DOUGLAS COUNTY
TRANSPORTATION & LAND SERVICES
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STAFF REPORT
ACKERMAN HURST SUBDIVISION: P-2024-01

TO: Douglas County Hearing Examiner
FROM: Douglas County Land Services Staff
RE: Ackerman Hurst Subdivision, P-2024-01
DATE: October 09, 2024

GENERAL INFORMATION:

Requested Action: The applicant is requesting to subdivide the subject property into 31 lots and dedicate a portion of the land to the public for the adjacent right-of-way. The subject property is approximately 10.63 acres in size and zoned Residential Low-Density in the East Wenatchee Urban Growth Area of unincorporated Douglas County per Douglas County Code 18A.24.

Location: The subject property is located to the west of S. Nile Avenue and to the north of 8th Street SE in East Wenatchee, WA. The site location is further described as being within Section 17, Township 22N, Range 21E, W.M. Douglas County Assessor's Parcel Numbers: 22211840015 and 22211840027.

SITE INFORMATION:

Total Project Size: 10.63 acres

No. of lots: 31

Services and Utilities:

Domestic Water:	East Wenatchee Water District
Sewage Disposal:	Douglas County Sewer District
Power/Electricity:	Douglas County Public Utility District
Fire Protection:	Wenatchee Valley Fire Department
School District:	Eastmont School District
Irrigation District:	Upper Columbia Irrigation District
Telephone Service:	Varied

Site Characteristics: The topography varies throughout the site.

Uses adjacent to the subject properties:
North: Single-family dwellings and agricultural land
South: Agricultural land
East: Single-family dwellings
West: Undeveloped single-family residential lots

Access: The subdivision is proposed to be accessed via 7th Street SE road proposed extension through the subject site. The proposal includes an internal road system and 20' wide access easements providing access to all lots in the proposed subdivision.

Zoning and Development Standards: The subject property is located within the Residential Low Density (R-L) Zoning District under Douglas County Code 18A.24 permitting subdivision of land subject to the dimensional standards noted in the Douglas County Code.

Major Subdivisions: The requirements of Title 17, "Subdivisions" Douglas County Code, apply to the design and review requirements for approval of major subdivisions of 10 or more lots, parcels or tracts.

COMPREHENSIVE PLAN:

The Greater East Wenatchee Area Comprehensive Plan designates this property as Low Residential. It is envisioned that this designation would permit a range of housing options and densities to provide areas desirable for single-family residential use. The primary and preferred land use is residential. The use of innovative housing techniques such as attached single family, zero-lot line housing, averaging lots sizes, and other alternatives should be encouraged infilling and variety of housing types and densities. For these techniques to be used in a manner that protects the integrity of the surrounding properties, there must be mechanisms to ensure neighborhood compatibility and good design quality.

The following goals and policies set forth in the Greater East Wenatchee comprehensive plan are relevant to this development:

Urban Growth:

- GOAL 2: Reduce the inappropriate conversion of undeveloped land into sprawling, low density development and provide for the orderly and progressive change from rural to urban density land uses within the Urban Growth Area with the provision of a full range of urban services.
    - POLICY UG-7: Ensure that the location of proposed easements and road dedications, structures, stormwater drainage facilities, and the extension of a full range of urban utilities (water, sewer, power, etc.) are consistent with the orderly future development of the property to achieve urban densities.
    - UG-8 The development of residential and commercial property within the urban growth area shall only occur when all necessary urban public facilities and services are provided prior to or concurrent with development.
- GOAL 3: Establish development patterns that use urban land more efficiently.
    - POLICY UG-12: The City and County encourage the use of innovative, high quality infill development and redevelopment strategies such as planned developments, zero-lot line, lot-size averaging, shadow platting, small lot subdivisions, and mixed uses in existing developed areas within the urban growth areas.

- GOAL 4: The County and the City will collaborate on and adopt consistent regulations and development standards for areas located within the urban growth areas.

    - UG-14 During the review process for development proposals within the urban growth areas the County and the City will participate in the review process, with final approvals continuing to reside with the agency with jurisdiction.

Land Use – Residential:

The quality and integrity of residential neighborhoods defines the character of the community. Ensuring that these neighborhoods remain stable and vital is of primary importance.

Urban governmental services and infrastructure must be available at the time of development or there must be a plan in place, with funding, to ensure that a full range of urban governmental services is available to serve the development within the planning period.

Housing:

- GOAL 1: To provide for a sufficient number of safe, attractive and affordable residences for people of all income levels.

- GOAL 3: To provide for a variety of housing types and densities to ensure a range of affordable housing options for all segments of the community.

- GOAL 5: To ensure that public facilities and infrastructure are available to support development at urban densities in advance of / or concurrent with development.

- POLICY H-1: Require residential development at urban densities to locate within urban growth areas consistent with the comprehensive plan. If the property is located outside of the service district boundary of a utility, annexation into the service district must occur prior to development of the property.

- POLICY H-4: Apply consistent standards in residential development to preserve residential character.

- POLICY H-6: Require the construction of sound, safe, and sanitary dwelling units.

- POLICY H-12: Development standards must address efficient transportation networks and multi-modal opportunities for new development requiring the extension of existing streets into and through developments and the provision of sidewalks and trails for non-motorized modes of transportation.

- POLICY H-13: New residential development in the urban growth area must be concurrently served by a full range of urban governmental services.

- POLICY H-24: Ensure that new developments provide adequate street illumination.

Open Space and Recreation:

- GOAL: Provide recreational opportunities, facilities, and experiences which will allow all individuals the opportunity to improve the quality of their lives, while preserving and enhancing the existing resources of the area.
    - POLICY OS-6: Provide adequate access for vehicles and pedestrians to public recreational areas as appropriate.
    - POLICY OS-11: Identify types, quantities, and associated criteria of facilities needed and proposed candidate sites.
    - POLICY OS-12: Provide land use and transportation planning which supports the candidate sites.
    - POLICY OS-14: Seek private dedication of land for parks and open spaces through a variety of methods, including purchases, donations, easements, and through the development review process.

Capital Facilities:

- GOAL: Ensure that adequate capital facilities and services are planned, located, designed and maintained in an efficient manner that maximizes the use of existing facilities and promotes orderly compact urban growth and development that is served with a full range of urban services.
- POLICY CF 7: The phasing of growth & development within the Urban Growth Boundary should be consistent with the priorities and capital improvement budgets contained within the water and sewer plans.

Utilities:

- GOAL 1: Facilitate the development of all utilities at the appropriate levels of service to accommodate growth that is anticipated to occur in the area, in a fair and timely manner.
    - POLICY UT 2: A full range of urban services shall be provided within the entire urban growth area by promoting utility extensions to those areas needing urban services.
    - POLICY UT 3: Encourage development of vacant properties adjacent to established utility systems, according to the appropriate zoning classification and/or land use designation.
    - POLICY UT 4: Ensure that development take into account the timely provision of adequate and efficient utility systems.
    - POLICY UT 5: The cost of on-site utility improvements or site preparation for developments, such as surface drainage, utilities, and water and sewer systems should be the responsibility of private enterprise.

- POLICY UT 7: Facilitate the provision of urban services to all areas in the urban growth area by sizing and locating new services that will efficiently accommodate future service extensions.

- POLICY UT 10: Require the undergrounding of utility wires, where feasible.

- GOAL 4: Provide sewer service for the East Wenatchee Urban Growth Area.

- GOAL 5: Provide an efficient surface and stormwater management system that serves community residences and business in a manner that makes efficient use of limited resources and minimizes damage to public and private property from flooding events.

    - POLICY UT 23: Design, construct, and maintain stormwater facilities in a manner that minimizes their impact on adjacent neighborhoods and business.

    - POLICY UT 25: Require new developments locate required stormwater management facilities on-site unless a regional facility benefiting drainage has been constructed with sufficient excess capacity to serve the development.

    - POLICY UT 29: Stormwater facilities and infrastructure shall be of a type, nature and location to facilitate ease of access for required inspection, maintenance and operation. Stormwater facilities shall be located on a separate tract, where feasible overflow and access is provided from a county or city right-of-way.

Transportation:

- GOAL 1: Provide a balanced transportation system that meets the needs of the community by accommodating the movement of people, goods, and services at an optimum level of safety, economy and efficiency.

- GOAL 3: Ensure adequate and safe access to property via a system of public and private roads.

- POLICY T-6: As public and private development occurs, ensure that transportation system improvements have adequate streets, sidewalks and walkways; and are consistent with the transportation and adopted system design.

- POLICY T-7: Ensure that current and future developments provide proper, adequate and safe access to the transportation system and facilities.
    - Provision for adequate parking must be included in all developments.
    - Natural and artificial landscaping should be considered in the design of system facilities.

- POLICY T-8: Facilitate mobility for all residents within the Greater East Wenatchee Area; including the elderly and persons with disabilities by providing accessible transportation facilities.

- POLICY T-16: Design transportation facilities within the Greater East Wenatchee Area that minimize adverse environmental impacts resulting from both their construction and use.

- POLICY T-17: Economic and residential growth decisions should be tied to the ability of the existing transportation system to accommodate the increased demand, or new transportation facilities should be provided concurrently with the proposed development.

- POLICY T-18: Allow land use changes only when proposals are consistent with the adopted transportation level of service standards of the comprehensive plan.

- POLICY T-19: Control the location and spacing of driveways and encourage the development of shared driveways.

- POLICY T-23: Institute financing measures for major circulation elements that fairly distribute the cost between private property owners and the public sector.

- POLICY T-24: All road construction projects shall be designed and constructed in compliance with locally adopted stormwater management standards.

- POLICY T-26: Encourage public transportation-compatible infill development on bypassed vacant parcels in developed areas adjacent to bus routes and stops.

- POLICY T-27: All transit related decisions such as roadway access, projects, and pedestrian linkages shall be consistent with the current adopted LINK service area policies.

- POLICY T-34: Development shall provide improvements adjacent to their development in accordance with adopted design standards and approved traffic studies. Where deficiencies are present, these issues would have to be addressed prior to development occurring in order to protect the public's health, safety and general welfare consistent with the policies of the comprehensive plan, standard engineering principles, and adopted standards. Improvements necessary to maintain adopted levels of service shall be in place at the time of development, or a financial commitment agreed to by the city or county and the applicant must be in place to complete the improvements or strategies within six years.

- POLICY T-40: Encourage physical activity by providing alternative modes of transportation with more pedestrian and bicycle friendly street standards.

ENVIRONMENTAL REVIEW:

Douglas County issued a Determination of Non-Significance on July 30, 2024, in accordance with WAC 197-11-355 (Optional DNS).

AGENCY AND PUBLIC COMMENTS:

Applicable agencies have been given the opportunity to review this proposal. Agency comments have been included as an attachment to this report.

Agency comments:

Agency Notified	Response Date	Agency Notified	Response Date
Chelan Douglas Health District	7/8/2024	Douglas County Sewer District	6/14/2024
City of East Wenatchee	N/R	Douglas County Transportation Dept.	8/19/2024
Confederated Tribes of the Colville Reservation	6/6/2024	East Wenatchee Water District	6/10/2024
Douglas County Assessor's Office	N/R	Eastmont School District	N/R
Douglas County Building Official	7/2/2024	Link Transit	N/R
Douglas County Fire District	N/R	Upper Columbia Irrigation District	N/R
Douglas County Fire Marshal	7/2/2024	WA State Dept. of Archeology and Historic Preservation	6/6/2024
Douglas County GIS Dept.	5/30/2024	WA State Dept. of Ecology	6/6/2024
Douglas County Land Services Dept.	8/6/2024	WA State Dept. of Fish & Wildlife	N/R
Douglas County Public Utility District	6/10/2024		

* N/R = No Reply

Agency comments have been included as suggested conditions of approval, where applicable.

No public comments were received on the proposal till October 08, 2024.

PROJECT ANALYSIS:

In review of this proposal, it is important to consider the goals and policies of the comprehensive plan, applicable county regulations, public and agency comments, any identified environmental concerns and state and federal requirements. Planning staff's analysis and review of the subject application is noted below:

- **Consistency with Greater East Wenatchee Comprehensive Plan:**

  The proposal is consistent with several sections of the Greater East Wenatchee Area Comprehensive Plan as noted above – Urban Growth, Land Use – Residential, Housing, Open Space and Recreation, Capital Facilities, Utilities and Transportation.

- **Consistency with the provisions of Title 17, "Subdivisions", Douglas County Code:**

  The proposal is consistent with the provision of this title.

- **Consistency with the provisions of the R-L Zoning District, Chapter 18A.24, DCC as adopted by Douglas County:**

  The subdivision will meet all applicable development standards of the Residential Low Density zoning district including but not limited to minimum lot size, lot width, and lot depth. The proposal is consistent with the provisions of this chapter.

- **Consistency with the provisions of *Lot Frontage*, Section 18A.72.210, DCC:**

  Residential lots shall have not less than 40 feet of frontage on a public or private roadway, except when located within a cul-de-sac or when the lot is accessed from a joint-use driveway or access easement meeting the requirements of Chapters 12.50 through 12.58 DCC, comprehensive street standards, and any amendments.

  A minimum of 20 feet of contiguous frontage is required for lots located on a cul-de-sac (road right-of-way) and lots located on the outside of a road curve with a radius between 50 and 75 feet.

  The proposal is consistent with the provisions of this chapter, subject to the suggested Conditions of Approval included in this report.

- **Consistency with the provisions of Open Space Standards, Chapter 18A.73 DCC:**

  DCC 18A.73.090 allows elective optional payment in lieu of establishing an on-site open space/ recreation area. The developer may elect to provide a payment to Douglas County or the city of East Wenatchee to fulfill the requirements of this chapter.

  The applicant proposes to use this provision to make a payment in lieu of establishing an on-site open space/ recreation area. The project narrative submitted with the application states, *"The developers have opted to utilize section 17.73.090, that allows payment in lieu of established an on-site open space/recreation area. The development site is approximately 11 acres. The required open space area is 5% or approximately .55 acres."*

  The proposal is consistent with the provisions of this chapter, subject to the suggested Conditions of Approval included in this report.

- **Consistency with the provisions of DCC Chapter 20.34, Stormwater Drainage**

  The proposal is consistent with the provisions of this chapter, subject to the suggested Conditions of Approval included in this report.

- **Consistency with the provisions of DCC Title 12 Road Standards**

  The proposal is consistent with the provisions of this chapter, subject to the suggested Conditions of Approval included in this report.

RECOMMENDATION:

As conditioned below, this application does not appear to be detrimental to the general public health, safety or welfare and meets the basic intent and criteria associated with Title 18A of the Douglas County Code and the Greater East Wenatchee Comprehensive Plan. Staff recommends approval of P-2024-01 subject to the following findings of fact and conditions:

SUGGESTED FINDINGS OF FACT:

1. The applicants for the project are Ackerman Construction, Inc. and Hurst Holdings, LLC.

2. General Description: This is an application for a 31-lot major subdivision. The subject property is approximately 10.63 acres in size and zoned Residential Low-Density in the East Wenatchee Urban Growth Area of unincorporated Douglas County. Proposed lot sizes range from 9,951 sq.ft. to 17,076 sq.ft.

3. The applicant has submitted the following:
   a. Land Use Master Application
   b. Vicinity Map
   c. SEPA Checklist
   d. Plan and Procedures for the Inadvertent Discovery of Cultural Resources and Human Skeletal Remains for Ackerman Hurst Subdivision
   e. Preliminary Plat
   f. Project Narrative
   g. Preliminary Stormwater Report
   h. Applicant's Request to Tribal Historic Preservation Officer to allow them to submit an Inadvertent Discovery Plan in lieu of a Cultural Resource Survey.
   i. Preliminary Construction Plans.

4. Location: The subject property is located northwest of the intersection of S Nile Ave and 8th Street SE in East Wenatchee, WA. The site location is further described as being within Section 17, Township 22N, Range 21E, W.M. Douglas County Assessor's Parcel Numbers: 22211840015 and 22211840027.

5. Site Information:
   Total Project Size: 10.63 acres
   No. of lots: 31
   Domestic Water: East Wenatchee Water District
   Sewage Disposal: Douglas County Sewer District
   Power/Electricity: Douglas County Public Utility District
   Fire Protection: Wenatchee Valley Fire Department
   School District: Eastmont School District
   Irrigation District: Upper Columbia Irrigation District
   Telephone Service: Varied

6. Site Characteristics: The topography is relatively flat.

7. Site Characteristics: The topography varies throughout the site.
   North: Single-family dwellings and agricultural land
   South: Agricultural land
   East: Single-family dwellings
   West: Undeveloped single-family residential lots

8. Access: The subdivision is proposed to be accessed via 7th Street SE road proposed extension, three access roads and one 20' wide access and utility easement providing access to 31 lots in the subdivision.

9. Surrounding Property:
   North: Single family dwelling with livestock pastures
   South: Single family dwellings
   East: Single family dwelling with livestock pastures
   West: Single family dwelling with orchard

10. The subject property is located within the East Wenatchee Urban Growth Area.

11. The subject property is designated Residential Low Density by the Greater East Wenatchee Area Comprehensive Plan.

12. The subject property is in the Residential Low Density (R-L) zoning district which allows for subdivisions as permitted uses.

13. Douglas County issued a Determination of Non-Significance on July 30, 2024, in accordance with WAC 197-11-355 (Optional DNS).

14. DCC 18A.72.210 requires residential lots to have not less than 40 feet of frontage on a public or private roadway, except when located within a cul-de-sac, or when the lot is accessed from a joint-use driveway or access easement meeting the requirements of Chapters 12.50 through 12.60 DCC.

15. The project was reviewed by Confederated Tribes of the Colville Reservation and the agency provided comments on June 06, 2024. The letter received from the agency states, *Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, we recommend a professional archaeological survey of the project area be conducted and a report be produced prior to ground disturbing activities. This report should meet DAHP's Standards for Cultural Resource Reporting.*

We also recommend that any historic buildings or structures (45 years in age or older) located within the project area are evaluated for eligibility for listing in the National Register of Historic Places on Historic Property Inventory (HPI) forms. We highly encourage the SEPA lead agency to ensure that these evaluations are written by a cultural resource professional meeting the SOI Professional Qualification Standards in Architectural History." See attached letter for complete agency comments.

16. The project was reviewed by Washington State Department of Archeology and Historic Preservation and the agency provided comments on June 06, 2024. The letter received from the agency states, *"While we appreciate the applicant's inclusion of an IDP for their project, we recommend the project area be surveyed by a professional archaeologist prior to any ground disturbing activities occurring. If a survey is undertaken, we would like to request a copy of the resulting survey report for our review and comment."* See attached letter for complete agency comments.

17. The project was reviewed by Chelan Douglas Health District and the agency provided comments on July 03, 2024. The agency recommends further approval of the project subject to conditions noted in the agency's letter. See suggested Conditions of Approval.

18. The project was reviewed by Douglas County Transportation Department for transportation and stormwater related improvements. The agency made the following findings:

    "1. Preliminary application materials reviewed by Douglas County Transportation and Stormwater include:
    - *Preliminary Construction Plans, prepared by Pacific Engineering, dated February 23, 2024.*
    - *Preliminary Stormwater Drainage Report, prepared by Pacific Engineering, dated February 23, 2024.*
    - *Preliminary Plat Drawings, prepared by Complete Design, dated June 26, 2024.*
    - *Traffic Impact Analysis (TIA), prepared by TENW, dated August 5, 2024.*

    2. The preliminary construction plans depict frontage improvements along S Nile Ave and a full-street extension of the public 7th St SE corridor. Internal roads are proposed to be a combination of public roads and private access drives (joint-use driveways).

    3. The preliminary storm report adequately demonstrates stormwater management feasibility for the subject property through qualitative analysis, sub-basin delineation, and calculations.

    4. The traffic impact analysis includes level of service analyses at ten intersections. All intersections were found to operate at an acceptable level of service at the project horizon year."

    The agency further suggests Conditions of Approval for the project. See suggested Conditions of Approval.

19. The project was reviewed by East Wenatchee Water District and the comments were provided on June 09, 2024. See suggested Conditions of Approval.

20. The project was reviewed by Washington State Department of Ecology and the comments were provided on June 06, 2024. The agency notes that no further action is required for the Toxics Cleanup Program for this project. The agency further recommends certain actions for the project as it relates to the Water Quality Program. See suggested Conditions of Approval.

21. Surrounding property owners were given the opportunity to comment on the proposals, can request a copy of the decision, and can appeal the decision subject to the requirements outlined in EWC 19.07.

22. Proper legal requirements were met and surrounding property owners were given the opportunity to comment on the proposal at a public hearing.

23. Purveyors who responded to the project have indicated that adequate utilities/services are available or can serve this project.

24. The development will not adversely affect the general public, health, safety and general welfare, subject to the suggested Conditions of Approval.

SUGGESTED CONCLUSIONS OF LAW:

1. The development meets the goals, policies and implementation recommendations as set forth in the Greater East Wenatchee Area Comprehensive Plan, subject to the suggested Conditions of Approval.

2. This proposal is consistent with applicable federal and state laws and regulations, subject to the suggested Conditions of Approval.

3. Public use and interests will be served by approval of this proposal, subject to the suggested Conditions of Approval.

4. The proposal is consistent with Title 18A DCC, subject to the suggested Conditions of Approval.

5. The proposal is consistent with Title 17 "Subdivisions", Title 19 "Environment", and Title 20 "Development Standards", of the Douglas County Code, subject to the suggested Conditions of Approval.

SUGGESTED CONDITIONS OF APPROVAL:

1. The project shall proceed in substantial conformance with the plans and application materials of file except as amended by the conditions herein.

2. The applicant is responsible for compliance with all applicable local, state and federal rules and regulations, and must obtain all appropriate permits and approvals.

3. A plat certificate showing parties of interest from a title company must be submitted with the blueline drawings.

4. The final plat shall be submitted by a land surveyor licensed in the State of Washington, and shall comply with the standards set forth in Title 18A of the Douglas County Code.

5. All parties having an ownership interest in the subject property shall acknowledge the plat.

6. It is the responsibility of the applicant to contact the Douglas County Assessor's and Treasurer's offices to confirm all taxes are current prior to final plat approval.

7. During construction, all work associated with the proposed project shall occur between the hours of 6:00 a.m. to 7:00 p.m., Monday through Friday and 7:00 a.m. to 7:00 p.m., Saturday. Construction activities on Sunday shall not commence before 8:00 a.m. and shall conclude by 7:00 p.m.

8. The final plat shall show the location of all easements serving or encumbering the subject property.

9. The project was reviewed by Chelan Douglas Health District and the agency provided comments on July 03, 2024. The project is required to comply with all conditions noted in the letter.

"I recommend further approval of the project. Please note that Chelan-Douglas Health District cannot sign the final Mylar until the following conditions are addressed:

Expanding, Municipal Public Water Systems:

- *Domestic water service shall be by expansion of the East Wenatchee Water District public water system. Written confirmation from the utility agreeing to provide individual service to each lot is required. All water system improvements must be designed, constructed, and placed in accordance with the purveyor's requirements. Completion of the improvements, including necessary easements, must be accepted in writing from the utility prior to final plat approval.*

- *The dedicatory language on the plat shall carry this note: "The Health District has not reviewed the legal availability of water to this development."*

Public Sewer:

- *Sanitary sewer service shall be by expansion of the Douglas County Sewer District public sewer system. All sewer system improvements must be designed, constructed, and placed in accordance with the purveyor's and the Dept. of Ecology's standards and requirements.*

- *Completion of the improvements, including necessary easements, must be accepted in writing from the utility prior to final plat approval."*

10. The project was reviewed by Douglas County Transportation Department for transportation and stormwater related improvements. The project is required to comply with all conditions noted in the letter.

