	1394.8	0.02	9.1	12.8
ARC030	80.8	6.2	Residential	0.015	1267.5	0.02	70.5	14.1
ARC032	84.1	17.4	Commercial	0.016	2146.4	0.02	87.3	44.4
ARC033	64.1	1.6	Commercial	0.012	671.6	0.02	91.7	5.4
ARC034	65.3	1.2	Commercial	0.021	549.0	0.02	92.2	4.4
ARC036	64.4	0.9	Commercial	0.014	499.8	0.02	92.7	3.2
ARC037	64.9	7.7	Commercial	0.012	1288.9	0.02	86.2	22.0
ARC038	68.5	5.4	Commercial	0.01	1071.4	0.02	85.9	15.9
ARC039	69.8	2.0	Commercial	0.022	651.9	0.02	88.6	7.1
ARC040	70.5	0.8	Commercial	0.015	347.6	0.02	89.1	2.8
ARC041	73.4	7.5	Commercial	0.02	3036.0	0.02	89.6	17.4
ARC042	73.5	1.5	Commercial	0.02	835.7	0.02	84.4	5.1
ARC044	74.0	15.3	Residential	0.01	1827.1	0.02	17.6	29.4
ARC046	70.7	12.1	Commercial	0.025	1705.6	0.02	84.9	35.6
ARC048	73.3	17.5	Commercial	0.008	962.7	0.02	86.5	51.3
ARC051	64.1	5.5	Commercial	0.02	773.3	0.02	87.5	18.8
ARC052	65.3	1.5	Commercial	0.016	1021.3	0.02	91.4	4.7
ARC056	66.9	5.8	Commercial	0.016	1021.0	0.02	85.9	18.2
ARC057	69.9	4.1	Commercial	0.028	915.7	0.02	88.0	14.0
ARC059	74.0	8.2	Commercial	0.02	977.1	0.02	87.0	26.7
MAG001	77.3	1.0	Commercial	0.021	485.5	0.02	88.2	3.6
MAG002	78.7	7.0	Commercial	0.02	1145.0	0.02	88.5	21.9
MAG003	77.3	5.1	Commercial	0.019	868.3	0.02	88.9	16.8
MAG004	78.6	12.2	Commercial	0.026	1530.1	0.02	85.7	37.0
MAG006	76.5	2.5	Residential	0.022	1003.4	0.02	78.4	6.0
MAG008	77.2	3.5	Commercial	0.012	705.4	0.02	89.5	11.6
MAG010	78.2	4.6	Commercial	0.016	686.6	0.02	95.0	15.6
MAG011	78.5	5.4	Commercial	0.013	891.4	0.02	95.0	17.3
MAG014	77.9	1.8	Commercial	0.012	670.8	0.02	89.9	5.9
MAG015	83.6	6.8	Commercial	0.016	902.6	0.02	85.9	22.0
MAG016	78.0	2.8	Commercial	0.009	717.1	0.02	90.2	8.9
MAG018	82.3	12.9	Commercial	0.016	1599.6	0.02	88.2	35.8
MAG020	80.4	4.0	Commercial	0.01	1162.8	0.02	90.5	11.6

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Proposed Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
MAG021	82.4	3.3	Commercial	0.006	1050.7	0.02	92.4	9.0
MAG023	80.5	7.6	Commercial	0.01	727.4	0.02	86.8	24.4
MAG025	81.1	1.3	Commercial	0.014	677.2	0.02	93.7	4.4
MAG026	82.9	7.7	Residential	0.057	1426.7	0.02	95.0	18.9
MAG027	81.2	3.0	Residential	0.028	797.2	0.02	95.0	7.6
MAG029	86.4	1.6	Residential	0.027	1085.9	0.02	95.0	4.0
MAG030	82.6	4.4	Residential	0.013	1101.5	0.02	95.0	10.1
MAG032	87.4	3.6	Residential	0.018	1127.8	0.02	95.0	8.5
MAG033	85.3	34.2	Residential	0.013	2857.6	0.02	95.0	62.7
MAG034	82.4	1.0	Commercial	0.019	438.7	0.02	95.0	3.5
MAG035	84.4	0.7	Commercial	0.009	567.6	0.02	95.0	2.4
MAG038	85.5	1.6	Residential	0.018	467.3	0.02	95.0	4.1
MAG039	86.4	2.8	Commercial	0.014	743.2	0.02	92.1	9.3
MAG041	86.4	8.1	Commercial	0.012	2481.7	0.02	95.0	18.7
MAG043	75.0	8.3	Commercial	0.012	1640.0	0.02	88.6	22.1
MAG045	162.0	1400.8	Residential	0.013	22044.0	0.02	68.3	949.3
MAG046	73.5	15.0	Residential	0.003	1427.7	0.02	82.7	26.8
MAG128	81.7	3.8	Commercial	0.023	832.2	0.02	95.0	13.0
MAG139	89.6	4.1	Commercial	0.022	3078.0	0.02	89.2	9.6
MAG239	86.0	2.0	Commercial	0.016	748.0	0.02	85.0	6.6
MAG339	96.7	28.9	Commercial	0.03	3193.0	0.02	76.8	71.2
ROB001	85.8	6.8	Commercial	0.012	650.5	0.02	87.9	22.6
ROB004	87.1	9.0	Commercial	0.014	1152.8	0.02	95.0	27.0
ROB012	109.0	61.1	Residential	0.015	1315.6	0.02	95.0	137.2
ROB016	92.6	14.3	Commercial	0.013	2101.3	0.02	89.8	35.4
ROB020	100.0	2.5	Residential	0.017	3123.5	0.02	95.0	4.5
ROB022	96.9	11.6	Residential	0.014	1364.3	0.02	88.8	25.6
ROB025	86.9	4.8	Open space	0.021	1061.0	0.02	90.0	6.0
ROB031	86.0	1.1	Commercial	0.014	478.1	0.02	75.7	3.7
ROB032	85.2	11.2	Open space	0.016	462.1	0.02	89.5	14.6
ROB033	89.7	23.3	Residential	0.014	855.3	0.02	91.7	56.2
ROB034	88.6	2.9	Residential	0.015	709.2	0.02	55.6	7.1
ROB035	93.3	2.6	Residential	0.012	1218.4	0.02	95.0	5.7
ROB123	85.1	4.2	Commercial	0.026	1595.5	0.02	89.3	12.4
UN1002	85.9	4.7	Residential	0.018	817.3	0.02	90.7	11.5
UN1004	83.7	0.3	Commercial	0.033	263.7	0.02	94.1	1.2
UN1005	93.3	6.4	Commercial	0.014	1276.1	0.02	95.0	18.9
UN1006	98.1	20.2	Residential	0.02	2490.2	0.02	95.0	40.9
UN1010	89.3	3.5	Commercial	0.009	929.8	0.02	90.8	10.6
UN1014	85.5	3.7	Commercial	0.009	2490.2	0.02	90.3	8.0
UN1015	92.1	1.4	Residential	0.016	903.6	0.02	95.0	3.4
UN1016	96.5	36.1	Residential	0.019	2721.3	0.02	60.5	69.5
UN1101	87.3	0.5	Commercial	0.02	330.1	0.02	90.0	1.9
UN1109	85.0	0.5	Commercial	0.019	323.3	0.02	91.5	1.9
UN1115	91.1	2.0	Residential	0.022	857.7	0.02	95.0	4.9

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Proposed Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

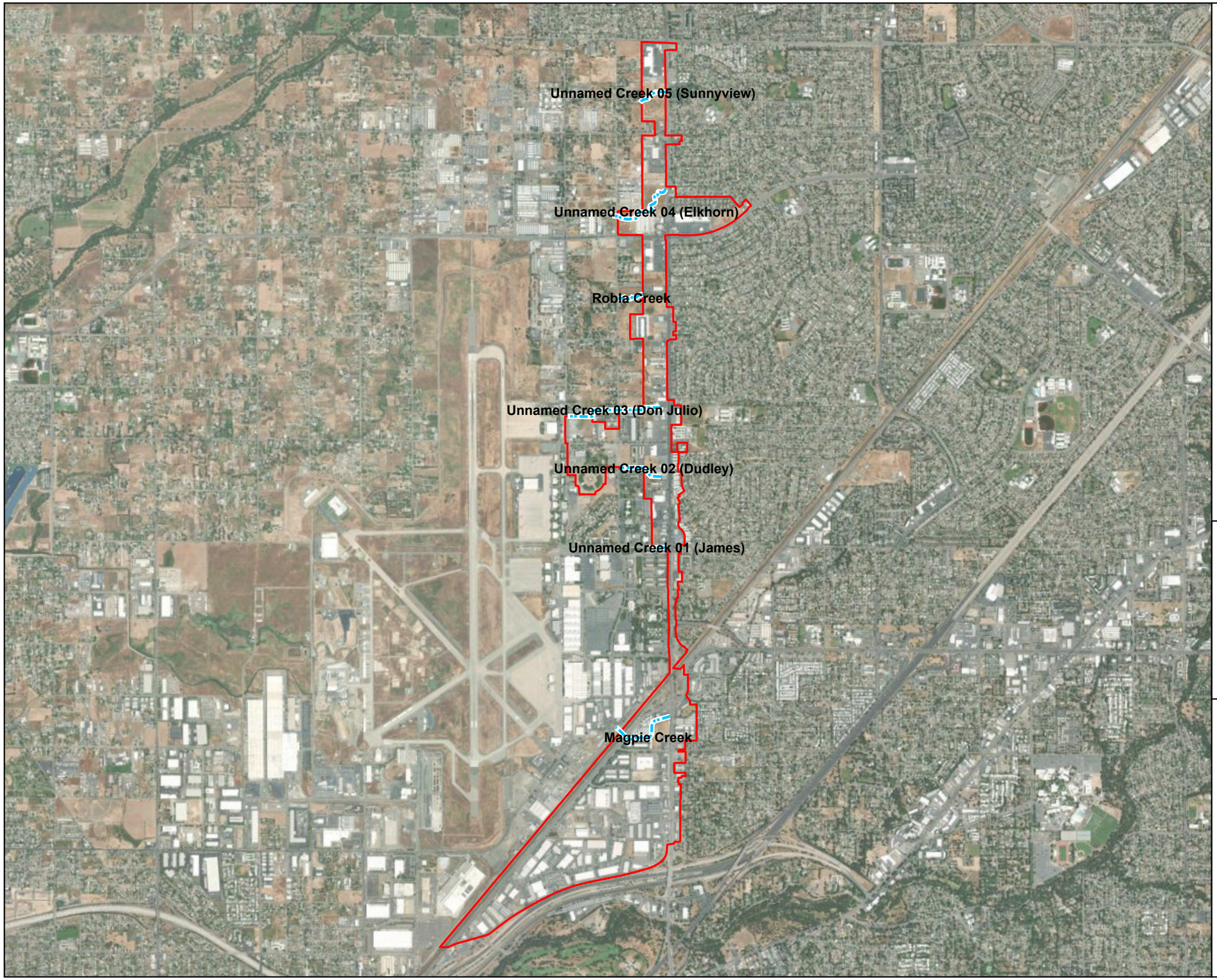
Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
UN1309	86.7	1.6	Commercial	0.014	759.6	0.02	91.6	5.2
UN2003	80.8	7.6	Commercial	0.026	1925.4	0.02	95.0	21.8
UN2005	84.8	8.6	Residential	0.014	1221.0	0.02	95.0	19.6
UN2008	89.0	3.6	Residential	0.015	716.6	0.02	90.3	8.9
UN2009	83.4	9.3	Residential	0.009	1510.8	0.02	69.2	19.0
UN2010	81.8	6.5	Residential	0.015	1164.2	0.02	83.9	15.1
UN2011	91.0	14.9	Commercial	0.02	1081.0	0.02	89.5	47.4
UN2013	88.2	11.5	Commercial	0.025	1929.8	0.02	89.9	32.5
UN2014	88.8	1.7	Residential	0.017	429.0	0.02	78.7	4.3
UN2015	95.2	36.4	Residential	0.013	2144.0	0.02	56.7	71.3
UN2017	86.9	4.2	Commercial	0.014	615.8	0.02	83.9	14.5
UN2018	90.4	1.5	Residential	0.016	747.7	0.02	95.0	3.6
UN3002	76.1	0.4	Commercial	0.018	601.3	0.02	93.8	1.5
UN3005	76.6	8.7	Residential	0.025	1448.4	0.02	95.0	20.3
UN3006	79.7	2.2	Commercial	0.012	1091.7	0.02	91.7	6.7
UN3009	87.9	3.3	Residential	0.013	1317.2	0.02	79.8	7.3
UN3014	81.2	9.2	Commercial	0.024	1347.5	0.02	89.3	28.5
UN3016	88.7	5.1	Commercial	0.02	861.2	0.02	81.9	17.0
UN3019	88.2	4.6	Residential	0.02	846.4	0.02	95.0	11.4
UN3020	86.6	4.3	Residential	0.021	604.6	0.02	95.0	11.0
UN3031	89.0	9.4	Commercial	0.018	1859.5	0.02	89.8	25.6
UN3035	87.6	1.7	Commercial	0.006	606.0	0.02	93.0	5.5
UN3037	91.0	16.2	Commercial	0.013	1067.8	0.02	90.6	49.4
UN3038	91.9	11.2	Commercial	0.013	2087.2	0.02	82.8	27.5
UN3039	89.9	0.9	Commercial	0.011	592.0	0.02	86.8	3.2
UN3040	89.5	19.3	Residential	0.009	2654.0	0.02	95.0	34.0
UN3043	137.6	549.9	Residential	0.04	11845.6	0.02	95.0	716.5
UN3045	90.0	14.1	Residential	0.015	1413.0	0.02	52.8	30.9
UN3046	80.0	56.7	Residential	0.024	2485.0	0.02	44.6	114.7
UN4002A	88.6	2.5	Residential	0.014	839.3	0.02	89.8	5.9
UN4003	90.1	3.0	Residential	0.024	791.8	0.02	88.1	7.5
UN4005	90.6	5.1	Commercial	0.021	801.9	0.02	95.0	17.3
UN4008	93.2	8.7	Commercial	0.015	764.6	0.02	95.0	28.9
UN4009	95.0	0.6	Commercial	0.02	417.1	0.02	95.0	2.2
UN4010	98.5	3.0	Residential	0.013	649.9	0.02	95.0	7.4
UN4011	128.9	174.2	Residential	0.015	7238.0	0.02	48.6	222.4
UN4013	94.9	1.5	Commercial	0.015	956.8	0.02	95.0	4.7
UN4015	125.4	34.7	Residential	0.013	4995.1	0.02	57.3	50.2
UN4017	95.5	13.9	Residential	0.016	1956.7	0.02	79.8	28.7
UN4020	89.0	32.2	Commercial	0.023	1768.0	0.02	85.3	92.6
UN5002	97.8	13.8	Commercial	0.015	1440.3	0.02	95.0	39.6
UN5007	97.4	0.3	Commercial	0.019	248.5	0.02	93.7	1.2
UN5008	99.1	0.9	Commercial	0.021	310.5	0.02	95.0	3.3
UN5009	112.5	55.5	Residential	0.022	3307.2	0.02	95.0	105.2
UN5012	95.5	1.3	Commercial	0.007	602.7	0.02	95.0	4.3

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: Proposed Conditions 100-year 24-hour Hydrologic Data
METHOD: XPSWMM 2020.1

Name	Mean Catchment Elevation	Catchment Area	Land Use Type	Gutter Slope	Gutter Length	Gutter Side Slope	Computed % Impervious	Max Flow 100-yr 24-hr
	ft	ac		ft	ft/ft	ft/ft	%	cfs
UN5013	132.4	43.1	Residential	0.021	3154.4	0.02	64.0	81.2
UN5016	95.0	14.9	Commercial	0.015	1285.0	0.02	87.3	44.0

APPENDIX E

HEC-RAS Modeling Results



Creek Centerline

North Watt

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

HEC-RAS MODEL LAYOUT

SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: HEC-RAS Results
METHOD: HEC-RAS v 6.6

River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Sunnyview	Reach 7	772	NW_Exist_100yr	35.82	89.83	92.09	2.92	12.28	11.34	0.49
Sunnyview	Reach 7	772	NW_PRo_Mitigation_Scenario	36.34	89.83	92.09	2.94	12.35	11.38	0.5
Sunnyview	Reach 7	772	NW_Pro_System_Correction	80.32	89.83	92.87	3.46	23.22	16.47	0.51
Sunnyview	Reach 7	527	NW_Exist_100yr	35.49	88.11	90.21	1.41	25.21	17.18	0.2
Sunnyview	Reach 7	527	NW_PRo_Mitigation_Scenario	36.06	88.11	89.81	1.93	18.65	15.42	0.31
Sunnyview	Reach 7	527	NW_Pro_System_Correction	78.74	88.11	90.46	2.67	29.49	18.22	0.37
Sunnyview	Reach 7	268	NW_Exist_100yr	120.66	86.52	89.44	2.15	56.22	24.82	0.25
Sunnyview	Reach 7	268	NW_PRo_Mitigation_Scenario	74.14	86.52	88.66	1.96	37.82	22.54	0.27
Sunnyview	Reach 7	268	NW_Pro_System_Correction	110.49	86.52	89.14	2.25	49.12	23.92	0.28
Sunnyview	Reach 7	180	NW_Exist_100yr	144.86	84.69	89.18	2.17	66.61	26.28	0.24
Sunnyview	Reach 7	180	NW_PRo_Mitigation_Scenario	87.56	84.69	88.39	1.87	46.91	23.59	0.23
Sunnyview	Reach 7	180	NW_Pro_System_Correction	122.01	84.69	88.88	2.07	58.99	25.28	0.24
Sunnyview	Reach 7	3	NW_Exist_100yr	144.83	85.04	88.32	3.27	44.23	18.51	0.37
Sunnyview	Reach 7	3	NW_PRo_Mitigation_Scenario	87.55	85.04	87.55	2.84	30.88	16.26	0.36
Sunnyview	Reach 7	3	NW_Pro_System_Correction	121.95	85.04	88.03	3.13	39.02	17.56	0.37
Robla	Reach 5	1296	NW_Exist_100yr	385.31	77.79	81.9	2.61	147.41	53.17	0.28
Robla	Reach 5	1296	NW_PRo_Mitigation_Scenario	386.99	77.79	81.9	2.62	147.53	53.18	0.28
Robla	Reach 5	1296	NW_Pro_System_Correction	387	77.79	81.9	2.62	147.53	53.18	0.28
Robla	Reach 5	941	NW_Exist_100yr	385.07	76.24	80.9	2.35	163.82	66.35	0.26
Robla	Reach 5	941	NW_PRo_Mitigation_Scenario	386.69	76.24	80.89	2.37	163.04	66.16	0.27
Robla	Reach 5	941	NW_Pro_System_Correction	386.7	76.24	80.89	2.37	163.04	66.17	0.27
Robla	Reach 5	844	NW_Exist_100yr	385.63	75.72	80.78	1.49	259.01	75.19	0.14
Robla	Reach 5	844	NW_PRo_Mitigation_Scenario	386.57	75.72	80.77	1.5	257.96	75.1	0.14
Robla	Reach 5	844	NW_Pro_System_Correction	386.58	75.72	80.77	1.5	257.96	75.1	0.14
Robla	Reach 5	661	NW_Exist_100yr	386.72	75.56	80.6	1.72	224.42	77.91	0.18
Robla	Reach 5	661	NW_PRo_Mitigation_Scenario	386.35	75.56	80.58	1.73	223.14	77.69	0.18

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: HEC-RAS Results
METHOD: HEC-RAS v 6.6

River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Robla	Reach 5	661	NW_Pro_System_Correction	386.46	75.56	80.58	1.73	223.14	77.69	0.18
Robla	Reach 5	561	NW_Exist_100yr	387.3	75.42	80.52	1.39	278.95	78.38	0.13
Robla	Reach 5	561	NW_PRo_Mitigation_Scenario	386.35	75.42	80.51	1.39	277.6	78.2	0.13
Robla	Reach 5	561	NW_Pro_System_Correction	386.36	75.42	80.51	1.39	277.61	78.2	0.13
Robla	Reach 5	487	NW_Exist_100yr	387.76	74.96	80.48	1.4	276.77	80.67	0.13
Robla	Reach 5	487	NW_PRo_Mitigation_Scenario	386.34	74.96	80.46	1.4	275.36	80.61	0.13
Robla	Reach 5	487	NW_Pro_System_Correction	386.35	74.96	80.46	1.4	275.36	80.61	0.13
Robla	Reach 5	369	NW_Exist_100yr	388.49	74.68	80.4	1.44	269.02	78.85	0.14
Robla	Reach 5	369	NW_PRo_Mitigation_Scenario	386.32	74.68	80.38	1.44	267.62	78.74	0.14
Robla	Reach 5	369	NW_Pro_System_Correction	386.28	74.68	80.38	1.44	267.63	78.74	0.14
Robla	Reach 5	271	NW_Exist_100yr	389.09	74.42	80.34	1.36	286.85	79.43	0.13
Robla	Reach 5	271	NW_PRo_Mitigation_Scenario	386.27	74.42	80.33	1.35	285.46	79.36	0.13
Robla	Reach 5	271	NW_Pro_System_Correction	386.27	74.42	80.33	1.35	285.46	79.36	0.13
Robla	Reach 5	151	NW_Exist_100yr	389.82	74.83	80.15	2.37	164.43	46.27	0.22
Robla	Reach 5	151	NW_PRo_Mitigation_Scenario	386.26	74.83	80.13	2.36	163.68	46.16	0.22
Robla	Reach 5	151	NW_Pro_System_Correction	386.27	74.83	80.13	2.36	163.68	46.16	0.22
Robla	Reach 5	4	NW_Exist_100yr	389.81	74.84	79.83	2.37	165.74	67.48	0.25
Robla	Reach 5	4	NW_PRo_Mitigation_Scenario	386.25	74.84	79.81	2.36	164.67	67.16	0.25
Robla	Reach 5	4	NW_Pro_System_Correction	386.26	74.84	79.81	2.36	164.67	67.16	0.25
Magpie	Reach 1	1707	NW_Exist_100yr	955.09	71.19	77.39	7.45	128.18	29.23	0.63
Magpie	Reach 1	1707	NW_PRo_Mitigation_Scenario	949.15	71.19	77.35	7.47	127.11	29.12	0.63
Magpie	Reach 1	1707	NW_Pro_System_Correction	949.15	71.19	77.32	7.51	126.3	29.04	0.64
Magpie	Reach 1	1434	NW_Exist_100yr	955.04	70.56	77.01	7.56	126.27	27.93	0.63
Magpie	Reach 1	1434	NW_PRo_Mitigation_Scenario	949.12	70.56	76.97	7.59	125.09	27.81	0.63
Magpie	Reach 1	1434	NW_Pro_System_Correction	949.11	70.56	76.93	7.65	124.07	27.71	0.64

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Magpie	Reach 1	1275	NW_Exist_100yr	1001.48	70.41	77.18	4.41	227.32	48.05	0.36
Magpie	Reach 1	1275	NW_PRo_Mitigation_Scenario	995.6	70.41	77.13	4.42	225.06	47.79	0.36
Magpie	Reach 1	1275	NW_Pro_System_Correction	983.9	70.41	77.1	4.4	223.58	47.61	0.36
Magpie	Reach 1	1143	NW_Exist_100yr	1001.76	70.31	76.71	7.9	126.79	27.73	0.65
Magpie	Reach 1	1143	NW_PRo_Mitigation_Scenario	995.58	70.31	76.67	7.93	125.57	27.62	0.66
Magpie	Reach 1	1143	NW_Pro_System_Correction	984.24	70.31	76.64	7.89	124.74	27.55	0.65
Magpie	Reach 1	1029	NW_Exist_100yr	1002	70.09	76.56	7.81	128.33	28.18	0.65
Magpie	Reach 1	1029	NW_PRo_Mitigation_Scenario	995.57	70.09	76.51	7.84	127.02	28.07	0.65
Magpie	Reach 1	1029	NW_Pro_System_Correction	984.21	70.09	76.48	7.8	126.21	27.99	0.65
Magpie	Reach 1	912	NW_Exist_100yr	1002.25	70.12	76.41	7.72	129.77	28.89	0.64
Magpie	Reach 1	912	NW_PRo_Mitigation_Scenario	995.56	70.12	76.36	7.76	128.34	28.74	0.65
Magpie	Reach 1	912	NW_Pro_System_Correction	984.18	70.12	76.33	7.72	127.55	28.65	0.64
Magpie	Reach 1	776	NW_Exist_100yr	1002.52	69.74	76.24	7.54	132.91	29.96	0.63
Magpie	Reach 1	776	NW_PRo_Mitigation_Scenario	995.54	69.74	76.19	7.58	131.31	29.79	0.64
Magpie	Reach 1	776	NW_Pro_System_Correction	984.13	69.74	76.16	7.54	130.54	29.71	0.63
Magpie	Reach 1	571	NW_Exist_100yr	1002.93	69.56	75.88	8.08	124.18	27.53	0.67
Magpie	Reach 1	571	NW_PRo_Mitigation_Scenario	995.51	69.56	75.83	8.12	122.61	27.37	0.68
Magpie	Reach 1	571	NW_Pro_System_Correction	984.07	69.56	75.8	8.07	121.97	27.3	0.67
Magpie	Reach 1	552.33*	NW_Exist_100yr	1002.96	69.56	75.84	8.18	122.65	27.4	0.68
Magpie	Reach 1	552.33*	NW_PRo_Mitigation_Scenario	995.51	69.56	75.78	8.22	121.09	27.23	0.69
Magpie	Reach 1	552.33*	NW_Pro_System_Correction	984.06	69.56	75.76	8.17	120.45	27.16	0.68
Magpie	Reach 1	533.67*	NW_Exist_100yr	1003	69.55	75.8	8.28	121.14	27.2	0.69
Magpie	Reach 1	533.67*	NW_PRo_Mitigation_Scenario	995.51	69.55	75.74	8.33	119.58	27.06	0.7
Magpie	Reach 1	533.67*	NW_Pro_System_Correction	984.06	69.55	75.72	8.27	118.95	27	0.69
Magpie	Reach 1	515.00*	NW_Exist_100yr	1003.04	69.54	75.76	8.38	119.65	27.08	0.7
Magpie	Reach 1	515.00*	NW_PRo_Mitigation_Scenario	995.51	69.54	75.7	8.43	118.09	26.94	0.71

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Magpie	Reach 1	515.00*	NW_Pro_System_Correction	984.06	69.54	75.68	8.38	117.47	26.88	0.71
Magpie	Reach 1	496.33*	NW_Exist_100yr	1003.08	69.54	75.71	8.49	118.12	26.89	0.71
Magpie	Reach 1	496.33*	NW_PRo_Mitigation_Scenario	995.51	69.54	75.66	8.54	116.57	26.73	0.72
Magpie	Reach 1	496.33*	NW_Pro_System_Correction	984.05	69.54	75.63	8.49	115.95	26.67	0.72
Magpie	Reach 1	477.67*	NW_Exist_100yr	1003.11	69.53	75.67	8.59	116.73	26.58	0.72
Magpie	Reach 1	477.67*	NW_PRo_Mitigation_Scenario	995.51	69.53	75.61	8.64	115.19	26.45	0.73
Magpie	Reach 1	477.67*	NW_Pro_System_Correction	984.05	69.53	75.59	8.59	114.58	26.39	0.73
Magpie	Reach 1	459	NW_Exist_100yr	1003.15	69.53	75.63	8.7	115.33	26.39	0.73
Magpie	Reach 1	459	NW_PRo_Mitigation_Scenario	995.51	69.53	75.57	8.75	113.81	26.25	0.74
Magpie	Reach 1	459	NW_Pro_System_Correction	984.05	69.53	75.55	8.69	113.2	26.2	0.74
Magpie	Reach 1	433.00*	NW_Exist_100yr	1028.65	69.49	75.62	8.06	127.65	30.01	0.69
Magpie	Reach 1	433.00*	NW_PRo_Mitigation_Scenario	1015.25	69.49	75.56	8.06	126	29.83	0.69
Magpie	Reach 1	433.00*	NW_Pro_System_Correction	1008.25	69.49	75.53	8.06	125.17	29.74	0.69
Magpie	Reach 1	407.00*	NW_Exist_100yr	1028.7	69.46	75.68	7.12	144.4	33.9	0.61
Magpie	Reach 1	407.00*	NW_PRo_Mitigation_Scenario	1015.25	69.46	75.62	7.13	142.46	33.73	0.61
Magpie	Reach 1	407.00*	NW_Pro_System_Correction	1008.24	69.46	75.59	7.13	141.48	33.64	0.61
Magpie	Reach 1	381.00*	NW_Exist_100yr	1028.75	69.42	75.77	6.24	164.75	37.76	0.53
Magpie	Reach 1	381.00*	NW_PRo_Mitigation_Scenario	1015.24	69.42	75.71	6.25	162.53	37.58	0.53
Magpie	Reach 1	381.00*	NW_Pro_System_Correction	1008.23	69.42	75.68	6.25	161.42	37.48	0.53
Magpie	Reach 1	355.00*	NW_Exist_100yr	1028.79	69.39	75.86	5.49	187.42	41.63	0.46
Magpie	Reach 1	355.00*	NW_PRo_Mitigation_Scenario	1015.24	69.39	75.8	5.49	184.96	41.43	0.46
Magpie	Reach 1	355.00*	NW_Pro_System_Correction	1008.21	69.39	75.77	5.49	183.73	41.33	0.46
Magpie	Reach 1	329.00*	NW_Exist_100yr	1028.83	69.35	75.94	4.86	211.85	45.78	0.4
Magpie	Reach 1	329.00*	NW_PRo_Mitigation_Scenario	1015.23	69.35	75.88	4.85	209.15	45.51	0.4
Magpie	Reach 1	329.00*	NW_Pro_System_Correction	1008.2	69.35	75.85	4.85	207.8	45.37	0.4

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Magpie	Reach 1	303.00*	NW_Exist_100yr	1028.88	69.32	76	4.32	237.96	49.91	0.35
Magpie	Reach 1	303.00*	NW_PRo_Mitigation_Scenario	1015.23	69.32	75.94	4.32	235.02	49.64	0.35
Magpie	Reach 1	303.00*	NW_Pro_System_Correction	1008.18	69.32	75.91	4.32	233.54	49.51	0.35
Magpie	Reach 1	277	NW_Exist_100yr	1028.92	69.28	75.75	5.99	171.9	52.57	0.42
Magpie	Reach 1	277	NW_PRo_Mitigation_Scenario	1015.23	69.28	75.69	5.96	170.41	52.31	0.42
Magpie	Reach 1	277	NW_Pro_System_Correction	1008.17	69.28	75.67	5.94	169.67	52.18	0.42
Magpie	Reach 1	210		Culvert						
Magpie	Reach 1	142	NW_Exist_100yr	1028.89	69.12	74.35	7.08	145.39	59.98	0.56
Magpie	Reach 1	142	NW_PRo_Mitigation_Scenario	1015.16	69.12	74.32	7.02	144.54	59.75	0.55
Magpie	Reach 1	142	NW_Pro_System_Correction	1007.99	69.12	74.31	6.99	144.15	59.64	0.55
Magpie	Reach 1	67	NW_Exist_100yr	1028.85	69.04	74.54	5.08	269.7	207.58	0.42
Magpie	Reach 1	67	NW_PRo_Mitigation_Scenario	1015.12	69.04	74.51	5.06	264.44	207.25	0.42
Magpie	Reach 1	67	NW_Pro_System_Correction	1007.98	69.04	74.5	5.04	261.99	207.1	0.42
Magpie	Reach 1	39	NW_Exist_100yr	1028.82	69.06	74.49	5.63	278.16	151.46	0.48
Magpie	Reach 1	39	NW_PRo_Mitigation_Scenario	1015.1	69.06	74.46	5.61	273.42	151.23	0.48
Magpie	Reach 1	39	NW_Pro_System_Correction	1007.99	69.06	74.44	5.59	271.23	151.13	0.48
Magpie	Reach 1	12	NW_Exist_100yr	1034.66	68.95	74.46	6.63	164.67	99.9	0.62
Magpie	Reach 1	12	NW_PRo_Mitigation_Scenario	1019.3	68.95	74.43	6.59	161.58	96.25	0.62
Magpie	Reach 1	12	NW_Pro_System_Correction	1012.21	68.95	74.42	6.58	160.21	93.19	0.62
James	Reach 2	443	NW_Exist_100yr	138.5	77.33	79.64	7.29	19	10.77	0.97
James	Reach 2	443	NW_PRo_Mitigation_Scenario	51.61	77.33	78.74	5.07	10.19	8.84	0.83
James	Reach 2	443	NW_Pro_System_Correction	51.33	77.33	78.73	5.06	10.15	8.84	0.83
James	Reach 2	188	NW_Exist_100yr	138.24	76.07	78.09	8.8	15.7	10.26	1.25
James	Reach 2	188	NW_PRo_Mitigation_Scenario	51.58	76.07	77.22	6.72	7.67	8.33	1.23
James	Reach 2	188	NW_Pro_System_Correction	51.31	76.07	77.22	6.71	7.65	8.33	1.23

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
James	Reach 2	1	NW_Exist_100yr	146.6	74.45	76.77	8.46	17.32	10.3	1.15
James	Reach 2	1	NW_PRo_Mitigation_Scenario	55.11	74.45	75.85	6.33	8.71	8.5	1.1
James	Reach 2	1	NW_Pro_System_Correction	54.89	74.45	75.85	6.32	8.69	8.49	1.1
Elkhorn	Reach 6	2040	NW_Exist_100yr	258.31	83.58	88.91	3.11	99.36	119.39	0.31
Elkhorn	Reach 6	2040	NW_PRo_Mitigation_Scenario	237.27	83.58	88.77	3.05	85.29	89.02	0.31
Elkhorn	Reach 6	2040	NW_Pro_System_Correction	267.77	83.58	88.96	3.13	106.49	133.12	0.31
Elkhorn	Reach 6	1839	NW_Exist_100yr	245.78	84.01	88.01	3.68	85.17	177.74	0.35
Elkhorn	Reach 6	1839	NW_PRo_Mitigation_Scenario	225.79	84.01	87.81	3.68	73.24	144.77	0.36
Elkhorn	Reach 6	1839	NW_Pro_System_Correction	255.51	84.01	88.05	3.77	88.81	190.44	0.36
Elkhorn	Reach 6	1553	NW_Exist_100yr	227.43	82.58	86.77	3.42	75.69	365.87	0.33
Elkhorn	Reach 6	1553	NW_PRo_Mitigation_Scenario	199.18	82.58	86.55	3.25	67.89	340.47	0.32
Elkhorn	Reach 6	1553	NW_Pro_System_Correction	232.66	82.58	86.79	3.47	76.39	366.4	0.33
Elkhorn	Reach 6	1322	NW_Exist_100yr	217.64	81.6	85.9	2.97	82.45	259.59	0.3
Elkhorn	Reach 6	1322	NW_PRo_Mitigation_Scenario	191.35	81.6	85.65	2.91	71.63	201.74	0.31
Elkhorn	Reach 6	1322	NW_Pro_System_Correction	220.83	81.6	85.9	3.02	82.12	258.64	0.31
Elkhorn	Reach 6	1149	NW_Exist_100yr	209.72	80.84	85.49	2.16	105.61	146.24	0.21
Elkhorn	Reach 6	1149	NW_PRo_Mitigation_Scenario	187.21	80.84	85.2	2.15	89.3	103.18	0.22
Elkhorn	Reach 6	1149	NW_Pro_System_Correction	217.05	80.84	85.45	2.27	103.37	142.47	0.22
Elkhorn	Reach 6	878	NW_Exist_100yr	178.6	80.36	85.09	1.84	97.42	189.04	0.18
Elkhorn	Reach 6	878	NW_PRo_Mitigation_Scenario	174.31	80.36	84.71	2.02	86.36	82.99	0.2
Elkhorn	Reach 6	878	NW_Pro_System_Correction	198.47	80.36	84.97	2.12	93.83	104.93	0.21
Elkhorn	Reach 6	682	NW_Exist_100yr	160.49	80.09	84.86	1.81	90.91	330	0.18
Elkhorn	Reach 6	682	NW_PRo_Mitigation_Scenario	142.95	80.09	84.38	1.9	76.33	268.88	0.2
Elkhorn	Reach 6	682	NW_Pro_System_Correction	158.59	80.09	84.67	1.9	85.08	308.47	0.19
Elkhorn	Reach 6	363	NW_Exist_100yr	157.29	78.74	84.65	1.15	156.6	390.79	0.1
Elkhorn	Reach 6	363	NW_PRo_Mitigation_Scenario	136.13	78.74	84.1	1.19	130.92	365.13	0.11

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Elkhorn	Reach 6	363	NW_Pro_System_Correction	153.46	78.74	84.43	1.21	145.96	378.6	0.11
Elkhorn	Reach 6	148	NW_Exist_100yr	158.24	78.05	83.99	2.98	53.11	151.66	0.22
Elkhorn	Reach 6	148	NW_PRo_Mitigation_Scenario	136.1	78.05	83.87	2.62	51.97	103.82	0.19
Elkhorn	Reach 6	148	NW_Pro_System_Correction	150.67	78.05	83.98	2.85	52.96	146.28	0.21
Elkhorn	Reach 6	116		Culvert						
Elkhorn	Reach 6	55	NW_Exist_100yr	158.24	77.33	80.76	3.53	44.86	30	0.35
Elkhorn	Reach 6	55	NW_PRo_Mitigation_Scenario	136.1	77.33	80.54	3.26	41.7	29.33	0.34
Elkhorn	Reach 6	55	NW_Pro_System_Correction	153.45	77.33	80.71	3.47	44.19	29.86	0.35
Elkhorn	Reach 6	1	NW_Exist_100yr	158.24	77.17	80.62	2.54	62.3	27.27	0.3
Elkhorn	Reach 6	1	NW_PRo_Mitigation_Scenario	136.1	77.17	80.39	2.42	56.17	26.47	0.29
Elkhorn	Reach 6	1	NW_Pro_System_Correction	153.45	77.17	80.57	2.52	60.99	27.1	0.3
Dudley	Reach 3	1080	NW_Exist_100yr	56.13	79.08	82.76	1.72	32.71	16.36	0.21
Dudley	Reach 3	1080	NW_PRo_Mitigation_Scenario	56.21	79.08	82.75	1.73	32.58	16.34	0.21
Dudley	Reach 3	1080	NW_Pro_System_Correction	70.1	79.08	82.94	1.98	35.64	16.79	0.23
Dudley	Reach 3	811	NW_Exist_100yr	56.09	78.81	82.26	1.33	42.58	32.92	0.19
Dudley	Reach 3	811	NW_PRo_Mitigation_Scenario	55.63	78.81	82.22	1.35	41.33	31.04	0.19
Dudley	Reach 3	811	NW_Pro_System_Correction	65.22	78.81	82.33	1.47	45.21	36.83	0.2
Dudley	Reach 3	493	NW_Exist_100yr	50.45	78.73	81.76	1.37	47.55	59.66	0.17
Dudley	Reach 3	493	NW_PRo_Mitigation_Scenario	54.34	78.73	81.61	1.65	39.55	51.02	0.21
Dudley	Reach 3	493	NW_Pro_System_Correction	60.54	78.73	81.69	1.73	43.9	55.77	0.21
Dudley	Reach 3	238	NW_Exist_100yr	81.22	77.22	80.57	2.69	30.63	21.01	0.38
Dudley	Reach 3	238	NW_PRo_Mitigation_Scenario	68.09	77.22	80.36	2.59	26.39	18.82	0.38
Dudley	Reach 3	238	NW_Pro_System_Correction	72.11	77.22	80.42	2.63	27.58	19.46	0.38
Dudley	Reach 3	1	NW_Exist_100yr	80.89	76.14	79.12	2.59	31.28	16.74	0.33
Dudley	Reach 3	1	NW_PRo_Mitigation_Scenario	68.07	76.14	78.89	2.47	27.56	15.84	0.33

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River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Dudley	Reach 3	1	NW_Pro_System_Correction	71.29	76.14	78.95	2.5	28.5	16.07	0.33
Don_Julio	Reach 4	2606	NW_Exist_100yr	687.08	75.42	81.65	8.61	82.83	23.19	0.74
Don_Julio	Reach 4	2606	NW_PRo_Mitigation_Scenario	631.28	75.42	81.33	8.57	75.56	22.24	0.76
Don_Julio	Reach 4	2606	NW_Pro_System_Correction	629.16	75.42	81.34	8.52	75.77	22.27	0.76
Don_Julio	Reach 4	2357	NW_Exist_100yr	626.61	74.65	81.42	4.9	129.06	82	0.4
Don_Julio	Reach 4	2357	NW_PRo_Mitigation_Scenario	567.69	74.65	81	4.86	117.06	73.5	0.41
Don_Julio	Reach 4	2357	NW_Pro_System_Correction	565.31	74.65	81.01	4.83	117.36	73.72	0.41
Don_Julio	Reach 4	2055	NW_Exist_100yr	618.85	73.66	81.3	4.65	137.21	297.28	0.35
Don_Julio	Reach 4	2055	NW_PRo_Mitigation_Scenario	574.48	73.66	80.88	4.68	124.98	287.46	0.37
Don_Julio	Reach 4	2055	NW_Pro_System_Correction	572.59	73.66	80.89	4.65	125.3	287.88	0.37
Don_Julio	Reach 4	1806	NW_Exist_100yr	634.01	72.63	81.29	4.11	167.38	320.16	0.29
Don_Julio	Reach 4	1806	NW_PRo_Mitigation_Scenario	590.69	72.63	80.87	4.11	151.74	302.71	0.3
Don_Julio	Reach 4	1806	NW_Pro_System_Correction	592.28	72.63	80.88	4.12	152.15	303.05	0.3
Don_Julio	Reach 4	1559	NW_Exist_100yr	595.9	71.86	81.32	3.05	214.13	301.79	0.21
Don_Julio	Reach 4	1559	NW_PRo_Mitigation_Scenario	596.27	71.86	80.91	3.26	193.13	268.03	0.23
Don_Julio	Reach 4	1559	NW_Pro_System_Correction	597.84	71.86	80.92	3.27	193.69	268.59	0.23
Don_Julio	Reach 4	1478	NW_Exist_100yr	549.06	71.55	81.11	4.99	109.95	333.28	0.29
Don_Julio	Reach 4	1478	NW_PRo_Mitigation_Scenario	597.32	71.55	80.58	5.76	103.63	269.2	0.35
Don_Julio	Reach 4	1478	NW_Pro_System_Correction	598.78	71.55	80.59	5.77	103.77	269.62	0.35
Don_Julio	Reach 4	1448		Culvert						
Don_Julio	Reach 4	1412	NW_Exist_100yr	644.36	71.51	76.87	10.78	59.79	16.93	0.85
Don_Julio	Reach 4	1412	NW_PRo_Mitigation_Scenario	596.37	71.51	76.67	10.4	57.36	16.57	0.84
Don_Julio	Reach 4	1412	NW_Pro_System_Correction	597.94	71.51	76.68	10.41	57.44	16.59	0.84
Don_Julio	Reach 4	1162	NW_Exist_100yr	690.17	71.12	76.27	9.22	76.59	21.05	0.79
Don_Julio	Reach 4	1162	NW_PRo_Mitigation_Scenario	640.29	71.12	76.06	8.99	72.38	20.54	0.79

PROJECT: North Watt Specific Plan
LOCATION: Sacramento County
SUBJECT: HEC-RAS Results
METHOD: HEC-RAS v 6.6

River	Reach	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude #
				cfs	ft	ft	ft/s	sq ft	ft	
Don_Julio	Reach 4	1162	NW_Pro_System_Correction	641.86	71.12	76.07	9	72.51	20.55	0.79
Don_Julio	Reach 4	911	NW_Exist_100yr	697.75	70.59	75.75	8.1	87.53	24.56	0.72
Don_Julio	Reach 4	911	NW_PRo_Mitigation_Scenario	640.01	70.59	75.54	7.86	82.41	24.16	0.72
Don_Julio	Reach 4	911	NW_Pro_System_Correction	641.65	70.59	75.54	7.86	82.57	24.17	0.72
Don_Julio	Reach 4	566	NW_Exist_100yr	697.67	69.74	75	8.91	78.3	20.11	0.8
Don_Julio	Reach 4	566	NW_PRo_Mitigation_Scenario	639.97	69.74	74.78	8.66	73.92	19.69	0.79
Don_Julio	Reach 4	566	NW_Pro_System_Correction	641.63	69.74	74.79	8.66	74.05	19.71	0.79
Don_Julio	Reach 4	316	NW_Exist_100yr	697.55	69.31	74.29	9.67	72.15	20.28	0.9
Don_Julio	Reach 4	316	NW_PRo_Mitigation_Scenario	639.9	69.31	74.08	9.43	67.86	19.75	0.9
Don_Julio	Reach 4	316	NW_Pro_System_Correction	641.59	69.31	74.09	9.44	68	19.77	0.9
Don_Julio	Reach 4	3	NW_Exist_100yr	700.46	68.52	73.35	9.23	75.88	20.56	0.85
Don_Julio	Reach 4	3	NW_PRo_Mitigation_Scenario	646.25	68.52	73.14	9.03	71.58	20.14	0.84
Don_Julio	Reach 4	3	NW_Pro_System_Correction	647.98	68.52	73.15	9.04	71.72	20.15	0.84

APPENDIX F

XPSWMM Modeling Results

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ARC002	ARC002	ARC001	--	315.11	84	57.19	54.61	266.6	0.9700	0.015	24.3	544.7	0.9	14.2	66.62	61.60	61.61	64.03	63.64	5.0
P-ARC004	ARC004	ARC002	--	315.11	84	57.19	56.79	400.1	0.1000	0.015	24.2	175.1	0.9	4.5	69.11	61.61	61.60	65.82	64.03	7.5
P-ARC008	ARC008	ARC004	9.16	315.11	84	57.52	57.30	272.4	0.0800	0.015	24.0	157.3	1.0	4.1	75.22	61.62	61.61	66.60	65.82	13.6
P-ARC009	ARC009	ARC008	--	249.78	84	58.56	57.73	281.8	0.2900	0.015	20.4	300.5	1.2	7.8	72.15	61.63	61.62	67.44	66.60	10.5
P-ARC011	ARC011	ARC009	11.23	249.78	84	59.42	58.56	257.9	0.3300	0.015	20.0	319.7	1.8	8.3	67.71	61.64	61.63	69.05	67.44	6.1
P-ARC012	ARC012	ARC011	4.64	238.55	72	61.31	59.47	369.3	0.5000	0.015	19.2	259.1	4.6	9.2	71.90	62.42	61.64	71.55	69.05	9.5
P-ARC013	ARC013	ARC012	2.43	233.91	72	63.25	61.36	426.6	0.4400	0.015	18.0	244.3	5.1	8.6	75.56	64.35	62.42	74.40	71.55	11.2
P-ARC014	ARC014	ARC013	4.46	231.48	72	64.42	63.16	379.3	0.3300	0.015	11.9	211.5	3.9	7.5	80.44	65.38	64.35	80.48	74.40	15.1
P-ARC015	ARC015	ARC014	3.75	227.02	54	64.62	64.25	44.5	0.8300	0.015	4.2	155.4	3.4	9.8	75.24	65.15	65.38	78.05	80.48	10.1
P-ARC016	ARC016	ARC015	220.56	223.26	54	70.00	64.62	132.0	4.0800	0.015	2.4	344.0	5.2	21.6	76.50	70.26	65.15	77.65	78.05	6.2
P-ARC017	ARC017	ARC016	1.56	2.70	10	76.67	70.00	218.1	3.0600	0.015	0.1	3.3	2.5	6.1	79.50	76.79	70.26	79.97	77.65	2.7
P-ARC018	ARC018	ARC017	1.14	1.14	10	82.98	77.25	568.2	1.0100	0.015	0.1	1.9	1.7	3.5	85.05	83.10	76.79	85.27	79.97	2.0
P-ARC019	ARC019	ARC008	--	56.17	54	61.67	57.67	406.8	0.9800	0.015	3.3	169.0	1.5	10.6	73.35	62.10	61.62	66.19	66.60	11.2
P-ARC020	ARC020	ARC019	--	56.17	54	62.60	61.70	105.3	0.8600	0.015	3.2	157.6	4.0	9.9	74.19	63.04	62.10	67.55	66.19	11.1
P-ARC021	ARC021	ARC020	5.82	56.17	30	65.09	62.60	289.7	0.8600	0.015	3.1	33.0	4.1	6.7	70.31	65.63	63.04	72.88	67.55	4.7
P-ARC022	ARC022	ARC021	--	50.35	30	65.09	65.07	29.5	0.0700	0.015	2.8	9.3	2.7	1.9	70.98	65.75	65.63	73.42	72.88	5.2
P-ARC023	ARC023	ARC022	--	50.35	30	65.54	65.21	17.5	1.8900	0.015	2.8	48.9	4.7	10.0	70.33	65.97	65.75	73.73	73.42	4.4
P-ARC024	ARC024	ARC023	--	50.35	30	65.66	65.62	9.2	0.4300	0.015	2.7	23.4	3.4	4.8	71.18	66.21	65.97	72.71	73.73	5.0
P-ARC025	ARC025	ARC024	9.82	50.35	36	65.91	65.51	174.7	0.2300	0.015	2.6	27.7	2.4	3.9	70.36	66.54	66.21	73.98	72.71	3.8
P-ARC026	ARC026	ARC025	--	40.53	36	66.06	65.96	21.3	0.4700	0.015	2.3	39.6	2.7	5.6	71.18	66.59	66.54	73.06	73.98	4.6
P-ARC027	ARC027	ARC026	6.27	40.53	36	66.53	66.12	323.0	0.1300	0.015	2.1	20.6	1.9	2.9	72.62	67.18	66.59	73.77	73.06	5.4
P-ARC028	ARC028	ARC027	10.65	34.26	30	67.89	66.67	380.1	0.3200	0.015	1.7	20.1	2.5	4.1	74.34	68.38	67.18	76.10	73.77	6.0
P-ARC029	ARC029	ARC028	--	23.61	24	68.42	67.79	136.4	0.4600	0.015	1.6	13.3	2.7	4.2	74.39	68.89	68.38	76.50	76.10	5.5
P-ARC030	ARC030	ARC029	6.24	23.61	24	69.78	68.45	287.3	0.4600	0.015	1.5	13.3	2.8	4.2	77.71	70.23	68.89	78.27	76.50	7.5
P-ARC031	ARC031	ARC030	--	17.37	24	70.70	69.74	255.7	0.3800	0.015	1.1	12.0	2.3	3.8	77.34	71.10	70.23	79.43	78.27	6.2
P-ARC032	ARC032	ARC031	17.37	17.37	24	70.84	70.70	135.9	0.1000	0.015	0.5	6.3	1.2	2.0	80.37	71.23	71.10	80.77	79.43	9.1
P-ARC034	ARC034	ARC033	1.23	71.85	36	57.15	56.69	338.1	0.1400	0.015	4.5	21.3	0.7	3.0	62.78	59.71	59.69	64.22	62.11	3.1
P-ARC035	ARC035	ARC034	--	70.61	36	57.32	57.18	54.8	0.2600	0.015	4.5	29.2	0.7	4.1	63.21	59.71	59.71	64.25	64.22	3.5
P-ARC036	ARC036	ARC035	0.90	70.61	36	58.34	57.32	399.9	0.2600	0.015	4.4	29.2	1.2	4.1	64.66	59.77	59.71	65.91	64.25	4.9
P-ARC037	ARC037	ARC036	7.73	69.71	36	59.08	58.31	398.8	0.1900	0.015	4.2	25.4	2.0	3.6	66.53	60.04	59.77	67.64	65.91	6.5
P-ARC038	ARC038	ARC037	5.37	61.98	36	60.66	59.11	456.9	0.3400	0.015	3.6	33.7	2.9	4.8	68.18	61.32	60.04	69.20	67.64	6.9
P-ARC039	ARC039	ARC038	2.00	56.61	36	62.02	60.91	504.6	0.2200	0.015	3.4	27.1	2.5	3.8	69.54	62.77	61.32	70.41	69.20	6.8
P-ARC040	ARC040	ARC039	0.80	25.05	36	63.66	62.38	440.3	0.2900	0.015	1.0	31.2	2.0	4.4	69.66	64.02	62.77	70.45	70.41	5.6
P-ARC041	ARC041	ARC040	7.49	24.26	36	64.72	63.70	425.0	0.2400	0.015	0.8	28.3	1.8	4.0	70.52	65.08	64.02	70.73	70.45	5.4
P-ARC042	ARC042	ARC041	1.52	16.77	18	66.25	64.57	480.2	0.3500	0.015	0.3	5.4	1.4	3.0	72.41	66.50	65.08	72.55	70.73	5.9
P-ARC043	ARC043	ARC042	--	15.25	18	68.26	66.44	80.6	2.2600	0.015	0.2	13.7	2.9	7.7	72.41	68.40	66.50	72.81	72.55	4.0
P-ARC044	ARC044	ARC043	15.25	15.25	18	69.20	68.51	52.0	1.3300	0.015	0.2	10.5	2.4	5.9	72.14	69.36	68.40	72.87	72.81	2.8
P-ARC045	ARC045	ARC039	--	29.55	24	64.25	63.52	238.3	0.3100	0.015	2.2	10.9	2.6	3.5	69.79	64.88	62.77	70.86	70.41	4.9
P-ARC046	ARC046	ARC045	12.09	29.55	24	65.02	64.31	236.4	0.3000	0.015	2.0	10.7	2.7	3.4	69.90	65.60	64.88	71.19	70.86	4.3
P-ARC047	ARC047	ARC046	--	17.46	24	65.93	64.95	354.5	0.2800	0.015	1.2	10.3	2.1	3.3	71.43	66.40	65.60	72.14	71.19	5.0
P-ARC048	ARC048	ARC047	17.46	17.46	24	66.74	65.96	321.5	0.2400	0.015	0.9	9.7	1.9	3.1	71.58	67.15	66.40	72.49	72.14	4.4
P-ARC050	ARC050	ARC049	--	25.09	30	56.23	55.67	150.7	0.3700	0.015	1.8	21.7	0.4	4.4	60.48	58.17	58.17	61.81	59.89	2.3
P-ARC051	ARC051	ARC050	5.52	25.09	30	56.41	56.13	129.4	0.2200	0.015	1.7	16.5	0.5	3.4	61.51	58.16	58.17	62.46	61.81	3.3
P-ARC052	ARC052	ARC051	1.50	19.57	30	57.21	56.46	299.0	0.2500	0.015	1.5	17.8	0.8	3.6	62.93	58.19	58.16	63.79	62.46	4.7
P-ARC056	ARC056	ARC052	5.77	18.07	30	59.61	57.33	600.5	0.3800	0.015	1.3	21.9	2.0	4.5	65.02	60.02	58.19	66.10	63.79	5.0
P-ARC057	ARC057	ARC056	4.12	12.31	30	60.05	59.62	175.5	0.2400	0.015	0.8	17.6	1.8	3.6	66.25	60.42	60.02	67.16	66.10	5.8
P-ARC058	ARC058	ARC057	--	8.18	30	61.50	60.07	357.1	0.4000	0.015	0.6	22.5	1.9	4.6	69.55	61.78	60.42	69.66	67.16	7.8
P-ARC059	ARC059	ARC058	8.18	8.18	30	63.58	61.50	715.8	0.2900	0.015	0.6	19.2	1.7	3.9	73.03	63.87	61.78	73.14	69.66	9.2
P-MAG002	MAG002	MAG001	6.96	51.57	54	69.58	69.44	304.2	0.0500	0.015	5.5	36.6	1.0	2.3	76.28	71.27	71.25	76.52	75.65	5.0
P-MAG003	MAG003	MAG002	5.07	31.12	54	69.98	69.68	647.2	0.0500	0.015	3.9	36.7	0.9	2.3	78.49	71.35	71.27	76.44	76.52	7.1
P-MAG004	MAG004	MAG003	12.25	26.05	48	70.28	69.92	537.3	0.0700	0.015	3.4	32.2	1.1	2.6	76.21	71.44	71.35	77.56	76.44	4.8
P-MAG005	MAG005	MAG004	--	2.48	24	70.56	70.30	289.2	0.0900	0.015	0.2	5.9	0.2	1.9	77.47	71.45	71.44	77.27	77.56	6.0
P-MAG006	MAG006	MAG005	2.48	2.48	24	70.59	70.56	224.1	0.0100	0.015	0.1	2.3	0.1	0.7	78.84	71.44	71.45	77.38	77.27	7.4
P-MAG008	MAG008	MAG002	3.50	13.49	27	70.25	69.89	171.0	0.2100	0.015	1.0	12.3	0.6	3.1	77.27	71.28	71.27	77.88	76.52	6.0
P-MAG009	MAG009	MAG008	--	9.99	27	70.97	70.31	296.4	0.2200	0.015	0.8	12.7	1.2	3.2	78.77	71.44	71.28	79.32	77.88	7.3
P-MAG010	MAG010	MAG009	4.56	9.99	21	72.10	71.22	299.1	0.2900	0.015	0.8	7.4	1.9	3.1	79.38	72.49	71.44	80.20	79.32	6.9
P-MAG011	MAG011	MAG010	5.43	5.43	18	73.56	72.06	373.7	0.4000	0.015	0.3	5.8	1.5	3.3	81.61	73.80	72.49	82.02	80.20	7.8
P-MAG012	MAG012	MAG004	--	11.33	42	72.23	70.44	372.6	0.4800	0.015	2.4	60.4	2.6	6.3	78.61	72.70	71.44	78.72	77.56	5.9
P-MAG013	MAG013	MAG012	--	11.33	36	70.44	70.34	183.0	0.0500	0.015	2.3	13.5	0.4	1.9	76.21	72.70	72.70	79.20	78.72	3.5
P-MAG014	MAG014	MAG013	1.77	11.33	36	70.75	70.44	274.5	0.1100	0.015	2.2	19.4	0.4	2.7	78.92	72.70	72.70	80.70	79.20	6.2
P-MAG015	MAG015	MAG014	6.80	6.80	24	75.66	75.59	11.5	0.6100	0.015	1.3	15.3	3.0	4.9	79.19	76.05	72.70	79.76	80.70	3.1
P-MAG016	MAG016	MAG014	2.76	2.76	24	71.18	70.71	388.8	0.1200	0.015	0.5	6.8	0.2	2.2	79.97	72.71	72.70	80.45	80.70	7.3
P-MAG017	MAG017	MAG016	--	0.00	24	71.24	71.18	56.0	0.1100	0.015	0.4	6.4	0.2	2.0	79.89	72.71	72.71	80.50	80.45	7.2

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-MAG018	MAG018	MAG015	12.85	12.85	24	76.83	75.70	457.0	0.2500	0.015	1.0	9.8	1.9	3.1	80.28	77.28	76.05	80.93	79.76	3.0
P-MAG019	MAG019	MAG018	--	0.00	24	76.95	76.92	26.3	0.1100	0.015	0.5	6.6	1.2	2.1	79.95	77.32	77.28	80.90	80.93	2.6
P-MAG020	MAG020	MAG017	4.03	4.03	24	73.04	71.37	469.8	0.3600	0.015	0.3	11.7	0.7	3.7	80.56	73.24	72.71	80.92	80.50	7.3
P-MAG021	MAG021	MAG019	3.25	3.25	24	77.51	76.83	508.2	0.1300	0.015	0.2	7.2	0.9	2.3	80.30	77.75	77.32	80.92	80.90	2.6
P-MAG023	MAG023	MAG001	7.56	7.56	18	72.70	69.40	394.1	0.8400	0.015	1.1	8.3	2.3	4.7	75.69	73.06	71.25	76.25	75.65	2.6
P-MAG024	MAG024	MAG023	--	0.00	10	72.82	72.70	122.0	0.1000	0.015	0.7	0.6	1.8	1.1	75.23	73.44	73.06	76.41	76.25	1.8
P-MAG025	MAG125	MAG025	--	0.00	12	76.58	75.98	313.6	0.1900	0.015	0.6	1.4	1.6	1.7	80.49	77.08	76.15	81.01	79.67	3.4
P-MAG026	MAG026	MAG125	7.67	7.67	10	76.88	76.58	157.9	0.1900	0.028	0.5	0.4	1.1	0.8	80.59	77.53	77.08	81.22	81.01	3.1
P-MAG028	MAG028	MAG027	--	0.00	48	73.76	70.88	513.8	0.5600	0.015	4.1	93.2	2.7	7.4	80.66	74.33	72.58	77.90	78.25	6.3
P-MAG029	MAG029	MAG128	1.64	1.64	27	76.03	74.38	294.8	0.5600	0.015	3.8	20.1	3.9	5.1	83.43	76.69	75.04	82.99	79.05	6.7
P-MAG030	MAG030	MAG029	4.40	4.40	27	76.47	76.05	266.6	0.1600	0.015	3.6	10.7	2.6	2.7	83.25	77.37	76.69	84.32	82.99	5.9
P-MAG031	MAG031	MAG030	--	0.00	24	76.88	76.50	127.1	0.3000	0.015	3.3	10.7	2.8	3.4	83.12	77.66	77.37	84.30	84.32	5.5
P-MAG032	MAG032	MAG031	3.62	3.62	24	77.24	76.81	216.3	0.2000	0.015	2.8	8.7	2.5	2.8	82.52	78.02	77.66	84.30	84.30	4.5
P-MAG033	MAG033	MAG032	34.19	34.19	15	78.64	78.63	125.3	0.0100	0.015	2.1	0.5	2.4	0.4	82.25	79.53	78.02	84.30	84.30	2.7
P-MAG034	MAG034	MAG033	0.97	0.97	10	79.76	79.23	222.0	0.2400	0.015	0.3	0.9	1.4	1.7	82.66	80.07	79.53	84.30	84.30	2.6
P-MAG035	MAG035	MAG034	0.72	0.72	10	80.65	80.19	146.0	0.3200	0.015	0.2	1.1	1.4	1.9	83.69	80.89	80.07	84.30	84.30	2.8
P-MAG036	MAG036	MAG035	--	0.00	10	81.83	80.73	139.9	0.7900	0.015	0.1	1.7	1.8	3.1	83.99	81.98	80.89	84.74	84.30	2.0
P-MAG037	MAG037	MAG036	--	0.00	12	81.97	81.86	31.7	0.3500	0.015	0.1	1.8	1.3	2.3	83.58	82.13	81.98	85.28	84.74	1.4
P-MAG038	MAG038	MAG037	1.57	1.57	12	82.12	82.05	49.4	0.1400	0.015	0.1	1.2	0.9	1.5	84.16	82.28	82.13	85.72	85.28	1.9
P-MAG040	MAG040	MAG039	--	0.00	18	81.74	80.56	128.8	0.9200	0.015	0.5	8.7	2.6	4.9	84.33	81.98	80.83	85.31	83.54	2.4
P-MAG041	MAG041	MAG040	7.50	7.50	18	82.31	81.77	109.7	0.4900	0.015	0.4	6.4	2.1	3.6	84.82	82.55	81.98	85.91	85.31	2.3
P-MAG128	MAG128	MAG028	3.81	3.81	30	74.38	73.76	109.1	0.5700	0.015	3.9	26.8	3.9	5.5	81.69	75.04	74.33	79.05	77.90	6.7
P-MAG225	MAG025	MAG024	1.30	1.30	10	75.76	72.82	431.7	0.6800	0.015	0.7	1.6	2.6	2.9	79.12	76.15	73.44	79.67	76.41	3.0
P-ROB002	ROB002	ROB001	--	0.00	48	81.28	81.24	41.6	0.1000	0.015	7.5	38.6	3.5	3.1	88.13	82.21	82.01	85.68	85.65	5.9
P-ROB003	ROB003	ROB002	--	0.00	48	81.81	81.40	245.0	0.1700	0.015	7.5	50.9	3.0	4.1	88.04	82.83	82.21	87.40	85.68	5.2
P-ROB004	ROB004	ROB003	8.97	8.97	48	82.14	81.84	342.3	0.0900	0.015	7.3	36.9	2.5	2.9	89.01	83.29	82.83	89.58	87.40	5.7
P-ROB005	ROB005	ROB004	--	0.00	48	82.34	82.21	105.5	0.1200	0.015	6.9	43.7	2.5	3.5	87.91	83.42	83.29	89.47	89.58	4.5
P-ROB006	ROB006	ROB005	--	0.00	48	82.42	82.34	63.8	0.1300	0.015	6.8	44.1	2.5	3.5	88.25	83.50	83.42	89.98	89.47	4.8
P-ROB007	ROB007	ROB006	--	0.00	48	82.51	82.42	76.9	0.1200	0.015	6.7	42.6	2.5	3.4	87.32	83.58	83.50	89.66	89.98	3.7
P-ROB008	ROB008	ROB007	--	0.00	36	83.23	82.54	68.0	1.0100	0.015	6.6	58.2	4.7	8.2	86.88	83.95	83.58	89.66	89.66	2.9
P-ROB009	ROB009	ROB008	--	0.00	36	83.62	83.10	104.9	0.5000	0.015	6.4	40.7	4.2	5.8	87.42	84.42	83.95	95.24	89.66	3.0
P-ROB010	ROB010	ROB009	--	0.00	36	83.63	83.62	6.5	0.1500	0.015	6.1	19.3	3.8	2.7	88.87	84.47	84.42	89.98	95.24	4.4
P-ROB011	ROB011	ROB010	--	0.00	36	84.26	83.98	138.5	0.2000	0.015	6.0	26.0	3.3	3.7	89.19	85.19	84.47	90.61	89.98	4.0
P-ROB012	ROB012	ROB011	61.07	61.07	36	84.36	84.34	86.5	0.0200	0.015	4.3	8.8	2.4	1.2	89.34	85.28	85.19	90.58	90.61	4.1
P-ROB013	ROB013	ROB012	--	0.00	36	85.08	84.38	246.7	0.2800	0.015	1.9	30.8	1.9	4.4	90.08	85.64	85.28	90.90	90.58	4.4
P-ROB014	ROB014	ROB013	--	0.00	24	85.08	85.06	20.0	0.1000	0.015	1.1	6.2	1.4	2.0	89.39	85.66	85.64	90.85	90.90	3.7
P-ROB015	ROB015	ROB014	--	0.00	22	85.52	84.99	263.1	0.2000	0.015	1.0	6.9	1.7	2.6	90.57	86.00	85.66	91.69	90.85	4.6
P-ROB016	ROB016	ROB015	14.30	14.30	22	85.61	85.52	92.0	0.1000	0.015	0.5	4.8	1.1	1.8	91.10	86.01	86.00	92.06	91.69	5.1
P-ROB017	ROB017	ROB016	--	0.00	22	85.97	85.69	9.0	3.1000	0.015	0.0	27.2	0.6	10.4	90.54	86.01	86.01	91.84	92.06	4.5
P-ROB018	ROB018	ROB017	--	0.00	22	86.07	86.06	11.8	0.0800	0.015	0.0	4.5	0.5	1.7	90.82	86.13	86.01	91.84	91.84	4.7
P-ROB019	ROB019	ROB013	--	0.00	30	85.75	85.09	336.2	0.2000	0.015	0.6	15.7	1.4	3.2	91.28	86.09	85.64	91.95	90.90	5.2
P-ROB020	ROB020	ROB019	2.45	2.45	30	86.63	85.68	348.6	0.2700	0.015	0.6	18.6	1.6	3.8	92.49	86.93	86.09	93.01	91.95	5.6
P-ROB021	ROB021	ROB020	--	0.00	22	87.31	86.99	318.0	0.1000	0.015	0.4	4.9	1.1	1.9	93.14	87.68	86.93	93.75	93.01	5.5
P-ROB022	ROB022	ROB021	11.56	11.56	22	87.61	87.32	92.2	0.3100	0.015	0.2	8.7	1.2	3.3	93.03	87.80	87.68	93.82	93.75	5.2
P-ROB023	ROB023	ROB123	--	0.00	18	82.09	82.06	31.8	0.0900	0.015	0.0	2.8	0.4	1.6	85.99	82.16	81.07	83.57	84.83	3.8
P-ROB024	ROB024	ROB023	--	0.00	18	82.51	82.47	82.0	0.0500	0.015	0.0	2.0	0.3	1.1	86.15	82.59	82.16	83.99	83.57	3.6
P-ROB025	ROB025	ROB024	4.67	4.67	18	83.61	82.85	256.1	0.3000	0.015	0.0	5.0	0.5	2.8	86.88	83.67	82.59	84.92	83.99	3.2
P-ROB026	ROB026	ROB123	--	0.00	16	81.33	81.31	16.4	0.1200	0.015	0.0	2.3	0.0	1.7	84.68	81.33	81.07	82.13	84.83	3.4
P-ROB027	ROB027	ROB026	--	0.00	16	81.42	81.40	20.6	0.1000	0.015	0.0	2.1	0.0	1.5	85.42	81.42	81.33	82.15	82.13	4.0
P-ROB028	ROB028	ROB027	--	0.00	12	81.82	81.42	242.4	0.1700	0.015	0.0	1.3	0.0	1.6	86.57	81.82	81.42	82.16	82.15	4.8
P-ROB029	ROB029	ROB028	--	0.00	12	82.72	81.98	242.3	0.3100	0.015	0.0	1.7	0.0	2.2	87.95	82.72	81.82	82.72	82.16	5.2
P-ROB031	ROB031	ROB123	1.05	1.05	16	80.81	80.79	21.3	0.0900	0.015	0.5	2.0	1.8	1.5	84.91	81.16	81.07	85.19	84.83	3.8
P-ROB032	ROB032	ROB031	1.41	1.41	12	81.93	81.68	79.5	0.3100	0.015	0.2	1.7	1.3	2.2	85.46	82.14	81.16	86.29	85.19	3.3
P-ROB033	ROB033	ROB032	2.93	2.93	12	83.00	81.89	315.0	0.3500	0.015	0.1	1.8	1.2	2.3	87.01	83.17	82.14	87.35	86.29	3.8
P-ROB034	ROB034	ROB031	2.90	2.90	18	82.63	81.10	361.0	0.4200	0.015	0.3	5.9	1.7	3.4	87.58	82.89	81.16	88.14	85.19	4.7
P-ROB035	ROB035	ROB034	2.55	2.55	12	85.42	82.51	241.3	1.2100	0.015	0.1	3.4	1.5	4.3	90.72	85.55	82.89	90.95	88.14	5.2
P-UN1002	UN1002	UN1101	4.57	4.57	16	78.30	77.84	53.3	0.8600	0.015	0.1	6.1	1.7	4.4	82.48	78.42	77.84	80.59	80.10	4.1
P-UN1004	UN1004	UN1007	0.34	0.34	36	79.16	78.40	22.6	3.3700	0.015	1.8	106.1	5.2	15.0	83.59	79.43	78.82	84.20	83.21	4.2
P-UN1005	UN1005	UN1004	6.40	6.40	30	79.78	79.66	122.1	0.1000	0.028	1.8	6.0	1.5	1.2	84.54	80.55	79.43	85.10	84.20	4.0
P-UN1006	UN1006	UN1005	20.24	20.24	30	80.07	79.84	103.1	0.2200	0.015	0.6	16.8	1.0	3.4	83.83	80.50	80.55	85.13	85.10	3.3
P-UN1008	UN1008	UN1007	--	0.00	16	80.28	79.68	35.4	1.6900	0.015	0.4	8.6	3.2	6.2	83.87	80.48	78.82	83.09	83.21	3.4
P-UN1009	UN1009	UN1309	--	0.00	12	82.64	82.28	161.6	0.2200	0.015	0.3	1.5	1.4	1.9	84.82	82.94	82.50	85.38	84.96	1.9
P-UN1010	UN1010	UN1009	3.52	3.52	12	83.58	82.85	226.7	0.3200	0.015	0.2	1.8	1.5	2.2	85.79	83.84	82.94	86.20	85.38	2.0

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN1011	UN1011	UN1010	--	0.00	12	83.91	83.62	42.6	0.6800	0.015	0.0	2.5	0.0	3.2	85.87	83.91	83.84	86.20	86.20	2.0
P-UN1012	UN1012	UN1011	--	0.00	12	84.56	84.01	77.9	0.7100	0.015	0.0	2.6	0.0	3.3	86.23	84.56	83.91	86.20	86.20	1.7
P-UN1014	UN1014	UN1007	3.73	3.73	36	79.42	78.56	126.1	0.6800	0.015	2.0	47.7	3.4	6.8	84.49	79.83	78.82	84.41	83.21	4.7
P-UN1015	UN1015	UN1014	1.39	1.39	30	83.96	79.42	623.4	0.7300	0.015	0.3	30.3	1.4	6.2	86.83	84.12	79.83	85.13	84.41	2.7
P-UN1016	UN1016	UN1014	36.09	36.09	30	80.79	79.42	188.2	0.7300	0.015	0.8	30.3	2.5	6.2	84.26	81.07	79.83	85.58	84.41	3.2
P-UN1101	UN1101	UN1001	0.54	0.54	16	77.74	77.14	18.3	3.2800	0.015	0.1	12.0	2.9	8.6	82.13	77.84	77.24	80.10	79.77	4.3
P-UN1109	UN1109	UN1008	0.54	0.54	12	81.55	80.93	74.9	0.8300	0.015	0.4	2.8	2.5	3.6	83.49	81.80	80.48	84.46	83.09	1.7
P-UN1115	UN1115	UN1015	1.98	1.98	30	85.96	83.96	273.7	0.7300	0.015	0.1	30.4	1.4	6.2	88.90	86.07	84.12	86.64	85.13	2.8
P-UN1209	UN1209	UN1109	--	0.00	12	81.91	81.55	61.4	0.5900	0.015	0.4	2.4	2.2	3.0	84.18	82.17	81.80	84.78	84.46	2.0
P-UN1309	UN1309	UN1209	1.58	1.58	12	82.28	81.91	39.2	0.9400	0.015	0.3	3.0	2.4	3.8	84.50	82.50	82.17	84.96	84.78	2.0
P-UN2003	UN2003	UN2002	7.62	7.62	48	69.78	69.73	47.0	0.1100	0.015	1.8	40.6	0.9	3.2	77.20	70.66	70.67	73.34	73.29	6.5
P-UN2004	UN2004	UN2003	--	0.00	42	70.66	69.78	249.9	0.3500	0.015	1.7	51.7	2.1	5.4	77.65	71.10	70.66	74.35	73.34	6.6
P-UN2005	UN2005	UN2004	8.59	8.59	42	71.39	70.29	520.6	0.2100	0.015	1.6	40.1	1.8	4.2	82.32	71.86	71.10	76.31	74.35	10.5
P-UN2006	UN2006	UN2005	--	0.00	42	72.01	71.46	259.8	0.2100	0.015	1.0	40.1	1.7	4.2	80.65	72.39	71.86	77.06	76.31	8.3
P-UN2007	UN2007	UN2006	--	0.00	36	72.02	71.88	25.6	0.5500	0.015	0.7	42.8	1.5	6.1	79.68	72.38	72.39	77.18	77.06	7.3
P-UN2008	UN2008	UN2007	3.63	3.63	36	72.02	71.98	71.0	0.0600	0.015	0.5	13.7	1.0	1.9	80.30	72.42	72.38	77.33	77.18	7.9
P-UN2009	UN2009	UN2008	8.39	8.39	36	72.43	72.18	50.2	0.5000	0.015	0.3	40.8	1.5	5.8	79.39	72.60	72.42	77.24	77.33	6.8
P-UN2010	UN2010	UN2009	6.54	6.54	36	73.70	73.54	20.0	0.8000	0.015	0.1	51.7	1.4	7.3	76.70	73.78	72.60	77.19	77.24	2.9
P-UN2013	UN2013	UN2012	11.49	11.49	34	80.94	78.37	266.1	0.9700	0.015	2.9	48.6	2.6	7.7	85.81	81.41	80.47	86.66	83.92	4.4
P-UN2014	UN2014	UN2013	1.67	1.67	28	81.02	80.94	147.7	0.0500	0.015	2.0	6.9	1.9	1.6	86.93	81.71	81.41	87.56	86.66	5.2
P-UN2015	UN2015	UN2014	36.38	36.38	28	81.20	81.02	308.5	0.0600	0.015	1.3	7.1	1.3	1.7	85.40	81.87	81.71	88.36	87.56	3.5
P-UN2016	UN2016	UN2013	--	0.00	16	81.19	80.94	25.8	0.9700	0.015	0.4	6.5	1.9	4.7	85.40	81.43	81.41	86.21	86.66	4.0
P-UN2017	UN2017	UN2016	4.23	4.23	16	81.59	81.34	106.1	0.2400	0.015	0.3	3.2	1.5	2.3	85.14	81.89	81.43	86.24	86.21	3.3
P-UN2018	UN2018	UN2017	1.46	1.46	16	83.30	81.56	429.2	0.4100	0.015	0.1	4.2	1.0	3.0	88.54	83.44	81.89	87.33	86.24	5.1
P-UN3002	UN3002	UN3001	0.43	0.43	16	72.39	71.93	516.3	0.0900	0.015	0.0	2.0	0.5	1.4	75.67	72.52	72.00	73.14	72.39	3.1
P-UN3003	UN3003	UN3002	--	0.00	16	72.62	72.39	250.3	0.0900	0.015	0.0	2.0	0.0	1.4	74.41	72.62	72.52	73.15	73.14	1.8
P-UN3006	UN3006	UN3005	2.23	2.23	16	71.68	71.43	246.4	0.1000	0.015	0.7	2.1	1.5	1.5	76.53	72.20	71.75	77.22	75.62	4.3
P-UN3007	UN3007	UN3006	--	0.00	16	75.25	71.68	335.8	1.0600	0.015	0.5	6.8	2.5	4.9	78.20	75.50	72.20	79.57	77.22	2.7
P-UN3008	UN3008	UN3007	--	0.00	16	73.78	73.62	28.3	0.5700	0.015	0.4	5.0	0.3	3.6	79.01	75.50	75.50	81.12	79.57	3.5
P-UN3009	UN3009	UN3008	3.29	3.29	16	73.99	73.78	36.0	0.5800	0.015	0.4	5.0	0.3	3.6	80.86	75.50	75.50	81.23	81.12	5.4
P-UN3010	UN3010	UN3009	--	0.00	12	74.22	73.77	162.3	0.2800	0.015	0.4	1.6	0.5	2.1	80.61	75.53	75.50	81.63	81.23	5.1
P-UN3011	UN3011	UN3010	--	0.00	12	75.38	75.02	48.9	0.7400	0.015	0.4	2.6	2.0	3.4	81.24	75.66	75.53	81.99	81.63	5.6
P-UN3012	UN3012	UN3011	--	0.00	12	76.70	75.33	210.7	0.6500	0.015	0.4	2.5	2.2	3.2	83.98	76.96	75.66	84.69	81.99	7.0
P-UN3013	UN3013	UN3012	--	0.00	12	78.04	76.70	119.9	1.1200	0.015	0.3	3.3	2.6	4.2	85.36	78.26	76.96	85.98	84.69	7.1
P-UN3014	UN3014	UN3013	--	0.00	12	81.12	78.16	267.2	1.1100	0.015	0.3	3.3	2.5	4.1	87.28	81.32	78.26	87.76	85.98	6.0
P-UN3016	UN3016	UN3116	3.97	3.97	16	77.14	76.69	194.2	0.2300	0.028	0.7	1.7	1.2	1.2	81.21	77.73	77.17	81.64	79.43	3.5
P-UN3017	UN3017	UN3016	--	0.00	16	77.27	77.10	24.3	0.7000	0.015	0.5	5.5	1.1	4.0	80.79	77.73	77.73	82.10	81.64	3.1
P-UN3018	UN3018	UN3017	--	0.00	16	78.19	77.38	121.8	0.6700	0.015	0.4	5.4	2.2	3.9	83.05	78.44	77.73	83.77	82.10	4.6
P-UN3019	UN3019	UN3018	3.76	3.76	16	78.19	78.17	126.7	0.0200	0.015	0.3	0.8	1.1	0.6	84.74	78.58	78.44	85.01	83.77	6.2
P-UN3020	UN3020	UN3019	1.94	1.94	16	79.48	78.17	220.1	0.6000	0.015	0.1	5.1	1.0	3.7	84.24	79.61	78.58	85.03	85.01	4.6
P-UN3028	UN3028	UN3027	--	0.00	16	78.01	77.56	31.3	1.4400	0.015	0.7	7.9	3.5	5.7	80.22	78.27	77.12	82.10	85.75	2.0
P-UN3029	UN3029	UN3028	--	0.00	16	80.05	78.02	105.9	1.9200	0.015	0.6	9.1	3.7	6.6	82.92	80.28	78.27	83.68	82.10	2.6
P-UN3030	UN3030	UN3029	--	0.00	16	81.85	80.10	132.3	1.3200	0.015	0.6	7.6	3.2	5.5	84.26	82.09	80.28	85.07	83.68	2.2
P-UN3031	UN3031	UN3030	9.35	9.35	16	82.38	81.95	92.5	0.4700	0.015	0.4	4.5	2.1	3.2	85.20	82.63	82.09	85.66	85.07	2.6
P-UN3033	UN3D002	UN3027	--	0.00	60	76.33	75.82	153.9	0.3300	0.015	44.0	129.9	5.2	6.6	83.04	77.67	77.12	88.46	85.75	5.4
P-UN3035	UN3035	UN3034	1.73	1.73	16	79.86	79.51	346.8	0.1000	0.028	0.1	1.1	0.5	0.8	86.89	80.18	77.67	87.01	88.46	6.7
P-UN3037	UN3037	UN3034	6.40	6.40	12	79.38	76.33	166.9	1.8300	0.015	0.2	4.2	1.4	5.3	83.15	79.53	77.67	84.66	88.46	3.6
P-UN3038	UN3D001	UN3034	--	0.00	60	76.59	76.33	77.9	0.3300	0.015	37.9	130.4	4.7	6.6	83.67	77.88	77.67	88.31	88.46	5.8
P-UN3039	UN3039	UN3038	0.93	0.93	12	76.62	76.58	37.2	0.1100	0.015	0.1	1.0	0.1	1.3	83.60	77.88	77.88	86.06	88.31	5.7
P-UN3040	UN3040	UN3038	19.26	19.26	10	81.16	76.58	167.7	2.7300	0.015	0.4	3.1	2.5	5.7	83.33	81.35	77.88	86.06	88.31	2.0
P-UN3042	UN3042	UN3038	--	0.00	60	77.56	76.59	291.1	0.3300	0.015	26.7	130.3	4.2	6.6	85.16	78.64	77.88	91.16	88.31	6.5
P-UN3043	UN3043	UN3042	549.90	549.90	60	77.96	77.56	121.0	0.3300	0.015	9.2	129.8	2.8	6.6	85.92	78.60	78.64	90.39	91.16	7.3
P-UN3116	UN3116	UN3015	--	0.00	16	76.69	76.64	21.7	0.2300	0.028	0.7	1.7	1.7	1.2	78.84	77.17	72.43	79.43	78.62	1.7
P-UN4002	UN4002	UN4001	2.45	2.45	60	83.96	83.34	129.4	0.4800	0.015	8.7	156.2	1.5	8.0	88.96	85.53	85.64	91.32	90.24	3.4
P-UN4003	UN4003	UN4002	3.00	3.00	24	85.38	85.27	112.3	0.1000	0.015	1.3	6.1	1.9	2.0	89.92	85.94	85.53	90.70	91.32	4.0
P-UN4004	UN4004	UN4003	--	0.00	24	86.46	86.12	176.1	0.1900	0.015	1.3	8.6	2.0	2.7	89.30	86.99	85.94	90.70	90.70	2.3
P-UN4005	UN4005	UN4004	5.08	5.08	24	86.76	86.44	164.5	0.1900	0.015	1.1	8.6	1.8	2.8	89.59	87.24	86.99	90.75	90.70	2.3
P-UN4006	UN4006	UN4005	--	0.00	15	86.84	86.77	31.0	0.2300	0.028	0.9	1.4	1.6	1.2	90.54	87.43	87.24	90.97	90.75	3.1
P-UN4007	UN4007	UN4006	--	0.00	15	87.36	86.84	145.1	0.3600	0.028	0.8	1.8	1.4	1.5	90.24	87.95	87.43	91.27	90.97	2.3
P-UN4008	UN4008	UN4007	7.33	7.33	15	87.71	87.36	97.7	0.3600	0.028	0.7	1.8	1.3	1.5	91.38	88.25	87.95	91.96	91.27	3.1
P-UN4009	UN4009	UN4008	0.63	0.63	15	88.61	87.71	252.3	0.3600	0.028	0.3	1.8	0.9	1.5	93.79	88.93	88.25	94.23	91.96	4.9
P-UN4010	UN4010	UN4009	2.64	2.64	15	89.76	88.58	387.3	0.3000	0.028	0.2	1.7	0.9	1.3	99.52	90.04	88.93	99.77	94.23	9.5
P-UN4011	UN4011	UN4002	174.18	174.18	36	86.32	84.92	139.9	1.0000	0.015	3.7	57.8	4.5	8.2	90.99	86.83	85.53	91.87	91.32	4.2

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN4012	UN4012	UN4011	--	0.00	24	86.55	86.32	251.3	0.0900	0.015	0.5	5.9	0.8	1.9	91.69	87.09	86.83	91.87	91.87	4.6
P-UN4013	UN4013	UN4012	1.50	1.50	24	86.76	86.49	257.2	0.1000	0.015	0.1	6.4	0.3	2.0	91.52	87.11	87.09	91.88	91.87	4.4
P-UN4014	UN4014	UN4002	--	0.00	28	86.13	86.02	108.1	0.1000	0.028	2.6	5.0	1.8	1.2	90.11	87.05	85.53	91.26	91.32	3.1
P-UN4015	UN4015	UN4014	34.70	34.70	28	86.41	86.10	214.3	0.1400	0.028	1.9	6.0	1.2	1.4	89.81	87.31	87.05	91.26	91.26	2.5
P-UN4016	UN4016	UN4015	--	0.00	20	86.45	86.37	26.1	0.3100	0.015	0.3	6.7	0.3	3.1	89.20	87.31	87.31	91.26	91.26	1.9
P-UN4017	UN4017	UN4016	13.93	13.93	6	87.20	86.41	12.6	6.2800	0.015	0.1	1.2	2.2	6.2	89.15	87.36	87.31	91.26	91.26	1.8
P-UN5002	UN5002	UN5001	11.92	11.92	36	89.71	88.50	237.6	0.5100	0.028	5.3	22.1	2.5	3.1	96.50	90.76	89.22	98.30	92.52	5.7
P-UN5003	UN5003	UN5002	--	0.00	36	89.84	89.71	126.6	0.1000	0.015	4.8	18.5	2.2	2.6	96.14	90.90	90.76	98.61	98.30	5.2
P-UN5004	UN5004	UN5003	--	0.00	36	90.39	89.97	127.0	0.3300	0.015	4.7	33.2	3.0	4.7	96.49	91.19	90.90	98.83	98.61	5.3
P-UN5005	UN5005	UN5004	--	0.00	36	91.25	90.59	112.9	0.5800	0.015	4.6	44.2	4.1	6.3	97.53	91.91	91.19	98.74	98.83	5.6
P-UN5006	UN5006	UN5005	--	0.00	36	91.22	91.18	299.6	0.0100	0.015	4.5	6.7	2.1	0.9	98.42	92.30	91.91	99.31	98.74	6.1
P-UN5007	UN5007	UN5006	0.35	0.35	36	92.42	91.22	26.1	4.5900	0.015	3.8	123.9	5.8	17.5	97.29	92.78	92.30	99.32	99.31	4.5
P-UN5008	UN5008	UN5007	0.89	0.89	36	93.09	92.42	197.3	0.3400	0.028	3.8	18.0	2.1	2.6	98.19	94.03	92.78	99.39	99.32	4.2
P-UN5009	UN5009	UN5008	55.49	55.49	36	93.88	93.04	83.7	1.0000	0.028	1.1	31.0	1.6	4.4	98.53	94.27	94.03	99.41	99.39	4.3
P-UN5011	UN5011	UN5010	--	0.00	28	91.04	90.84	10.4	1.9300	0.028	1.9	21.9	3.2	5.1	95.75	91.51	91.31	94.41	93.98	4.2
P-UN5012	UN5012	UN5011	1.34	1.34	28	91.22	91.22	3.9	0.0000	0.028	1.9	0.5	2.4	0.1	95.12	91.79	91.51	94.87	94.41	3.3
P-UN5013	UN5013	UN5012	43.09	43.09	28	91.76	91.22	75.4	0.7200	0.028	1.4	13.4	2.0	3.1	95.15	92.28	91.79	97.48	94.87	2.9
P-UN5014	UN5014	UN5013	--	0.00	22	92.68	91.77	363.2	0.2500	0.015	0.0	7.7	0.0	2.9	95.74	92.68	92.28	97.49	97.48	3.1
P-UN5015	UN5015	UN5014	--	0.00	20	92.96	92.79	171.0	0.1000	0.015	0.0	3.8	0.1	1.7	97.20	92.96	92.68	97.49	97.49	4.2

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, 100-YEAR 24-HOUR STORM
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ARC002	ARC002	ARC001	--	315.11	84	57.19	54.61	266.6	0.0097	0.015	372.0	544.7	11.4	14.2	66.62	62.60	61.61	64.03	63.64	4.0
P-ARC004	ARC004	ARC002	--	315.11	84	57.19	56.79	400.1	0.0010	0.015	372.0	175.1	9.6	4.5	69.11	64.49	62.60	65.82	64.03	4.6
P-ARC008	ARC008	ARC004	9.16	315.11	84	57.52	57.30	272.4	0.0008	0.015	372.0	157.3	9.3	4.1	75.22	65.65	64.49	66.60	65.82	9.6
P-ARC009	ARC009	ARC008	--	249.78	84	58.56	57.73	281.8	0.0029	0.015	315.5	300.5	7.8	7.8	72.15	66.49	65.65	67.44	66.60	5.7
P-ARC011	ARC011	ARC009	11.23	249.78	84	59.42	58.56	257.9	0.0033	0.015	315.5	319.7	7.8	8.3	67.71	67.25	66.49	69.05	67.44	0.5
P-ARC012	ARC012	ARC011	4.64	238.55	72	61.31	59.47	369.3	0.0050	0.015	305.1	259.1	10.8	9.2	71.90	69.79	67.25	71.55	69.05	2.1
P-ARC013	ARC013	ARC012	2.43	233.91	72	63.25	61.36	426.6	0.0044	0.015	301.9	244.3	10.6	8.6	75.56	72.66	69.79	74.40	71.55	2.9
P-ARC014	ARC014	ARC013	4.46	231.48	72	64.42	63.16	379.3	0.0033	0.015	300.3	211.5	10.6	7.5	80.44	75.18	72.66	80.48	74.40	5.3
P-ARC015	ARC015	ARC014	3.75	227.02	54	64.62	64.25	44.5	0.0083	0.015	297.0	155.4	18.5	9.8	75.24	76.51	75.18	78.05	80.48	-1.3
P-ARC016	ARC016	ARC015	220.56	223.26	54	70.00	64.62	132.0	0.0408	0.015	263.0	344.0	18.2	21.6	76.50	77.47	76.51	77.65	78.05	-1.0
P-ARC017	ARC017	ARC016	1.56	2.70	10	76.67	70.00	218.1	0.0306	0.015	3.6	3.3	6.6	6.1	79.50	79.79	77.47	79.97	77.65	-0.3
P-ARC018	ARC018	ARC017	1.14	1.14	10	82.98	77.25	568.2	0.0101	0.015	1.9	1.9	3.7	3.5	85.05	85.27	79.79	85.27	79.97	-0.2
P-ARC019	ARC019	ARC008	--	56.17	54	61.67	57.67	406.8	0.0098	0.015	56.5	169.0	6.4	10.6	73.35	65.97	65.65	66.19	66.60	7.4
P-ARC020	ARC020	ARC019	--	56.17	54	62.60	61.70	105.3	0.0086	0.015	54.7	157.6	8.2	9.9	74.19	65.98	65.97	67.55	66.19	8.2
P-ARC021	ARC021	ARC020	5.82	56.17	30	65.09	62.60	289.7	0.0086	0.015	54.9	33.0	11.2	6.7	70.31	71.59	65.98	72.88	67.55	-1.3
P-ARC022	ARC022	ARC021	--	50.35	30	65.09	65.07	29.5	0.0007	0.015	50.4	9.3	10.2	1.9	70.98	72.06	71.59	73.42	72.88	-1.1
P-ARC023	ARC023	ARC022	--	50.35	30	65.54	65.21	17.5	0.0189	0.015	49.3	48.9	10.0	10.0	70.33	72.34	72.06	73.73	73.42	-2.0
P-ARC024	ARC024	ARC023	--	50.35	30	65.66	65.62	9.2	0.0043	0.015	49.3	23.4	10.0	4.8	71.18	72.49	72.34	72.71	73.73	-1.3
P-ARC025	ARC025	ARC024	9.82	50.35	36	65.91	65.51	174.7	0.0023	0.015	43.6	27.7	6.1	3.9	70.36	72.87	72.49	73.98	72.71	-2.5
P-ARC026	ARC026	ARC025	--	40.52	36	66.06	65.96	21.3	0.0047	0.015	-71.3	39.6	-10.0	5.6	71.18	73.00	72.87	73.06	73.98	-1.8
P-ARC027	ARC027	ARC026	6.27	40.52	36	66.53	66.12	323.0	0.0013	0.015	36.8	20.6	5.2	2.9	72.62	73.16	73.00	73.77	73.06	-0.5
P-ARC028	ARC028	ARC027	10.65	34.26	30	67.89	66.67	380.1	0.0032	0.015	33.0	20.1	6.6	4.1	74.34	76.10	73.16	76.10	73.77	-1.8
P-ARC029	ARC029	ARC028	--	23.61	24	68.42	67.79	136.4	0.0046	0.015	23.3	13.3	7.3	4.2	74.39	76.10	76.10	76.50	76.10	-1.7
P-ARC030	ARC030	ARC029	6.24	23.61	24	69.78	68.45	287.3	0.0046	0.015	20.9	13.3	6.6	4.2	77.71	78.24	76.10	78.27	76.50	-0.5
P-ARC031	ARC031	ARC030	--	17.37	24	70.70	69.74	255.7	0.0038	0.015	15.9	12.0	5.0	3.8	77.34	78.39	78.24	79.43	78.27	-1.0
P-ARC032	ARC032	ARC031	17.37	17.37	24	70.84	70.70	135.9	0.0010	0.015	27.7	6.3	8.6	2.0	80.37	80.77	78.39	80.77	79.43	-0.4
P-ARC034	ARC034	ARC033	1.23	71.85	36	57.15	56.69	338.1	0.0014	0.015	61.1	21.3	8.6	3.0	62.78	63.43	59.69	64.22	62.11	-0.7
P-ARC035	ARC035	ARC034	--	70.61	36	57.32	57.18	54.8	0.0026	0.015	56.5	29.2	7.9	4.1	63.21	63.84	63.43	64.25	64.22	-0.6
P-ARC036	ARC036	ARC035	0.90	70.61	36	58.34	57.32	399.9	0.0026	0.015	46.4	29.2	6.5	4.1	64.66	65.44	63.84	65.91	64.25	-0.8
P-ARC037	ARC037	ARC036	7.73	69.71	36	59.08	58.31	398.8	0.0019	0.015	44.3	25.4	6.2	3.6	66.53	67.26	65.44	67.64	65.91	-0.7
P-ARC038	ARC038	ARC037	5.37	61.98	36	60.66	59.11	456.9	0.0034	0.015	38.3	33.7	5.4	4.8	68.18	68.91	67.26	69.20	67.64	-0.7
P-ARC039	ARC039	ARC038	2.00	56.61	36	62.02	60.91	504.6	0.0022	0.015	35.9	27.1	5.0	3.8	69.54	70.30	68.91	70.41	69.20	-0.8
P-ARC040	ARC040	ARC039	0.80	25.05	36	63.66	62.38	440.3	0.0029	0.015	17.8	31.2	3.9	4.4	69.66	70.37	70.30	70.45	70.41	-0.7
P-ARC041	ARC041	ARC040	7.49	24.26	36	64.72	63.70	425.0	0.0024	0.015	17.4	28.3	3.8	4.0	70.52	70.69	70.37	70.73	70.45	-0.2
P-ARC042	ARC042	ARC041	1.51	16.77	18	66.25	64.57	480.2	0.0035	0.015	9.6	5.4	5.3	3.0	72.41	72.34	70.69	72.55	70.73	0.1
P-ARC043	ARC043	ARC042	--	15.25	18	68.26	66.44	80.6	0.0226	0.015	9.2	13.7	6.5	7.7	72.41	72.64	72.34	72.81	72.55	-0.2
P-ARC044	ARC044	ARC043	15.25	15.25	18	69.20	68.51	52.0	0.0133	0.015	9.2	10.5	6.4	5.9	72.14	72.87	72.64	72.87	72.81	-0.7
P-ARC045	ARC045	ARC039	--	29.55	24	64.25	63.52	238.3	0.0031	0.015	19.9	10.9	6.4	3.5	69.79	70.78	70.30	70.86	70.41	-1.0
P-ARC046	ARC046	ARC045	12.09	29.55	24	65.02	64.31	236.4	0.0030	0.015	19.9	10.7	6.3	3.4	69.90	71.02	70.78	71.19	70.86	-1.1
P-ARC047	ARC047	ARC046	--	17.46	24	65.93	64.95	354.5	0.0028	0.015	11.5	10.3	3.6	3.3	71.43	72.06	71.02	72.14	71.19	-0.6
P-ARC048	ARC048	ARC047	17.46	17.46	24	66.74	65.96	321.5	0.0024	0.015	11.0	9.7	3.5	3.1	71.58	72.49	72.06	72.49	72.14	-0.9
P-ARC050	ARC050	ARC049	--	25.09	30	56.23	55.67	150.7	0.0037	0.015	51.9	21.7	10.5	4.4	60.48	61.35	58.17	61.81	59.89	-0.9
P-ARC051	ARC051	ARC050	5.52	25.09	30	56.41	56.13	129.4	0.0022	0.015	39.4	16.5	8.0	3.4	61.51	62.08	61.35	62.46	61.81	-0.6
P-ARC052	ARC052	ARC051	1.50	19.57	30	57.21	56.46	299.0	0.0025	0.015	30.2	17.8	6.1	3.6	62.93	63.50	62.08	63.79	62.46	-0.6
P-ARC056	ARC056	ARC052	5.77	18.07	30	59.61	57.33	600.5	0.0038	0.015	25.5	21.9	5.2	4.5	65.02	65.64	63.50	66.10	63.79	-0.6
P-ARC057	ARC057	ARC056	4.12	12.31	30	60.05	59.62	175.5	0.0024	0.015	30.0	17.6	6.0	3.6	66.25	66.67	65.64	67.16	66.10	-0.4
P-ARC058	ARC058	ARC057	--	8.18	30	61.50	60.07	357.1	0.0040	0.015	27.9	22.5	5.6	4.6	69.55	69.01	66.67	69.66	67.16	0.5
P-ARC059	ARC059	ARC058	8.18	8.18	30	63.58	61.50	715.8	0.0029	0.015	28.0	19.2	5.6	3.9	73.03	73.14	69.01	73.14	69.66	-0.1
P-MAG002	MAG002	MAG001	6.96	55.11	54	69.58	69.44	304.2	0.0005	0.015	116.5	36.6	7.1	2.3	76.28	75.81	75.61	76.52	75.65	0.5
P-MAG003	MAG003	MAG002	5.07	31.12	54	69.98	69.68	647.2	0.0005	0.015	64.8	36.7	4.0	2.3	78.49	76.15	75.81	76.44	76.52	2.3
P-MAG004	MAG004	MAG003	12.25	26.05	48	70.28	69.92	537.3	0.0007	0.015	58.7	32.2	4.6	2.6	76.21	77.20	76.15	77.56	76.44	-1.0
P-MAG005	MAG005	MAG004	--	2.48	24	70.56	70.30	289.2	0.0009	0.015	6.0	5.9	1.9	1.9	77.47	77.26	77.20	77.27	77.56	0.2
P-MAG006	MAG006	MAG005	2.48	2.48	24	70.59	70.56	224.1	0.0001	0.015	6.0	2.3	1.9	0.7	78.84	77.38	77.26	77.38	77.27	1.5
P-MAG008	MAG008	MAG002	3.50	17.03	27	70.25	69.89	171.0	0.0021	0.015	31.3	12.3	7.8	3.1	77.27	77.50	75.81	77.88	76.52	-0.2
P-MAG009	MAG009	MAG008	--	13.54	27	70.97	70.31	296.4	0.0022	0.015	21.9	12.7	5.4	3.2	78.77	79.12	77.50	79.32	77.88	-0.4
P-MAG010	MAG010	MAG009	6.68	13.54	21	72.10	71.22	299.1	0.0029	0.015	15.0	7.4	6.1	3.1	79.38	79.98	79.12	80.20	79.32	-0.6
P-MAG011	MAG011	MAG010	6.86	6.86	18	73.56	72.06	373.7	0.0040	0.015	7.2	5.8	4.0	3.3	81.61	82.02	79.98	82.02	80.20	-0.4
P-MAG012	MAG012	MAG004	--	11.33	42	72.23	70.44	372.6	0.0048	0.015	47.8	60.4	4.9	6.3	78.61	78.27	77.20	78.72	77.56	0.3
P-MAG013	MAG013	MAG012	--	11.33	36	70.44	70.34	183.0	0.0005	0.015	41.3	13.5	5.8	1.9	76.21	79.05	78.27	79.20	78.72	-2.8
P-MAG014	MAG014	MAG013	1.77	11.33	36	70.75	70.44	274.5	0.0011	0.015	45.7	19.4	6.4	2.7	78.92	79.44	79.05	80.70	79.20	-0.5
P-MAG015	MAG015	MAG014	6.80	6.80	24	75.66	75.59	11.5	0.0061	0.015	32.0	15.3	10.1	4.9	79.19	79.60	79.44	79.76	80.70	-0.4
P-MAG016	MAG016	MAG014	2.76	2.76	24	71.18	70.71	388.8	0.0012	0.015	11.9	6.8	3.7	2.2	79.97	80.33	79.44	80.45	80.70	-0.4
P-MAG017	MAG017	MAG016	--	0.00	24	71.24	71.18	56.0	0.0011	0.015	9.0	6.4	2.8	2.0	79.89	80.44	80.33	80.50	80.45	-0.6
P-MAG018	MAG018	MAG015	12.85	12.85	24	76.83	75.70	457.0	0.0025	0.015	14.7	9.8	4.7	3.1	80.28	80.87	79.60	80.93	79.76	-0.6

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, 100-YEAR 24-HOUR STORM
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-MAG019	MAG019	MAG018	--	0.00	24	76.95	76.92	26.3	0.0011	0.015	9.4	6.6	3.0	2.1	79.95	80.90	80.87	80.90	80.93	-0.9
P-MAG020	MAG020	MAG017	4.03	4.03	24	73.04	71.37	469.8	0.0036	0.015	6.8	11.7	2.1	3.7	80.56	80.92	80.44	80.92	80.50	-0.4
P-MAG021	MAG021	MAG019	3.25	3.25	24	77.51	76.83	508.2	0.0013	0.015	4.3	7.2	1.5	2.3	80.30	80.92	80.90	80.92	80.90	-0.6
P-MAG023	MAG023	MAG001	7.56	7.56	18	72.70	69.40	394.1	0.0084	0.015	7.7	8.3	4.3	4.7	75.69	76.25	75.61	76.25	75.65	-0.6
P-MAG024	MAG024	MAG023	--	0.00	10	72.82	72.70	122.0	0.0010	0.015	2.3	0.6	4.2	1.1	75.23	76.26	76.25	76.41	76.25	-1.0
P-MAG025	MAG125	MAG025	--	0.00	12	76.58	75.98	313.6	0.0019	0.015	2.1	1.4	2.6	1.7	80.49	80.98	79.57	81.01	79.67	-0.5
P-MAG026	MAG026	MAG125	9.03	9.03	10	76.88	76.58	157.9	0.0019	0.028	1.5	0.4	2.6	0.8	80.59	81.22	80.98	81.22	81.01	-0.6
P-MAG028	MAG028	MAG027	--	0.00	48	73.76	70.88	513.8	0.0056	0.015	37.1	93.2	5.3	7.4	80.66	77.25	76.99	77.90	78.25	3.4
P-MAG029	MAG029	MAG128	3.36	3.36	27	76.03	74.38	294.8	0.0056	0.015	35.2	20.1	8.7	5.1	83.43	82.52	78.12	82.99	79.05	0.9
P-MAG030	MAG030	MAG029	4.40	4.40	27	76.47	76.05	266.6	0.0016	0.015	28.2	10.7	7.0	2.7	83.25	84.29	82.52	84.32	82.99	-1.0
P-MAG031	MAG031	MAG030	--	0.00	24	76.88	76.50	127.1	0.0030	0.015	23.6	10.7	7.4	3.4	83.12	84.30	84.29	84.30	84.32	-1.2
P-MAG032	MAG032	MAG031	3.62	3.62	24	77.24	76.81	216.3	0.0020	0.015	20.1	8.7	6.3	2.8	82.52	84.30	84.30	84.30	84.30	-1.8
P-MAG033	MAG033	MAG032	43.81	43.81	15	78.64	78.63	125.3	0.0001	0.015	9.1	0.5	7.3	0.4	82.25	84.30	84.30	84.30	84.30	-2.0
P-MAG034	MAG034	MAG033	1.62	1.62	10	79.76	79.23	222.0	0.0024	0.015	1.0	0.9	1.9	1.7	82.66	84.30	84.30	84.30	84.30	-1.6
P-MAG035	MAG035	MAG034	0.72	0.72	10	80.65	80.19	146.0	0.0032	0.015	1.4	1.1	2.5	1.9	83.69	84.30	84.30	84.30	84.30	-0.6
P-MAG036	MAG036	MAG035	--	0.00	10	81.83	80.73	139.9	0.0079	0.015	0.9	1.7	2.1	3.1	83.99	84.34	84.30	84.74	84.30	-0.3
P-MAG037	MAG037	MAG036	--	0.00	12	81.97	81.86	31.7	0.0035	0.015	4.1	1.8	5.1	2.3	83.58	84.88	84.34	85.28	84.74	-1.3
P-MAG038	MAG038	MAG037	1.57	1.57	12	82.12	82.05	49.4	0.0014	0.015	4.1	1.2	5.1	1.5	84.16	85.72	84.88	85.72	85.28	-1.6
P-MAG040	MAG040	MAG039	--	0.00	18	81.74	80.56	128.8	0.0092	0.015	13.3	8.7	7.7	4.9	84.33	84.62	81.52	85.31	83.54	-0.3
P-MAG041	MAG041	MAG040	7.50	7.50	18	82.31	81.77	109.7	0.0049	0.015	10.8	6.4	6.0	3.6	84.82	85.91	84.62	85.91	85.31	-1.1
P-MAG128	MAG128	MAG028	6.97	6.97	30	74.38	73.76	109.1	0.0057	0.015	37.6	26.8	7.6	5.5	81.69	78.12	77.25	79.05	77.90	3.6
P-MAG225	MAG025	MAG024	1.30	1.30	10	75.76	72.82	431.7	0.0068	0.015	1.9	1.6	3.5	2.9	79.12	79.57	76.26	79.67	76.41	-0.4
P-ROB002	ROB002	ROB001	--	0.00	48	81.28	81.24	41.6	0.0010	0.015	104.2	38.6	9.2	3.1	88.13	84.68	84.30	85.68	85.65	3.5
P-ROB003	ROB003	ROB002	--	0.00	48	81.81	81.40	245.0	0.0017	0.015	104.2	50.9	8.0	4.1	88.04	86.35	84.68	87.40	85.68	1.7
P-ROB004	ROB004	ROB003	8.97	8.97	48	82.14	81.84	342.3	0.0009	0.015	104.2	36.9	8.2	2.9	89.01	88.71	86.35	89.58	87.40	0.3
P-ROB005	ROB005	ROB004	--	0.00	48	82.34	82.21	105.5	0.0012	0.015	96.7	43.7	7.7	3.5	87.91	89.31	88.71	89.47	89.58	-1.4
P-ROB006	ROB006	ROB005	--	0.00	48	82.42	82.34	63.8	0.0013	0.015	86.1	44.1	6.8	3.5	88.25	89.32	89.31	89.98	89.47	-1.1
P-ROB007	ROB007	ROB006	--	0.00	48	82.51	82.42	76.9	0.0012	0.015	83.8	42.6	6.7	3.4	87.32	89.66	89.32	89.66	89.98	-2.3
P-ROB008	ROB008	ROB007	--	0.00	36	83.23	82.54	68.0	0.0101	0.015	62.8	58.2	8.9	8.2	86.88	89.65	89.66	89.66	89.66	-2.8
P-ROB009	ROB009	ROB008	--	0.00	36	83.62	83.10	104.9	0.0050	0.015	53.5	40.7	7.5	5.8	87.42	89.65	89.65	95.24	89.66	-2.2
P-ROB010	ROB010	ROB009	--	0.00	36	83.63	83.62	6.5	0.0015	0.015	148.2	19.3	20.9	2.7	88.87	89.59	89.65	89.98	95.24	-0.7
P-ROB011	ROB011	ROB010	--	0.00	36	84.26	83.98	138.5	0.0020	0.015	61.9	26.0	8.7	3.7	89.19	90.19	89.59	90.61	89.98	-1.0
P-ROB012	ROB012	ROB011	18.66	18.66	36	84.36	84.34	86.5	0.0002	0.015	54.0	8.8	7.6	1.2	89.34	90.54	90.19	90.58	90.61	-1.2
P-ROB013	ROB013	ROB012	--	0.00	36	85.08	84.38	246.7	0.0028	0.015	23.0	30.8	3.3	4.4	90.08	90.66	90.54	90.90	90.58	-0.6
P-ROB014	ROB014	ROB013	--	0.00	24	85.08	85.06	20.0	0.0010	0.015	15.8	6.2	5.0	2.0	89.39	90.70	90.66	90.85	90.90	-1.3
P-ROB015	ROB015	ROB014	--	0.00	22	85.52	84.99	263.1	0.0020	0.015	15.8	6.9	6.0	2.6	90.57	91.49	90.70	91.69	90.85	-0.9
P-ROB016	ROB016	ROB015	14.30	14.30	22	85.61	85.52	92.0	0.0010	0.015	15.8	4.8	5.9	1.8	91.10	91.84	91.49	92.06	91.69	-0.7
P-ROB017	ROB017	ROB016	--	0.00	22	85.97	85.69	9.0	0.0310	0.015	-16.4	27.2	-6.2	10.4	90.54	91.84	91.84	91.84	92.06	-1.3
P-ROB018	ROB018	ROB017	--	0.00	22	86.07	86.06	11.8	0.0008	0.015	0.3	4.5	-0.6	1.7	90.82	91.84	91.84	91.84	91.84	-1.0
P-ROB019	ROB019	ROB013	--	0.00	30	85.75	85.09	336.2	0.0020	0.015	19.8	15.7	4.0	3.2	91.28	91.67	90.66	91.95	90.90	-0.4
P-ROB020	ROB020	ROB019	44.86	44.86	30	86.63	85.68	348.6	0.0027	0.015	21.3	18.6	4.3	3.8	92.49	92.87	91.67	93.01	91.95	-0.4
P-ROB021	ROB021	ROB020	--	0.00	22	87.31	86.99	318.0	0.0010	0.015	11.7	4.9	4.4	1.9	93.14	93.70	92.87	93.75	93.01	-0.6
P-ROB022	ROB022	ROB021	11.56	11.56	22	87.61	87.32	92.2	0.0031	0.015	11.0	8.7	4.1	3.3	93.03	93.80	93.70	93.82	93.75	-0.8
P-ROB023	ROB023	ROB123	--	0.00	18	82.09	82.06	31.8	0.0009	0.015	5.5	2.8	4.1	1.6	85.99	83.19	82.12	83.57	84.83	2.8
P-ROB024	ROB024	ROB023	--	0.00	18	82.51	82.47	82.0	0.0005	0.015	5.5	2.0	3.5	1.1	86.15	83.80	83.19	83.99	83.57	2.3
P-ROB025	ROB025	ROB024	4.67	4.67	18	83.61	82.85	256.1	0.0030	0.015	5.5	5.0	3.5	2.8	86.88	84.92	83.80	84.92	83.99	2.0
P-ROB026	ROB026	ROB123	--	0.00	16	81.33	81.31	16.4	0.0012	0.015	-0.4	2.3	-0.5	1.7	84.68	82.13	82.12	82.13	84.83	2.5
P-ROB027	ROB027	ROB026	--	0.00	16	81.42	81.40	20.6	0.0010	0.015	-0.4	2.1	-0.6	1.5	85.42	82.15	82.13	82.15	82.13	3.3
P-ROB028	ROB028	ROB027	--	0.00	12	81.82	81.42	242.4	0.0017	0.015	-0.2	1.3	0.4	1.6	86.57	82.16	82.15	82.16	82.15	4.4
P-ROB029	ROB029	ROB028	--	0.00	12	82.72	81.98	242.3	0.0031	0.015	0.0	1.7	0.0	2.2	87.95	82.72	82.16	82.72	82.16	5.2
P-ROB031	ROB031	ROB123	1.05	1.05	16	80.81	80.79	21.3	0.0009	0.015	18.5	2.0	13.2	1.5	84.91	83.77	82.12	85.19	84.83	1.1
P-ROB032	ROB032	ROB031	1.41	1.41	12	81.93	81.68	79.5	0.0031	0.015	6.4	1.7	8.0	2.2	85.46	86.21	83.77	86.29	85.19	-0.7
P-ROB033	ROB033	ROB032	2.93	2.93	12	83.00	81.89	315.0	0.0035	0.015	3.1	1.8	3.9	2.3	87.01	87.35	86.21	87.35	86.29	-0.3
P-ROB034	ROB034	ROB031	2.90	2.90	18	82.63	81.10	361.0	0.0042	0.015	9.9	5.9	5.5	3.4	87.58	87.83	83.77	88.14	85.19	-0.2
P-ROB035	ROB035	ROB034	5.98	5.98	12	85.42	82.51	241.3	0.0121	0.015	4.3	3.4	5.4	4.3	90.72	90.95	87.83	90.95	88.14	-0.2
P-UN1002	UN1002	UN1101	4.57	4.57	16	78.30	77.84	53.3	0.0086	0.015	11.2	6.1	8.1	4.4	82.48	80.59	78.90	80.59	80.10	1.9
P-UN1004	UN1004	UN1007	0.34	0.34	36	79.16	78.40	22.6	0.0337	0.015	52.3	106.1	9.7	15.0	83.59	81.35	81.15	84.20	83.21	2.2
P-UN1005	UN1005	UN1004	6.40	6.40	30	79.78	79.66	122.1	0.0010	0.028	32.0	6.0	6.6	1.2	84.54	85.02	81.35	85.10	84.20	-0.5
P-UN1006	UN1006	UN1005	21.71	21.71	30	80.07	79.84	103.1	0.0022	0.015	23.9	16.8	4.8	3.4	83.83	85.12	85.02	85.13	85.10	-1.3
P-UN1008	UN1008	UN1007	--	0.00	16	80.28	79.68	35.4	0.0169	0.015	13.5	8.6	9.7	6.2	83.87	82.48	81.15	83.09	83.21	1.4
P-UN1009	UN1009	UN1309	--	0.00	12	82.64	82.28	161.6	0.0022	0.015	2.5	1.5	3.2	1.9	84.82	85.29	84.91	85.38	84.96	-0.5
P-UN1010	UN1010	UN1009	3.52	3.52	12	83.58	82.85	226.7	0.0032	0.015	2.1	1.8	2.7	2.2	85.79	86.20	85.29	86.20	85.38	-0.4
P-UN1011	UN1011	UN1010	--	0.00	12	83.91	83.62	42.6	0.0068	0.015	-0.6	2.5	-0.8	3.2	85.87	86.20	86.20	86.20	86.20	-0.3
P-UN1012	UN1012	UN1011	--	0.00	12	84.56	84.01	77.9	0.0071	0.015	0.4	2.6	0.8	3.3	86.23	86.20	86.20	86.20	86.20	0.0
P-UN1014	UN1014	UN1007	3.73	3.73	36	79.42	78.56	126.1	0.0068	0.015	78.0	47.7	11.1	6.8	84.49	83.56	81.15	84.41	83.21	0.9
P-UN1015	UN1015	UN1014	2.87	2.87	30	83.96	79.42	623.4	0.0073	0.015	8.1	30.3	4.3	6.2	86.83	84.84	83.56	85.13	84.41	2.0
P-UN1016	UN1016	UN1014	36.09	36.09	30	80.79	79.42	188.2	0.0073	0.015	44.7	30.3	9.0	6.2	84.26	85.51	83.56	85.58	84.41	-1.2
P-UN1101	UN1101	UN1001	0.54	0.54	16	77.74	77.14	18.3	0.0328	0.015	12.5	12.0	9.8	8.6	82.13	78.90	78.29	80.10	79.77	3.2
P-UN1109	UN1109	UN1008	0.54	0.54	12	81.55	80.93	74.9	0.0083	0.015	5.7	2.8	7.2	3.6	83.49	84.39	82.48	84.46	83.09	-0.9
P-UN1115	UN1115	UN1015	3.37	3.37	30	85.96	83.96	273.7	0.0073	0.015	4.9	30.4	4.4	6.2	88.90	86.64	84.84	86.64	85.13	2.3
P-UN1209	UN1209	UN1109	--	0.00	12	81.91	81.55	61.4	0.0059	0.015	3.6	2.4	4.5	3.0	84.18	84.58	84.39	84.78	84.46	-0.4

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, 100-YEAR 24-HOUR STORM
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN1309	UN1309	UN1209	1.58	1.58	12	82.28	81.91	39.2	0.0094	0.015	3.6	3.0	4.5	3.8	84.50	84.91	84.58	84.96	84.78	-0.4
P-UN2003	UN2003	UN2002	19.93	19.93	48	69.78	69.73	47.0	0.0011	0.015	75.0	40.6	7.8	3.2	77.20	72.67	72.35	73.34	73.29	4.5
P-UN2004	UN2004	UN2003	--	0.00	42	70.66	69.78	249.9	0.0035	0.015	59.1	51.7	6.6	5.4	77.65	73.77	72.67	74.35	73.34	3.9
P-UN2005	UN2005	UN2004	12.15	12.15	42	71.39	70.29	520.6	0.0021	0.015	58.8	40.1	6.1	4.2	82.32	76.05	73.77	76.31	74.35	6.3
P-UN2006	UN2006	UN2005	--	0.00	42	72.01	71.46	259.8	0.0021	0.015	39.5	40.1	4.1	4.2	80.65	76.58	76.05	77.06	76.31	4.1
P-UN2007	UN2007	UN2006	--	0.00	36	72.02	71.88	25.6	0.0055	0.015	39.5	42.8	5.6	6.1	79.68	76.70	76.58	77.18	77.06	3.0
P-UN2008	UN2008	UN2007	3.63	3.63	36	72.02	71.98	71.0	0.0006	0.015	39.5	13.7	5.6	1.9	80.30	77.03	76.70	77.33	77.18	3.3
P-UN2009	UN2009	UN2008	8.39	8.39	36	72.43	72.18	50.2	0.0050	0.015	31.5	40.8	4.4	5.8	79.39	77.18	77.03	77.24	77.33	2.2
P-UN2010	UN2010	UN2009	6.54	6.54	36	73.70	73.54	20.0	0.0080	0.015	14.8	51.7	5.6	7.3	76.70	77.19	77.18	77.19	77.24	-0.5
P-UN2013	UN2013	UN2012	11.49	11.49	34	80.94	78.37	266.1	0.0097	0.015	55.1	48.6	8.7	7.7	85.81	86.01	82.74	86.66	83.92	-0.2
P-UN2014	UN2014	UN2013	1.67	1.67	28	81.02	80.94	147.7	0.0005	0.015	37.3	6.9	8.7	1.6	86.93	87.32	86.01	87.56	86.66	-0.4
P-UN2015	UN2015	UN2014	36.38	36.38	28	81.20	81.02	308.5	0.0006	0.015	27.1	7.1	6.3	1.7	85.40	88.36	87.32	88.36	87.56	-3.0
P-UN2016	UN2016	UN2013	--	0.00	16	81.19	80.94	25.8	0.0097	0.015	8.3	6.5	5.9	4.7	85.40	86.21	86.01	86.21	86.66	-0.8
P-UN2017	UN2017	UN2016	4.23	4.23	16	81.59	81.34	106.1	0.0024	0.015	6.9	3.2	4.9	2.3	85.14	86.21	86.21	86.24	86.21	-1.1
P-UN2018	UN2018	UN2017	3.70	3.70	16	83.30	81.56	429.2	0.0041	0.015	3.6	4.2	2.6	3.0	88.54	87.33	86.21	87.33	86.24	1.2
P-UN3002	UN3002	UN3001	0.43	0.43	16	72.39	71.93	516.3	0.0009	0.015	1.2	2.0	1.6	1.4	75.67	73.14	72.35	73.14	72.39	2.5
P-UN3003	UN3003	UN3002	--	0.00	16	72.62	72.39	250.3	0.0009	0.015	-0.2	2.0	-0.3	1.4	74.41	73.15	73.14	73.15	73.14	1.3
P-UN3006	UN3006	UN3005	2.23	2.23	16	71.68	71.43	246.4	0.0010	0.015	8.6	2.1	6.1	1.5	76.53	77.04	74.21	77.22	75.62	-0.5
P-UN3007	UN3007	UN3006	--	0.00	16	75.25	71.68	335.8	0.0106	0.015	5.8	6.8	4.4	4.9	78.20	78.73	77.04	79.57	77.22	-0.5
P-UN3008	UN3008	UN3007	--	0.00	16	73.78	73.62	28.3	0.0057	0.015	10.9	5.0	7.7	3.6	79.01	79.39	78.73	81.12	79.57	-0.4
P-UN3009	UN3009	UN3008	3.29	3.29	16	73.99	73.78	36.0	0.0058	0.015	15.1	5.0	10.6	3.6	80.86	81.18	79.39	81.23	81.12	-0.3
P-UN3010	UN3010	UN3009	--	0.00	12	74.22	73.77	162.3	0.0028	0.015	4.4	1.6	5.4	2.1	80.61	81.53	81.18	81.63	81.23	-0.9
P-UN3011	UN3011	UN3010	--	0.00	12	75.38	75.02	48.9	0.0074	0.015	3.8	2.6	4.7	3.4	81.24	81.68	81.53	81.99	81.63	-0.4
P-UN3012	UN3012	UN3011	--	0.00	12	76.70	75.33	210.7	0.0065	0.015	3.8	2.5	4.7	3.2	83.98	84.41	81.68	84.69	81.99	-0.4
P-UN3013	UN3013	UN3012	--	0.00	12	78.04	76.70	119.9	0.0112	0.015	3.9	3.3	4.8	4.2	85.36	85.80	84.41	85.98	84.69	-0.4
P-UN3014	UN3014	UN3013	--	0.00	12	81.12	78.16	267.2	0.0111	0.015	3.7	3.3	4.6	4.1	87.28	87.76	85.80	87.76	85.98	-0.5
P-UN3016	UN3016	UN3116	3.97	3.97	16	77.14	76.69	194.2	0.0023	0.028	4.7	1.7	3.3	1.2	81.21	81.64	79.17	81.64	79.43	-0.4
P-UN3017	UN3017	UN3016	--	0.00	16	77.27	77.10	24.3	0.0070	0.015	3.3	5.5	2.3	4.0	80.79	81.64	81.64	82.10	81.64	-0.8
P-UN3018	UN3018	UN3017	--	0.00	16	78.19	77.38	121.8	0.0067	0.015	7.9	5.4	5.6	3.9	83.05	83.30	81.64	83.77	82.10	-0.3
P-UN3019	UN3019	UN3018	3.75	3.75	16	78.19	78.17	126.7	0.0002	0.015	7.9	0.8	5.5	0.6	84.74	85.00	83.30	85.01	83.77	-0.3
P-UN3020	UN3020	UN3019	1.94	1.94	16	79.48	78.17	220.1	0.0060	0.015	4.1	5.1	2.9	3.7	84.24	85.03	85.00	85.03	85.01	-0.8
P-UN3028	UN3028	UN3027	--	0.00	16	78.01	77.56	31.3	0.0144	0.015	15.4	7.9	11.0	5.7	80.22	81.51	81.43	82.10	85.75	-1.3
P-UN3029	UN3029	UN3028	--	0.00	16	80.05	78.02	105.9	0.0192	0.015	10.8	9.1	7.7	6.6	82.92	83.31	81.51	83.68	82.10	-0.4
P-UN3030	UN3030	UN3029	--	0.00	16	81.85	80.10	132.3	0.0132	0.015	9.4	7.6	6.7	5.5	84.26	84.71	83.31	85.07	83.68	-0.5
P-UN3031	UN3031	UN3030	9.35	9.35	16	82.38	81.95	92.5	0.0047	0.015	9.4	4.5	6.7	3.2	85.20	85.66	84.71	85.66	85.07	-0.5
P-UN3033	UN3034	UN3027	--	0.00	60	76.33	75.82	153.9	0.0033	0.015	666.1	129.9	16.8	6.6	83.04	84.65	81.43	88.46	85.75	-1.6
P-UN3035	UN3035	UN3034	1.73	1.73	16	79.86	79.51	346.8	0.0010	0.028	4.9	1.1	3.5	0.8	86.89	87.01	84.65	87.01	88.46	-0.1
P-UN3037	UN3037	UN3034	6.40	6.40	12	79.38	76.33	166.9	0.0183	0.015	4.7	4.2	5.8	5.3	83.15	84.66	84.65	84.66	88.46	-1.5
P-UN3038	UN3038	UN3034	11.19	11.19	60	76.59	76.33	77.9	0.0033	0.015	636.3	130.4	16.1	6.6	83.67	86.06	84.65	88.31	88.46	-2.4
P-UN3039	UN3039	UN3038	0.93	0.93	12	76.62	76.58	37.2	0.0011	0.015	4.1	1.0	5.1	1.3	83.60	86.06	86.06	86.06	88.31	-2.5
P-UN3040	UN3040	UN3038	20.33	20.33	10	81.16	76.58	167.7	0.0273	0.015	3.3	3.1	6.0	5.7	83.33	86.06	86.06	86.06	88.31	-2.7
P-UN3042	UN3042	UN3038	--	0.00	60	77.56	76.59	291.1	0.0033	0.015	501.6	130.3	12.7	6.6	85.16	89.29	86.06	91.16	88.31	-4.1
P-UN3043	UN3043	UN3042	549.90	549.90	60	77.96	77.56	121.0	0.0033	0.015	454.7	129.8	11.5	6.6	85.92	90.39	89.29	90.39	91.16	-4.5
P-UN3116	UN3116	UN3015	--	0.00	16	76.69	76.64	21.7	0.0023	0.028	9.0	1.7	6.5	1.2	78.84	79.17	76.19	79.43	78.62	-0.3
P-UN4002	UN4002	UN4001	2.45	2.45	60	83.96	83.34	129.4	0.0048	0.015	194.3	156.2	9.4	8.0	88.96	89.74	88.90	91.32	90.24	-0.8
P-UN4003	UN4003	UN4002	3.00	3.00	24	85.38	85.27	112.3	0.0010	0.015	25.1	6.1	7.9	2.0	89.92	90.69	89.74	90.70	91.32	-0.8
P-UN4004	UN4004	UN4003	--	0.00	24	86.46	86.12	176.1	0.0019	0.015	13.8	8.6	4.4	2.7	89.30	90.70	90.69	90.70	90.70	-1.4
P-UN4005	UN4005	UN4004	5.08	5.08	24	86.76	86.44	164.5	0.0019	0.015	12.3	8.6	3.9	2.8	89.59	90.70	90.70	90.75	90.70	-1.1
P-UN4006	UN4006	UN4005	--	0.00	15	86.84	86.77	31.0	0.0023	0.028	5.3	1.4	4.2	1.2	90.54	90.96	90.70	90.97	90.75	-0.4
P-UN4007	UN4007	UN4006	--	0.00	15	87.36	86.84	145.1	0.0036	0.028	3.7	1.8	3.0	1.5	90.24	91.16	90.96	91.27	90.97	-0.9
P-UN4008	UN4008	UN4007	7.33	7.33	15	87.71	87.36	97.7	0.0036	0.028	3.5	1.8	2.8	1.5	91.38	91.88	91.16	91.96	91.27	-0.5
P-UN4009	UN4009	UN4008	0.63	0.63	15	88.61	87.71	252.3	0.0036	0.028	2.9	1.8	2.3	1.5	93.79	94.10	91.88	94.23	91.96	-0.3
P-UN4010	UN4010	UN4009	2.64	2.64	15	89.76	88.58	387.3	0.0030	0.028	3.8	1.7	2.9	1.3	99.52	99.77	94.10	99.77	94.23	-0.2
P-UN4011	UN4011	UN4002	174.17	174.17	36	86.32	84.92	139.9	0.0100	0.015	87.0	57.8	12.2	8.2	90.99	91.87	89.74	91.87	91.32	-0.9
P-UN4012	UN4012	UN4011	--	0.00	24	86.55	86.32	251.3	0.0009	0.015	4.7	5.9	1.5	1.9	91.69	91.87	91.87	91.87	91.87	-0.2
P-UN4013	UN4013	UN4012	2.22	2.22	24	86.76	86.49	257.2	0.0010	0.015	4.7	6.4	1.5	2.0	91.52	91.88	91.87	91.88	91.87	-0.4
P-UN4014	UN4014	UN4002	--	0.00	28	86.13	86.02	108.1	0.0010	0.028	27.7	5.0	6.6	1.2	90.11	91.26	89.74	91.26	91.32	-1.1
P-UN4015	UN4015	UN4014	34.70	34.70	28	86.41	86.10	214.3	0.0014	0.028	14.5	6.0	3.4	1.4	89.81	91.26	91.26	91.26	91.26	-1.5
P-UN4016	UN4016	UN4015	--	0.00	20	86.45	86.37	26.1	0.0031	0.015	9.3	6.7	4.2	3.1	89.20	91.26	91.26	91.26	91.26	-2.1
P-UN4017	UN4017	UN4016	13.93	13.93	6	87.20	86.41	12.6	0.0628	0.015	1.7	1.2	8.7	6.2	89.15	91.26	91.26	91.26	91.26	-2.1
P-UN5002	UN5002	UN5001	11.92	11.92	36	89.71	88.50	237.6	0.0051	0.028	50.3	22.1	7.2	3.1	96.50	97.03	90.81	98.30	92.52	-0.5
P-UN5003	UN5003	UN5002	--	0.00	36	89.84	89.71	126.6	0.0010	0.015	64.6	18.5	9.0	2.6	96.14	98.58	97.03	98.61	98.30	-2.4
P-UN5004	UN5004	UN5003	--	0.00	36	90.39	89.97	127.0	0.0033	0.015	39.4	33.2	5.5	4.7	96.49	98.58	98.58	98.83	98.61	-2.1
P-UN5005	UN5005	UN5004	--	0.00	36	91.25	90.59	112.9	0.0058	0.015	44.8	44.2	6.3	6.3	97.53	98.49	98.58	98.74	98.83	-1.0
P-UN5006	UN5006	UN5005	--	0.00	36	91.22	91.18	299.6	0.0001	0.015	38.6	6.7	5.4	0.9	98.42	99.26	98.49	99.31	98.74	-0.8
P-UN5007	UN5007	UN5006	0.35	0.35	36	92.42	91.22	26.1	0.0459	0.015	38.6	123.9	6.8	17.5	97.29	99.26	99.26	99.32	99.31	-2.0
P-UN5008	UN5008	UN5007	0.89	0.89	36	93.09	92.42	197.3	0.0034	0.028	30.9	18.0	4.3	2.6	98.19	99.26	99.26	99.39	99.32	-1.1
P-UN5009	UN5009	UN5008	56.99	56.99	36	93.88	93.04	83.7	0.0100	0.028	30.1	31.0	4.2	4.4	98.53	99.41	99.26	99.41	99.39	-0.9
P-UN5011	UN5011	UN5010	--	0.00	28	91.04	90.84	10.4	0.0193	0.028	35.8	21.9	8.4	5.1	95.75	93.65	92.87	94.41	93.98	2.1
P-UN5012	UN5012	UN5011	1.34	1.34	28	91.22	91.22	3.9	0.0000	0.028	35.8	0.5	8.1	0.1	95.12	93.84	93.65	94.87	94.41	1.3
P-UN5013	UN5013	UN5012	43.09	43.09	28	91.76	91.22	75.4	0.0072	0.028	35.1	13.4	8.1	3.1	95.15	97.48	93.84	97.48	94.87	-2.3

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: EXISTING DRAINAGE CONDITIONS, 100-YEAR 24-HOUR STORM
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN5014	UN5014	UN5013	--	0.00	22	92.68	91.77	363.2	0.0025	0.015	6.0	7.7	2.5	2.9	95.74	97.49	97.48	97.49	97.48	-1.7
P-UN5015	UN5015	UN5014	--	0.00	20	92.96	92.79	171.0	0.0010	0.015	4.6	3.8	2.1	1.7	97.20	97.49	97.49	97.49	97.49	-0.3