    "Transportation:

    1. *Final construction plans designed by a Professional Engineer (PE) licensed in Washington shall be submitted to and accepted by Douglas County prior to construction. Construction plans shall be prepared in accordance with the requirements of the East Wenatchee Municipal Code and Douglas County Code.*

    2. *Include the designation "P-2024-01" on each sheet of the final civil construction plans.*

    3. *Frontage improvements are required along S Nile Ave in accordance with Figure 3-7b (Urban Local Access) of Douglas County Code. Limits of frontage improvements are not required to extend north of the proposed 7th St SE intersection due to existing DCPUD infrastructure. Dedication of 10' of right-of-way along S Nile Ave shall be shown on the plat.*

    4. *7th St SE corridor (proposed public road) shall be constructed in accordance with the roadway section on Figure 3-7b of the Douglas County Road Standards.*

    5. *The applicant shall mitigate project traffic impacts at the intersections of Grant Rd with Nile Ave based on the proportionate share percentages identified in the project Traffic Impact Analysis (TIA). The proportionate share contributions shall be provided in a form acceptable to Douglas County and completed prior to Final Plat.*

6. *Illumination shall be designed and installed consistent with East Wenatchee Municipal Code and Douglas County Code Section 12.57.100 Roadway Illumination. The applicant shall be responsible for PUD charges for the connection of streetlights to the transformer or hand hole.*

7. *The location of any cluster mailbox units proposed for the subdivision shall be shown on the construction plans. The location shall be accepted by the County Engineer and USPS Postmaster prior to plan acceptance. Cluster mailbox units shall be located within the public right-of- way or an easement dedicated for such use. If cluster mailboxes are intended on Nile Ave, a pullout is required per WSDOT standards.*

8. *Five-foot utility easements (min.) are required along all lots or tracts with County road frontage in accordance with applicable road standards. Utility purveyors may require easements in excess of five feet.*

9. *All existing and proposed easements shall be clearly delineated with the Auditor's File Number(s) noted as necessary on the final plat.*

10. *For joint-use driveways, a Private Access Operation and Maintenance Agreement shall be prepared, executed, and recorded by the applicant; the Auditor's File Number(s) shall be noted on the final plat map.*

11. *Prior to final plat acceptance and/or release of financial security, the Engineer of Record (EOR) shall provide written certification that the frontage improvements, off-site improvements, internal roads, utility infrastructure, stormwater systems, and grading have been constructed/completed in accordance with the Conditions of Approval, applicable codes, and the accepted construction plans. Monitoring shall be required as determined appropriate by the EOR and in accordance with DCC. Final reports with EOR certification shall be submitted to Douglas County.*

12. *Final acceptance shall be processed in accordance with Douglas County Code (DCC) Section 12.56.110 Final Acceptance and prior to final plat acceptance a Warranty Assurance Agreement shall be completed per DCC 12.50.110.*

13. *Utility work within Douglas County right-of-way shall be in accordance with a Right-of-way Permit obtained prior to construction.*

Stormwater:

1. *A final site-specific stormwater plan and report prepared by a Professional Engineer (PE) licensed in Washington that conforms to DCC and the current Stormwater Management Manual for Eastern Washington (SWMMEW) shall be submitted to and accepted by Douglas County prior to construction. Final construction plans shall include proposed grading of lots and locations of walls (as applicable).*

2. *Include the designation "P-2024-01" on the cover sheet of the final stormwater report.*

3. *Stormwater facilities shall be designed to overflow to the public right-of-way or oversized by 125% of design capacity plus one-foot of freeboard. A downstream analysis of potential overflow impacts shall be included within the design report.*

4. *Stormwater facilities shall be located on separate tract(s) under the functional control of a Homeowners' Association with each lot having an undivided ownership, interest, and responsibility for the tract(s). The final plat shall identify the stormwater tracts consistent with the civil plans and show easements for drain lines crossing lots.*

5. *Provisions to provide access for inspection and maintenance of the stormwater tract(s) shall be addressed within the design plans and stormwater report.*

6. *Prior to any on-site grading occurring or prior to construction plan acceptance (whichever comes first), a Stormwater Pollution Prevention Plan (SWPPP) and a Temporary Erosion and Sediment Control Plan (TESC Plan) shall be submitted to and accepted by Douglas County. The SWPPP and TESC Plan shall always be available on-site and updated as necessary to prevent sediment and sediment laden water from leaving the project site or contaminating stormwater infiltration facilities.*

7. *The applicant is responsible for preventing mud, dirt, debris, and stormwater runoff from being tracked or otherwise discharging onto the public right-of-way or adjacent properties.*

8. *As applicable, registration of facilities that are regulated under the Washington State Department of Ecology's (DOE) Underground Injection Control (UIC) Program shall be completed prior to construction of the facility.*

9. *The Engineer of Record (EOR) shall monitor construction and shall provide final as-built drawings, report, and certification that improvements have been completed in accordance with the applicable codes, regulations, and accepted plans. UIC registration shall be included as applicable.*

10. *Prior to final plat acceptance, a Private Stormwater Operation and Maintenance Agreement shall be executed on standard Douglas County forms. The site plan, details, certification, and operation and maintenance recommendations shall be provided to the County. County staff then prepares the agreement for signature and recording by the applicant. A note shall be included on the face of the final plat which states:*

    "Douglas County will not maintain the private stormwater facilities located within this subdivision. Responsibility for the long term maintenance of the private stormwater facilities is described within the Declaration of Stormwater System Maintenance Covenants recorded under AFN _____."

11. *Any proposed lots that will not drain to a joint use pond shall utilize an on-site infiltration facility which will require an engineered construction plan and stormwater report be submitted with the application for a building permit. As applicable, a note shall be included on the face of the final plat which states:*

"At the time of building permit submittal for Lots _ - _, an engineered construction plan and stormwater report shall be submitted that conforms to Douglas County Code and the current edition of the Stormwater Management Manual for Eastern Washington. The Engineer of Record shall provide certification that the private on-site stormwater system has been completed in accordance with the accepted plans. A private stormwater operation and maintenance agreement, prepared with standard Douglas County forms, shall be executed and recorded with the Douglas County Auditor prior to occupancy."

12. *Stormwater stubs may be provided to each of the lots which will drain to the facilities on Tract 1. As applicable, a note shall be included on the face of the final plat which states:*

    "At the time of building permit submittal for Lots _ - _, a drainage construction plan shall be submitted which depicts the on-site stormwater conveyance system. The site plan shall include the following information:
    a. *Pipe size.*
    b. *Minimum pipe slope.*
    c. *Invert elevation at the connection to the stormwater stub.*
    d. *Finished floor elevation of the structure and garage slab."*

13. *Individual lots created within this development are subject to the Douglas County Stormwater Utility Annual Service Charge. This charge is per parcel and is triggered at the time of building permit issuance.*

14. *If this proposal exceeds 1-acre of disturbed ground, it may meet the Washington State Department of Ecology (WSDOE) threshold requiring a Construction Stormwater General Permit (CSGP). The applicant is responsible for acquisition of all applicable permits from WSDOE."*

11. The project was reviewed by East Wenatchee Water District and the comments were provided on June 09, 2024. The project is required to comply with all conditions noted in the letter.

    "Water is available per this request. A DEA (developer line extension agreement) will be required prior to plan submittals for the Water District's review. Requirements for fire flow will meet the standards of Douglas County Fire Marshal and all required improvements will be per current District Design Standards and Specifications.

    The Developer will assume all of the District's costs for this proposal including inspections, testing and permits. After construction is completed and accepted by the District, a 2-yr maintenance/ warranty bond will be required."

12. Prior to final plat approval, the applicant shall provide an estimate based on the cost that would be incurred by creating the open space/ recreation area for the purpose of determining the open space payment amount. The payment provisions must be formalized in an agreement that will be recorded with the Douglas County Auditor. All payment procedures shall follow those referenced in DCC 18A.73.090 - *Elective optional payment in lieu of establishing an on-site open space/recreation area*.

Respectfully Submitted,

Swati Rastogi, Principal Planner
Land Services Department,
Douglas County, WA

Attached: Agency/ Public Comments

Shari Tincher (x6589)

From: Rebecca Gordon <rebecca.gordon.hsy@colvilletribes.com>
Sent: Thursday, June 6, 2024 1:46 PM
To: Amber Cook (x6563); Shari Tincher (x6589)
Cc: Guy Moura; DAHP SEPA (DAHP)
Subject: Re: P-2024-01 Request for Agency Comments

Good Afternoon-

We have completed our review of application P-2024-01 for the proposed development of a 31-lot subdivision by Ackerman and Hurst.

The proposed project lies within the traditional territory of the *šnp̓əšqʷaẇ̓ səxʷ šnp̓əšqʷaẇ̓ səxʷ* (people in between) or *p'squosa* (narrow canyon) or Wenatchi Tribe, one of the 12 constituent tribes of the Confederated Tribes of the Colville Reservation (CTCR), which is governed by the Colville Business Council (CBC). The CBC has delegated to the Tribal Historic Preservation Officer(THPO) the responsibility of representing the CTCR with regard to cultural resources management issues throughout the traditional territories of all of the constituent tribes under Resolution 1996-29. This area includes parts of eastern Washington, northeastern Oregon, the Palus territory in Idaho, and south-central British Columbia.

We do not concur with the applicant's response to Section B, Subsection 13c, which states "Since there is no visible indication of cultural or historic resources on this site, nothing is proposed." Just because a cultural resource is not visible does not automatically mean that none may exist at a location. As a large number of cultural resources, particularly of Pre-Contact origin, may not be located on the surface, this assumption by the applicant that nothing needs to be done is incorrect. The ground disturbing activities associated with the creation of this subdivision have a great potential to impact unknown subsurface cultural resources.

The proposed project falls within high probability for the potential presence of cultural resources according to the Washington State Department of Archaeology and Historic Preservation's (DAHP) statewide predictive model. While we appreciate the applicant's inclusion of an IDP for their project, we recommend the project area be surveyed by a professional archaeologist prior to any ground disturbing activities occurring. If a survey is undertaken, we would like to request a copy of the resulting survey report for our review and comment.

Thank you for consulting with the Confederated Tribes of the Colville Reservation. These comments are based on the information as currently presented. We reserve the right to revise our comments as additional information becomes available. If you have any questions, please contact me at the number below.

Lamlamt (Thank you),

Rebecca L. Gordon MA, RPA

Archaeologist Senior
READ/BAES

Colville Satellite Office
History/Archaeology Program
Confederated Tribes of the Colville Reservation
486 S. Oak St.
Colville, WA 99114

509-631-1173 cell
Rebecca.Gordon.HSY@colvilletribes.com

Office Hours: Monday-Thursday 0630-1700

On Thu, May 23, 2024 at 11:08 AM Amber Cook (x6563) <acook@co.douglas.wa.us> wrote:

REQUEST FOR AGENCY COMMENTS

APPLICANT: ACKERMAN CONSTRUCTION, INC. & HURST HOLDINGS, LLC

Date of Application: 05/14/2024

Date Letter of Completeness Issued: 05/23/2024

Date Notice of Application Issued: 05/23/2024

Application Number: P-2024-01

Description of Proposal: A subdivision application requesting the creation of thirty-one lots ranging in size from 0.23 acres to 0.39 acres. The subject property is approximately 11.03 acres in size and is located at 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is zoned Residential Low Density (R-L) and is located within the Urban Growth Area of East Wenatchee in the unincorporated Douglas County. The site address is 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is further described as being located

within Section 18, Township 22N, Range 21E, W.M. Douglas County Assessor's Parcel Numbers: 22211840015 and 22211840027.

Respond By: 5:00 p.m., 6/10/2024

Return Comments to: Smart Gov or stincher@co.douglas.wa.us

If your comments are not received from your agency by the above date, it will be construed that your agency has no concern with this application.

If you have any application related questions, please contact Swati Rastogi, Lead Planner.

Amber Cook

Permit Technician

Douglas County Transportation and Land Services

140 19th St NW Suite A

East Wenatchee WA 98802

Phone: (509) 884-7173

Swati Rastogi (x6590)

From: Richmond Petty <Richmond.Petty@cdhd.wa.gov>
Sent: Thursday, July 4, 2024 9:43 AM
To: Shari Tincher (x6589)
Subject: Ackerman-Hurst Subdivision Comments (P 2024-01)
Attachments: Ackerman-Hurst Subdivision Major Plat (P 2024-01) Comments.pdf

Good morning,

I have attached my comments for the above.

Thanks,

Richmond Petty, REHS
Interim Environmental Health Director
Chelan-Douglas Health District
"Always *Working for a Safer & Healthier Community"*
200 Valley Mall Pkwy, East Wenatchee, WA 98802
Phone: (509) 886-6400 Ext. 432
Cell: (509) 881-7804 | Fax: (509) 886-6449
www.cdhd.wa.gov

Chelan-Douglas Health District
200 Valley Mall Parkway, East Wenatchee, WA 98802

Memorandum

To: Shari Tincher, Douglas County

From: Richmond Petty, REHS

Date: 7/03/24

RE: Ackerman-Hurst Subdivision Major Plat (P 2024-01) Comments

---

I have reviewed the above development proposal to subdivide an existing parcel of land ~10.66 acres in size into thirty one (31) residential lots and several tracts. The proposed lots range in size from 0.23 acres to 0.36 acres in size. Domestic water will be provided by the East Wenatchee Water District. Sanitation will be provided by Douglas County Sewer District. The subject property is located at 2347 8th St. SE, East Wenatchee, WA (county tax parcel: 22211840015).

I recommend further approval of the project. Please note that Chelan-Douglas Health District cannot sign the final Mylar until the following conditions are addressed:

Expanding, Municipal Public Water Systems

- Domestic water service shall be by expansion of the **East Wenatchee Water District** public water system. Written confirmation from the utility agreeing to provide individual service to each lot is required. All water system improvements must be designed, constructed, and placed in accordance with the purveyor's requirements. Completion of the improvements, including necessary easements, must be accepted in writing from the utility prior to final plat approval.

- The dedicatory language on the plat shall carry this note:
  "The Health District has not reviewed the legal availability of water to this development."

Public sewer

- Sanitary sewer service shall be by expansion of the Douglas County Sewer District public sewer system. All sewer system improvements must be designed, constructed, and placed in

accordance with the purveyor's and the Dept. of Ecology's standards and requirements. Completion of the improvements, including necessary easements, must be accepted in writing from the utility prior to final plat approval.

Fees for review of land-use applications have been established by the Chelan-Douglas Health District Board of Health. The District will bill the applicant upon receipt of these comments.

Project	CDHD 2024 fees
Plats with Municipal sewer and water	$65
Short Plat, BSP < 5 lots Review	$495
Major Plat, BSP > 5-20 lots Review	$745
Major Plat Review, per lot over 20 lots	$45
Pre-Application Review	$110
Other Land Use Review comments (per hour)	$110

Additional information and forms can be downloaded from the Chelan-Douglas Health District's website at: http://www.cdhd.wa.gov/FormsandDocuments.htm

Swati Rastogi (x6590)

From: DAHP SEPA <sepa@dahp.wa.gov>
Sent: Thursday, June 6, 2024 1:15 PM
To: Shari Tincher (x6589)
Cc: Amber Cook (x6563); guy.moura@colvilletribes.com; Rebecca Gordon (HSY); Randy Abrahamson; darnell.sam.adm@colvilletribes.com; john.sirois.adm@colvilletribes.com; milton.davis.adm@colvilletribes.com; Casey Barney; Corrine Camuso; Gregg Kiona; Jessica Lally; Noah Oliver
Subject: RE: P-2024-01 Request for Agency Comments (DAHP Project Tracking # 2022-07-04499)
Attachments: 2022-07-04499_060624_Survey Requested.pdf

Hi Shari,

Attached is our letter regarding the project referenced in the subject line. Please contact me with any questions.

All the best,

Sydney Hanson, MA (she/her) | **Local Government Archaeologist**
Eastern Washington & Columbia River Counties
360.280.7563 | sydney.hanson@dahp.wa.gov

Department of Archaeology & Historic Preservation | www.dahp.wa.gov
1110 Capitol Way S, Suite 30 | Olympia WA 98501
PO Box 48343 | Olympia WA 98504-8343

From: Amber Cook (x6563) <acook@co.douglas.wa.us>
Sent: Thursday, May 23, 2024 11:09 AM
To: EHSupport <ehsupport@cdhd.wa.gov>; Karina Castro <karina.castro@cdhd.wa.gov>; richmond.petty <richmond.petty@cdhd.wa.gov>; clillquist@eastwenatcheewa.gov; Rebecca Gordon (HSY) <rebecca.gordon.hsy@colvilletribes.com>; guy.moura@colvilletribes.com; DAHP SEPA <sepa@dahp.wa.gov>; ECY RE CRO SEPA Coordinator <crosepa@ecy.wa.gov>; Region2 Planning (DFW) <WDFWR2Planning@dfw.wa.gov>; Schmidt, Nate (DFW) <Nate.Schmidt@dfw.wa.gov>; berb@eastmont206.org; cbarone@linktransit.com
Cc: Shari Tincher (x6589) <stincher@co.douglas.wa.us>
Subject: P-2024-01 Request for Agency Comments

REQUEST FOR AGENCY COMMENTS

APPLICANT: ACKERMAN CONSTRUCTION, INC. & HURST HOLDINGS, LLC

Date of Application: 05/14/2024

Date Letter of Completeness Issued: 05/23/2024

Date Notice of Application Issued: 05/23/2024

Application Number: P-2024-01

Description of Proposal: A subdivision application requesting the creation of thirty-one lots ranging in size from 0.23 acres to 0.39 acres. The subject property is approximately 11.03 acres in size and is located at 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is zoned Residential Low Density (R-L) and is located within the Urban Growth Area of East Wenatchee in the unincorporated Douglas County. The site address is 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is further described as being located within Section 18, Township 22N, Range 21E, W.M. Douglas County Assessor's Parcel Numbers: 22211840015 and 22211840027.

Respond By: 5:00 p.m., 6/10/2024

Return Comments to: Smart Gov or stincher@co.douglas.wa.us

If your comments are not received from your agency by the above date, it will be construed that your agency has no concern with this application.

If you have any application related questions, please contact Swati Rastogi, Lead Planner.

Amber Cook
Permit Technician
Douglas County Transportation and Land Services
140 19th St NW Suite A
East Wenatchee WA 98802
Phone: (509) 884-7173

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

June 6, 2024

Shari Tincher
Douglas County
140 19th St NW Suite A
East Wenatchee, WA 98802

In future correspondence please refer to:
Project Tracking Code: 2022-07-04499
Property: ACKERMAN CONSTRUCTION INC & P-2022-04 [P-2024-01]
Re: Survey Requested

Dear Shari Tincher:

Thank you for contacting the Washington State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) and providing documentation regarding the above referenced project. These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance Washington State law. Should additional information become available, our assessment may be revised.

Our statewide predictive model indicates that there is a high probability of encountering cultural resources within the proposed project area. Further, the scale of the proposed ground disturbing actions would destroy any archaeological resources present. Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, we recommend a professional archaeological survey of the project area be conducted and a report be produced prior to ground disturbing activities. This report should meet DAHP's Standards for Cultural Resource Reporting.

We also recommend that any historic buildings or structures (45 years in age or older) located within the project area are evaluated for eligibility for listing in the National Register of Historic Places on Historic Property Inventory (HPI) forms. We highly encourage the SEPA lead agency to ensure that these evaluations are written by a cultural resource professional meeting the SOI Professional Qualification Standards in Architectural History.

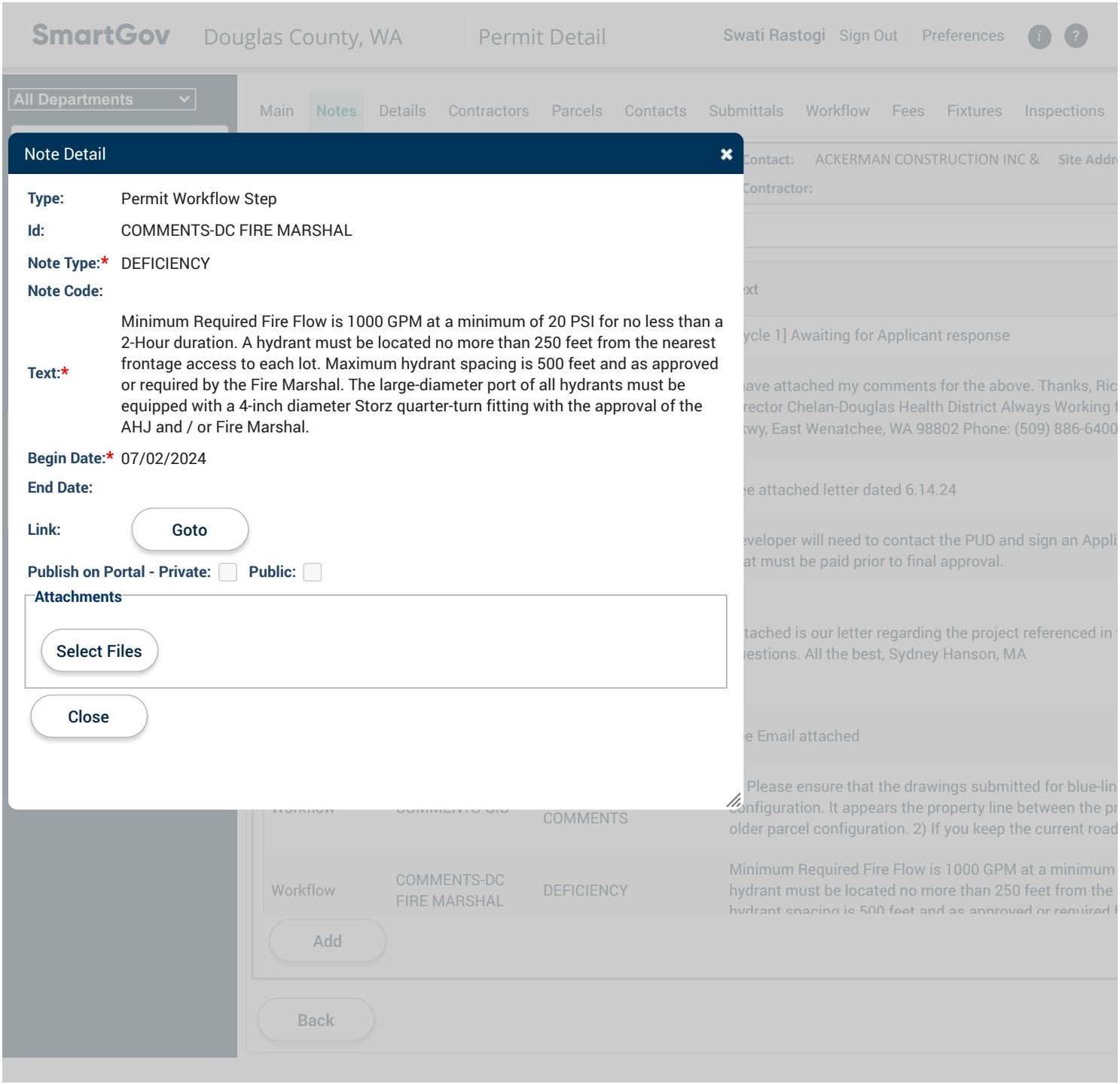
Please note that the recommendations provided in this letter reflect only the opinions of DAHP. Any interested Tribes may have different recommendations. We appreciate receiving any correspondence or comments from Tribes or other parties concerning cultural resource issues that you receive.

Thank you for the opportunity to comment on this project. Please ensure that the DAHP Project Tracking Number is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. Please also ensure that any reports, site forms, and/or historic property inventory (HPI) forms are uploaded to WISAARD by the consultant(s).

Should you have any questions, please feel free to contact me.

Sincerely,

Sydney Hanson, M.A.
Local Government Archaeologist
(360) 280-7563
Sydney.Hanson@dahp.wa.gov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Id: COMMENTS-DC FIRE MARSHAL
Note Type:* DEFICIENCY
Note Code:
Text:* Minimum Required Fire Flow is 1000 GPM at a minimum of 20 PSI for no less than a 2-Hour duration. A hydrant must be located no more than 250 feet from the nearest frontage access to each lot. Maximum hydrant spacing is 500 feet and as approved or required by the Fire Marshal. The large-diameter port of all hydrants must be equipped with a 4-inch diameter Storz quarter-turn fitting with the approval of the AHJ and / or Fire Marshal.
Begin Date:* 07/02/2024
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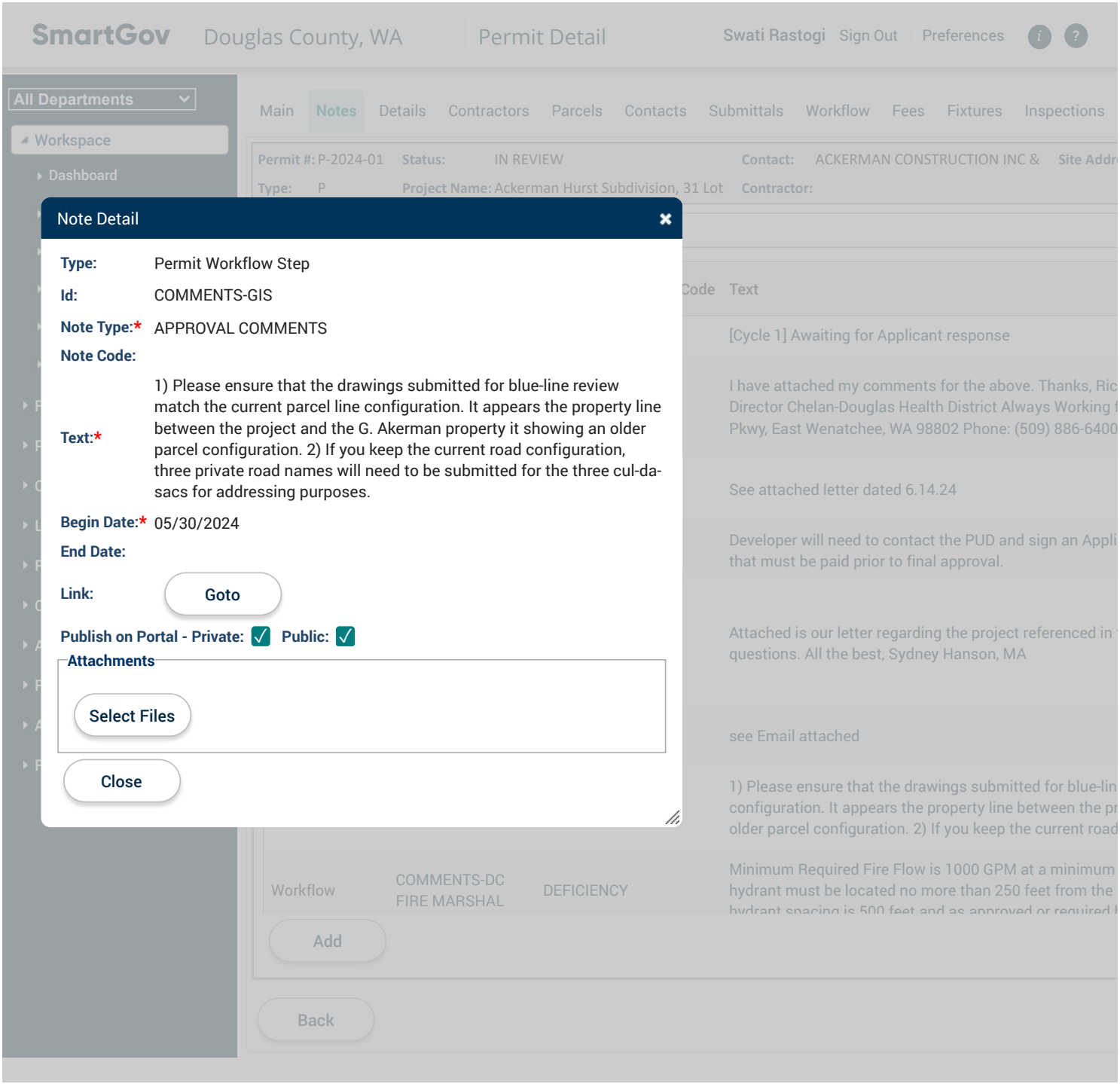
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Permit #: P-2024-01
Status: IN REVIEW
Contact: ACKERMAN CONSTRUCTION INC &
Type: P
Project Name: Ackerman Hurst Subdivision, 31 Lot
Contractor:
Code
Text
[Cycle 1] Awaiting for Applicant response
I have attached my comments for the above. Thanks, Ric
Director Chelan-Douglas Health District Always Working
Pkwy, East Wenatchee, WA 98802 Phone: (509) 886-6400
See attached letter dated 6.14.24
Developer will need to contact the PUD and sign an Appli
that must be paid prior to final approval.
Attached is our letter regarding the project referenced in
questions. All the best, Sydney Hanson, MA
see Email attached
1) Please ensure that the drawings submitted for blue-lin
configuration. It appears the property line between the pr
older parcel configuration. 2) If you keep the current road
Minimum Required Fire Flow is 1000 GPM at a minimum
hydrant must be located no more than 250 feet from the
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Type: Permit Workflow Step
Id: COMMENTS-GIS
Note Type:* APPROVAL COMMENTS
Note Code:
Text:* 1) Please ensure that the drawings submitted for blue-line review match the current parcel line configuration. It appears the property line between the project and the G. Akerman property it showing an older parcel configuration. 2) If you keep the current road configuration, three private road names will need to be submitted for the three cul-da-sacs for addressing purposes.
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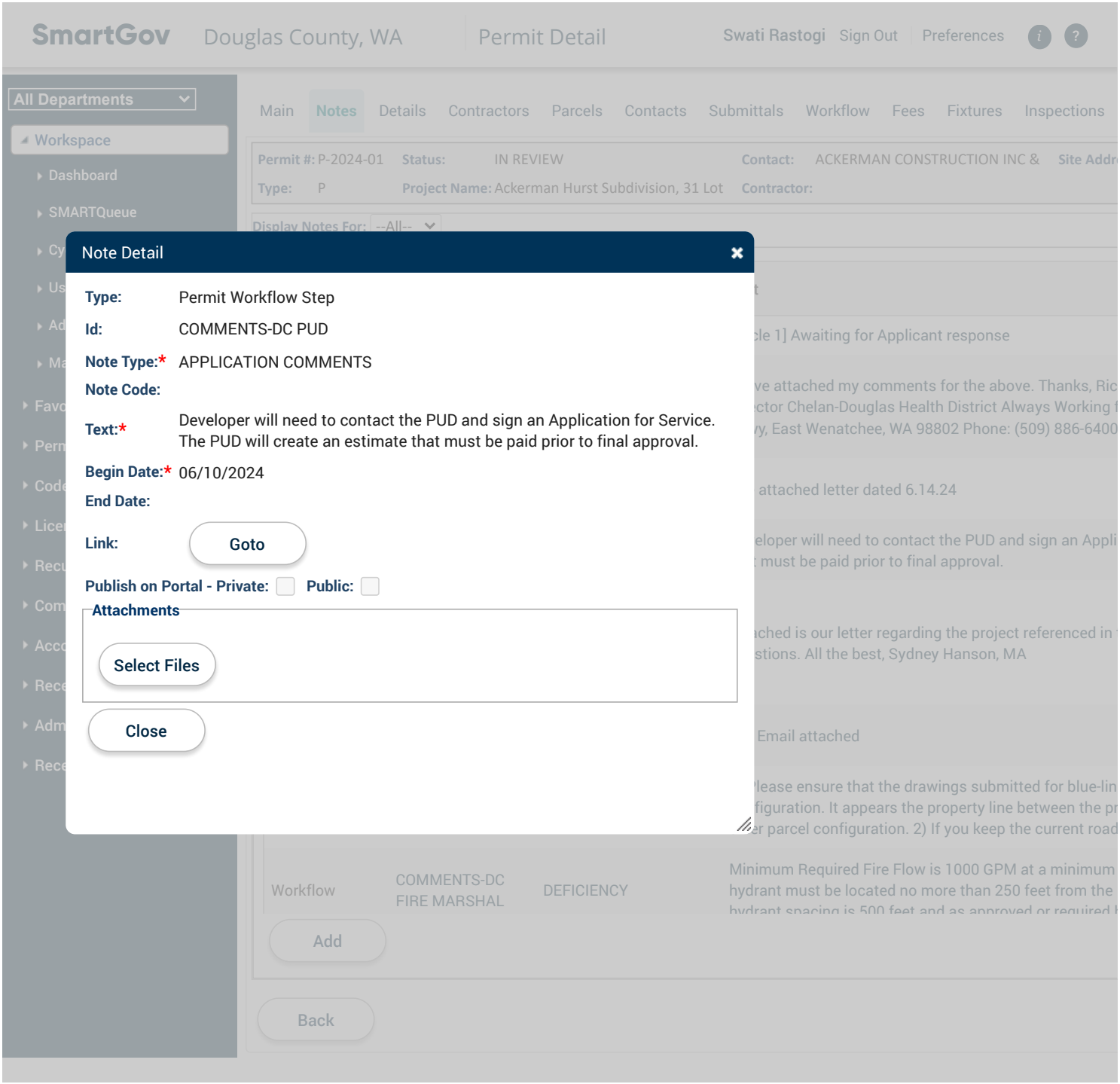
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Permit #: P-2024-01
Status: IN REVIEW
Contact: ACKERMAN CONSTRUCTION INC &
Type: P
Project Name: Ackerman Hurst Subdivision, 31 Lot
Contractor:
Display Notes For: --All--
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Type: Permit Workflow Step
Id: COMMENTS-DC PUD
Note Type:* APPLICATION COMMENTS
Note Code:
Text:* Developer will need to contact the PUD and sign an Application for Service. The PUD will create an estimate that must be paid prior to final approval.
Begin Date:* 06/10/2024
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DOUGLAS COUNTY SEWER DISTRICT NO. 1
692 Eastmont Avenue
East Wenatchee, WA 98802
(509) 884-2484 ♦ Fax (509) 884-8091

June 14, 2024

Douglas County Transportation & Land Services

RE: P-2024-01 Ackerman-Hurst Subdivision, 31 lots

Developer: Ackerman Construction & Hurst Holdings

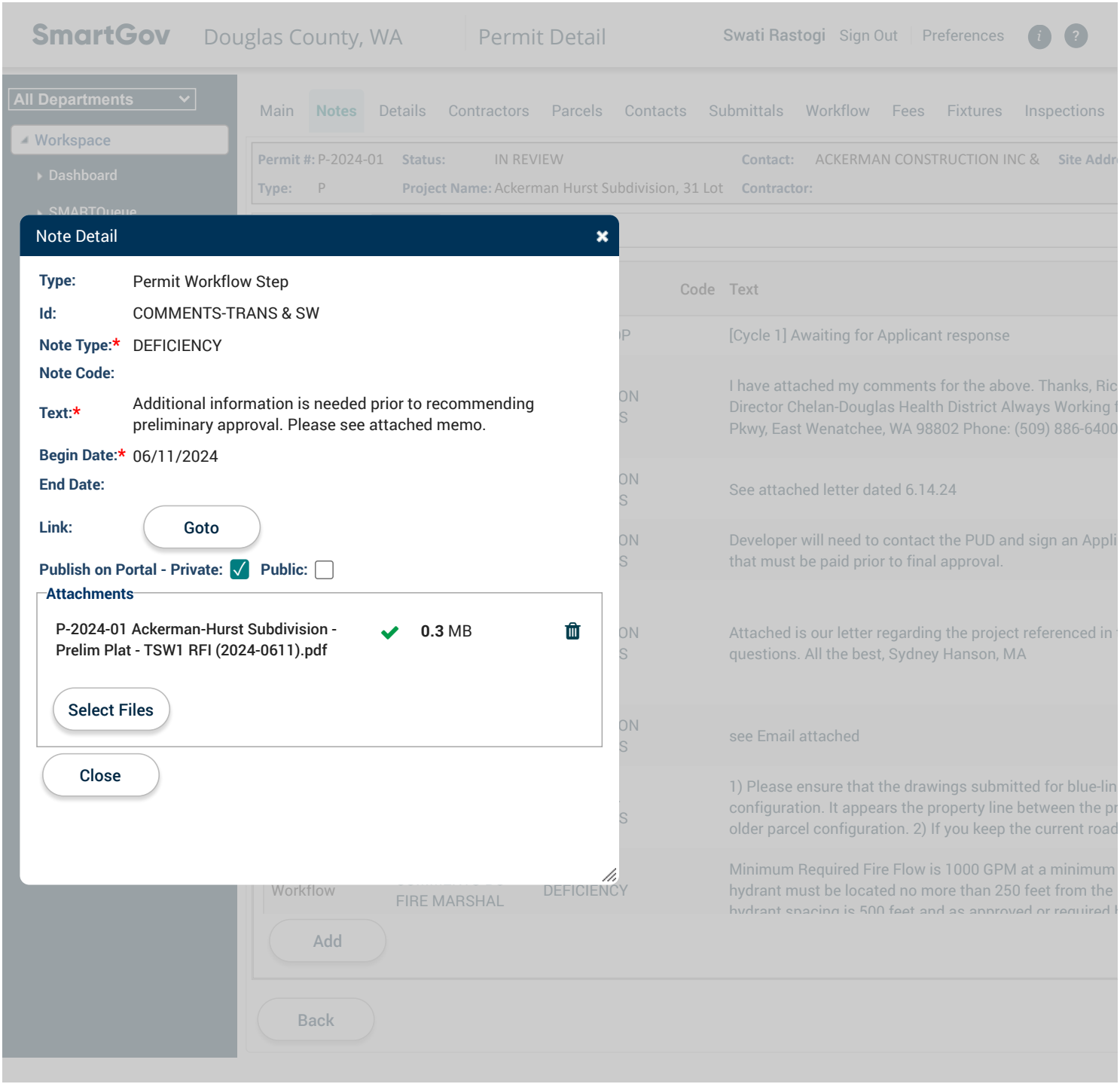
Application Comments:
An extension of public sewer will be required to serve the subdivision, and the developer will need to initiate a Developer Extension Application/Agreement (DEA) with the Sewer District.

All sewer improvements must be constructed and accepted by the Sewer District, or a Performance Bond for 125% of the total value of all sewer improvements must be provided to the Sewer District, prior to final plat approval.

Thank you,

Kurt Hosman

Douglas County Sewer District No. 1
692 Eastmont Ave
East Wenatchee, WA 98802
509-884-2484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Permit #: P-2024-01
Status: IN REVIEW
Contact: ACKERMAN CONSTRUCTION INC &
Type: P
Project Name: Ackerman Hurst Subdivision, 31 Lot
Contractor:
Code
Text
[Cycle 1] Awaiting for Applicant response
I have attached my comments for the above. Thanks, Ric
Director Chelan-Douglas Health District Always Working
Pkwy, East Wenatchee, WA 98802 Phone: (509) 886-6400
See attached letter dated 6.14.24
Developer will need to contact the PUD and sign an Appli
that must be paid prior to final approval.
Attached is our letter regarding the project referenced in
questions. All the best, Sydney Hanson, MA
see Email attached
1) Please ensure that the drawings submitted for blue-lin
configuration. It appears the property line between the pr
older parcel configuration. 2) If you keep the current road
Minimum Required Fire Flow is 1000 GPM at a minimum
hydrant must be located no more than 250 feet from the
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Note Detail
Type: Permit Workflow Step
Id: COMMENTS-TRANS & SW
Note Type:* DEFICIENCY
Note Code:
Text:* Additional information is needed prior to recommending preliminary approval. Please see attached memo.
Begin Date:* 06/11/2024
End Date:
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P-2024-01 Ackerman-Hurst Subdivision - Prelim Plat - TSW1 RFI (2024-0611).pdf
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DOUGLAS COUNTY
TRANSPORTATION & LAND SERVICES

MEMO

DATE: June 11, 2024

TO: Swati Rastogi

FROM: Jordan Brown and Mike Neer

RE: P-2024-01 Ackerman-Hurst Residential Subdivision
Preliminary Plat Review 1
Transportation & Stormwater Comments
Request for Additional Information

Additional information is required prior to Transportation & Stormwater recommendations for preliminary approval.

1. Initial application materials reviewed by Douglas County Transportation and Stormwater include:
   - Preliminary Construction plans, prepared by Pacific Engineering, dated February 23, 2024.
   - Preliminary Stormwater Drainage Report, prepared by Pacific Engineering, dated February 22, 2024.
   - Preliminary Plat Drawing, prepared by Complete Design, dated February 12, 2024.

Prior to recommending preliminary approval, the following additional information shall be provided:

1. A traffic impact analysis (TIA) report was not found in the application materials received. Provide the TIA with the next submittal.
2. The project narrative and preliminary civil plans indicate that the applicant intends to construct transportation system/frontage improvements along S Nile Ave from the proposed road connection to S Nile to the southern plat boundary. No transportation system/frontage improvements are proposed north of the proposed connection to S Nile Ave. This is acceptable to Douglas County.

   The preliminary plat indicates right-of-way along S Nile Ave, which is required to construct roadway improvements, will be dedicated concurrently with the recording of the plat. The parcel (APN 22211840027) that separates the proposed subdivision from S Nile Ave is not currently included on the proposed plat and the developer has stated it is not substantially under the same ownership as the development parcel. As a result, the county is unable to include a condition for the proposed plat that would require this right-of-way be dedicated from parcel 22211840027 and therefore the County would be unable to recommend preliminary plat approval as there would be no mechanism to provide connection to S Nile Ave.

   The following are two potential options that would allow the County Transportation Department to recommend preliminary approval and prepare preliminary plat conditions of approval:

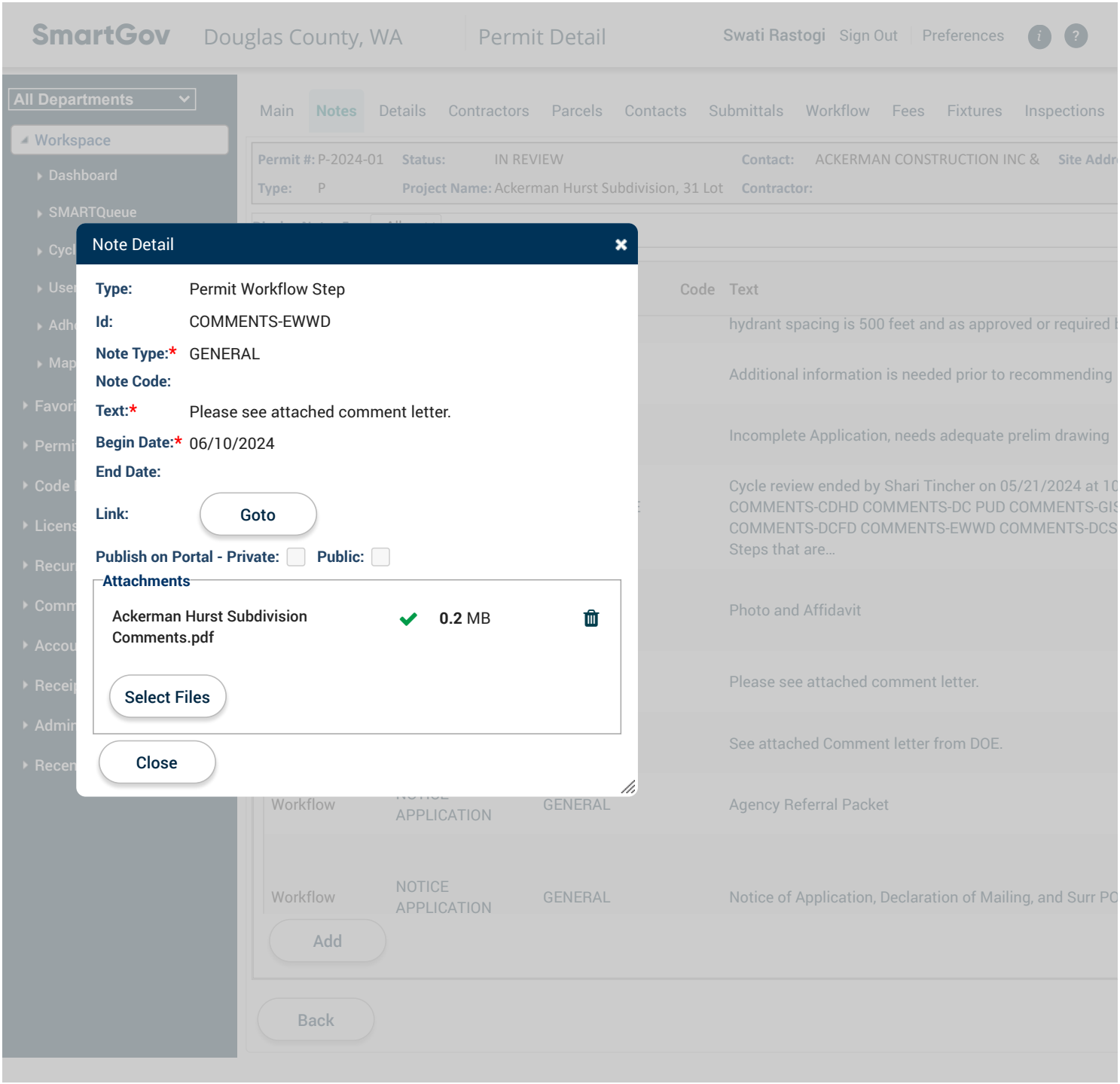
   a. The right-of-way could be dedicated prior to the preliminary plat approval; OR
   b. The parcel separating the plat from the existing S Nile Ave right-of-way could be included with the proposed plat allowing the right-of-way dedication to be a preliminary plat condition of approval. A deferred improvement agreement would not be required for frontage improvements north of the proposed roadway connection to S Nile Ave.

Option “b” is consistent with what is being proposed by the applicant and would allow processing of this plat to move forward.

3. Please revise the plat and construction drawings consistently show existing and proposed right-of-way/property lines.

Please feel free contact the Transportation Department for further coordination.

Upon receipt of the additional information requested, the suggested findings of fact and recommended conditions of approval will be prepared/updated as necessary.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Inspections
Permit #: P-2024-01
Status: IN REVIEW
Contact: ACKERMAN CONSTRUCTION INC &
Type: P
Project Name: Ackerman Hurst Subdivision, 31 Lot
Contractor:
Code
Text
hydrant spacing is 500 feet and as approved or required
Additional information is needed prior to recommending
Incomplete Application, needs adequate prelim drawing
Cycle review ended by Shari Tincher on 05/21/2024 at 10
COMMENTS-CDHD COMMENTS-DC PUD COMMENTS-GIS
COMMENTS-DCFD COMMENTS-EWWD COMMENTS-DCS
Steps that are...
Photo and Affidavit
Please see attached comment letter.
See attached Comment letter from DOE.
Workflow
APPLICATION
GENERAL
Agency Referral Packet
Workflow
NOTICE
APPLICATION
GENERAL
Notice of Application, Declaration of Mailing, and Surr PO
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Note Type:* GENERAL
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Text:* Please see attached comment letter.
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Public:
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Ackerman Hurst Subdivision Comments.pdf
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COMMISSIONERS:
Terry Barnes
Nick Warner
Tracy Petersen

Vince Johnston, Manager

East Wenatchee Water District

(509) 884-3569 • Fax (509) 886-0550 • 692 Eastmont Avenue • East Wenatchee, WA 98802

June 9, 2024

Douglas County Transportation & Land Services

RE: Ackerman Hurst 31 Lot Subdivision
P-2024-01

Attention: Tanner Ackley,

Water is available per this request. A DEA (developer line extension agreement) will be required prior to plan submittals for the Water District's review. Requirements for fire flow will meet the standards of the Douglas County Fire Marshall and all required improvements will be per current District Design Standards and Specifications.

The Developer will assume all of the District's costs for this proposal including inspections, testing and permits. After construction is completed and accepted by the District, a 2-year Maintenance/Warranty Bond will be required.

Thank You,

Colby Thorpe
East Wenatchee Water District
692 Eastmont Ave.
East Wenatchee, WA 98802
509 884-3569

Amber Cook (x6563)

From: Swift, Jessica (ECY) <jswi461@ECY.WA.GOV>
Sent: Thursday, June 6, 2024 1:55 PM
To: Amber Cook (x6563)
Cc: ECY RE CRO SEPA Coordinator
Subject: 202402242 Comments
Attachments: 202402242_Comments.pdf

Please see the attached comment letter for the ACKERMAN CONSTRUCTION, INC. & HURST HOLDINGS,LLC.

Share these comments with the applicant.

Sent on behalf of the SEPA Coordinator.

Jessica Swift (she/her)
Administrative Assistant to
David Bowen, Central Region Director
Washington State Department of Ecology
Work cell 509-379-0702

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

June 6, 2024

Amber Cook
Douglas County
140 19th Street NW
Suite A
East Wenatchee, WA 98802

RE: P-2024-01; 202402242

Dear Amber Cook,

Thank you for the opportunity to comment on the Notice of Application for the **ACKERMAN CONSTRUCTION, INC. & HURST HOLDINGS,LLC.** We have reviewed the application and have the following comment.