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Link895	MAG039	MAGDB01	2.79	2.79	30	80.50	74.00	75.0	0.0867	0.015	1.5	104.7	2.2	21.3	83.18	80.71	76.40	80.71	77.76	2.5
Link896	MAG339	MAGDB01	30.58	30.58	30	81.55	74.00	75.0	0.1007	0.015	10.8	112.8	9.3	23.0	84.55	82.07	76.40	82.07	77.76	2.5
Link897	MAG239	MAGDB01	1.96	1.96	30	80.24	74.00	75.0	0.0832	0.015	1.0	102.5	1.6	20.9	83.24	80.41	76.40	80.41	77.76	2.8
Link898	MAG139	MAGDB01	7.81	7.81	24	77.50	74.00	75.0	0.0467	0.015	2.1	42.4	3.5	13.5	80.50	77.80	76.40	77.80	77.76	2.7
Link900	UN3038	UN3034	11.19	11.19	24	76.58	76.33	75.0	0.0033	0.015	12.6	11.3	5.7	3.6	83.67	77.94	77.28	78.85	79.89	5.7
Link901	UN3034	UN3DB01	--	11.19	72	76.33	75.00	75.0	0.0177	0.015	26.6	488.8	9.2	17.3	87.00	77.28	75.95	79.89	77.27	9.7
Link905	UN4002A	UN4DB01	--	0.00	42	83.96	83.00	75.0	0.0128	0.015	10.2	98.7	1.2	10.3	88.96	86.73	86.70	86.91	86.87	2.2
Link906	UN5016	UN5DB01	14.90	14.90	36	88.50	88.00	100.0	0.0050	0.015	7.6	40.9	1.0	5.8	100.00	98.00	92.00	98.00	92.02	2.0
Link907	UN5001	UN501OF	--	0.00	48	88.50	88.00	75.0	0.0067	0.015	-57.3	101.6	-4.6	8.1	97.50	92.08	92.00	92.29	92.37	5.4
Link908	UN5010	UN501OF	--	0.00	48	90.84	88.00	100.0	0.0284	0.015	-17.8	209.8	4.9	16.7	99.22	92.33	92.00	92.51	92.37	6.9
P-ARC002	ARC002	ARC001	--	315.11	84	57.19	54.61	266.6	0.0097	0.015	175.6	544.7	6.7	14.2	66.62	61.81	61.60	62.09	62.29	4.8
P-ARC004	ARC004	ARC002	--	315.11	84	57.19	56.79	400.1	0.0010	0.015	175.4	175.1	6.1	4.5	69.11	62.15	61.81	62.69	62.09	7.0
P-ARC008	ARC008	ARC004	9.16	315.11	84	57.52	57.30	272.4	0.0008	0.015	175.2	157.3	-6.2	4.1	75.22	62.56	62.15	63.04	62.69	12.7
P-ARC009	ARC009	ARC008	--	249.78	84	58.56	57.73	281.8	0.0029	0.015	138.2	300.5	5.6	7.8	72.15	62.81	62.56	63.46	63.04	9.3
P-ARC011	ARC011	ARC009	11.23	249.78	84	59.42	58.56	257.9	0.0033	0.015	138.0	319.7	6.5	8.3	67.71	63.16	62.81	64.28	63.46	4.5
P-ARC012	ARC012	ARC011	4.64	238.55	72	61.31	59.47	369.3	0.0050	0.015	131.3	259.1	8.5	9.2	71.90	64.48	63.16	65.66	64.28	7.4
P-ARC013	ARC013	ARC012	2.43	233.91	72	63.25	61.36	426.6	0.0044	0.015	128.7	244.3	8.7	8.6	75.56	66.35	64.48	67.33	65.66	9.2
P-ARC014	ARC014	ARC013	4.46	231.48	72	64.42	63.16	379.3	0.0033	0.015	127.3	211.5	7.9	7.5	80.44	67.75	66.35	69.20	67.33	12.7
P-ARC015	ARC015	ARC014	3.75	227.02	54	64.62	64.25	44.5	0.0083	0.015	124.5	155.4	9.7	9.8	75.24	68.01	67.75	72.72	69.20	7.2
P-ARC016	ARC016	ARC015	220.56	223.26	54	70.00	64.62	132.0	0.0408	0.015	122.2	344.0	17.4	21.6	76.50	71.90	68.01	72.31	72.72	4.6
P-ARC017	ARC017	ARC016	1.56	2.70	10	76.67	70.00	218.1	0.0306	0.015	1.4	3.3	5.2	6.1	79.50	77.05	71.90	77.72	72.31	2.4
P-ARC018	ARC018	ARC017	1.14	1.14	10	82.98	77.25	568.2	0.0101	0.015	0.6	1.9	3.1	3.5	85.05	83.30	77.05	83.30	77.72	1.8
P-ARC019	ARC019	ARC008	--	56.17	54	61.67	57.67	406.8	0.0098	0.015	23.2	169.0	4.9	10.6	73.35	62.87	62.56	63.65	63.04	10.5
P-ARC020	ARC020	ARC019	--	56.17	54	62.60	61.70	105.3	0.0086	0.015	23.2	157.6	7.1	9.9	74.19	63.77	62.87	64.55	63.65	10.4
P-ARC021	ARC021	ARC020	5.82	56.17	30	65.09	62.60	289.7	0.0086	0.015	23.2	33.0	7.1	6.7	70.31	66.71	63.77	67.16	64.55	3.6
P-ARC022	ARC022	ARC021	--	50.35	30	65.09	65.07	29.5	0.0007	0.015	20.2	9.3	5.4	1.9	70.98	66.89	66.71	67.59	67.16	4.1
P-ARC023	ARC023	ARC022	--	50.35	30	65.54	65.21	17.5	0.0189	0.015	20.2	48.9	6.7	10.0	70.33	66.99	66.89	67.76	67.59	3.3
P-ARC024	ARC024	ARC023	--	50.35	30	65.66	65.62	9.2	0.0043	0.015	20.2	23.4	6.3	4.8	71.18	67.21	66.99	67.53	67.76	4.0
P-ARC025	ARC025	ARC024	9.82	50.35	36	65.91	65.51	174.7	0.0023	0.015	20.2	27.7	4.5	3.9	70.36	67.73	67.21	67.93	67.53	2.6
P-ARC026	ARC026	ARC025	--	40.52	36	66.06	65.96	21.3	0.0047	0.015	14.8	39.6	3.6	5.6	71.18	67.75	67.73	67.93	67.93	3.4
P-ARC027	ARC027	ARC026	6.27	40.52	36	66.53	66.12	323.0	0.0013	0.015	14.8	20.6	3.4	2.9	72.62	68.31	67.75	68.56	67.93	4.3
P-ARC028	ARC028	ARC027	10.65	34.26	30	67.89	66.67	380.1	0.0032	0.015	11.8	20.1	4.0	4.1	74.34	69.31	68.31	69.63	68.56	5.0
P-ARC029	ARC029	ARC028	--	23.61	24	68.42	67.79	136.4	0.0046	0.015	11.0	13.3	4.5	4.2	74.39	69.86	69.31	70.20	69.63	4.5
P-ARC030	ARC030	ARC029	6.24	23.61	24	69.78	68.45	287.3	0.0046	0.015	11.0	13.3	4.7	4.2	77.71	71.17	69.86	71.42	70.20	6.5
P-ARC031	ARC031	ARC030	--	17.37	24	70.70	69.74	255.7	0.0038	0.015	8.8	12.0	4.0	3.8	77.34	72.00	71.17	72.18	71.42	5.3
P-ARC032	ARC032	ARC031	17.37	17.37	24	70.84	70.70	135.9	0.0010	0.015	8.8	6.3	3.4	2.0	80.37	72.39	72.00	72.39	72.18	8.0
P-ARC034	ARC034	ARC033	1.23	71.85	36	57.15	56.69	338.1	0.0014	0.015	30.1	21.3	4.5	3.0	62.78	59.91	59.00	60.21	59.31	2.9
P-ARC035	ARC035	ARC034	--	70.61	36	57.32	57.18	54.8	0.0026	0.015	29.5	29.2	4.4	4.1	63.21	60.03	59.91	60.35	60.21	3.2
P-ARC036	ARC036	ARC035	0.90	70.61	36	58.34	57.32	399.9	0.0026	0.015	29.5	29.2	4.5	4.1	64.66	60.97	60.03	61.25	60.35	3.7
P-ARC037	ARC037	ARC036	7.73	69.71	36	59.08	58.31	398.8	0.0019	0.015	29.1	25.4	4.3	3.6	66.53	61.86	60.97	62.17	61.25	4.7
P-ARC038	ARC038	ARC037	5.37	61.98	36	60.66	59.11	456.9	0.0034	0.015	25.5	33.7	4.6	4.8	68.18	62.85	61.86	63.15	62.17	5.3
P-ARC039	ARC039	ARC038	2.00	56.61	36	62.02	60.91	504.6	0.0022	0.015	22.7	27.1	4.4	3.8	69.54	64.10	62.85	65.25	63.15	5.4
P-ARC040	ARC040	ARC039	0.80	25.05	36	63.66	62.38	440.3	0.0029	0.015	6.0	31.2	2.8	4.4	69.66	64.63	64.10	64.79	65.25	5.0
P-ARC041	ARC041	ARC040	7.49	24.26	36	64.72	63.70	425.0	0.0024	0.015	5.8	28.3	3.2	4.0	70.52	65.65	64.63	65.81	64.79	4.9
P-ARC042	ARC042	ARC041	1.51	16.77	18	66.25	64.57	480.2	0.0035	0.015	4.0	5.4	3.3	3.0	72.41	67.22	65.65	67.81	65.81	5.2
P-ARC043	ARC043	ARC042	--	15.25	18	68.26	66.44	80.6	0.0226	0.015	3.7	13.7	6.2	7.7	72.41	68.79	67.22	69.58	67.81	3.6
P-ARC044	ARC044	ARC043	15.25	15.25	18	69.20	68.51	52.0	0.0133	0.015	3.7	10.5	5.4	5.9	72.14	69.81	68.79	69.81	69.58	2.3
P-ARC045	ARC045	ARC039	--	29.55	24	64.25	63.52	238.3	0.0031	0.015	14.8	10.9	4.7	3.5	69.79	66.37	64.10	66.71	65.25	3.4
P-ARC046	ARC046	ARC045	12.09	29.55	24	65.02	64.31	236.4	0.0030	0.015	14.8	10.7	4.7	3.4	69.90	67.67	66.37	67.78	66.71	2.2
P-ARC047	ARC047	ARC046	--	17.46	24	65.93	64.95	354.5	0.0028	0.015	8.8	10.3	3.0	3.3	71.43	68.37	67.67	68.48	67.78	3.1
P-ARC048	ARC048	ARC047	17.46	17.46	24	66.74	65.96	321.5	0.0024	0.015	8.8	9.7	3.3	3.1	71.58	68.96	68.37	68.96	68.48	2.6
P-ARC050	ARC050	ARC049	--	25.09	30	56.23	55.67	150.7	0.0037	0.015	12.6	21.7	4.0	4.4	60.48	57.74	57.40	57.96	57.65	2.7
P-ARC051	ARC051	ARC050	5.52	25.09	30	56.41	56.13	129.4	0.0022	0.015	12.6	16.5	3.7	3.4	61.51	58.03	57.74	58.21	57.96	3.5
P-ARC052	ARC052	ARC051	1.50	19.57	30	57.21	56.46	299.0	0.0025	0.015	9.8	17.8	3.4	3.6	62.93	58.61	58.03	58.88	58.21	4.3
P-ARC056	ARC056	ARC052	5.77	18.07	30	59.61	57.33	600.5	0.0038	0.015	9.1	21.9	4.2	4.5	65.02	60.73	58.61	60.89	58.88	4.3
P-ARC057	ARC057	ARC056	4.12	12.31	30	60.05	59.62	175.5	0.0024	0.015	6.3	17.6	3.2	3.6	66.25	61.11	60.73	61.28	60.89	5.1
P-ARC058	ARC058	ARC057	--	8.18	30	61.50	60.07	357.1	0.0040	0.015	4.3	22.5	3.3	4.6	69.55	62.24	61.11	62.38	61.28	7.3
P-ARC059	ARC059	ARC058	8.18	8.18	30	63.58	61.50	715.8	0.0029	0.015	4.3	19.2	3.1	3.9	73.03	64.41	62.24	64.41	62.38	8.6
P-MAG002	MAG002	MAG001	6.96	24.27	54	69.58	69.44	304.2	0.0005	0.015	-121.0	36.6	-8.0	2.3	76.28	74.42	74.10	74.43	75.09	1.9
P-MAG003	MAG003	MAG002	5.07	17.32	54	69.98	69.68	647.2	0.0005	0.015	-58.2	36.7	-4.0	2.3	78.49	74.91	74.42	74.92	74.43	3.6
P-MAG004	MAG004	MAG003	12.25	12.25	48	70.28	69.92	537.3	0.0007	0.015	-43.2	32.2	-3.9	2.6	76.21	74.97	74.91	75.12	74.92	1.2
P-MAG005	MAG005	MAG004	--	0.00	24	70.56	70.30	289.2	0.0009	0.015	-11.0	5.9	-3.5	1.9	77.47	74.89	74.97	74.89	75.12	2.6
P-MAG006	MAG006	MAG005	2.48	2.48	24	70.59	70.56	224.1	0.0001	0.015	-5.2	2.3	-1.9	0.7	78.84	74.94	74.89	74.94	74.89	3.9

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-MAG008	MAG008	MAG002	3.50	3.50	27	70.25	69.89	171.0	0.0021	0.015	-15.8	12.3	-4.0	3.1	77.27	74.44	74.42	74.44	74.43	2.8
P-MAG009	MAG009	MAG008	--	0.00	27	70.97	70.31	296.4	0.0022	0.015	-12.9	12.7	-3.3	3.2	78.77	74.45	74.44	74.51	74.44	4.3
P-MAG010	MAG010	MAG009	6.68	6.68	21	72.10	71.22	299.1	0.0029	0.015	-5.5	7.4	-2.4	3.1	79.38	74.87	74.45	74.90	74.51	4.5
P-MAG011	MAG011	MAG010	6.86	6.86	18	73.56	72.06	373.7	0.0040	0.015	2.8	5.8	1.5	3.3	81.61	75.21	74.87	75.21	74.90	6.4
P-MAG012	MAG012	MAG004	--	0.00	42	72.23	70.44	372.6	0.0048	0.015	15.7	60.4	-3.3	6.3	78.61	74.99	74.97	74.99	75.12	3.6
P-MAG013	MAG013	MAG012	--	0.00	36	70.44	70.34	183.0	0.0005	0.015	15.7	13.5	-2.4	1.9	76.21	75.12	74.99	75.12	74.99	1.1
P-MAG014	MAG014	MAG013	1.77	1.77	36	70.75	70.44	274.5	0.0011	0.015	15.7	19.4	2.2	2.7	78.92	75.34	75.12	77.30	75.12	3.6
P-MAG015	MAG015	MAG014	6.80	6.80	24	75.66	75.59	11.5	0.0061	0.015	11.5	15.3	5.7	4.9	79.19	76.89	75.34	77.09	77.30	2.3
P-MAG016	MAG016	MAG014	2.76	2.76	24	71.18	70.71	388.8	0.0012	0.015	-6.5	6.8	-2.1	2.2	79.97	76.24	75.34	76.24	77.30	3.7
P-MAG017	MAG017	MAG016	--	0.00	24	71.24	71.18	56.0	0.0011	0.015	-5.7	6.4	-1.8	2.0	79.89	76.35	76.24	76.35	76.24	3.5
P-MAG018	MAG018	MAG015	12.85	12.85	24	76.83	75.70	457.0	0.0025	0.015	8.2	9.8	3.5	3.1	80.28	78.24	76.89	78.25	77.09	2.0
P-MAG019	MAG019	MAG018	--	0.00	24	76.95	76.92	26.3	0.0011	0.015	1.7	6.6	-0.9	2.1	79.95	78.24	78.24	78.26	78.25	1.7
P-MAG020	MAG020	MAG017	4.03	4.03	24	73.04	71.37	469.8	0.0036	0.015	-4.3	11.7	-1.4	3.7	80.56	77.52	76.35	77.52	76.35	3.0
P-MAG021	MAG021	MAG019	3.25	3.25	24	77.51	76.83	508.2	0.0013	0.015	1.7	7.2	1.2	2.3	80.30	78.40	78.24	78.40	78.26	1.9
P-MAG023	MAG023	MAG001	7.56	7.56	24	72.70	69.40	394.1	0.0084	0.015	7.3	17.9	2.4	5.7	75.69	74.61	74.10	74.63	75.09	1.1
P-MAG024	MAG024	MAG023	--	0.00	24	72.82	72.70	122.0	0.0010	0.015	-3.7	6.2	-1.9	2.0	75.23	74.64	74.61	74.85	74.63	0.6
P-MAG025	MAG125	MAG025	--	0.00	18	76.58	75.98	313.6	0.0019	0.015	2.9	4.0	2.5	2.3	80.49	77.53	76.51	77.58	76.72	3.0
P-MAG026	MAG026	MAG125	9.03	9.03	18	76.88	76.58	157.9	0.0019	0.028	2.9	2.1	1.8	1.2	80.59	78.17	77.53	78.17	77.58	2.4
P-MAG028	MAG028	MAG027	--	0.00	48	73.76	70.88	513.8	0.0056	0.015	-23.8	93.2	2.6	7.4	80.66	75.91	75.50	76.00	75.72	4.8
P-MAG029	MAG029	MAG128	3.36	3.36	27	76.03	74.38	294.8	0.0056	0.015	14.5	20.1	5.4	5.1	83.43	77.47	76.03	77.71	76.41	6.0
P-MAG030	MAG030	MAG029	4.40	4.40	27	76.47	76.05	266.6	0.0016	0.015	13.7	10.7	3.9	2.7	83.25	78.36	77.47	78.58	77.71	4.9
P-MAG031	MAG031	MAG030	--	0.00	24	76.88	76.50	127.1	0.0030	0.015	11.5	10.7	3.8	3.4	83.12	78.74	78.36	78.94	78.58	4.4
P-MAG032	MAG032	MAG031	3.62	3.62	24	77.24	76.81	216.3	0.0020	0.015	11.5	8.7	3.5	2.8	82.52	79.44	78.74	79.97	78.94	3.1
P-MAG033	MAG033	MAG032	43.81	43.81	18	78.64	77.74	125.3	0.0072	0.015	10.4	7.7	5.8	4.4	82.25	81.05	79.44	81.16	79.97	1.2
P-MAG034	MAG034	MAG033	1.62	1.62	10	79.76	79.23	222.0	0.0024	0.015	1.5	0.9	2.7	1.7	82.66	82.36	81.05	82.41	81.16	0.3
P-MAG035	MAG035	MAG034	0.72	0.72	10	80.65	80.19	146.0	0.0032	0.015	1.0	1.1	2.1	1.9	83.69	82.74	82.36	82.76	82.41	1.0
P-MAG036	MAG036	MAG035	--	0.00	10	81.83	80.73	139.9	0.0079	0.015	0.6	1.7	2.6	3.1	83.99	82.90	82.74	82.91	82.76	1.1
P-MAG037	MAG037	MAG036	--	0.00	12	81.97	81.86	31.7	0.0035	0.015	0.6	1.8	2.2	2.3	83.58	82.91	82.90	82.92	82.91	0.7
P-MAG038	MAG038	MAG037	1.57	1.57	12	82.12	82.05	49.4	0.0014	0.015	0.6	1.2	1.9	1.5	84.16	82.93	82.91	82.93	82.92	1.2
P-MAG040	MAG040	MAG039A	--	0.00	18	81.74	80.56	128.8	0.0092	0.015	4.2	8.7	4.4	4.9	84.33	82.50	81.69	82.80	82.00	1.8
P-MAG041	MAG041	MAG040	8.12	8.12	18	82.31	81.77	109.7	0.0049	0.015	4.2	6.4	3.9	3.6	84.82	83.20	82.50	83.20	82.80	1.6
P-MAG043	MAG043	MAGDB02	8.29	8.29	30	72.50	72.00	100.0	0.0050	0.015	6.7	25.1	1.3	5.1	82.00	77.04	74.90	77.04	74.93	5.0
P-MAG128	MAG128	MAG028	6.97	6.97	30	74.38	73.76	109.1	0.0057	0.015	16.8	26.8	5.0	5.5	81.69	76.03	75.91	76.41	76.00	5.7
P-MAG139	MAG139A	MAG027	--	0.00	36	74.88	73.60	100.0	0.0128	0.015	-5.5	65.4	3.8	9.3	75.00	75.68	75.50	75.69	75.72	-0.7
P-MAG225	MAG025	MAG024	1.30	1.30	18	75.76	72.82	431.7	0.0068	0.015	3.5	7.5	3.7	4.3	85.12	76.51	74.64	76.72	74.85	8.6
P-ROB002	ROB002	ROB001	--	0.00	48	81.28	81.24	41.6	0.0010	0.015	42.0	38.6	6.2	3.1	88.13	83.41	83.15	83.86	83.78	4.7
P-ROB003	ROB003	ROB002	--	0.00	48	81.81	81.40	245.0	0.0017	0.015	42.0	50.9	5.4	4.1	88.04	84.24	83.41	84.56	83.86	3.8
P-ROB004	ROB004	ROB003	8.98	8.98	48	82.14	81.84	342.3	0.0009	0.015	42.0	36.9	4.5	2.9	89.01	84.95	84.24	85.19	84.56	4.1
P-ROB005	ROB005	ROB004	--	0.00	48	82.34	82.21	105.5	0.0012	0.015	36.5	43.7	4.0	3.5	87.91	85.09	84.95	85.33	85.19	2.8
P-ROB006	ROB006	ROB005	--	0.00	48	82.42	82.34	63.8	0.0013	0.015	36.5	44.1	4.0	3.5	88.25	85.17	85.09	85.41	85.33	3.1
P-ROB007	ROB007	ROB006	--	0.00	48	82.51	82.42	76.9	0.0012	0.015	36.5	42.6	4.0	3.4	87.32	85.27	85.17	85.90	85.41	2.1
P-ROB008	ROB008	ROB007	--	0.00	36	83.23	82.54	68.0	0.0101	0.015	36.5	58.2	6.4	8.2	86.88	85.46	85.27	86.07	85.90	1.4
P-ROB009	ROB009	ROB008	--	0.00	36	83.62	83.10	104.9	0.0050	0.015	36.5	40.7	6.3	5.8	87.42	85.92	85.46	86.52	86.07	1.5
P-ROB010	ROB010	ROB009	--	0.00	36	83.63	83.62	6.5	0.0015	0.015	36.5	22.6	6.2	3.2	88.87	85.95	85.92	86.52	86.52	2.9
P-ROB011	ROB011	ROB010	--	0.00	36	84.26	83.98	138.5	0.0020	0.015	36.5	26.0	6.0	3.7	89.19	86.71	85.95	87.18	86.52	2.5
P-ROB012	ROB012	ROB011	18.66	18.66	36	84.36	84.34	86.5	0.0002	0.015	36.5	8.8	5.5	1.2	89.34	87.09	86.71	87.19	87.18	2.3
P-ROB013	ROB013	ROB012	--	0.00	36	85.08	84.38	246.7	0.0028	0.015	13.9	30.8	2.5	4.4	90.08	87.23	87.09	87.31	87.19	2.8
P-ROB014	ROB014	ROB013	--	0.00	24	85.08	85.06	20.0	0.0010	0.015	7.3	6.2	2.2	2.0	89.39	87.26	87.23	87.38	87.31	2.1
P-ROB015	ROB015	ROB014	--	0.00	22	85.52	84.99	263.1	0.0020	0.015	7.3	6.9	2.8	2.6	90.57	87.84	87.26	87.96	87.38	2.7
P-ROB016	ROB016	ROB015	14.30	14.30	22	85.61	85.52	92.0	0.0010	0.015	7.3	4.8	2.8	1.8	91.10	88.04	87.84	88.04	87.96	3.1
P-ROB017	ROB017	ROB016	--	0.00	22	85.97	85.69	9.0	0.0310	0.015	-0.1	27.2	-0.1	10.4	90.54	88.04	88.04	88.04	88.04	2.5
P-ROB018	ROB018	ROB017	--	0.00	22	86.07	86.06	11.8	0.0008	0.015	-0.1	4.5	-1.2	1.7	90.82	88.04	88.04	88.04	88.04	2.8
P-ROB019	ROB019	ROB013	--	0.00	30	85.75	85.09	336.2	0.0020	0.015	6.6	15.7	1.9	3.2	91.28	87.39	87.23	87.51	87.31	3.9
P-ROB020	ROB020	ROB019	44.86	44.86	30	86.63	85.68	348.6	0.0027	0.015	6.6	18.6	2.9	3.8	92.49	87.81	87.39	88.00	87.51	4.7
P-ROB021	ROB021	ROB020	--	0.00	22	87.31	86.99	318.0	0.0010	0.015	6.0	4.9	2.9	1.9	93.14	88.72	87.81	88.86	88.00	4.4
P-ROB022	ROB022	ROB021	11.56	11.56	22	87.61	87.32	92.2	0.0031	0.015	6.0	8.7	3.0	3.3	93.03	88.89	88.72	88.89	88.86	4.1
P-ROB023	ROB023	ROB123	--	0.00	18	82.09	82.06	31.8	0.0009	0.015	2.5	2.8	3.0	1.6	85.99	82.82	82.66	83.16	82.79	3.2
P-ROB024	ROB024	ROB023	--	0.00	18	82.51	82.47	82.0	0.0005	0.015	2.5	2.0	2.5	1.1	86.15	83.35	82.82	83.56	83.16	2.8
P-ROB025	ROB025	ROB024	4.76	4.76	18	83.61	82.85	256.1	0.0030	0.015	2.5	5.0	2.8	2.8	86.88	84.39	83.35	84.39	83.56	2.5
P-ROB026	ROB026	ROB126	--	0.00	16	81.33	81.31	16.4	0.0012	0.015	-0.3	2.3	-0.8	1.7	84.68	81.71	81.70	81.71	81.71	3.0
P-ROB027	ROB027	ROB026	--	0.00	16	81.42	81.40	20.6	0.0010	0.015	-0.2	2.1	-1.3	1.5	85.42	81.71	81.71	81.71	81.71	3.7
P-ROB028	ROB028	ROB027	--	0.00	12	81.82	81.42	242.4	0.0017	0.015	0.0	1.3	0.0	1.6	86.57	81.82	81.71	81.82	81.71	4.8
P-ROB029	ROB029	ROB028	--	0.00	12	82.72	81.98	242.3	0.0031	0.015	0.0	1.7	0.0	2.2	87.95	82.72	81.82	82.72	81.82	5.2

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, NOLTE
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ROB031	ROB031	ROB030	1.08	1.08	30	80.81	80.79	21.3	0.0009	0.015	19.6	10.9	5.8	2.2	84.91	82.46	82.29	83.68	82.81	2.5
P-ROB032	ROB032	ROB031	11.20	11.20	24	81.93	81.68	79.5	0.0031	0.015	17.3	11.0	5.7	3.5	85.46	83.83	82.46	84.06	83.68	1.6
P-ROB033	ROB033	ROB032	23.30	23.30	24	83.00	81.89	315.0	0.0035	0.015	11.7	11.6	3.9	3.7	87.01	84.81	83.83	84.81	84.06	2.2
P-ROB034	ROB034	ROB031	2.90	2.90	18	82.63	81.10	361.0	0.0042	0.015	1.8	5.9	2.4	3.4	87.58	83.22	82.46	83.38	83.68	4.4
P-ROB035	ROB035	ROB034	5.98	5.98	12	85.42	82.51	241.3	0.0121	0.015	0.9	3.4	3.3	4.3	90.72	85.78	83.22	85.78	83.38	4.9
P-UN1002	UN1002	UN1101	4.68	4.68	16	78.30	77.84	53.3	0.0086	0.015	2.4	6.1	4.2	4.4	82.48	78.88	78.22	78.88	78.69	3.6
P-UN1004	UN1004	UN1003	0.34	0.34	36	79.16	78.40	22.6	0.0337	0.015	13.2	106.1	4.6	15.0	83.59	80.79	80.60	80.86	80.92	2.8
P-UN1005	UN1005	UN1004	6.40	6.40	30	79.78	79.66	122.1	0.0010	0.028	10.3	6.0	2.9	1.2	84.54	81.57	80.79	81.65	80.86	3.0
P-UN1006	UN1006	UN1005	21.71	21.71	30	80.07	79.84	103.1	0.0022	0.015	7.5	16.8	2.3	3.4	83.83	81.64	81.57	81.64	81.65	2.2
P-UN1008	UN1008	UN1003	--	0.00	16	80.28	79.68	35.4	0.0169	0.015	2.9	8.6	4.4	6.2	83.87	80.89	80.60	81.94	80.92	3.0
P-UN1009	UN1009	UN1309	--	0.00	12	82.64	82.28	161.6	0.0022	0.015	1.8	1.5	2.4	1.9	84.82	83.65	83.08	83.76	83.17	1.2
P-UN1010	UN1010	UN1009	3.52	3.52	12	83.58	82.85	226.7	0.0032	0.015	1.8	1.8	2.6	2.2	85.79	84.43	83.65	84.43	83.76	1.4
P-UN1011	UN1011	UN1010	--	0.00	12	83.91	83.62	42.6	0.0068	0.015	0.0	2.5	-0.1	3.2	85.87	84.43	84.43	84.43	84.43	1.4
P-UN1012	UN1012	UN1011	--	0.00	12	84.56	84.01	77.9	0.0071	0.015	0.0	2.6	0.0	3.3	86.23	84.56	84.43	84.56	84.43	1.7
P-UN1014	UN1014	UN1003	3.73	3.73	36	79.42	78.56	126.1	0.0068	0.015	15.0	47.7	4.5	6.8	84.49	80.79	80.60	81.25	80.92	3.7
P-UN1015	UN1015	UN1014	2.87	2.87	30	83.96	79.42	623.4	0.0073	0.015	1.2	30.3	1.9	6.2	86.83	84.31	80.79	84.40	81.25	2.5
P-UN1016	UN1016	UN1014	36.09	36.09	30	80.79	79.42	188.2	0.0073	0.015	11.5	30.3	5.4	6.2	84.26	81.88	80.79	81.88	81.25	2.4
P-UN1101	UN1101	UN1001	0.54	0.54	16	77.74	77.14	18.3	0.0328	0.015	2.7	12.0	5.5	8.6	82.13	78.22	77.90	78.69	78.38	3.9
P-UN1109	UN1109	UN1008	0.54	0.54	12	81.55	80.93	74.9	0.0083	0.015	2.9	2.8	4.2	3.6	83.49	82.39	80.89	82.59	81.94	1.1
P-UN1115	UN1115	UN1015	3.37	3.37	30	85.96	83.96	273.7	0.0073	0.015	0.7	30.4	2.5	6.2	88.90	86.23	84.31	86.23	84.40	2.7
P-UN1209	UN1209	UN1109	--	0.00	12	81.91	81.55	61.4	0.0059	0.015	2.6	2.4	3.6	3.0	84.18	82.81	82.39	83.04	82.59	1.4
P-UN1309	UN1309	UN1209	1.58	1.58	12	82.28	81.91	39.2	0.0094	0.015	2.6	3.0	3.9	3.8	84.50	83.08	82.81	83.17	83.04	1.4
P-UN2003	UN2003	UN2002	19.93	19.93	48	69.78	69.73	47.0	0.0011	0.015	-28.2	40.6	-2.8	3.2	77.20	72.93	72.70	73.06	72.82	4.3
P-UN2004	UN2004	UN2003	--	0.00	42	70.66	69.78	249.9	0.0035	0.015	-25.2	51.7	-2.9	5.4	77.65	72.80	72.93	72.80	73.06	4.9
P-UN2005	UN2005	UN2004	12.15	12.15	42	71.39	70.29	520.6	0.0021	0.015	-13.9	40.1	-2.1	4.2	82.32	72.97	72.80	73.06	72.80	9.4
P-UN2006	UN2006	UN2005	--	0.00	42	72.01	71.46	259.8	0.0021	0.015	8.2	40.1	2.7	4.2	80.65	73.22	72.97	73.36	73.06	7.4
P-UN2007	UN2007	UN2006	--	0.00	36	72.02	71.88	25.6	0.0055	0.015	8.2	42.8	3.0	6.1	79.68	73.23	73.22	73.35	73.36	6.5
P-UN2008	UN2008	UN2007	3.63	3.63	36	72.02	71.98	71.0	0.0006	0.015	8.2	13.7	2.8	1.9	80.30	73.34	73.23	73.49	73.35	7.0
P-UN2009	UN2009	UN2008	9.33	9.33	36	72.43	72.18	50.2	0.0050	0.015	6.4	40.8	3.2	5.8	79.39	73.39	73.34	74.27	73.49	6.0
P-UN2010	UN2010	UN2009	6.54	6.54	36	73.70	73.54	20.0	0.0080	0.015	2.9	51.7	4.0	7.3	76.70	74.18	73.39	74.18	74.27	2.5
P-UN2013	UN2013	UN2012	11.49	11.49	34	80.94	78.37	266.1	0.0097	0.015	21.6	48.6	4.5	7.7	85.81	82.89	82.50	83.04	82.82	2.9
P-UN2014	UN2014	UN2013	1.67	1.67	28	81.02	80.94	147.7	0.0005	0.015	12.5	6.9	3.1	1.6	86.93	83.14	82.89	83.25	83.04	3.8
P-UN2015	UN2015	UN2014	36.38	36.38	28	81.20	81.02	308.5	0.0006	0.015	11.6	7.1	2.7	1.7	85.40	83.61	83.14	83.61	83.25	1.8
P-UN2016	UN2016	UN2013	--	0.00	16	81.19	80.94	25.8	0.0097	0.015	-3.7	6.5	-3.0	4.7	85.40	82.93	82.89	82.97	83.04	2.5
P-UN2017	UN2017	UN2016	4.23	4.23	16	81.59	81.34	106.1	0.0024	0.015	2.4	3.2	1.7	2.3	85.14	83.06	82.93	83.09	82.97	2.1
P-UN2018	UN2018	UN2017	3.70	3.70	16	83.30	81.56	429.2	0.0041	0.015	0.5	4.2	1.4	3.0	88.54	83.62	83.06	83.62	83.09	4.9
P-UN3002	UN3002	UN3001	0.43	0.43	16	72.39	71.93	516.3	0.0009	0.015	0.2	2.0	0.9	1.4	75.67	72.72	72.11	72.72	72.12	3.0
P-UN3003	UN3003	UN3002	--	0.00	16	72.62	72.39	250.3	0.0009	0.015	0.0	2.0	-0.1	1.4	74.41	72.72	72.72	72.72	72.72	1.7
P-UN3006	UN3006	UN3005	2.23	2.23	18	71.68	71.43	246.4	0.0010	0.015	7.3	2.9	4.1	1.6	76.53	74.85	73.30	75.04	73.56	1.7
P-UN3007	UN3007	UN3006	--	0.00	18	73.62	71.68	335.8	0.0058	0.015	6.2	6.9	3.5	3.9	78.20	76.38	74.85	76.68	75.04	1.8
P-UN3008	UN3008	UN3007	--	0.00	16	73.78	73.62	28.3	0.0057	0.015	6.2	5.0	4.4	3.6	79.01	76.62	76.38	76.92	76.68	2.4
P-UN3009	UN3009	UN3008	3.29	3.29	16	73.99	73.78	36.0	0.0058	0.015	6.2	5.0	4.4	3.6	80.86	76.93	76.62	77.16	76.92	3.9
P-UN3010	UN3010	UN3009	--	0.00	15	74.64	73.99	162.3	0.0040	0.015	4.8	3.5	3.9	2.9	80.61	78.09	76.93	78.32	77.16	2.5
P-UN3011	UN3011	UN3010	--	0.00	15	75.33	74.64	48.9	0.0141	0.015	4.8	6.6	4.6	5.4	81.24	78.44	78.09	78.67	78.32	2.8
P-UN3012	UN3012	UN3011	--	0.00	15	76.70	75.33	210.7	0.0065	0.015	4.8	4.5	4.1	3.7	83.98	79.94	78.44	80.17	78.67	4.0
P-UN3013	UN3013	UN3012	--	0.00	15	78.04	76.70	119.9	0.0112	0.015	4.8	5.9	5.0	4.8	85.36	80.80	79.94	81.03	80.17	4.6
P-UN3014	UN3014	UN3013	9.19	9.19	15	81.12	78.16	267.2	0.0111	0.015	4.8	5.9	5.3	4.8	87.28	82.73	80.80	82.73	81.03	4.5
P-UN3015	UN3015	UN3DB02	--	0.00	24	71.51	71.30	100.0	0.0021	0.015	-20.5	9.0	-6.6	2.9	77.96	75.52	75.40	75.61	76.08	2.4
P-UN3016	UN3016	UN3116	5.09	5.09	18	77.14	73.98	194.2	0.0163	0.028	6.8	6.2	3.8	3.5	81.21	79.30	75.57	79.47	75.80	1.9
P-UN3017	UN3017	UN3016	--	0.00	16	77.27	77.10	24.3	0.0070	0.015	4.6	5.5	3.3	4.0	80.79	79.42	79.30	79.59	79.47	1.4
P-UN3018	UN3018	UN3017	--	0.00	16	78.19	77.38	121.8	0.0067	0.015	4.6	5.4	4.0	3.9	83.05	80.01	79.42	80.18	79.59	3.0
P-UN3019	UN3019	UN3018	4.62	4.62	16	78.19	78.17	126.7	0.0002	0.015	4.6	0.8	3.3	0.6	84.74	80.63	80.01	80.67	80.18	4.1
P-UN3020	UN3020	UN3019	4.28	4.28	16	79.48	78.17	220.1	0.0060	0.015	2.2	5.1	2.7	3.7	84.24	80.87	80.63	80.87	80.67	3.4
P-UN3028	UN3028	UN3034	--	0.00	16	78.01	77.56	31.3	0.0144	0.015	4.9	7.9	6.0	5.7	80.22	78.76	77.28	79.44	79.89	1.5
P-UN3029	UN3029	UN3028	--	0.00	16	80.05	78.02	105.9	0.0192	0.015	4.9	9.1	6.6	6.6	82.92	80.74	78.76	81.40	79.44	2.2
P-UN3030	UN3030	UN3029	--	0.00	16	81.85	80.10	132.3	0.0132	0.015	4.9	7.6	5.8	5.5	84.26	82.62	80.74	83.09	81.40	1.6
P-UN3031	UN3031	UN3030	9.35	9.35	16	82.38	81.95	92.5	0.0047	0.015	4.9	4.5	4.1	3.2	85.20	83.47	82.62	83.47	83.09	1.7
P-UN3033	UN3D002	UN3027	--	0.00	60	76.33	75.82	153.9	0.0033	0.015	290.0	129.9	9.1	6.6	85.00	80.16	79.27	81.34	80.55	4.8
P-UN3035	UN3035	UN3034	1.73	1.73	16	79.86	79.51	346.8	0.0010	0.028	0.9	1.1	1.0	0.8	86.89	80.70	77.28	80.70	79.89	6.2
P-UN3037	UN3037	UN3034	16.24	16.24	18	79.38	76.33	166.9	0.0183	0.015	8.2	12.3	7.4	7.0	83.15	80.28	77.28	80.28	79.89	2.9
P-UN3038	UN3D001	UN3D002	--	0.00	60	76.59	76.33	77.9	0.0033	0.015	290.0	130.4	8.7	6.6	85.00	80.55	80.16	81.60	81.34	4.5
P-UN3039	UN3039	UN3038	0.93	0.93	12	76.62	76.58	37.2	0.0011	0.015	0.5	1.0	0.6	1.3	83.60	77.95	77.94	77.95	78.85	5.7
P-UN3040	UN3040	UN3038	20.33	20.33	18	81.16	76.58	167.7	0.0273	0.015	7.2	15.0	7.7	8.5	83.33	81.89	77.94	81.89	78.85	1.4

PROJECT: 8618 - North Watt Specific Plan
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Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN3042	UN3042	UN3D001	--	0.00	60	77.56	76.59	291.1	0.0033	0.015	289.9	130.3	8.2	6.6	85.16	81.79	80.55	82.80	81.60	3.4
P-UN3043	UN3043	UN3042	549.90	549.90	60	77.96	77.56	121.0	0.0033	0.015	289.9	129.8	8.1	6.6	83.92	82.27	81.79	82.27	82.80	1.6
P-UN3116	UN3116	UN3015	--	0.00	24	73.94	71.51	21.7	0.1119	0.028	6.8	35.1	2.4	11.2	78.84	75.57	75.52	75.80	75.61	3.3
P-UN4002	UN4002	UN4001	2.45	2.45	60	83.96	83.34	129.4	0.0048	0.015	121.7	156.2	8.8	8.0	88.96	87.27	86.64	89.62	87.85	1.7
P-UN4003	UN4003	UN4002A	3.00	3.00	24	85.38	85.27	112.3	0.0010	0.015	10.2	6.1	3.7	2.0	89.92	87.06	86.73	87.40	86.91	2.9
P-UN4004	UN4004	UN4003	--	0.00	24	86.46	86.12	176.1	0.0019	0.015	8.8	8.6	3.8	2.7	89.30	87.88	87.06	88.07	87.40	1.4
P-UN4005	UN4005	UN4004	5.08	5.08	24	86.76	86.44	164.5	0.0019	0.015	8.8	8.6	3.4	2.8	89.59	88.29	87.88	88.38	88.07	1.3
P-UN4006	UN4006	UN4005	--	0.00	24	86.84	86.77	31.0	0.0023	0.028	6.3	5.0	2.4	1.6	90.54	88.42	88.29	88.51	88.38	2.1
P-UN4007	UN4007	UN4006	--	0.00	24	87.36	86.84	145.1	0.0036	0.028	6.3	6.3	2.3	2.0	90.24	88.97	88.42	89.17	88.51	1.3
P-UN4008	UN4008	UN4007	8.69	8.69	18	87.71	87.36	97.7	0.0036	0.028	6.3	2.9	3.5	1.7	91.38	90.58	88.97	90.60	89.17	0.8
P-UN4009	UN4009	UN4008	0.63	0.63	18	88.61	87.71	252.3	0.0036	0.028	1.9	2.9	1.1	1.6	93.79	90.95	90.58	90.98	90.60	2.8
P-UN4010	UN4010	UN4009	2.98	2.98	15	89.76	88.58	387.3	0.0030	0.028	1.6	1.7	1.4	1.3	99.52	91.98	90.95	91.98	90.98	7.5
P-UN4011	UN4011	UN4002	173.87	173.87	42	86.32	84.92	139.9	0.0100	0.015	93.3	87.2	10.5	9.1	90.99	89.38	87.27	89.38	89.62	1.6
P-UN4012	UN4012	UN4011	--	0.00	24	86.55	86.32	251.3	0.0009	0.015	-0.9	5.9	-0.8	1.9	91.69	89.38	89.38	89.38	89.38	2.3
P-UN4013	UN4013	UN4012	2.49	2.49	24	86.76	86.49	257.2	0.0010	0.015	0.7	6.4	-0.4	2.0	91.52	89.38	89.38	89.38	89.38	2.1
P-UN4014	UN4014	UN4002	--	0.00	36	86.13	86.02	108.1	0.0010	0.028	17.9	9.9	3.5	1.4	90.11	88.23	87.27	88.36	89.62	1.9
P-UN4015	UN4015	UN4014	34.70	34.70	36	86.41	86.10	214.3	0.0014	0.028	17.9	11.8	2.8	1.7	89.81	89.00	88.23	89.06	88.36	0.8
P-UN4016	UN4016	UN4015	--	0.00	24	86.45	86.37	26.1	0.0031	0.015	6.2	10.9	2.0	3.5	89.20	89.03	89.00	89.09	89.06	0.2
P-UN4017	UN4017	UN4016	13.93	13.93	24	87.20	86.41	12.6	0.0628	0.015	6.2	49.1	4.1	15.6	89.15	89.02	89.03	89.02	89.09	0.1
P-UN4020	UN4020	UN4DB01	32.19	32.19	30	83.50	83.00	700.0	0.0007	0.015	16.1	9.5	3.3	1.9	88.00	89.64	86.70	89.64	86.87	-1.6
P-UN5002	UN5002	UN5001	13.84	13.84	36	89.71	88.50	237.6	0.0051	0.028	29.4	22.1	4.1	3.1	96.50	94.14	92.08	94.30	92.29	2.4
P-UN5003	UN5003	UN5002	--	0.00	36	89.84	89.71	126.6	0.0010	0.015	22.7	18.5	3.2	2.6	96.14	94.34	94.14	94.50	94.30	1.8
P-UN5004	UN5004	UN5003	--	0.00	36	90.39	89.97	127.0	0.0033	0.015	22.7	33.2	3.2	4.7	96.49	94.53	94.34	94.68	94.50	2.0
P-UN5005	UN5005	UN5004	--	0.00	36	91.25	90.59	112.9	0.0058	0.015	22.7	44.2	3.4	6.3	97.53	94.71	94.53	94.87	94.68	2.8
P-UN5006	UN5006	UN5005	--	0.00	36	91.22	91.18	299.6	0.0001	0.015	22.7	6.7	3.2	0.9	98.42	95.16	94.71	95.34	94.87	3.3
P-UN5007	UN5007	UN5006	0.35	0.35	36	92.42	91.22	26.1	0.0459	0.015	22.7	123.9	6.3	17.5	97.29	95.15	95.16	95.30	95.34	2.1
P-UN5008	UN5008	UN5007	0.94	0.94	36	93.09	92.42	197.3	0.0034	0.028	22.5	18.0	3.6	2.6	98.19	96.16	95.15	96.33	95.30	2.0
P-UN5009	UN5009	UN5008	56.99	56.99	36	93.88	93.04	83.7	0.0100	0.028	22.0	31.0	3.9	4.4	98.53	96.54	96.16	96.54	96.33	2.0
P-UN5011	UN5011	UN5010	--	0.00	28	91.04	90.84	10.4	0.0193	0.028	14.9	21.9	7.2	5.1	95.75	92.41	92.33	98.59	92.51	3.3
P-UN5012	UN5012	UN5011	1.34	1.34	28	91.22	91.22	3.9	0.0000	0.028	14.9	0.5	-20.7	0.1	95.12	92.69	92.41	92.95	98.59	2.4
P-UN5013	UN5013	UN5012	43.09	43.09	28	91.76	91.22	75.4	0.0072	0.028	14.1	13.4	4.1	3.1	95.15	93.56	92.69	93.56	92.95	1.6
P-UN5014	UN5014	UN5013	--	0.00	22	92.68	91.77	363.2	0.0025	0.015	-0.3	7.7	-0.2	2.9	95.74	93.56	93.56	93.56	93.56	2.2
P-UN5015	UN5015	UN5014	--	0.00	20	92.96	92.79	171.0	0.0010	0.015	-0.2	3.8	-0.5	1.7	97.20	93.56	93.56	93.56	93.56	3.6

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, MITIGATION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Link894	ARC033	ARC_DB_01	1.63	73.48	60	56.69	56.00	100.0	0.0069	0.015	88.1	187.5	6.5	9.5	61.39	60.45	60.38	61.13	60.84	0.9
Link895	ARC049	ARC_DB_01	--	16.91	48	55.48	55.00	100.0	0.0048	0.015	62.4	86.3	4.9	6.9	60.70	60.52	60.38	60.79	60.84	0.2
Link898	UN1003	UN1DB01	--	0.00	72	78.40	78.00	100.0	0.0040	0.015	135.9	232.1	8.7	8.2	83.51	82.07	82.05	82.83	82.44	1.4
Link902	UN3034	UN3DB01	--	11.19	72	75.82	75.00	75.0	0.0109	0.015	117.5	383.8	6.1	13.6	87.00	81.58	81.58	83.96	81.63	5.4
Link904	UN3038	UN3034	11.19	11.19	24	76.58	76.33	75.0	0.0033	0.015	47.4	11.3	14.8	3.6	87.67	84.60	81.58	84.60	83.96	3.1
Link905	ROB123	ROB_DB01	4.16	4.16	48	80.79	80.00	100.0	0.0079	0.015	89.0	110.7	9.8	8.8	85.31	83.51	81.83	84.78	84.21	1.8
Link907	UN4002A	UN4DB01	--	0.00	42	83.96	83.00	75.0	0.0128	0.015	56.0	98.7	5.8	10.3	88.96	88.99	88.97	89.02	90.45	0.0
Link913	MAG039	MAGDB01	2.79	2.79	24	80.50	74.00	75.0	0.0867	0.015	9.3	57.7	9.9	18.4	83.18	81.04	77.72	81.04	83.77	2.1
Link914	MAG339	MAGDB01	30.58	30.58	42	81.55	74.00	75.0	0.1007	0.014	71.2	296.4	21.1	30.8	80.55	82.72	77.72	82.72	83.77	-2.2
Link915	MAG239	MAGDB01	1.96	1.96	18	80.24	74.00	75.0	0.0832	0.015	6.6	26.3	10.0	14.9	80.24	80.75	77.72	80.75	83.77	-0.5
Link916	MAG139	MAGDB01	7.81	7.81	30	77.50	74.00	75.0	0.0467	0.015	9.6	76.8	6.8	15.6	78.00	78.16	77.72	78.16	83.77	-0.2
Link920	UN5016	UN5DB01	14.90	14.90	36	88.50	88.00	100.0	0.0050	0.015	44.1	40.9	6.1	5.8	92.00	93.49	93.49	93.49	93.60	-1.5
Link921	UN2011	UN2_DB01	14.71	14.71	36	81.25	81.00	100.0	0.0025	0.015	47.3	28.9	8.1	4.1	82.50	83.67	83.51	83.67	83.78	-1.2
Link937	UN3005A	UN3014B	--	0.00	18	81.25	81.12	50.0	0.0026	0.015	3.0	4.6	3.0	2.6	87.28	82.65	82.63	82.77	82.65	4.6
Link941	UN1017	UN1018	--	0.00	36	77.00	76.00	75.0	0.0133	0.015	51.6	66.7	9.1	9.4	82.00	79.84	79.63	80.79	80.09	2.2
P_UN3050	UN3050	UN3051	--	0.00	48	74.00	73.00	50.0	0.0200	0.015	51.7	176.1	4.1	14.0	85.00	81.49	81.43	81.53	81.64	3.5
P-ARC002	ARC002	ARC001	--	315.11	84	57.19	54.61	266.6	0.0097	0.015	371.8	544.7	11.4	14.2	66.62	62.60	61.61	64.03	63.63	4.0
P-ARC004	ARC004	ARC002	--	315.11	84	57.19	56.79	400.1	0.0010	0.015	371.8	175.1	9.6	4.5	69.11	64.48	62.60	65.81	64.03	4.6
P-ARC008	ARC008	ARC004	9.16	315.11	84	57.52	57.30	272.4	0.0008	0.015	371.7	157.3	9.3	4.1	75.22	65.65	64.48	66.60	65.81	9.6
P-ARC009	ARC009	ARC008	--	249.78	84	58.56	57.73	281.8	0.0029	0.015	315.4	300.5	7.8	7.8	72.15	66.48	65.65	67.43	66.60	5.7
P-ARC011	ARC011	ARC009	11.23	249.78	84	59.42	58.56	257.9	0.0033	0.015	315.3	319.7	7.8	8.3	67.71	67.24	66.48	69.04	67.43	0.5
P-ARC012	ARC012	ARC011	4.64	238.55	72	61.31	59.47	369.3	0.0050	0.015	304.9	259.1	10.8	9.2	71.90	69.78	67.24	71.53	69.04	2.1
P-ARC013	ARC013	ARC012	2.43	233.91	72	63.25	61.36	426.6	0.0044	0.015	301.6	244.3	10.6	8.6	75.56	72.65	69.78	74.38	71.53	2.9
P-ARC014	ARC014	ARC013	4.46	231.48	72	64.42	63.16	379.3	0.0033	0.015	300.0	211.5	10.6	7.5	80.44	75.16	72.65	80.45	74.38	5.3
P-ARC015	ARC015	ARC014	3.75	227.02	54	64.62	64.25	44.5	0.0083	0.015	296.7	155.4	18.5	9.8	78.24	76.49	75.16	78.05	80.45	1.8
P-ARC016	ARC016	ARC015	220.56	223.26	54	70.00	64.62	132.0	0.0408	0.015	262.5	344.0	18.2	21.6	78.50	77.46	76.49	77.64	78.05	1.0
P-ARC017	ARC017	ARC016	1.56	2.70	10	76.67	70.00	218.1	0.0306	0.015	3.6	3.3	6.6	6.1	79.50	79.79	77.46	79.97	77.64	-0.3
P-ARC018	ARC018	ARC017	1.14	1.14	10	82.98	77.25	568.2	0.0101	0.015	1.9	1.9	3.7	3.5	85.05	85.27	79.79	85.27	79.97	-0.2
P-ARC019	ARC019	ARC008	--	56.17	54	61.67	57.67	406.8	0.0098	0.015	56.3	169.0	6.5	10.6	73.35	65.96	65.65	66.18	66.60	7.4
P-ARC020	ARC020	ARC019	--	56.17	54	62.60	61.70	105.3	0.0086	0.015	54.7	157.6	8.2	9.9	74.19	65.98	65.96	67.54	66.18	8.2
P-ARC021	ARC021	ARC020	5.82	56.17	30	65.09	62.60	289.7	0.0086	0.015	54.9	33.0	11.2	6.7	70.31	71.56	65.98	72.86	67.54	-1.2
P-ARC022	ARC022	ARC021	--	50.35	30	65.09	65.07	29.5	0.0007	0.015	50.2	9.3	10.1	1.9	70.98	72.03	71.56	73.40	72.86	-1.0
P-ARC023	ARC023	ARC022	--	50.35	30	65.54	65.21	17.5	0.0189	0.015	49.3	48.9	10.0	10.0	70.33	72.31	72.03	73.71	73.40	-2.0
P-ARC024	ARC024	ARC023	--	50.35	30	65.66	65.62	9.2	0.0043	0.015	49.2	23.4	9.9	4.8	71.18	72.47	72.31	72.70	73.71	-1.3
P-ARC025	ARC025	ARC024	9.82	50.35	36	65.91	65.51	174.7	0.0023	0.015	43.6	27.7	6.1	3.9	70.36	72.85	72.47	73.95	72.70	-2.5
P-ARC026	ARC026	ARC025	--	40.52	36	66.06	65.96	21.3	0.0047	0.015	-70.9	39.6	-10.0	5.6	71.18	72.99	72.85	73.05	73.95	-1.8
P-ARC027	ARC027	ARC026	6.27	40.52	36	66.53	66.12	323.0	0.0013	0.015	36.8	20.6	5.2	2.9	72.62	73.16	72.99	73.77	73.05	-0.5
P-ARC028	ARC028	ARC027	10.65	34.26	30	67.89	66.67	380.1	0.0032	0.015	33.0	20.1	6.6	4.1	74.34	76.10	73.16	76.10	73.77	-1.8
P-ARC029	ARC029	ARC028	--	23.61	24	68.42	67.79	136.4	0.0046	0.015	22.0	13.3	6.9	4.2	74.39	76.10	76.10	76.50	76.10	-1.7
P-ARC030	ARC030	ARC029	6.24	23.61	24	69.78	68.45	287.3	0.0046	0.015	21.1	13.3	6.6	4.2	77.71	78.24	76.10	78.27	76.50	-0.5
P-ARC031	ARC031	ARC030	--	17.37	24	70.70	69.74	255.7	0.0038	0.015	16.0	12.0	5.0	3.8	77.34	78.39	78.24	79.43	78.27	-1.0
P-ARC032	ARC032	ARC031	17.37	17.37	24	70.84	70.70	135.9	0.0010	0.015	27.7	6.3	8.6	2.0	80.37	80.77	78.39	80.77	79.43	-0.4
P-ARC034	ARC034	ARC033	1.23	71.85	48	57.15	56.69	338.1	0.0014	0.015	86.5	45.9	6.7	3.7	62.78	61.94	60.45	62.61	61.13	0.8
P-ARC035	ARC035	ARC034	--	70.61	48	57.32	57.18	54.8	0.0026	0.015	85.2	62.9	6.6	5.0	63.21	62.17	61.94	62.88	62.61	1.0
P-ARC036	ARC036	ARC035	0.90	70.61	48	58.34	57.32	399.9	0.0026	0.015	85.3	62.9	6.7	5.0	64.66	64.02	62.17	64.72	62.88	0.6
P-ARC037	ARC037	ARC036	7.73	69.71	48	59.08	58.31	398.8	0.0019	0.015	84.3	54.7	6.7	4.4	66.53	65.84	64.02	67.17	64.72	0.7
P-ARC038	ARC038	ARC037	5.37	61.98	36	60.66	59.11	456.9	0.0034	0.015	59.6	33.7	8.4	4.8	68.18	68.80	65.84	69.10	67.17	-0.6
P-ARC039	ARC039	ARC038	2.00	56.61	36	62.02	60.91	504.6	0.0022	0.015	49.3	27.1	6.9	3.8	69.54	70.27	68.80	70.39	69.10	-0.7
P-ARC040	ARC040	ARC039	0.80	25.05	36	63.66	62.38	440.3	0.0029	0.015	24.4	31.2	3.9	4.4	69.66	70.34	70.27	70.41	70.39	-0.7
P-ARC041	ARC041	ARC040	7.49	24.26	36	64.72	63.70	425.0	0.0024	0.015	18.0	28.3	3.9	4.0	70.52	70.64	70.34	70.69	70.41	-0.1
P-ARC042	ARC042	ARC041	1.51	16.77	18	66.25	64.57	480.2	0.0035	0.015	9.6	5.4	5.3	3.0	72.41	72.14	70.64	72.41	70.69	0.3
P-ARC043	ARC043	ARC042	--	15.25	18	68.26	66.44	80.6	0.0226	0.015	9.1	13.7	6.5	7.7	72.41	72.43	72.14	72.58	72.41	0.0
P-ARC044	ARC044	ARC043	15.25	15.25	18	69.20	68.51	52.0	0.0133	0.015	9.1	10.5	6.4	5.9	75.14	72.65	72.43	72.65	72.58	2.5
P-ARC045	ARC045	ARC039	--	29.55	24	64.25	63.52	238.3	0.0031	0.015	23.4	10.9	7.4	3.5	69.79	70.77	70.27	70.85	70.39	-1.0
P-ARC046	ARC046	ARC045	12.09	29.55	24	65.02	64.31	236.4	0.0030	0.015	20.0	10.7	6.3	3.4	69.90	71.01	70.77	71.19	70.85	-1.1
P-ARC047	ARC047	ARC046	--	17.46	24	65.93	64.95	354.5	0.0028	0.015	11.8	10.3	3.7	3.3	71.43	72.06	71.01	72.14	71.19	-0.6
P-ARC048	ARC048	ARC047	17.46	17.46	24	66.74	65.96	321.5	0.0024	0.015	11.1	9.7	3.5	3.1	71.58	72.49	72.06	72.49	72.14	-0.9
P-ARC050	ARC050	ARC049	--	16.91	42	56.23	55.67	150.7	0.0037	0.015	62.9	53.2	6.3	5.5	60.48	60.86	60.52	61.34	60.79	-0.4
P-ARC051	ARC051	ARC050	5.52	16.91	42	56.41	56.13	129.4	0.0022	0.015	63.1	40.6	6.5	4.2	61.51	61.34	60.86	61.97	61.34	0.2
P-ARC052	ARC052	ARC051	1.50	11.39	36	57.21	56.46	299.0	0.0025	0.015	46.5	29.0	6.5	4.1	62.93	63.18	61.34	63.57	61.97	-0.2
P-ARC056	ARC056	ARC052	5.77	9.89	36	59.61	57.33	600.5	0.0038	0.015	38.8	35.6	5.5	5.0	65.02	65.46	63.18	65.99	63.57	-0.4
P-ARC057	ARC057	ARC056	4.12	4.12	30	60.05	59.62	175.5	0.0024	0.015	30.8	17.6	6.2	3.6	66.25	66.63	65.46	67.11	65.99	-0.4
P-ARC058	ARC058	ARC057	--	0.00	30	61.50	60.07	357.1	0.0040	0.015	28.0	22.5	5.6	4.6	69.55	68.98	66.63	69.63	67.11	0.6

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, MITIGATION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ARC059	ARC059	ARC058	8.18	8.18	30	63.58	61.50	715.8	0.0029	0.015	28.0	19.2	5.6	3.9	73.03	73.12	68.98	73.12	69.63	-0.1
P-MAG002	MAG002	MAG001	6.96	6.96	54	69.58	69.44	304.2	0.0005	0.015	116.5	36.6	7.1	2.3	76.28	75.65	75.61	76.52	75.65	0.6
P-MAG003	MAG003	MAG002	5.07	5.07	54	69.98	69.68	647.2	0.0005	0.015	64.8	36.7	4.0	2.3	78.49	76.15	75.65	76.44	76.52	2.3
P-MAG004	MAG004	MAG003	12.25	12.25	48	70.28	69.92	537.3	0.0007	0.015	58.7	32.2	4.6	2.6	76.21	77.20	76.15	77.56	76.44	-1.0
P-MAG005	MAG005	MAG004	--	0.00	24	70.56	70.30	289.2	0.0009	0.015	6.0	5.9	1.9	1.9	77.47	77.26	77.20	77.27	77.56	0.2
P-MAG006	MAG006	MAG005	2.48	2.48	24	70.59	70.56	224.1	0.0001	0.015	6.0	2.3	1.9	0.7	78.84	77.38	77.26	77.38	77.27	1.5
P-MAG008	MAG008	MAG002	3.50	3.50	27	70.25	69.89	171.0	0.0021	0.015	31.3	12.3	7.8	3.1	77.27	77.50	75.65	77.88	76.52	-0.2
P-MAG009	MAG009	MAG008	--	0.00	27	70.97	70.31	296.4	0.0022	0.015	21.9	12.7	5.4	3.2	78.77	79.12	77.50	79.32	77.88	-0.4
P-MAG010	MAG010	MAG009	6.68	6.68	21	72.10	71.22	299.1	0.0029	0.015	15.0	7.4	6.1	3.1	79.38	79.98	79.12	80.20	79.32	-0.6
P-MAG011	MAG011	MAG010	6.86	6.86	18	73.56	72.06	373.7	0.0040	0.015	7.2	5.8	4.0	3.3	81.61	82.02	79.98	82.02	80.20	-0.4
P-MAG012	MAG012	MAG004	--	0.00	42	72.23	70.44	372.6	0.0048	0.015	47.7	60.4	4.9	6.3	78.61	78.27	77.20	78.71	77.56	0.3
P-MAG013	MAG013	MAG012	--	0.00	36	70.44	70.34	183.0	0.0005	0.015	41.3	13.5	5.8	1.9	76.21	79.05	78.27	79.20	78.71	-2.8
P-MAG014	MAG014	MAG013	1.77	1.77	36	70.75	70.44	274.5	0.0011	0.015	45.7	19.4	6.4	2.7	78.92	79.44	79.05	80.70	79.20	-0.5
P-MAG015	MAG015	MAG014	6.80	6.80	24	75.66	75.59	11.5	0.0061	0.015	32.0	15.3	10.1	4.9	79.19	79.60	79.44	79.76	80.70	-0.4
P-MAG016	MAG016	MAG014	2.76	2.76	24	71.18	70.71	388.8	0.0012	0.015	11.9	6.8	3.7	2.2	79.97	80.33	79.44	80.45	80.70	-0.4
P-MAG017	MAG017	MAG016	--	0.00	24	71.24	71.18	56.0	0.0011	0.015	9.0	6.4	2.8	2.0	79.89	80.44	80.33	80.50	80.45	-0.6
P-MAG018	MAG018	MAG015	12.85	12.85	24	76.83	75.70	457.0	0.0025	0.015	14.7	9.8	4.7	3.1	80.28	80.87	79.60	80.93	79.76	-0.6
P-MAG019	MAG019	MAG018	--	0.00	24	76.95	76.92	26.3	0.0011	0.015	9.5	6.6	3.0	2.1	79.95	80.90	80.87	80.90	80.93	-0.9
P-MAG020	MAG020	MAG017	4.03	4.03	24	73.04	71.37	469.8	0.0036	0.015	6.8	11.7	2.1	3.7	80.56	80.92	80.44	80.92	80.50	-0.4
P-MAG021	MAG021	MAG019	3.25	3.25	24	77.51	76.83	508.2	0.0013	0.015	4.2	7.2	1.5	2.3	80.30	80.92	80.90	80.92	80.90	-0.6
P-MAG023	MAG023	MAG001	7.56	7.56	18	72.70	69.40	394.1	0.0084	0.015	7.6	8.3	4.3	4.7	75.69	76.25	75.61	76.25	75.65	-0.6
P-MAG024	MAG024	MAG023	--	0.00	10	72.82	72.70	122.0	0.0010	0.015	2.3	0.6	4.2	1.1	75.23	76.26	76.25	76.41	76.25	-1.0
P-MAG025	MAG125	MAG025	--	0.00	12	76.58	75.98	313.6	0.0019	0.015	2.1	1.4	2.6	1.7	80.49	80.98	79.57	81.01	79.67	-0.5
P-MAG026	MAG026	MAG125	9.03	9.03	10	76.88	76.58	157.9	0.0019	0.028	1.5	0.4	2.6	0.8	80.59	81.22	80.98	81.22	81.01	-0.6
P-MAG028	MAG028	MAG027	--	0.00	48	73.76	70.88	513.8	0.0056	0.015	37.2	93.2	5.3	7.4	80.66	77.25	76.99	77.90	77.18	3.4
P-MAG029	MAG029	MAG128	3.36	3.36	27	76.03	74.38	294.8	0.0056	0.015	35.1	20.1	8.7	5.1	83.43	82.49	78.12	82.97	79.03	0.9
P-MAG030	MAG030	MAG029	4.40	4.40	27	76.47	76.05	266.6	0.0016	0.015	28.1	10.7	7.0	2.7	83.25	84.28	82.49	84.31	82.97	-1.0
P-MAG031	MAG031	MAG030	--	0.00	24	76.88	76.50	127.1	0.0030	0.015	23.6	10.7	7.4	3.4	83.12	84.29	84.28	84.30	84.31	-1.2
P-MAG032	MAG032	MAG031	3.62	3.62	24	77.24	76.81	216.3	0.0020	0.015	20.1	8.7	6.3	2.8	82.52	84.30	84.29	84.30	84.30	-1.8
P-MAG033	MAG033	MAG032	43.81	43.81	15	78.64	78.63	125.3	0.0001	0.015	9.1	0.5	7.3	0.4	82.25	84.30	84.30	84.30	84.30	-2.0
P-MAG034	MAG034	MAG033	1.62	1.62	10	79.76	79.23	222.0	0.0024	0.015	1.0	0.9	1.8	1.7	82.66	84.30	84.30	84.30	84.30	-1.6
P-MAG035	MAG035	MAG034	0.72	0.72	10	80.65	80.19	146.0	0.0032	0.015	1.4	1.1	2.5	1.9	83.69	84.30	84.30	84.30	84.30	-0.6
P-MAG036	MAG036	MAG035	--	0.00	10	81.83	80.73	139.9	0.0079	0.015	0.9	1.7	2.1	3.1	83.99	84.34	84.30	84.74	84.30	-0.3
P-MAG037	MAG037	MAG036	--	0.00	12	81.97	81.86	31.7	0.0035	0.015	4.1	1.8	5.1	2.3	83.58	84.88	84.34	85.28	84.74	-1.3
P-MAG038	MAG038	MAG037	1.57	1.57	12	82.12	82.05	49.4	0.0014	0.015	4.1	1.2	5.1	1.5	84.16	85.71	84.88	85.71	85.28	-1.6
P-MAG040	MAG040	MAG039A	--	0.00	24	81.74	80.56	128.8	0.0092	0.015	18.5	18.8	6.3	6.0	84.33	83.50	82.49	85.18	83.10	0.8
P-MAG041	MAG041	MAG040	8.12	8.12	18	82.31	81.77	109.7	0.0049	0.015	13.4	6.4	7.5	3.6	84.82	85.79	83.50	85.79	85.18	-1.0
P-MAG043	MAG043	MAGDB02	8.29	8.29	30	72.50	72.00	100.0	0.0050	0.015	22.0	25.1	4.5	5.1	76.00	76.33	76.33	76.33	76.33	-0.3
P-MAG044	MAG044	MAG027	--	0.00	36	72.00	70.88	75.0	0.0149	0.015	7.9	70.6	1.7	10.0	76.00	76.33	76.99	76.33	77.18	-0.3
P-MAG128	MAG128	MAG028	6.97	6.97	30	74.38	73.76	109.1	0.0057	0.015	37.6	26.8	7.6	5.5	81.69	78.12	77.25	79.03	77.90	3.6
P-MAG139	MAG139A	MAG027	--	0.00	36	74.85	73.60	100.0	0.0125	0.015	29.7	64.6	7.4	9.1	75.00	76.99	76.99	77.23	77.18	-2.0
P-MAG225	MAG025	MAG024	1.30	1.30	10	75.76	72.82	431.7	0.0068	0.015	1.9	1.6	3.5	2.9	79.12	79.57	76.26	79.67	76.41	-0.4
P-ROB002	ROB002	ROB001	--	0.00	48	81.28	81.24	41.6	0.0010	0.015	104.3	38.6	9.2	3.1	88.13	84.68	84.30	85.69	85.66	3.4
P-ROB003	ROB003	ROB002	--	0.00	48	81.81	81.40	245.0	0.0017	0.015	104.3	50.9	8.1	4.1	88.04	86.35	84.68	87.40	85.69	1.7
P-ROB004	ROB004	ROB003	8.98	8.98	48	82.14	81.84	342.3	0.0009	0.015	104.3	36.9	8.2	2.9	89.01	88.72	86.35	89.59	87.40	0.3
P-ROB005	ROB005	ROB004	--	0.00	48	82.34	82.21	105.5	0.0012	0.015	96.9	43.7	7.7	3.5	87.91	89.32	88.72	89.48	89.59	-1.4
P-ROB006	ROB006	ROB005	--	0.00	48	82.42	82.34	63.8	0.0013	0.015	86.5	44.1	6.9	3.5	88.25	89.34	89.32	90.00	89.48	-1.1
P-ROB007	ROB007	ROB006	--	0.00	48	82.51	82.42	76.9	0.0012	0.015	83.9	42.6	6.7	3.4	87.32	89.67	89.34	89.67	90.00	-2.3
P-ROB008	ROB008	ROB007	--	0.00	36	83.23	82.54	68.0	0.0101	0.015	62.8	58.2	8.9	8.2	86.88	89.66	89.67	89.67	89.67	-2.8
P-ROB009	ROB009	ROB008	--	0.00	36	83.62	83.10	104.9	0.0050	0.015	53.6	40.7	7.5	5.8	87.42	89.66	89.66	95.82	89.67	-2.2
P-ROB010	ROB010	ROB009	--	0.00	36	83.63	83.62	6.5	0.0015	0.015	153.1	22.6	21.6	3.2	88.87	89.60	89.66	89.98	95.82	-0.7
P-ROB011	ROB011	ROB010	--	0.00	36	84.26	83.98	138.5	0.0020	0.015	62.5	26.0	8.8	3.7	89.19	90.19	89.60	90.61	89.98	-1.0
P-ROB012	ROB012	ROB011	18.66	18.66	36	84.36	84.34	86.5	0.0002	0.015	54.1	8.8	7.6	1.2	89.34	90.54	90.19	90.58	90.61	-1.2
P-ROB013	ROB013	ROB012	--	0.00	36	85.08	84.38	246.7	0.0028	0.015	23.4	30.8	3.4	4.4	90.08	90.66	90.54	90.91	90.58	-0.6
P-ROB014	ROB014	ROB013	--	0.00	24	85.08	85.06	20.0	0.0010	0.015	15.8	6.2	5.0	2.0	89.39	90.70	90.66	90.85	90.91	-1.3
P-ROB015	ROB015	ROB014	--	0.00	22	85.52	84.99	263.1	0.0020	0.015	15.8	6.9	5.9	2.6	90.57	91.49	90.70	91.68	90.85	-0.9
P-ROB016	ROB016	ROB015	14.30	14.30	22	85.61	85.52	92.0	0.0010	0.015	15.7	4.8	5.9	1.8	91.10	91.83	91.49	92.08	91.68	-0.7
P-ROB017	ROB017	ROB016	--	0.00	22	85.97	85.69	9.0	0.0310	0.015	-16.9	27.2	-6.3	10.4	90.54	91.83	91.83	91.83	92.08	-1.3
P-ROB018	ROB018	ROB017	--	0.00	22	86.07	86.06	11.8	0.0008	0.015	1.8	4.5	0.7	1.7	90.82	91.83	91.83	91.83	91.83	-1.0
P-ROB019	ROB019	ROB013	--	0.00	30	85.75	85.09	336.2	0.0020	0.015	19.9	15.7	4.0	3.2	91.28	91.68	90.66	91.96	90.91	-0.4
P-ROB020	ROB020	ROB019	44.86	44.86	30	86.63	85.68	348.6	0.0027	0.015	21.3	18.6	4.3	3.8	92.49	92.88	91.68	93.02	91.96	-0.4
P-ROB021	ROB021	ROB020	--	0.00	22	87.31	86.99	318.0	0.0010	0.015	11.8	4.9	4.4	1.9	93.14	93.70	92.88	93.79	93.02	-0.6
P-ROB022	ROB022	ROB021	11.56	11.56	22	87.61	87.32	92.2	0.0031	0.015	11.1	8.7	4.2	3.3	93.03	93.85	93.70	93.87	93.79	-0.8

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, MITIGATION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ROB023	ROB023	ROB123	--	0.00	18	82.09	82.06	31.8	0.0009	0.015	6.0	2.8	4.2	1.6	85.99	83.54	83.51	83.62	84.78	2.5
P-ROB024	ROB024	ROB023	--	0.00	18	82.51	82.47	82.0	0.0005	0.015	6.0	2.0	3.7	1.1	86.15	83.87	83.54	84.06	83.62	2.3
P-ROB025	ROB025	ROB024	4.76	4.76	18	83.61	82.85	256.1	0.0030	0.015	6.0	5.0	3.5	2.8	86.88	85.12	83.87	85.12	84.06	1.8
P-ROB026	ROB026	ROB123	--	0.00	16	81.33	81.31	16.4	0.0012	0.015	-0.7	2.3	-0.5	1.7	84.68	83.51	83.51	83.51	84.78	1.2
P-ROB027	ROB027	ROB026	--	0.00	16	81.42	81.40	20.6	0.0010	0.015	-0.7	2.1	-0.5	1.5	85.42	83.51	83.51	83.51	83.51	1.9
P-ROB028	ROB028	ROB027	--	0.00	12	81.82	81.42	242.4	0.0017	0.015	-0.6	1.3	-0.8	1.6	86.57	83.55	83.51	83.55	83.51	3.0
P-ROB029	ROB029	ROB028	--	0.00	12	82.72	81.98	242.3	0.0031	0.015	-0.4	1.7	-0.5	2.2	87.95	83.59	83.55	83.59	83.55	4.4
P-ROB031	ROB031	ROB123	1.08	1.08	42	80.81	80.79	21.3	0.0009	0.015	76.5	26.7	9.1	2.8	84.91	83.70	83.51	85.08	84.78	1.2
P-ROB032	ROB032	ROB031	11.20	11.20	42	81.93	81.68	79.5	0.0031	0.015	62.5	48.9	7.7	5.1	85.46	84.70	83.70	85.70	85.08	0.8
P-ROB033	ROB033	ROB032	23.30	23.30	36	83.00	81.89	315.0	0.0035	0.015	53.3	34.3	7.5	4.9	87.01	87.25	84.70	87.25	85.70	-0.2
P-ROB034	ROB034	ROB031	2.90	2.90	24	82.63	81.10	361.0	0.0042	0.015	12.2	12.8	3.8	4.1	87.58	85.06	83.70	87.79	85.08	2.5
P-ROB035	ROB035	ROB034	5.98	5.98	12	85.42	82.51	241.3	0.0121	0.015	5.1	3.4	6.4	4.3	90.72	90.87	85.06	90.87	87.79	-0.1
P-ROB050	ROB050	P-ROB051	--	0.00	48	77.00	76.00	75.0	0.0133	0.015	21.6	143.8	4.8	11.4	85.00	79.41	78.86	81.52	79.00	5.6
P-UN1002	UN1002	UN1101	4.68	4.68	16	78.30	77.84	53.3	0.0086	0.015	11.5	6.1	8.3	4.4	82.48	80.67	78.94	80.67	80.15	1.8
P-UN1004	UN1004	UN1003	0.34	0.34	42	79.16	78.40	22.6	0.0337	0.015	49.6	160.1	7.3	16.6	83.59	82.05	82.07	83.86	82.83	1.5
P-UN1005	UN1005	UN1004	6.40	6.40	36	79.78	79.66	122.1	0.0010	0.028	47.6	9.7	6.8	1.4	84.54	84.78	82.05	85.04	83.86	-0.2
P-UN1006	UN1006	UN1005	21.71	21.71	30	80.07	79.84	103.1	0.0022	0.015	32.9	16.8	6.7	3.4	83.83	85.05	84.78	85.05	85.04	-1.2
P-UN1008	UN1008	UN1003	--	0.00	24	80.28	79.68	35.4	0.0169	0.015	15.3	25.5	6.9	8.1	83.87	82.07	82.07	82.98	82.83	1.8
P-UN1009	UN1009	UN1309	--	0.00	12	82.64	82.28	161.6	0.0022	0.015	2.8	1.5	3.5	1.9	84.82	85.29	84.90	85.38	84.96	-0.5
P-UN1010	UN1010	UN1009	3.52	3.52	12	83.58	82.85	226.7	0.0032	0.015	2.5	1.8	3.1	2.2	85.79	86.20	85.29	86.20	85.38	-0.4
P-UN1011	UN1011	UN1010	--	0.00	12	83.91	83.62	42.6	0.0068	0.015	-0.6	2.5	-0.7	3.2	85.87	86.20	86.20	86.20	86.20	-0.3
P-UN1012	UN1012	UN1011	--	0.00	12	84.56	84.01	77.9	0.0071	0.015	-0.4	2.6	0.7	3.3	86.23	86.20	86.20	86.20	86.20	0.0
P-UN1014	UN1014	UN1003	3.73	3.73	42	79.42	78.56	126.1	0.0068	0.015	78.1	72.0	8.6	7.5	84.49	82.59	82.07	83.81	82.83	1.9
P-UN1015	UN1015	UN1014	2.87	2.87	30	83.96	79.42	623.4	0.0073	0.015	8.1	30.3	4.3	6.2	86.83	84.84	82.59	85.13	83.81	2.0
P-UN1016	UN1016	UN1014	36.09	36.09	30	80.79	79.42	188.2	0.0073	0.015	45.0	30.3	9.1	6.2	84.26	85.43	82.59	85.48	83.81	-1.2
P-UN1101	UN1101	UN1001	0.54	0.54	16	77.74	77.14	18.3	0.0328	0.015	12.7	12.0	9.8	8.6	82.13	78.94	78.34	80.15	79.79	3.2
P-UN1109	UN1109	UN1008	0.54	0.54	24	81.55	80.93	74.9	0.0083	0.015	15.3	17.8	6.4	5.7	83.49	82.97	82.07	83.97	82.98	0.5
P-UN1115	UN1115	UN1015	3.37	3.37	30	85.96	83.96	273.7	0.0073	0.015	4.9	30.4	4.4	6.2	88.90	86.64	84.84	86.64	85.13	2.3
P-UN1209	UN1209	UN1109	--	0.00	12	81.91	81.55	61.4	0.0059	0.015	5.6	2.4	7.1	3.0	84.18	84.54	82.97	84.77	83.97	-0.4
P-UN1309	UN1309	UN1209	1.58	1.58	12	82.28	81.91	39.2	0.0094	0.015	4.6	3.0	5.8	3.8	84.50	84.90	84.54	84.96	84.77	-0.4
P-UN2003	UN2003	UN2002	19.93	19.93	48	69.78	69.73	47.0	0.0011	0.015	40.2	40.6	6.1	3.2	77.20	71.88	71.62	72.22	72.20	5.3
P-UN2004	UN2004	UN2003	--	0.00	42	70.66	69.78	249.9	0.0035	0.015	24.6	51.7	4.9	5.4	77.65	72.46	71.88	72.73	72.22	5.2
P-UN2005	UN2005	UN2004	12.15	12.15	42	71.39	70.29	520.6	0.0021	0.015	24.4	40.1	4.2	4.2	82.32	73.42	72.46	73.45	72.73	8.9
P-UN2006	UN2006	UN2005	--	0.00	42	72.01	71.46	259.8	0.0021	0.015	10.9	40.1	3.3	4.2	80.65	73.49	73.42	73.55	73.45	7.2
P-UN2007	UN2007	UN2006	--	0.00	36	72.02	71.88	25.6	0.0055	0.015	10.8	42.8	3.6	6.1	79.68	73.50	73.49	74.53	73.55	6.2
P-UN2008	UN2008	UN2DB02	3.63	3.63	36	73.17	73.00	71.0	0.0024	0.015	41.5	28.3	6.4	4.0	80.30	76.51	76.48	76.54	76.52	3.8
P-UN2009	UN2009	UN2008	9.33	9.33	36	73.43	73.17	50.2	0.0052	0.015	33.3	41.6	5.2	5.9	79.39	76.52	76.51	76.52	76.54	2.9
P-UN2010	UN2010	UN2009	6.54	6.54	36	73.70	73.43	20.0	0.0135	0.015	15.0	67.2	2.7	9.5	76.70	76.52	76.52	76.52	76.52	0.2
P-UN2013	UN2013	UN2012	11.49	11.49	34	80.94	78.37	266.1	0.0097	0.015	55.2	48.8	8.7	7.7	85.81	86.00	82.74	86.65	83.92	-0.2
P-UN2014	UN2014	UN2013	1.67	1.67	28	81.02	80.94	147.7	0.0005	0.015	37.4	6.9	8.7	1.6	86.93	87.31	86.00	87.56	86.65	-0.4
P-UN2015	UN2015	UN2014	36.38	36.38	28	81.20	81.02	308.5	0.0006	0.015	27.1	7.1	6.3	1.7	85.40	88.35	87.31	88.35	87.56	-3.0
P-UN2016	UN2016	UN2013	--	0.00	16	81.19	80.94	25.8	0.0097	0.015	8.3	6.5	5.8	4.7	85.40	86.21	86.00	86.21	86.65	-0.8
P-UN2017	UN2017	UN2016	4.23	4.23	16	81.59	81.34	106.1	0.0024	0.015	6.9	3.2	4.9	2.3	85.14	86.21	86.21	86.24	86.21	-1.1
P-UN2018	UN2018	UN2017	3.70	3.70	16	83.30	81.56	429.2	0.0041	0.015	3.6	4.2	2.6	3.0	88.54	87.33	86.21	87.33	86.24	1.2
P-UN2021	UN2021	UN2012	--	0.00	48	81.00	80.00	75.0	0.0133	0.015	33.0	143.8	6.4	11.4	85.00	83.26	82.74	83.51	83.92	1.7
P-UN2DB02	Node820	UN2007	--	0.00	15	73.00	71.98	75.0	0.0136	0.015	10.8	6.5	8.7	5.3	80.00	76.09	73.50	76.23	74.53	3.9
P-UN3002	UN3002	UN3001	0.43	0.43	16	72.39	71.93	516.3	0.0009	0.015	1.2	2.0	1.6	1.4	75.67	73.14	72.35	73.14	72.39	2.5
P-UN3003	UN3003	UN3002	--	0.00	16	72.62	72.39	250.3	0.0009	0.015	-0.2	2.0	-0.3	1.4	74.41	73.15	73.14	73.15	73.14	1.3
P-UN3005	UN3014	UN3DB03	9.19	9.19	30	81.68	81.25	75.0	0.0057	0.015	28.4	26.9	8.1	5.5	87.28	83.42	83.03	83.42	83.46	3.9
P-UN3006	UN3006	UN3005	2.23	2.23	16	71.68	71.43	246.4	0.0010	0.015	8.4	2.1	6.0	1.5	76.53	76.88	74.21	77.05	75.40	-0.3
P-UN3007	UN3007	UN3006	--	0.00	16	73.62	71.68	335.8	0.0058	0.015	5.1	5.0	3.6	3.6	78.20	78.53	76.88	79.17	77.05	-0.3
P-UN3008	UN3008	UN3007	--	0.00	16	73.78	73.62	28.3	0.0057	0.015	9.1	5.0	6.4	3.6	79.01	79.05	78.53	79.69	79.17	0.0
P-UN3009	UN3009	UN3008	3.29	3.29	16	73.99	73.78	36.0	0.0058	0.015	9.1	5.0	6.4	3.6	80.86	79.71	79.05	79.79	79.69	1.2
P-UN3010	UN3010	UN3009	--	0.00	12	75.02	73.99	162.3	0.0063	0.015	3.0	2.5	3.8	3.1	80.61	80.26	79.71	80.34	79.79	0.4
P-UN3011	UN3011	UN3010	--	0.00	12	75.38	75.02	48.9	0.0074	0.015	3.0	2.6	3.8	3.4	81.24	80.43	80.26	80.51	80.34	0.8
P-UN3012	UN3012	UN3011	--	0.00	12	76.70	75.33	210.7	0.0065	0.015	3.0	2.5	3.8	3.2	83.98	81.15	80.43	81.23	80.51	2.8
P-UN3013	UN3013	UN3012	--	0.00	12	78.04	76.70	119.9	0.0112	0.015	3.0	3.3	4.4	4.2	85.36	81.57	81.15	81.66	81.23	3.8
P-UN3014	UN3014B	UN3013	--	0.00	12	81.12	78.16	267.2	0.0111	0.015	3.0	3.3	4.6	4.1	87.28	82.63	81.57	82.65	81.66	4.7
P-UN3015	UN3015	UN3DB02	--	0.00	30	71.51	71.30	100.0	0.0021	0.015	33.5	16.3	6.7	3.3	77.96	74.18	73.37	75.76	73.97	3.8
P-UN3016	UN3016	UN3116	5.09	5.09	30	77.14	76.69	194.2	0.0023	0.028	23.5	9.2	4.9	1.9	81.21	81.58	75.46	81.66	79.34	-0.4
P-UN3017	UN3017	UN3016	--	0.00	30	77.27	77.10	24.3	0.0070	0.015	15.3	29.7	3.1	6.1	80.79	81.61	81.58	82.22	81.66	-0.8
P-UN3018	UN3018	UN3017	--	0.00	24	78.19	77.38	121.8	0.0067	0.015	19.9	16.0	6.3	5.1	83.05	82.84	81.61	83.45	82.22	0.2
P-UN3019	UN3019	UN3018	4.62	4.62	24	78.19	78.17	126.7	0.0002	0.015	19.9	2.5	6.3	0.8	84.74	84.13	82.84	84.24	83.45	0.6

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, MITIGATION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN3020	UN3020	UN3019	4.28	4.28	24	79.48	78.17	220.1	0.0060	0.015	10.8	15.1	3.4	4.8	84.24	84.58	84.13	84.58	84.24	-0.3
P-UN3028	UN3028	UN3034	--	0.00	24	78.01	77.56	31.3	0.0144	0.015	25.1	23.5	7.8	7.5	80.22	81.58	81.58	81.98	83.96	-1.4
P-UN3029	UN3029	UN3028	--	0.00	18	80.05	78.02	105.9	0.0192	0.015	16.9	12.6	9.5	7.1	82.92	83.25	81.58	83.64	81.98	-0.3
P-UN3030	UN3030	UN3029	--	0.00	16	81.85	80.10	132.3	0.0132	0.015	10.4	7.6	7.4	5.5	84.26	84.71	83.25	85.07	83.64	-0.5
P-UN3031	UN3031	UN3030	9.35	9.35	16	82.38	81.95	92.5	0.0047	0.015	9.4	4.5	6.7	3.2	85.20	85.66	84.71	85.66	85.07	-0.5
P-UN3033	UN3D002	UN3027	--	0.00	60	76.33	75.82	153.9	0.0033	0.015	699.7	129.9	17.8	6.6	85.00	84.39	80.74	88.49	85.64	0.6
P-UN3035	UN3035	UN3034	1.73	1.73	18	79.86	79.51	346.8	0.0010	0.028	5.5	1.5	3.2	0.9	86.89	85.62	81.58	85.62	83.96	1.3
P-UN3037	UN3037	UN3034	16.24	16.24	12	79.38	76.33	166.9	0.0183	0.015	5.6	4.2	6.9	5.3	83.15	83.97	81.58	83.97	83.96	-0.8
P-UN3038	UN3D001	UN3D002	--	0.00	60	76.59	76.33	77.9	0.0033	0.015	645.5	130.4	16.4	6.6	85.00	85.94	84.39	88.31	88.49	-0.9
P-UN3039	UN3039	UN3038	0.93	0.93	12	76.62	76.58	37.2	0.0011	0.015	3.2	1.0	3.9	1.3	83.60	84.60	84.60	84.60	84.60	-1.0
P-UN3040	UN3040	UN3038	20.33	20.33	10	81.16	76.58	167.7	0.0273	0.015	3.6	3.1	6.5	5.7	83.33	84.61	84.60	84.61	84.60	-1.3
P-UN3042	UN3042	UN3D001	--	0.00	60	77.56	76.59	291.1	0.0033	0.015	504.2	130.3	12.8	6.6	88.16	89.31	85.94	91.18	88.31	-1.2
P-UN3043	UN3043	UN3042	549.90	549.90	60	77.96	77.56	121.0	0.0033	0.015	494.7	129.8	12.5	6.6	89.92	90.41	89.31	90.41	91.18	-0.5
P-UN3047	UN3047	UN3048	--	0.00	48	71.00	70.00	50.0	0.0200	0.015	-13.9	176.1	3.7	14.0	79.00	76.19	76.19	76.19	76.19	2.8
P-UN3116	UN3116	UN3015	--	0.00	30	73.94	71.51	21.7	0.1119	0.028	33.5	63.7	10.2	13.0	78.84	75.46	74.18	79.34	75.76	3.4
P-UN4002	UN4002	UN4001	2.45	2.45	60	83.96	83.34	129.4	0.0048	0.015	186.8	156.2	9.1	8.0	88.96	89.68	88.90	91.30	90.14	-0.7
P-UN4003	UN4003	UN4002A	3.00	3.00	42	84.24	83.96	112.3	0.0025	0.015	50.6	43.5	5.2	4.5	89.92	89.01	88.99	89.27	89.02	0.9
P-UN4004	UN4004	UN4003	--	0.00	42	86.46	84.24	176.1	0.0126	0.015	44.0	97.9	6.7	10.2	89.30	89.01	89.01	89.38	89.27	0.3
P-UN4005	UN4005	UN4004	5.08	5.08	42	86.76	86.44	164.5	0.0019	0.015	44.8	38.5	6.0	4.0	89.59	89.42	89.01	89.72	89.38	0.2
P-UN4006	UN4006	UN4005	--	0.00	36	86.84	86.77	31.0	0.0023	0.028	30.3	14.7	4.4	2.1	90.54	89.70	89.42	89.94	89.72	0.8
P-UN4007	UN4007	UN4006	--	0.00	36	87.36	86.84	145.1	0.0036	0.028	29.1	18.5	4.0	2.6	90.24	90.87	89.70	91.09	89.94	-0.6
P-UN4008	UN4008	UN4007	8.69	8.69	30	87.71	87.36	97.7	0.0036	0.028	23.6	11.4	4.8	2.3	91.38	91.81	90.87	91.91	91.09	-0.4
P-UN4009	UN4009	UN4008	0.63	0.63	24	88.61	87.71	252.3	0.0036	0.028	8.9	6.3	2.8	2.0	93.79	93.57	91.81	93.65	91.91	0.2
P-UN4010	UN4010	UN4009	2.98	2.98	24	89.76	88.58	387.3	0.0030	0.028	7.4	5.8	2.3	1.8	99.52	95.43	93.57	95.43	93.65	4.1
P-UN4011	UN4011	UN4002	173.87	173.87	36	86.32	84.92	139.9	0.0100	0.015	88.4	57.8	12.4	8.2	90.99	91.86	89.68	91.86	91.30	-0.9
P-UN4012	UN4012	UN4011	--	0.00	24	86.55	86.32	251.3	0.0009	0.015	4.7	5.9	1.5	1.9	91.69	91.87	91.86	91.87	91.86	-0.2
P-UN4013	UN4013	UN4012	2.49	2.49	24	86.76	86.49	257.2	0.0010	0.015	4.7	6.4	1.5	2.0	91.52	91.88	91.87	91.88	91.87	-0.4
P-UN4014	UN4014	UN4002	--	0.00	28	86.13	86.02	108.1	0.0010	0.028	27.6	5.0	6.5	1.2	90.11	91.22	89.68	91.22	91.30	-1.1
P-UN4015	UN4015	UN4014	34.70	34.70	28	86.41	86.10	214.3	0.0014	0.028	14.5	6.0	3.4	1.4	89.81	91.23	91.22	91.23	91.22	-1.4
P-UN4016	UN4016	UN4015	--	0.00	20	86.45	86.37	26.1	0.0031	0.015	9.2	6.7	4.2	3.1	89.20	91.23	91.23	91.23	91.23	-2.0
P-UN4017	UN4017	UN4016	13.93	13.93	6	87.20	86.41	12.6	0.0628	0.015	1.7	1.2	8.7	6.2	89.15	91.23	91.23	91.23	91.23	-2.1
P-UN4020	UN4020	UN4DB01	32.19	32.19	36	83.50	83.00	100.0	0.0050	0.015	92.5	40.9	13.0	5.8	88.00	90.37	88.97	90.37	90.45	-2.4
P-UN4025	UN4025	UN4026	--	0.00	48	82.00	82.00	75.0	0.0000	0.015	53.6	3.9	4.3	0.3	88.00	88.91	88.90	88.91	88.97	-0.9
P-UN5001	UN5001	UN5DB01	--	0.00	60	88.50	88.00	75.0	0.0067	0.015	105.0	184.3	6.4	9.4	91.50	93.51	93.49	93.70	93.60	-2.0
P-UN5002	UN5002	UN5001	13.84	13.84	54	89.71	88.50	237.6	0.0051	0.028	105.4	65.2	6.6	4.1	96.50	95.77	93.51	96.56	93.70	0.7
P-UN5003	UN5003	UN5002	--	0.00	48	89.84	89.71	126.6	0.0010	0.015	90.2	41.3	7.2	3.3	96.14	96.38	95.77	97.05	96.56	-0.2
P-UN5004	UN5004	UN5003	--	0.00	48	90.39	89.97	127.0	0.0033	0.015	86.2	71.6	6.8	5.7	96.49	96.93	96.38	97.99	97.05	-0.4
P-UN5005	UN5005	UN5004	--	0.00	36	91.25	90.59	112.9	0.0058	0.015	75.4	44.2	10.6	6.3	97.53	98.08	96.93	98.47	97.99	-0.5
P-UN5006	UN5006	UN5005	--	0.00	36	91.22	91.18	299.6	0.0001	0.015	56.4	6.7	7.9	0.9	98.42	99.22	98.08	99.57	98.47	-0.8
P-UN5007	UN5007	UN5006	0.35	0.35	36	92.42	91.22	26.1	0.0459	0.015	54.1	123.9	7.6	17.5	97.29	99.23	99.22	99.28	99.57	-1.9
P-UN5008	UN5008	UN5007	0.94	0.94	36	93.09	92.42	197.3	0.0034	0.028	39.7	18.0	5.6	2.6	98.19	99.23	99.23	99.35	99.28	-1.0
P-UN5009	UN5009	UN5008	56.99	56.99	36	93.88	93.04	83.7	0.0100	0.028	35.3	31.0	5.0	4.4	98.53	99.39	99.23	99.39	99.35	-0.9
P-UN5011	UN5011	UN5010	--	0.00	28	91.04	90.84	10.4	0.0193	0.028	36.3	21.9	8.5	5.1	95.75	93.42	92.89	94.50	94.01	2.3
P-UN5012	UN5012	UN5011	1.34	1.34	28	91.22	91.22	3.9	0.0000	0.028	36.3	0.5	8.3	0.1	95.12	93.68	93.42	94.74	94.50	1.4
P-UN5013	UN5013	UN5012	43.09	43.09	28	91.76	91.22	75.4	0.0072	0.028	35.6	13.4	8.3	3.1	95.15	97.44	93.68	97.44	94.74	-2.3
P-UN5014	UN5014	UN5013	--	0.00	22	92.68	91.77	363.2	0.0025	0.015	5.2	7.7	2.3	2.9	95.74	97.44	97.44	97.44	97.44	-1.7
P-UN5015	UN5015	UN5014	--	0.00	20	92.96	92.79	171.0	0.0010	0.015	5.2	3.8	2.4	1.7	97.20	97.44	97.44	97.44	97.44	-0.2
P-UN5017	UN5017	UN501OF	--	0.00	48	88.00	87.00	75.0	0.0133	0.015	52.1	143.8	8.7	11.4	93.00	90.16	90.21	92.18	90.86	2.8

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, SYSTEM CORRECTION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Link894	ARC033	ARC_DB_01	1.63	73.48	60	56.69	56.00	100.0	0.0069	0.015	137.4	187.5	10.4	9.5	61.39	60.05	59.94	60.87	60.92	1.3
Link895	ARC049	ARC_DB_01	--	16.91	48	55.48	55.00	100.0	0.0048	0.015	70.9	86.3	6.1	6.9	60.70	59.97	59.94	60.02	60.92	0.7
Link898	UN1003	UN1DB01	--	0.00	72	78.40	78.00	100.0	0.0040	0.015	145.8	232.1	9.7	8.2	83.51	82.04	82.03	82.91	82.52	1.5
Link902	UN3034	UN3DB01	--	11.19	72	75.82	75.00	75.0	0.0109	0.015	120.4	383.8	6.1	13.6	87.00	81.51	81.51	83.49	81.53	5.5
Link904	UN3038	UN3034	11.19	11.19	48	76.58	76.33	75.0	0.0033	0.015	54.9	71.9	4.5	5.7	87.67	81.54	81.51	82.10	83.49	6.1
Link905	ROB123	ROB_DB01	4.16	4.16	48	80.79	80.00	100.0	0.0079	0.015	89.0	110.7	9.8	8.8	85.31	83.51	81.83	84.78	84.21	1.8
Link907	UN4002A	UN4DB01	--	0.00	42	83.96	83.00	75.0	0.0128	0.015	56.0	98.7	5.8	10.3	88.96	88.99	88.97	89.02	90.45	0.0
Link913	MAG039	MAGDB01	2.79	2.79	24	80.50	74.00	75.0	0.0867	0.015	9.3	57.7	9.9	18.4	83.18	81.04	77.72	81.04	83.77	2.1
Link914	MAG339	MAGDB01	30.58	30.58	42	81.55	74.00	75.0	0.1007	0.014	71.2	296.4	21.1	30.8	86.55	82.72	77.72	82.72	83.77	3.8
Link915	MAG239	MAGDB01	1.96	1.96	18	80.24	74.00	75.0	0.0832	0.015	6.6	26.3	10.0	14.9	80.24	80.75	77.72	80.75	83.77	-0.5
Link916	MAG139	MAGDB01	7.81	7.81	30	77.50	74.00	75.0	0.0467	0.015	9.6	76.8	6.8	15.6	78.00	78.16	77.72	78.16	83.77	-0.2
Link920	UN5016	UN5DB01	14.90	14.90	36	88.50	88.00	100.0	0.0050	0.015	44.1	40.9	6.1	5.8	98.00	93.48	93.47	93.48	93.56	4.5
Link921	UN2011	UN2_DB01	14.71	14.71	36	81.25	81.00	100.0	0.0025	0.015	47.3	28.9	8.1	4.1	88.50	83.67	83.58	83.67	83.78	4.8
Link937	UN3005A	UN3014B	--	0.00	18	81.25	81.12	50.0	0.0026	0.015	3.0	4.6	3.0	2.6	87.28	82.55	82.53	82.67	82.56	4.7
Link941	UN1017	UN1018	--	0.00	36	77.00	76.00	75.0	0.0133	0.015	51.3	66.7	9.1	9.4	82.00	79.86	79.63	80.84	80.13	2.1
P_UN3050	UN3050	UN3051	--	0.00	48	74.00	73.00	50.0	0.0200	0.015	58.6	176.1	4.6	14.0	85.00	81.46	81.43	81.48	81.53	3.5
P-ARC002	ARC002	ARC001	--	258.94	84	57.19	54.61	266.6	0.0097	0.015	305.7	544.7	10.2	14.2	66.62	62.14	61.61	63.27	63.22	4.5
P-ARC004	ARC004	ARC002	--	258.94	84	57.19	56.79	400.1	0.0010	0.015	305.7	175.1	8.5	4.5	69.11	63.47	62.14	64.48	63.27	5.6
P-ARC008	ARC008	ARC004	9.16	258.94	84	57.52	57.30	272.4	0.0008	0.015	305.5	157.3	8.1	4.1	75.22	64.26	63.47	65.44	64.48	11.0
P-ARC009	ARC009	ARC008	--	249.78	84	58.56	57.73	281.8	0.0029	0.015	325.5	300.5	8.7	7.8	72.15	65.12	64.26	66.31	65.44	7.0
P-ARC011	ARC011	ARC009	11.23	249.78	84	59.42	58.56	257.9	0.0033	0.015	325.5	319.7	8.8	8.3	67.71	65.88	65.12	67.63	66.31	1.8
P-ARC012	ARC012	ARC011	4.64	238.55	72	61.31	59.47	369.3	0.0050	0.015	313.6	259.1	10.6	9.2	71.90	68.36	65.88	70.20	67.63	3.5
P-ARC013	ARC013	ARC012	2.43	233.91	72	63.25	61.36	426.6	0.0044	0.015	309.8	244.3	10.9	8.6	75.56	71.36	68.36	73.19	70.20	4.2
P-ARC014	ARC014	ARC013	4.46	231.48	72	64.42	63.16	379.3	0.0033	0.015	308.1	211.5	10.9	7.5	80.44	74.02	71.36	75.80	73.19	6.4
P-ARC015	ARC015	ARC014	3.75	227.02	72	64.62	64.25	44.5	0.0083	0.015	304.4	334.6	10.7	11.8	78.24	74.32	74.02	76.55	75.80	3.9
P-ARC016	ARC016	ARC015	220.56	223.26	72	70.00	64.62	132.0	0.0408	0.015	301.2	740.9	18.2	26.2	78.50	74.92	74.32	75.15	76.55	3.6
P-ARC017	ARC017	ARC016	1.56	2.70	18	76.67	70.00	218.1	0.0306	0.015	9.0	15.9	8.5	9.0	79.50	77.48	74.92	78.31	75.15	2.0
P-ARC018	ARC018	ARC017	1.14	1.14	18	82.98	77.25	568.2	0.0101	0.015	3.8	9.1	4.9	5.2	85.05	83.66	77.48	83.66	78.31	1.4
P-ARC019	ARC019	ARC_DB_02	--	56.17	54	61.67	57.67	406.8	0.0098	0.015	118.0	169.0	9.6	10.6	73.35	64.82	64.37	66.51	64.60	8.5
P-ARC020	ARC020	ARC019	--	56.17	54	62.60	61.70	105.3	0.0086	0.015	119.7	157.6	10.4	9.9	74.19	65.64	64.82	67.47	66.51	8.5
P-ARC021	ARC021	ARC020	5.82	56.17	54	65.09	62.60	289.7	0.0086	0.015	120.2	158.0	10.9	9.9	70.31	68.04	65.64	69.23	67.47	2.3
P-ARC022	ARC022	ARC021	--	50.35	54	65.09	65.07	29.5	0.0007	0.015	104.1	44.4	8.8	2.8	70.98	68.25	68.04	69.73	69.23	2.7
P-ARC023	ARC023	ARC022	--	50.35	54	65.54	65.21	17.5	0.0189	0.015	103.9	234.2	9.8	14.7	70.33	68.37	68.25	69.92	69.73	2.0
P-ARC024	ARC024	ARC023	--	50.35	54	65.66	65.62	9.2	0.0043	0.015	103.7	112.3	9.2	7.1	71.18	68.67	68.37	69.59	69.92	2.5
P-ARC025	ARC025	ARC024	9.82	50.35	54	65.91	65.51	174.7	0.0023	0.015	103.5	81.6	7.7	5.1	70.36	69.54	68.67	70.06	69.59	0.8
P-ARC026	ARC026	ARC025	--	40.52	54	66.06	65.96	21.3	0.0047	0.015	78.4	116.9	6.0	7.3	71.18	69.59	69.54	70.58	70.06	1.6
P-ARC027	ARC027	ARC026	6.27	40.52	42	66.53	66.12	323.0	0.0013	0.015	78.3	31.1	8.1	3.2	72.62	72.28	69.59	72.89	70.58	0.3
P-ARC028	ARC028	ARC027	10.65	34.26	42	67.89	66.67	380.1	0.0032	0.015	64.1	49.4	6.6	5.1	74.34	74.11	72.28	74.63	72.89	0.2
P-ARC029	ARC029	ARC028	--	23.61	42	68.42	67.79	136.4	0.0046	0.015	57.3	59.3	5.9	6.2	74.39	74.67	74.11	75.23	74.63	-0.3
P-ARC030	ARC030	ARC029	6.24	23.61	42	69.78	68.45	287.3	0.0046	0.015	57.8	59.3	6.2	6.2	77.71	75.90	74.67	76.50	75.23	1.8
P-ARC031	ARC031	ARC030	--	17.37	36	70.70	69.74	255.7	0.0038	0.015	44.6	35.4	6.3	5.0	77.34	77.43	75.90	78.67	76.50	-0.1
P-ARC032	ARC032	ARC031	17.37	17.37	30	70.84	70.70	135.9	0.0010	0.015	44.6	11.4	9.0	2.3	80.37	79.50	77.43	79.50	78.67	0.9
P-ARC034	ARC034	ARC033	1.23	71.85	60	57.15	56.69	338.1	0.0014	0.015	135.0	83.3	7.7	4.2	62.78	61.48	60.05	62.32	60.87	1.3
P-ARC035	ARC035	ARC034	--	70.61	60	57.32	57.18	54.8	0.0026	0.015	132.9	114.1	7.3	5.8	63.21	61.66	61.48	62.44	62.32	1.5
P-ARC036	ARC036	ARC035	0.90	70.61	60	58.34	57.32	399.9	0.0026	0.015	133.0	114.0	7.1	5.8	64.66	62.92	61.66	63.60	62.44	1.7
P-ARC037	ARC037	ARC036	7.73	69.71	60	59.08	58.31	398.8	0.0019	0.015	131.3	99.2	6.6	5.1	66.53	64.25	62.92	64.80	63.60	2.3
P-ARC038	ARC038	ARC037	5.37	61.98	60	60.66	59.11	456.9	0.0034	0.015	113.6	131.5	6.4	6.7	68.18	65.29	64.25	65.80	64.80	2.9
P-ARC039	ARC039	ARC038	2.00	56.61	60	62.02	60.91	504.6	0.0022	0.015	103.8	105.9	6.3	5.4	69.54	66.22	65.29	66.73	65.80	3.3
P-ARC040	ARC040	ARC039	0.80	25.05	36	63.66	62.38	440.3	0.0029	0.015	26.5	31.2	4.3	4.4	69.66	67.02	66.22	67.19	66.73	2.6
P-ARC041	ARC041	ARC040	7.49	24.26	36	64.72	63.70	425.0	0.0024	0.015	24.0	28.3	4.2	4.0	70.52	67.71	67.02	67.92	67.19	2.8
P-ARC042	ARC042	ARC041	1.51	16.77	18	66.25	64.57	480.2	0.0035	0.015	9.0	5.4	5.0	3.0	72.41	70.72	67.71	71.07	67.92	1.7
P-ARC043	ARC043	ARC042	--	15.25	18	68.26	66.44	80.6	0.0226	0.015	8.5	13.7	6.4	7.7	72.41	71.40	70.72	71.75	71.07	1.0
P-ARC044	ARC044	ARC043	15.25	15.25	18	69.20	68.51	52.0	0.0133	0.015	8.5	10.5	6.3	5.9	75.14	71.84	71.40	71.84	71.75	3.3
P-ARC045	ARC045	ARC039	--	29.55	48	62.76	62.02	238.3	0.0031	0.015	80.0	69.4	6.4	5.5	69.79	67.01	66.22	67.57	66.73	2.8
P-ARC046	ARC046	ARC045	12.09	29.55	48	63.47	62.76	236.4	0.0030	0.015	80.7	68.2	6.3	5.4	69.90	67.89	67.01	68.36	67.57	2.0
P-ARC047	ARC047	ARC046	--	17.46	42	65.93	64.95	354.5	0.0028	0.015	49.1	45.8	5.9	4.8	71.43	68.90	67.89	69.36	68.36	2.5
P-ARC048	ARC048	ARC047	17.46	17.46	42	66.74	65.96	321.5	0.0024	0.015	50.8	42.9	5.7	4.5	71.58	69.85	68.90	69.85	69.36	1.7
P-ARC050	ARC050	ARC049	--	16.91	48	56.23	55.67	150.7	0.0037	0.015	71.2	75.9	6.5	6.0	60.48	60.00	59.97	60.09	60.02	0.5
P-ARC051	ARC051	ARC050	5.52	16.91	48	56.41	56.13	129.4	0.0022	0.015	71.3	57.9	6.2	4.6	61.51	60.03	60.00	60.35	60.09	1.5
P-ARC052	ARC052	ARC051	1.50	11.39	42	57.21	56.46	299.0	0.0025	0.015	55.1	43.7	5.6	4.5	62.93	60.99	60.03	63.18	60.35	1.9
P-ARC056	ARC056	ARC052	5.77	9.89	36	59.61	57.33	600.5	0.0038	0.015	49.9	35.6	7.0	5.0	65.02	65.29	60.99	65.71	63.18	-0.3
P-ARC057	ARC057	ARC056	4.12	4.12	36	60.05	59.62	175.5	0.0024	0.015	40.8	28.6	5.7	4.0	66.25	66.17	65.29	66.63	65.71	0.1
P-ARC058	ARC058	ARC057	--	0.00	30	61.50	60.07	357.1	0.0040	0.015	27.0	22.5	5.4	4.6	69.55	68.39	66.17	68.86	66.63	1.2

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, SYSTEM CORRECTION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ARC059	ARC059	ARC058	8.18	8.18	30	63.58	61.50	715.8	0.0029	0.015	27.3	19.2	5.5	3.9	73.03	72.48	68.39	72.48	68.86	0.6
P-MAG002	MAG002	MAG001	6.96	6.96	72	69.58	69.44	304.2	0.0005	0.015	164.7	78.7	6.7	2.8	76.28	75.62	75.61	75.63	75.82	0.7
P-MAG003	MAG003	MAG002	5.07	5.07	60	69.98	69.68	647.2	0.0005	0.015	106.1	48.6	5.2	2.5	78.49	76.01	75.62	76.37	75.63	2.5
P-MAG004	MAG004	MAG003	12.25	12.25	60	70.28	69.92	537.3	0.0007	0.015	95.5	58.4	4.8	3.0	76.21	76.94	76.01	77.34	76.37	-0.7
P-MAG005	MAG005	MAG004	--	0.00	24	70.56	70.30	289.2	0.0009	0.015	6.0	5.9	1.9	1.9	77.47	77.17	76.94	77.22	77.34	0.3
P-MAG006	MAG006	MAG005	2.48	2.48	24	70.59	70.56	224.1	0.0001	0.015	6.0	2.3	1.9	0.7	78.84	77.36	77.17	77.36	77.22	1.5
P-MAG008	MAG008	MAG002	3.50	3.50	36	70.25	69.89	171.0	0.0021	0.015	41.7	26.5	5.9	3.8	77.27	75.63	75.62	75.95	75.63	1.6
P-MAG009	MAG009	MAG008	--	0.00	30	70.97	70.31	296.4	0.0022	0.015	30.4	16.8	6.1	3.4	78.77	77.49	75.63	78.90	75.95	1.3
P-MAG010	MAG010	MAG009	6.68	6.68	30	72.10	71.22	299.1	0.0029	0.015	30.5	19.3	6.1	3.9	79.38	79.56	77.49	79.93	78.90	-0.2
P-MAG011	MAG011	MAG010	6.86	6.86	24	73.56	72.06	373.7	0.0040	0.015	15.9	12.4	5.0	4.0	81.61	81.82	79.56	81.82	79.93	-0.2
P-MAG012	MAG012	MAG004	--	0.00	54	70.58	70.28	372.6	0.0008	0.015	87.5	48.4	5.5	3.0	78.61	77.78	76.94	78.23	77.34	0.8
P-MAG013	MAG013	MAG012	--	0.00	54	70.67	70.58	183.0	0.0005	0.015	87.6	37.8	5.5	2.4	78.21	78.23	77.78	78.69	78.23	0.0
P-MAG014	MAG014	MAG013	1.77	1.77	54	70.81	70.67	274.5	0.0005	0.015	87.6	38.5	5.5	2.4	78.92	78.99	78.23	79.63	78.69	-0.1
P-MAG015	MAG015	MAG014	6.80	6.80	42	73.66	73.59	11.5	0.0061	0.015	64.3	68.0	6.9	7.1	79.19	79.05	78.99	79.34	79.63	0.1
P-MAG016	MAG016	MAG014	2.76	2.76	36	71.18	70.71	388.8	0.0012	0.015	19.9	20.1	2.8	2.8	79.97	79.36	78.99	79.39	79.63	0.6
P-MAG017	MAG017	MAG016	--	0.00	36	71.24	71.18	56.0	0.0011	0.015	11.2	18.9	1.6	2.7	79.89	79.38	79.36	79.98	79.39	0.5
P-MAG018	MAG018	MAG015	12.85	12.85	42	74.83	73.70	457.0	0.0025	0.015	46.7	43.4	4.8	4.5	80.28	80.27	79.05	80.32	79.34	0.0
P-MAG019	MAG019	MAG018	--	0.00	36	74.95	74.92	26.3	0.0011	0.015	15.9	19.5	2.2	2.8	79.95	80.29	80.27	80.33	80.32	-0.3
P-MAG020	MAG020	MAG017	4.03	4.03	24	73.04	71.37	469.8	0.0036	0.015	11.1	11.7	3.5	3.7	80.56	80.70	79.38	80.70	79.98	-0.1
P-MAG021	MAG021	MAG019	3.25	3.25	36	75.51	74.83	508.2	0.0013	0.015	11.9	21.1	1.7	3.0	80.30	80.56	80.29	80.56	80.33	-0.3
P-MAG023	MAG023	MAG001	7.56	7.56	30	72.70	69.40	394.1	0.0084	0.015	26.7	32.5	5.3	6.6	75.69	76.04	75.61	76.07	75.82	-0.3
P-MAG024	MAG024	MAG023	--	0.00	24	72.82	72.70	122.0	0.0010	0.015	11.3	6.2	3.6	2.0	75.23	76.11	76.04	76.48	76.07	-0.9
P-MAG025	MAG125	MAG025	--	0.00	18	76.58	75.98	313.6	0.0019	0.015	9.5	4.0	5.3	2.3	80.49	80.88	78.79	80.96	79.52	-0.4
P-MAG026	MAG026	MAG125	9.03	9.03	18	76.88	76.58	157.9	0.0019	0.028	6.1	2.1	3.4	1.2	80.59	81.18	80.88	81.19	80.96	-0.6
P-MAG028	MAG028	MAG027	--	0.00	48	73.76	70.88	513.8	0.0056	0.015	89.2	93.2	6.9	7.4	80.66	78.02	76.99	78.74	77.18	2.6
P-MAG029	MAG029	MAG128	3.36	3.36	48	74.29	73.90	294.8	0.0013	0.015	84.1	45.3	6.6	3.6	83.43	79.87	78.54	80.51	79.23	3.6
P-MAG030	MAG030	MAG029	4.40	4.40	48	74.72	74.29	266.6	0.0016	0.015	81.2	50.0	6.4	4.0	83.25	80.99	79.87	81.52	80.51	2.3
P-MAG031	MAG031	MAG030	--	0.00	48	74.89	74.72	127.1	0.0013	0.015	73.7	45.5	5.8	3.6	83.12	81.43	80.99	81.95	81.52	1.7
P-MAG032	MAG032	MAG031	3.62	3.62	48	75.18	74.89	216.3	0.0013	0.015	73.7	45.6	5.8	3.6	82.52	82.18	81.43	82.61	81.95	0.3
P-MAG033	MAG033	MAG032	43.81	43.81	48	75.35	75.18	125.3	0.0014	0.015	67.9	45.9	5.4	3.6	82.25	82.54	82.18	82.54	82.61	-0.3
P-MAG034	MAG034	MAG033	1.62	1.62	48	75.64	75.35	222.0	0.0013	0.015	5.6	45.0	0.6	3.6	82.66	82.54	82.54	82.54	82.54	0.1
P-MAG035	MAG035	MAG034	0.72	0.72	48	75.83	75.64	146.0	0.0013	0.015	4.4	44.9	0.7	3.6	83.69	82.54	82.54	82.55	82.54	1.1
P-MAG036	MAG036	MAG035	--	0.00	30	76.02	75.83	139.9	0.0014	0.015	3.8	13.1	0.8	2.7	83.99	82.55	82.54	82.71	82.55	1.4
P-MAG037	MAG037	MAG036	--	0.00	12	76.07	76.02	31.7	0.0016	0.015	4.0	1.2	5.0	1.6	83.58	82.77	82.55	83.33	82.71	0.8
P-MAG038	MAG038	MAG037	1.57	1.57	12	82.12	82.05	49.4	0.0014	0.015	4.1	1.2	5.2	1.5	84.16	83.75	82.77	83.75	83.33	0.4
P-MAG040	MAG040	MAG039A	--	0.00	24	81.74	80.56	128.8	0.0092	0.015	18.6	18.8	6.3	6.0	84.33	83.51	82.50	84.03	83.11	0.8
P-MAG041	MAG041	MAG040	8.12	8.12	24	82.31	81.77	109.7	0.0049	0.015	18.7	13.8	5.8	4.4	84.82	84.47	83.51	84.47	84.03	0.4
P-MAG043	MAG043	MAGDB02	8.29	8.29	30	72.50	72.00	100.0	0.0050	0.015	22.0	25.1	4.5	5.1	76.00	76.33	76.33	76.33	76.33	-0.3
P-MAG044	MAG044	MAG027	--	0.00	36	72.00	70.88	75.0	0.0149	0.015	7.9	70.6	1.7	10.0	76.00	76.33	76.99	76.33	77.18	-0.3
P-MAG128	MAG128	MAG028	6.97	6.97	48	73.90	73.76	109.1	0.0013	0.015	89.2	44.6	6.8	3.5	81.69	78.54	78.02	79.23	78.74	3.1
P-MAG139	MAG139A	MAG027	--	0.00	36	74.85	73.60	100.0	0.0125	0.015	29.6	64.6	7.4	9.1	81.00	76.99	76.99	77.23	77.18	4.0
P-MAG225	MAG025	MAG024	1.30	1.30	24	75.76	72.82	431.7	0.0068	0.015	15.5	16.2	4.9	5.2	79.12	78.79	76.11	79.52	76.48	0.3
P-ROB002	ROB002	ROB001	--	0.00	72	80.26	80.21	41.6	0.0012	0.015	206.5	127.2	10.0	4.5	88.13	84.40	84.14	85.51	85.68	3.7
P-ROB003	ROB003	ROB002	--	0.00	72	80.52	80.26	245.0	0.0011	0.015	206.5	119.6	8.4	4.2	88.04	85.46	84.40	86.32	85.51	2.6
P-ROB004	ROB004	ROB003	8.98	8.98	72	80.69	80.52	342.3	0.0005	0.015	206.5	81.8	7.4	2.9	89.01	86.57	85.46	87.26	86.32	2.4
P-ROB005	ROB005	ROB004	--	0.00	72	80.75	80.69	105.5	0.0006	0.015	190.7	87.6	6.7	3.1	87.91	86.87	86.57	87.54	87.26	1.0
P-ROB006	ROB006	ROB005	--	0.00	72	80.78	80.75	63.8	0.0005	0.015	190.5	79.6	6.6	2.8	88.25	87.04	86.87	87.70	87.54	1.2
P-ROB007	ROB007	ROB006	--	0.00	72	80.82	80.78	76.9	0.0005	0.015	190.4	83.7	6.5	3.0	87.32	87.25	87.04	87.90	87.70	0.1
P-ROB008	ROB008	ROB007	--	0.00	72	80.86	80.82	68.0	0.0006	0.015	190.1	89.0	6.5	3.1	86.88	87.43	87.25	88.09	87.90	-0.5
P-ROB009	ROB009	ROB008	--	0.00	72	81.39	80.86	104.9	0.0051	0.015	193.4	261.0	6.7	9.2	87.42	87.66	87.43	88.35	88.09	-0.2
P-ROB010	ROB010	ROB009	--	0.00	72	81.40	81.39	6.5	0.0015	0.015	194.5	143.7	6.8	5.1	88.87	87.68	87.66	88.36	88.35	1.2
P-ROB011	ROB011	ROB010	--	0.00	72	81.68	81.40	138.5	0.0020	0.015	194.8	165.1	6.8	5.8	89.19	88.04	87.68	88.71	88.36	1.2
P-ROB012	ROB012	ROB011	18.66	18.66	72	81.75	81.68	86.5	0.0008	0.015	195.1	104.4	6.7	3.7	89.34	88.27	88.04	88.39	88.71	1.1
P-ROB013	ROB013	ROB012	--	0.00	60	82.45	81.75	246.7	0.0028	0.015	60.2	120.2	3.0	6.1	90.08	88.44	88.27	88.98	88.39	1.6
P-ROB014	ROB014	ROB013	--	0.00	30	85.08	85.06	20.0	0.0010	0.015	33.4	11.2	7.5	2.3	89.39	88.57	88.44	89.11	88.98	0.8
P-ROB015	ROB015	ROB014	--	0.00	30	85.52	84.99	263.1	0.0020	0.015	33.6	16.0	6.9	3.3	90.57	90.32	88.57	90.86	89.11	0.3
P-ROB016	ROB016	ROB015	14.30	14.30	30	85.61	85.52	92.0	0.0010	0.015	33.7	11.1	6.8	2.3	91.10	90.93	90.32	90.94	90.86	0.2
P-ROB017	ROB017	ROB016	--	0.00	22	85.97	85.69	9.0	0.0310	0.015	8.4	27.2	3.2	10.4	90.54	90.94	90.93	90.94	90.94	-0.4
P-ROB018	ROB018	ROB017	--	0.00	22	86.07	86.06	11.8	0.0008	0.015	-0.2	4.5	-0.7	1.7	90.82	90.94	90.94	90.94	90.94	-0.1
P-ROB019	ROB019	ROB013	--	0.00	42	83.12	82.45	336.2	0.0020	0.015	29.4	38.9	3.0	4.0	91.28	88.82	88.44	88.96	88.98	2.5
P-ROB020	ROB020	ROB019	44.86	44.86	42	84.06	83.12	348.6	0.0027	0.015	29.4	45.3	3.3	4.7	92.49	89.22	88.82	89.62	88.96	3.3
P-ROB021	ROB021	ROB020	--	0.00	30	84.38	84.06	318.0	0.0010	0.015	25.4	11.3	5.1	2.3	93.14	90.82	89.22	91.23	89.62	2.3
P-ROB022	ROB022	ROB021	11.56	11.56	30	84.67	84.38	92.2	0.0031	0.015	25.5	19.9	5.1	4.1	93.03	91.29	90.82	91.29	91.23	1.7

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
SUBJECT: PROPOSED DRAINAGE CONDITIONS, 100-YEAR 24-HOUR, SYSTEM CORRECTION SCENARIO
METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-ROB023	ROB023	ROB123	--	0.00	18	82.09	82.06	31.8	0.0009	0.015	6.0	2.8	4.2	1.6	85.99	83.54	83.51	83.62	84.78	2.5
P-ROB024	ROB024	ROB023	--	0.00	18	82.51	82.47	82.0	0.0005	0.015	6.0	2.0	3.7	1.1	86.15	83.87	83.54	84.06	83.62	2.3
P-ROB025	ROB025	ROB024	4.76	4.76	18	83.61	82.85	256.1	0.0030	0.015	6.0	5.0	3.5	2.8	86.88	85.12	83.87	85.12	84.06	1.8
P-ROB026	ROB026	ROB123	--	0.00	16	81.33	81.31	16.4	0.0012	0.015	-0.7	2.3	-0.5	1.7	84.68	83.51	83.51	83.51	84.78	1.2
P-ROB027	ROB027	ROB026	--	0.00	16	81.42	81.40	20.6	0.0010	0.015	-0.7	2.1	-0.5	1.5	85.42	83.51	83.51	83.51	83.51	1.9
P-ROB028	ROB028	ROB027	--	0.00	12	81.82	81.42	242.4	0.0017	0.015	-0.6	1.3	-0.8	1.6	86.57	83.55	83.51	83.55	83.51	3.0
P-ROB029	ROB029	ROB028	--	0.00	12	82.72	81.98	242.3	0.0031	0.015	-0.4	1.7	-0.5	2.2	87.95	83.59	83.55	83.59	83.55	4.4
P-ROB031	ROB031	ROB123	1.08	1.08	42	80.81	80.79	21.3	0.0009	0.015	76.5	26.7	9.1	2.8	84.91	83.70	83.51	85.08	84.78	1.2
P-ROB032	ROB032	ROB031	11.20	11.20	42	81.93	81.68	79.5	0.0031	0.015	62.5	48.9	7.7	5.1	85.46	84.70	83.70	85.70	85.08	0.8
P-ROB033	ROB033	ROB032	23.30	23.30	36	83.00	81.89	315.0	0.0035	0.015	53.3	34.3	7.5	4.9	87.01	87.25	84.70	87.25	85.70	-0.2
P-ROB034	ROB034	ROB031	2.90	2.90	24	82.63	81.10	361.0	0.0042	0.015	12.2	12.8	3.8	4.1	87.58	85.06	83.70	87.79	85.08	2.5
P-ROB035	ROB035	ROB034	5.98	5.98	12	85.42	82.51	241.3	0.0121	0.015	5.1	3.4	6.4	4.3	90.72	90.87	85.06	90.87	87.79	-0.1
P-ROB050	ROB050	P-ROB051	--	0.00	48	77.00	76.00	75.0	0.0133	0.015	22.0	143.8	4.7	11.4	85.00	79.33	78.86	81.52	78.95	5.7
P-UN1002	UN1002	UN1101	4.68	4.68	16	78.30	77.84	53.3	0.0086	0.015	11.5	6.1	8.3	4.4	82.48	80.67	78.94	80.67	80.15	1.8
P-UN1004	UN1004	UN1003	0.34	0.34	42	79.16	78.40	22.6	0.0337	0.015	52.7	160.1	7.7	16.6	83.59	82.02	82.04	83.96	82.91	1.6
P-UN1005	UN1005	UN1004	6.40	6.40	36	79.78	79.66	122.1	0.0010	0.028	48.1	9.7	6.9	1.4	84.54	84.85	82.02	85.37	83.96	-0.3
P-UN1006	UN1006	UN1005	21.71	21.71	30	80.07	79.84	103.1	0.0022	0.015	34.9	16.8	7.1	3.4	84.83	85.51	84.85	85.51	85.37	-0.7
P-UN1008	UN1008	UN1003	--	0.00	24	80.28	79.68	35.4	0.0169	0.015	15.3	25.5	6.6	8.1	83.87	82.04	82.04	82.98	82.91	1.8
P-UN1009	UN1009	UN1309	--	0.00	12	82.64	82.28	161.6	0.0022	0.015	2.8	1.5	3.5	1.9	84.82	85.29	84.90	85.38	84.96	-0.5
P-UN1010	UN1010	UN1009	3.52	3.52	12	83.58	82.85	226.7	0.0032	0.015	2.5	1.8	3.1	2.2	85.79	86.20	85.29	86.20	85.38	-0.4
P-UN1011	UN1011	UN1010	--	0.00	12	83.91	83.62	42.6	0.0068	0.015	-0.6	2.5	-0.7	3.2	85.87	86.20	86.20	86.20	86.20	-0.3
P-UN1012	UN1012	UN1011	--	0.00	12	84.56	84.01	77.9	0.0071	0.015	-0.4	2.6	0.7	3.3	86.23	86.20	86.20	86.20	86.20	0.0
P-UN1014	UN1014	UN1003	3.73	3.73	42	79.42	78.56	126.1	0.0068	0.015	81.6	72.0	8.8	7.5	84.49	82.70	82.04	84.77	82.91	1.8
P-UN1015	UN1015	UN1014	2.87	2.87	30	83.96	79.42	623.4	0.0073	0.015	8.1	30.3	4.3	6.2	86.83	84.84	82.70	85.13	84.77	2.0
P-UN1016	UN1016	UN1014	36.09	36.09	36	80.79	79.42	188.2	0.0073	0.015	65.4	49.3	9.2	7.0	84.26	85.08	82.70	85.08	84.77	-0.8
P-UN1101	UN1101	UN1001	0.54	0.54	16	77.74	77.14	18.3	0.0328	0.015	12.7	12.0	9.8	8.6	82.13	78.94	78.34	80.15	79.79	3.2
P-UN1109	UN1109	UN1008	0.54	0.54	24	81.55	80.93	74.9	0.0083	0.015	15.3	17.8	6.4	5.7	83.49	82.97	82.04	83.97	82.98	0.5
P-UN1115	UN1115	UN1015	3.37	3.37	30	85.96	83.96	273.7	0.0073	0.015	4.9	30.4	4.3	6.2	88.90	86.64	84.84	86.64	85.13	2.3
P-UN1209	UN1209	UN1109	--	0.00	12	81.91	81.55	61.4	0.0059	0.015	5.6	2.4	7.1	3.0	84.18	84.54	82.97	84.77	83.97	-0.4
P-UN1309	UN1309	UN1209	1.58	1.58	12	82.28	81.91	39.2	0.0094	0.015	4.6	3.0	5.8	3.8	84.50	84.90	84.54	84.96	84.77	-0.4
P-UN2003	UN2003	UN2002	19.93	19.93	48	69.78	69.73	47.0	0.0011	0.015	40.2	40.6	6.1	3.2	77.20	71.88	71.62	72.22	72.20	5.3
P-UN2004	UN2004	UN2003	--	0.00	42	70.66	69.78	249.9	0.0035	0.015	24.6	51.7	4.9	5.4	77.65	72.46	71.88	72.73	72.22	5.2
P-UN2005	UN2005	UN2004	12.15	12.15	42	71.39	70.29	520.6	0.0021	0.015	24.4	40.1	4.2	4.2	82.32	73.42	72.46	73.45	72.73	8.9
P-UN2006	UN2006	UN2005	--	0.00	42	72.01	71.46	259.8	0.0021	0.015	10.9	40.1	3.3	4.2	80.65	73.49	73.42	73.55	73.45	7.2
P-UN2007	UN2007	UN2006	--	0.00	36	72.02	71.88	25.6	0.0055	0.015	10.8	42.8	3.6	6.1	79.68	73.50	73.49	74.53	73.55	6.2
P-UN2008	UN2008	UN2DB02	3.63	3.63	36	73.17	73.00	71.0	0.0024	0.015	41.5	28.3	6.4	4.0	80.30	76.51	76.48	76.54	76.52	3.8
P-UN2009	UN2009	UN2008	9.33	9.33	36	73.43	73.17	50.2	0.0052	0.015	33.3	41.6	5.2	5.9	79.39	76.52	76.51	76.52	76.54	2.9
P-UN2010	UN2010	UN2009	6.54	6.54	36	73.70	73.43	20.0	0.0135	0.015	15.0	67.2	2.7	9.5	76.70	76.52	76.52	76.52	76.52	0.2
P-UN2013	UN2013	UN2012	11.49	11.49	42	80.94	78.37	266.1	0.0097	0.015	71.0	85.7	7.9	8.9	85.81	83.99	82.74	85.11	83.49	1.8
P-UN2014	UN2014	UN2013	1.67	1.67	28	81.02	80.94	147.7	0.0005	0.015	41.4	6.9	9.6	1.6	86.93	86.64	83.99	87.02	85.11	0.3
P-UN2015	UN2015	UN2014	36.38	36.38	28	81.20	81.02	308.5	0.0006	0.015	28.2	7.1	6.6	1.7	87.40	87.86	86.64	87.88	87.02	-0.5
P-UN2016	UN2016	UN2013	--	0.00	24	81.19	80.94	25.8	0.0097	0.015	17.0	19.3	5.4	6.1	85.40	84.14	83.99	84.55	85.11	1.3
P-UN2017	UN2017	UN2016	4.23	4.23	24	81.59	81.34	106.1	0.0024	0.015	17.0	9.5	5.4	3.0	85.14	84.87	84.14	84.93	84.55	0.3
P-UN2018	UN2018	UN2017	3.70	3.70	16	83.30	81.56	429.2	0.0041	0.015	3.6	4.2	2.6	3.0	88.54	85.95	84.87	85.95	84.93	2.6
P-UN2021	UN2021	UN2012	--	0.00	48	81.00	80.00	75.0	0.0133	0.015	32.5	143.8	6.2	11.4	85.00	83.64	82.74	83.64	83.49	1.4
P-UN2DB02	Node820	UN2007	--	0.00	15	73.00	71.98	75.0	0.0136	0.015	10.8	6.5	8.7	5.3	80.00	76.09	73.50	76.23	74.53	3.9
P-UN3002	UN3002	UN3001	0.43	0.43	16	72.39	71.93	516.3	0.0009	0.015	1.2	2.0	1.6	1.4	75.67	73.14	72.35	73.14	72.39	2.5
P-UN3003	UN3003	UN3002	--	0.00	16	72.62	72.39	250.3	0.0009	0.015	-0.2	2.0	-0.3	1.4	74.41	73.15	73.14	73.15	73.14	1.3
P-UN3005	UN3014	UN3DB03	9.19	9.19	30	81.68	81.25	75.0	0.0057	0.015	28.4	26.9	8.1	5.5	87.28	83.42	83.01	83.42	83.47	3.9
P-UN3006	UN3006	UN3005	2.23	2.23	18	71.68	71.43	246.4	0.0010	0.015	11.2	2.9	6.2	1.6	76.53	76.82	74.21	77.03	75.32	-0.3
P-UN3007	UN3007	UN3006	--	0.00	18	73.62	71.68	335.8	0.0058	0.015	7.0	6.9	3.9	3.9	78.20	78.49	76.82	78.90	77.03	-0.3
P-UN3008	UN3008	UN3007	--	0.00	18	73.78	73.62	28.3	0.0057	0.015	9.3	6.8	5.2	3.9	79.01	78.77	78.49	79.18	78.90	0.2
P-UN3009	UN3009	UN3008	3.29	3.29	18	73.99	73.78	36.0	0.0058	0.015	9.3	7.0	5.2	3.9	80.86	79.13	78.77	79.22	79.18	1.7
P-UN3010	UN3010	UN3009	--	0.00	12	75.02	73.99	162.3	0.0063	0.015	3.0	2.5	3.9	3.1	80.61	79.78	79.13	79.88	79.22	0.8
P-UN3011	UN3011	UN3010	--	0.00	12	75.38	75.02	48.9	0.0074	0.015	3.0	2.6	3.8	3.4	81.24	79.98	79.78	80.08	79.88	1.3
P-UN3012	UN3012	UN3011	--	0.00	12	76.70	75.33	210.7	0.0065	0.015	3.0	2.5	3.8	3.2	83.98	80.85	79.98	80.95	80.08	3.1
P-UN3013	UN3013	UN3012	--	0.00	12	78.04	76.70	119.9	0.0112	0.015	3.0	3.3	4.4	4.2	85.36	81.35	80.85	81.46	80.95	4.0
P-UN3014	UN3014B	UN3013	--	0.00	12	81.12	78.16	267.2	0.0111	0.015	3.0	3.3	4.6	4.1	87.28	82.53	81.35	82.56	81.46	4.8
P-UN3015	UN3015	UN3DB02	--	0.00	30	71.51	71.30	100.0	0.0021	0.015	33.5	16.3	6.7	3.3	77.96	74.18	73.37	74.89	73.97	3.8
P-UN3016	UN3016	UN3116	5.09	5.09	30	72.02	71.57	194.2	0.0023	0.028	33.4	9.2	6.7	1.9	81.21	80.63	74.77	80.83	75.47	0.6
P-UN3017	UN3017	UN3016	--	0.00	30	72.20	72.02	24.3	0.0074	0.015	20.9	30.6	4.2	6.2	80.79	80.69	80.63	81.20	80.83	0.1
P-UN3018	UN3018	UN3017	--	0.00	24	78.19	72.20	121.8	0.0492	0.015	20.9	43.5	9.7	13.8	83.05	81.72	80.69	82.23	81.20	1.3
P-UN3019	UN3019	UN3018	4.62	4.62	24	78.19	78.17	126.7	0.0002	0.015	20.6	2.5	6.6	0.8	84.74	82.85	81.72	83.15	82.23	1.9