Toxics Cleanup Program:
Thank you for the opportunity to comment on your proposed project.

The sampling completed shows any lead or arsenic is below Washington State cleanup standards (Model Toxics Control Act (Chapter 173-340 WAC)).

Ecology does not require further action to address this issue.

Please contact Hector Casique, Project Manager, at (509) 208-1288 or email hector.casique@ecy.wa.gov, for further information.

Water Quality Program:
Project with Potential to Discharge Off-Site

If your project anticipates disturbing ground with the potential for stormwater discharge off-site, the NPDES Construction Stormwater General Permit is recommended. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit may take 38-60 days.

The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) shall be prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water and storm drains

by stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading, or construction.

In the event that an unpermitted Stormwater discharge does occur off-site, it is a violation of Chapter 90.48 RCW, Water Pollution Control and is subject to enforcement action.

More information on the stormwater program may be found on Ecology's stormwater website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/. Please submit an application or contact **Wendy Neet** at the Dept. of Ecology, (509) (509) 571-6733. or wnee461@ecy.wa.gov with questions about this permit.

Sincerely,

Jessica Swift

Jessica Swift
On behalf of SEPA Coordinator
Central Regional Office
509-379-0702
crosepacoordinator@ecy.wa.gov

DOUGLAS COUNTY
TRANSPORTATION & LAND SERVICES
140 19TH STREET NW, SUITE A • EAST WENATCHEE, WA 98802
PHONE: (509) 884-7173 • FAX: (509) 886-3954
www.douglascountywa.net

SEPA DETERMINATION OF NONSIGNIFICANCE
ISSUED BY DOUGLAS COUNTY
TRANSPORTATION AND LAND SERVICES

Description of Proposal: A subdivision application requesting the creation of thirty-one lots ranging in size from 0.23 acres to 0.39 acres. The subject property is approximately 10.63 acres in size and is located at 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is zoned Residential Low Density (R-L) and situated in the unincorporated Douglas County's Urban Growth Area of East Wenatchee. This project is pursued under Douglas County Application # P-2024-01.

Proponent: Ackerman Construction, Inc. and Hurst Holdings, LLC

Location of Proposal: The site address is 2347 8th Street SE, East Wenatchee, WA 98802. The subject property is located off of S. Nile Avenue in Section 18, Township 22N, Range 21E, W.M. Douglas County Assessor's Parcel Numbers: 22211840015 and 22211840027.

Lead Agency: Douglas County Transportation and Land Services

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after reviewing a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

____ There is no comment period for this DNS.

_**X**_ This DNS is issued after using the optional DNS process in WAC 197-11- 355. There is no further comment period on this DNS.

____ This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 30 days.

Responsible Official: Kazi Haque, Planning Director

Contact person: Swati Rastogi, Principal Planner

Address: 140 19th Street NW, East Wenatchee, Washington 98802 **Phone:** 509.884.7173

Date: July 30, 2024 **Signature:** SRastogi

DOUGLAS COUNTY
TRANSPORTATION & LAND SERVICES
140 19TH STREET NW, SUITE A • EAST WENATCHEE, WA 98802
PHONE: (509) 884-7173 • FAX: (509) 886-3954
www.douglascountywa.net

NOTICE OF COMPLETE APPLICATION

May 23, 2024

APPLICANT: Ackerman Construction, Inc. and Hurst Holdings, LLC,
2755 8th Street SE,
East Wenatchee, WA 98802

PROJECT: P-2024-01 (Ackerman Hurst Subdivision)

PARCELS: 22211840015, 22211840027

LOCATION: 2347 8th Street SE,
East Wenatchee, WA 98802

The application materials submitted for the above-described application are considered complete. **Please be advised that additional information may still be required; and anticipate a Request for Additional Information**.

Posting a Notice of Application on the property for a fourteen-day period is required per RCW 36.70B.110(2)(e). Douglas County will contact you regarding the Notice of Application for site posting. Post the notice on the property along the public street and visible to travelers. When the posting period is over, please return the posting notice, signboard, a notarized affidavit of posting and a picture of the signboard/ notice posted on the property. There is a fifty-dollar replacement fee if the materials are returned damaged.

Douglas County Code Chapter 14.08.050 authorizes alternative notice for rural properties. In addition to posting notice on the property, our office will mail a copy of the Notice of Application to all surrounding property owners within 500 feet of the project site.

Sincerely,

Swati Rastogi
Principal Planner – Land Services

Revised

P-2024-01

RE

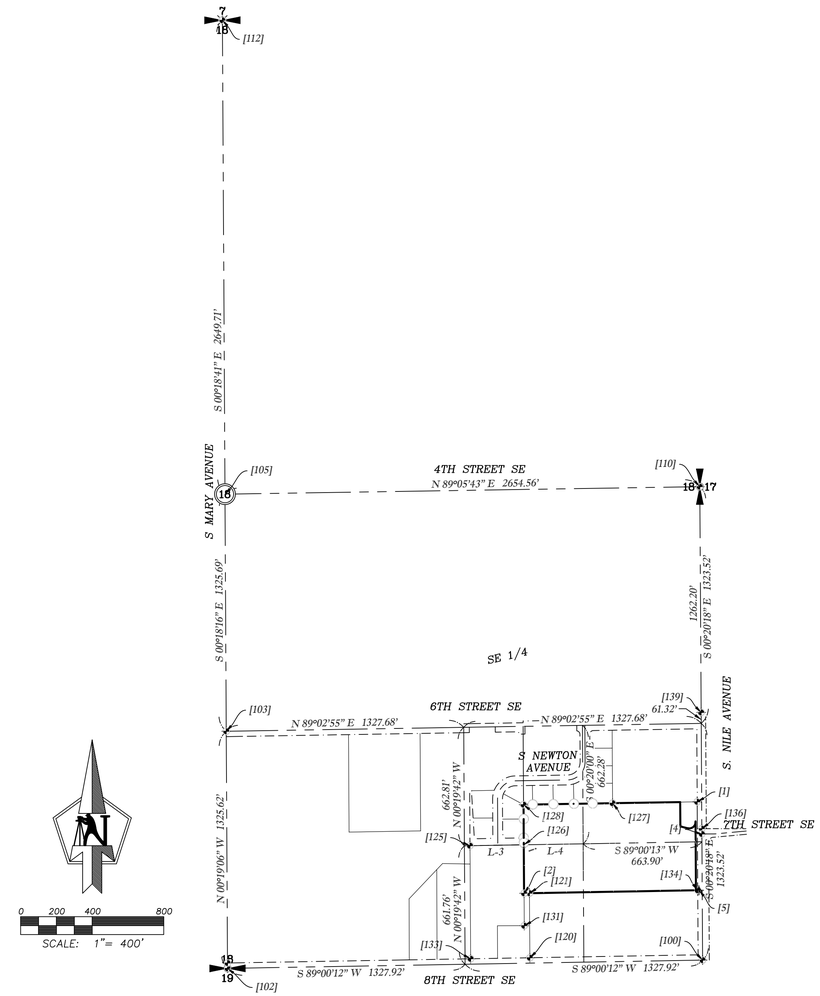
[redacted]

5/21/24

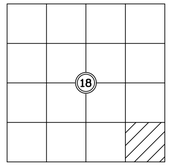
[redacted]

5.

Jessie Hunt



T. 22 N., R. 21 E., W.M.,



SE 1/4 OF THE SE 1/4
SECTION 18

Parcel Line Table		
Line #	Direction	Length
L-1	N 89°15'04" E	25.00
L-2	S 0°45'00" E	22.06
L-3	S 89°00'10" W	331.94
L-4	S 89°04'50" W	331.96
L-5	N 45°45'00" W	20.42
L-6	S 1°00'14" E	21.98
L-7	S 1°13'39" E	0.50
L-8	S 89°12'53" W	21.84
L-9	S 89°05'14" W	5.01
L-10	N 74°19'13" W	59.79
L-11	N 1°00'15" W	12.68
L-12	S 88°17'42" W	42.64
L-13	N 89°47'43" W	42.64
L-14	S 44°15'00" W	20.42
L-15	N 0°45'00" W	22.46
L-16	N 89°01'52" E	16.07
L-17	N 89°04'16" E	21.07
L-18	N 89°03'09" E	55.15
L-20	N 0°19'11" W	11.00
L-22	N 0°19'11" W	27.50
L-24	N 0°45'05" W	21.50
L-25	N 89°13'34" E	16.99
L-26	S 89°13'34" W	22.15
L-27	S 1°02'56" E	28.23

Parcel Curve Table					
Curve	Length	Radius	Delta	Course	Chord
C-1	42.41	27.00	90°00'12"	N 44°15'06" E	38.18
C-2	57.11	36.00	90°53'32"	S 45°26'55" E	51.31
C-3	56.27	36.00	89°33'00"	N 44°19'49" E	50.71
C-4	35.46	41.04	49°30'37"	N 25°58'57" W	34.37
C-5	19.19	22.00	49°59'16"	S 25°44'38" E	18.59
C-6	70.58	181.00	22°20'35"	N 77°52'52" E	70.14
C-7	72.95	187.07	22°20'35"	N 77°52'52" E	72.49
C-8	52.53	181.00	16°37'38"	S 82°38'02" E	52.34
C-10	30.80	36.00	49°00'43"	S 26°14'20" E	29.86
C-11	35.42	41.00	49°30'13"	N 24°29'35" E	34.33
C-12	19.20	22.00	49°59'41"	N 24°14'50" E	18.59
C-13	23.56	27.00	49°59'41"	S 25°44'51" E	22.82
C-14	60.83	156.00	22°20'35"	N 77°52'52" E	60.45
C-15	63.58	212.07	17°10'38"	S 75°17'53" W	63.34
C-16	53.47	206.00	14°52'24"	N 81°45'25" W	53.32
C-17	6.31	206.00	1°45'14"	S 89°55'46" W	6.31
C-18	60.92	35.00	99°44'26"	N 49°32'29" E	53.51
C-19	19.38	176.85	6°16'38"	S 77°27'32" E	19.37
C-20	51.76	35.00	84°43'52"	N 42°42'32" W	47.17
C-21	42.60	226.85	10°45'33"	S 79°42'00" E	42.54
C-22	19.12	212.07	5°09'57"	S 86°28'11" W	19.11
C-23	45.27	156.00	16°37'38"	N 82°38'02" W	45.11
C-24	47.03	162.07	16°37'33"	S 80°44'23" W	46.86
C-25	16.17	162.07	5°43'02"	S 69°34'05" W	16.17
C-26	25.01	206.00	6°57'21"	N 70°11'15" E	24.99
C-27	55.32	206.00	15°23'14"	N 81°21'32" E	55.16
C-28	19.20	22.00	49°59'41"	N 24°14'50" E	18.59
C-29	53.98	41.00	75°26'23"	S 11°31'29" W	50.17
C-30	36.03	35.50	58°09'02"	S 59°32'07" E	34.50
C-31	56.63	35.50	91°23'49"	N 45°41'28" E	50.81
C-32	42.42	27.00	90°01'26"	S 45°45'43" E	38.19
C-33	56.41	201.85	16°00'48"	S 82°19'37" E	56.23

LEGEND	
	Clean Out
S	Sewer Manhole
D	Drain / Slotted Drain Manhole
	Catch Basin
	Fire Hydrant
WM	Water Meter
WA	Water Valve
IR	Irrigation Valve
IR	Irrigation Control Box
	Utility Vault
P	Power Pole
P	Power Pole with Transformer
P	Power Pole with Sweep
P	Power Pole with Sweep and Transformer
	Anchor Pole
	Sign
	Edge of Pavement
	Edge of Shoulder
	Edge of Concrete
	Top Retaining Wall
	Bottom Retaining wall
OHP	Overhead Power
UGP UGP	Underground Power
SS SS	Sewer Line
SD SD	Storm Line
WA WA	Water Line

LEGEND	
	Found Monument as noted
	Found Rebar or Rebar & Cap [As Noted]
	Calculated Point Not Set or Found
	Set 5/8" Rebar & Cap: Stamped NWG 22963
	Set 5/8" Rebar & Cap in Monument Case: Stamped NWG 22963
	Easement Notes
	Address
	Right of Way
	Monumented Center Line
	Section Line
	Existing Easement
	Dedicated Easement

MONUMENT NOTES:

[1] Found 5/8" Rebar & Cap Stamped: ERLANDSEN LS 22964. Visited 10/12/21
[2] Found 5/8" Rebar & Cap Stamped: ERLANDSEN LS 46622. Visited 10/12/21
[4] Found 5/8" Rebar & cap in Monument Case Stamped: BILLY STROUD LS 29283. Visited 10/12/21
[5] Found Gin Spike. Visited 10/12/21
[100] Found Track in Concrete in Monument Case. Visited on 04/17/2006
[102] Found 3" Brass Cap in Monument Case. Visited on 04/17/2006
[103] Found 5/8" Rebar in Monument Case. Visited 01/02/2007
[105] Found 5/8" Rebar & Cap Stamped: HORTON DENNIS INC. LS'S 22964, 28240, 24228. Visited 03/17/1999
[108] Found Pin in Concrete in Monument Case. Visited 06/02/2004
[110] Found Brass Cap in Monument Case Stamped: S18 / S17. Visited on 04/17/2006
[112] Found 3" Brass Cap in Monument Case. Visited on 04/17/2006
[120] Found Bent 5/8" Rebar. Visited 01/27/2015
[121] Found 5/8" Rebar & Cap Stamped: ERLANDSEN LS 38434. Visited 04/27/2015
[125] Found 5/8" Rebar and Cap Stamped: ERLANDSEN LS 15340. Visited 05/17/2016
[126] Found 5/8" Rebar. Visited 05/17/2016
[127] Found 5/8" Rebar and Cap Stamped: DAWSON 35155. Visited 05/17/2016
[128] Found 5/8" Rebar and Cap Stamped: DAWSON 35155[102] Found 3" Brass Cap in Monument Case. Visited on 04/17/2006
[131] Found Bent 5/8" Rebar. Visited 06/30/2016
[133] Found 5/8" Rebar and Cap Stamped: ERLANDSEN LS 15340. Visited 6/30/2016
[135] Found 5/8" Rebar & Cap Stamped: NWG 38982. Visited 10/14/2016
[136] Found 3" Brass Cap in Monument Case at 6th St. S.E. and S. Nile Ave. N 0°24'18" E, 61.32 feet from the calculated S1/16 corner of Section 18. Visited on 04/17/1998.
[139] Found 3" Brass Cap in Monument Case Stamped: DOUGLAS CO CL ST INT. 1981. Visited 04/16/1998.

GENERAL NOTES:

1. *The Basis of Bearing is Washington State Plane North Zone NAD 83(91).*
2. *The Vertical Datum is NAVD 88.*
3. *Monuments shown were visited on as noted*
4. *All distances shown on this plat are grid distances. Multiply by a combined scale factor of 1.000014080 to derive ground distance.*
5. *All distances are in U.S. Survey feet.*
6. *Traverse and topography were performed with the Trimble R10 GPS equipment and meets or exceeds the standards contained in WAC 332-130-090. Traverse was not balanced.*

REFERENCE SURVEY:

( ) RECORD OF SURVEY NAKATA ORCHARD INC.
recorded October 4, 2018
AFN: 3216027

SUMMER RUN SUBDIVISION P-16-04
recorded January 23, 2018
AFN: 3209820

LEGAL DESCRIPTION:

A portion of East half of the Southeast quarter of the Southeast quarter, Section 18, Township 22 North, Range 21 E.W.M., Douglas County, Washington.

The basis of bearing is Washington State Plane NAD 83/91. To derive ground distance multiply by a combined scale factor of 1.000014080.

Beginning at the Northeast corner of the East half of the Southeast quarte of eh Southeast quarter, said Section 18;
thence South 00°20'18" East along the East line of said Section 18 a distance of 438.34 feet;
thence South 89°49'57" West a distance of 25.00 feet to the westerly right of way of S Nile Avenue and the True Point of Beginning:

Thence South 89°03'29" West a distance of 95.01 feet; thence South 00°20'18" East a distance of 121.99 feet; thence 40.23 feet through a non-tangent curve having a radius of 182.00 feet, a central angle of 12°39'58", with a chord bearing of South 71°49'08" East for a distance of 40.15 feet; thence South 65°29'09" East a distance of 7.95 feet; thence 43.03 feet through a non-tangent curve having a radius of 35.00 feet, a central angle of 70°26'14", with a chord bearing of North 79°17'44" East for a distance of 40.37 feet; thence South 00°20'18" East a distance of 362.75 feet; thence North 88°59'26" East a distance of 10.00 feet to the westerly right of way of S Nile Avenue; thence North 00°20'18" West along said right of way a distance of 494.46 feet to the True Point of Beginning.

COMPLETE DESIGN INC.
"Construction Design Specialists"
PO Box 1914
Wenatchee, WA. 98807
www.completedesign.cc
contact@completedesign.cc
509.662.3699

ACKERMAN HURST

SUBDIVISION P2022-XXX
T. 22 N. R. 21 E. W.M.
PORTION OF THE SE 1/4 OF THE SE 1/4
SECTION 18

DOUGLAS COUNTY WASHINGTON

ACKERMAN CONSTRUCTION
2755 Eighth Street SE
East Wenatchee, WA 98802

NORMAN D. NELSON
STATE OF WASHINGTON
22963
REGISTERED
PROFESSIONAL LAND SURVEYOR

Job No : 23-0114

Issue	Drawn Date
Draft Set	2024-02-12
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PRELIMINARY

Sheet 1 OF 2

S:\2023 Projects\23-0114 - Ackerman Hurst Plat\Project Name - Surveying\DWG\2024-02-12 ACKERMAN-HURST PRELIMINARY PLAT REV 4.dwg

EASEMENT NOTES:

1. 10' IRRIGATION EASEMENT PER SUMMER RUN SUBDIVISION P-16-04 AFN: 3209820
2. 1' NON-VEHICULAR ACCESS EASEMENT PER SUMMER RUN SUBDIVISION P-16-04 AFN: 3209820 UNTIL SUCH TIME THE FRONTAGE IS IMPROVED, INCLUDING RIGHT OF WAY DEDICATION.
3. 30' GREATER WENATCHEE IRRIGATION EASEMENT PER GREATER WENATCHEE IRRIGATION DISTRICT MAP (POSSIBLE TERMINATED)
4. 10' GREATER WENATCHEE IRRIGATION EASEMENT PER GREATER WENATCHEE IRRIGATION DISTRICT MAP
5. 15' GREATER WENATCHEE IRRIGATION EASEMENT PER GREATER WENATCHEE IRRIGATION DISTRICT MAP
6. 10' WATERLINE / PIPELINE EASEMENT AFN: 3195145.
7. 15' DOUGLAS COUNTY PUD AFN: 3130099
8. 15' x 65' DOUGLAS COUNTY PUD AFN: 232060
9. 20' ROAD EASEMENT AFN: 184919
10. ROAD, HOUSE, & TREES EASEMENT AFN: 3127431
11. 20' ACCESS & UTILITY EASEMENT HEREBY GRANTED THIS PLAT
12. 20' STORM FACILITIES & ACCESS EASEMENT HEREBY GRANTED THIS PLAT

[1] BENCH MARK
N: 144221.8270'
E: 1787445.9950'
Elev: 1063.04'

[2] BENCH MARK
N: 143710.2720'
E: 1786478.2560'
Elev: 1026.99'

RIM ELEV: 1030.40
(Rim ELEV: 1030.92
Inv. ELEV: 1020.30
per Ed Zontek Engineering design plans)

IRRIGATION VALVE WITH FILTER

IRRIGATION VAULT

WIND MACHINE

12" Ø IRRIGATION VAULT

SIGN: NO TRUCKS

SIGN: HIGHLINE GOLF COURSE

SIGN: STOP CONCRETE IRRIGATION VAULT

COMMUNICATIONS MANHOLE

TO BE DEEDED TO THE COUNTY AT THE TIME OF RECORDING OF THIS PLAT

C/L 20' PIPE LINE EASEMENT NILE ORCHARD TRACTS

SUMMER RUN SUBDIVISION P-16-04 AFN 3209820

MARKER 222-118-400-18

G AKERMAN 222-118-400-27 PARCEL B BLA 2023-26 AFN: 3263598

PERKINS 222-118-400-14

HURST 22-21-18-40-019

GABBERT 22-21-18-40-026 (Burden)

SOUTH NEWTON AVENUE (Public)

S NILE AVENUE

SE 7TH STREET

SE 8TH STREET

LOT 1 11789 SQ FT 0.27 ACRES
LOT 2 10189 SQ FT 0.23 ACRES
LOT 3 12302 SQ FT 0.28 ACRES
LOT 4 10740 SQ FT 0.25 ACRES
LOT 5 10120 SQ FT 0.23 ACRES
LOT 6 9988 SQ FT 0.23 ACRES
LOT 7 9988 SQ FT 0.23 ACRES
LOT 8 9987 SQ FT 0.23 ACRES
LOT 9 9987 SQ FT 0.23 ACRES
LOT 10 9986 SQ FT 0.23 ACRES
LOT 11 10566 SQ FT 0.24 ACRES
LOT 12 9951 SQ FT 0.23 ACRES
LOT 13 12772 SQ FT 0.29 ACRES
LOT 14 11258 SQ FT 0.26 ACRES
LOT 15 10985 SQ FT 0.25 ACRES
LOT 16 10484 SQ FT 0.24 ACRES
LOT 17 11226 SQ FT 0.26 ACRES
LOT 18 14373 SQ FT 0.33 ACRES
LOT 19 11265 SQ FT 0.26 ACRES
LOT 20 14548 SQ FT 0.33 ACRES
LOT 21 15666 SQ FT 0.36 ACRES
LOT 22 15243 SQ FT 0.35 ACRES
LOT 23 12226 SQ FT 0.28 ACRES
LOT 24 11418 SQ FT 0.26 ACRES
LOT 25 13648 SQ FT 0.31 ACRES
LOT 26 13489 SQ FT 0.31 ACRES
LOT 27 11958 SQ FT 0.27 ACRES
LOT 28 11836 SQ FT 0.27 ACRES
LOT 29 15763 SQ FT 0.36 ACRES
LOT 30 17076 SQ FT 0.39 ACRES
LOT 31 13577 SQ FT 0.31 ACRES

TRACT A STORM FACILITY 3907 SQ FT 0.09 ACRES
TRACT B STORM FACILITY 3358 SQ FT 0.08 ACRES
TRACT C ACCESS ROAD & UTILITY 10281 SQ FT 0.24 ACRES
TRACT D ACCESS ROAD & UTILITY 11700 SQ FT 0.27 ACRES
TRACT E ACCESS ROAD & UTILITY 10446 SQ FT 0.24 ACRES

Storm & Sewer Invert Table

Point #	Rim levation	Inv. Elev	Pipe	Inv. Elev	Pipe
12210	1036.24	1024.09	8" PVC: E	1023.99	8" PVC: W
12211	1037.66	1027.56	8" PVC: N, E, W		
12212	1042.31	1031.51	8" PVC: N, S		
12214	1051.15	1040.80	8" PVC: N, S, E		
12235	1058.16	1049.21	8" PVC: S		
12243	1020.86	1012.24			

PARCEL AREA TABLE		
TOTAL PRACEL AREA	463,545	10.62
TOTAL LOT AREA	374,425	8.57
LARGEST LOT	17,076	0.39
SMALLEST LOT	9,951	0.23
AVERAGE LOT	12,078	0.28
TOTAL LOT #	31	
TOTAL TRACT AREA	39,692	0.92
TOTAL DEDICATION AREA	49,428	1.13

0 50 100
SCALE: 1"=50'

COMPLETE DESIGN INC.
"Construction Design Specialists"
PO Box 1914
Wenatchee, WA. 98807
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contact@completedesign.cc
509.662.3699

ACKERMAN HURST

SUBDIVISION P2022-XXX
T. 22 N. R. 21 E. W.M.
PORTION OF THE SE 1/4 OF THE SE 1/4
SECTION 18

DOUGLAS COUNTY WASHINGTON

ACKERMAN CONSTRUCTION
2755 Eighth Street SE
East Wenatchee, WA 98802

NORMAN D. NELSON
STATE OF WASHINGTON
22963
REGISTERED PROFESSIONAL LAND SURVEYOR

Job No : 23-0114

Issue	Drawn Date
Draft Set	2024-02-12
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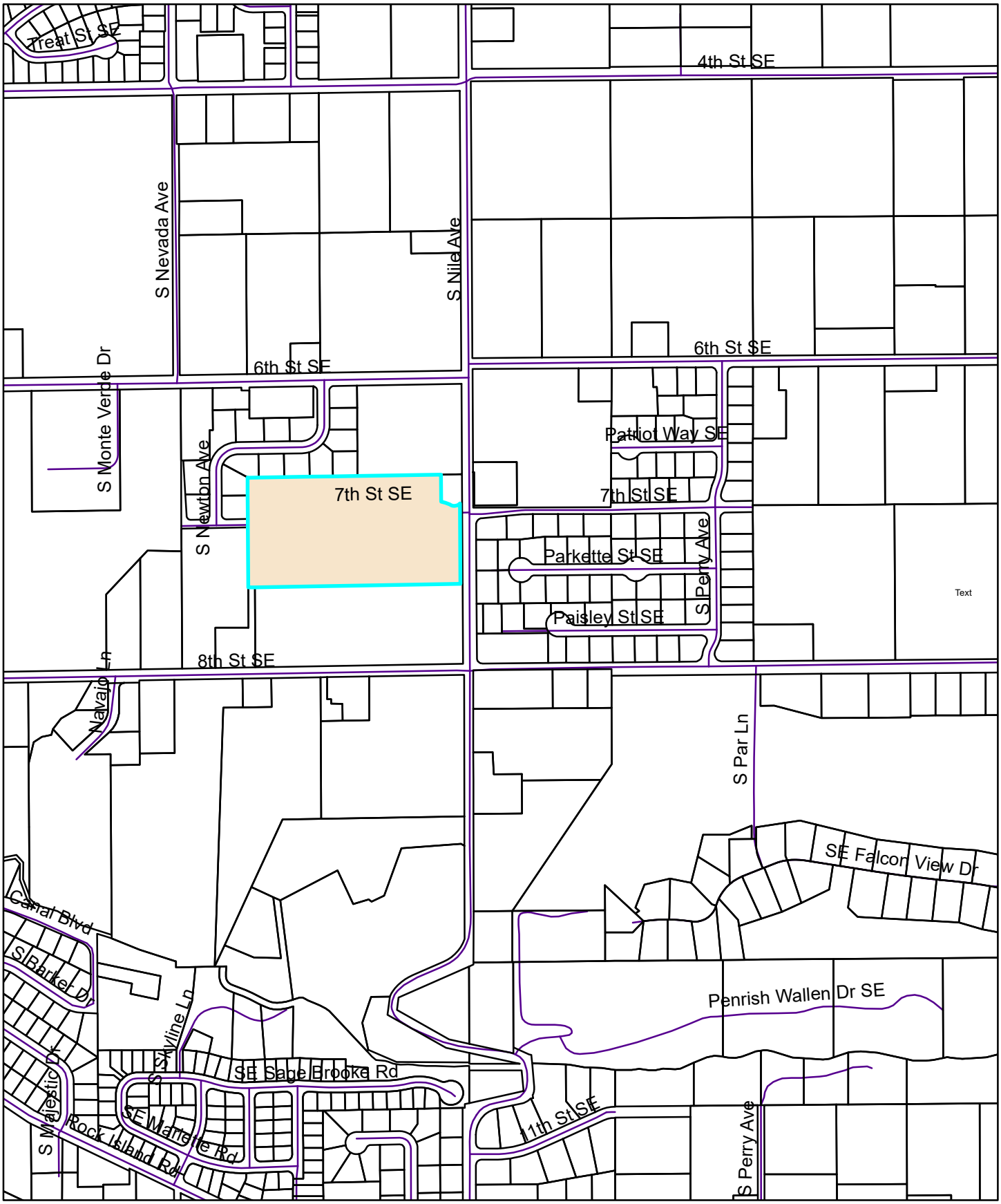
PRELIMINARY

Sheet 2 OF 2

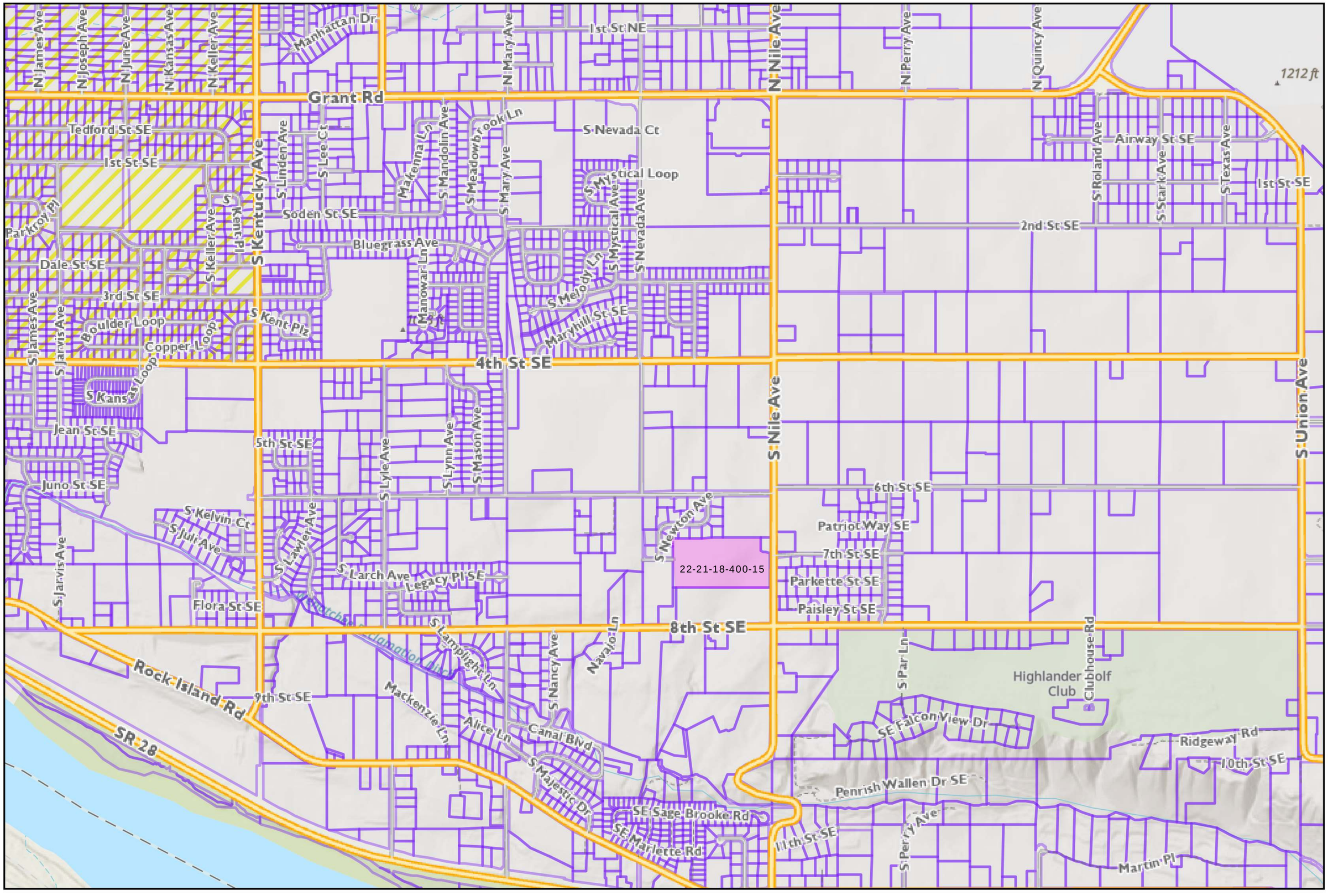
S:\2023 Projects\23-0114 - Ackerman Hurst Plat\Project Name - Surveying\DWG\2024-02-12 ACKERMAN-HURST PRELIMINARY PLAT REV 4.dwg



N
W E
S

1 inch = 600 feet

COMPLETE DESIGN, INC.
P.O. Box 1914
Wenatchee, WA. 98801
509-662-3699
www.completedesign.cc



Douglas County

Date: 5/21/2024

Disclaimer

This map is intended for general information purposes only. Douglas County makes no claim as to the accuracy or current condition of the data shown on this map.

N

0 0.07 0.15 0.3 0.45 mi

NARRATIVE - ACKERMAN-HURST SUBDIVISION

This proposed 31-lot residential development is located in the East Wenatchee Urban Growth Area and have been developed in compliance with the East Wenatchee Municipal Code and Douglas County Code.

Nile Avenue
Property fronting South Nile Avenue will be dedicated on the plat to comply with the urban arterial road standards. Road improvements will include pedestrian and bicycle facilities, lighting, storm facilities, paving etc.

Seventh Street
The interior road, 7th Street has been designed as an urban rural access and will continue through the development to allow for future connectivity. Improvements include pedestrian facilities, lighting, storm facilities, paving etc.

Utilities
Line (utilities) extensions has been designed and will provide each lot with the following utilities.
Power – Douglas County PUD
Water – East Wenatchee Water District
Wastewater – Douglas County Sewer District
Irrigation – Greater Wenatchee Irrigation District
Stormwater - Douglas County and Private

Open Space
The developers have opted to utilize section 17.73.090, that allows payment in lieu of established an on-site open space/recreation area. The development site is approximately 11 acres. The required open space area is 5% or approximately 5.5 acres

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RECEIVED
By DCTLS at 11:13 am, Apr 29, 2024

ENVIRONMENTAL CHECKLIST

A. Background

1.Name of proposed project, if applicable:
ACKERMAN HURST SUBDIVISION

2.Name of applicant:
ACKERMAN CONSTRUCTION, INC AND HURST HOLDINGS, LLC

3.Address and phone number of applicant and contact person:
APPLICANT: ACKERMAN CONSTRUCTION, INC 2755 8TH STREET SE, EAST WENATCHEE, WA 509 679 4629
AND HURST HOLDINGS, LLC 509 679 1956
CONTACT: COMPLETE DESIGN INC., PO BOX 1419 WENATCHEE, WA 98807, 509-662-3699

4.Date checklist prepared:
MARCH 25, 2024

5.Agency requesting checklist:
DOUGLAS COUNTY LAND SERVICES

6.Proposed timing or schedule (including phasing, if applicable):
BEGIN CONSTRUCTION IN FALL 2024

7.Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
NO FUTURE PLANS AT THIS TIME.

8.List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
A TRAFFIC IMPACT ANALYSIS WAS PREPARED BY TENW
TO ADDRESS THE POTENTIAL REQUIREMENT FOR A CULTURAL RESOURCE SURVEY, THE CONFEDERATED TRIBES OF THE COLVILLE RESERVATION WAS EMAILED WITH A REQUEST TO SUBMIT AN INADVERTENT DISCOVERY PLAN IN LIEU OF A SURVEY BASED ON HISTORICAL PHOTOS AND DATE.

9.Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
APPROVAL OF SUBDIVISION APPLICATION DOCUMENTS BY DOUGLAS COUNTY TRANSPORTATION AND LAND SERVICES

10. List any government approvals or permits that will be needed for your proposal, if known.
NPDES CONSTRUCTION STORMWATER PERMIT COVERAGE - ECOLOGY
PROJECT ENGINEERING PLANS – DOUGLAS COUNTY TRANSPORTATION, DOUGLAS COUNTY SEWER DISTRICT, EAST WENATCHEE WATER DISTRICT AND DOUGLAS COUNTY PUD.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
THE SITE IS 11 ACRES LOCATED WEST OF SOUTH NILE AVENUE AND HALFWAY BETWEEN 6TH STREET SE AND 8TH STREET SE. THE PARCEL IS DESCRIBED AS A PORTION OF THE SOUTH ½ OF SECTION 16, TOWNSHIP 22 NORTH, RANGE 21 EAST W.M. THIS PARCEL WILL BE DEVELOPED INTO 3 RESIDENTIAL LOTS, WITH LOTS SIZE RANGING FROM 0.23 ACRE TO 0.36 ACRE. INTERNAL ROADS WILL INCLUDE 7TH STREET SE (PUBLIC) RUNNING EAST-WEST THROUGH DEVELOPMENT AND THREE PRIVATE DRIVEWAYS SERVING FOUR LOTS EAST RUNNING SOUTH FROM 7TH STREET SE.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
THE SITE ADDRESS IS 2347 8TH STREET SE, EAST WENATCHEE, DOUGLAS COUNTY, WA. WHICH IS WEST OF SOUTH NILE AVENUE AND NORTH OF 8TH STREET SE AND WEST OF THE TERMINUS OF 7TH STREET AT NILE.

B. Environmental Elements

1. *Earth*

a. General description of the site:
☐flat ☐rolling ☒ hilly, ☐steep slopes ☐mountainous ☐other

b. What is the steepest slope on the site (approximate percent slope)?
THE STEEPEST SLOPE IS APPROXIMATELY 20 PERCENT.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.
BASED ON NRCS SOILS REPORT DESCRIBED AS BURCH, CASHMERE, BURCH AND PESHASTIN FINE SANDY LOAMS. CLASSIFICATION OF AGRICULTURAL SOILS IS UNKNOWN; HOWEVER, THE SITE IS CURRENTLY USED FOR ORCHARD.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
THERE ARE NO INDICATIONS OF UNSTABLE SOILS NOTED.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
THE EXTENT OF FILLING AND GRADING IS RELATED TO THE CONSTRUCTION OF THE INTERNAL ROAD SYSTEM, GRADING OF THE LOTS AND BUILDING OF NEW SINGLE-

FAMILY HOMES. QUANTITIES ARE UNKNOWN AT THIS TIME. HOWEVER, FILLING OR GRADING WILL BE BALANCED ON SITE.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
EROSION COULD OCCUR DUE TO SITE CLEARING AND CONSTRUCTION. MEASURES WILL BE PUT IN PLACE PRIOR TO CONSTRUCTION TO CONTROL AND REDUCE THE AFFECTS OF RUNOFF.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
40-50 PERCENT INCLUDING ROADWAYS, SIDEWALKS, BUILDINGS AND DRIVEWAYS

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
DURING CONSTRUCTION, EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES SUCH AS SILT FENCE AND STRAW BALES WOULD BE IMPLEMENTED.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.
DURING CONSTRUCTION DUST AND CONSTRUCTION EQUIPMENT EXHAUST WILL BE EMITTED. UPON CONSTRUCTION COMPLETION, AUTOMOBILE EXHAUST AND GAS AND WOOD-BURNING FIREPLACE SMOKE MAYBE EMITTED.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
NONE KNOWN.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
DURING CONSTRUCTION DUST WILL BE CONTROLLED BY WATERING AS REQUIRED INCLUDING, EVENINGS, WEEKENDS AND HOLIDAYS, IF NEEDED.

3. Water

a. Surface Water:
1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
NO

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
NO.

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
DOES NOT APPLY.

4. Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
NO.

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
NO

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
NO

b. Ground Water:
1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
THIS PROJECT REQUIRES NO GROUNDWATER TO BE WITHDRAWN.

2.Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve,
THERE WILL BE NO DISCHARGES INTO THE GROUND ON THIS PROJECT.

c. Water runoff (including stormwater):
1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
STORMWATER RUNOFF FROM RAINFALL AND SNOW MELT FROM IMPERVIOUS SURFACES WILL BE COLLECTED FROM EACH LOT AND ROADS AND DISCHARGED INTO THE STORM WATER SYSTEM, THEN INFILTRATED INTO THE GROUND. QUANTITIES CURRENTLY UNKNOWN.

2. Could waste materials enter ground or surface waters? If so, generally describe.
NO.

3.Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
THIS PROJECT WILL ALTER DRAINAGE PATTERNS ON SITE ONLY. A STORM SYSTEM WILLL BE DESIGNED TO RETAIN ALL POST DEVELOPMENT STORMWATER GENERATED ON THE SITE WITH THE PROPOSED STORMWATER FACILITIES.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
AS PART OF THE DEVELOPMENT PROCESS, STORMWATER MANAGEMENT MEASURES WILL BE IMPLEMENTED TO REDUCE AND CONTROL RUNOFF IMPACTS.

4. Plants

a. Check the types of vegetation found on the site:
☐deciduous tree: alder, maple, aspen, other
☐evergreen tree: fir, cedar, pine, other
☐shrubs
☒grass
☐pasture
☐crop or grain
☒orchards, vineyards or other permanent crops.
☐wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
☐water plants: water lily, eelgrass, milfoil, other
☐other types of vegetation NATIVE VEGETATION AND WEEDS

b. What kind and amount of vegetation will be removed or altered?
ALL VEGETATION WILL BE REMOVED WITH THE GRADING AND CONSTRUCTION OF THE INFRASTRUCTURE AND HOMES. 11 ACRES

c. List threatened and endangered species known to be on or near the site.
NONE KNOWN.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
TYPE OF LANDSCAPING WILL BE DETERMINED BY HOMEOWNERS AND IS CURRENTLY UNKNOWN.

e. List all noxious weeds and invasive species known to be on or near the site.
NONE.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

☒birds: hawk, heron, eagle, songbirds, other:
☒mammals: deer, bear, elk, beaver, other:
☐fish: bass, salmon, trout, herring, shellfish, other

b. List any threatened and endangered species known to be on or near the site.
NONE KNOWN

c. Is the site part of a migration route? If so, explain.
UNKNOWN.

d. Proposed measures to preserve or enhance wildlife, if any:
TYPICAL NEW RESIDENTIAL LOTS WILL PLANT TREES, SHRUBS, ETC. THAT BIRDS AND

VARIOUS SMALL ANIMALS WILL USE AS HABITAT.

e. List any invasive animal species known to be on or near the site.
NONE KNOWN.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
THE PRIMARY ENERGY SOURCE PROBABLY WILL BE ELECTRICITY FOR HEATING, LIGHTING, COOKING, ETC. HOWEVER, ALTERNATE SOURCES SUCH AS SOLAR, WOOD, LP GAS MAYBE USED AS DETERMINED BY THE HOMEOWNERS.

b. Would your project affect the potential use of solar energy by adjacent properties?
If so, generally describe.
NO.

c. What kinds of energy conservation features are included in the plans of this proposal?
List other proposed measures to reduce or control energy impacts, if any:
ALL NEW HOMES IN DOUGLAS COUNTY ARE REQUIRED TO COMPLY WITH THE BUILDING AND ENERGY CONSERVATION REQUIREMENTS.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.
DURING THE DEVELOPMENT OF THE PROJECT, PETROLEUM SPILLS MIGHT OCCUR FROM CONSTRUCTION EQUIPMENT. NO HAZARDOUS WASTE IS ANTICIPATED DURING THE CONSTRUCTION PHASE. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY.

1. Describe any known or possible contamination at the site from present or past uses.
SINCE THE SITE IS AN ORCHARD THERE COULD BE A POTENTIAL FOR LEAD AND ARSENIC IN THE SOIL

2. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
THERE ARE NO KNOWN OR DISCLOSED SOURCES OF HAZARDOUS CHEMICALS OR CONDITIONS AT THIS SITE. HOWEVER, SINCE THE SITE IS AN ORCHARD THERE COULD BE A POTENTIAL FOR LEAD AND ARSENIC IN THE SOIL

3.Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
NO TOXIC OR HAZARDOUS CHEMICALS WILL BE STORED, USED OR PRODUCED AS PART OF THIS PROJECT.

4. Describe special emergency services that might be required.
NO SPECIAL EMERGENCY SERVICES WILL BE REQUIRED.

5. Proposed measures to reduce or control environmental health hazards, if any:
NONE PROPOSED.

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
TRAFFIC ON EXISTING ADJACENT STREETS.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
IN THE SHORT TERM, CONSTRUCTION ACTIVITIES WILL CREATE ADDITIONAL NOISE TYPICAL OF ROADWAY, UTILITY AND HOME CONSTRUCTION. IN THE LONG TERM, NOISE CREATED BY THE SUBDIVISION WILL BE ENTIRELY SIMILAR TO THAT OF THE ADJACENT DEVELOPMENTS. HOURS NOISE WOULD COME FROM THE SITE IS REGULATED BY DOUGLAS COUNTY CODE.

3. Proposed measures to reduce or control noise impacts, if any:
NOISE WILL BE REGULATED DURING AND AFTER CONSTRUCTION BY DOUGLAS COUNTY CODES.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
THIS SITE IS CURRENTLY AN ORCHARD. NORTH-HOMES AND VACANT (FORMER ORCHARD), SOUTH -VACANT (FORMER ORCHARD) EAST RESIDENTIAL AND ELECTRICAL SUBSTATION, WEST-RESIDENTIAL.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or non-forest use?
YES, THIS SITE IS AN ORCHARD I.E. FARMLANDS. HOWEVER, AS ZONED RESIDENTIAL, IT IS NOT AGRICULTURAL LAND OF LONG TERM COMMERCIAL SIGNIFICANCE.

1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
NO.

c. Describe any structures on the site.
EXISTING HOUSE AND SHOP/STORAGE STRUCTURE.

d. Will any structures be demolished? If so, what?
YES, BOTH HOUSE AND SHOP/STORAGE STRUCTURES

e. What is the current zoning classification of the site?

RESIDENTIAL LOW-RL, CITY OF EAST WENATCHEE URBAN GROWTH AREA.

f. What is the current comprehensive plan designation of the site?
RESIDENTIAL LOW-RL, CITY OF EAST WENATCHEE URBAN GROWTH AREA.

g. If applicable, what is the current shoreline master program designation of the site?
N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
NO.

i. Approximately how many people would reside or work in the completed project?
BASED ON US CENSUS DATA FOR DOUGLAS COUNTY, THE AVERAGE NUMBER OF PEOPLE PER HOUSEHOLD IS 2.74. THE COMPLETED PROJECT WILL HAVE AN ESTIMATED 88 PEOPLE.

j. Approximately how many people would the completed project displace?
THREE

k. Proposed measures to avoid or reduce displacement impacts, if any:
NONE.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
THIS PROJECT MUST COMPLY WITH THE DOUGLAS COUNTY CODES AND CITY OF EAST WENATCHEE'S REQUIREMENTS IN THE RESIDENTIAL LOW ZONING DISTRICT AND COUNTY WIDE DEVELOPMENT CODES.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:
NONE

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
THERE WILL BE 32 NEW LOTS OF SALE AND EACH NEW HOMEOWNER WILL BUILD WITHIN THEIR INCOME RANGE. LIKELY MID-HIGH INCOME

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
ONE MIDDLE-INCOME

c. Proposed measures to reduce or control housing impacts, if any:
THIS PROJECT IS BEING DEVELOPED WITHIN DOUGLAS COUNTY CODE REQUIREMENTS FOR THE ZONING DISTRICT, THEREFORE NO MEASURES ARE PROPOSED. 31 ADDITIONAL HOUSING UNITS WILL BE CREATED

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
35FT PER ZONING. BUILDING MATERIALS WILL VARY DEPENDING ON HOMEBUILDER CHOICES AND AS MAY BE DICTATED BY COVENANTS

b. What views in the immediate vicinity would be altered or obstructed?
VIEWS FROM HOMES TO THE NORTH MAY BE ALTERED OR OBSTRUCTED.

c. Proposed measures to reduce or control aesthetic impacts, if any:
NOTHING PROPOSED.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
DAYTIME GLARE FROM REFLECTED SUNLIGHT MAY OCCUR INTERMITTENTLY FROM VARIOUS VIEWPOINTS, AS TYPICAL OF RESIDENTIAL DEVELOPMENTS.

b. Could light or glare from the finished project be a safety hazard or interfere with views?
NO.

c. What existing off-site sources of light or glare may affect your proposal?
NONE.

d. Proposed measures to reduce or control light and glare impacts, if any:
NO MEASURES WILL BE IMPLEMENTED.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
NONE

b. Would the proposed project displace any existing recreational uses? If so, describe.
NO.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
PER CITY CODE, A PAYMENT WILL BE MADE IN LIEU OF DEDICATION OF RECREATIONAL FACILITIES

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.
EXISTING FARMHOUSE AND SHOP/STORAGE STRUCTURE MAY BE OLDER THAN 45 YEARS.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation?