PROJECT: 8618 - North Watt Specific Plan
LOCATION: COUNTY OF SACRAMENTO, CA
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METHOD: XPSWMM v2020.1

Pipe Name	Upstream Node Name	Downstream Node Name	Watershed Area	Accumulated Area	Diameter	Upstream Invert Elevation	Downstream Invert Elevation	Conduit Length	Conduit Slope	Manning's Roughness	Max Flow	Full Capacity of Conduit	Max Velocity	Full Flow Velocity Based on Full Flow Capactiy	Upstream Ground Elevation	Upstream HGL Elevation	Downstream HGL Elevation	Upstream EGL Elevation	Downstream EGL Elevation	Freeboard to US ground
			(ac)	(ac)	(in)	(ft)	(ft)	(ft)	(ft/ft)	(n)	(cfs)	(cfs)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
P-UN3020	UN3020	UN3019	4.28	4.28	18	79.48	78.17	220.1	0.0060	0.015	11.6	7.0	6.5	4.0	84.24	84.60	82.85	84.60	83.15	-0.4
P-UN3028	UN3028	UN3034	--	0.00	24	78.01	77.56	31.3	0.0144	0.015	25.0	23.5	7.9	7.5	80.22	81.51	81.51	81.64	83.49	-1.3
P-UN3029	UN3029	UN3028	--	0.00	24	80.05	78.02	105.9	0.0192	0.015	25.1	27.2	9.1	8.6	82.92	82.01	81.51	82.99	81.64	0.9
P-UN3030	UN3030	UN3029	--	0.00	24	81.85	80.10	132.3	0.0132	0.015	25.1	22.6	8.2	7.2	84.26	83.91	82.01	84.85	82.99	0.4
P-UN3031	UN3031	UN3030	9.35	9.35	24	82.38	81.95	92.5	0.0047	0.015	25.2	13.4	8.0	4.3	85.20	85.32	83.91	85.32	84.85	-0.1
P-UN3033	UN3D002	UN3027	--	0.00	60	76.33	75.82	153.9	0.0033	0.015	699.7	129.9	17.8	6.6	85.00	84.39	80.74	88.49	85.64	0.6
P-UN3035	UN3035	UN3034	1.73	1.73	18	79.86	79.51	346.8	0.0010	0.028	5.5	1.5	3.2	0.9	86.89	85.61	81.51	85.61	83.49	1.3
P-UN3037	UN3037	UN3034	16.24	16.24	24	79.38	76.33	166.9	0.0183	0.015	32.3	26.5	10.2	8.4	83.15	83.73	81.51	83.73	83.49	-0.6
P-UN3038	UN3D001	UN3D002	--	0.00	60	76.59	76.33	77.9	0.0033	0.015	645.5	130.4	16.4	6.6	91.00	85.94	84.39	88.31	88.49	5.1
P-UN3039	UN3039	UN3038	0.93	0.93	42	76.62	76.58	37.2	0.0011	0.015	3.0	28.6	0.4	3.0	83.60	81.54	81.54	81.54	82.10	2.1
P-UN3040	UN3040	UN3038	20.33	20.33	48	81.16	76.58	167.7	0.0273	0.015	33.9	205.7	7.6	16.4	83.33	82.51	81.54	82.51	82.10	0.8
P-UN3042	UN3042	UN3D001	--	0.00	60	77.56	76.59	291.1	0.0033	0.015	504.2	130.3	12.8	6.6	89.16	89.31	85.94	91.18	88.31	-0.2
P-UN3043	UN3043	UN3042	549.90	549.90	60	77.96	77.56	121.0	0.0033	0.015	494.7	129.8	12.5	6.6	89.92	90.41	89.31	90.41	91.18	-0.5
P-UN3047	UN3047	UN3048	--	0.00	48	71.00	70.00	50.0	0.0200	0.015	-13.2	176.1	3.7	14.0	79.00	76.19	76.19	76.19	76.19	2.8
P-UN3116	UN3116	UN3015	--	0.00	30	71.57	71.51	21.7	0.0028	0.028	33.4	10.0	6.8	2.0	78.84	74.77	74.18	75.47	74.89	4.1
P-UN4002	UN4002	UN4001	2.45	2.45	72	81.96	81.34	129.4	0.0048	0.015	252.8	254.0	8.9	9.0	88.96	89.49	88.90	91.49	90.09	-0.5
P-UN4003	UN4003	UN4002A	3.00	3.00	42	84.24	83.96	112.3	0.0025	0.015	50.6	43.5	5.2	4.5	89.92	89.01	88.99	89.27	89.02	0.9
P-UN4004	UN4004	UN4003	--	0.00	42	86.46	84.24	176.1	0.0126	0.015	44.0	97.9	6.7	10.2	89.30	89.01	89.01	89.38	89.27	0.3
P-UN4005	UN4005	UN4004	5.08	5.08	42	86.76	86.44	164.5	0.0019	0.015	44.8	38.5	6.0	4.0	89.59	89.42	89.01	89.72	89.38	0.2
P-UN4006	UN4006	UN4005	--	0.00	36	86.84	86.77	31.0	0.0023	0.028	30.3	14.7	4.4	2.1	90.54	89.70	89.42	89.94	89.72	0.8
P-UN4007	UN4007	UN4006	--	0.00	36	87.36	86.84	145.1	0.0036	0.028	29.1	18.5	4.0	2.6	90.24	90.87	89.70	91.09	89.94	-0.6
P-UN4008	UN4008	UN4007	8.69	8.69	30	87.71	87.36	97.7	0.0036	0.028	23.6	11.4	4.8	2.3	91.38	91.81	90.87	91.91	91.09	-0.4
P-UN4009	UN4009	UN4008	0.63	0.63	24	88.61	87.71	252.3	0.0036	0.028	8.9	6.3	2.8	2.0	93.79	93.57	91.81	93.65	91.91	0.2
P-UN4010	UN4010	UN4009	2.98	2.98	24	89.76	88.58	387.3	0.0030	0.028	7.4	5.8	2.3	1.8	99.52	95.43	93.57	95.43	93.65	4.1
P-UN4011	UN4011	UN4002	173.87	173.87	60	84.32	82.92	139.9	0.0100	0.015	223.5	225.8	11.4	11.5	90.99	91.00	89.49	91.00	91.49	0.0
P-UN4012	UN4012	UN4011	--	0.00	36	84.55	84.32	251.3	0.0009	0.015	-6.3	17.5	-2.0	2.5	91.69	90.85	91.00	90.85	91.00	0.8
P-UN4013	UN4013	UN4012	2.49	2.49	24	86.76	86.49	257.2	0.0010	0.015	4.5	6.4	1.9	2.0	91.52	90.86	90.85	90.86	90.85	0.7
P-UN4014	UN4014	UN4002	--	0.00	60	83.07	82.96	108.1	0.0010	0.028	-62.4	38.6	-4.6	2.0	90.11	89.64	89.49	89.73	91.49	0.5
P-UN4015	UN4015	UN4014	34.70	34.70	60	83.40	83.07	214.3	0.0015	0.028	59.4	47.5	-3.0	2.4	89.81	89.96	89.64	89.97	89.73	-0.2
P-UN4016	UN4016	UN4015	--	0.00	48	83.50	83.40	26.1	0.0038	0.015	27.8	77.0	2.2	6.1	89.20	89.97	89.96	89.97	89.97	-0.8
P-UN4017	UN4017	UN4016	13.93	13.93	48	83.60	83.50	12.6	0.0079	0.015	27.8	111.0	2.2	8.8	89.15	89.97	89.97	89.97	89.97	-0.8
P-UN4020	UN4020	UN4DB01	32.19	32.19	36	83.50	83.00	100.0	0.0050	0.015	92.5	40.9	13.0	5.8	94.00	90.37	88.97	90.37	90.45	3.6
P-UN4025	UN4025	UN4026	--	0.00	48	82.00	82.00	75.0	0.0000	0.015	53.6	3.9	4.3	0.3	94.00	88.91	88.90	88.91	88.97	5.1
P-UN5001	UN5001	UN5DB01	--	0.00	60	88.50	88.00	75.0	0.0067	0.015	119.9	184.3	7.0	9.4	93.00	93.49	93.47	93.62	93.56	-0.5
P-UN5002	UN5002	UN5001	13.84	13.84	60	89.71	88.50	237.6	0.0051	0.028	120.6	86.3	6.1	4.4	96.50	95.02	93.49	95.41	93.62	1.5
P-UN5003	UN5003	UN5002	--	0.00	60	89.84	89.71	126.6	0.0010	0.015	101.9	74.8	5.0	3.8	96.14	95.25	95.02	95.66	95.41	0.9
P-UN5004	UN5004	UN5003	--	0.00	60	90.39	89.97	127.0	0.0033	0.015	102.1	129.8	5.1	6.6	96.49	95.49	95.25	95.97	95.66	1.0
P-UN5005	UN5005	UN5004	--	0.00	60	91.25	90.59	112.9	0.0058	0.015	102.2	172.6	5.9	8.8	97.53	95.65	95.49	96.07	95.97	1.9
P-UN5006	UN5006	UN5005	--	0.00	60	91.22	91.18	299.6	0.0001	0.015	102.5	26.1	5.4	1.3	98.42	96.27	95.65	96.94	96.07	2.1
P-UN5007	UN5007	UN5006	0.35	0.35	60	92.42	91.22	26.1	0.0459	0.015	102.7	483.7	8.2	24.6	97.29	96.03	96.27	97.90	96.94	1.3
P-UN5008	UN5008	UN5007	0.94	0.94	48	93.09	92.42	197.3	0.0034	0.028	86.4	38.9	7.0	3.1	98.19	98.74	96.03	99.08	97.90	-0.6
P-UN5009	UN5009	UN5008	56.99	56.99	42	93.88	93.04	83.7	0.0100	0.028	63.8	46.8	6.6	4.9	98.53	99.31	98.74	99.31	99.08	-0.8
P-UN5011	UN5011	UN5010	--	0.00	36	91.04	90.84	10.4	0.0193	0.028	80.3	43.0	11.1	6.1	95.75	94.26	93.61	96.10	95.51	1.5
P-UN5012	UN5012	UN5011	1.34	1.34	36	91.22	91.22	3.9	0.0000	0.028	80.3	1.0	10.9	0.1	95.12	94.57	94.26	95.69	96.10	0.5
P-UN5013	UN5013	UN5012	43.09	43.09	36	91.76	91.22	75.4	0.0072	0.028	48.3	26.2	6.9	3.7	95.15	95.87	94.57	95.87	95.69	-0.7
P-UN5014	UN5014	UN5013	--	0.00	36	92.68	91.77	363.2	0.0025	0.015	-4.5	28.9	-0.6	4.1	95.74	95.88	95.87	95.88	95.87	-0.1
P-UN5015	UN5015	UN5014	--	0.00	30	92.96	92.79	171.0	0.0010	0.015	-1.2	11.2	-0.3	2.3	97.20	95.88	95.88	95.88	95.88	1.3
P-UN5017	UN5017	UN501OF	--	0.00	48	88.00	87.00	75.0	0.0133	0.015	51.9	143.8	8.6	11.4	93.00	90.18	90.21	92.17	90.90	2.8

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Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
ARC001	61.61	Yes	61.61	0.00	61.61	0.00
ARC002	62.60	Yes	62.60	0.00	62.14	0.46
ARC004	64.49	Yes	64.48	0.00	63.47	1.02
ARC008	65.65	Yes	65.65	0.00	64.26	1.39
ARC009	66.49	Yes	66.48	0.01	65.12	1.37
ARC011	67.25	Yes	67.24	0.01	65.88	1.37
ARC012	69.79	Yes	69.78	0.01	68.36	1.43
ARC013	72.66	Yes	72.65	0.02	71.36	1.30
ARC014	75.18	Yes	75.16	0.02	74.02	1.16
ARC015	76.51	No	76.49	0.02	74.32	2.19
ARC016	77.47	No	77.46	0.01	74.92	2.55
ARC017	79.79	Yes	79.79	0.00	77.48	2.31
ARC018	85.27	Yes	85.27	0.00	83.66	1.62
ARC019	65.97	Yes	65.96	0.01	64.82	1.15
ARC020	65.98	Yes	65.98	0.01	65.64	0.34
ARC021	71.59	Yes	71.56	0.03	68.04	3.55
ARC022	72.06	Yes	72.03	0.03	68.25	3.80
ARC023	72.34	Yes	72.31	0.02	68.37	3.96
ARC024	72.49	No	72.47	0.02	68.67	3.81
ARC025	72.87	No	72.85	0.01	69.54	3.33
ARC026	73.00	No	72.99	0.02	69.59	3.41
ARC027	73.16	No	73.16	0.00	72.28	0.88
ARC028	76.10	No	76.10	0.00	74.11	1.99
ARC029	76.10	No	76.10	0.00	74.67	1.43
ARC030	78.24	Yes	78.24	0.00	75.90	2.33
ARC031	78.39	No	78.39	0.00	77.43	0.96
ARC032	80.77	Yes	80.77	0.00	79.50	1.26
ARC033	59.69	Yes	60.45	-0.76	60.05	-0.36
ARC034	63.43	Yes	61.94	1.49	61.48	1.96
ARC035	63.84	Yes	62.17	1.67	61.66	2.18
ARC036	65.44	Yes	64.02	1.41	62.92	2.52
ARC037	67.26	Yes	65.84	1.42	64.25	3.01
ARC038	68.91	Yes	68.80	0.11	65.29	3.63
ARC039	70.30	Yes	70.27	0.03	66.22	4.08
ARC040	70.37	Yes	70.34	0.03	67.02	3.35
ARC041	70.69	Yes	70.64	0.05	67.71	2.99
ARC042	72.34	Yes	72.14	0.21	70.72	1.63
ARC043	72.64	Yes	72.43	0.21	71.40	1.24
ARC044	72.87	Yes	72.65	0.22	71.84	1.02
ARC045	70.78	No	70.77	0.01	67.01	3.77
ARC046	71.02	No	71.01	0.01	67.89	3.12
ARC047	72.06	No	72.06	0.00	68.90	3.16
ARC048	72.49	No	72.49	0.00	69.85	2.63
ARC049	58.17	Yes	60.52	-2.35	59.97	-1.80
ARC050	61.35	No	60.86	0.49	60.00	1.35
ARC051	62.08	No	61.34	0.74	60.03	2.04

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Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
ARC052	63.50	No	63.18	0.32	60.99	2.51
ARC056	65.64	No	65.46	0.17	65.29	0.34
ARC057	66.67	No	66.63	0.04	66.17	0.50
ARC058	69.01	Yes	68.98	0.03	68.39	0.62
ARC059	73.14	Yes	73.12	0.02	72.48	0.67
MAG001	75.61	No	75.61	0.00	75.61	0.00
MAG002	75.81	Yes	75.65	0.16	75.62	0.19
MAG003	76.15	Yes	76.15	0.00	76.01	0.14
MAG004	77.20	Yes	77.20	0.00	76.94	0.26
MAG005	77.26	Yes	77.26	0.00	77.17	0.08
MAG006	77.38	Yes	77.38	0.00	77.36	0.02
MAG008	77.50	Yes	77.50	0.00	75.63	1.87
MAG009	79.12	No	79.12	0.00	77.49	1.63
MAG010	79.98	No	79.98	0.00	79.56	0.42
MAG011	82.02	No	82.02	0.00	81.82	0.20
MAG012	78.27	Yes	78.27	0.00	77.78	0.49
MAG013	79.05	Yes	79.05	0.00	78.23	0.82
MAG014	79.44	No	79.44	0.00	78.99	0.45
MAG015	79.60	No	79.60	0.00	79.05	0.54
MAG016	80.33	No	80.33	0.00	79.36	0.97
MAG017	80.44	No	80.44	0.00	79.38	1.06
MAG018	80.87	No	80.87	0.00	80.27	0.59
MAG019	80.90	No	80.90	0.00	80.29	0.61
MAG020	80.92	No	80.92	0.00	80.70	0.23
MAG021	80.92	No	80.92	0.00	80.56	0.36
MAG023	76.25	Yes	76.25	0.00	76.04	0.21
MAG024	76.26	No	76.26	0.00	76.11	0.15
MAG025	79.57	Yes	79.57	0.00	78.79	0.78
MAG026	81.22	No	81.22	0.00	81.18	0.03
MAG027	76.99	Yes	76.99	0.00	76.99	0.00
MAG028	77.25	Yes	77.25	0.00	78.02	-0.78
MAG029	82.52	Yes	82.49	0.03	79.87	2.66
MAG030	84.29	No	84.28	0.00	80.99	3.29
MAG031	84.30	No	84.29	0.00	81.43	2.86
MAG032	84.30	No	84.30	0.00	82.18	2.12
MAG033	84.30	No	84.30	0.00	82.54	1.76
MAG034	84.30	No	84.30	0.00	82.54	1.76
MAG035	84.30	Yes	84.30	0.00	82.54	1.76
MAG036	84.34	Yes	84.34	0.00	82.55	1.79
MAG037	84.88	Yes	84.88	0.00	82.77	2.11
MAG038	85.72	Yes	85.71	0.00	83.75	1.97
MAG039	81.52	Yes	81.04	0.48	81.04	0.48
MAG040	84.62	Yes	83.50	1.13	83.51	1.11
MAG041	85.91	Yes	85.79	0.12	84.47	1.44
MAG042	87.50	Yes	87.50	0.00	87.50	0.00
MAG125	80.98	Yes	80.98	0.00	80.88	0.09

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Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
MAG128	78.12	Yes	78.12	0.01	78.54	-0.42
OARC01	76.11	Yes	76.11	0.00	75.50	0.61
OARC02	72.50	Yes	72.50	0.00	72.50	0.00
OARC03	73.50	Yes	73.50	0.00	73.50	0.00
OARC04	84.50	Yes	84.50	0.00	84.50	0.00
OARC05	73.50	Yes	73.50	0.00	73.50	0.00
OARC06	87.00	Yes	87.00	0.00	87.00	0.00
OMAG02	81.23	Yes	81.23	0.00	81.21	0.02
OMAG04	88.00	Yes	88.00	0.00	88.00	0.00
OROB01	91.84	No	91.83	0.01	90.00	1.84
OROB02	91.00	Yes	91.00	0.00	91.00	0.00
OROB03	91.84	Yes	91.83	0.01	90.50	1.34
OROB04	91.00	Yes	91.00	0.00	91.00	0.00
OROB05	89.50	Yes	89.50	0.00	89.50	0.00
OUN201	85.53	Yes	85.50	0.02	85.50	0.03
OUN202	89.50	Yes	89.50	0.00	89.50	0.00
OUN203	89.00	Yes	89.00	0.00	89.00	0.00
OUN301	92.00	Yes	92.00	0.00	92.00	0.00
OUN302	86.50	Yes	86.50	0.00	86.50	0.00
OUN303	92.50	Yes	92.50	0.00	92.50	0.00
OUN304	87.00	Yes	87.00	0.00	87.00	0.00
OUN305	87.50	Yes	87.50	0.00	87.50	0.00
OUN306	84.66	No	83.50	1.16	83.50	1.16
OUN401	91.26	No	91.23	0.04	89.99	1.28
OUN402	94.50	Yes	94.50	0.00	94.50	0.00
OUN403	89.50	Yes	89.50	0.00	89.50	0.00
OUN404	95.50	Yes	95.50	0.00	95.50	0.00
OUN405	98.50	Yes	98.50	0.00	98.50	0.00
ROB001	84.30	Yes	84.30	0.00	84.14	0.16
ROB002	84.68	Yes	84.68	0.00	84.40	0.27
ROB003	86.35	Yes	86.35	0.00	85.46	0.89
ROB004	88.71	Yes	88.72	-0.02	86.57	2.14
ROB005	89.31	No	89.32	-0.01	86.87	2.45
ROB006	89.32	No	89.34	-0.02	87.04	2.28
ROB007	89.66	Yes	89.67	-0.01	87.25	2.41
ROB008	89.65	No	89.66	-0.01	87.43	2.23
ROB009	89.65	No	89.66	-0.01	87.66	1.99
ROB010	89.59	Yes	89.60	-0.01	87.68	1.91
ROB011	90.19	No	90.19	0.00	88.04	2.16
ROB012	90.54	No	90.54	0.00	88.27	2.27
ROB013	90.66	No	90.66	0.00	88.44	2.22
ROB014	90.70	Yes	90.70	0.00	88.57	2.13
ROB015	91.49	Yes	91.49	0.00	90.32	1.18
ROB016	91.84	Yes	91.83	0.01	90.93	0.90
ROB017	91.84	No	91.83	0.01	90.94	0.90
ROB018	91.84	Yes	91.83	0.01	90.94	0.90

PROJECT: **8618 - North Watt Specific Plan**
LOCATION: **COUNTY OF SACRAMENTO, CA**
SUBJECT: **100-Year 24-hour HGL Comparison Between Existing and Proposed**
METHOD: **XPSWMM v2020.1**

Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
ROB019	91.67	No	91.68	-0.01	88.82	2.85
ROB020	92.87	No	92.88	-0.01	89.22	3.65
ROB021	93.70	No	93.70	-0.01	90.82	2.87
ROB022	93.80	No	93.85	-0.05	91.29	2.51
ROB023	83.19	Yes	83.54	-0.34	83.54	-0.34
ROB024	83.80	Yes	83.87	-0.07	83.87	-0.07
ROB025	84.92	Yes	85.12	-0.19	85.12	-0.19
ROB026	82.13	Yes	83.51	-1.37	83.51	-1.37
ROB027	82.15	Yes	83.51	-1.36	83.51	-1.36
ROB028	82.16	Yes	83.55	-1.39	83.55	-1.39
ROB029	82.72	Yes	83.59	-0.87	83.59	-0.87
ROB030	80.79	Yes	80.79	0.00	80.79	0.00
ROB031	83.77	Yes	83.70	0.07	83.70	0.07
ROB032	86.21	No	84.70	1.50	84.70	1.50
ROB033	87.35	Yes	87.25	0.10	87.25	0.10
ROB034	87.83	Yes	85.06	2.77	85.06	2.77
ROB035	90.95	Yes	90.87	0.08	90.87	0.08
ROB123	82.12	Yes	83.51	-1.39	83.51	-1.39
UN1001	78.29	Yes	78.34	-0.05	78.34	-0.05
UN1002	80.59	Yes	80.67	-0.08	80.67	-0.08
UN1004	81.35	Yes	82.05	-0.70	82.02	-0.67
UN1005	85.02	Yes	84.78	0.25	84.85	0.17
UN1006	85.12	No	85.05	0.07	85.51	-0.39
UN1007	81.15	Yes	78.40	2.75	78.40	2.75
UN1008	82.48	Yes	82.07	0.41	82.04	0.44
UN1009	85.29	Yes	85.29	0.00	85.29	0.00
UN1010	86.20	Yes	86.20	0.00	86.20	0.00
UN1011	86.20	Yes	86.20	0.00	86.20	0.00
UN1012	86.20	Yes	86.20	0.00	86.20	0.00
UN1014	83.56	Yes	82.59	0.97	82.70	0.86
UN1015	84.84	Yes	84.84	0.00	84.84	0.00
UN1016	85.51	No	85.43	0.08	85.08	0.43
UN1101	78.90	Yes	78.94	-0.05	78.94	-0.05
UN1109	84.39	No	82.97	1.42	82.97	1.42
UN1115	86.64	Yes	86.64	0.00	86.64	0.00
UN1209	84.58	Yes	84.54	0.03	84.54	0.03
UN1309	84.91	Yes	84.90	0.00	84.90	0.00
UN2002	72.35	Yes	71.62	0.73	71.62	0.73
UN2003	72.67	Yes	71.88	0.79	71.88	0.79
UN2004	73.77	Yes	72.46	1.31	72.46	1.31
UN2005	76.05	Yes	73.42	2.63	73.42	2.63
UN2006	76.58	Yes	73.49	3.09	73.49	3.09
UN2007	76.70	Yes	73.50	3.20	73.50	3.20
UN2008	77.03	Yes	76.51	0.53	76.51	0.53
UN2009	77.18	Yes	76.52	0.66	76.52	0.66
UN2010	77.19	Yes	76.52	0.68	76.52	0.68

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Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
UN2011	70.00	Yes	83.67	-13.67	83.67	-13.67
UN2012	82.74	No	82.74	0.00	82.74	0.00
UN2013	86.01	Yes	86.00	0.01	83.99	2.02
UN2014	87.32	Yes	87.31	0.00	86.64	0.67
UN2015	88.36	Yes	88.35	0.00	87.86	0.50
UN2016	86.21	Yes	86.21	0.00	84.14	2.07
UN2017	86.21	No	86.21	0.00	84.87	1.35
UN2018	87.33	Yes	87.33	0.00	85.95	1.38
UN3001	72.35	Yes	72.35	0.00	72.35	0.00
UN3002	73.14	Yes	73.14	0.00	73.14	0.00
UN3003	73.15	Yes	73.15	0.00	73.15	0.00
UN3005	74.21	Yes	74.21	0.00	74.21	0.00
UN3006	77.04	No	76.88	0.16	76.82	0.22
UN3007	78.73	No	78.53	0.20	78.49	0.24
UN3008	79.39	No	79.05	0.35	78.77	0.63
UN3009	81.18	Yes	79.71	1.48	79.13	2.06
UN3010	81.53	No	80.26	1.28	79.78	1.75
UN3011	81.68	No	80.43	1.26	79.98	1.70
UN3012	84.41	No	81.15	3.26	80.85	3.56
UN3013	85.80	No	81.57	4.23	81.35	4.45
UN3014	87.76	No	83.42	4.34	83.42	4.34
UN3015	76.19	No	74.18	2.01	74.18	2.02
UN3016	81.64	No	81.58	0.05	80.63	1.01
UN3017	81.64	No	81.61	0.03	80.69	0.95
UN3018	83.30	Yes	82.84	0.46	81.72	1.58
UN3019	85.00	Yes	84.13	0.88	82.85	2.16
UN3020	85.03	No	84.58	0.45	84.60	0.43
UN3027	81.43	Yes	80.74	0.69	80.74	0.69
UN3028	81.51	No	81.58	-0.08	81.51	-0.01
UN3029	83.31	No	83.25	0.05	82.01	1.30
UN3030	84.71	No	84.71	0.00	83.91	0.81
UN3031	85.66	No	85.66	0.00	85.32	0.33
UN3034	84.65	No	81.58	3.07	81.51	3.14
UN3035	87.01	Yes	85.62	1.40	85.61	1.40
UN3037	84.66	No	83.97	0.69	83.73	0.93
UN3038	86.06	Yes	84.60	1.46	81.54	4.52
UN3039	86.06	No	84.60	1.46	81.54	4.52
UN3040	86.06	No	84.61	1.45	82.51	3.55
UN3042	89.29	No	89.31	-0.02	89.31	-0.02
UN3043	90.39	Yes	90.41	-0.03	90.41	-0.03
UN3045	72.00	Yes	70.00	2.00	70.00	2.00
UN3046	72.00	Yes	70.00	2.00	70.00	2.00
UN3116	79.17	No	75.46	3.70	74.77	4.39
UN4001	88.90	Yes	88.90	0.00	88.90	0.00
UN4002	89.74	No	89.68	0.06	89.49	0.26
UN4003	90.69	Yes	89.01	1.68	89.01	1.68

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METHOD: **XPSWMM v2020.1**

Node Name	Existing HGL	Compliant in Existing?	Mitigation Scenario HGL	Existing HGL - Mitigation Scenario HGL	System Correction HGL	Existing HGL - System Correction Scenario HGL
	(ft)		(ft)	(ft)	(Ft)	(ft)
UN4004	90.70	No	89.01	1.68	89.01	1.68
UN4005	90.70	No	89.42	1.27	89.42	1.27
UN4006	90.96	Yes	89.70	1.26	89.70	1.26
UN4007	91.16	No	90.87	0.29	90.87	0.29
UN4008	91.88	Yes	91.81	0.07	91.81	0.07
UN4009	94.10	Yes	93.57	0.53	93.57	0.53
UN4010	99.77	Yes	95.43	4.34	95.43	4.34
UN4011	91.87	No	91.86	0.00	91.00	0.87
UN4012	91.87	Yes	91.87	0.00	90.85	1.02
UN4013	91.88	Yes	91.88	0.00	90.86	1.02
UN4014	91.26	Yes	91.22	0.03	89.64	1.62
UN4015	91.26	No	91.23	0.03	89.96	1.30
UN4016	91.26	No	91.23	0.03	89.97	1.30
UN4017	91.26	No	91.23	0.03	89.97	1.30
UN4020	80.00	Yes	90.37	-10.37	90.37	-10.37
UN5001	90.81	Yes	93.51	-2.71	93.49	-2.68
UN5002	97.03	No	95.77	1.26	95.02	2.01
UN5003	98.58	No	96.38	2.20	95.25	3.33
UN5004	98.58	No	96.93	1.65	95.49	3.09
UN5005	98.49	No	98.08	0.42	95.65	2.84
UN5006	99.26	Yes	99.22	0.04	96.27	2.99
UN5007	99.26	No	99.23	0.04	96.03	3.23
UN5008	99.26	No	99.23	0.04	98.74	0.52
UN5009	99.41	No	99.39	0.02	99.31	0.11
UN5010	92.87	Yes	92.89	-0.01	93.61	-0.73
UN5011	93.65	Yes	93.42	0.23	94.26	-0.61
UN5012	93.84	Yes	93.68	0.16	94.57	-0.73
UN5013	97.48	No	97.44	0.04	95.87	1.62
UN5014	97.49	No	97.44	0.04	95.88	1.61
UN5015	97.49	Yes	97.44	0.04	95.88	1.60
UN5016	80.00	Yes	93.49	-13.49	93.48	-13.48

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LOCATION: **COUNTY OF SACRAMENTO, CA**
SUBJECT: **Nolte HGL Comparison Between Existing and Proposed**
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Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
ARC001	70.61	Yes	61.60	Yes
ARC002	62.60	Yes	61.52	Yes
ARC004	64.49	Yes	62.14	Yes
ARC008	65.65	Yes	62.55	Yes
ARC009	66.49	Yes	62.80	Yes
ARC011	67.25	Yes	63.15	Yes
ARC012	69.79	Yes	64.48	Yes
ARC013	72.66	Yes	66.35	Yes
ARC014	75.18	Yes	67.75	Yes
ARC015	76.51	Yes	68.00	Yes
ARC016	77.47	Yes	71.90	Yes
ARC017	79.79	Yes	77.05	Yes
ARC018	85.27	Yes	83.30	Yes
ARC019	65.97	Yes	62.87	Yes
ARC020	65.98	Yes	63.77	Yes
ARC021	71.59	Yes	66.71	Yes
ARC022	72.06	Yes	66.89	Yes
ARC023	72.34	Yes	66.99	Yes
ARC024	72.49	Yes	67.21	Yes
ARC025	72.87	Yes	67.73	Yes
ARC026	73.00	Yes	67.75	Yes
ARC027	73.16	Yes	68.31	Yes
ARC028	76.10	Yes	69.31	Yes
ARC029	76.10	Yes	69.86	Yes
ARC030	78.24	Yes	71.17	Yes
ARC031	78.39	Yes	72.00	Yes
ARC032	80.77	Yes	72.39	Yes
ARC033	59.69	Yes	59.00	Yes
ARC034	63.43	Yes	59.91	Yes
ARC035	63.84	Yes	60.03	Yes
ARC036	65.44	Yes	60.97	Yes
ARC037	67.26	Yes	61.86	Yes
ARC038	68.91	Yes	62.85	Yes
ARC039	70.30	Yes	64.10	Yes
ARC040	70.37	Yes	64.63	Yes
ARC041	70.69	Yes	65.64	Yes
ARC042	72.34	Yes	67.22	Yes
ARC043	72.64	Yes	68.79	Yes
ARC044	72.87	Yes	69.81	Yes
ARC045	70.78	Yes	66.37	Yes
ARC046	71.02	Yes	67.67	Yes
ARC047	72.06	Yes	68.37	Yes
ARC048	72.49	Yes	68.96	Yes
ARC049	58.17	Yes	57.40	Yes
ARC050	61.35	Yes	57.74	Yes
ARC051	62.08	Yes	58.03	Yes

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Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
ARC052	63.50	Yes	58.61	Yes
ARC056	65.64	Yes	60.73	Yes
ARC057	66.67	Yes	61.11	Yes
ARC058	69.01	Yes	62.24	Yes
ARC059	73.14	Yes	64.41	Yes
MAG001	75.61	Yes	74.10	Yes
MAG002	75.81	Yes	74.21	Yes
MAG003	76.15	Yes	74.35	Yes
MAG004	77.20	Yes	74.52	Yes
MAG005	77.26	Yes	74.53	Yes
MAG006	77.38	Yes	74.54	Yes
MAG008	77.50	Yes	74.33	Yes
MAG009	79.12	Yes	74.44	Yes
MAG010	79.98	Yes	74.86	Yes
MAG011	82.02	Yes	75.21	Yes
MAG012	78.27	Yes	74.62	Yes
MAG013	79.05	Yes	74.75	Yes
MAG014	79.44	Yes	74.95	Yes
MAG015	79.60	Yes	76.89	Yes
MAG016	80.33	Yes	75.08	Yes
MAG017	80.44	Yes	75.08	Yes
MAG018	80.87	Yes	78.24	Yes
MAG019	80.90	Yes	78.24	Yes
MAG020	80.92	Yes	75.14	Yes
MAG021	80.92	Yes	78.40	Yes
MAG023	76.25	Yes	74.61	Yes
MAG024	76.26	Yes	74.64	Yes
MAG025	79.57	Yes	76.51	Yes
MAG026	81.22	Yes	78.17	Yes
MAG027	76.99	Yes	75.50	Yes
MAG028	77.25	Yes	75.60	Yes
MAG029	82.52	Yes	77.47	Yes
MAG030	84.29	Yes	78.36	Yes
MAG031	84.30	Yes	78.74	Yes
MAG032	84.30	Yes	79.44	Yes
MAG033	84.30	Yes	81.05	Yes
MAG034	84.30	Yes	82.36	Yes
MAG035	84.30	Yes	82.74	Yes
MAG036	84.34	Yes	82.90	Yes
MAG037	84.88	Yes	82.91	Yes
MAG038	85.72	Yes	82.93	Yes
MAG039	81.52	Yes	80.71	Yes
MAG040	84.62	Yes	82.50	Yes
MAG041	85.91	Yes	83.20	Yes
MAG125	80.98	Yes	77.53	Yes
MAG128	78.12	Yes	75.96	Yes

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Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
OARC01	76.11	No	75.50	Yes
OARC02	72.50	No	72.50	Yes
OARC03	73.50	No	73.50	Yes
OARC04	84.50	No	84.50	Yes
OARC05	73.50	No	73.50	Yes
OARC06	87.00	No	87.00	Yes
OMAG02	81.23	No	80.50	Yes
OMAG04	88.00	No	88.00	Yes
OROB01	91.84	No	90.00	Yes
OROB02	91.00	No	91.00	Yes
OROB03	91.84	No	90.50	Yes
OROB04	91.00	No	91.00	Yes
OROB05	89.50	No	89.50	Yes
OUN201	85.53	No	85.50	Yes
OUN202	89.50	No	89.50	Yes
OUN203	89.00	No	89.00	Yes
OUN301	92.00	No	92.00	Yes
OUN302	86.50	No	86.50	Yes
OUN303	92.50	No	92.50	Yes
OUN304	87.00	No	87.00	Yes
OUN305	87.50	No	87.50	Yes
OUN306	84.66	No	83.50	Yes
OUN401	91.26	No	88.50	Yes
OUN402	94.50	No	94.50	Yes
OUN403	89.50	No	89.50	Yes
OUN404	95.50	No	95.50	Yes
OUN405	98.50	No	98.50	Yes
ROB001	84.30	Yes	83.15	Yes
ROB002	84.68	Yes	83.41	Yes
ROB003	86.35	Yes	84.24	Yes
ROB004	88.71	Yes	84.95	Yes
ROB005	89.31	Yes	85.09	Yes
ROB006	89.32	Yes	85.17	Yes
ROB007	89.66	Yes	85.27	Yes
ROB008	89.65	Yes	85.46	Yes
ROB009	89.65	Yes	85.92	Yes
ROB010	89.59	Yes	85.95	Yes
ROB011	90.19	Yes	86.71	Yes
ROB012	90.54	Yes	87.09	Yes
ROB013	90.66	Yes	87.23	Yes
ROB014	90.70	Yes	87.26	Yes
ROB015	91.49	Yes	87.84	Yes
ROB016	91.84	Yes	88.04	Yes
ROB017	91.84	Yes	88.04	Yes
ROB018	91.84	Yes	88.04	Yes
ROB019	91.67	Yes	87.39	Yes

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Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
ROB020	92.87	Yes	87.81	Yes
ROB021	93.70	Yes	88.72	Yes
ROB022	93.80	Yes	88.89	Yes
ROB023	83.19	Yes	82.82	Yes
ROB024	83.80	Yes	83.35	Yes
ROB025	84.92	Yes	84.39	Yes
ROB026	82.13	Yes	81.70	Yes
ROB027	82.15	Yes	81.70	Yes
ROB028	82.16	Yes	81.82	Yes
ROB029	82.72	Yes	82.72	Yes
ROB030	80.79	Yes	82.29	Yes
ROB031	83.77	Yes	82.46	Yes
ROB032	86.21	Yes	83.83	Yes
ROB033	87.35	Yes	84.81	Yes
ROB034	87.83	Yes	83.22	Yes
ROB035	90.95	Yes	85.78	Yes
ROB123	82.12	Yes	82.66	Yes
UN1001	78.29	Yes	77.90	Yes
UN1002	80.59	Yes	78.88	Yes
UN1004	81.35	Yes	80.45	Yes
UN1005	85.02	Yes	81.57	Yes
UN1006	85.12	Yes	81.64	Yes
UN1007	81.15	Yes	80.22	Yes
UN1008	82.48	Yes	80.89	Yes
UN1009	85.29	Yes	83.65	Yes
UN1010	86.20	Yes	84.43	Yes
UN1011	86.20	Yes	84.43	Yes
UN1012	86.20	Yes	84.56	Yes
UN1014	83.56	Yes	80.79	Yes
UN1015	84.84	Yes	84.31	Yes
UN1016	85.51	Yes	81.88	Yes
UN1101	78.90	Yes	78.22	Yes
UN1109	84.39	Yes	82.39	Yes
UN1115	86.64	Yes	86.23	Yes
UN1209	84.58	Yes	82.81	Yes
UN1309	84.91	Yes	83.08	Yes
UN2002	72.35	Yes	72.70	Yes
UN2003	72.67	Yes	72.70	Yes
UN2004	73.77	Yes	72.73	Yes
UN2005	76.05	Yes	72.95	Yes
UN2006	76.58	Yes	73.21	Yes
UN2007	76.70	Yes	73.23	Yes
UN2008	77.03	Yes	73.34	Yes
UN2009	77.18	Yes	73.39	Yes
UN2010	77.19	Yes	74.18	Yes
UN2011	70.00	Yes	0.00	Yes

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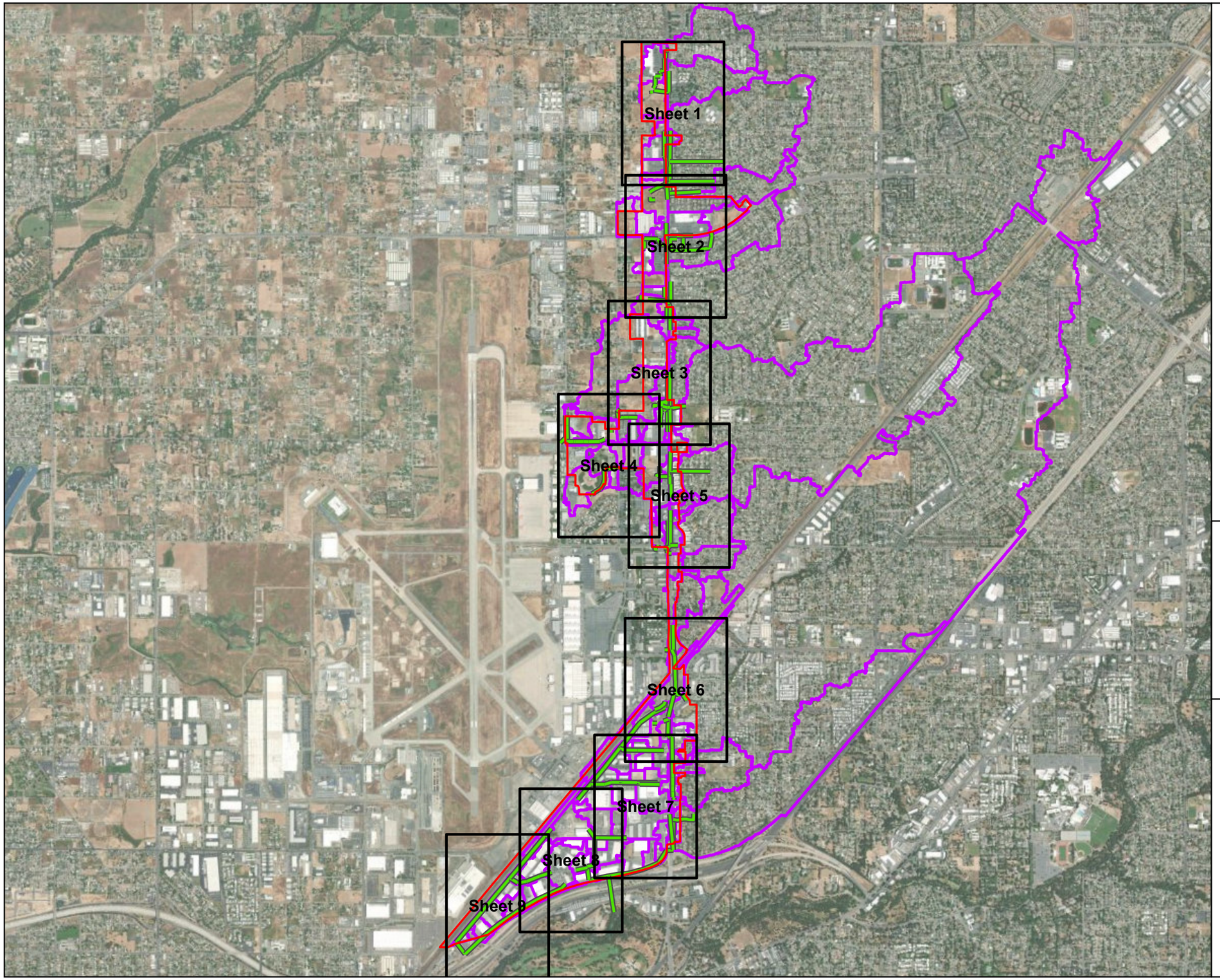
Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
UN2012	82.74	Yes	82.50	Yes
UN2013	86.01	Yes	82.89	Yes
UN2014	87.32	Yes	83.14	Yes
UN2015	88.36	Yes	83.61	Yes
UN2016	86.21	Yes	82.92	Yes
UN2017	86.21	Yes	83.06	Yes
UN2018	87.33	Yes	83.62	Yes
UN3001	72.35	Yes	72.11	Yes
UN3002	73.14	Yes	72.72	Yes
UN3003	73.15	Yes	72.72	Yes
UN3005	74.21	Yes	73.30	Yes
UN3006	77.04	Yes	74.85	Yes
UN3007	78.73	Yes	76.38	Yes
UN3008	79.39	Yes	76.62	Yes
UN3009	81.18	Yes	76.93	Yes
UN3010	81.53	Yes	78.09	Yes
UN3011	81.68	Yes	78.44	Yes
UN3012	84.41	Yes	79.94	Yes
UN3013	85.80	Yes	80.80	Yes
UN3014	87.76	Yes	82.73	Yes
UN3015	76.19	Yes	75.52	Yes
UN3016	81.64	Yes	79.30	Yes
UN3017	81.64	Yes	79.42	Yes
UN3018	83.30	Yes	80.01	Yes
UN3019	85.00	Yes	80.63	Yes
UN3020	85.03	Yes	80.87	Yes
UN3027	81.43	Yes	79.27	Yes
UN3028	81.51	Yes	78.76	Yes
UN3029	83.31	Yes	80.74	Yes
UN3030	84.71	Yes	82.62	Yes
UN3031	85.66	Yes	83.47	Yes
UN3034	84.65	Yes	77.28	Yes
UN3035	87.01	Yes	80.70	Yes
UN3037	84.66	Yes	80.28	Yes
UN3038	86.06	Yes	77.94	Yes
UN3039	86.06	Yes	77.95	Yes
UN3040	86.06	Yes	81.89	Yes
UN3042	89.29	Yes	81.79	Yes
UN3043	90.39	Yes	82.27	Yes
UN3045	72.00	Yes	0.00	Yes
UN3046	72.00	Yes	0.00	Yes
UN3116	79.17	Yes	75.57	Yes
UN4001	88.90	Yes	86.64	Yes
UN4002	89.74	Yes	87.27	Yes
UN4003	90.69	Yes	87.06	Yes
UN4004	90.70	Yes	87.88	Yes

PROJECT: **8618 - North Watt Specific Plan**
LOCATION: **COUNTY OF SACRAMENTO, CA**
SUBJECT: **Nolte HGL Comparison Between Existing and Proposed**
METHOD: **XPSWMM v2020.1**

Node Name	Existing HGL (ft)	Compliant in Existing?	Proposed HGL (ft)	Compliant in Proposed?
UN4005	90.70	Yes	88.29	Yes
UN4006	90.96	Yes	88.42	Yes
UN4007	91.16	Yes	88.97	Yes
UN4008	91.88	Yes	90.58	Yes
UN4009	94.10	Yes	90.95	Yes
UN4010	99.77	Yes	91.98	Yes
UN4011	91.87	Yes	89.37	Yes
UN4012	91.87	Yes	89.38	Yes
UN4013	91.88	Yes	89.38	Yes
UN4014	91.26	Yes	88.23	Yes
UN4015	91.26	Yes	89.00	Yes
UN4016	91.26	Yes	89.03	Yes
UN4017	91.26	Yes	89.02	Yes
UN4020	80.00	Yes	88.12	Yes
UN5001	90.81	Yes	92.03	Yes
UN5002	97.03	Yes	94.14	Yes
UN5003	98.58	Yes	94.34	Yes
UN5004	98.58	Yes	94.53	Yes
UN5005	98.49	Yes	94.71	Yes
UN5006	99.26	Yes	95.16	Yes
UN5007	99.26	Yes	95.15	Yes
UN5008	99.26	Yes	96.16	Yes
UN5009	99.41	Yes	96.54	Yes
UN5010	92.87	Yes	91.70	Yes
UN5011	93.65	Yes	92.21	Yes
UN5012	93.84	Yes	92.68	Yes
UN5013	97.48	Yes	93.56	Yes
UN5014	97.49	Yes	93.56	Yes
UN5015	97.49	Yes	93.56	Yes
UN5016	80.00	Yes	92.02	Yes

APPENDIX G

XPSWMM Drainage System Layout



Watershed Boundary

North Watt

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

PROPOSED CONDITIONS XPSWMM LAYOUT

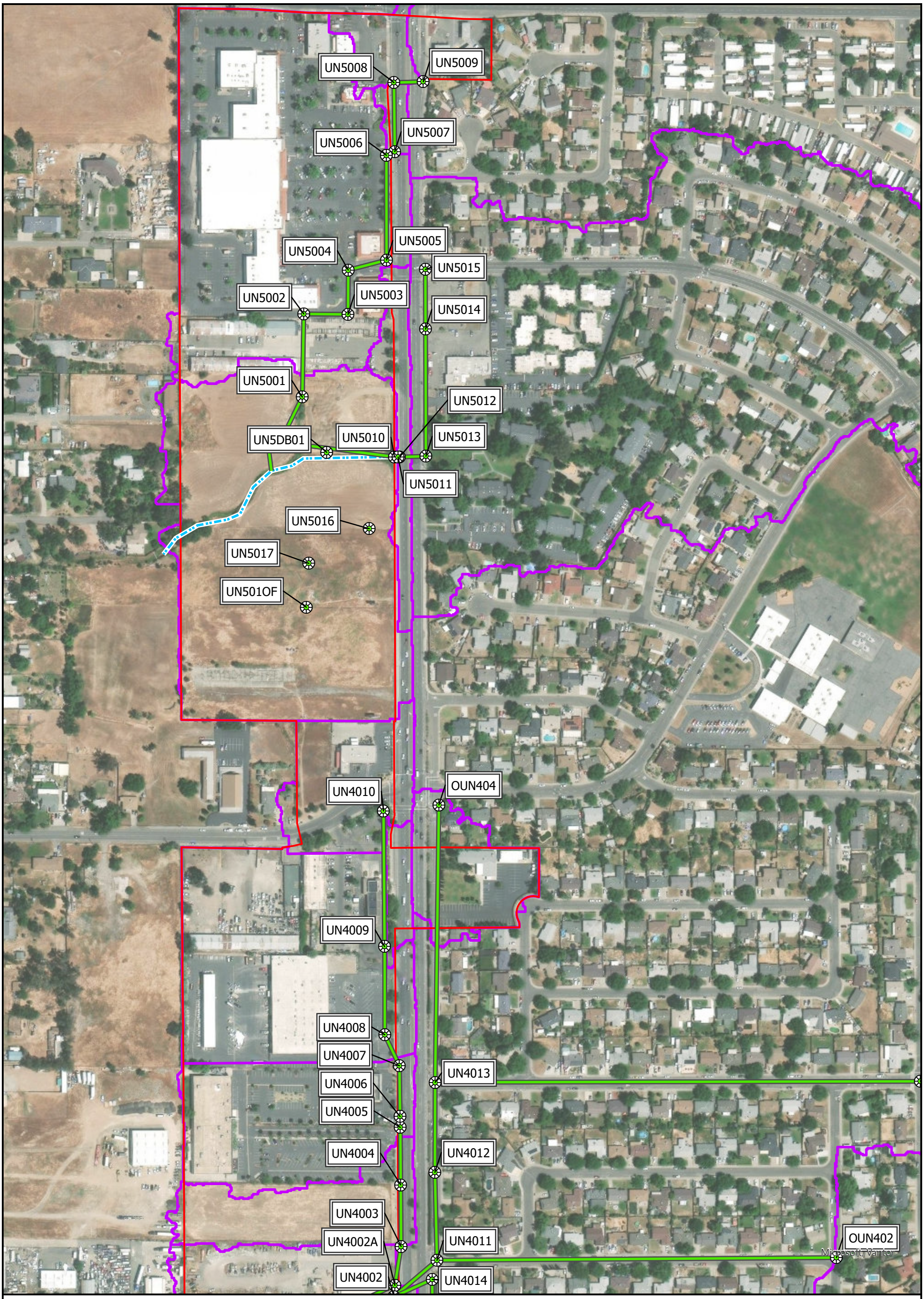
SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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APPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 1

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

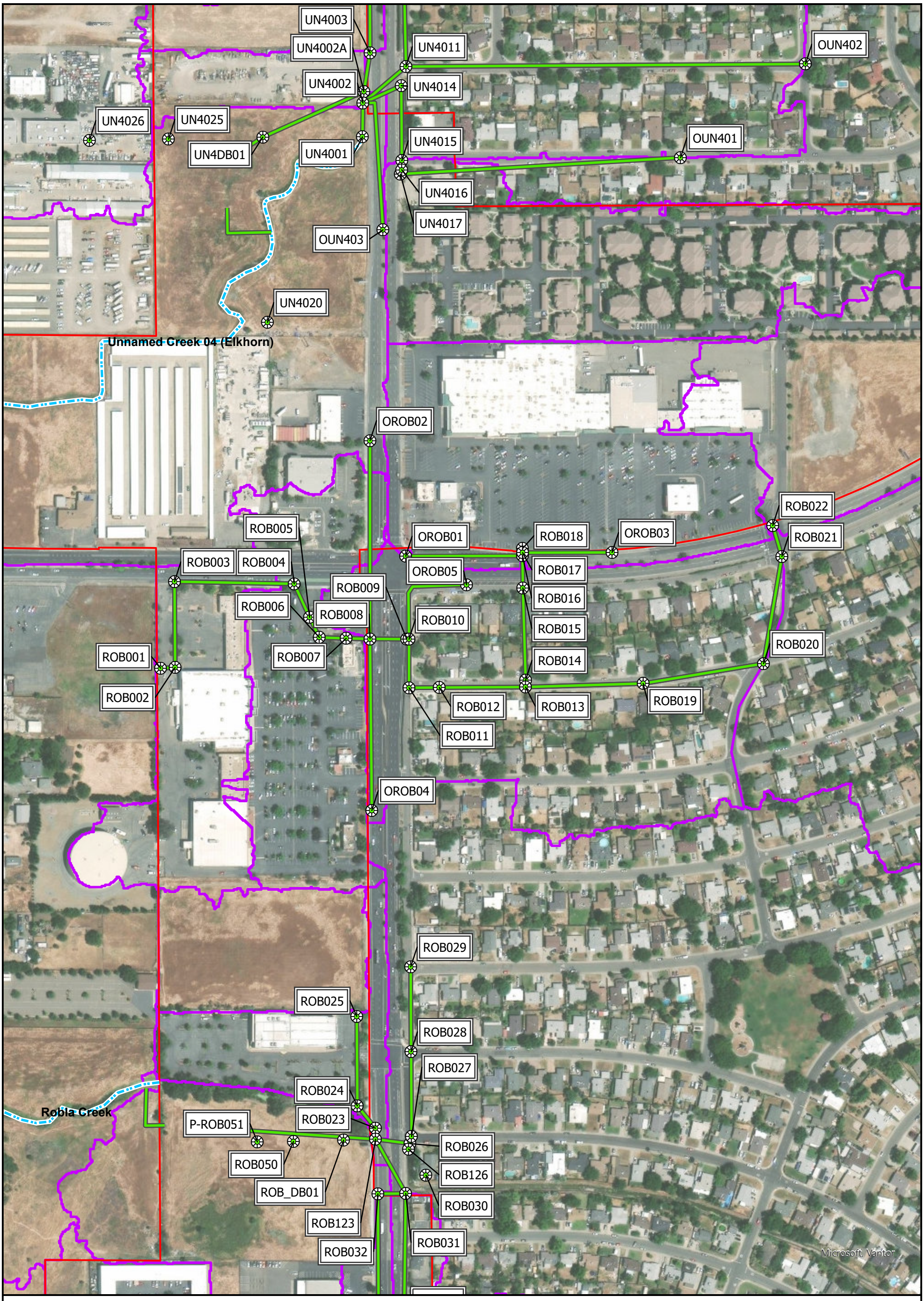
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Feet

NORTH

WOOD RODGERS

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APPPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 2

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

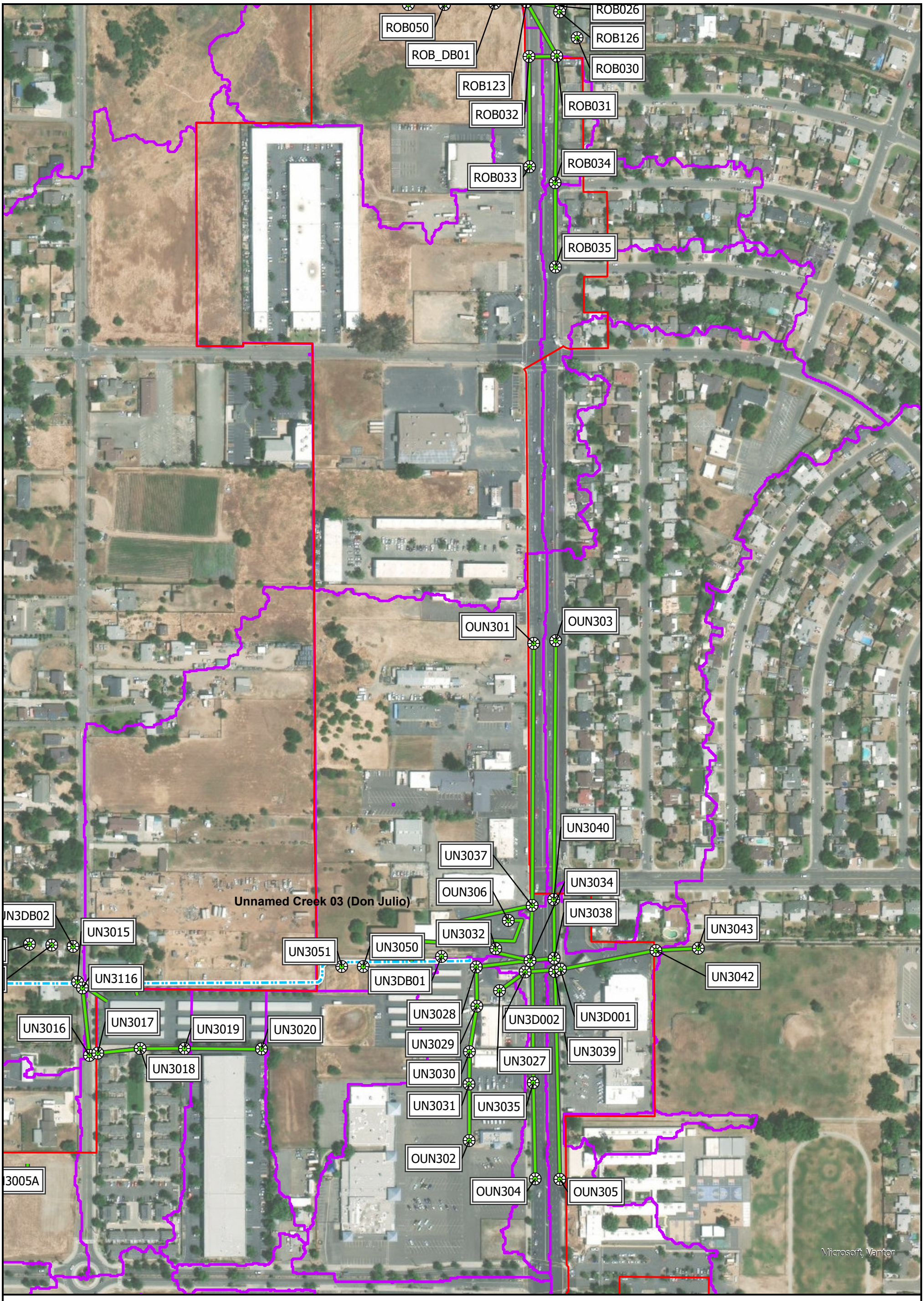
Legend
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

0 100 200 400
Feet

NORTH

WOOD RODGERS

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PROPOSED CONDTIONS XPSWMM LAYOUT 3

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

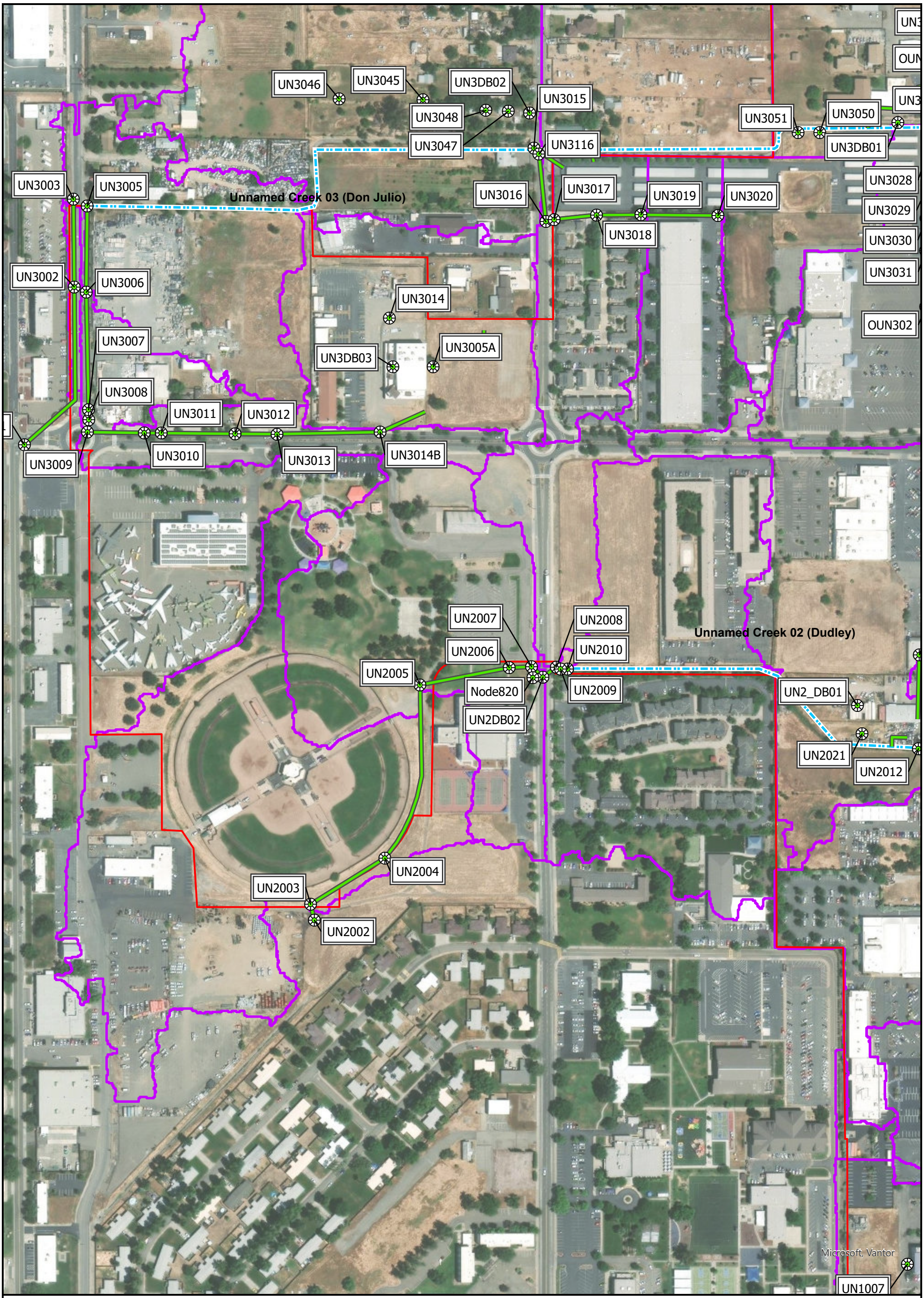
Legend
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

0 100 200 400
Feet

NORTH

WOOD RODGERS

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PROPOSED CONDTIONS XPSWMM LAYOUT 4

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

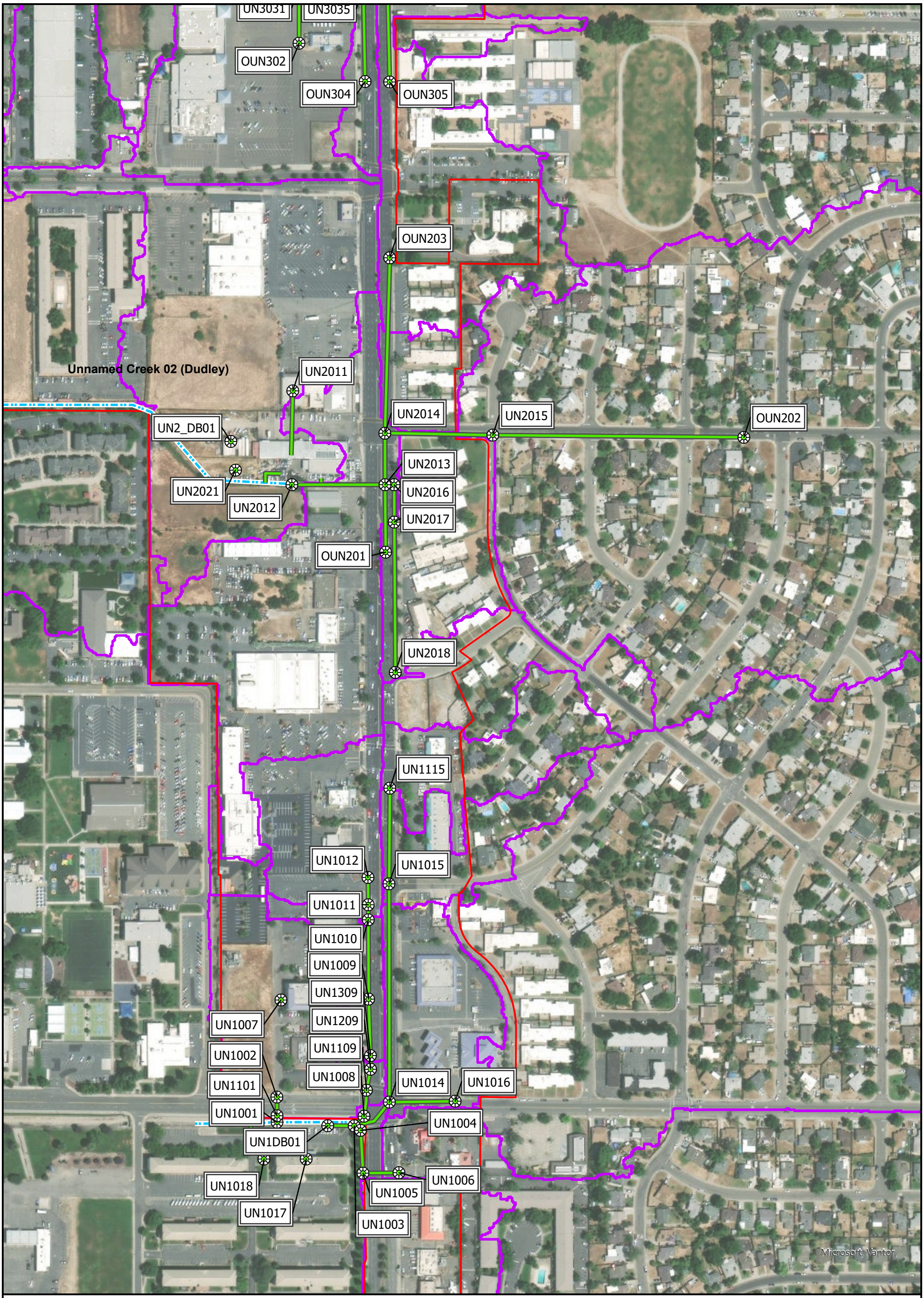
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Feet

NORTH

WOOD RODGERS

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APPPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 5

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- XPSWMM Node
- Watershed Boundary
- North Watt
- Creek Centerline
- Storm Drain

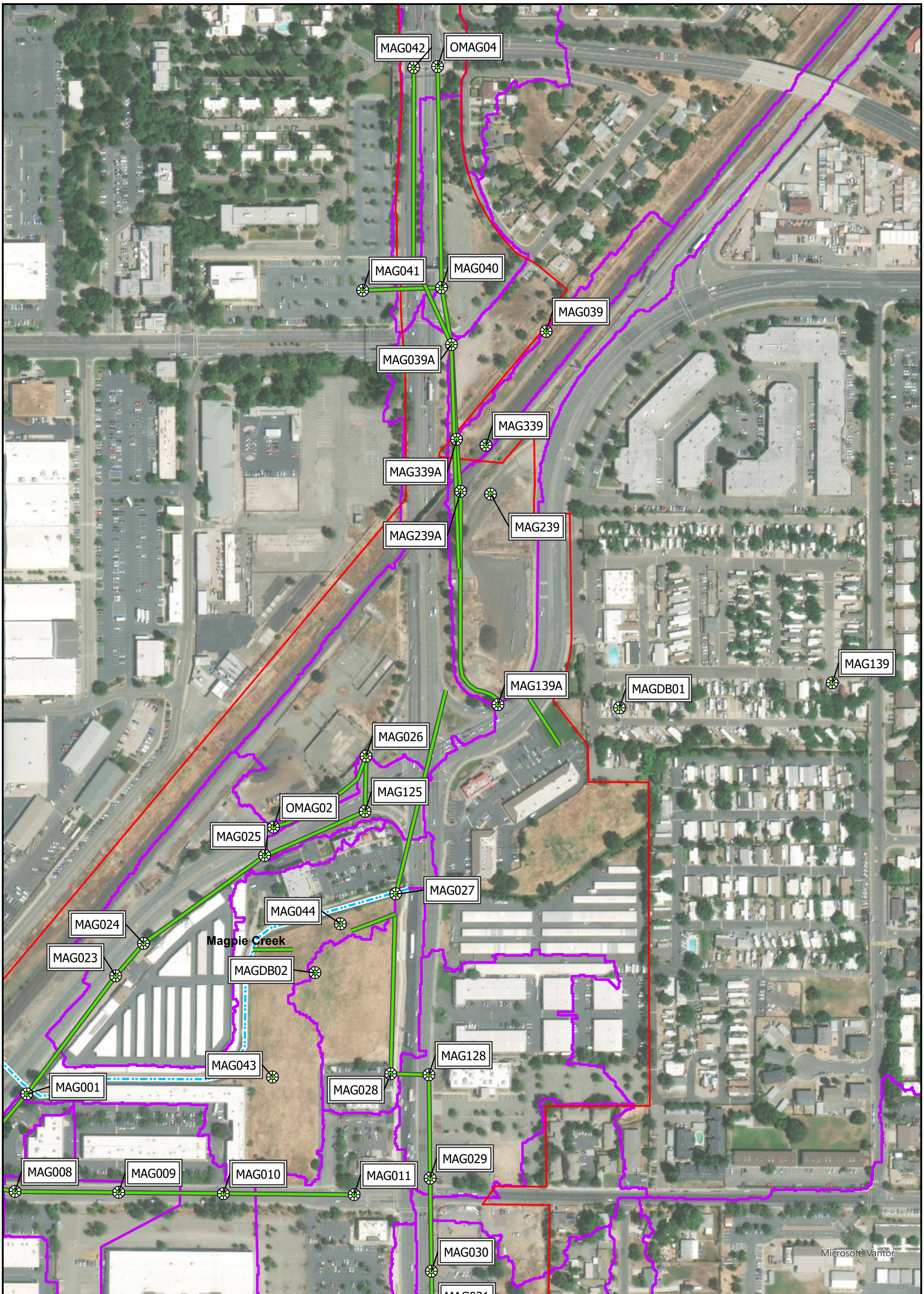
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Feet

NORTH

WOOD RODGERS

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APPPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 6

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- XPSWMM Node
- Watershed Boundary
- North Watt
- Creek Centerline
- Storm Drain

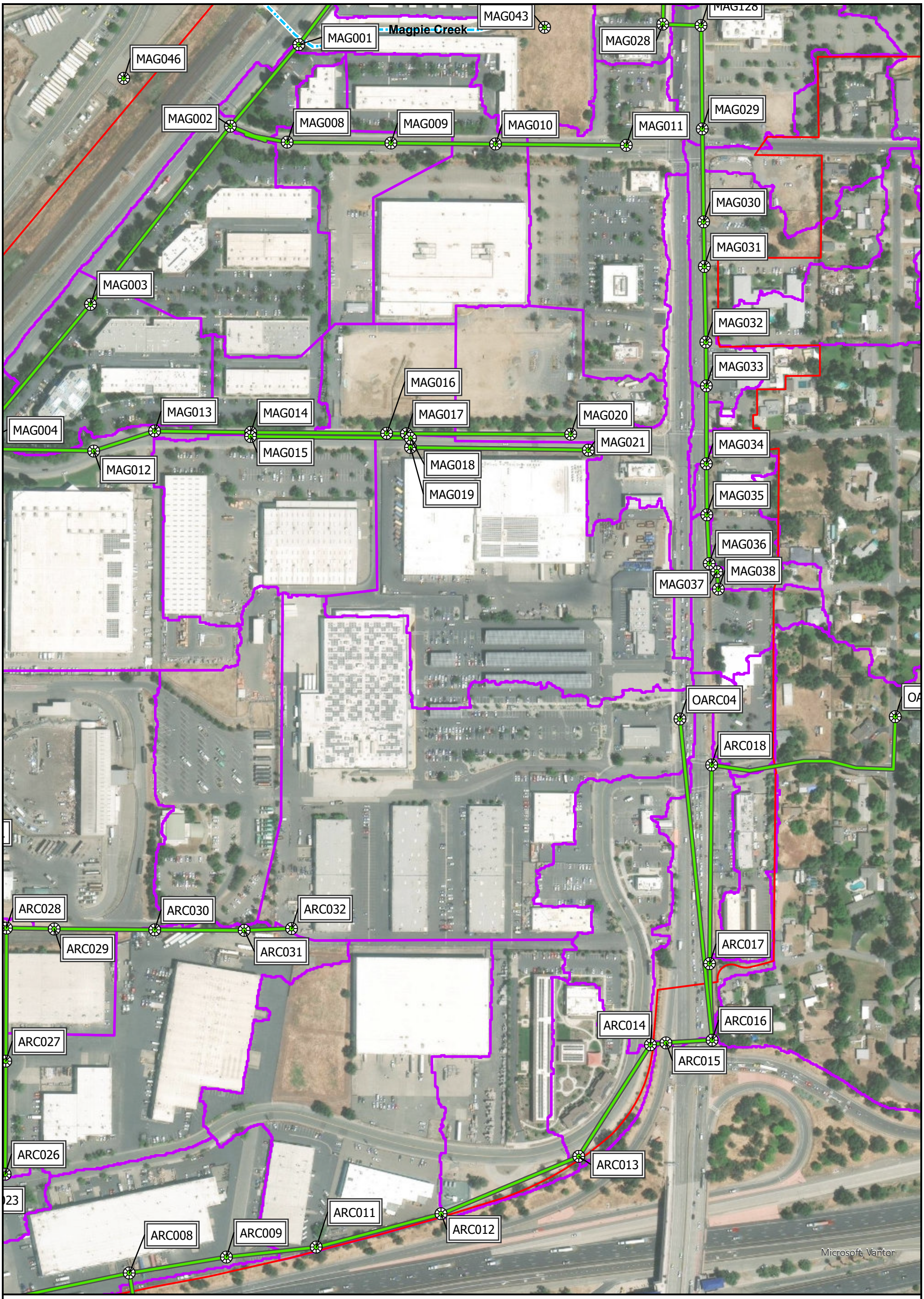
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Feet

NORTH

WOOD RODGERS

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APPPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 7

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

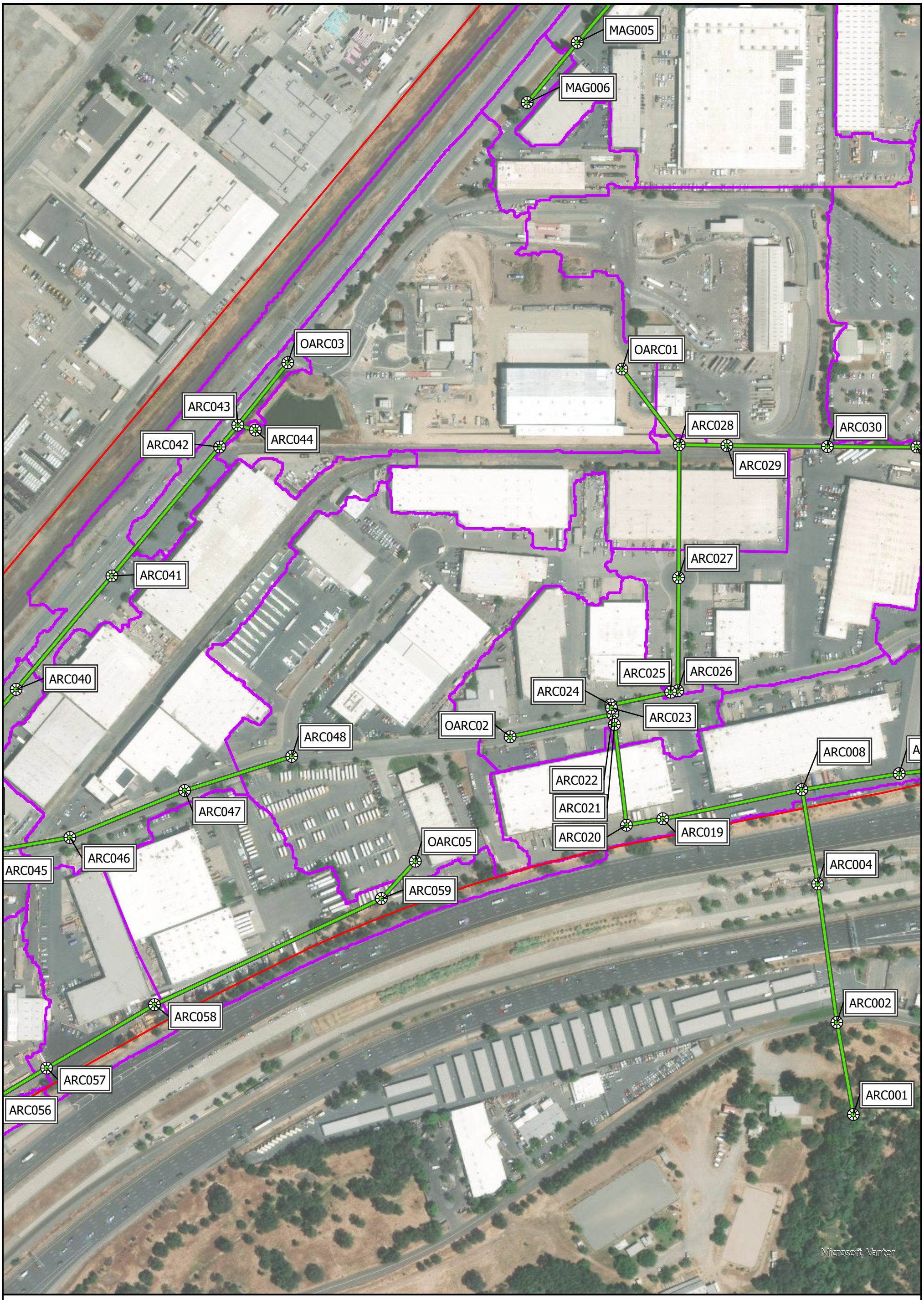
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Feet

NORTH

WOOD RODGERS

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APPPENDIX G



PROPOSED CONDTIONS XPSWMM LAYOUT 8

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

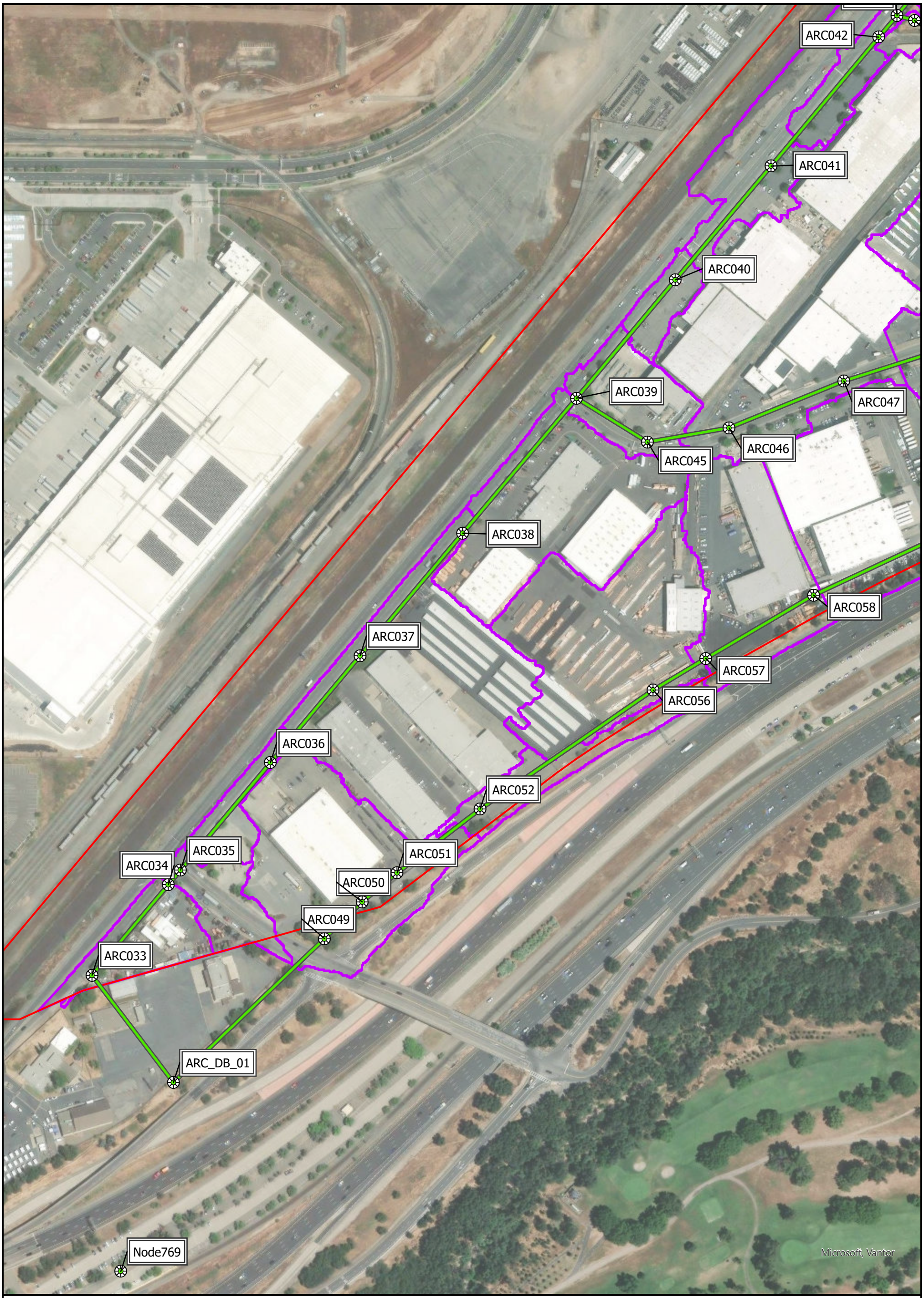
- XPSWMM Node
- North Watt
- Storm Drain
- Watershed Boundary
- Creek Centerline

0 100 200 400
Feet

NORTH

WOOD RODGERS

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PROPOSED CONDTIONS XPSWMM LAYOUT 9

SACRAMENTO COUNTY

SACRMAMENTO, CA
OCTOBER 2026

Legend

- XPSWMM Node
- Watershed Boundary
- North Watt
- Creek Centerline
- Storm Drain

0 100 200 400
Feet

NORTH

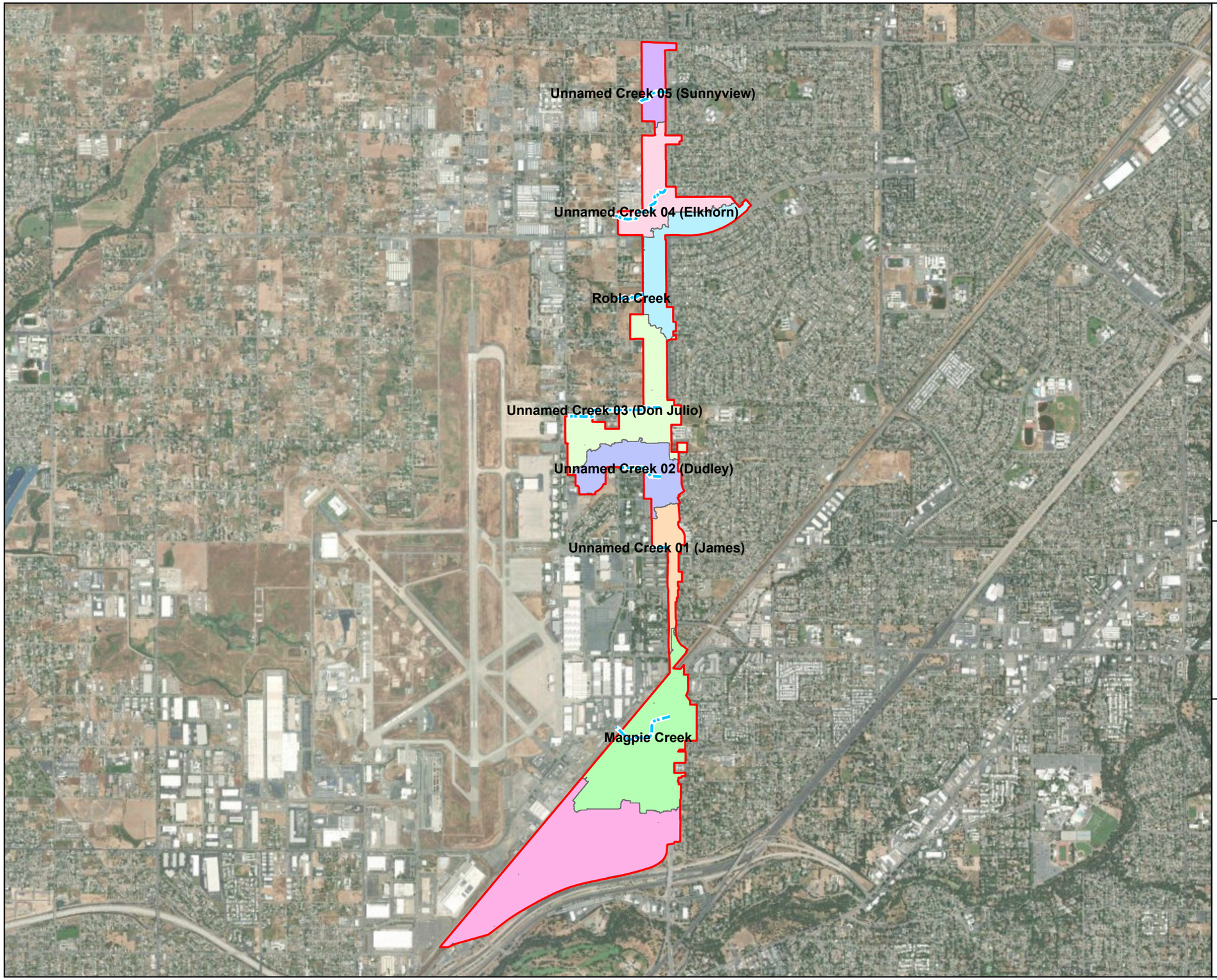
WOOD RODGERS

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APPPENDIX G

APPENDIX H

Sacramento Area Hydrology Model Parameters and Results



Watersheds

- Arcade Creek
- Magpie Creek
- Robla Creek
- Unnamed Creek 01
- Unnamed Creek 02
- Unnamed Creek 03
- Unnamed Creek 04
- Unnamed Creek 05

- North Watt
- Creek Centerline

NORTH

0 1,250 2,500 5,000

Feet

DRAINAGE STUDY FOR
NORTH WATT SPECIFIC PLAN

SAHM WATERSHED LAYOUT

SACRAMENTO, CA
October 2026

SACRAMENTO COUNTY

WOOD RODGERS

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APPENDIX H

SAHM

PROJECT REPORT

General Model Information

Project Name:	North_Watt_Specific_Plan
Site Name:	North Watt Specific Plan
Site Address:	
City:	Sacramento, CA
Report Date:	3/5/2026
Gage:	RANCHO C
Data Start:	1961/10/01
Data End:	2004/09/30
Timestep:	Hourly
Precip Scale:	0.944
Version Date:	2021/05/25

POC Thresholds

DRAFT

Low Flow Threshold for POC1:	25 Percent of the 2 Year
High Flow Threshold for POC1:	10 Year
Low Flow Threshold for POC2:	25 Percent of the 2 Year
High Flow Threshold for POC2:	10 Year
Low Flow Threshold for POC3:	25 Percent of the 2 Year
High Flow Threshold for POC3:	10 Year
Low Flow Threshold for POC4:	25 Percent of the 2 Year
High Flow Threshold for POC4:	10 Year
Low Flow Threshold for POC5:	25 Percent of the 2 Year
High Flow Threshold for POC5:	10 Year
Low Flow Threshold for POC6:	25 Percent of the 2 Year
High Flow Threshold for POC6:	10 Year
Low Flow Threshold for POC7:	25 Percent of the 2 Year
High Flow Threshold for POC7:	10 Year
Low Flow Threshold for POC8:	25 Percent of the 2 Year
High Flow Threshold for POC8:	10 Year

Landuse Basin Data

Pre-Project Land Use

Arcade

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Grass,Flat(0-1%)	17.2
C,Urban,Flat(0-1%)	2.7
D,Grass,Flat(0-1%)	8.2
D,Urban,Flat(0-1%)	20.2
Pervious Total	48.3

Impervious Land Use	acre
Imperv,Flat(0-1%)	155.9
Impervious Total	155.9
Basin Total	204.2

Element Flows To:
Surface Interflow Groundwater

DRAFT

Magpie

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	13.9
D,Urban,Flat(0-1%)	15
C,Grass,Flat(0-1%)	0.2
C,Urban,Flat(0-1%)	0.6
Pervious Total	29.7

Impervious Land Use	acre
Imperv,Flat(0-1%)	122.2
Impervious Total	122.2
Basin Total	151.9

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

UnID1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	2.2
D,Urban,Flat(0-1%)	2.6
Pervious Total	4.8

Impervious Land Use	acre
Imperv,Flat(0-1%)	26
Impervious Total	26
Basin Total	30.8

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

UnID2

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	24.8
D,Urban,Flat(0-1%)	4.3
C,Grass,Flat(0-1%)	1.8
Pervious Total	30.9

Impervious Land Use	acre
Imperv,Flat(0-1%)	32.4
Impervious Total	32.4
Basin Total	63.3

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

UnID3

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Grass,Flat(0-1%)	11.1
C,Urban,Flat(0-1%)	3.4
D,Grass,Flat(0-1%)	7
D,Urban,Flat(0-1%)	5.8
Pervious Total	27.3

Impervious Land Use	acre
Imperv,Flat(0-1%)	66.7
Impervious Total	66.7
Basin Total	94

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

Robla

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Grass,Flat(0-1%)	16
C,Urban,Flat(0-1%)	1.5
D,Grass,Flat(0-1%)	3.4
D,Urban,Flat(0-1%)	2.7
Pervious Total	23.6

Impervious Land Use	acre
Imperv,Flat(0-1%)	37.9
Impervious Total	37.9
Basin Total	61.5

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

UnID4

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Grass,Flat(0-1%)	15.7
C,Urban,Flat(0-1%)	3.7
D,Grass,Flat(0-1%)	3.3
D,Urban,Flat(0-1%)	1.9
Pervious Total	24.6

Impervious Land Use	acre
Imperv,Flat(0-1%)	36.9
Impervious Total	36.9
Basin Total	61.5

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

UnID5

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	14.9
D,Urban,Flat(0-1%)	1.5
Pervious Total	16.4

Impervious Land Use	acre
Imperv,Flat(0-1%)	12.8
Impervious Total	12.8
Basin Total	29.2

Element Flows To:

Surface	Interflow	Groundwater

DRAFT

Mitigated Land Use

Arcade

Bypass: No

GroundWater: No

Pervious Land Use	acre
C,Grass,Flat(0-1%)	15.6
C,Urban,Flat(0-1%)	2.8
D,Grass,Flat(0-1%)	7.8
D,Urban,Flat(0-1%)	20.5
Pervious Total	46.7

Impervious Land Use	acre
Imperv,Flat(0-1%)	157.5
Impervious Total	157.5

Basin Total 204.2

Element Flows To:

Surface	Interflow	Groundwater
Arcade_Pond	Arcade_Pond	

DRAFT

Magpie

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	2.6
D,Urban,Flat(0-1%)	16.3
C,Grass,Flat(0-1%)	0.2
C,Urban,Flat(0-1%)	0.6
Pervious Total	19.7

Impervious Land Use	acre
Imperv,Flat(0-1%)	132.3
Impervious Total	132.3
Basin Total	152

Element Flows To:

Surface	Interflow	Groundwater
Magpie_Pond	Magpie_Pond	

DRAFT

UnID1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Urban,Flat(0-1%)	2.5
D,Grass,Flat(0-1%)	0.8
Pervious Total	3.3

Impervious Land Use	acre
Imperv,Flat(0-1%)	27.6
Impervious Total	27.6
Basin Total	30.9

Element Flows To:

Surface	Interflow	Groundwater
UN1DB01	UN1DB01	

DRAFT

UnID2

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Grass,Flat(0-1%)	16.3
D,Urban,Flat(0-1%)	5.1
C,Urban,Flat(0-1%)	0.2
Pervious Total	21.6

Impervious Land Use	acre
Imperv,Flat(0-1%)	41.7
Impervious Total	41.7
Basin Total	63.3

Element Flows To:

Surface	Interflow	Groundwater
UN2DB01	UN2DB01	

DRAFT

UnID3

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Urban,Flat(0-1%)	4.2
D,Grass,Flat(0-1%)	1.5
D,Urban,Flat(0-1%)	6.2
C,Grass,Flat(0-1%)	0.7
Pervious Total	12.6

Impervious Land Use	acre
Imperv,Flat(0-1%)	81.3
Impervious Total	81.3
Basin Total	93.9

Element Flows To:

Surface	Interflow	Groundwater
UnID3	UnID3	

DRAFT

Robla

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Urban,Flat(0-1%)	3.2
D,Urban,Flat(0-1%)	3.4
Pervious Total	6.6

Impervious Land Use	acre
Imperv,Flat(0-1%)	54.9
Impervious Total	54.9
Basin Total	61.5

Element Flows To:

Surface	Interflow	Groundwater
Robla_Pond	Robla_Pond	

DRAFT

UnID4

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C,Urban,Flat(0-1%)	5.3
D,Urban,Flat(0-1%)	2.2
C,Grass,Flat(0-1%)	0.2
Pervious Total	7.7

Impervious Land Use	acre
Imperv,Flat(0-1%)	53.8
Impervious Total	53.8
Basin Total	61.5

Element Flows To:

Surface	Interflow	Groundwater
UN4DB1	UN4DB1	

DRAFT

UnID5

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
D,Urban,Flat(0-1%)	2.9
Pervious Total	2.9

Impervious Land Use	acre
Imperv,Flat(0-1%)	26.3
Impervious Total	26.3
Basin Total	29.2

Element Flows To:

Surface	Interflow	Groundwater
UN5DB1	UN5DB1	

DRAFT

Routing Elements
Pre-Project Routing

DRAFT

Mitigated Routing

Arcade_Pond

Bottom Length: 450.00 ft.
Bottom Width: 150.00 ft.
Depth: 8 ft.
Volume at riser head: 7.1112 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 4 ft.
Riser Diameter: 60 in.
Notch Type: Rectangular
Notch Width: 3.000 ft.
Notch Height: 2.000 ft.
Orifice 1 Diameter: 18 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

DRAFT

Pond Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	1.549	0.000	0.000	0.000
0.0889	1.559	0.138	2.621	0.000
0.1778	1.569	0.277	3.707	0.000
0.2667	1.579	0.417	4.540	0.000
0.3556	1.589	0.558	5.242	0.000
0.4444	1.598	0.699	5.861	0.000
0.5333	1.608	0.842	6.421	0.000
0.6222	1.618	0.985	6.935	0.000
0.7111	1.628	1.130	7.414	0.000
0.8000	1.638	1.275	7.864	0.000
0.8889	1.648	1.421	8.289	0.000
0.9778	1.658	1.568	8.694	0.000
1.0667	1.668	1.716	9.080	0.000
1.1556	1.678	1.865	9.451	0.000
1.2444	1.689	2.014	9.808	0.000
1.3333	1.699	2.165	10.15	0.000
1.4222	1.709	2.316	10.48	0.000
1.5111	1.719	2.469	10.80	0.000
1.6000	1.729	2.622	11.12	0.000
1.6889	1.739	2.776	11.42	0.000
1.7778	1.750	2.931	11.72	0.000
1.8667	1.760	3.087	12.01	0.000
1.9556	1.770	3.244	12.29	0.000
2.0444	1.781	3.402	12.66	0.000
2.1333	1.791	3.561	13.32	0.000
2.2222	1.801	3.721	14.15	0.000
2.3111	1.812	3.881	15.10	0.000
2.4000	1.822	4.043	16.14	0.000
2.4889	1.832	4.205	17.28	0.000
2.5778	1.843	4.369	18.50	0.000
2.6667	1.853	4.533	19.79	0.000
2.7556	1.864	4.698	21.15	0.000

2.8444	1.874	4.864	22.58	0.000
2.9333	1.885	5.031	24.06	0.000
3.0222	1.896	5.200	25.61	0.000
3.1111	1.906	5.369	27.20	0.000
3.2000	1.917	5.538	28.86	0.000
3.2889	1.927	5.709	30.56	0.000
3.3778	1.938	5.881	32.31	0.000
3.4667	1.949	6.054	34.11	0.000
3.5556	1.960	6.228	35.96	0.000
3.6444	1.970	6.402	37.85	0.000
3.7333	1.981	6.578	39.78	0.000
3.8222	1.992	6.755	41.76	0.000
3.9111	2.003	6.932	43.78	0.000
4.0000	2.013	7.111	45.84	0.000
4.0889	2.024	7.290	47.44	0.000
4.1778	2.035	7.471	50.20	0.000
4.2667	2.046	7.652	53.71	0.000
4.3556	2.057	7.835	57.82	0.000
4.4444	2.068	8.018	62.44	0.000
4.5333	2.079	8.202	67.49	0.000
4.6222	2.090	8.388	72.91	0.000
4.7111	2.101	8.574	78.63	0.000
4.8000	2.112	8.761	84.61	0.000
4.8889	2.123	8.949	90.78	0.000
4.9778	2.134	9.139	97.07	0.000
5.0667	2.145	9.329	103.4	0.000
5.1556	2.156	9.520	109.7	0.000
5.2444	2.167	9.712	116.0	0.000
5.3333	2.179	9.906	122.2	0.000
5.4222	2.190	10.10	128.2	0.000
5.5111	2.201	10.29	133.9	0.000
5.6000	2.212	10.49	139.4	0.000
5.6889	2.224	10.68	144.5	0.000
5.7778	2.235	10.88	149.2	0.000
5.8667	2.246	11.08	153.6	0.000
5.9556	2.258	11.28	157.5	0.000
6.0444	2.269	11.48	161.0	0.000
6.1333	2.280	11.69	164.1	0.000
6.2222	2.292	11.89	166.9	0.000
6.3111	2.303	12.09	169.3	0.000
6.4000	2.315	12.30	171.5	0.000
6.4889	2.326	12.50	173.5	0.000
6.5778	2.338	12.71	177.2	0.000
6.6667	2.349	12.92	179.5	0.000
6.7556	2.361	13.13	181.8	0.000
6.8444	2.372	13.34	184.0	0.000
6.9333	2.384	13.55	186.2	0.000
7.0222	2.395	13.76	188.4	0.000
7.1111	2.407	13.98	190.5	0.000
7.2000	2.419	14.19	192.7	0.000
7.2889	2.430	14.41	194.7	0.000
7.3778	2.442	14.62	196.8	0.000
7.4667	2.454	14.84	198.8	0.000
7.5556	2.466	15.06	200.9	0.000
7.6444	2.477	15.28	202.8	0.000
7.7333	2.489	15.50	204.8	0.000
7.8222	2.501	15.72	206.7	0.000
7.9111	2.513	15.95	208.7	0.000

DRAFT

8.0000	2.525	16.17	210.6	0.000
8.0889	2.537	16.39	212.4	0.000

DRAFT

Magpie_Pond

Bottom Length: 562.50 ft.
Bottom Width: 187.50 ft.
Depth: 9 ft.
Volume at riser head: 10.8182 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 4 ft.
Riser Diameter: 60 in.
Notch Type: Rectangular
Notch Width: 3.000 ft.
Notch Height: 1.000 ft.
Orifice 1 Diameter: 18 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

Pond Hydraulic Table

DRAFT

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	2.421	0.000	0.000	0.000
65.100	2.435	0.242	2.780	0.000
65.200	2.448	0.487	3.932	0.000
65.300	2.462	0.732	4.815	0.000
65.400	2.476	0.979	5.560	0.000
65.500	2.490	1.227	6.217	0.000
65.600	2.504	1.477	6.810	0.000
65.700	2.518	1.728	7.356	0.000
65.800	2.532	1.981	7.864	0.000
65.900	2.546	2.235	8.341	0.000
66.000	2.560	2.490	8.792	0.000
66.100	2.574	2.747	9.221	0.000
66.200	2.588	3.005	9.631	0.000
66.300	2.602	3.265	10.02	0.000
66.400	2.616	3.526	10.40	0.000
66.500	2.631	3.788	10.76	0.000
66.600	2.645	4.052	11.12	0.000
66.700	2.659	4.317	11.46	0.000
66.800	2.673	4.584	11.79	0.000
66.900	2.688	4.852	12.11	0.000
67.000	2.702	5.121	12.43	0.000
67.100	2.717	5.392	12.74	0.000
67.200	2.731	5.665	13.04	0.000
67.300	2.745	5.939	13.33	0.000
67.400	2.760	6.214	13.62	0.000
67.500	2.774	6.491	13.90	0.000
67.600	2.789	6.769	14.17	0.000
67.700	2.803	7.049	14.44	0.000
67.800	2.818	7.330	14.71	0.000
67.900	2.833	7.612	14.97	0.000
68.000	2.847	7.896	15.22	0.000
68.100	2.862	8.182	15.79	0.000
68.200	2.877	8.469	16.62	0.000
68.300	2.891	8.757	17.61	0.000

68.400	2.906	9.047	18.74	0.000
68.500	2.921	9.339	19.98	0.000
68.600	2.936	9.631	21.32	0.000
68.700	2.951	9.926	22.76	0.000
68.800	2.965	10.22	24.28	0.000
68.900	2.980	10.51	25.89	0.000
69.000	2.995	10.81	27.57	0.000
69.100	3.010	11.11	29.47	0.000
69.200	3.025	11.42	32.75	0.000
69.300	3.040	11.72	36.92	0.000
69.400	3.055	12.02	41.80	0.000
69.500	3.070	12.33	47.28	0.000
69.600	3.085	12.64	53.25	0.000
69.700	3.101	12.95	59.64	0.000
69.800	3.116	13.26	66.35	0.000
69.900	3.131	13.57	73.29	0.000
70.000	3.146	13.88	80.39	0.000
70.100	3.161	14.20	87.54	0.000
70.200	3.177	14.52	94.67	0.000
70.300	3.192	14.84	101.6	0.000
70.400	3.207	15.16	108.4	0.000
70.500	3.223	15.48	115.0	0.000
70.600	3.238	15.80	121.1	0.000
70.700	3.254	16.12	126.8	0.000
70.800	3.269	16.45	132.1	0.000
70.900	3.285	16.78	136.8	0.000
71.000	3.300	17.11	141.1	0.000
71.100	3.316	17.44	144.7	0.000
71.200	3.331	17.77	148.0	0.000
71.300	3.347	18.11	150.8	0.000
71.400	3.363	18.44	153.2	0.000
71.500	3.378	18.78	155.5	0.000
71.600	3.394	19.12	159.5	0.000
71.700	3.410	19.46	162.1	0.000
71.800	3.425	19.80	164.6	0.000
71.900	3.441	20.14	167.1	0.000
72.000	3.457	20.49	169.6	0.000
72.100	3.473	20.83	172.0	0.000
72.200	3.489	21.18	174.4	0.000
72.300	3.505	21.53	176.7	0.000
72.400	3.521	21.88	179.1	0.000
72.500	3.536	22.24	181.3	0.000
72.600	3.552	22.59	183.6	0.000
72.700	3.568	22.95	185.8	0.000
72.800	3.585	23.30	188.0	0.000
72.900	3.601	23.66	190.2	0.000
73.000	3.617	24.02	192.3	0.000
73.100	3.633	24.39	194.4	0.000
73.200	3.649	24.75	196.5	0.000
73.300	3.665	25.12	198.6	0.000
73.400	3.681	25.48	200.6	0.000
73.500	3.698	25.85	202.6	0.000
73.600	3.714	26.22	204.6	0.000
73.700	3.730	26.60	206.6	0.000
73.800	3.747	26.97	208.5	0.000
73.900	3.763	27.34	210.5	0.000
74.000	3.779	27.72	212.4	0.000
74.100	3.796	28.10	214.3	0.000

DRAFT

DRAFT

UN1DB01

Bottom Length: 517.50 ft.
Bottom Width: 150.00 ft.
Depth: 8 ft.
Volume at riser head: 13.1189 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 6 ft.
Riser Diameter: 60 in.
Notch Type: Rectangular
Notch Width: 4.000 ft.
Notch Height: 1.000 ft.
Orifice 1 Diameter: 12 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

Pond Hydraulic Table

DRAFT

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
60.000	1.782	0.000	0.000	0.000
60.089	1.792	0.158	1.165	0.000
60.178	1.803	0.318	1.647	0.000
60.267	1.814	0.479	2.017	0.000
60.356	1.825	0.641	2.330	0.000
60.444	1.836	0.804	2.605	0.000
60.533	1.847	0.967	2.853	0.000
60.622	1.858	1.132	3.082	0.000
60.711	1.869	1.298	3.295	0.000
60.800	1.881	1.465	3.495	0.000
60.889	1.892	1.632	3.684	0.000
60.978	1.903	1.801	3.864	0.000
61.067	1.914	1.971	4.035	0.000
61.156	1.925	2.141	4.200	0.000
61.244	1.936	2.313	4.359	0.000
61.333	1.948	2.486	4.512	0.000
61.422	1.959	2.659	4.660	0.000
61.511	1.970	2.834	4.803	0.000
61.600	1.981	3.010	4.942	0.000
61.689	1.993	3.186	5.078	0.000
61.778	2.004	3.364	5.210	0.000
61.867	2.016	3.543	5.338	0.000
61.956	2.027	3.722	5.464	0.000
62.044	2.038	3.903	5.587	0.000
62.133	2.050	4.085	5.707	0.000
62.222	2.061	4.268	5.825	0.000
62.311	2.073	4.451	5.940	0.000
62.400	2.084	4.636	6.053	0.000
62.489	2.096	4.822	6.164	0.000
62.578	2.107	5.009	6.274	0.000
62.667	2.119	5.197	6.381	0.000
62.756	2.131	5.386	6.486	0.000
62.844	2.142	5.576	6.590	0.000
62.933	2.154	5.767	6.692	0.000

63.022	2.165	5.959	6.793	0.000
63.111	2.177	6.152	6.892	0.000
63.200	2.189	6.346	6.990	0.000
63.289	2.201	6.541	7.086	0.000
63.378	2.212	6.737	7.181	0.000
63.467	2.224	6.934	7.275	0.000
63.556	2.236	7.133	7.368	0.000
63.644	2.248	7.332	7.460	0.000
63.733	2.260	7.532	7.550	0.000
63.822	2.272	7.734	7.639	0.000
63.911	2.284	7.936	7.728	0.000
64.000	2.295	8.140	7.815	0.000
64.089	2.307	8.344	7.901	0.000
64.178	2.319	8.550	7.987	0.000
64.267	2.331	8.757	8.071	0.000
64.356	2.343	8.965	8.155	0.000
64.444	2.355	9.173	8.238	0.000
64.533	2.368	9.383	8.320	0.000
64.622	2.380	9.594	8.401	0.000
64.711	2.392	9.806	8.481	0.000
64.800	2.404	10.02	8.561	0.000
64.889	2.416	10.23	8.640	0.000
64.978	2.428	10.45	8.718	0.000
65.067	2.440	10.66	9.025	0.000
65.156	2.453	10.88	9.690	0.000
65.244	2.465	11.10	10.55	0.000
65.333	2.477	11.32	11.58	0.000
65.422	2.489	11.54	12.75	0.000
65.511	2.502	11.76	14.04	0.000
65.600	2.514	11.98	15.43	0.000
65.689	2.527	12.21	16.93	0.000
65.778	2.539	12.43	18.53	0.000
65.867	2.551	12.66	20.21	0.000
65.956	2.564	12.89	21.97	0.000
66.044	2.576	13.11	23.42	0.000
66.133	2.589	13.34	25.58	0.000
66.222	2.601	13.57	28.62	0.000
66.311	2.614	13.81	32.32	0.000
66.400	2.626	14.04	36.58	0.000
66.489	2.639	14.27	41.30	0.000
66.578	2.652	14.51	46.43	0.000
66.667	2.664	14.74	51.90	0.000
66.756	2.677	14.98	57.64	0.000
66.844	2.689	15.22	63.61	0.000
66.933	2.702	15.46	69.73	0.000
67.022	2.715	15.70	75.96	0.000
67.111	2.728	15.94	82.21	0.000
67.200	2.740	16.19	88.44	0.000
67.289	2.753	16.43	94.57	0.000
67.378	2.766	16.68	100.5	0.000
67.467	2.779	16.92	106.3	0.000
67.556	2.792	17.17	111.8	0.000
67.644	2.805	17.42	117.0	0.000
67.733	2.817	17.67	121.8	0.000
67.822	2.830	17.92	126.2	0.000
67.911	2.843	18.17	130.3	0.000
68.000	2.856	18.43	133.9	0.000
68.089	2.869	18.68	137.1	0.000

DRAFT

DRAFT

UN2DB01

Bottom Length:	315.00 ft.
Bottom Width:	105.00 ft.
Depth:	8 ft.
Volume at riser head:	4.9009 acre-feet.
Side slope 1:	4 To 1
Side slope 2:	4 To 1
Side slope 3:	4 To 1
Side slope 4:	4 To 1
Discharge Structure	
Riser Height:	5 ft.
Riser Diameter:	60 in.
Notch Type:	Rectangular
Notch Width:	2.000 ft.
Notch Height:	1.000 ft.
Orifice 1 Diameter:	12 in. Elevation:0 ft.
Element Flows To:	
Outlet 1	Outlet 2

Pond Hydraulic Table

DRAFT

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	0.759	0.000	0.000	0.000
65.089	0.766	0.067	1.165	0.000
65.178	0.773	0.136	1.647	0.000
65.267	0.780	0.205	2.017	0.000
65.356	0.786	0.274	2.330	0.000
65.444	0.793	0.345	2.605	0.000
65.533	0.800	0.416	2.853	0.000
65.622	0.807	0.487	3.082	0.000
65.711	0.814	0.559	3.295	0.000
65.800	0.821	0.632	3.495	0.000
65.889	0.829	0.705	3.684	0.000
65.978	0.836	0.779	3.864	0.000
66.067	0.843	0.854	4.035	0.000
66.156	0.850	0.929	4.200	0.000
66.244	0.857	1.005	4.359	0.000
66.333	0.864	1.082	4.512	0.000
66.422	0.872	1.159	4.660	0.000
66.511	0.879	1.237	4.803	0.000
66.600	0.886	1.315	4.942	0.000
66.689	0.893	1.394	5.078	0.000
66.778	0.901	1.474	5.210	0.000
66.867	0.908	1.554	5.338	0.000
66.956	0.915	1.636	5.464	0.000
67.044	0.923	1.717	5.587	0.000
67.133	0.930	1.800	5.707	0.000
67.222	0.938	1.883	5.825	0.000
67.311	0.945	1.966	5.940	0.000
67.400	0.952	2.051	6.053	0.000
67.489	0.960	2.136	6.164	0.000
67.578	0.967	2.222	6.274	0.000
67.667	0.975	2.308	6.381	0.000
67.756	0.983	2.395	6.486	0.000
67.844	0.990	2.483	6.590	0.000
67.933	0.998	2.571	6.692	0.000

68.022	1.005	2.660	6.793	0.000
68.111	1.013	2.750	6.892	0.000
68.200	1.021	2.840	6.990	0.000
68.289	1.028	2.931	7.086	0.000
68.378	1.036	3.023	7.181	0.000
68.467	1.044	3.116	7.275	0.000
68.556	1.052	3.209	7.368	0.000
68.644	1.059	3.303	7.460	0.000
68.733	1.067	3.397	7.550	0.000
68.822	1.075	3.493	7.639	0.000
68.911	1.083	3.589	7.728	0.000
69.000	1.091	3.685	7.815	0.000
69.089	1.099	3.783	8.078	0.000
69.178	1.107	3.881	8.486	0.000
69.267	1.115	3.979	8.988	0.000
69.356	1.123	4.079	9.567	0.000
69.444	1.131	4.179	10.21	0.000
69.533	1.139	4.280	10.91	0.000
69.622	1.147	4.382	11.67	0.000
69.711	1.155	4.484	12.47	0.000
69.800	1.163	4.587	13.32	0.000
69.889	1.171	4.691	14.22	0.000
69.978	1.179	4.795	15.15	0.000
70.067	1.187	4.900	16.36	0.000
70.156	1.196	5.006	18.78	0.000
70.244	1.204	5.113	22.01	0.000
70.333	1.212	5.220	25.87	0.000
70.422	1.220	5.329	30.25	0.000
70.511	1.229	5.437	35.09	0.000
70.600	1.237	5.547	40.31	0.000
70.689	1.245	5.657	45.86	0.000
70.778	1.254	5.769	51.68	0.000
70.867	1.262	5.880	57.69	0.000
70.956	1.270	5.993	63.85	0.000
71.044	1.279	6.106	70.09	0.000
71.133	1.287	6.220	76.35	0.000
71.222	1.296	6.335	82.57	0.000
71.311	1.304	6.451	88.67	0.000
71.400	1.313	6.567	94.61	0.000
71.489	1.321	6.684	100.3	0.000
71.578	1.330	6.802	105.7	0.000
71.667	1.338	6.921	110.8	0.000
71.756	1.347	7.040	115.6	0.000
71.844	1.356	7.160	119.9	0.000
71.933	1.364	7.281	123.8	0.000
72.022	1.373	7.403	127.4	0.000
72.111	1.382	7.525	130.5	0.000
72.200	1.390	7.649	133.2	0.000
72.289	1.399	7.773	135.6	0.000
72.378	1.408	7.897	137.8	0.000
72.467	1.417	8.023	139.8	0.000
72.556	1.426	8.149	143.2	0.000
72.644	1.434	8.277	145.5	0.000
72.733	1.443	8.404	147.7	0.000
72.822	1.452	8.533	149.8	0.000
72.911	1.461	8.663	152.0	0.000
73.000	1.470	8.793	154.1	0.000
73.089	1.479	8.924	156.1	0.000

DRAFT

DRAFT

UnID3

Bottom Length:	900.00 ft.
Bottom Width:	300.00 ft.
Depth:	9 ft.
Volume at riser head:	42.0214 acre-feet.
Side slope 1:	4 To 1
Side slope 2:	4 To 1
Side slope 3:	4 To 1
Side slope 4:	4 To 1
Discharge Structure	
Riser Height:	6 ft.
Riser Diameter:	60 in.
Notch Type:	Rectangular
Notch Width:	2.500 ft.
Notch Height:	1.000 ft.
Orifice 1 Diameter:	15 in. Elevation:0 ft.
Element Flows To:	
Outlet 1	Outlet 2

Pond Hydraulic Table

DRAFT

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	6.198	0.000	0.000	0.000
65.100	6.220	0.620	1.930	0.000
65.200	6.242	1.244	2.730	0.000
65.300	6.264	1.869	3.344	0.000
65.400	6.286	2.497	3.861	0.000
65.500	6.308	3.126	4.317	0.000
65.600	6.331	3.758	4.729	0.000
65.700	6.353	4.393	5.108	0.000
65.800	6.375	5.029	5.461	0.000
65.900	6.397	5.668	5.792	0.000
66.000	6.420	6.309	6.105	0.000
66.100	6.442	6.952	6.403	0.000
66.200	6.464	7.597	6.688	0.000
66.300	6.487	8.245	6.961	0.000
66.400	6.509	8.895	7.224	0.000
66.500	6.532	9.547	7.478	0.000
66.600	6.554	10.20	7.723	0.000
66.700	6.577	10.85	7.961	0.000
66.800	6.599	11.51	8.191	0.000
66.900	6.622	12.17	8.416	0.000
67.000	6.645	12.84	8.634	0.000
67.100	6.667	13.50	8.848	0.000
67.200	6.690	14.17	9.056	0.000
67.300	6.713	14.84	9.259	0.000
67.400	6.735	15.51	9.459	0.000
67.500	6.758	16.19	9.654	0.000
67.600	6.781	16.86	9.845	0.000
67.700	6.804	17.54	10.03	0.000
67.800	6.826	18.23	10.21	0.000
67.900	6.849	18.91	10.39	0.000
68.000	6.872	19.60	10.57	0.000
68.100	6.895	20.28	10.75	0.000
68.200	6.918	20.97	10.92	0.000
68.300	6.941	21.67	11.09	0.000

68.400	6.964	22.36	11.25	0.000
68.500	6.987	23.06	11.42	0.000
68.600	7.010	23.76	11.58	0.000
68.700	7.033	24.46	11.74	0.000
68.800	7.057	25.17	11.90	0.000
68.900	7.080	25.87	12.05	0.000
69.000	7.103	26.58	12.21	0.000
69.100	7.126	27.29	12.36	0.000
69.200	7.149	28.01	12.51	0.000
69.300	7.173	28.72	12.66	0.000
69.400	7.196	29.44	12.80	0.000
69.500	7.219	30.16	12.95	0.000
69.600	7.243	30.89	13.09	0.000
69.700	7.266	31.61	13.23	0.000
69.800	7.290	32.34	13.37	0.000
69.900	7.313	33.07	13.51	0.000
70.000	7.337	33.80	13.65	0.000
70.100	7.360	34.54	14.05	0.000
70.200	7.384	35.28	14.66	0.000
70.300	7.407	36.01	15.42	0.000
70.400	7.431	36.76	16.29	0.000
70.500	7.454	37.50	17.26	0.000
70.600	7.478	38.25	18.31	0.000
70.700	7.502	39.00	19.45	0.000
70.800	7.526	39.75	20.66	0.000
70.900	7.549	40.50	21.93	0.000
71.000	7.573	41.26	23.28	0.000
71.100	7.597	42.02	25.08	0.000
71.200	7.621	42.78	28.27	0.000
71.300	7.645	43.54	32.35	0.000
71.400	7.669	44.31	37.14	0.000
71.500	7.692	45.07	42.53	0.000
71.600	7.716	45.85	48.42	0.000
71.700	7.740	46.62	54.72	0.000
71.800	7.764	47.39	61.34	0.000
71.900	7.789	48.17	68.20	0.000
72.000	7.813	48.95	75.22	0.000
72.100	7.837	49.73	82.29	0.000
72.200	7.861	50.52	89.34	0.000
72.300	7.885	51.31	96.27	0.000
72.400	7.909	52.10	103.0	0.000
72.500	7.933	52.89	109.4	0.000
72.600	7.958	53.68	115.5	0.000
72.700	7.982	54.48	121.1	0.000
72.800	8.006	55.28	126.3	0.000
72.900	8.031	56.08	131.0	0.000
73.000	8.055	56.89	135.1	0.000
73.100	8.079	57.69	138.7	0.000
73.200	8.104	58.50	141.9	0.000
73.300	8.128	59.31	144.6	0.000
73.400	8.153	60.13	147.0	0.000
73.500	8.177	60.94	149.3	0.000
73.600	8.202	61.76	153.2	0.000
73.700	8.226	62.58	155.7	0.000
73.800	8.251	63.41	158.2	0.000
73.900	8.276	64.23	160.6	0.000
74.000	8.300	65.06	163.0	0.000
74.100	8.325	65.89	165.3	0.000

DRAFT

DRAFT

Robla_Pond

Bottom Length: 675.00 ft.
Bottom Width: 225.00 ft.
Depth: 9 ft.
Volume at riser head: 15.2999 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 4 ft.
Riser Diameter: 60 in.
Notch Type: Rectangular
Notch Width: 3.000 ft.
Notch Height: 1.000 ft.
Orifice 1 Diameter: 6 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

Pond Hydraulic Table

DRAFT

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	3.486	0.000	0.000	0.000
65.100	3.503	0.349	0.308	0.000
65.200	3.519	0.700	0.436	0.000
65.300	3.536	1.053	0.535	0.000
65.400	3.552	1.407	0.617	0.000
65.500	3.569	1.764	0.690	0.000
65.600	3.586	2.121	0.756	0.000
65.700	3.603	2.481	0.817	0.000
65.800	3.619	2.842	0.873	0.000
65.900	3.636	3.205	0.926	0.000
66.000	3.653	3.569	0.976	0.000
66.100	3.670	3.935	1.024	0.000
66.200	3.687	4.303	1.070	0.000
66.300	3.703	4.673	1.113	0.000
66.400	3.720	5.044	1.155	0.000
66.500	3.737	5.417	1.196	0.000
66.600	3.754	5.792	1.235	0.000
66.700	3.771	6.168	1.273	0.000
66.800	3.788	6.546	1.310	0.000
66.900	3.805	6.926	1.346	0.000
67.000	3.823	7.307	1.381	0.000
67.100	3.840	7.690	1.415	0.000
67.200	3.857	8.075	1.449	0.000
67.300	3.874	8.462	1.481	0.000
67.400	3.891	8.850	1.513	0.000
67.500	3.909	9.240	1.544	0.000
67.600	3.926	9.632	1.575	0.000
67.700	3.943	10.02	1.605	0.000
67.800	3.960	10.42	1.634	0.000
67.900	3.978	10.81	1.663	0.000
68.000	3.995	11.21	1.692	0.000
68.100	4.013	11.61	2.036	0.000
68.200	4.030	12.01	2.641	0.000
68.300	4.048	12.42	3.416	0.000

68.400	4.065	12.82	4.328	0.000
68.500	4.083	13.23	5.359	0.000
68.600	4.100	13.64	6.496	0.000
68.700	4.118	14.05	7.729	0.000
68.800	4.135	14.46	9.052	0.000
68.900	4.153	14.88	10.45	0.000
69.000	4.171	15.30	11.94	0.000
69.100	4.189	15.71	13.64	0.000
69.200	4.206	16.13	16.73	0.000
69.300	4.224	16.55	20.71	0.000
69.400	4.242	16.98	25.41	0.000
69.500	4.260	17.40	30.70	0.000
69.600	4.278	17.83	36.49	0.000
69.700	4.295	18.26	42.69	0.000
69.800	4.313	18.69	49.22	0.000
69.900	4.331	19.12	55.99	0.000
70.000	4.349	19.56	62.91	0.000
70.100	4.367	19.99	69.89	0.000
70.200	4.385	20.43	76.85	0.000
70.300	4.403	20.87	83.69	0.000
70.400	4.422	21.31	90.32	0.000
70.500	4.440	21.75	96.67	0.000
70.600	4.458	22.20	102.6	0.000
70.700	4.476	22.64	108.2	0.000
70.800	4.494	23.09	113.3	0.000
70.900	4.512	23.54	117.9	0.000
71.000	4.531	24.00	121.9	0.000
71.100	4.549	24.45	125.4	0.000
71.200	4.567	24.91	128.5	0.000
71.300	4.586	25.36	131.1	0.000
71.400	4.604	25.82	133.5	0.000
71.500	4.623	26.28	135.6	0.000
71.600	4.641	26.75	139.4	0.000
71.700	4.660	27.21	141.9	0.000
71.800	4.678	27.68	144.3	0.000
71.900	4.697	28.15	146.6	0.000
72.000	4.715	28.62	148.9	0.000
72.100	4.734	29.09	151.2	0.000
72.200	4.752	29.57	153.4	0.000
72.300	4.771	30.04	155.6	0.000
72.400	4.790	30.52	157.8	0.000
72.500	4.808	31.00	159.9	0.000
72.600	4.827	31.48	162.0	0.000
72.700	4.846	31.97	164.1	0.000
72.800	4.865	32.45	166.2	0.000
72.900	4.884	32.94	168.2	0.000
73.000	4.902	33.43	170.2	0.000
73.100	4.921	33.92	172.2	0.000
73.200	4.940	34.41	174.1	0.000
73.300	4.959	34.91	176.0	0.000
73.400	4.978	35.40	177.9	0.000
73.500	4.997	35.90	179.8	0.000
73.600	5.016	36.40	181.7	0.000
73.700	5.035	36.91	183.5	0.000
73.800	5.054	37.41	185.4	0.000
73.900	5.074	37.92	187.2	0.000
74.000	5.093	38.43	188.9	0.000
74.100	5.112	38.94	190.7	0.000

DRAFT

DRAFT

UN4DB1

Bottom Length: 450.00 ft.
Bottom Width: 150.00 ft.
Depth: 8 ft.
Volume at riser head: 7.1112 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 4 ft.
Riser Diameter: 60 in.
Notch Type: Rectangular
Notch Width: 2.500 ft.
Notch Height: 1.000 ft.
Orifice 1 Diameter: 12 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

Pond Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	1.549	0.000	0.000	0.000
65.089	1.559	0.138	1.165	0.000
65.178	1.569	0.277	1.647	0.000
65.267	1.579	0.417	2.017	0.000
65.356	1.589	0.558	2.330	0.000
65.444	1.598	0.699	2.605	0.000
65.533	1.608	0.842	2.853	0.000
65.622	1.618	0.985	3.082	0.000
65.711	1.628	1.130	3.295	0.000
65.800	1.638	1.275	3.495	0.000
65.889	1.648	1.421	3.684	0.000
65.978	1.658	1.568	3.864	0.000
66.067	1.668	1.716	4.035	0.000
66.156	1.678	1.865	4.200	0.000
66.244	1.689	2.014	4.359	0.000
66.333	1.699	2.165	4.512	0.000
66.422	1.709	2.316	4.660	0.000
66.511	1.719	2.469	4.803	0.000
66.600	1.729	2.622	4.942	0.000
66.689	1.739	2.776	5.078	0.000
66.778	1.750	2.931	5.210	0.000
66.867	1.760	3.087	5.338	0.000
66.956	1.770	3.244	5.464	0.000
67.044	1.781	3.402	5.587	0.000
67.133	1.791	3.561	5.707	0.000
67.222	1.801	3.721	5.825	0.000
67.311	1.812	3.881	5.940	0.000
67.400	1.822	4.043	6.053	0.000
67.489	1.832	4.205	6.164	0.000
67.578	1.843	4.369	6.274	0.000
67.667	1.853	4.533	6.381	0.000
67.756	1.864	4.698	6.486	0.000
67.844	1.874	4.864	6.590	0.000
67.933	1.885	5.031	6.692	0.000

DRAFT

68.022	1.896	5.200	6.820	0.000
68.111	1.906	5.369	7.200	0.000
68.200	1.917	5.538	7.734	0.000
68.289	1.927	5.709	8.379	0.000
68.378	1.938	5.881	9.114	0.000
68.467	1.949	6.054	9.929	0.000
68.556	1.960	6.228	10.81	0.000
68.644	1.970	6.402	11.76	0.000
68.733	1.981	6.578	12.77	0.000
68.822	1.992	6.755	13.84	0.000
68.911	2.003	6.932	14.96	0.000
69.000	2.013	7.111	16.14	0.000
69.089	2.024	7.290	17.63	0.000
69.178	2.035	7.471	20.28	0.000
69.267	2.046	7.652	23.69	0.000
69.356	2.057	7.835	27.69	0.000
69.444	2.068	8.018	32.21	0.000
69.533	2.079	8.202	37.16	0.000
69.622	2.090	8.388	42.47	0.000
69.711	2.101	8.574	48.10	0.000
69.800	2.112	8.761	53.98	0.000
69.889	2.123	8.949	60.04	0.000
69.978	2.134	9.139	66.24	0.000
70.067	2.145	9.329	72.50	0.000
70.156	2.156	9.520	78.76	0.000
70.244	2.167	9.712	84.95	0.000
70.333	2.179	9.906	91.03	0.000
70.422	2.190	10.10	96.92	0.000
70.511	2.201	10.29	102.5	0.000
70.600	2.212	10.49	107.9	0.000
70.689	2.224	10.68	112.9	0.000
70.778	2.235	10.88	117.6	0.000
70.867	2.246	11.08	121.8	0.000
70.956	2.258	11.28	125.7	0.000
71.044	2.269	11.48	129.1	0.000
71.133	2.280	11.69	132.1	0.000
71.222	2.292	11.89	134.8	0.000
71.311	2.303	12.09	137.1	0.000
71.400	2.315	12.30	139.2	0.000
71.489	2.326	12.50	141.2	0.000
71.578	2.338	12.71	144.7	0.000
71.667	2.349	12.92	147.0	0.000
71.756	2.361	13.13	149.1	0.000
71.844	2.372	13.34	151.3	0.000
71.933	2.384	13.55	153.4	0.000
72.022	2.395	13.76	155.5	0.000
72.111	2.407	13.98	157.6	0.000
72.200	2.419	14.19	159.6	0.000
72.289	2.430	14.41	161.6	0.000
72.378	2.442	14.62	163.6	0.000
72.467	2.454	14.84	165.6	0.000
72.556	2.466	15.06	167.5	0.000
72.644	2.477	15.28	169.4	0.000
72.733	2.489	15.50	171.3	0.000
72.822	2.501	15.72	173.2	0.000
72.911	2.513	15.95	175.0	0.000
73.000	2.525	16.17	176.8	0.000
73.089	2.537	16.39	178.6	0.000

DRAFT

DRAFT

UN5DB1

Bottom Length: 240.00 ft.
Bottom Width: 80.00 ft.
Depth: 8 ft.
Volume at riser head: 2.2646 acre-feet.
Side slope 1: 4 To 1
Side slope 2: 4 To 1
Side slope 3: 4 To 1
Side slope 4: 4 To 1
Discharge Structure
Riser Height: 4 ft.
Riser Diameter: 48 in.
Notch Type: Rectangular
Notch Width: 2.000 ft.
Notch Height: 1.000 ft.
Orifice 1 Diameter: 6 in. Elevation:0 ft.
Element Flows To:
Outlet 1 Outlet 2

Pond Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
65.000	0.440	0.000	0.000	0.000
65.089	0.446	0.039	0.291	0.000
65.178	0.451	0.079	0.411	0.000
65.267	0.456	0.119	0.504	0.000
65.356	0.461	0.160	0.582	0.000
65.444	0.467	0.201	0.651	0.000
65.533	0.472	0.243	0.713	0.000
65.622	0.477	0.285	0.770	0.000
65.711	0.483	0.328	0.823	0.000
65.800	0.488	0.371	0.873	0.000
65.889	0.494	0.415	0.921	0.000
65.978	0.499	0.459	0.966	0.000
66.067	0.505	0.504	1.009	0.000
66.156	0.510	0.549	1.050	0.000
66.244	0.516	0.595	1.089	0.000
66.333	0.521	0.641	1.128	0.000
66.422	0.527	0.687	1.165	0.000
66.511	0.532	0.734	1.200	0.000
66.600	0.538	0.782	1.235	0.000
66.689	0.544	0.830	1.269	0.000
66.778	0.549	0.879	1.302	0.000
66.867	0.555	0.928	1.334	0.000
66.956	0.561	0.978	1.366	0.000
67.044	0.567	1.028	1.396	0.000
67.133	0.572	1.078	1.426	0.000
67.222	0.578	1.130	1.456	0.000
67.311	0.584	1.181	1.485	0.000
67.400	0.590	1.233	1.513	0.000
67.489	0.596	1.286	1.541	0.000
67.578	0.602	1.339	1.568	0.000
67.667	0.607	1.393	1.595	0.000
67.756	0.613	1.447	1.621	0.000
67.844	0.619	1.502	1.647	0.000
67.933	0.625	1.558	1.673	0.000

DRAFT

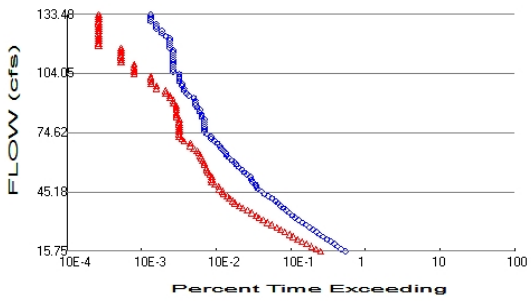
68.022	0.631	1.614	1.720	0.000
68.111	0.637	1.670	1.969	0.000
68.200	0.643	1.727	2.343	0.000
68.289	0.650	1.784	2.805	0.000
68.378	0.656	1.843	3.341	0.000
68.467	0.662	1.901	3.942	0.000
68.556	0.668	1.960	4.599	0.000
68.644	0.674	2.020	5.310	0.000
68.733	0.680	2.080	6.070	0.000
68.822	0.686	2.141	6.875	0.000
68.911	0.693	2.202	7.724	0.000
69.000	0.699	2.264	8.613	0.000
69.089	0.705	2.327	9.760	0.000
69.178	0.711	2.390	11.83	0.000
69.267	0.718	2.453	14.50	0.000
69.356	0.724	2.517	17.65	0.000
69.444	0.731	2.582	21.19	0.000
69.533	0.737	2.647	25.04	0.000
69.622	0.743	2.713	29.15	0.000
69.711	0.750	2.779	33.44	0.000
69.800	0.756	2.846	37.84	0.000
69.889	0.763	2.914	42.29	0.000
69.978	0.769	2.982	46.71	0.000
70.067	0.776	3.051	51.03	0.000
70.156	0.782	3.120	55.19	0.000
70.244	0.789	3.190	59.13	0.000
70.333	0.796	3.260	62.78	0.000
70.422	0.802	3.332	66.11	0.000
70.511	0.809	3.403	69.09	0.000
70.600	0.816	3.475	71.69	0.000
70.689	0.822	3.548	73.93	0.000
70.778	0.829	3.622	75.83	0.000
70.867	0.836	3.696	77.45	0.000
70.956	0.842	3.770	78.88	0.000
71.044	0.849	3.846	81.11	0.000
71.133	0.856	3.921	82.68	0.000
71.222	0.863	3.998	84.22	0.000
71.311	0.870	4.075	85.72	0.000
71.400	0.877	4.152	87.20	0.000
71.489	0.884	4.231	88.65	0.000
71.578	0.890	4.310	90.07	0.000
71.667	0.897	4.389	91.47	0.000
71.756	0.904	4.469	92.85	0.000
71.844	0.911	4.550	94.20	0.000
71.933	0.918	4.631	95.54	0.000
72.022	0.925	4.713	96.85	0.000
72.111	0.933	4.796	98.15	0.000
72.200	0.940	4.879	99.42	0.000
72.289	0.947	4.963	100.6	0.000
72.378	0.954	5.048	101.9	0.000
72.467	0.961	5.133	103.1	0.000
72.556	0.968	5.219	104.3	0.000
72.644	0.975	5.305	105.5	0.000
72.733	0.983	5.392	106.7	0.000
72.822	0.990	5.480	107.9	0.000
72.911	0.997	5.568	109.0	0.000
73.000	1.005	5.657	110.2	0.000
73.089	1.012	5.747	111.3	0.000