This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.
THERE ARE NO VISIBLE LANDMARKS OR FEATURES.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
SINCE THERE IS NO VISIBLE INDICATION OF CULTURAL OR HISTORIC RESOURCES ON THIS SITE, NOTHING IS PROPOSED.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
IF CULTURAL OR HISTORIC RESOURCES ARE DISCOVERED ON THIS SITE DAHP, DOUGLAS COUNTY AND OTHER JURISDICTIONAL AGENCIES WILL BE NOTIFIED.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
THE PRIMARY ACCESS TO THIS SITE IS THE PROPOSED 7TH STREET SE TO BE CONSTRUCTED THROUGH THE SITE BETWEEN SOUTH NILE AVENUE AND SOUTH NEWTON AVENUE.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
THE CLOSEST PUBLIC TRANSIT IN THE AREA IS AT SE 8TH STREET AND KENTUCKY AVENUE, WHICH IS ABOUT ONE MILE.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
THERE WILL BE TWO (2) OFF-STREET PARKING SPACES FOR EACH LOT, A TOTAL OF 64. 2 OR 3 EXISTING SPACES WILL BE ELIMINATED.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).
THERE WILL BE FRONTAGE IMPROVEMENTS ON SOUTH NILE AVE AND THE NEW INTERNAL SUBDIVISION ROAD (7TH STREET SE) AND SHARED DRIVEWAYS. NEW 7TH STREET SE WILL CONNECT TO EXISITNG 7TH STREET SE AND TO S NILE, AND WILL BE REQUIRED TO BE PAVED WITH INSTALLATION OF STORM DRAINAGE, UTILITIES AND PEDESTRIAN FACILITIES. THE SHARED DRIVEWAYS WILL BE PAVED AND HAVE STORM DRAINAGE FACILITIES BUT NO SIDEWALKS.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
NO.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation

models were used to make these estimates.
31 ADDITIONAL LOTS AT 10 TRIPS PER DAY IS 310. THE PEAK HOURS ARE GENERALLY 7 AM TO 8 AM AND 4 PM TO 6 PM.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.
NO.

h. Proposed measures to reduce or control transportation impacts, if any:
NO MEASURES ARE PROPOSED.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.
WITH ANY NEW RESIDENTIAL DEVELOPMENT THERE WILL BE A NEED FOR PUBLIC SERVICES.

b. Proposed measures to reduce or control direct impacts on public services, if any.
NOTHING IS PROPOSED

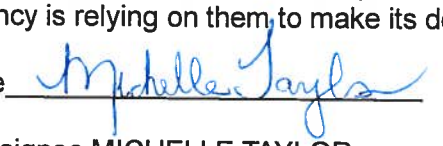
16. Utilities

a. Indicate the utilities currently available at the site:
☒electricity ☐natural gas ☒water ☒ refuse service ☒telephone ☒sanitary sewer ☐septic system ☒other FIBER, CABLE TV

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
ELECTRICITY – DOUGLAS COUNTY PUD
WATER – EAST WENATCHEE WATER DISTRICT
REFUSE SERVICE – WASTE MANAGEMENT
IRRIGATION – GREATER WENATCHEE IRRIGATION DISTRICT
SEWER - DOUGLAS COUNTY SEWER DISTRICT
PHONE – ZIPLY COMMUNICATION
CABLE TV - SPECTRUM

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature 

Name of signee MICHELLE TAYLOR

Position and Agency/Organization: PROJECT MANAGER, COMPLETE DESIGN INC.

Date Submitted: MARCH 25, 2024

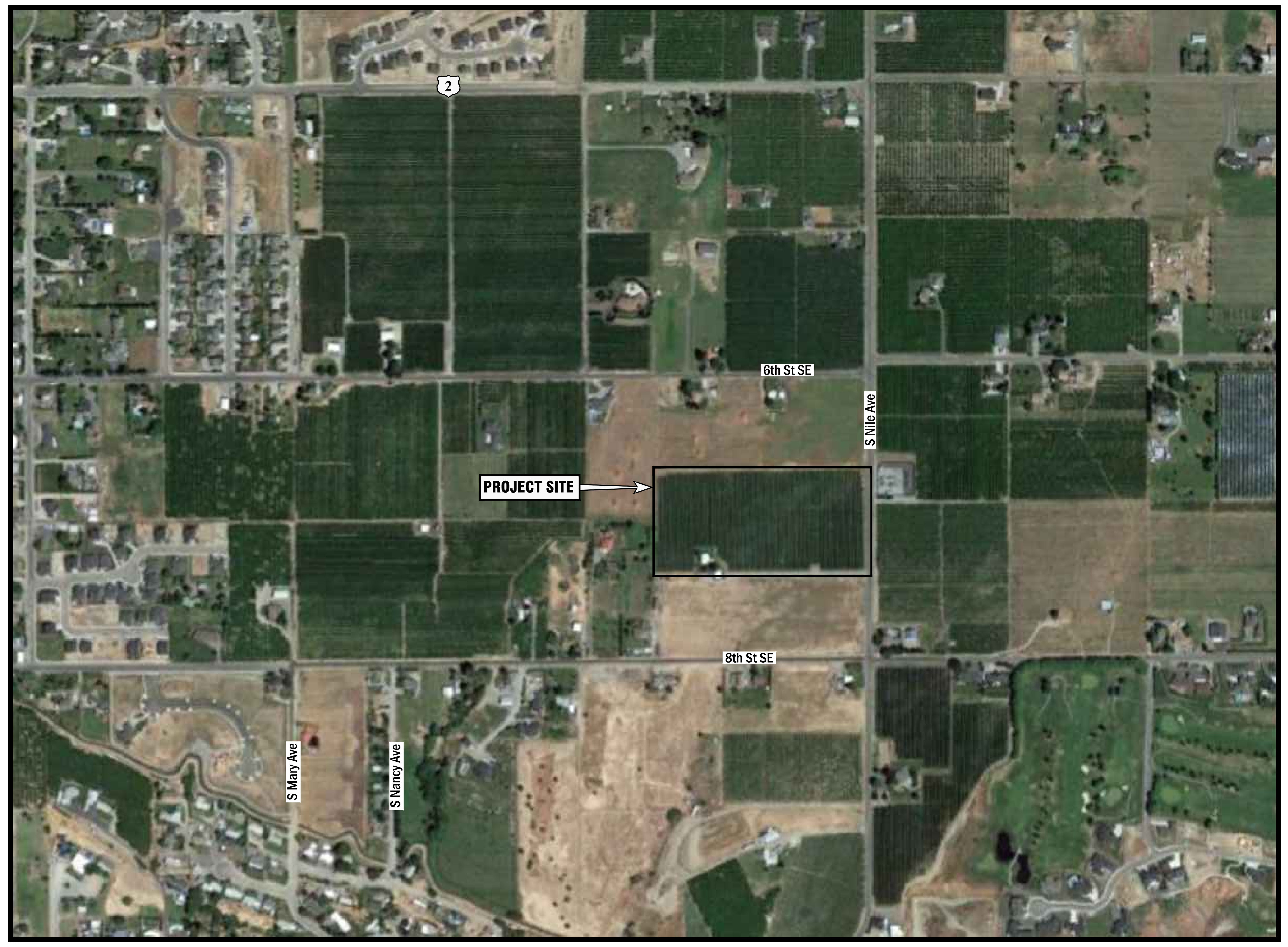
ACKERMAN CONSTRUCTION INC.

ACKERMAN-HURST RESIDENTIAL SUBDIVISION

DOUGLAS COUNTY, WASHINGTON

DRAWING INDEX

C1.0	COVER
C1.1	GENERAL NOTES, LEGEND & ABBREVIATIONS
C2.0	PRELIMINARY ROAD AND STORM PLAN
C2.1	PRELIMINARY PROFILE 7TH ST
C2.2	PRELIMINARY PRIVATE DRIVE A
C2.3	PRELIMINARY PRIVATE DRIVE B & C
C2.5	PRELIMINARY SECTIONS
C3.0	PRELIMINARY UTILITY PLAN



N

VICINITY MAP
SCALE: 1" = 1000'

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION
0	02/23/2024	INITIAL ISSUE

PACIFIC ENGINEERING
CIVIL STRUCTURAL
200 S. COLUMBIA STREET, SUITE 300, WENATCHEE, WA 98801
(509) 662-1161 www.pacificengineering.net

MARTIN P. DAVY, STATE OF WASHINGTON, 34065, REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY

ACKERMAN CONSTRUCTION INC.
ACKERMAN-HURST RESIDENTIAL SUBDIVISION
DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0 1"

COVER

C1.0

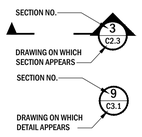
LEGEND

- SD — EXISTING STORM DRAIN
- SS — EXISTING SANITARY SEWER
- FM — EXISTING FORCE MAIN
- W — EXISTING WATER LINE
- OHP — EXISTING OVERHEAD POWER
- UGP — EXISTING UNDERGROUND POWER
- TEL — EXISTING TELEPHONE
- FO — EXISTING FIBER LINE
- IRR — EXISTING IRRIGATION LINE
- GAS — EXISTING GAS LINE
- EXISTING POWER POLE
- EXISTING POWER VAULT
- EXISTING TELEPHONE VAULT OR RISER
- EXISTING DRYWELL OR STORM DRAIN MANHOLE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING WATER WELL
- EXISTING SIGN
- EXISTING EDGE OF PAVEMENT
- 780 — EXISTING MAJOR CONTOUR
- 783 — EXISTING MINOR CONTOUR

- RD — PROPOSED ROOF DRAIN
- SD — PROPOSED STORM DRAIN
- PROPOSED FLOW LINE
- PW — PROPOSED PROCESS WATER LINE
- SS — PROPOSED SANITARY SEWER
- W — PROPOSED DOMESTIC WATER LINE
- FIRE — PROPOSED FIRE LINE
- P — PROPOSED POWER CONDUIT
- FO — PROPOSED FIBER CONDUIT
- PROPOSED FENCE
- PV — PROPOSED POWER VAULT
- PROPOSED SWITCH CABINET
- PROPOSED POWER TRANSFORMER
- FP — PROPOSED FIBER PEDESTAL
- PROPOSED CATCH BASIN
- D — PROPOSED STORM DRAIN MANHOLE
- S — PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED WATER OR IRRIGATION VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SIGN

- 780 — PROPOSED MAJOR CONTOUR
- 783 — PROPOSED MINOR CONTOUR
- × 811.70 — FINISHED GRADE ELEVATION

- RIGHT-OF-WAY LINE
- EASEMENT LINE
- PROPOSED HIGH TRAFFIC HOT MIX ASPHALT SURFACE
- PROPOSED REGULAR HOT MIX ASPHALT SURFACE
- PROPOSED CONCRETE
- PROPOSED GRAVEL SURFACE



SECTION CUT

DETAIL CALLOUT

STANDARD ABBREVIATIONS

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
AC	ACRE	NE	NORTHEAST
ACP	ASPHALT CONC. PAVEMENT	NIC	NOT IN CONTRACT
APPROX.	APPROXIMATE(LY)	NO	NUMBER
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	NTS	NOT TO SCALE
ASSY.	ASSEMBLY	NW	NORTHWEST
AUX	AUXILIARY	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
AVE	AVENUE	OHP	OVERHEAD POWER LINE
AWWA	AMERICAN WATER WORKS ASSOCIATION	OHP&T	OVERHEAD POWER & TELEPHONE
BLDG	BUILDING	OSS	ONSITE SEWAGE SYSTEM
BLVD	BOULEVARD	PC	POINT OF CURVATURE
BMP	BEST MANAGEMENT PRACTICE	PCC	PORTLAND CONCRETE CEMENT
BST	BITUMINOUS SURFACE TREATMENT	PE	PLAIN END
CB	CATCH BASIN	PERF	PERFORATED
CESCL	CERTIFIED EROSION & SEDIMENT CONTROL LEAD	PI	POINT OF INTERSECTION
CF	CUBIC FEET	P/L	PROPERTY LINE
CFM	CUBIC FEET PER MINUTE	PP	POWER POLE
CFS	CUBIC FEET PER SECOND	PROP	PROPOSED
CI	CAST IRON	PRV	PRESSURE REGULATING VALVE
CIP	CAST IRON PIPE	PT	POINT, POINT OF TANGENCY
CJ	CONSTRUCTION JOINT	PUD	PUBLIC UTILITY DISTRICT
℄	CENTERLINE	PVC	POLYVINYL CHLORIDE
CMP	CORRUGATED METAL PIPE	PVI	POINT OF VERTICAL INTERSECTION
CMU	CONCRETE MASONRY UNIT	PVMT	PAVEMENT
CO	CLEANOUT	PWR	POWER
CONC	CONCRETE	QTY	QUANTITY
CONT	CONTINUOUS	R	RADIUS, RANGE, RIGHT
CPE	CORRUGATED POLYETHYLENE	RCP	REINFORCED CONCRETE PIPE
CSBC	CRUSHED SURFACE BASE COURSE	RD	ROAD
CSTC	CRUSHED SURFACE TOP COURSE	REF	REFERENCE
CTR	CENTER	REINF	REINFORCED
CULV	CULVERT	REQD	REQUIRED
DCSD	DOUGLAS COUNTY SEWER DISTRICT	RJ	RESTRAINED JOINT
DI	DUCTILE IRON	RP	RADIUS POINT
DIA	DIAMETER	RR	RAILROAD
DIM	DIMENSION	ROW	RIGHT OF WAY
DIST	DISTRICT	S	SOUTH, SLOPE
DNR	DEPARTMENT OF NATURAL RESOURCES	SCH	SCHEDULE
DWG(S)	DRAWING(S)	SD	STORM DRAIN
E	EAST	SE	SOUTH EAST
EA	EACH	SEC	SECOND
EL.	ELEVATION	SECT	SECTION
EOP	EDGE OF PAVEMENT	SF	SQUARE FEET
EQUIP	EQUIPMENT	SHT	SHEET
ESMT	EASEMENT	SMMEW	STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON
EWWD	EAST WENATCHEE WATER DISTRICT	SPEC	SPECIFICATIONS
EXIST.	EXISTING	SQ	SQUARE
FF	FINISH FLOOR	SS	SANITARY SEWER
FH	FIRE HYDRANT	ST	STREET
FL	FLANGE, FLOW LINE	STA	STATION
FM	FORCE MAIN	STD	STANDARD
FO	FIBER OPTIC	STD PLN	WSDOT STANDARD PLAN
FT	FOOT, FEET	STL	STEEL
G	GAS	SW	SOUTH WEST
GAL	GALLON	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
GALV	GALVANIZED	SY	SQUARE YARD
GPD	GALLONS PER DAY	TAN	TANGENT
GPM	GALLONS PER MINUTE	TBM	TEMPORARY BENCH MARK
GV	GATE VALVE	TC	TOP OF CURB
H	HORIZONTAL	TEMP	TEMPORARY
HDPE	HIGH DENSITY POLYETHYLENE	TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
HOR	HORIZONTAL	THRU	THROUGH
HP	HIGH PRESSURE	TOC	TOP OF CONCRETE
HT	HEIGHT	TYP	TYPICAL
HWY	HIGHWAY	TWP	TOWNSHIP
HYD	HYDRANT	UG	UNDERGROUND
IBC	INTERNATIONAL BUILDING CODE	UGP	UNDERGROUND POWER
ID	INSIDE DIAMETER	U/P	UTILITY POLE
I.E.	INVERT ELEVATION	USGS	UNITED STATES GEOLOGICAL SURVEY
INV	INVERT	UTIL	UTILITY
L	LEFT	V	VERTICAL
LF	LINEAL FOOT, FEET	VAR	VARIES
LS	LUMP SUM	VC	VERTICAL CURVE
MAINT	MAINTENANCE	VFY.	VERIFY
MAX	MAXIMUM	W	WEST
MB	MAILBOX	WA	WATER
MDD	MAXIMUM DRY DENSITY	W/	WITH
MH	MANHOLE	W/O	WITHOUT
MIC	MONUMENT IN CASE	WM	WATER MAIN, WATER METER, WIRE MESH
MIN	MINIMUM	WS	WATER SERVICE
MISC	MISCELLANEOUS	WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
MJ	MECHANICAL JOINT	YD	YARD
MON	MONUMENT	YR	YEAR
MPH	MILES PER HOUR	#	NUMBER, POUNDS
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	&	AND
N	NORTH	@	AT
N/A	NOT APPLICABLE	Ø	DIAMETER, PHASE

GENERAL NOTES

1. ALL WORK ON THE SITE AND WITHIN THE MUNICIPAL RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE MUNICIPAL ENGINEER OR A DESIGNATED REPRESENTATIVE.
2. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
3. ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL RIGHT-OF-WAY, ROAD, UTILITY, ENVIRONMENTAL AND ANY OTHER RELATED PERMITS PRIOR TO CONSTRUCTION ACTIVITY.
5. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE AS-BUILT RECORDS AND SHALL COORDINATE FINAL AS-BUILT RECORD AND PLAN FORMULATION WITH PACIFIC ENGINEERING & DESIGN AS NECESSARY DURING THE PERFORMANCE OF CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL CONSTRUCT ALL IMPROVEMENTS IN ACCORDANCE WITH THE LINES, GRADES AND ROADWAY SECTIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROJECT SURVEYING. THE CONTRACTOR SHALL PROTECT AND MAINTAIN SURVEY BENCHMARKS, CONTROL POINTS, AND MONUMENTS FROM DISTURBANCE DURING CONSTRUCTION.
7. ADJUSTMENTS TO UTILITY AND ROADWAY GRADES MAY BE REQUIRED DURING CONSTRUCTION TO AVOID CONFLICTS. ALL CONFLICTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF PACIFIC ENGINEERING & DESIGN FOR RESOLUTION.
8. ALL UNDERGROUND POWER, TELEPHONE AND CABLE SERVICE CONDUIT SHALL BE INSTALLED BY THE CONTRACTOR IN COORDINATION WITH THEIR RESPECTIVE AGENCIES. LOCATIONS OF TRANSFORMERS, RISERS AND OTHER UNDERGROUND UTILITY APPURTENANCES SHALL BE PER EACH AGENCY PLAN.
9. LOCATION OF ALL PRIVATE IRRIGATION PIPELINES AND APPURTENANCES ARE GENERALLY UNDOCUMENTED. IT IS THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR TO INDEPENDENTLY VERIFY, AVOID AND/OR RELOCATE ANY IRRIGATION UTILITIES SHOWN OR NOT SHOWN ON THE PLANS WHICH MAY BE AFFECTED BY CONSTRUCTION.
10. IF REQUIRED BY THE MUNICIPAL OR UTILITY AGENCY, PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE-CONSTRUCTION CONFERENCE WITH MUNICIPAL/UTILITY PERSONNEL.
11. A COPY OF THESE APPROVED PLANS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS. PLANS APPROVED BY THE MUNICIPAL ENGINEER, UTILITY AGENCY AND SEALED BY THE DESIGN ENGINEER SHALL TAKE PRECEDENCE OVER ALL OTHER PLANS.
12. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE RELOCATION OF ALL EXISTING UTILITIES, INCLUDING BUT NOT LIMITED TO POWER POLES, CONDUIT, LUMINAIRES, TRAFFIC SIGNALS, RISERS, ETC., BY CONTACTING THE APPROPRIATE UTILITY COMPANY.
13. QUALITY ASSURANCE AND QUALITY CONTROL SHOULD BE PROVIDED BY THE OWNER TO ENSURE CONTRACTOR CONSTRUCTS/ INSTALLS ALL APPURTENANCES CONTAINED HEREIN IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CONSTRUCTION DEVIATIONS, MEANS AND METHODS SHOULD BE DOCUMENTED BY INSPECTOR ACCORDINGLY. RECOMMENDED QUALITY CONTROL TESTING INCLUDES, BUT IS NOT LIMITED TO, COMPACTION TESTING AND VISUAL INSPECTIONS FOR SUBGRADES, UTILITY TRENCHES, PIPE INSTALLATIONS, BACKFILL AND BACKFILL MATERIALS, LOW PRESSURE AIR TESTS FOR STORM DRAIN AND SANITARY SEWER SYSTEMS, FORMWORK FOR CEMENT CONCRETE CURBS AND PAVEMENTS, CRUSHED SURFACING PRIOR TO PLACEMENT OF HMA.
14. UNLESS DESIGNATED BY THE OWNER, PACIFIC ENGINEERING & DESIGN DOES NOT PROVIDE CONSTRUCTION ENGINEERING OR CONSTRUCTION MANAGEMENT IN ASSOCIATION WITH THESE PLANS. THOSE SERVICES ARE STRICTLY RESERVED TO THE OWNER AND/OR HIS DESIGNATED REPRESENTATIVE.
15. THE SOILS INFORMATION USED FOR THE STUDY AND DESIGN OF THIS PROJECT WAS DOCUMENTED IN A GEOTECHNICAL ENGINEERING REPORT PREPARED BY _____, DATED _____. THE GEOTECHNICAL REPORT INCLUDES A RECORD OF EXPLORATIONS, DOCUMENTS SUBSURFACE CONDITIONS, AND PROVIDES CONCLUSIONS, RECOMMENDATIONS, AND CONSTRUCTION CONSIDERATIONS RELEVANT TO THE CIVIL SITE WORK. THE CONTRACTOR SHALL PERFORM EARTHWORK IN A MANNER CONSISTENT WITH THE CONSTRUCTION CONSIDERATIONS IN THE GEOTECHNICAL ENGINEERING REPORT. IF AN INCONSISTENCY EXISTS BETWEEN THE SPECIFIC RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL ENGINEERING REPORT AND THE STANDARD SPECIFICATIONS, THE GEOTECHNICAL ENGINEERING REPORT SHALL TAKE PRECEDENCE.
16. PREVENT SURFACE RUNOFF AND GROUNDWATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING THE PROJECT SITE OR SURROUNDING AREA. PREVENT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE FROM SURFACE RUNOFF OR GROUNDWATER. DO NOT USE EXCAVATED TRENCHES TO CONTROL STORMWATER RUNOFF. CONVEY SURFACE RUNOFF AWAY FROM EXCAVATIONS TO PROPER BMPS - SEE T.E.S.C. PLAN.
17. LEGALLY DISPOSE OF ALL SURPLUS AND WASTE MATERIALS.

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REV	DATE	DESCRIPTION
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PACIFIC ENGINEERING
CIVIL STRUCTURAL
200 S. COLUMBIA STREET, SUITE 300, WENATCHEE, WA 98801
(509) 662-1161 www.pacificengineering.net

PRELIMINARY

ACKERMAN CONSTRUCTION INC.