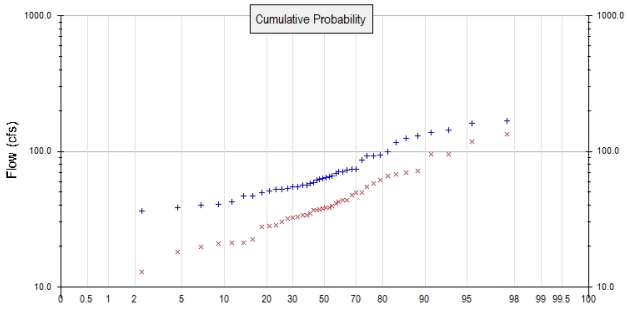
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Analysis Results

POC 1





\+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #1
Total Pervious Area: 48.3
Total Impervious Area: 155.9

Mitigated Landuse Totals for POC #1
Total Pervious Area: 46.7
Total Impervious Area: 157.5

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #1

Return Period	Flow(cfs)
2 year	62.9902
5 year	94.828955
10 year	133.483273
25 year	161.660818

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	37.8975
5 year	62.5307
10 year	84.765927
25 year	120.138682

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #1

Year	Pre-Project	Mitigated
1962	58.462	36.593
1963	62.990	47.803
1964	92.850	37.397
1965	58.202	33.679
1966	56.230	19.712
1967	70.771	38.238
1968	39.850	21.108
1969	47.134	32.447
1970	47.099	30.269
1971	63.975	43.697
1972	36.352	12.924
1973	125.178	67.997
1974	60.889	36.661
1975	72.974	34.826

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1976	31.058	18.091
1977	38.340	11.025
1978	86.718	49.317
1979	40.767	21.311
1980	129.448	71.885
1981	52.154	20.785
1982	99.256	61.724
1983	116.276	69.880
1984	54.401	39.417
1985	68.473	37.898
1986	160.652	117.966
1987	42.331	22.254
1988	52.781	32.131
1989	74.188	38.609
1990	70.253	43.582
1991	92.439	49.817
1992	65.911	57.713
1993	53.299	33.005
1994	54.639	27.857
1995	168.050	133.899
1996	144.685	95.500
1997	136.846	95.521
1998	93.845	66.163
1999	49.672	28.104
2000	74.097	54.634
2001	50.996	28.494
2002	65.159	33.750
2003	56.630	41.075
2004	62.527	42.331

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #1

Rank	Pre-Project	Mitigated
1	168.0500	133.8990
2	160.6520	117.9660
3	144.6850	95.5207
4	136.8460	95.5002
5	129.4480	71.8848
6	125.1780	69.8799
7	116.2760	67.9971
8	99.2563	66.1631
9	93.8451	61.7235
10	92.8503	57.7130
11	92.4389	54.6344
12	86.7181	49.8174
13	74.1883	49.3174
14	74.0966	47.8025
15	72.9738	43.6969
16	70.7712	43.5820
17	70.2525	42.3311
18	68.4725	41.0746
19	65.9111	39.4172
20	65.1591	38.6085
21	63.9749	38.2380
22	62.9902	37.8975
23	62.5274	37.3973
24	60.8891	36.6611
25	58.4616	36.5930

26	58.2022	34.8264
27	56.6297	33.7500
28	56.2297	33.6786
29	54.6386	33.0050
30	54.4014	32.4468
31	53.2991	32.1310
32	52.7810	30.2685
33	52.1543	28.4940
34	50.9962	28.1037
35	49.6723	27.8574
36	47.1344	22.2544
37	47.0986	21.3111
38	42.3305	21.1076
39	40.7666	20.7851
40	39.8501	19.7118
41	38.3404	18.0911
42	36.3516	12.9243
43	31.0577	11.0247

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
15.7476	2024	949	46	Pass
16.9368	1783	820	45	Pass
18.1260	1587	716	45	Pass
19.3153	1428	611	42	Pass
20.5045	1287	535	41	Pass
21.6938	1150	462	40	Pass
22.8830	1025	408	39	Pass
24.0723	913	364	39	Pass
25.2615	830	314	37	Pass
26.4508	751	277	36	Pass
27.6400	667	247	37	Pass
28.8293	605	209	34	Pass
30.0185	536	185	34	Pass
31.2078	479	161	33	Pass
32.3970	434	142	32	Pass
33.5863	396	129	32	Pass
34.7755	364	114	31	Pass
35.9648	326	99	30	Pass
37.1540	301	85	28	Pass
38.3433	273	77	28	Pass
39.5325	255	68	26	Pass
40.7218	235	63	26	Pass
41.9110	211	57	27	Pass
43.1003	189	53	28	Pass
44.2895	167	47	28	Pass
45.4788	152	46	30	Pass
46.6680	137	42	30	Pass
47.8573	130	41	31	Pass
49.0465	126	36	28	Pass
50.2358	117	33	28	Pass
51.4250	113	33	29	Pass
52.6143	107	33	30	Pass
53.8035	98	31	31	Pass
54.9928	89	29	32	Pass
56.1820	83	28	33	Pass
57.3713	76	28	36	Pass
58.5605	70	26	37	Pass
59.7498	66	26	39	Pass
60.9390	61	25	40	Pass
62.1283	56	24	42	Pass
63.3175	52	23	44	Pass
64.5068	50	22	44	Pass
65.6960	47	21	44	Pass
66.8853	44	19	43	Pass
68.0745	43	17	39	Pass
69.2638	39	17	43	Pass
70.4530	36	14	38	Pass
71.6423	32	13	40	Pass
72.8315	32	12	37	Pass
74.0208	28	12	42	Pass
75.2100	26	12	46	Pass
76.3993	26	12	46	Pass
77.5885	26	12	46	Pass

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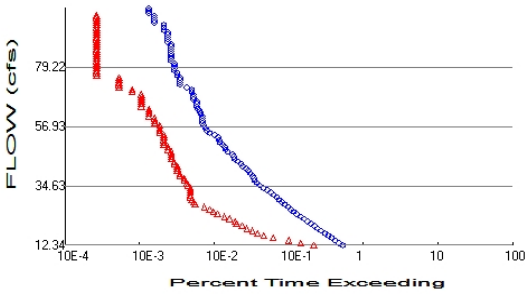
78.7778	26	12	46	Pass
79.9670	26	12	46	Pass
81.1563	26	12	46	Pass
82.3455	24	11	45	Pass
83.5348	24	11	45	Pass
84.7240	23	11	47	Pass
85.9133	23	11	47	Pass
87.1025	21	11	52	Pass
88.2918	20	11	55	Pass
89.4810	20	10	50	Pass
90.6703	20	10	50	Pass
91.8595	19	9	47	Pass
93.0488	16	9	56	Pass
94.2380	15	8	53	Pass
95.4273	14	8	57	Pass
96.6165	14	6	42	Pass
97.8058	13	6	46	Pass
98.9950	13	5	38	Pass
100.1843	12	5	41	Pass
101.3735	12	5	41	Pass
102.5628	12	5	41	Pass
103.7520	12	3	25	Pass
104.9413	10	3	30	Pass
106.1305	10	3	30	Pass
107.3198	10	3	30	Pass
108.5090	10	3	30	Pass
109.6983	10	2	20	Pass
110.8875	10	2	20	Pass
112.0768	10	2	20	Pass
113.2660	10	2	20	Pass
114.4553	10	2	20	Pass
115.6445	10	2	20	Pass
116.8338	9	2	22	Pass
118.0230	9	1	11	Pass
119.2123	9	1	11	Pass
120.4015	9	1	11	Pass
121.5908	9	1	11	Pass
122.7800	8	1	12	Pass
123.9693	7	1	14	Pass
125.1585	7	1	14	Pass
126.3478	6	1	16	Pass
127.5370	6	1	16	Pass
128.7263	6	1	16	Pass
129.9155	5	1	20	Pass
131.1048	5	1	20	Pass
132.2940	5	1	20	Pass
133.4833	5	1	20	Pass

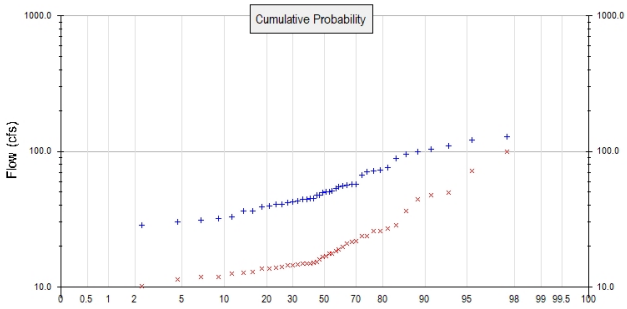
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Water Quality

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POC 2





+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #2
Total Pervious Area: 29.7
Total Impervious Area: 122.2

Mitigated Landuse Totals for POC #2
Total Pervious Area: 19.7
Total Impervious Area: 132.3

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #2

Return Period	**Flow(cfs)**
2 year	49.3531
5 year	72.954936
10 year	101.520273
25 year	121.765955

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Flow Frequency Return Periods for Mitigated. POC #2

Return Period	**Flow(cfs)**
2 year	16.6002
5 year	26.017991
10 year	46.078936
25 year	75.470695

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #2

Year	**Pre-Project**	**Mitigated**
1962	44.774	17.684
1963	49.353	23.712
1964	72.400	15.941
1965	44.572	14.362
1966	44.071	12.447
1967	55.349	21.424
1968	31.077	11.907
1969	36.248	14.855
1970	36.284	14.782
1971	50.104	20.925
1972	28.492	10.138
1973	95.294	23.790
1974	47.443	14.900
1975	56.058	13.950
1976	24.344	11.411

1977	30.050	8.486
1978	66.852	18.376
1979	31.830	11.881
1980	99.512	25.738
1981	40.701	12.841
1982	75.454	28.473
1983	88.184	44.099
1984	42.466	19.763
1985	53.277	16.860
1986	120.808	71.769
1987	33.003	12.768
1988	40.595	13.731
1989	56.866	15.273
1990	54.577	17.643
1991	72.132	18.897
1992	50.265	27.122
1993	41.685	15.094
1994	42.764	14.669
1995	127.833	98.915
1996	110.297	47.729
1997	103.194	49.400
1998	70.971	36.040
1999	38.868	13.746
2000	56.980	25.773
2001	39.723	13.624
2002	51.065	14.439
2003	44.365	16.600
2004	47.735	21.802

Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #2

Rank	Pre-Project	Mitigated
1	127.8330	98.9154
2	120.8080	71.7689
3	110.2970	49.4001
4	103.1940	47.7288
5	99.5118	44.0991
6	95.2944	36.0400
7	88.1836	28.4731
8	75.4544	27.1218
9	72.3995	25.7727
10	72.1319	25.7380
11	70.9709	23.7898
12	66.8516	23.7123
13	56.9798	21.8021
14	56.8662	21.4240
15	56.0583	20.9247
16	55.3486	19.7625
17	54.5768	18.8967
18	53.2771	18.3758
19	51.0648	17.6837
20	50.2648	17.6425
21	50.1040	16.8599
22	49.3531	16.6002
23	47.7351	15.9413
24	47.4433	15.2732
25	44.7742	15.0935
26	44.5720	14.8996

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27	44.3645	14.8553
28	44.0705	14.7821
29	42.7635	14.6694
30	42.4659	14.4391
31	41.6848	14.3619
32	40.7009	13.9497
33	40.5946	13.7458
34	39.7226	13.7311
35	38.8678	13.6244
36	36.2843	12.8411
37	36.2483	12.7681
38	33.0034	12.4468
39	31.8302	11.9069
40	31.0769	11.8814
41	30.0498	11.4112
42	28.4924	10.1381
43	24.3436	8.4864

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
12.3383	2007	816	40	Pass
13.2391	1766	546	30	Pass
14.1399	1578	375	23	Pass
15.0408	1419	232	16	Pass
15.9416	1281	174	13	Pass
16.8424	1146	144	12	Pass
17.7432	1026	123	11	Pass
18.6441	921	104	11	Pass
19.5449	836	89	10	Pass
20.4457	749	75	10	Pass
21.3466	671	72	10	Pass
22.2474	605	61	10	Pass
23.1482	545	52	9	Pass
24.0490	480	42	8	Pass
24.9499	436	37	8	Pass
25.8507	401	33	8	Pass
26.7515	373	28	7	Pass
27.6524	334	21	6	Pass
28.5532	304	20	6	Pass
29.4540	280	19	6	Pass
30.3548	260	18	6	Pass
31.2557	239	18	7	Pass
32.1565	215	18	8	Pass
33.0573	195	18	9	Pass
33.9582	172	18	10	Pass
34.8590	154	17	11	Pass
35.7598	144	16	11	Pass
36.6606	131	15	11	Pass
37.5615	128	15	11	Pass
38.4623	123	13	10	Pass
39.3631	117	13	11	Pass
40.2640	108	12	11	Pass
41.1648	100	12	12	Pass
42.0656	91	12	13	Pass
42.9664	86	11	12	Pass
43.8673	80	11	13	Pass
44.7681	70	10	14	Pass
45.6689	69	10	14	Pass
46.5697	66	10	15	Pass
47.4706	57	10	17	Pass
48.3714	54	9	16	Pass
49.2722	52	9	17	Pass
50.1731	49	8	16	Pass
51.0739	45	8	17	Pass
51.9747	44	8	18	Pass
52.8755	43	8	18	Pass
53.7764	38	8	21	Pass
54.6772	33	7	21	Pass
55.5780	30	7	23	Pass
56.4789	29	7	24	Pass
57.3797	27	7	25	Pass
58.2805	26	6	23	Pass
59.1813	26	6	23	Pass

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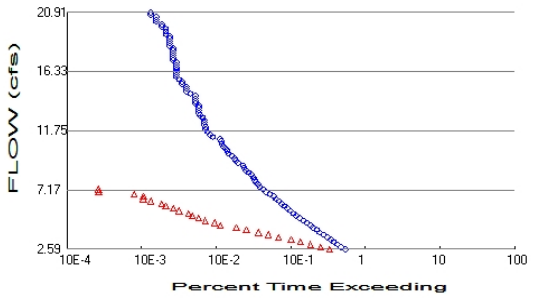
60.0822	26	6	23	Pass
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62.7847	24	5	20	Pass
63.6855	23	5	21	Pass
64.5863	22	4	18	Pass
65.4871	22	4	18	Pass
66.3880	22	4	18	Pass
67.2888	20	4	20	Pass
68.1896	20	4	20	Pass
69.0905	20	4	20	Pass
69.9913	19	3	15	Pass
70.8921	19	3	15	Pass
71.7929	16	2	12	Pass
72.6938	13	2	15	Pass
73.5946	13	2	15	Pass
74.4954	13	2	15	Pass
75.3963	13	2	15	Pass
76.2971	12	1	8	Pass
77.1979	12	1	8	Pass
78.0987	11	1	9	Pass
78.9996	11	1	9	Pass
79.9004	11	1	9	Pass
80.8012	11	1	9	Pass
81.7021	10	1	10	Pass
82.6029	10	1	10	Pass
83.5037	10	1	10	Pass
84.4045	10	1	10	Pass
85.3054	10	1	10	Pass
86.2062	10	1	10	Pass
87.1070	10	1	10	Pass
88.0078	10	1	10	Pass
88.9087	9	1	11	Pass
89.8095	9	1	11	Pass
90.7103	9	1	11	Pass
91.6112	9	1	11	Pass
92.5120	9	1	11	Pass
93.4128	8	1	12	Pass
94.3136	8	1	12	Pass
95.2145	8	1	12	Pass
96.1153	6	1	16	Pass
97.0161	6	1	16	Pass
97.9170	6	1	16	Pass
98.8178	6	1	16	Pass
99.7186	5	0	0	Pass
100.6194	5	0	0	Pass
101.5203	5	0	0	Pass

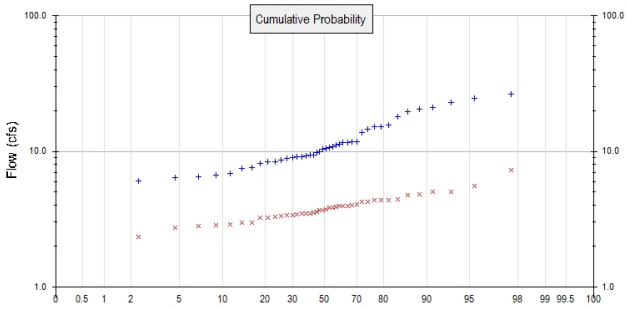
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Water Quality

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POC 3





+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #3
Total Pervious Area: 4.8
Total Impervious Area: 26

Mitigated Landuse Totals for POC #3
Total Pervious Area: 3.3
Total Impervious Area: 27.6

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #3

Return Period	**Flow(cfs)**
2 year	10.3438
5 year	15.310582
10 year	20.9104
25 year	24.9465

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Flow Frequency Return Periods for Mitigated. POC #3

Return Period	**Flow(cfs)**
2 year	3.68694
5 year	4.37852
10 year	4.911395
25 year	5.809482

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #3

Year	**Pre-Project**	**Mitigated**
1962	9.227	3.687
1963	10.491	4.242
1964	15.254	3.752
1965	9.179	3.337
1966	9.376	2.883
1967	11.609	3.966
1968	6.464	2.804
1969	7.500	3.497
1970	7.534	3.401
1971	10.644	3.887
1972	6.062	2.354
1973	19.668	4.225
1974	9.942	3.515
1975	11.614	3.380
1976	5.179	2.728

1977	6.393	2.073
1978	13.867	3.956
1979	6.702	2.839
1980	20.622	4.381
1981	8.574	2.982
1982	15.563	4.440
1983	18.146	4.804
1984	8.955	3.942
1985	11.166	3.661
1986	24.713	5.586
1987	6.887	2.979
1988	8.389	3.258
1989	11.780	3.574
1990	11.346	3.838
1991	15.217	3.997
1992	10.344	4.378
1993	8.827	3.485
1994	9.070	3.456
1995	26.423	7.224
1996	22.799	5.046
1997	21.151	5.001
1998	14.574	4.762
1999	8.157	3.289
2000	11.836	4.343
2001	8.340	3.242
2002	10.861	3.427
2003	9.428	3.819
2004	9.854	4.056

Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #3

Rank	Pre-Project	Mitigated
1	26.4228	7.2243
2	24.7134	5.5861
3	22.7988	5.0458
4	21.1509	5.0009
5	20.6218	4.8040
6	19.6683	4.7622
7	18.1463	4.4395
8	15.5634	4.3810
9	15.2544	4.3780
10	15.2171	4.3429
11	14.5744	4.2417
12	13.8669	4.2251
13	11.8362	4.0560
14	11.7799	3.9973
15	11.6143	3.9661
16	11.6089	3.9561
17	11.3459	3.9423
18	11.1663	3.8866
19	10.8607	3.8375
20	10.6437	3.8186
21	10.4906	3.7516
22	10.3438	3.6869
23	9.9417	3.6606
24	9.8538	3.5741
25	9.4278	3.5147
26	9.3757	3.4966

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27	9.2268	3.4855
28	9.1786	3.4556
29	9.0703	3.4269
30	8.9548	3.4006
31	8.8274	3.3805
32	8.5740	3.3370
33	8.3895	3.2892
34	8.3395	3.2585
35	8.1567	3.2424
36	7.5343	2.9824
37	7.4999	2.9794
38	6.8874	2.8832
39	6.7018	2.8386
40	6.4641	2.8035
41	6.3934	2.7283
42	6.0616	2.3535
43	5.1792	2.0729

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
2.5860	2027	1249	61	Pass
2.7710	1781	945	53	Pass
2.9561	1597	690	43	Pass
3.1412	1424	509	35	Pass
3.3263	1292	382	29	Pass
3.5114	1160	257	22	Pass
3.6965	1033	190	18	Pass
3.8816	929	140	15	Pass
4.0667	846	96	11	Pass
4.2518	745	70	9	Pass
4.4369	691	43	6	Pass
4.6220	615	36	5	Pass
4.8071	556	27	4	Pass
4.9922	491	22	4	Pass
5.1773	445	18	4	Pass
5.3624	410	16	3	Pass
5.5475	372	12	3	Pass
5.7326	337	10	2	Pass
5.9177	309	8	2	Pass
6.1028	287	7	2	Pass
6.2879	266	5	1	Pass
6.4730	240	4	1	Pass
6.6581	222	4	1	Pass
6.8431	198	3	1	Pass
7.0282	177	1	0	Pass
7.2133	160	1	0	Pass
7.3984	145	0	0	Pass
7.5835	138	0	0	Pass
7.7686	129	0	0	Pass
7.9537	125	0	0	Pass
8.1388	120	0	0	Pass
8.3239	112	0	0	Pass
8.5090	103	0	0	Pass
8.6941	94	0	0	Pass
8.8792	89	0	0	Pass
9.0643	86	0	0	Pass
9.2494	74	0	0	Pass
9.4345	69	0	0	Pass
9.6196	67	0	0	Pass
9.8047	61	0	0	Pass
9.9898	55	0	0	Pass
10.1749	53	0	0	Pass
10.3600	51	0	0	Pass
10.5451	47	0	0	Pass
10.7302	45	0	0	Pass
10.9152	44	0	0	Pass
11.1003	43	0	0	Pass
11.2854	34	0	0	Pass
11.4705	31	0	0	Pass
11.6556	29	0	0	Pass
11.8407	27	0	0	Pass
12.0258	27	0	0	Pass
12.2109	26	0	0	Pass

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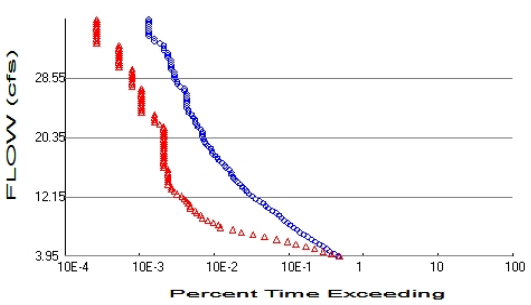
12.3960	26	0	0	Pass
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13.3215	22	0	0	Pass
13.5066	22	0	0	Pass
13.6917	22	0	0	Pass
13.8768	20	0	0	Pass
14.0619	20	0	0	Pass
14.2470	20	0	0	Pass
14.4321	20	0	0	Pass
14.6172	17	0	0	Pass
14.8023	15	0	0	Pass
14.9873	15	0	0	Pass
15.1724	15	0	0	Pass
15.3575	13	0	0	Pass
15.5426	13	0	0	Pass
15.7277	12	0	0	Pass
15.9128	11	0	0	Pass
16.0979	11	0	0	Pass
16.2830	11	0	0	Pass
16.4681	11	0	0	Pass
16.6532	11	0	0	Pass
16.8383	11	0	0	Pass
17.0234	11	0	0	Pass
17.2085	10	0	0	Pass
17.3936	10	0	0	Pass
17.5787	10	0	0	Pass
17.7638	10	0	0	Pass
17.9489	10	0	0	Pass
18.1340	10	0	0	Pass
18.3191	9	0	0	Pass
18.5042	9	0	0	Pass
18.6893	9	0	0	Pass
18.8744	9	0	0	Pass
19.0594	9	0	0	Pass
19.2445	8	0	0	Pass
19.4296	8	0	0	Pass
19.6147	8	0	0	Pass
19.7998	7	0	0	Pass
19.9849	7	0	0	Pass
20.1700	6	0	0	Pass
20.3551	6	0	0	Pass
20.5402	6	0	0	Pass
20.7253	5	0	0	Pass
20.9104	5	0	0	Pass

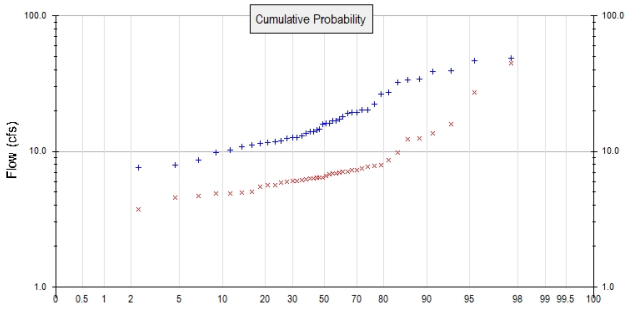
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Water Quality

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POC 4





\+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #4
Total Pervious Area: 30.9
Total Impervious Area: 32.4

Mitigated Landuse Totals for POC #4
Total Pervious Area: 21.6
Total Impervious Area: 41.7

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #4

Return Period	**Flow(cfs)**
2 year	15.8113
5 year	26.732464
10 year	36.748445
25 year	47.145418

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Flow Frequency Return Periods for Mitigated. POC #4

Return Period	**Flow(cfs)**
2 year	6.43472
5 year	8.0318
10 year	13.106073
25 year	29.615418

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #4

Year	**Pre-Project**	**Mitigated**
1962	16.006	6.736
1963	13.090	7.034
1964	19.337	6.242
1965	15.811	6.075
1966	11.686	4.660
1967	16.130	7.255
1968	9.781	4.902
1969	12.568	6.310
1970	11.883	6.067
1971	17.300	6.888
1972	7.559	3.734
1973	34.115	7.821
1974	14.367	6.297
1975	18.967	6.142
1976	6.458	4.546

1977	7.968	3.499
1978	22.261	7.011
1979	8.641	4.857
1980	33.667	7.905
1981	11.056	5.008
1982	27.254	9.834
1983	32.432	12.359
1984	12.431	7.302
1985	14.532	6.435
1986	46.908	27.266
1987	10.188	4.933
1988	14.033	5.993
1989	19.473	6.615
1990	16.871	6.904
1991	20.110	7.086
1992	18.069	8.601
1993	13.895	6.418
1994	11.854	5.650
1995	48.650	44.498
1996	38.943	13.667
1997	39.382	15.882
1998	26.617	12.433
1999	11.380	5.663
2000	20.330	7.672
2001	10.805	5.507
2002	13.541	5.865
2003	12.718	6.362
2004	16.881	7.486

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #4

Rank	Pre-Project	Mitigated
1	48.6497	44.4976
2	46.9079	27.2656
3	39.3821	15.8820
4	38.9434	13.6668
5	34.1145	12.4332
6	33.6674	12.3588
7	32.4319	9.8343
8	27.2543	8.6011
9	26.6165	7.9053
10	22.2607	7.8213
11	20.3297	7.6716
12	20.1096	7.4857
13	19.4733	7.3018
14	19.3370	7.2547
15	18.9673	7.0863
16	18.0685	7.0335
17	17.2996	7.0109
18	16.8806	6.9036
19	16.8709	6.8879
20	16.1301	6.7358
21	16.0056	6.6154
22	15.8113	6.4347
23	14.5322	6.4182
24	14.3668	6.3623
25	14.0326	6.3104
26	13.8953	6.2968

27	13.5410	6.2419
28	13.0899	6.1419
29	12.7176	6.0754
30	12.5684	6.0675
31	12.4311	5.9934
32	11.8831	5.8653
33	11.8537	5.6635
34	11.6855	5.6502
35	11.3796	5.5068
36	11.0561	5.0076
37	10.8046	4.9334
38	10.1876	4.9019
39	9.7809	4.8567
40	8.6410	4.6600
41	7.9678	4.5459
42	7.5587	3.7336
43	6.4582	3.4993

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
3.9528	1744	1794	102	Pass
4.2841	1537	1398	90	Pass
4.6154	1350	1091	80	Pass
4.9466	1201	838	69	Pass
5.2779	1082	637	58	Pass
5.6092	972	471	48	Pass
5.9404	850	365	42	Pass
6.2717	757	260	34	Pass
6.6030	670	178	26	Pass
6.9342	594	125	21	Pass
7.2655	535	87	16	Pass
7.5968	490	67	13	Pass
7.9281	439	46	10	Pass
8.2593	394	43	10	Pass
8.5906	361	37	10	Pass
8.9219	326	31	9	Pass
9.2531	302	26	8	Pass
9.5844	279	25	8	Pass
9.9157	254	22	8	Pass
10.2469	226	21	9	Pass
10.5782	200	18	9	Pass
10.9095	185	18	9	Pass
11.2407	172	17	9	Pass
11.5720	152	16	10	Pass
11.9033	135	15	11	Pass
12.2345	122	14	11	Pass
12.5658	111	12	10	Pass
12.8971	103	11	10	Pass
13.2284	97	10	10	Pass
13.5596	89	10	11	Pass
13.8909	84	9	10	Pass
14.2222	77	9	11	Pass
14.5534	72	9	12	Pass
14.8847	68	9	13	Pass
15.2160	65	9	13	Pass
15.5472	64	9	14	Pass
15.8785	60	9	15	Pass
16.2098	54	8	14	Pass
16.5410	52	8	15	Pass
16.8723	48	8	16	Pass
17.2036	44	8	18	Pass
17.5348	42	8	19	Pass
17.8661	39	8	20	Pass
18.1974	36	8	22	Pass
18.5287	35	8	22	Pass
18.8599	34	8	23	Pass
19.1912	31	8	25	Pass
19.5225	29	8	27	Pass
19.8537	28	8	28	Pass
20.1850	27	8	29	Pass
20.5163	26	8	30	Pass
20.8475	26	8	30	Pass
21.1788	26	8	30	Pass

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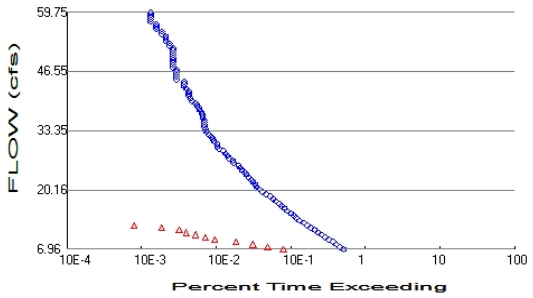
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21.8413	23	8	34	Pass
22.1726	22	7	31	Pass
22.5039	21	6	28	Pass
22.8352	21	6	28	Pass
23.1664	20	6	30	Pass
23.4977	19	6	31	Pass
23.8290	17	4	23	Pass
24.1602	17	4	23	Pass
24.4915	16	4	25	Pass
24.8228	16	4	25	Pass
25.1540	16	4	25	Pass
25.4853	16	4	25	Pass
25.8166	16	4	25	Pass
26.1478	16	4	25	Pass
26.4791	16	4	25	Pass
26.8104	15	4	26	Pass
27.1416	15	4	26	Pass
27.4729	13	3	23	Pass
27.8042	12	3	25	Pass
28.1355	12	3	25	Pass
28.4667	11	3	27	Pass
28.7980	11	3	27	Pass
29.1293	11	3	27	Pass
29.4605	11	3	27	Pass
29.7918	10	3	30	Pass
30.1231	10	2	20	Pass
30.4543	10	2	20	Pass
30.7856	10	2	20	Pass
31.1169	10	2	20	Pass
31.4481	9	2	22	Pass
31.7794	9	2	22	Pass
32.1107	9	2	22	Pass
32.4419	8	2	25	Pass
32.7732	8	2	25	Pass
33.1045	8	2	25	Pass
33.4358	7	1	14	Pass
33.7670	6	1	16	Pass
34.0983	6	1	16	Pass
34.4296	5	1	20	Pass
34.7608	5	1	20	Pass
35.0921	5	1	20	Pass
35.4234	5	1	20	Pass
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36.0859	5	1	20	Pass
36.4172	5	1	20	Pass
36.7484	5	1	20	Pass

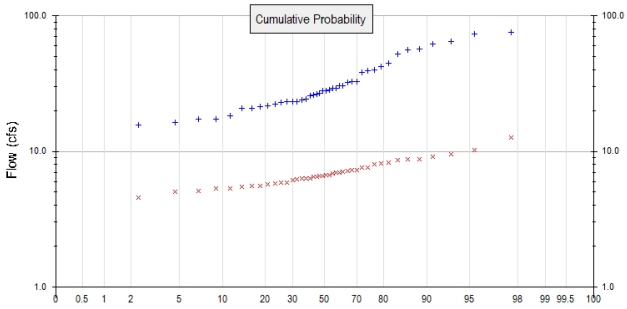
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Water Quality

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POC 5





+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #5
Total Pervious Area: 27.3
Total Impervious Area: 66.7

Mitigated Landuse Totals for POC #5
Total Pervious Area: 12.6
Total Impervious Area: 81.3

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #5

Return Period	**Flow(cfs)**
2 year	27.8283
5 year	42.703391
10 year	59.749764
25 year	73.235286

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Flow Frequency Return Periods for Mitigated. POC #5

Return Period	**Flow(cfs)**
2 year	6.62749
5 year	8.144054
10 year	8.958441
25 year	10.612391

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #5

Year	**Pre-Project**	**Mitigated**
1962	26.018	7.562
1963	26.916	7.159
1964	39.453	6.192
1965	25.845	6.590
1966	24.055	5.333
1967	30.453	8.079
1968	17.281	5.022
1969	20.815	6.470
1970	20.659	6.681
1971	28.347	8.220
1972	15.552	5.066
1973	55.946	6.985
1974	26.387	6.315
1975	32.200	5.531
1976	13.289	4.546

1977	16.404	3.490
1978	38.097	6.466
1979	17.332	5.324
1980	57.141	6.959
1981	22.276	5.872
1982	44.454	8.787
1983	52.233	8.690
1984	23.200	7.235
1985	29.166	7.051
1986	72.947	10.297
1987	18.313	5.759
1988	23.341	5.721
1989	32.849	6.328
1990	30.431	6.627
1991	39.637	6.873
1992	29.388	7.545
1993	22.960	6.719
1994	23.294	6.111
1995	75.059	12.609
1996	64.505	8.127
1997	61.923	8.637
1998	42.314	9.473
1999	21.363	5.537
2000	32.661	9.101
2001	21.724	5.479
2002	27.866	5.852
2003	24.190	6.284
2004	27.828	7.297

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #5

Rank	Pre-Project	Mitigated
1	75.0592	12.6086
2	72.9473	10.2972
3	64.5048	9.4725
4	61.9234	9.1014
5	57.1414	8.7870
6	55.9457	8.6904
7	52.2334	8.6370
8	44.4543	8.2199
9	42.3143	8.1272
10	39.6365	8.0788
11	39.4528	7.5618
12	38.0967	7.5451
13	32.8489	7.2973
14	32.6608	7.2351
15	32.1998	7.1592
16	30.4534	7.0514
17	30.4309	6.9845
18	29.3884	6.9586
19	29.1660	6.8729
20	28.3466	6.7189
21	27.8655	6.6810
22	27.8283	6.6275
23	26.9155	6.5896
24	26.3873	6.4700
25	26.0184	6.4665
26	25.8454	6.3281

27	24.1902	6.3153
28	24.0546	6.2837
29	23.3412	6.1919
30	23.2939	6.1114
31	23.2000	5.8722
32	22.9596	5.8517
33	22.2756	5.7593
34	21.7243	5.7209
35	21.3632	5.5371
36	20.8150	5.5312
37	20.6593	5.4789
38	18.3126	5.3327
39	17.3317	5.3243
40	17.2807	5.0659
41	16.4039	5.0220
42	15.5522	4.5462
43	13.2885	3.4898

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
6.9571	1931	299	15	Pass
7.4903	1700	185	10	Pass
8.0236	1532	118	7	Pass
8.5569	1377	69	5	Pass
9.0901	1221	36	2	Pass
9.6234	1092	27	2	Pass
10.1566	980	20	2	Pass
10.6899	874	15	1	Pass
11.2232	792	12	1	Pass
11.7564	705	7	0	Pass
12.2897	629	3	0	Pass
12.8229	570	0	0	Pass
13.3562	494	0	0	Pass
13.8894	445	0	0	Pass
14.4227	412	0	0	Pass
14.9560	382	0	0	Pass
15.4892	340	0	0	Pass
16.0225	311	0	0	Pass
16.5557	283	0	0	Pass
17.0890	263	0	0	Pass
17.6223	240	0	0	Pass
18.1555	220	0	0	Pass
18.6888	201	0	0	Pass
19.2220	174	0	0	Pass
19.7553	159	0	0	Pass
20.2886	144	0	0	Pass
20.8218	132	0	0	Pass
21.3551	126	0	0	Pass
21.8883	118	0	0	Pass
22.4216	112	0	0	Pass
22.9549	103	0	0	Pass
23.4881	96	0	0	Pass
24.0214	90	0	0	Pass
24.5546	83	0	0	Pass
25.0879	79	0	0	Pass
25.6212	75	0	0	Pass
26.1544	65	0	0	Pass
26.6877	63	0	0	Pass
27.2209	56	0	0	Pass
27.7542	54	0	0	Pass
28.2875	50	0	0	Pass
28.8207	47	0	0	Pass
29.3540	41	0	0	Pass
29.8872	39	0	0	Pass
30.4205	39	0	0	Pass
30.9538	35	0	0	Pass
31.4870	34	0	0	Pass
32.0203	32	0	0	Pass
32.5535	30	0	0	Pass
33.0868	28	0	0	Pass
33.6200	27	0	0	Pass
34.1533	26	0	0	Pass
34.6866	26	0	0	Pass

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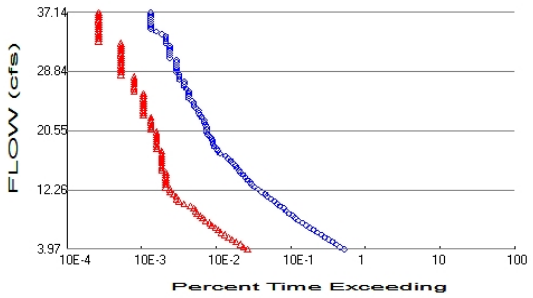
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37.8861	23	0	0	Pass
38.4194	22	0	0	Pass
38.9526	21	0	0	Pass
39.4859	20	0	0	Pass
40.0192	18	0	0	Pass
40.5524	17	0	0	Pass
41.0857	16	0	0	Pass
41.6189	16	0	0	Pass
42.1522	16	0	0	Pass
42.6855	15	0	0	Pass
43.2187	14	0	0	Pass
43.7520	14	0	0	Pass
44.2852	14	0	0	Pass
44.8185	11	0	0	Pass
45.3518	11	0	0	Pass
45.8850	11	0	0	Pass
46.4183	11	0	0	Pass
46.9515	11	0	0	Pass
47.4848	10	0	0	Pass
48.0181	10	0	0	Pass
48.5513	10	0	0	Pass
49.0846	10	0	0	Pass
49.6178	10	0	0	Pass
50.1511	10	0	0	Pass
50.6844	10	0	0	Pass
51.2176	10	0	0	Pass
51.7509	10	0	0	Pass
52.2841	9	0	0	Pass
52.8174	9	0	0	Pass
53.3507	8	0	0	Pass
53.8839	8	0	0	Pass
54.4172	8	0	0	Pass
54.9504	7	0	0	Pass
55.4837	7	0	0	Pass
56.0169	6	0	0	Pass
56.5502	6	0	0	Pass
57.0835	6	0	0	Pass
57.6167	5	0	0	Pass
58.1500	5	0	0	Pass
58.6832	5	0	0	Pass
59.2165	5	0	0	Pass
59.7498	5	0	0	Pass

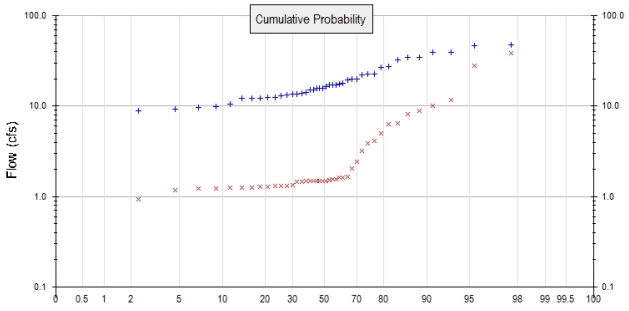
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Water Quality

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POC 6





\+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #6
Total Pervious Area: 23.6
Total Impervious Area: 37.9

Mitigated Landuse Totals for POC #6
Total Pervious Area: 6.6
Total Impervious Area: 54.9

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #6

Return Period	**Flow(cfs)**
2 year	15.8627
5 year	26.807773
10 year	37.136945
25 year	46.737136

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Flow Frequency Return Periods for Mitigated. POC #6

Return Period	**Flow(cfs)**
2 year	1.49767
5 year	5.224885
10 year	9.573136
25 year	29.470005

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #6

Year	**Pre-Project**	**Mitigated**
1962	15.863	3.221
1963	15.282	1.604
1964	22.234	1.274
1965	15.698	2.433
1966	13.669	1.185
1967	17.285	4.968
1968	9.933	1.215
1969	12.515	4.140
1970	12.296	1.487
1971	17.259	6.380
1972	8.838	1.254
1973	34.612	1.608
1974	15.262	1.312
1975	19.385	1.334
1976	7.552	0.924

1977	9.322	0.828
1978	22.726	1.498
1979	9.776	1.535
1980	34.354	1.517
1981	12.560	1.481
1982	27.615	8.972
1983	32.626	10.074
1984	13.086	2.036
1985	16.379	1.466
1986	46.543	28.099
1987	10.556	1.276
1988	14.040	1.307
1989	19.928	1.480
1990	17.496	1.296
1991	22.640	1.560
1992	18.044	1.652
1993	14.020	1.449
1994	13.203	1.262
1995	47.969	38.151
1996	39.753	3.915
1997	39.241	6.500
1998	26.629	11.811
1999	12.154	1.494
2000	20.137	8.109
2001	12.213	1.232
2002	15.829	1.250
2003	13.732	1.500
2004	17.073	1.478

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #6

Rank	Pre-Project	Mitigated
1	47.9692	38.1505
2	46.5426	28.0994
3	39.7530	11.8109
4	39.2409	10.0738
5	34.6122	8.9723
6	34.3543	8.1085
7	32.6260	6.4996
8	27.6145	6.3802
9	26.6285	4.9682
10	22.7263	4.1395
11	22.6398	3.9151
12	22.2339	3.2206
13	20.1374	2.4326
14	19.9276	2.0360
15	19.3852	1.6524
16	18.0441	1.6077
17	17.4957	1.6038
18	17.2852	1.5604
19	17.2592	1.5350
20	17.0725	1.5172
21	16.3790	1.5000
22	15.8627	1.4977
23	15.8287	1.4935
24	15.6978	1.4869
25	15.2822	1.4810
26	15.2621	1.4798

27	14.0403	1.4777
28	14.0198	1.4656
29	13.7320	1.4489
30	13.6685	1.3342
31	13.2025	1.3125
32	13.0859	1.3069
33	12.5602	1.2962
34	12.5149	1.2764
35	12.2960	1.2743
36	12.2126	1.2623
37	12.1544	1.2540
38	10.5561	1.2496
39	9.9334	1.2324
40	9.7757	1.2148
41	9.3225	1.1854
42	8.8376	0.9240
43	7.5515	0.8281

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
3.9657	1971	99	5	Pass
4.3007	1713	87	5	Pass
4.6358	1531	81	5	Pass
4.9709	1373	69	5	Pass
5.3059	1214	62	5	Pass
5.6410	1073	55	5	Pass
5.9761	965	49	5	Pass
6.3111	859	44	5	Pass
6.6462	763	40	5	Pass
6.9812	678	37	5	Pass
7.3163	601	33	5	Pass
7.6514	537	31	5	Pass
7.9864	475	27	5	Pass
8.3215	429	25	5	Pass
8.6566	397	23	5	Pass
8.9916	354	21	5	Pass
9.3267	326	20	6	Pass
9.6618	302	19	6	Pass
9.9968	271	17	6	Pass
10.3319	247	14	5	Pass
10.6669	227	12	5	Pass
11.0020	205	11	5	Pass
11.3371	182	11	6	Pass
11.6721	173	10	5	Pass
12.0072	152	9	5	Pass
12.3423	138	9	6	Pass
12.6773	125	8	6	Pass
13.0124	112	8	7	Pass
13.3474	107	8	7	Pass
13.6825	99	8	8	Pass
14.0176	93	8	8	Pass
14.3526	86	8	9	Pass
14.6877	79	8	10	Pass
15.0228	77	7	9	Pass
15.3578	72	7	9	Pass
15.6929	69	7	10	Pass
16.0280	62	7	11	Pass
16.3630	59	7	11	Pass
16.6981	54	7	12	Pass
17.0331	51	7	13	Pass
17.3682	43	7	16	Pass
17.7033	40	7	17	Pass
18.0383	38	6	15	Pass
18.3734	35	6	17	Pass
18.7085	34	6	17	Pass
19.0435	34	6	17	Pass
19.3786	33	6	18	Pass
19.7137	31	6	19	Pass
20.0487	29	6	20	Pass
20.3838	28	6	21	Pass
20.7188	28	5	17	Pass
21.0539	28	5	17	Pass
21.3890	27	5	18	Pass

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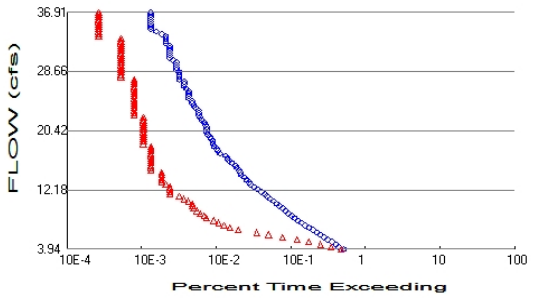
21.7240	26	5	19	Pass
22.0591	26	5	19	Pass
22.3942	24	5	20	Pass
22.7292	23	4	17	Pass
23.0643	22	4	18	Pass
23.3993	22	4	18	Pass
23.7344	20	4	20	Pass
24.0695	19	4	21	Pass
24.4045	19	4	21	Pass
24.7396	18	4	22	Pass
25.0747	16	4	25	Pass
25.4097	16	4	25	Pass
25.7448	16	4	25	Pass
26.0799	16	3	18	Pass
26.4149	15	3	20	Pass
26.7500	14	3	21	Pass
27.0850	14	3	21	Pass
27.4201	14	3	21	Pass
27.7552	12	3	25	Pass
28.0902	12	3	25	Pass
28.4253	12	2	16	Pass
28.7604	11	2	18	Pass
29.0954	11	2	18	Pass
29.4305	11	2	18	Pass
29.7656	11	2	18	Pass
30.1006	11	2	18	Pass
30.4357	11	2	18	Pass
30.7707	9	2	22	Pass
31.1058	9	2	22	Pass
31.4409	9	2	22	Pass
31.7759	9	2	22	Pass
32.1110	9	2	22	Pass
32.4461	9	2	22	Pass
32.7811	8	2	25	Pass
33.1162	8	1	12	Pass
33.4512	8	1	12	Pass
33.7863	8	1	12	Pass
34.1214	7	1	14	Pass
34.4564	6	1	16	Pass
34.7915	5	1	20	Pass
35.1266	5	1	20	Pass
35.4616	5	1	20	Pass
35.7967	5	1	20	Pass
36.1318	5	1	20	Pass
36.4668	5	1	20	Pass
36.8019	5	1	20	Pass
37.1369	5	1	20	Pass

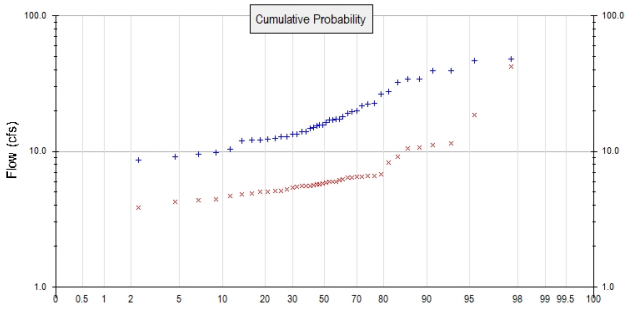
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Water Quality

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POC 7





+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #7
Total Pervious Area: 24.6
Total Impervious Area: 36.9

Mitigated Landuse Totals for POC #7
Total Pervious Area: 7.7
Total Impervious Area: 53.8

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #7

Return Period	**Flow(cfs)**
2 year	15.7525
5 year	26.644473
10 year	36.906573
25 year	46.562173

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Flow Frequency Return Periods for Mitigated. POC #7

Return Period	**Flow(cfs)**
2 year	5.79171
5 year	7.0179
10 year	10.906118
25 year	21.684055

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #7

Year	**Pre-Project**	**Mitigated**
1962	15.753	6.150
1963	14.879	6.497
1964	21.813	5.713
1965	15.605	5.423
1966	13.308	4.662
1967	17.051	6.557
1968	9.836	4.400
1969	12.404	5.537
1970	12.169	5.587
1971	17.190	6.567
1972	8.604	3.841
1973	34.328	6.417
1974	15.023	5.530
1975	19.197	5.083
1976	7.352	4.212

1977	9.077	3.120
1978	22.475	5.954
1979	9.576	4.338
1980	34.040	6.500
1981	12.373	4.855
1982	27.398	8.218
1983	32.414	10.689
1984	12.860	6.194
1985	16.216	5.976
1986	46.362	18.432
1987	10.401	4.806
1988	13.931	5.046
1989	19.731	5.617
1990	17.382	5.917
1991	22.175	5.971
1992	17.939	6.751
1993	13.902	5.687
1994	12.863	5.457
1995	47.831	42.280
1996	39.386	10.459
1997	39.056	11.509
1998	26.477	11.087
1999	11.953	5.073
2000	20.041	9.092
2001	12.062	5.019
2002	15.412	5.275
2003	13.370	5.792
2004	16.925	6.400

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #7

Rank	Pre-Project	Mitigated
1	47.8312	42.2804
2	46.3618	18.4320
3	39.3861	11.5089
4	39.0558	11.0868
5	34.3275	10.6893
6	34.0398	10.4585
7	32.4139	9.0917
8	27.3981	8.2175
9	26.4770	6.7513
10	22.4747	6.5668
11	22.1751	6.5567
12	21.8126	6.4999
13	20.0413	6.4975
14	19.7314	6.4169
15	19.1969	6.3999
16	17.9385	6.1936
17	17.3822	6.1495
18	17.1898	5.9763
19	17.0511	5.9707
20	16.9254	5.9537
21	16.2157	5.9168
22	15.7525	5.7917
23	15.6049	5.7135
24	15.4124	5.6869
25	15.0230	5.6173
26	14.8785	5.5873

27	13.9309	5.5373
28	13.9020	5.5299
29	13.3696	5.4574
30	13.3080	5.4226
31	12.8634	5.2745
32	12.8596	5.0831
33	12.4037	5.0729
34	12.3731	5.0456
35	12.1689	5.0190
36	12.0619	4.8551
37	11.9531	4.8060
38	10.4009	4.6620
39	9.8364	4.4003
40	9.5761	4.3385
41	9.0767	4.2124
42	8.6045	3.8411
43	7.3525	3.1205

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
3.9381	1935	1774	91	Pass
4.2711	1670	1314	78	Pass
4.6042	1513	949	62	Pass
4.9372	1342	658	49	Pass
5.2702	1178	459	38	Pass
5.6032	1062	292	27	Pass
5.9362	939	191	20	Pass
6.2692	848	132	15	Pass
6.6022	752	74	9	Pass
6.9353	663	58	8	Pass
7.2683	590	48	8	Pass
7.6013	527	41	7	Pass
7.9343	467	35	7	Pass
8.2673	423	28	6	Pass
8.6003	385	26	6	Pass
8.9333	348	23	6	Pass
9.2664	319	21	6	Pass
9.5994	295	19	6	Pass
9.9324	264	18	6	Pass
10.2654	242	18	7	Pass
10.5984	222	16	7	Pass
10.9314	200	14	7	Pass
11.2644	181	12	6	Pass
11.5975	170	9	5	Pass
11.9305	151	9	5	Pass
12.2635	135	9	6	Pass
12.5965	122	9	7	Pass
12.9295	109	8	7	Pass
13.2625	104	7	6	Pass
13.5955	96	7	7	Pass
13.9286	91	7	7	Pass
14.2616	81	7	8	Pass
14.5946	79	7	8	Pass
14.9276	76	5	6	Pass
15.2606	71	5	7	Pass
15.5936	69	5	7	Pass
15.9267	61	5	8	Pass
16.2597	56	5	8	Pass
16.5927	53	5	9	Pass
16.9257	50	5	10	Pass
17.2587	43	5	11	Pass
17.5917	40	5	12	Pass
17.9247	38	5	13	Pass
18.2578	35	5	14	Pass
18.5908	34	4	11	Pass
18.9238	34	4	11	Pass
19.2568	32	4	12	Pass
19.5898	31	4	12	Pass
19.9228	29	4	13	Pass
20.2558	28	4	14	Pass
20.5889	28	4	14	Pass
20.9219	28	4	14	Pass
21.2549	27	4	14	Pass

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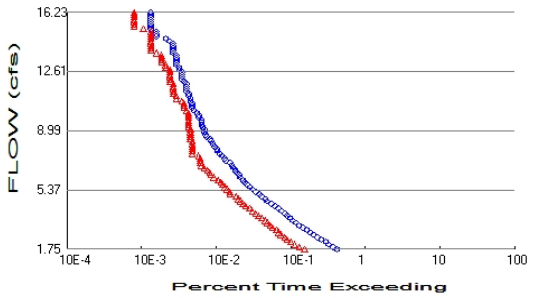
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21.9209	24	4	16	Pass
22.2539	23	4	17	Pass
22.5869	22	3	13	Pass
22.9200	22	3	13	Pass
23.2530	22	3	13	Pass
23.5860	20	3	15	Pass
23.9190	19	3	15	Pass
24.2520	18	3	16	Pass
24.5850	18	3	16	Pass
24.9180	16	3	18	Pass
25.2511	16	3	18	Pass
25.5841	16	3	18	Pass
25.9171	16	3	18	Pass
26.2501	15	3	20	Pass
26.5831	14	3	21	Pass
26.9161	14	3	21	Pass
27.2491	14	3	21	Pass
27.5822	12	3	25	Pass
27.9152	12	2	16	Pass
28.2482	12	2	16	Pass
28.5812	12	2	16	Pass
28.9142	11	2	18	Pass
29.2472	11	2	18	Pass
29.5803	11	2	18	Pass
29.9133	11	2	18	Pass
30.2463	10	2	20	Pass
30.5793	9	2	22	Pass
30.9123	9	2	22	Pass
31.2453	9	2	22	Pass
31.5783	9	2	22	Pass
31.9114	9	2	22	Pass
32.2444	9	2	22	Pass
32.5774	8	2	25	Pass
32.9104	8	2	25	Pass
33.2434	8	2	25	Pass
33.5764	8	1	12	Pass
33.9094	7	1	14	Pass
34.2425	6	1	16	Pass
34.5755	5	1	20	Pass
34.9085	5	1	20	Pass
35.2415	5	1	20	Pass
35.5745	5	1	20	Pass
35.9075	5	1	20	Pass
36.2405	5	1	20	Pass
36.5736	5	1	20	Pass
36.9066	5	1	20	Pass

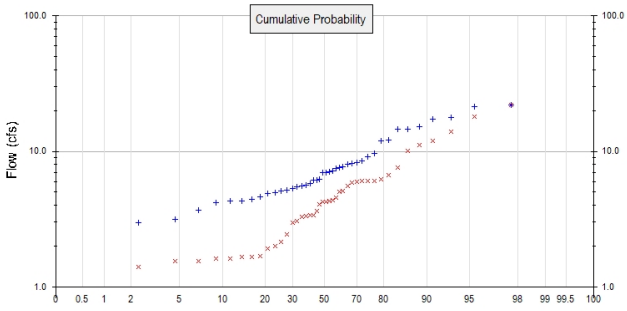
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Water Quality

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POC 8





+ Pre-Project x Mitigated

Pre-Project Landuse Totals for POC #8
Total Pervious Area: 16.4
Total Impervious Area: 12.8

Mitigated Landuse Totals for POC #8
Total Pervious Area: 2.9
Total Impervious Area: 26.3

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Pre-Project. POC #8

Return Period	**Flow(cfs)**
2 year	6.99753
5 year	11.975518
10 year	16.233827
25 year	21.371218

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Flow Frequency Return Periods for Mitigated. POC #8

Return Period	**Flow(cfs)**
2 year	4.22696
5 year	6.327859
10 year	11.577355
25 year	18.670418

Annual Peaks

Annual Peaks for Pre-Project and Mitigated. POC #8

Year	**Pre-Project**	**Mitigated**
1962	7.105	5.072
1963	5.168	5.858
1964	7.618	3.338
1965	6.998	3.360
1966	4.616	1.626
1967	6.999	6.039
1968	4.171	1.539
1969	5.646	3.055
1970	5.115	4.227
1971	7.650	6.253
1972	2.987	1.550
1973	15.109	6.047
1974	6.191	3.294
1975	8.259	1.667
1976	2.552	1.408

1977	3.148	1.075
1978	9.649	4.038
1979	3.697	1.612
1980	14.669	5.959
1981	4.404	2.148
1982	12.103	7.567
1983	14.478	11.127
1984	5.582	5.004
1985	5.781	4.356
1986	21.251	18.157
1987	4.306	2.002
1988	6.166	1.905
1989	8.511	3.375
1990	7.122	4.520
1991	8.116	4.233
1992	8.019	6.664
1993	6.130	4.282
1994	4.856	2.967
1995	22.133	21.923
1996	17.171	11.953
1997	17.760	13.881
1998	11.947	10.082
1999	4.927	1.680
2000	9.134	5.541
2001	4.296	1.667
2002	5.348	2.432
2003	5.465	3.609
2004	7.451	6.026

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Ranked Annual Peaks

Ranked Annual Peaks for Pre-Project and Mitigated. POC #8

Rank	Pre-Project	Mitigated
1	22.1326	21.9227
2	21.2510	18.1569
3	17.7604	13.8809
4	17.1711	11.9529
5	15.1091	11.1267
6	14.6687	10.0821
7	14.4777	7.5670
8	12.1025	6.6643
9	11.9473	6.2531
10	9.6493	6.0470
11	9.1339	6.0395
12	8.5109	6.0258
13	8.2594	5.9592
14	8.1158	5.8582
15	8.0189	5.5412
16	7.6502	5.0719
17	7.6179	5.0039
18	7.4511	4.5203
19	7.1218	4.3556
20	7.1054	4.2819
21	6.9989	4.2332
22	6.9975	4.2270
23	6.1910	4.0376
24	6.1656	3.6092
25	6.1302	3.3755
26	5.7813	3.3595

27	5.6460	3.3375
28	5.5819	3.2942
29	5.4649	3.0546
30	5.3483	2.9668
31	5.1682	2.4316
32	5.1151	2.1482
33	4.9275	2.0017
34	4.8564	1.9052
35	4.6161	1.6801
36	4.4036	1.6672
37	4.3064	1.6665
38	4.2963	1.6260
39	4.1706	1.6115
40	3.6969	1.5502
41	3.1476	1.5394
42	2.9869	1.4080
43	2.5521	1.0753

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
1.7494	1572	574	36	Pass
1.8957	1381	493	35	Pass
2.0420	1226	430	35	Pass
2.1883	1108	377	34	Pass
2.3346	965	336	34	Pass
2.4809	850	315	37	Pass
2.6272	765	280	36	Pass
2.7735	682	262	38	Pass
2.9198	618	242	39	Pass
3.0662	544	215	39	Pass
3.2125	488	201	41	Pass
3.3588	449	183	40	Pass
3.5051	403	170	42	Pass
3.6514	367	153	41	Pass
3.7977	340	139	40	Pass
3.9440	313	127	40	Pass
4.0903	287	115	40	Pass
4.2366	257	106	41	Pass
4.3829	230	94	40	Pass
4.5292	207	86	41	Pass
4.6755	180	80	44	Pass
4.8218	173	74	42	Pass
4.9681	153	69	45	Pass
5.1145	142	58	40	Pass
5.2608	129	58	44	Pass
5.4071	117	53	45	Pass
5.5534	107	49	45	Pass
5.6997	98	46	46	Pass
5.8460	91	44	48	Pass
5.9923	86	40	46	Pass
6.1386	79	35	44	Pass
6.2849	76	32	42	Pass
6.4312	71	31	43	Pass
6.5775	68	29	42	Pass
6.7238	65	26	40	Pass
6.8701	61	24	39	Pass
7.0165	58	23	39	Pass
7.1628	51	23	45	Pass
7.3091	49	23	46	Pass
7.4554	46	22	47	Pass
7.6017	42	18	42	Pass
7.7480	39	18	46	Pass
7.8943	38	18	47	Pass
8.0406	36	18	50	Pass
8.1869	34	18	52	Pass
8.3332	32	18	56	Pass
8.4795	31	17	54	Pass
8.6258	28	17	60	Pass
8.7721	27	17	62	Pass
8.9185	26	17	65	Pass
9.0648	26	17	65	Pass
9.2111	25	16	64	Pass
9.3574	24	16	66	Pass

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9.5037	24	16	66	Pass
9.6500	24	16	66	Pass
9.7963	22	16	72	Pass
9.9426	22	16	72	Pass
10.0889	21	16	76	Pass
10.2352	19	15	78	Pass
10.3815	18	14	77	Pass
10.5278	18	14	77	Pass
10.6741	18	14	77	Pass
10.8204	17	13	76	Pass
10.9668	17	11	64	Pass
11.1131	16	11	68	Pass
11.2594	16	10	62	Pass
11.4057	15	10	66	Pass
11.5520	15	10	66	Pass
11.6983	15	10	66	Pass
11.8446	15	10	66	Pass
11.9909	14	9	64	Pass
12.1372	13	9	69	Pass
12.2835	13	9	69	Pass
12.4298	13	9	69	Pass
12.5761	13	9	69	Pass
12.7224	12	9	75	Pass
12.8688	12	8	66	Pass
13.0151	11	8	72	Pass
13.1614	11	7	63	Pass
13.3077	11	7	63	Pass
13.4540	11	7	63	Pass
13.6003	11	7	63	Pass
13.7466	10	6	60	Pass
13.8929	10	5	50	Pass
14.0392	10	5	50	Pass
14.1855	10	5	50	Pass
14.3318	10	5	50	Pass
14.4781	9	5	55	Pass
14.6244	8	5	62	Pass
14.7708	6	5	83	Pass
14.9171	6	5	83	Pass
15.0634	6	5	83	Pass
15.2097	5	4	80	Pass
15.3560	5	3	60	Pass
15.5023	5	3	60	Pass
15.6486	5	3	60	Pass
15.7949	5	3	60	Pass
15.9412	5	3	60	Pass
16.0875	5	3	60	Pass
16.2338	5	3	60	Pass

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Water Quality

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Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

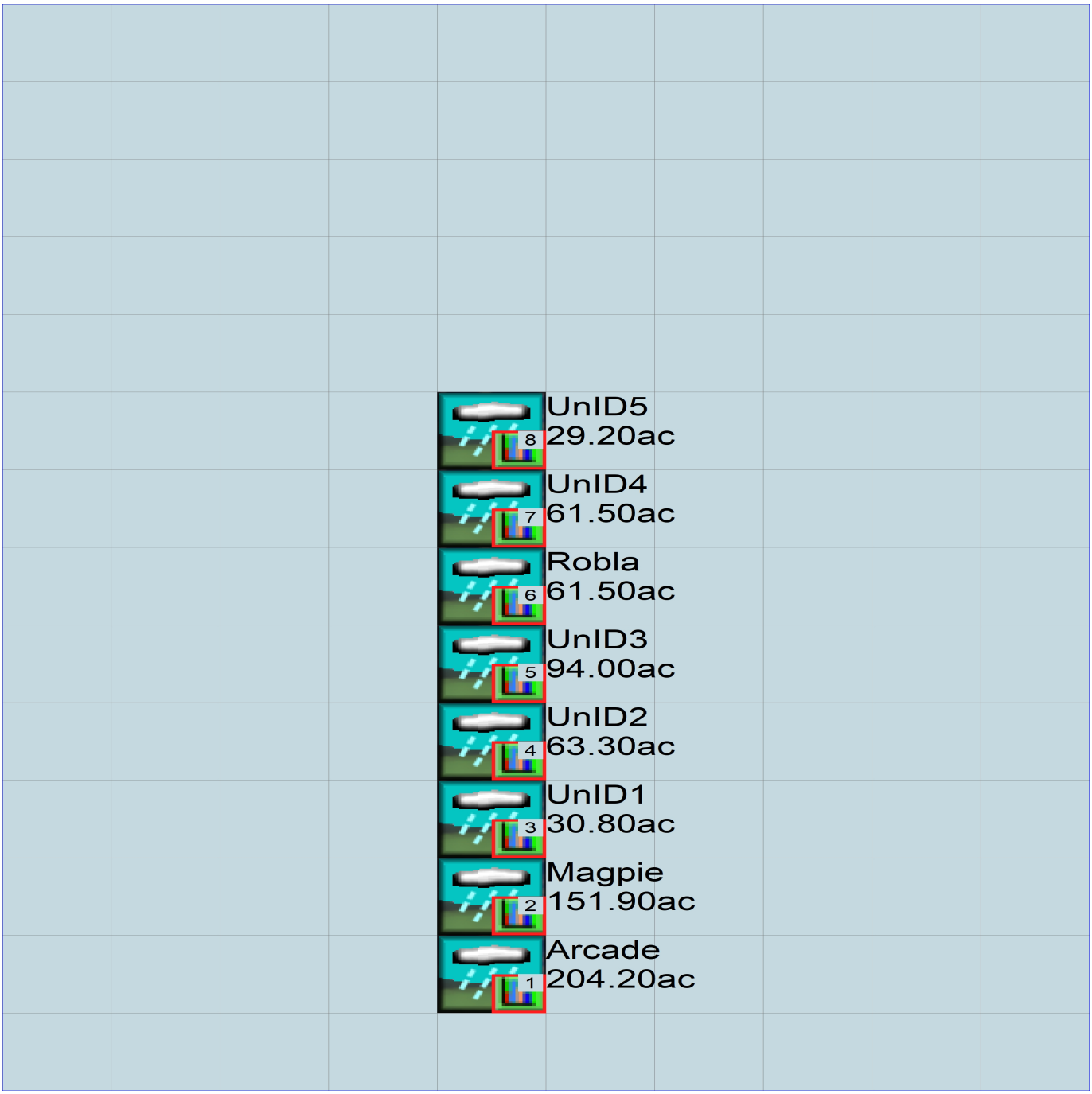
No PERLND changes have been made.