ACKERMAN-HURST RESIDENTIAL SUBDIVISION

DOUGLAS COUNTY, WA

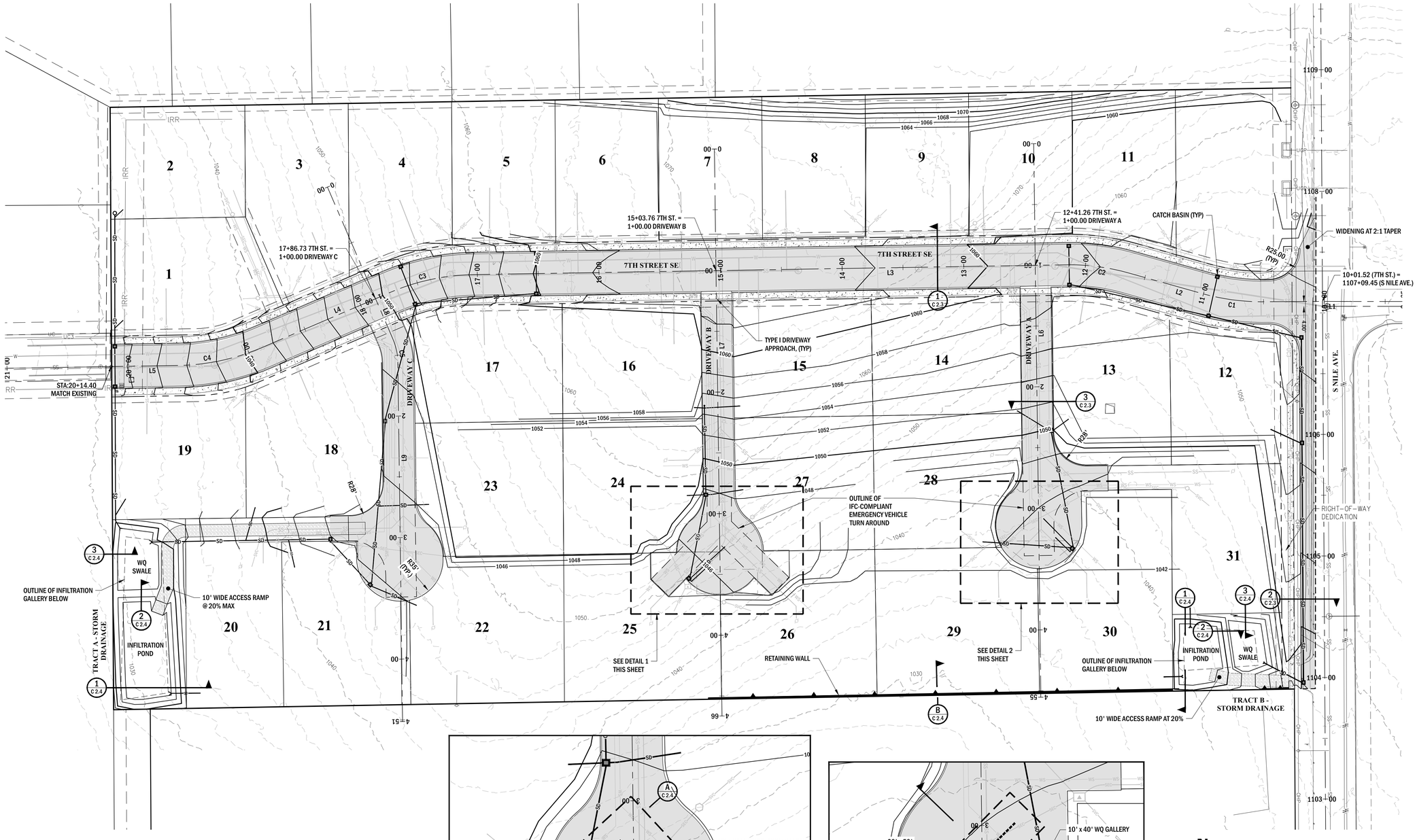
PROJECT NO. 21114CA

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

0 1"

GENERAL NOTES, LEGEND & ABBREVIATIONS

C1.1

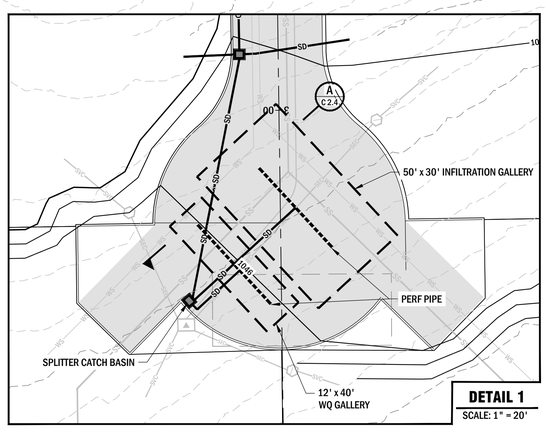


7th St SE				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L1		66.53	N89° 55' 55.04"W	
C1	181.00	49.19	N82° 12' 53.10"W	15°34'14"
L2		63.17	N74° 19' 13.09"W	
C2	181.00	49.53	N82° 09' 36.55"W	15°40'47"
L3		489.82	S89° 03' 09.23"W	
C3	181.00	70.58	S77° 52' 51.84"W	22°20'35"
L4		114.47	S66° 42' 34.45"W	
C4	181.00	70.58	S77° 52' 51.84"W	22°20'35"
L5		200.38	S89° 03' 09.23"W	

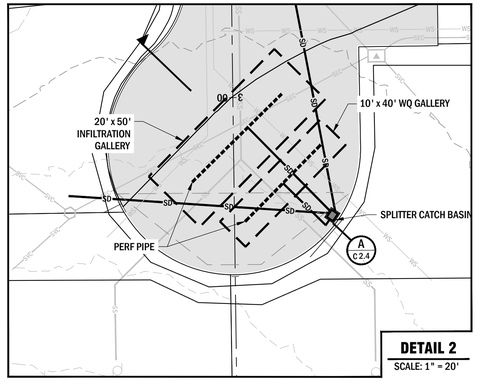
Driveway A				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L6		249.01	S0° 45' 00.22"E	

Driveway B				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L7		266.37	S0° 47' 00.10"E	

Driveway C				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L8		36.11	S23° 17' 25.55"E	
C5	50.00	19.67	S12° 01' 12.89"E	22°32'25"
L9		195.55	S0° 45' 00.22"E	



DETAIL 1
SCALE: 1" = 20'



DETAIL 2
SCALE: 1" = 20'

N

ROAD, GRADING AND STORM PLAN
SCALE: 1" = 40'

NOTE: LOTS 28, 29, & 30 SHALL PROVIDE STORM DRAINAGE FACILITIES TO RETAIN ALL RUNOFF FROM IMPERVIOUS SURFACES WITHIN THE LOT. DESIGN SHALL BE SUBMITTED WITH BUILDING PERMIT APPLICATION

REV	DATE	DESCRIPTION

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CIVIL PROJECT LEADERS
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MARTIN P. DAVY — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 34455

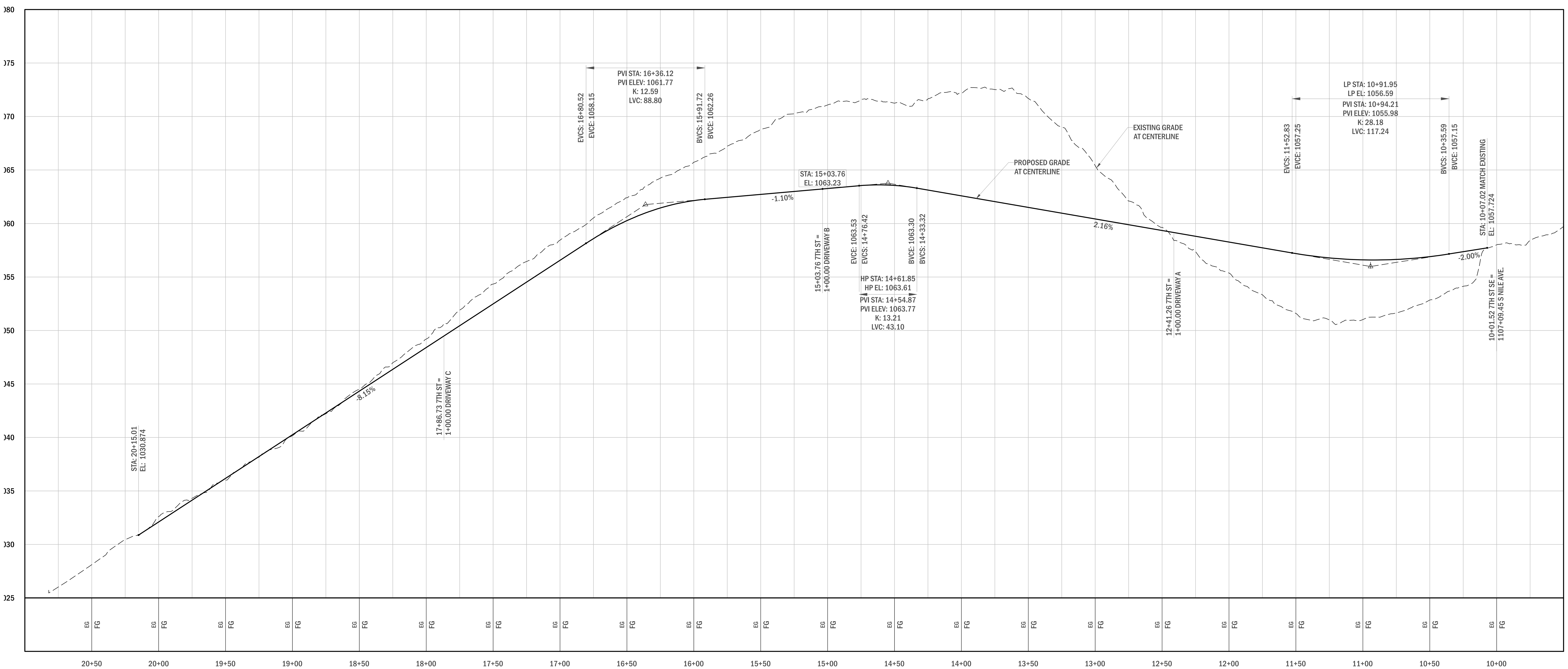
ACKERMAN CONSTRUCTION INC.
ACKERMAN-HURST RESIDENTIAL SUBDIVISION
DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

PRELIMINARY

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0 — 1"

PRELIMINARY ROAD, GRADING & STORM PLAN

C2.0



ROADWAY PROFILE 7TH ST SE

SCALE: 1" = 40' (HORIZ)
1" = 5' (VERT)

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DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

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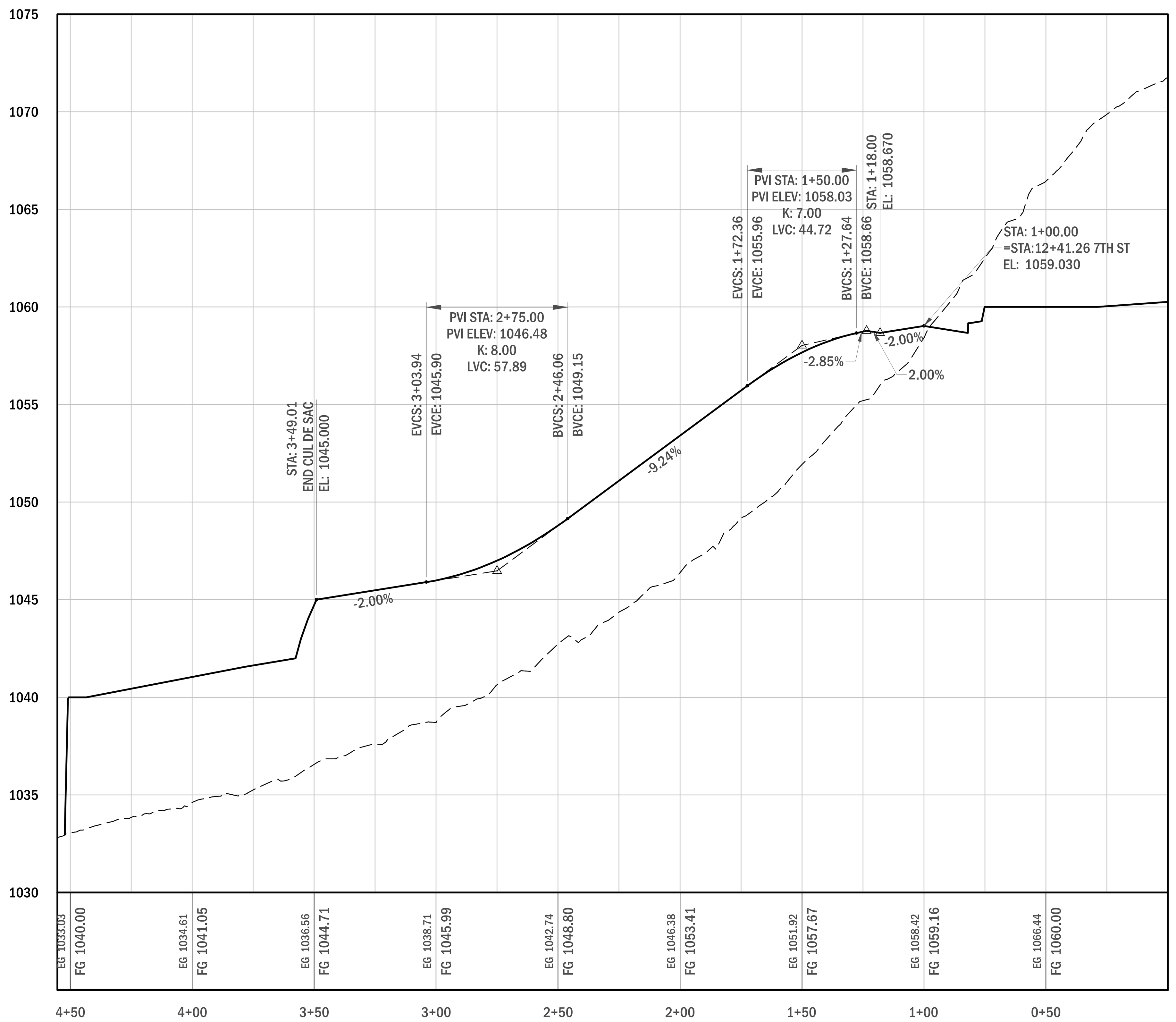
0 1"

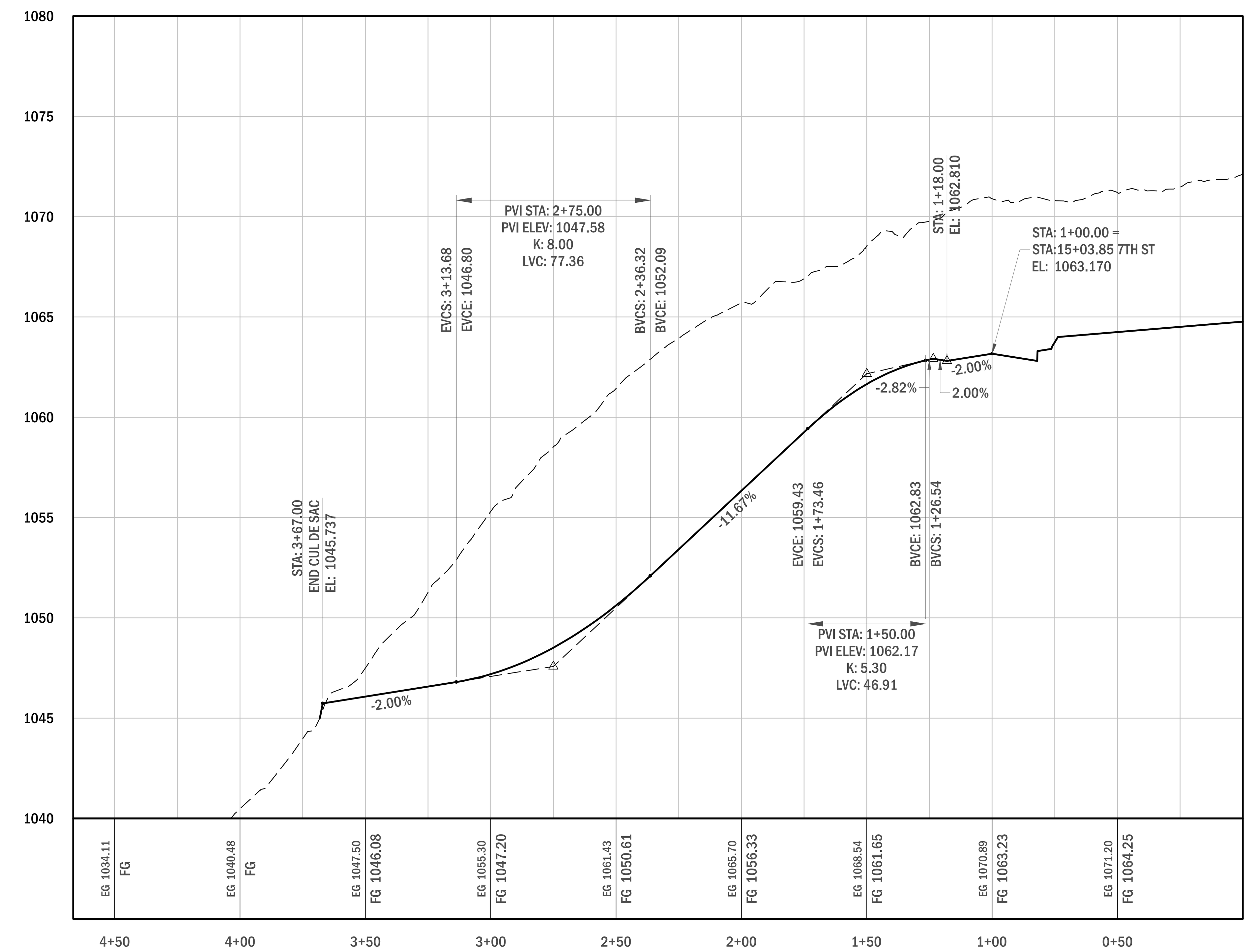
PRELIMINARY PROFILE 7TH ST SE

C2.1



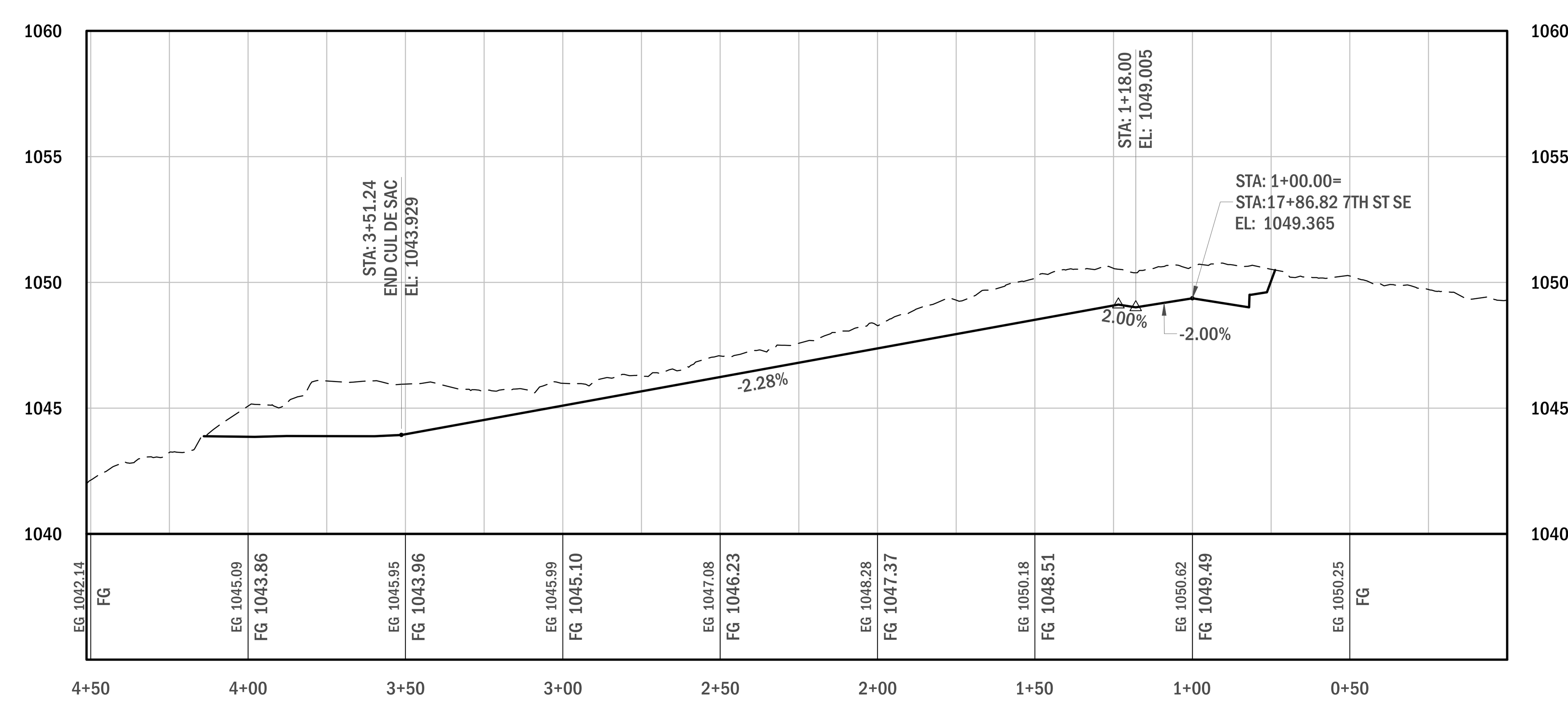
ROADWAY PROFILE DRIVE A

SCALE: 1" = 40' (HORIZ)
1" = 5' (VERT)



ROADWAY PROFILE DRIVE B

SCALE: 1" = 40' (HORIZ)
1" = 5' (VERT)



ROADWAY PROFILE DRIVE C

SCALE: 1" = 40' (HORIZ)
1" = 5' (VERT)

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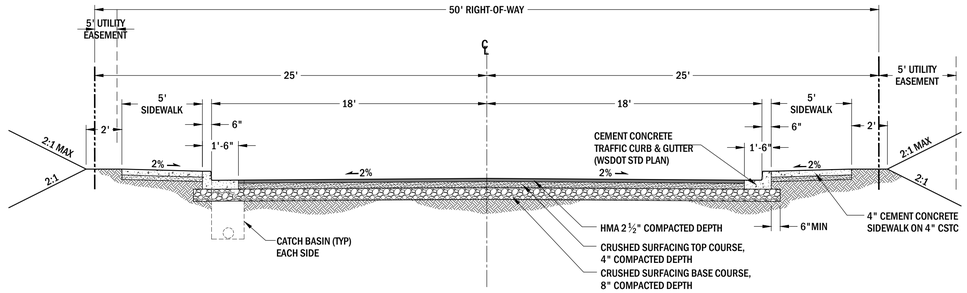
PROJECT NO. 21114CA

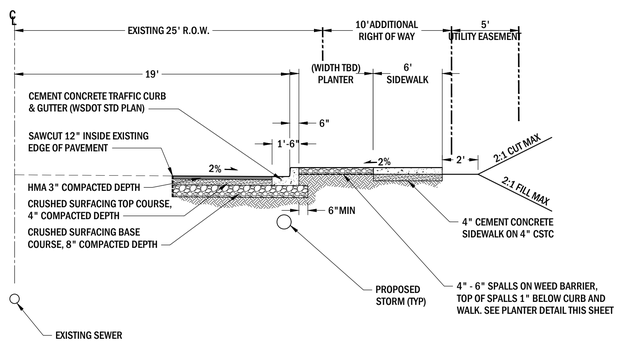
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

PRELIMINARY PROFILE DRIVEWAYS A, B, & C

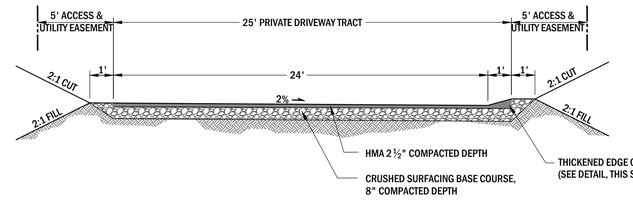
C2.2



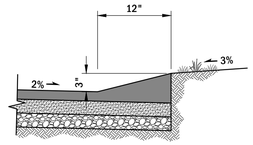
1 7th STREET SE
NOT TO SCALE



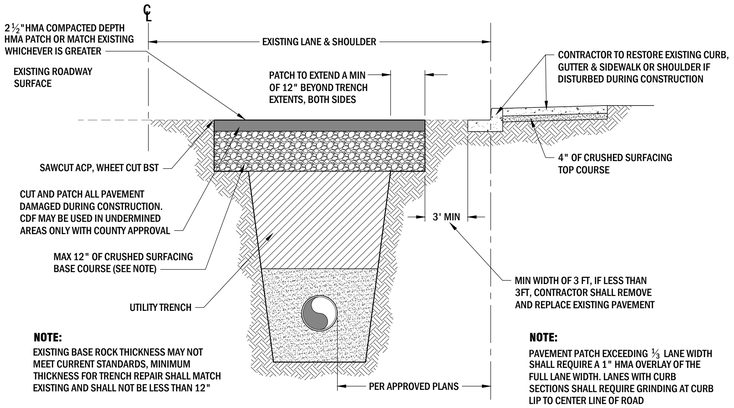
2 SOUTH NILE AVE (SOUTH OF 7TH STREET SE)
NOT TO SCALE



3 TYPICAL PRIVATE DRIVEWAY SECTION
NOT TO SCALE



DETAIL AT THICKENED EDGE
NOT TO SCALE



NOTE:
EXISTING BASE ROCK THICKNESS MAY NOT MEET CURRENT STANDARDS, MINIMUM THICKNESS FOR TRENCH REPAIR SHALL MATCH EXISTING AND SHALL NOT BE LESS THAN 12"