IMPLND Changes

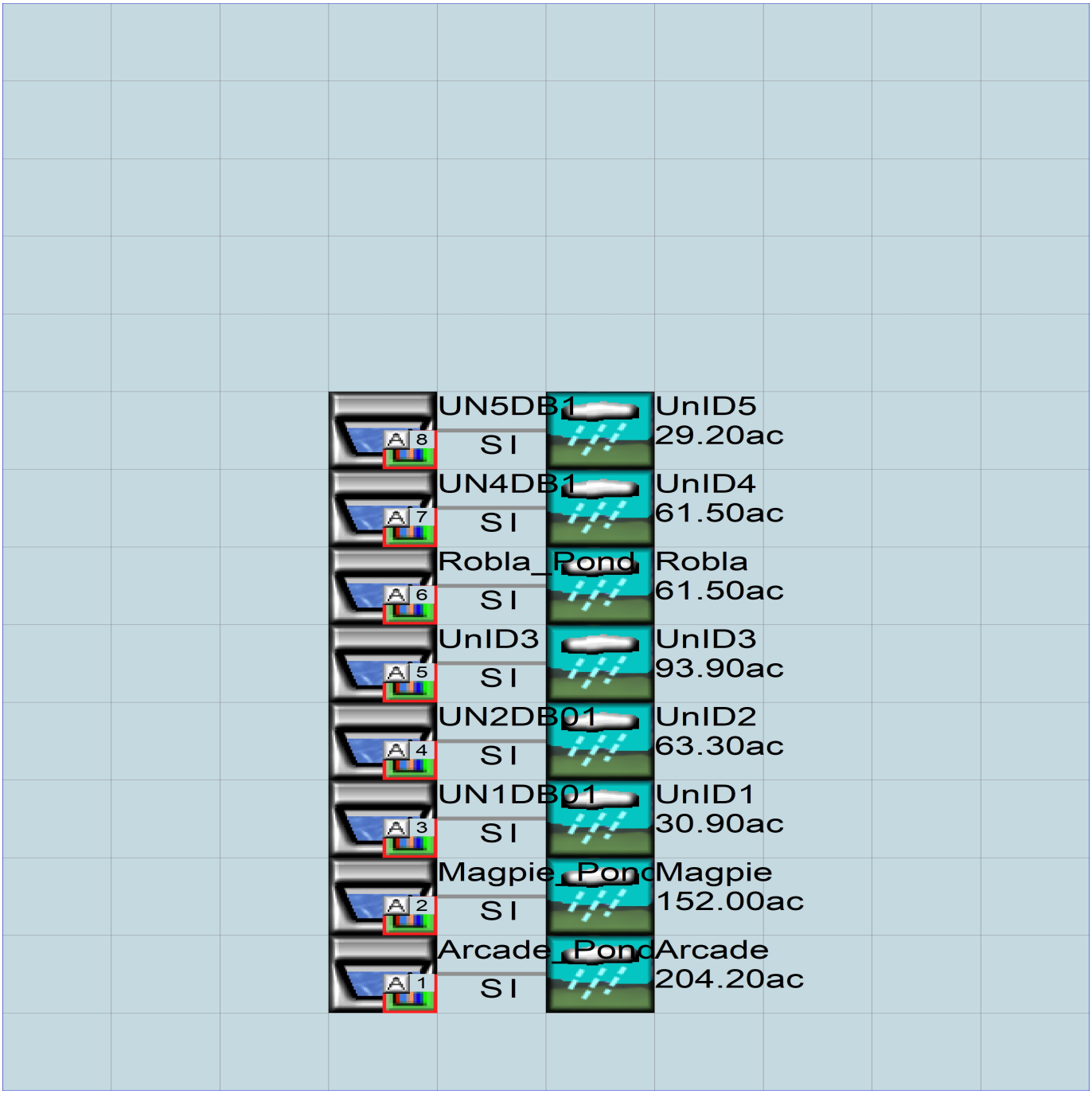
No IMPLND changes have been made.

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Appendix
Pre-Project Schematic



Mitigated Schematic



Pre-Project UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1961 10 01        END    2004 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                               ***
WDM         26   North_Watt_Specific_Plan.wdm
MESSU       25   PreNorth_Watt_Specific_Plan.MES
            27   PreNorth_Watt_Specific_Plan.L61
            28   PreNorth_Watt_Specific_Plan.L62
            30   POCNorth_Watt_Specific_Plan1.dat
            31   POCNorth_Watt_Specific_Plan2.dat
            32   POCNorth_Watt_Specific_Plan3.dat
            33   POCNorth_Watt_Specific_Plan4.dat
            34   POCNorth_Watt_Specific_Plan5.dat
            35   POCNorth_Watt_Specific_Plan6.dat
            36   POCNorth_Watt_Specific_Plan7.dat
            37   POCNorth_Watt_Specific_Plan8.dat
END FILES

OPN SEQUENCE
    INGRP               INDELT 00:60
      PERLND      33
      PERLND      41
      PERLND      49
      PERLND      57
      IMPLND       1
      COPY       501
      COPY       502
      COPY       503
      COPY       504
      COPY       505
      COPY       506
      COPY       507
      COPY       508
      DISPLY       1
      DISPLY       2
      DISPLY       3
      DISPLY       4
      DISPLY       5
      DISPLY       6
      DISPLY       7
      DISPLY       8
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Arcade                    MAX                    1    2   30    9
    2        Magpie                    MAX                    1    2   31    9
    3        UnID1                     MAX                    1    2   32    9
    4        UnID2                     MAX                    1    2   33    9
    5        UnID3                     MAX                    1    2   34    9
    6        Robla                     MAX                    1    2   35    9
    7        UnID4                     MAX                    1    2   36    9
    8        UnID5                     MAX                    1    2   37    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
```

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```
  501         1    1
  502         1    1
  503         1    1
  504         1    1
  505         1    1
  506         1    1
  507         1    1
  508         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                       in  out           ***
   33     C,Grass,Flat(0-1%)      1    1    1    1   27    0
   41     C,Urban,Flat(0-1%)      1    1    1    1   27    0
   49     D,Grass,Flat(0-1%)      1    1    1    1   27    0
   57     D,Urban,Flat(0-1%)      1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   33         0    0    1    0    0    0    0    0    0    0    0    0
   41         0    0    1    0    0    0    0    0    0    0    0    0
   49         0    0    1    0    0    0    0    0    0    0    0    0
   57         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ***************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   33         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   41         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   49         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   57         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
   33         0    0    0    1    0    0    0    0    1    0    0
   41         0    0    0    1    0    0    0    0    1    0    0
   49         0    0    0    1    0    0    0    0    1    0    0
   57         0    0    0    1    0    0    0    0    1    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   33              0       4.5     0.045       400      0.01         3      0.92
   41              0      4.45     0.035       400      0.01         3      0.92
   49              0       4.4      0.03       400      0.01         3      0.92
   57              0      4.45      0.02       400      0.01         3      0.92
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   33            40        35         2         2         0         0      0.05
```

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```
   41             40        35         2         2         0         0      0.05
   49             40        35         2         2         0         0      0.05
   57             40        35         2         2         0         0      0.05
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                                  ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   33              0       0.3      0.25       0.7       0.5         0
   41              0       0.3      0.25       0.5       0.4         0
   49              0       0.3      0.25       0.7       0.5         0
   57              0       0.3      0.25       0.5       0.4         0
  END PWAT-PARM4
  MON-LZETPARM
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   33       0.4  0.4  0.4 0.45  0.5 0.55 0.55 0.55 0.55 0.55 0.45  0.4
   41       0.5  0.5  0.5  0.6 0.65 0.65 0.65 0.65 0.65 0.65 0.55  0.5
   49       0.4  0.4  0.4 0.45  0.5 0.55 0.55 0.55 0.55 0.55 0.45  0.4
   57       0.5  0.5  0.5  0.6 0.65 0.65 0.65 0.65 0.65 0.65 0.55  0.5
  END MON-LZETPARM
  MON-INTERCEP
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   33      0.12 0.12 0.12 0.11  0.1  0.1  0.1  0.1  0.1  0.1 0.11 0.12
   41      0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
   49      0.12 0.12 0.12 0.11  0.1  0.1  0.1  0.1  0.1  0.1 0.11 0.12
   57      0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
  END MON-INTERCEP

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   33              0         0      0.15         0         4      0.05         0
   41              0         0      0.15         0         4      0.05         0
   49              0         0      0.15         0         4      0.05         0
   57              0         0      0.15         0         4      0.05         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                   in  out           ***
    1     Imperv,Flat(0-1%)       1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    ***
    1         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL     *********
    1         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    1         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
```

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```
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    1            100      0.01      0.05       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    1              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    1              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Arcade***
PERLND  33                       17.2     COPY   501     12
PERLND  33                       17.2     COPY   501     13
PERLND  41                        2.7     COPY   501     12
PERLND  41                        2.7     COPY   501     13
PERLND  49                        8.2     COPY   501     12
PERLND  49                        8.2     COPY   501     13
PERLND  57                       20.2     COPY   501     12
PERLND  57                       20.2     COPY   501     13
IMPLND   1                      155.9     COPY   501     15
Magpie***
PERLND  49                       13.9     COPY   502     12
PERLND  49                       13.9     COPY   502     13
PERLND  57                         15     COPY   502     12
PERLND  57                         15     COPY   502     13
PERLND  33                        0.2     COPY   502     12
PERLND  33                        0.2     COPY   502     13
PERLND  41                        0.6     COPY   502     12
PERLND  41                        0.6     COPY   502     13
IMPLND   1                      122.2     COPY   502     15
UnID1***
PERLND  49                        2.2     COPY   503     12
PERLND  49                        2.2     COPY   503     13
PERLND  57                        2.6     COPY   503     12
PERLND  57                        2.6     COPY   503     13
IMPLND   1                         26     COPY   503     15
UnID2***
PERLND  49                       24.8     COPY   504     12
PERLND  49                       24.8     COPY   504     13
PERLND  57                        4.3     COPY   504     12
PERLND  57                        4.3     COPY   504     13
PERLND  33                        1.8     COPY   504     12
PERLND  33                        1.8     COPY   504     13
IMPLND   1                       32.4     COPY   504     15
UnID3***
PERLND  33                       11.1     COPY   505     12
PERLND  33                       11.1     COPY   505     13
PERLND  41                        3.4     COPY   505     12
PERLND  41                        3.4     COPY   505     13
PERLND  49                          7     COPY   505     12
PERLND  49                          7     COPY   505     13
PERLND  57                        5.8     COPY   505     12
PERLND  57                        5.8     COPY   505     13
IMPLND   1                       66.7     COPY   505     15
Robla***
PERLND  33                         16     COPY   506     12
PERLND  33                         16     COPY   506     13
PERLND  41                        1.5     COPY   506     12
PERLND  41                        1.5     COPY   506     13
```

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```
PERLND  49                        3.4     COPY   506     12
PERLND  49                        3.4     COPY   506     13
PERLND  57                        2.7     COPY   506     12
PERLND  57                        2.7     COPY   506     13
IMPLND   1                       37.9     COPY   506     15
UnID4***
PERLND  33                       15.7     COPY   507     12
PERLND  33                       15.7     COPY   507     13
PERLND  41                        3.7     COPY   507     12
PERLND  41                        3.7     COPY   507     13
PERLND  49                        3.3     COPY   507     12
PERLND  49                        3.3     COPY   507     13
PERLND  57                        1.9     COPY   507     12
PERLND  57                        1.9     COPY   507     13
IMPLND   1                       36.9     COPY   507     15
UnID5***
PERLND  49                       14.9     COPY   508     12
PERLND  49                       14.9     COPY   508     13
PERLND  57                        1.5     COPY   508     12
PERLND  57                        1.5     COPY   508     13
IMPLND   1                       12.8     COPY   508     15

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   12.1        DISPLY   1     INPUT  TIMSER 1
COPY   502 OUTPUT MEAN   1 1   12.1        DISPLY   2     INPUT  TIMSER 1
COPY   503 OUTPUT MEAN   1 1   12.1        DISPLY   3     INPUT  TIMSER 1
COPY   504 OUTPUT MEAN   1 1   12.1        DISPLY   4     INPUT  TIMSER 1
COPY   505 OUTPUT MEAN   1 1   12.1        DISPLY   5     INPUT  TIMSER 1
COPY   506 OUTPUT MEAN   1 1   12.1        DISPLY   6     INPUT  TIMSER 1
COPY   507 OUTPUT MEAN   1 1   12.1        DISPLY   7     INPUT  TIMSER 1
COPY   508 OUTPUT MEAN   1 1   12.1        DISPLY   8     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG           ***
                                      in  out                               ***
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ****************** PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                 ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
```

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```
  <------><--------><--------><--------><--------><--------><-------->       ***
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                          ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    0.944          PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    0.944          IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.85           PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.85           IMPLND   1 999 EXTNL  PETINP
WDM     22 IRRG     ENGL    0.7       SAME PERLND  41     EXTNL  SURLI
WDM     22 IRRG     ENGL    0.7       SAME PERLND  57     EXTNL  SURLI

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
COPY   501 OUTPUT MEAN   1 1     12.1      WDM    501 FLOW     ENGL       REPL
COPY   502 OUTPUT MEAN   1 1     12.1      WDM    502 FLOW     ENGL       REPL
COPY   503 OUTPUT MEAN   1 1     12.1      WDM    503 FLOW     ENGL       REPL
COPY   504 OUTPUT MEAN   1 1     12.1      WDM    504 FLOW     ENGL       REPL
COPY   505 OUTPUT MEAN   1 1     12.1      WDM    505 FLOW     ENGL       REPL
COPY   506 OUTPUT MEAN   1 1     12.1      WDM    506 FLOW     ENGL       REPL
COPY   507 OUTPUT MEAN   1 1     12.1      WDM    507 FLOW     ENGL       REPL
COPY   508 OUTPUT MEAN   1 1     12.1      WDM    508 FLOW     ENGL       REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>             <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15


END MASS-LINK

END RUN
```

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Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1961 10 01        END    2004 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM         26   North_Watt_Specific_Plan.wdm
MESSU       25   MitNorth_Watt_Specific_Plan.MES
            27   MitNorth_Watt_Specific_Plan.L61
            28   MitNorth_Watt_Specific_Plan.L62
            30   POCNorth_Watt_Specific_Plan1.dat
            31   POCNorth_Watt_Specific_Plan2.dat
            32   POCNorth_Watt_Specific_Plan3.dat
            33   POCNorth_Watt_Specific_Plan4.dat
            34   POCNorth_Watt_Specific_Plan5.dat
            35   POCNorth_Watt_Specific_Plan6.dat
            36   POCNorth_Watt_Specific_Plan7.dat
            37   POCNorth_Watt_Specific_Plan8.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:60
      PERLND      33
      PERLND      41
      PERLND      49
      PERLND      57
      IMPLND       1
      RCHRES       1
      RCHRES       2
      RCHRES       3
      RCHRES       4
      RCHRES       5
      RCHRES       6
      RCHRES       7
      RCHRES       8
      COPY         1
      COPY       501
      COPY         2
      COPY       502
      COPY         3
      COPY       503
      COPY         4
      COPY       504
      COPY         5
      COPY       505
      COPY         6
      COPY       506
      COPY         7
      COPY       507
      COPY         8
      COPY       508
      DISPLY       1
      DISPLY       2
      DISPLY       3
      DISPLY       4
      DISPLY       5
      DISPLY       6
      DISPLY       7
      DISPLY       8
    END INGRP
END OPN SEQUENCE
DISPLY
```

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```
  DISPLY-INFO1
    # -  #<----------Title---------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Arcade_Pond                MAX                    1    2   30    9
    2        Magpie_Pond                MAX                    1    2   31    9
    3        UN1DB01                    MAX                    1    2   32    9
    4        UN2DB01                    MAX                    1    2   33    9
    5        UnID3                      MAX                    1    2   34    9
    6        Robla_Pond                 MAX                    1    2   35    9
    7        UN4DB1                     MAX                    1    2   36    9
    8        UN5DB1                     MAX                    1    2   37    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
    2         1    1
  502         1    1
    3         1    1
  503         1    1
    4         1    1
  504         1    1
    5         1    1
  505         1    1
    6         1    1
  506         1    1
    7         1    1
  507         1    1
    8         1    1
  508         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                       in  out            ***
   33     C,Grass,Flat(0-1%)      1    1    1    1   27    0
   41     C,Urban,Flat(0-1%)      1    1    1    1   27    0
   49     D,Grass,Flat(0-1%)      1    1    1    1   27    0
   57     D,Urban,Flat(0-1%)      1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   33         0    0    1    0    0    0    0    0    0    0    0    0
   41         0    0    1    0    0    0    0    0    0    0    0    0
   49         0    0    1    0    0    0    0    0    0    0    0    0
   57         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ***************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   33         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   41         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   49         0    0    4    0    0    0    0    0    0    0    0    0    1    9
   57         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO
```

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```
  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
   33         0    0    0    1    0    0    0    0    1    0    0
   41         0    0    0    1    0    0    0    0    1    0    0
   49         0    0    0    1    0    0    0    0    1    0    0
   57         0    0    0    1    0    0    0    0    1    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   33              0       4.5     0.045       400      0.01         3      0.92
   41              0      4.45     0.035       400      0.01         3      0.92
   49              0       4.4      0.03       400      0.01         3      0.92
   57              0      4.45      0.02       400      0.01         3      0.92
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   33             40        35         2         2         0         0      0.05
   41             40        35         2         2         0         0      0.05
   49             40        35         2         2         0         0      0.05
   57             40        35         2         2         0         0      0.05
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                                  ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   33              0       0.3      0.25       0.7       0.5         0
   41              0       0.3      0.25       0.5       0.4         0
   49              0       0.3      0.25       0.7       0.5         0
   57              0       0.3      0.25       0.5       0.4         0
  END PWAT-PARM4
  MON-LZETPARM
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   33       0.4  0.4  0.4 0.45  0.5 0.55 0.55 0.55 0.55 0.55 0.45  0.4
   41       0.5  0.5  0.5  0.6 0.65 0.65 0.65 0.65 0.65 0.65 0.55  0.5
   49       0.4  0.4  0.4 0.45  0.5 0.55 0.55 0.55 0.55 0.55 0.45  0.4
   57       0.5  0.5  0.5  0.6 0.65 0.65 0.65 0.65 0.65 0.65 0.55  0.5
  END MON-LZETPARM
  MON-INTERCEP
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   33      0.12 0.12 0.12 0.11  0.1  0.1  0.1  0.1  0.1  0.1 0.11 0.12
   41      0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
   49      0.12 0.12 0.12 0.11  0.1  0.1  0.1  0.1  0.1  0.1 0.11 0.12
   57      0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
  END MON-INTERCEP

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   33              0         0      0.15         0         4      0.05         0
   41              0         0      0.15         0         4      0.05         0
   49              0         0      0.15         0         4      0.05         0
   57              0         0      0.15         0         4      0.05         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                     in  out           ***
    1     Imperv,Flat(0-1%)       1    1    1   27    0
```

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```
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    1         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    1         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    1         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    1           100      0.01      0.05       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    1              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    1              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                 <--Area-->     <-Target->   MBLK   ***
<Name>   #                 <-factor->     <Name>   #   Tbl#   ***
Arcade***
PERLND  33                      15.6     RCHRES   1      2
PERLND  33                      15.6     RCHRES   1      3
PERLND  41                       2.8     RCHRES   1      2
PERLND  41                       2.8     RCHRES   1      3
PERLND  49                       7.8     RCHRES   1      2
PERLND  49                       7.8     RCHRES   1      3
PERLND  57                      20.5     RCHRES   1      2
PERLND  57                      20.5     RCHRES   1      3
IMPLND   1                     157.5     RCHRES   1      5
Magpie***
PERLND  49                       2.6     RCHRES   2      2
PERLND  49                       2.6     RCHRES   2      3
PERLND  57                      16.3     RCHRES   2      2
PERLND  57                      16.3     RCHRES   2      3
PERLND  33                       0.2     RCHRES   2      2
PERLND  33                       0.2     RCHRES   2      3
PERLND  41                       0.6     RCHRES   2      2
PERLND  41                       0.6     RCHRES   2      3
IMPLND   1                     132.3     RCHRES   2      5
UnID1***
PERLND  57                       2.5     RCHRES   3      2
PERLND  57                       2.5     RCHRES   3      3
PERLND  49                       0.8     RCHRES   3      2
PERLND  49                       0.8     RCHRES   3      3
IMPLND   1                      27.6     RCHRES   3      5
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UnID2***
PERLND  49                      16.3     RCHRES   4       2
PERLND  49                      16.3     RCHRES   4       3
PERLND  57                       5.1     RCHRES   4       2
PERLND  57                       5.1     RCHRES   4       3
PERLND  41                       0.2     RCHRES   4       2
PERLND  41                       0.2     RCHRES   4       3
IMPLND   1                      41.7     RCHRES   4       5
UnID3***
PERLND  41                       4.2     RCHRES   5       2
PERLND  41                       4.2     RCHRES   5       3
PERLND  49                       1.5     RCHRES   5       2
PERLND  49                       1.5     RCHRES   5       3
PERLND  57                       6.2     RCHRES   5       2
PERLND  57                       6.2     RCHRES   5       3
PERLND  33                       0.7     RCHRES   5       2
PERLND  33                       0.7     RCHRES   5       3
IMPLND   1                      81.3     RCHRES   5       5
Robla***
PERLND  41                       3.2     RCHRES   6       2
PERLND  41                       3.2     RCHRES   6       3
PERLND  57                       3.4     RCHRES   6       2
PERLND  57                       3.4     RCHRES   6       3
IMPLND   1                      54.9     RCHRES   6       5
UnID4***
PERLND  41                       5.3     RCHRES   7       2
PERLND  41                       5.3     RCHRES   7       3
PERLND  57                       2.2     RCHRES   7       2
PERLND  57                       2.2     RCHRES   7       3
PERLND  33                       0.2     RCHRES   7       2
PERLND  33                       0.2     RCHRES   7       3
IMPLND   1                      53.8     RCHRES   7       5
UnID5***
PERLND  57                       2.9     RCHRES   8       2
PERLND  57                       2.9     RCHRES   8       3
IMPLND   1                      26.3     RCHRES   8       5

******Routing******
PERLND  33                      15.6     COPY     1      12
PERLND  41                       2.8     COPY     1      12
PERLND  49                       7.8     COPY     1      12
PERLND  57                      20.5     COPY     1      12
IMPLND   1                     157.5     COPY     1      15
PERLND  33                      15.6     COPY     1      13
PERLND  41                       2.8     COPY     1      13
PERLND  49                       7.8     COPY     1      13
PERLND  57                      20.5     COPY     1      13
PERLND  49                       2.6     COPY     2      12
PERLND  57                      16.3     COPY     2      12
PERLND  33                       0.2     COPY     2      12
PERLND  41                       0.6     COPY     2      12
IMPLND   1                     132.3     COPY     2      15
PERLND  49                       2.6     COPY     2      13
PERLND  57                      16.3     COPY     2      13
PERLND  33                       0.2     COPY     2      13
PERLND  41                       0.6     COPY     2      13
PERLND  57                       2.5     COPY     3      12
PERLND  49                       0.8     COPY     3      12
IMPLND   1                      27.6     COPY     3      15
PERLND  57                       2.5     COPY     3      13
PERLND  49                       0.8     COPY     3      13
PERLND  49                      16.3     COPY     4      12
PERLND  57                       5.1     COPY     4      12
PERLND  41                       0.2     COPY     4      12
IMPLND   1                      41.7     COPY     4      15
PERLND  49                      16.3     COPY     4      13
PERLND  57                       5.1     COPY     4      13
PERLND  41                       0.2     COPY     4      13
PERLND  41                       4.2     COPY     5      12
PERLND  49                       1.5     COPY     5      12
```

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PERLND  57                          6.2     COPY     5     12
PERLND  33                          0.7     COPY     5     12
IMPLND   1                         81.3     COPY     5     15
PERLND  41                          4.2     COPY     5     13
PERLND  49                          1.5     COPY     5     13
PERLND  57                          6.2     COPY     5     13
PERLND  33                          0.7     COPY     5     13
PERLND  41                          3.2     COPY     6     12
PERLND  57                          3.4     COPY     6     12
IMPLND   1                         54.9     COPY     6     15
PERLND  41                          3.2     COPY     6     13
PERLND  57                          3.4     COPY     6     13
PERLND  41                          5.3     COPY     7     12
PERLND  57                          2.2     COPY     7     12
PERLND  33                          0.2     COPY     7     12
IMPLND   1                         53.8     COPY     7     15
PERLND  41                          5.3     COPY     7     13
PERLND  57                          2.2     COPY     7     13
PERLND  33                          0.2     COPY     7     13
PERLND  57                          2.9     COPY     8     12
IMPLND   1                         26.3     COPY     8     15
PERLND  57                          2.9     COPY     8     13
RCHRES   1                            1     COPY   501     16
RCHRES   2                            1     COPY   502     16
RCHRES   3                            1     COPY   503     16
RCHRES   4                            1     COPY   504     16
RCHRES   5                            1     COPY   505     16
RCHRES   6                            1     COPY   506     16
RCHRES   7                            1     COPY   507     16
RCHRES   8                            1     COPY   508     16
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   12.1        DISPLY   1     INPUT  TIMSER 1
COPY   502 OUTPUT MEAN   1 1   12.1        DISPLY   2     INPUT  TIMSER 1
COPY   503 OUTPUT MEAN   1 1   12.1        DISPLY   3     INPUT  TIMSER 1
COPY   504 OUTPUT MEAN   1 1   12.1        DISPLY   4     INPUT  TIMSER 1
COPY   505 OUTPUT MEAN   1 1   12.1        DISPLY   5     INPUT  TIMSER 1
COPY   506 OUTPUT MEAN   1 1   12.1        DISPLY   6     INPUT  TIMSER 1
COPY   507 OUTPUT MEAN   1 1   12.1        DISPLY   7     INPUT  TIMSER 1
COPY   508 OUTPUT MEAN   1 1   12.1        DISPLY   8     INPUT  TIMSER 1


<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<-----------------><---> User T-series  Engl Metr LKFG            ***
                                        in  out                             ***
    1     Arcade_Pond            1    1    1    1   28    0    1
    2     Magpie_Pond            1    1    1    1   28    0    1
    3     UN1DB01                1    1    1    1   28    0    1
    4     UN2DB01                1    1    1    1   28    0    1
    5     UnID3                  1    1    1    1   28    0    1
    6     Robla_Pond             1    1    1    1   28    0    1
    7     UN4DB1                 1    1    1    1   28    0    1
    8     UN5DB1                 1    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
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```
    2         1    0    0    0    0    0    0    0    0    0
    3         1    0    0    0    0    0    0    0    0    0
    4         1    0    0    0    0    0    0    0    0    0
    5         1    0    0    0    0    0    0    0    0    0
    6         1    0    0    0    0    0    0    0    0    0
    7         1    0    0    0    0    0    0    0    0    0
    8         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ****************** PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
    2         4    0    0    0    0    0    0    0    0    0    1    9
    3         4    0    0    0    0    0    0    0    0    0    1    9
    4         4    0    0    0    0    0    0    0    0    0    1    9
    5         4    0    0    0    0    0    0    0    0    0    1    9
    6         4    0    0    0    0    0    0    0    0    0    1    9
    7         4    0    0    0    0    0    0    0    0    0    1    9
    8         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                  ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
           FG FG FG FG  possible  exit *** possible  exit      possible  exit
            *  *  *  *    *  *  *  *  *      *  *  *  *  *        ***
    1       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    2       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    3       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    4       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    5       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    6       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    7       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
    8       0  1  0  0    4  0  0  0  0      0  0  0  0  0        2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO      LEN     DELTH     STCOR        KS      DB50        ***
  <------><--------><--------><--------><--------><--------><-------->       ***
    1             1      0.09       0.0       0.0       0.5       0.0
    2             2      0.11       0.0      65.0       0.5       0.0
    3             3       0.1       0.0      60.0       0.5       0.0
    4             4      0.06       0.0      65.0       0.5       0.0
    5             5      0.17       0.0      65.0       0.5       0.0
    6             6      0.13       0.0      65.0       0.5       0.0
    7             7      0.09       0.0      65.0       0.5       0.0
    8             8      0.05       0.0      65.0       0.5       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                     ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
    1             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    2             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    3             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    4             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    5             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    6             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    7             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    8             0        4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
  FTABLE      1
   91    4
```

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Depth (ft)	Area (acres)	Volume (acre-ft)	Outflow1 (cfs)	Velocity (ft/sec)	Travel Time*** (Minutes)***
0.000000	1.549587	0.000000	0.000000		
0.088889	1.559393	0.138177	2.621365		
0.177778	1.569223	0.277227	3.707170		
0.266667	1.579076	0.417151	4.540337		
0.355556	1.588952	0.557952	5.242730		
0.444444	1.598852	0.699632	5.861550		
0.533333	1.608774	0.842193	6.421006		
0.622222	1.618720	0.985638	6.935479		
0.711111	1.628689	1.129967	7.414339		
0.800000	1.638681	1.275183	7.864095		
0.888889	1.648697	1.421289	8.289484		
0.977778	1.658736	1.568286	8.694084		
1.066667	1.668797	1.716176	9.080674		
1.155556	1.678883	1.864962	9.451465		
1.244444	1.688991	2.014646	9.808249		
1.333333	1.699123	2.165228	10.15250		
1.422222	1.709277	2.316713	10.48546		
1.511111	1.719455	2.469101	10.80816		
1.600000	1.729657	2.622395	11.12151		
1.688889	1.739881	2.776596	11.42626		
1.777778	1.750129	2.931708	11.72310		
1.866667	1.760400	3.087731	12.01260		
1.955556	1.770694	3.244669	12.29529		
2.044444	1.781011	3.402522	12.66523		
2.133333	1.791351	3.561294	13.32839		
2.222222	1.801715	3.720986	14.15334		
2.311111	1.812102	3.881600	15.09995		
2.400000	1.822512	4.043139	16.14830		
2.488889	1.832946	4.205603	17.28588		
2.577778	1.843402	4.368997	18.50388		
2.666667	1.853882	4.533320	19.79567		
2.755556	1.864385	4.698577	21.15607		
2.844444	1.874912	4.864768	22.58083		
2.933333	1.885461	5.031895	24.06643		
3.022222	1.896034	5.199962	25.60990		
3.111111	1.906630	5.368969	27.20863		
3.200000	1.917249	5.538919	28.86039		
3.288889	1.927891	5.709814	30.56317		
3.377778	1.938557	5.881656	32.31519		
3.466667	1.949246	6.054448	34.11487		
3.555556	1.959958	6.228190	35.96075		
3.644444	1.970693	6.402886	37.85152		
3.733333	1.981451	6.578536	39.78596		
3.822222	1.992233	6.755145	41.76297		
3.911111	2.003038	6.932712	43.78151		
4.000000	2.013866	7.111241	45.84064		
4.088889	2.024717	7.290734	47.44108		
4.177778	2.035592	7.471192	50.20144		
4.266667	2.046490	7.652618	53.71277		
4.355556	2.057411	7.835013	57.82436		
4.444444	2.068355	8.018381	62.44179		
4.533333	2.079322	8.202722	67.49212		
4.622222	2.090313	8.388039	72.91147		
4.711111	2.101327	8.574334	78.63932		
4.800000	2.112364	8.761609	84.61583		
4.888889	2.123424	8.949867	90.78048		
4.977778	2.134507	9.139108	97.07163		
5.066667	2.145614	9.329336	103.4266		
5.155556	2.156744	9.520551	109.7822		
5.244444	2.167897	9.712758	116.0753		
5.333333	2.179074	9.905956	122.2439		
5.422222	2.190273	10.10015	128.2282		
5.511111	2.201496	10.29534	133.9721		
5.600000	2.212742	10.49153	139.4242		
5.688889	2.224011	10.68872	144.5398		
5.777778	2.235304	10.88691	149.2825		
5.866667	2.246619	11.08611	153.6255		
5.955556	2.257958	11.28631	157.5540		

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6.044444  2.269320  11.48752  161.0671
6.133333  2.280706  11.68974  164.1794
6.222222  2.292114  11.89298  166.9237
6.311111  2.303546  12.09723  169.3527
6.400000  2.315001  12.30250  171.5415
6.488889  2.326479  12.50879  173.5900
6.577778  2.337981  12.71610  177.2277
6.666667  2.349505  12.92443  179.5408
6.755556  2.361053  13.13379  181.8171
6.844444  2.372624  13.34417  184.0584
6.933333  2.384218  13.55559  186.2664
7.022222  2.395836  13.76804  188.4424
7.111111  2.407477  13.98152  190.5878
7.200000  2.419140  14.19603  192.7040
7.288889  2.430828  14.41159  194.7921
7.377778  2.442538  14.62818  196.8533
7.466667  2.454272  14.84582  198.8885
7.555556  2.466028  15.06450  200.8988
7.644444  2.477808  15.28422  202.8850
7.733333  2.489612  15.50500  204.8480
7.822222  2.501438  15.72682  206.7887
7.911111  2.513288  15.94970  208.7078
8.000000  2.525161  16.17363  210.6059
END FTABLE  1
FTABLE      2
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  2.421229  0.000000  0.000000
0.100000  2.435018  0.242812  2.780377
0.200000  2.448836  0.487005  3.932047
0.300000  2.462684  0.732581  4.815755
0.400000  2.476561  0.979543  5.560755
0.500000  2.490467  1.227895  6.217113
0.600000  2.504403  1.477638  6.810506
0.700000  2.518368  1.728777  7.356187
0.800000  2.532362  1.981313  7.864095
0.900000  2.546386  2.235251  8.341132
1.000000  2.560440  2.490592  8.792325
1.100000  2.574522  2.747340  9.221468
1.200000  2.588634  3.005498  9.631509
1.300000  2.602776  3.265068  10.02479
1.400000  2.616947  3.526055  10.40322
1.500000  2.631147  3.788459  10.76835
1.600000  2.645376  4.052285  11.12151
1.700000  2.659635  4.317536  11.46379
1.800000  2.673924  4.584214  11.79614
1.900000  2.688241  4.852322  12.11938
2.000000  2.702588  5.121864  12.43423
2.100000  2.716965  5.392841  12.74129
2.200000  2.731371  5.665258  13.04113
2.300000  2.745806  5.939117  13.33422
2.400000  2.760271  6.214421  13.62101
2.500000  2.774765  6.491173  13.90189
2.600000  2.789288  6.769375  14.17720
2.700000  2.803841  7.049032  14.44726
2.800000  2.818423  7.330145  14.71237
2.900000  2.833035  7.612718  14.97279
3.000000  2.847676  7.896753  15.22875
3.100000  2.862346  8.182254  15.79640
3.200000  2.877046  8.469224  16.62172
3.300000  2.891775  8.757665  17.61358
3.400000  2.906533  9.047580  18.73954
3.500000  2.921321  9.338973  19.98093
3.600000  2.936138  9.631846  21.32520
3.700000  2.950985  9.926202  22.76314
3.800000  2.965861  10.22204  24.28766
3.900000  2.980767  10.51938  25.89306
4.000000  2.995701  10.81820  27.57465
4.100000  3.010666  11.11852  29.47079
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4.200000  3.025659  11.42033  32.75034
4.300000  3.040682  11.72365  36.92405
4.400000  3.055734  12.02847  41.80873
4.500000  3.070816  12.33480  47.28570
4.600000  3.085927  12.64264  53.25938
4.700000  3.101068  12.95199  59.64252
4.800000  3.116238  13.26285  66.34984
4.900000  3.131437  13.57524  73.29524
5.000000  3.146666  13.88914  80.39088
5.100000  3.161924  14.20457  87.54733
5.200000  3.177211  14.52153  94.67451
5.300000  3.192528  14.84001  101.6831
5.400000  3.207874  15.16003  108.4866
5.500000  3.223250  15.48159  115.0031
5.600000  3.238654  15.80468  121.1582
5.700000  3.254089  16.12932  126.8877
5.800000  3.269553  16.45550  132.1405
5.900000  3.285046  16.78323  136.8816
6.000000  3.300568  17.11251  141.0960
6.100000  3.316120  17.44335  144.7916
6.200000  3.331701  17.77574  148.0036
6.300000  3.347312  18.10969  150.7979
6.400000  3.362952  18.44520  153.2755
6.500000  3.378621  18.78228  155.5763
6.600000  3.394320  19.12093  159.5435
6.700000  3.410048  19.46115  162.1326
6.800000  3.425806  19.80294  164.6761
6.900000  3.441593  20.14631  167.1762
7.000000  3.457409  20.49126  169.6353
7.100000  3.473255  20.83779  172.0553
7.200000  3.489130  21.18591  174.4380
7.300000  3.505035  21.53562  176.7852
7.400000  3.520969  21.88692  179.0985
7.500000  3.536932  22.23982  181.3792
7.600000  3.552924  22.59431  183.6288
7.700000  3.568947  22.95040  185.8486
7.800000  3.584998  23.30810  188.0396
7.900000  3.601079  23.66740  190.2031
8.000000  3.617189  24.02832  192.3400
8.100000  3.633329  24.39084  194.4513
8.200000  3.649497  24.75498  196.5379
8.300000  3.665696  25.12074  198.6007
8.400000  3.681924  25.48813  200.6406
8.500000  3.698181  25.85713  202.6582
8.600000  3.714467  26.22776  204.6543
8.700000  3.730783  26.60003  206.6295
8.800000  3.747128  26.97392  208.5846
8.900000  3.763503  27.34945  210.5201
9.000000  3.779907  27.72662  212.4366
END FTABLE  2
FTABLE      3
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  1.782025  0.000000  0.000000
0.088889  1.792933  0.158887  1.165051
0.177778  1.803865  0.318745  1.647631
0.266667  1.814820  0.479575  2.017928
0.355556  1.825798  0.641380  2.330102
0.444444  1.836799  0.804162  2.605133
0.533333  1.847824  0.967924  2.853781
0.622222  1.858872  1.132666  3.082435
0.711111  1.869943  1.298391  3.295262
0.800000  1.881037  1.465101  3.495153
0.888889  1.892154  1.632798  3.684215
0.977778  1.903295  1.801485  3.864037
1.066667  1.914459  1.971163  4.035855
1.155556  1.925646  2.141834  4.200651
1.244444  1.936856  2.313501  4.359222
1.333333  1.948089  2.486165  4.512223
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1.422222	1.959346	2.659829	4.660204
1.511111	1.970626	2.834494	4.803629
1.600000	1.981929	3.010163	4.942893
1.688889	1.993256	3.186838	5.078340
1.777778	2.004605	3.364521	5.210267
1.866667	2.015978	3.543214	5.338935
1.955556	2.027374	3.722918	5.464574
2.044444	2.038793	3.903637	5.587389
2.133333	2.050236	4.085371	5.707561
2.222222	2.061701	4.268124	5.825255
2.311111	2.073190	4.451897	5.940618
2.400000	2.084702	4.636692	6.053783
2.488889	2.096238	4.822512	6.164871
2.577778	2.107796	5.009358	6.273992
2.666667	2.119378	5.197232	6.381247
2.755556	2.130983	5.386137	6.486730
2.844444	2.142611	5.576075	6.590524
2.933333	2.154263	5.767047	6.692709
3.022222	2.165937	5.959056	6.793357
3.111111	2.177635	6.152103	6.892535
3.200000	2.189356	6.346192	6.990306
3.288889	2.201101	6.541323	7.086729
3.377778	2.212868	6.737500	7.181857
3.466667	2.224659	6.934723	7.275741
3.555556	2.236473	7.132996	7.368430
3.644444	2.248310	7.332319	7.459967
3.733333	2.260170	7.532696	7.550394
3.822222	2.272054	7.734128	7.639751
3.911111	2.283961	7.936618	7.728074
4.000000	2.295891	8.140167	7.815400
4.088889	2.307844	8.344777	7.901761
4.177778	2.319820	8.550451	7.987188
4.266667	2.331820	8.757191	8.071710
4.355556	2.343843	8.964998	8.155357
4.444444	2.355889	9.173875	8.238155
4.533333	2.367958	9.383824	8.320129
4.622222	2.380051	9.594847	8.401303
4.711111	2.392167	9.806945	8.481700
4.800000	2.404306	10.02012	8.561342
4.888889	2.416468	10.23438	8.640250
4.977778	2.428653	10.44972	8.718444
5.066667	2.440862	10.66614	9.025223
5.155556	2.453094	10.88365	9.689972
5.244444	2.465349	11.10225	10.55874
5.333333	2.477627	11.32193	11.58788
5.422222	2.489929	11.54271	12.75374
5.511111	2.502254	11.76459	14.04080
5.600000	2.514601	11.98756	15.43788
5.688889	2.526973	12.21163	16.93643
5.777778	2.539367	12.43680	18.52960
5.866667	2.551785	12.66307	20.21180
5.955556	2.564225	12.89045	21.97829
6.044444	2.576689	13.11894	23.42461
6.133333	2.589177	13.34853	25.57991
6.222222	2.601687	13.57924	28.61971
6.311111	2.614221	13.81106	32.32538
6.400000	2.626778	14.04399	36.58158
6.488889	2.639358	14.27804	41.30688
6.577778	2.651961	14.51321	46.43382
6.666667	2.664588	14.74950	51.90062
6.755556	2.677238	14.98691	57.64731
6.844444	2.689911	15.22545	63.61376
6.933333	2.702607	15.46512	69.73887
7.022222	2.715326	15.70592	75.96044
7.111111	2.728069	15.94785	82.21538
7.200000	2.740835	16.19091	88.44039
7.288889	2.753624	16.43511	94.57275
7.377778	2.766436	16.68044	100.5514
7.466667	2.779272	16.92692	106.3182
7.555556	2.792130	17.17454	111.8191

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7.644444 2.805012 17.42330 117.0060
7.733333 2.817917 17.67321 121.8379
7.822222 2.830846 17.92426 126.2831
7.911111 2.843797 18.17647 130.3205
8.000000 2.856772 18.42983 133.9419
END FTABLE 3
FTABLE 4
 91 4
   Depth   Area   Volume Outflow1 Velocity Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)   (Minutes)***
0.000000 0.759298 0.000000 0.000000
0.088889 0.766166 0.067798 1.165051
0.177778 0.773057 0.136208 1.647631
0.266667 0.779971 0.205232 2.017928
0.355556 0.786909 0.274871 2.330102
0.444444 0.793870 0.345128 2.605133
0.533333 0.800854 0.416004 2.853781
0.622222 0.807861 0.487503 3.082435
0.711111 0.814892 0.559625 3.295262
0.800000 0.821946 0.632374 3.495153
0.888889 0.829023 0.705750 3.684215
0.977778 0.836123 0.779756 3.864037
1.066667 0.843247 0.854395 4.035855
1.155556 0.850393 0.929668 4.200651
1.244444 0.857563 1.005577 4.359222
1.333333 0.864756 1.082125 4.512223
1.422222 0.871972 1.159313 4.660204
1.511111 0.879212 1.237143 4.803629
1.600000 0.886475 1.315618 4.942893
1.688889 0.893761 1.394739 5.078340
1.777778 0.901070 1.474510 5.210267
1.866667 0.908402 1.554931 5.338935
1.955556 0.915758 1.636005 5.464574
2.044444 0.923137 1.717733 5.587389
2.133333 0.930539 1.800119 5.707561
2.222222 0.937964 1.883163 5.825255
2.311111 0.945413 1.966869 5.940618
2.400000 0.952884 2.051238 6.053783
2.488889 0.960379 2.136272 6.164871
2.577778 0.967897 2.221973 6.273992
2.666667 0.975439 2.308343 6.381247
2.755556 0.983003 2.395385 6.486730
2.844444 0.990591 2.483100 6.590524
2.933333 0.998202 2.571491 6.692709
3.022222 1.005836 2.660560 6.793357
3.111111 1.013494 2.750308 6.892535
3.200000 1.021174 2.840737 6.990306
3.288889 1.028878 2.931851 7.086729
3.377778 1.036605 3.023650 7.181857
3.466667 1.044356 3.116137 7.275741
3.555556 1.052129 3.209314 7.368430
3.644444 1.059926 3.303184 7.459967
3.733333 1.067746 3.397747 7.550394
3.822222 1.075589 3.493006 7.639751
3.911111 1.083456 3.588964 7.728074
4.000000 1.091345 3.685621 7.815400
4.088889 1.099258 3.782982 8.078261
4.177778 1.107194 3.881046 8.486406
4.266667 1.115153 3.979817 8.988833
4.355556 1.123136 4.079297 9.567360
4.444444 1.131142 4.179487 10.21149
4.533333 1.139171 4.280390 10.91414
4.622222 1.147223 4.382007 11.67013
4.711111 1.155298 4.484341 12.47545
4.800000 1.163397 4.587394 13.32685
4.888889 1.171518 4.691168 14.22168
4.977778 1.179664 4.795665 15.15768
5.066667 1.187832 4.900887 16.36944
5.155556 1.196023 5.006837 18.78623
5.244444 1.204238 5.113515 22.01313

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5.333333  1.212476  5.220924  25.87164
5.422222  1.220737  5.329067  30.25812
5.511111  1.229021  5.437945  35.09582
5.600000  1.237329  5.547561  40.31925
5.688889  1.245660  5.657916  45.86736
5.777778  1.254013  5.769012  51.68026
5.866667  1.262391  5.880853  57.69763
5.955556  1.270791  5.993438  63.85810
6.044444  1.279215  6.106772  70.09920
6.133333  1.287662  6.220855  76.35774
6.222222  1.296132  6.335691  82.57047
6.311111  1.304625  6.451280  88.67499
6.400000  1.313141  6.567625  94.61084
6.488889  1.321681  6.684728  100.3208
6.577778  1.330244  6.802592  105.7521
6.666667  1.338830  6.921217  110.8584
6.755556  1.347440  7.040607  115.6007
6.844444  1.356072  7.160763  119.9498
6.933333  1.364728  7.281687  123.8878
7.022222  1.373407  7.403382  127.4099
7.111111  1.382109  7.525850  130.5268
7.200000  1.390835  7.649092  133.2664
7.288889  1.399583  7.773110  135.6762
7.377778  1.408355  7.897907  137.8255
7.466667  1.417150  8.023486  139.8079
7.555556  1.425969  8.149846  143.2770
7.644444  1.434810  8.276992  145.5105
7.733333  1.443675  8.404925  147.7073
7.822222  1.452563  8.533646  149.8694
7.911111  1.461474  8.663159  151.9984
8.000000  1.470409  8.793465  154.0956
END FTABLE  4
FTABLE      5
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  6.198347  0.000000  0.000000
0.100000  6.220400  0.620937  1.930818
0.200000  6.242483  1.244082  2.730588
0.300000  6.264595  1.869435  3.344274
0.400000  6.286736  2.497002  3.861635
0.500000  6.308907  3.126784  4.317439
0.600000  6.331107  3.758785  4.729518
0.700000  6.353337  4.393007  5.108463
0.800000  6.375596  5.029454  5.461177
0.900000  6.397884  5.668128  5.792453
1.000000  6.420202  6.309032  6.105781
1.100000  6.442549  6.952170  6.403797
1.200000  6.464926  7.597543  6.688548
1.300000  6.487331  8.245156  6.961662
1.400000  6.509767  8.895011  7.224458
1.500000  6.532231  9.547111  7.478024
1.600000  6.554725  10.20146  7.723270
1.700000  6.577249  10.85806  7.960965
1.800000  6.599802  11.51691  8.191765
1.900000  6.622384  12.17802  8.416239
2.000000  6.644995  12.84139  8.634879
2.100000  6.667636  13.50702  8.848118
2.200000  6.690307  14.17492  9.056337
2.300000  6.713006  14.84508  9.259876
2.400000  6.735736  15.51752  9.459036
2.500000  6.758494  16.19223  9.654088
2.600000  6.781282  16.86922  9.845276
2.700000  6.804099  17.54849  10.03282
2.800000  6.826946  18.23004  10.21693
2.900000  6.849822  18.91388  10.39777
3.000000  6.872727  19.60001  10.57552
3.100000  6.895662  20.28843  10.75034
3.200000  6.918626  20.97914  10.92235
3.300000  6.941620  21.67215  11.09170
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3.400000  6.964643  22.36747  11.25850
3.500000  6.987695  23.06508  11.42287
3.600000  7.010777  23.76501  11.58491
3.700000  7.033888  24.46724  11.74470
3.800000  7.057028  25.17179  11.90236
3.900000  7.080198  25.87865  12.05795
4.000000  7.103398  26.58783  12.21156
4.100000  7.126626  27.29933  12.36326
4.200000  7.149884  28.01315  12.51313
4.300000  7.173172  28.72931  12.66122
4.400000  7.196489  29.44779  12.80759
4.500000  7.219835  30.16861  12.95232
4.600000  7.243210  30.89176  13.09544
4.700000  7.266615  31.61725  13.23702
4.800000  7.290050  32.34508  13.37710
4.900000  7.313513  33.07526  13.51572
5.000000  7.337006  33.80779  13.65294
5.100000  7.360529  34.54266  14.05206
5.200000  7.384081  35.27989  14.66793
5.300000  7.407662  36.01948  15.42450
5.400000  7.431273  36.76143  16.29463
5.500000  7.454913  37.50574  17.26266
5.600000  7.478582  38.25241  18.31803
5.700000  7.502281  39.00146  19.45299
5.800000  7.526009  39.75287  20.66155
5.900000  7.549767  40.50666  21.93890
6.000000  7.573554  41.26282  23.28105
6.100000  7.597370  42.02137  25.08286
6.200000  7.621216  42.78230  28.26971
6.300000  7.645091  43.54562  32.35229
6.400000  7.668995  44.31132  37.14733
6.500000  7.692929  45.07942  42.53611
6.600000  7.716893  45.84991  48.42298
6.700000  7.740885  46.62280  54.72064
6.800000  7.764907  47.39809  61.34375
6.900000  7.788959  48.17578  68.20618
7.000000  7.813039  48.95588  75.22002
7.100000  7.837150  49.73839  82.29582
7.200000  7.861289  50.52331  89.34346
7.300000  7.885458  51.31065  96.27360
7.400000  7.909657  52.10040  102.9996
7.500000  7.933884  52.89258  109.4396
7.600000  7.958141  53.68718  115.5192
7.700000  7.982428  54.48421  121.1742
7.800000  8.006744  55.28367  126.3533
7.900000  8.031089  56.08556  131.0216
8.000000  8.055464  56.88989  135.1640
8.100000  8.079868  57.69665  138.7885
8.200000  8.104301  58.50586  141.9302
8.300000  8.128764  59.31752  144.6550
8.400000  8.153256  60.13162  147.0637
8.500000  8.177778  60.94817  149.2964
8.600000  8.202329  61.76717  153.1963
8.700000  8.226909  62.58864  155.7187
8.800000  8.251519  63.41256  158.1962
8.900000  8.276158  64.23894  160.6310
9.000000  8.300826  65.06779  163.0253
END FTABLE  5
FTABLE      6
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  3.486570  0.000000  0.000000
0.100000  3.503114  0.349484  0.308931
0.200000  3.519687  0.700624  0.436894
0.300000  3.536289  1.053423  0.535084
0.400000  3.552921  1.407884  0.617862
0.500000  3.569582  1.764009  0.690790
0.600000  3.586273  2.121801  0.756723
0.700000  3.602993  2.481265  0.817354
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0.800000	3.619742	2.842401	0.873788
0.900000	3.636521	3.205215	0.926792
1.000000	3.653329	3.569707	0.976925
1.100000	3.670166	3.935882	1.024608
1.200000	3.687033	4.303742	1.070168
1.300000	3.703929	4.673290	1.113866
1.400000	3.720855	5.044529	1.155913
1.500000	3.737810	5.417462	1.196484
1.600000	3.754794	5.792093	1.235723
1.700000	3.771808	6.168423	1.273754
1.800000	3.788851	6.546456	1.310682
1.900000	3.805924	6.926194	1.346598
2.000000	3.823026	7.307642	1.381581
2.100000	3.840157	7.690801	1.415699
2.200000	3.857318	8.075675	1.449014
2.300000	3.874508	8.462266	1.481580
2.400000	3.891727	8.850578	1.513446
2.500000	3.908976	9.240613	1.544654
2.600000	3.926254	9.632374	1.575244
2.700000	3.943562	10.02587	1.605252
2.800000	3.960899	10.42109	1.634708
2.900000	3.978265	10.81805	1.663643
3.000000	3.995661	11.21674	1.692084
3.100000	4.013086	11.61718	2.035965
3.200000	4.030541	12.01936	2.641109
3.300000	4.048025	12.42329	3.416197
3.400000	4.065538	12.82897	4.328653
3.500000	4.083081	13.23640	5.359658
3.600000	4.100653	13.64559	6.496517
3.700000	4.118254	14.05653	7.729916
3.800000	4.135885	14.46924	9.052640
3.900000	4.153545	14.88371	10.45888
4.000000	4.171235	15.29995	11.94385
4.100000	4.188954	15.71796	13.64581
4.200000	4.206702	16.13774	16.73354
4.300000	4.224480	16.55930	20.71769
4.400000	4.242287	16.98264	25.41501
4.500000	4.260124	17.40776	30.70673
4.600000	4.277990	17.83466	36.49722
4.700000	4.295885	18.26336	42.69914
4.800000	4.313810	18.69384	49.22716
4.900000	4.331764	19.12612	55.99512
5.000000	4.349747	19.56020	62.91511
5.100000	4.367760	19.99607	69.89767
5.200000	4.385803	20.43375	76.85266
5.300000	4.403874	20.87323	83.69074
5.400000	4.421975	21.31453	90.32523
5.500000	4.440106	21.75763	96.67432
5.600000	4.458265	22.20255	102.6636
5.700000	4.476455	22.64929	108.2287
5.800000	4.494673	23.09784	113.3185
5.900000	4.512921	23.54822	117.8981
6.000000	4.531198	24.00043	121.9522
6.100000	4.549505	24.45446	125.4890
6.200000	4.567841	24.91033	128.5434
6.300000	4.586207	25.36803	131.1815
6.400000	4.604601	25.82757	133.5039
6.500000	4.623026	26.28895	135.6508
6.600000	4.641479	26.75218	139.4654
6.700000	4.659962	27.21725	141.9030
6.800000	4.678475	27.68417	144.2960
6.900000	4.697017	28.15295	146.6468
7.000000	4.715588	28.62358	148.9577
7.100000	4.734188	29.09607	151.2305
7.200000	4.752818	29.57042	153.4671
7.300000	4.771478	30.04663	155.6692
7.400000	4.790166	30.52471	157.8383
7.500000	4.808884	31.00467	159.9759
7.600000	4.827632	31.48649	162.0833
7.700000	4.846409	31.97019	164.1617

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7.800000  4.865215  32.45578  166.2124
7.900000  4.884051  32.94324  168.2364
8.000000  4.902916  33.43259  170.2347
8.100000  4.921810  33.92382  172.2082
8.200000  4.940734  34.41695  174.1580
8.300000  4.959687  34.91197  176.0848
8.400000  4.978669  35.40889  177.9894
8.500000  4.997681  35.90771  179.8726
8.600000  5.016723  36.40843  181.7350
8.700000  5.035793  36.91105  183.5774
8.800000  5.054893  37.41559  185.4004
8.900000  5.074023  37.92203  187.2045
9.000000  5.093182  38.43039  188.9904
END FTABLE  6
FTABLE      7
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  1.549587  0.000000  0.000000
0.088889  1.559393  0.138177  1.165051
0.177778  1.569223  0.277227  1.647631
0.266667  1.579076  0.417151  2.017928
0.355556  1.588952  0.557952  2.330102
0.444444  1.598852  0.699632  2.605133
0.533333  1.608774  0.842193  2.853781
0.622222  1.618720  0.985638  3.082435
0.711111  1.628689  1.129967  3.295262
0.800000  1.638681  1.275183  3.495153
0.888889  1.648697  1.421289  3.684215
0.977778  1.658736  1.568286  3.864037
1.066667  1.668797  1.716176  4.035855
1.155556  1.678883  1.864962  4.200651
1.244444  1.688991  2.014646  4.359222
1.333333  1.699123  2.165228  4.512223
1.422222  1.709277  2.316713  4.660204
1.511111  1.719455  2.469101  4.803629
1.600000  1.729657  2.622395  4.942893
1.688889  1.739881  2.776596  5.078340
1.777778  1.750129  2.931708  5.210267
1.866667  1.760400  3.087731  5.338935
1.955556  1.770694  3.244669  5.464574
2.044444  1.781011  3.402522  5.587389
2.133333  1.791351  3.561294  5.707561
2.222222  1.801715  3.720986  5.825255
2.311111  1.812102  3.881600  5.940618
2.400000  1.822512  4.043139  6.053783
2.488889  1.832946  4.205603  6.164871
2.577778  1.843402  4.368997  6.273992
2.666667  1.853882  4.533320  6.381247
2.755556  1.864385  4.698577  6.486730
2.844444  1.874912  4.864768  6.590524
2.933333  1.885461  5.031895  6.692709
3.022222  1.896034  5.199962  6.820935
3.111111  1.906630  5.368969  7.200868
3.200000  1.917249  5.538919  7.734917
3.288889  1.927891  5.709814  8.379377
3.377778  1.938557  5.881656  9.114888
3.466667  1.949246  6.054448  9.929702
3.555556  1.959958  6.228190  10.81570
3.644444  1.970693  6.402886  11.76684
3.733333  1.981451  6.578536  12.77840
3.822222  1.992233  6.755145  13.84655
3.911111  2.003038  6.932712  14.96812
4.000000  2.013866  7.111241  16.14040
4.088889  2.024717  7.290734  17.63289
4.177778  2.035592  7.471192  20.28647
4.266667  2.046490  7.652618  23.69214
4.355556  2.057411  7.835013  27.69918
4.444444  2.068355  8.018381  32.21311
4.533333  2.079322  8.202722  37.16098
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4.622222  2.090313  8.388039  42.47885
4.711111  2.101327  8.574334  48.10621
4.800000  2.112364  8.761609  53.98317
4.888889  2.123424  8.949867  60.04918
4.977778  2.134507  9.139108  66.24259
5.066667  2.145614  9.329336  72.50072
5.155556  2.156744  9.520551  78.76029
5.244444  2.167897  9.712758  84.95817
5.333333  2.179074  9.905956  91.03235
5.422222  2.190273  10.10015  96.92306
5.511111  2.201496  10.29534  102.5741
5.600000  2.212742  10.49153  107.9341
5.688889  2.224011  10.68872  112.9583
5.777778  2.235304  10.88691  117.6103
5.866667  2.246619  11.08611  121.8633
5.955556  2.257958  11.28631  125.7026
6.044444  2.269320  11.48752  129.1270
6.133333  2.280706  11.68974  132.1514
6.222222  2.292114  11.89298  134.8083
6.311111  2.303546  12.09723  137.1505
6.400000  2.315001  12.30250  139.2533
6.488889  2.326479  12.50879  141.2163
6.577778  2.337981  12.71610  144.7690
6.666667  2.349505  12.92443  146.9977
6.755556  2.361053  13.13379  149.1903
6.844444  2.372624  13.34417  151.3483
6.933333  2.384218  13.55559  153.4736
7.022222  2.395836  13.76804  155.5674
7.111111  2.407477  13.98152  157.6312
7.200000  2.419140  14.19603  159.6662
7.288889  2.430828  14.41159  161.6737
7.377778  2.442538  14.62818  163.6546
7.466667  2.454272  14.84582  165.6102
7.555556  2.466028  15.06450  167.5412
7.644444  2.477808  15.28422  169.4487
7.733333  2.489612  15.50500  171.3335
7.822222  2.501438  15.72682  173.1963
7.911111  2.513288  15.94970  175.0379
8.000000  2.525161  16.17363  176.8591
END FTABLE  7
FTABLE      8
 91    4
   Depth      Area    Volume  Outflow1 Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
0.000000  0.440771  0.000000  0.000000
0.088889  0.446007  0.039412  0.291263
0.177778  0.451266  0.079291  0.411908
0.266667  0.456548  0.119638  0.504482
0.355556  0.461853  0.160456  0.582526
0.444444  0.467181  0.201747  0.651283
0.533333  0.472533  0.243512  0.713445
0.622222  0.477908  0.285754  0.770609
0.711111  0.483306  0.328474  0.823815
0.800000  0.488727  0.371676  0.873788
0.888889  0.494172  0.415360  0.921054
0.977778  0.499640  0.459529  0.966009
1.066667  0.505130  0.504186  1.008964
1.155556  0.510645  0.549331  1.050163
1.244444  0.516182  0.594968  1.089805
1.333333  0.521743  0.641098  1.128056
1.422222  0.527327  0.687723  1.165051
1.511111  0.532934  0.734846  1.200907
1.600000  0.538564  0.782468  1.235723
1.688889  0.544217  0.830592  1.269585
1.777778  0.549894  0.879219  1.302567
1.866667  0.555594  0.928352  1.334734
1.955556  0.561317  0.977992  1.366143
2.044444  0.567063  1.028143  1.396847
2.133333  0.572833  1.078805  1.426890
2.222222  0.578626  1.129981  1.456314
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  2.311111  0.584442  1.181672  1.485155
  2.400000  0.590281  1.233882  1.513446
  2.488889  0.596143  1.286612  1.541218
  2.577778  0.602029  1.339864  1.568498
  2.666667  0.607938  1.393641  1.595312
  2.755556  0.613870  1.447943  1.621682
  2.844444  0.619825  1.502774  1.647631
  2.933333  0.625804  1.558136  1.673177
  3.022222  0.631806  1.614029  1.720402
  3.111111  0.637831  1.670458  1.969800
  3.200000  0.643879  1.727422  2.343265
  3.288889  0.649950  1.784926  2.805801
  3.377778  0.656045  1.842970  3.341889
  3.466667  0.662163  1.901557  3.942104
  3.555556  0.668304  1.960689  4.599925
  3.644444  0.674468  2.020368  5.310493
  3.733333  0.680655  2.080595  6.070006
  3.822222  0.686866  2.141374  6.875381
  3.911111  0.693100  2.202706  7.724054
  4.000000  0.699357  2.264593  8.613850
  4.088889  0.705638  2.327037  9.760130
  4.177778  0.711941  2.390041  11.83506
  4.266667  0.718268  2.453606  14.50942
  4.355556  0.724618  2.517734  17.65740
  4.444444  0.730991  2.582428  21.19438
  4.533333  0.737388  2.647689  25.04922
  4.622222  0.743807  2.713520  29.15459
  4.711111  0.750250  2.779922  33.44310
  4.800000  0.756716  2.846899  37.84597
  4.888889  0.763206  2.914451  42.29302
  4.977778  0.769718  2.982581  46.71350
  5.066667  0.776254  3.051290  51.03754
  5.155556  0.782813  3.120582  55.19802
  5.244444  0.789395  3.190458  59.13276
  5.333333  0.796000  3.260920  62.78708
  5.422222  0.802629  3.331970  66.11656
  5.511111  0.809281  3.403611  69.09005
  5.600000  0.815956  3.475844  71.69294
  5.688889  0.822654  3.548671  73.93053
  5.777778  0.829376  3.622094  75.83170
  5.866667  0.836120  3.696116  77.45266
  5.955556  0.842888  3.770739  78.88091
  6.044444  0.849679  3.845964  81.11732
  6.133333  0.856494  3.921794  82.68468
  6.222222  0.863331  3.998231  84.21994
  6.311111  0.870192  4.075276  85.72501
  6.400000  0.877076  4.152933  87.20162
  6.488889  0.883983  4.231202  88.65132
  6.577778  0.890914  4.310086  90.07555
  6.666667  0.897868  4.389588  91.47560
  6.755556  0.904844  4.469708  92.85267
  6.844444  0.911845  4.550450  94.20786
  6.933333  0.918868  4.631815  95.54219
  7.022222  0.925914  4.713805  96.85659
  7.111111  0.932984  4.796423  98.15194
  7.200000  0.940077  4.879670  99.42904
  7.288889  0.947193  4.963549  100.6886
  7.377778  0.954333  5.048061  101.9315
  7.466667  0.961495  5.133209  103.1581
  7.555556  0.968681  5.218995  104.3693
  7.644444  0.975890  5.305420  105.5655
  7.733333  0.983123  5.392487  106.7473
  7.822222  0.990378  5.480198  107.9153
  7.911111  0.997657  5.568555  109.0698
  8.000000  1.004959  5.657561  110.2113
  END FTABLE  8
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
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```
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    0.944          PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    0.944          IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.85           PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.85           IMPLND   1 999 EXTNL  PETINP
WDM     22 IRRG     ENGL    0.7       SAME PERLND  41     EXTNL  SURLI
WDM     22 IRRG     ENGL    0.7       SAME PERLND  57     EXTNL  SURLI
WDM      2 PREC     ENGL    0.944          RCHRES   1     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   2     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   3     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   4     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   5     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   6     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   7     EXTNL  PREC
WDM      2 PREC     ENGL    0.944          RCHRES   8     EXTNL  PREC
WDM      1 EVAP     ENGL    0.85           RCHRES   1     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   2     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   3     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   4     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   5     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   6     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   7     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.85           RCHRES   8     EXTNL  POTEV

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
RCHRES   1 HYDR   RO     1 1        1      WDM   1000 FLOW     ENGL       REPL
RCHRES   1 HYDR   STAGE  1 1        1      WDM   1001 STAG     ENGL       REPL
COPY     1 OUTPUT MEAN   1 1     12.1      WDM    701 FLOW     ENGL       REPL
COPY   501 OUTPUT MEAN   1 1     12.1      WDM    801 FLOW     ENGL       REPL
RCHRES   2 HYDR   RO     1 1        1      WDM   1002 FLOW     ENGL       REPL
RCHRES   2 HYDR   STAGE  1 1        1      WDM   1003 STAG     ENGL       REPL
COPY     2 OUTPUT MEAN   1 1     12.1      WDM    702 FLOW     ENGL       REPL
COPY   502 OUTPUT MEAN   1 1     12.1      WDM    802 FLOW     ENGL       REPL
RCHRES   3 HYDR   RO     1 1        1      WDM   1004 FLOW     ENGL       REPL
RCHRES   3 HYDR   STAGE  1 1        1      WDM   1005 STAG     ENGL       REPL
COPY     3 OUTPUT MEAN   1 1     12.1      WDM    703 FLOW     ENGL       REPL
COPY   503 OUTPUT MEAN   1 1     12.1      WDM    803 FLOW     ENGL       REPL
RCHRES   4 HYDR   RO     1 1        1      WDM   1006 FLOW     ENGL       REPL
RCHRES   4 HYDR   STAGE  1 1        1      WDM   1007 STAG     ENGL       REPL
COPY     4 OUTPUT MEAN   1 1     12.1      WDM    704 FLOW     ENGL       REPL
COPY   504 OUTPUT MEAN   1 1     12.1      WDM    804 FLOW     ENGL       REPL
RCHRES   5 HYDR   RO     1 1        1      WDM   1008 FLOW     ENGL       REPL
RCHRES   5 HYDR   STAGE  1 1        1      WDM   1009 STAG     ENGL       REPL
COPY     5 OUTPUT MEAN   1 1     12.1      WDM    705 FLOW     ENGL       REPL
COPY   505 OUTPUT MEAN   1 1     12.1      WDM    805 FLOW     ENGL       REPL
RCHRES   6 HYDR   RO     1 1        1      WDM   1010 FLOW     ENGL       REPL
RCHRES   6 HYDR   STAGE  1 1        1      WDM   1011 STAG     ENGL       REPL
COPY     6 OUTPUT MEAN   1 1     12.1      WDM    706 FLOW     ENGL       REPL
COPY   506 OUTPUT MEAN   1 1     12.1      WDM    806 FLOW     ENGL       REPL
RCHRES   7 HYDR   RO     1 1        1      WDM   1012 FLOW     ENGL       REPL
RCHRES   7 HYDR   STAGE  1 1        1      WDM   1013 STAG     ENGL       REPL
COPY     7 OUTPUT MEAN   1 1     12.1      WDM    707 FLOW     ENGL       REPL
COPY   507 OUTPUT MEAN   1 1     12.1      WDM    807 FLOW     ENGL       REPL
RCHRES   8 HYDR   RO     1 1        1      WDM   1014 FLOW     ENGL       REPL
RCHRES   8 HYDR   STAGE  1 1        1      WDM   1015 STAG     ENGL       REPL
COPY     8 OUTPUT MEAN   1 1     12.1      WDM    708 FLOW     ENGL       REPL
COPY   508 OUTPUT MEAN   1 1     12.1      WDM    808 FLOW     ENGL       REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>           <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        2
PERLND     PWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    2
```

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```
  MASS-LINK        3
PERLND     PWATER IFWO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    3

  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5

  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15

  MASS-LINK       16
RCHRES     ROFLOW                          COPY           INPUT  MEAN
  END MASS-LINK   16


END MASS-LINK

END RUN
```

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APPENDIX I

Digital Files