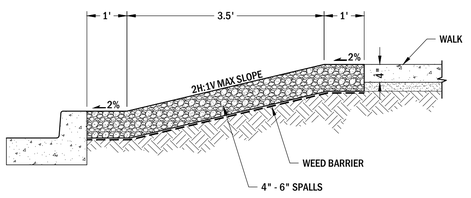
NOTE:
PAVEMENT PATCH EXCEEDING ½ LANE WIDTH SHALL REQUIRE A 1" HMA OVERLAY OF THE FULL LANE WIDTH. LANES WITH CURB SECTIONS SHALL REQUIRE GRINDING AT CURB LIP TO CENTER LINE OF ROAD

NOT TO SCALE

DOUGLAS COUNTY DEPARTMENT OF TRANSPORTATION AND LAND SERVICES

ROADWAY STANDARDS

PAVEMENT REPAIR DETAIL FIGURE 3-12



PLANTER DETAIL
NOT TO SCALE

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REV	DATE	DESCRIPTION

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MARTIN P. DAVY — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 34565

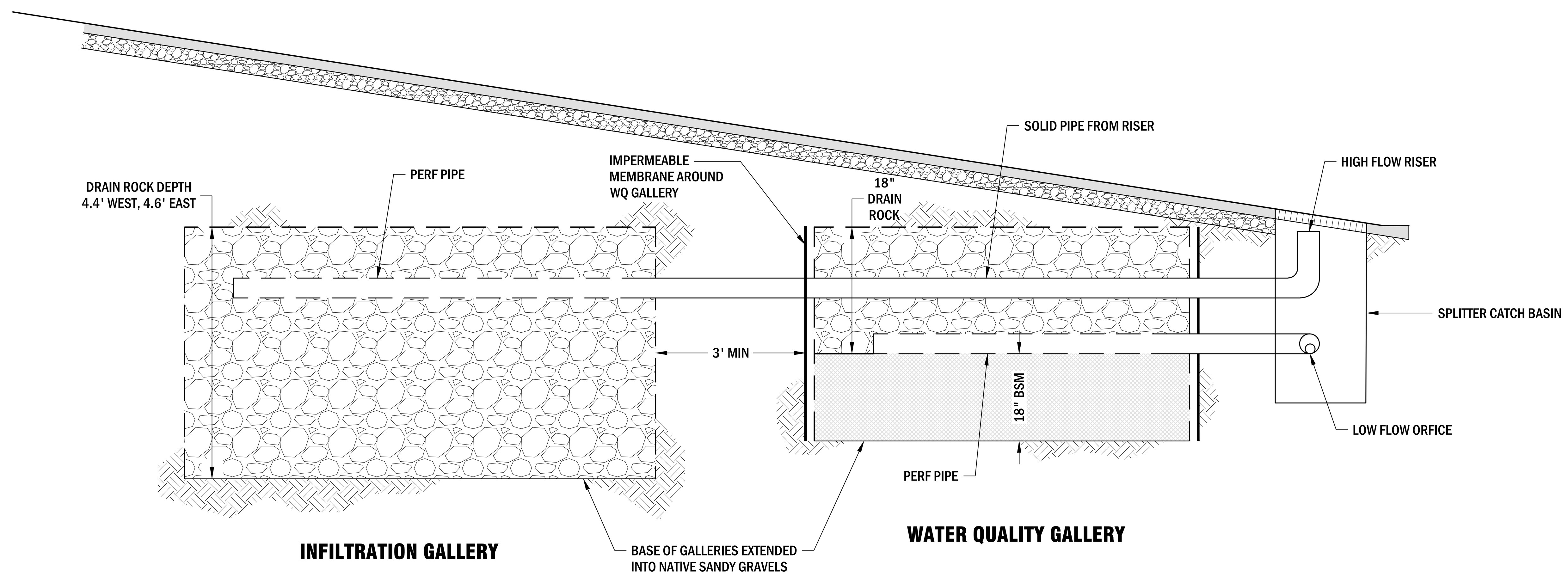
PRELIMINARY

ACKERMAN CONSTRUCTION INC.
ACKERMAN-HURST RESIDENTIAL SUBDIVISION
DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

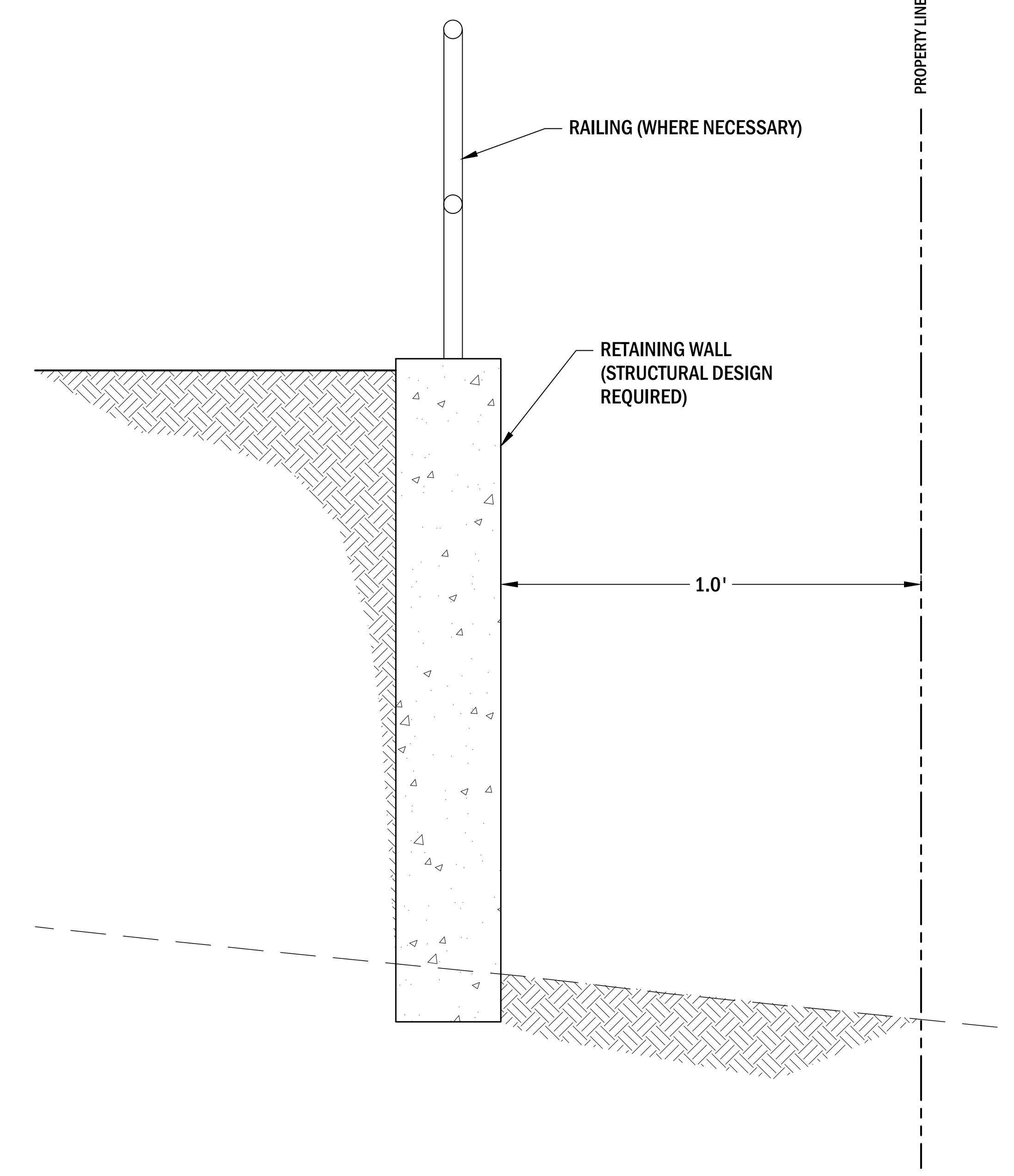
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0 1"

PRELIMINARY SECTIONS & DETAILS

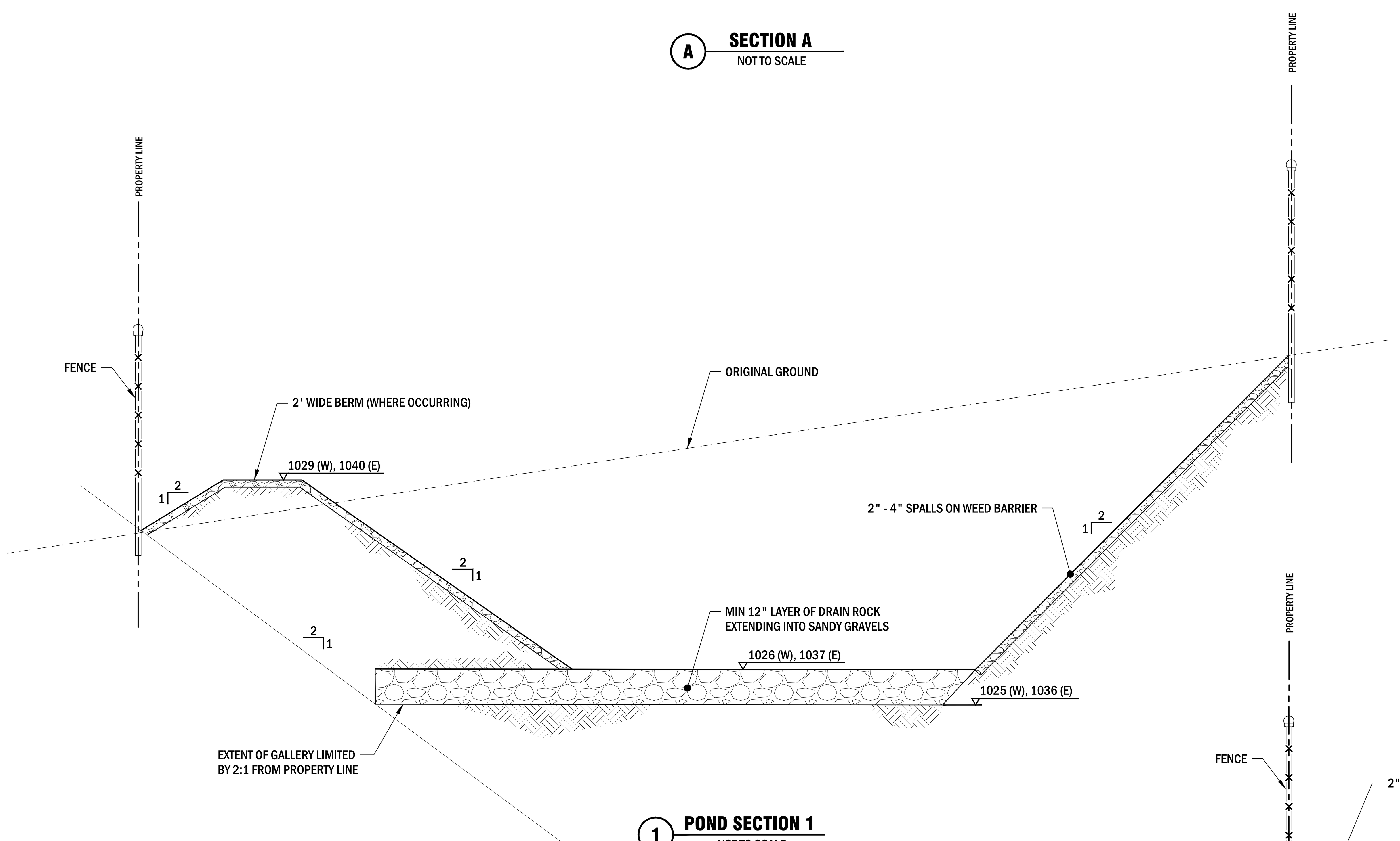
C2.3



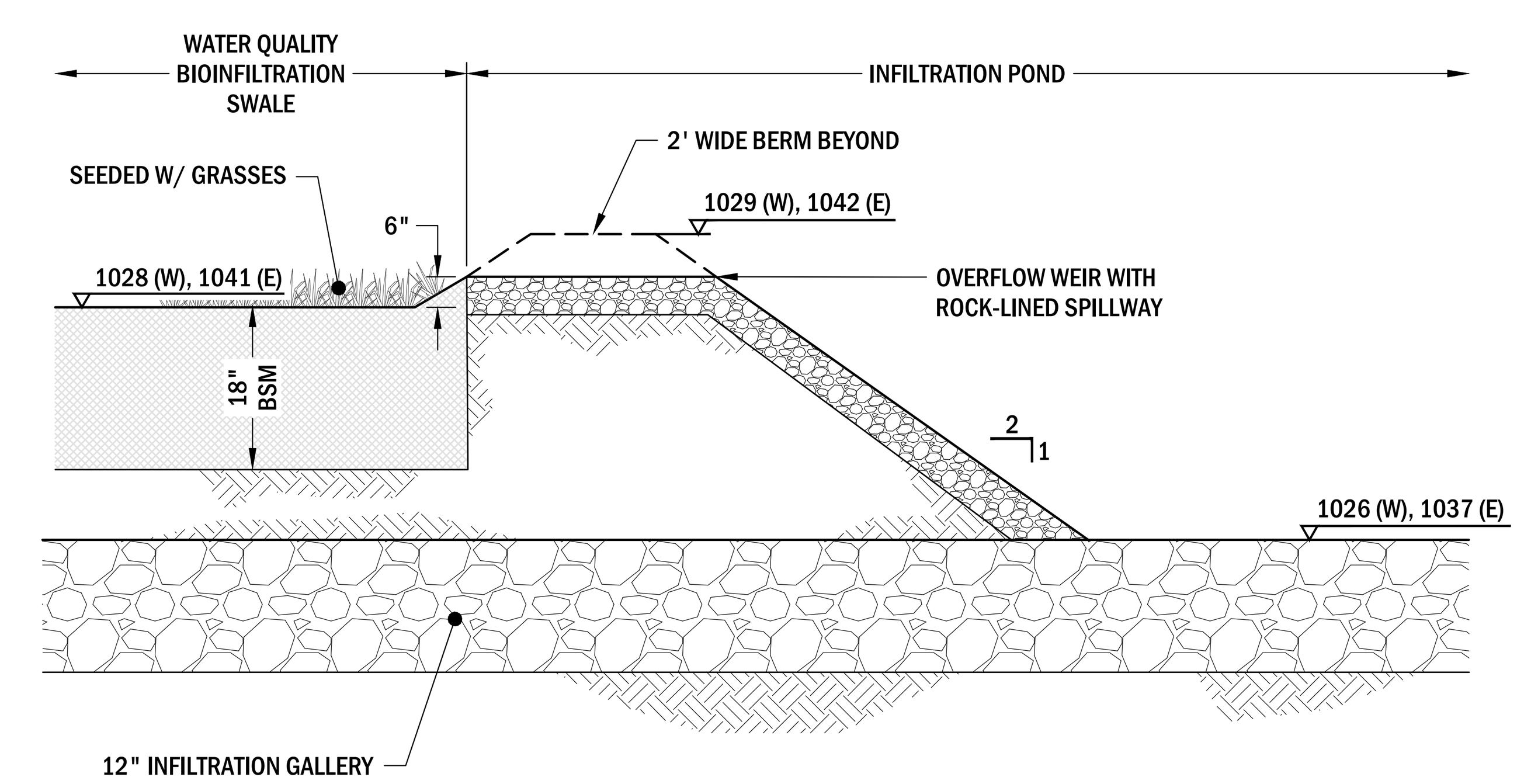
A SECTION A
NOT TO SCALE



B SECTION AT WALL
NOT TO SCALE



1 POND SECTION 1
NOT TO SCALE



2 POND SECTION 2
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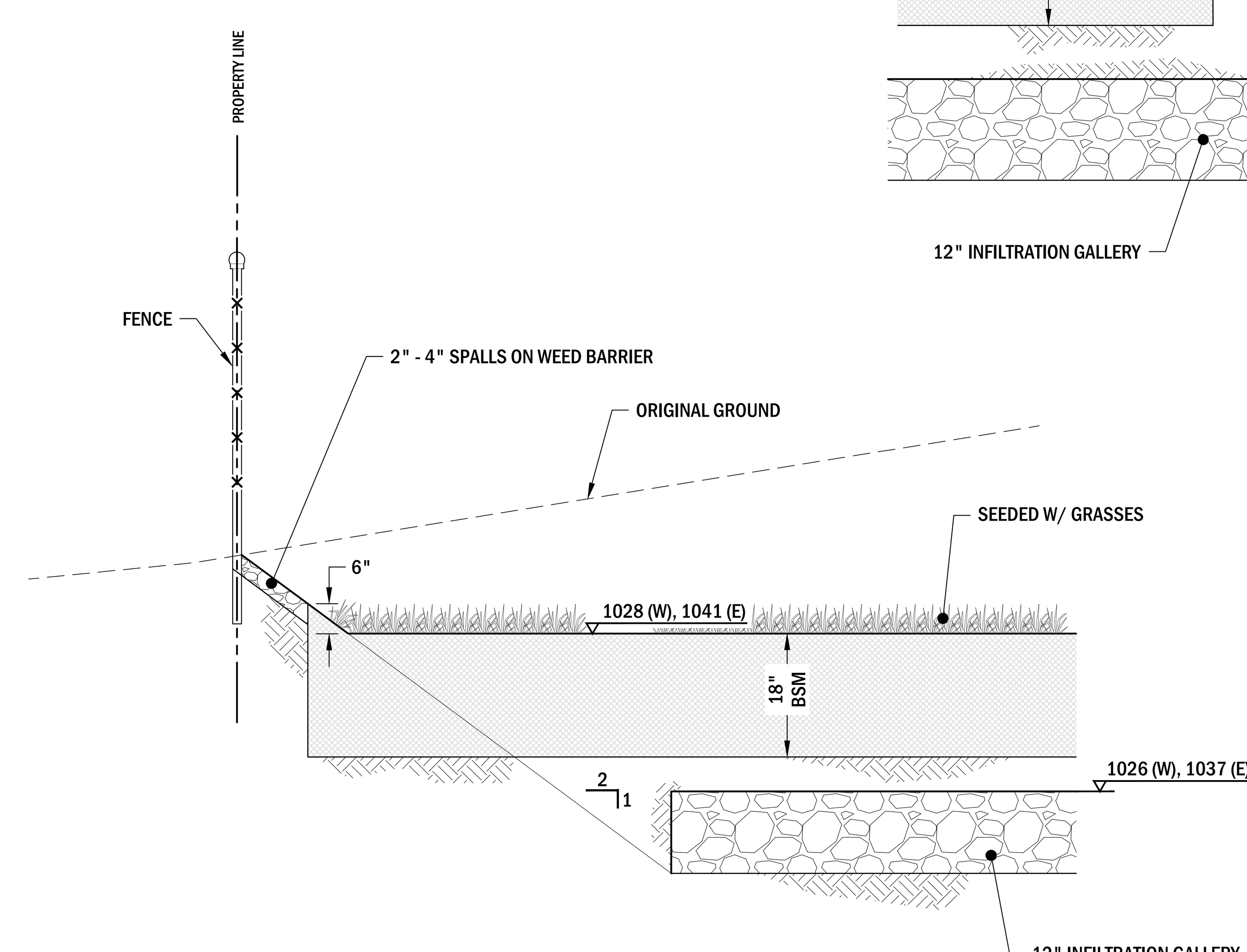

3 POND SECTION 3
NOT TO SCALE

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REV	DATE	DESCRIPTION

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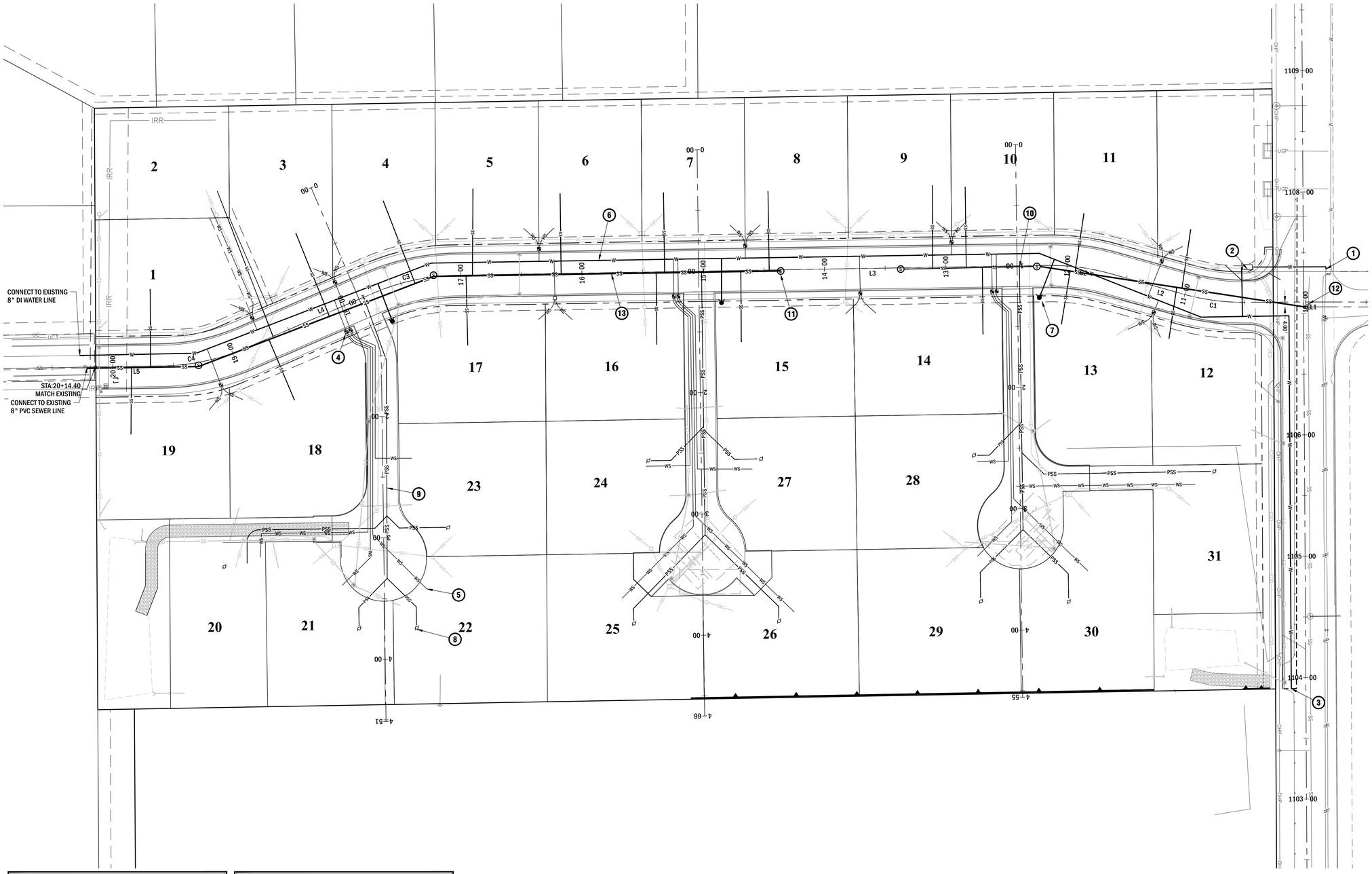
PROJECT NO. 21114CA

PRELIMINARY

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0 1"

PRELIMINARY SECTIONS & DETAILS

C2.4



KEYED NOTES - PROPOSED

1. CONNECT TO EXISTING 8" DI (HIGH PRESSURE WATER LINE)
2. PRESSURE REDUCING VALVE IN VAULT UNDER SIDEWALK
3. CAP AND MARK 8" DI (LOW PRESSURE) FOR FUTURE EXTENSIONS
4. TWO DOUBLE SERVICES TO LOTS TO SOUTH
5. CAP AND MARK SERVICE LINE, (TYP)
6. 8" DI (TYP)
7. FIRE HYDRANT (TYP)

KEYED NOTES - PROPOSED

8. GRINDER PUMP (BY HOMEOWNER) (TYP)
9. PRESSURE LINE TO GRAVITY MAIN, ONE PER LOT (NOT ALL SHOWN FOR CLARITY) (TYP)
10. CONNECT PRESSURE LINE TO GRAVITY LINE (TYP)
11. SEWER MANHOLE (TYP)
12. CONNECT TO EXISTING MANHOLE. RECHANNEL BASE AS NECESSARY.
13. 8" PVC GRAVITY SEWER LINE.

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION
0	02/23/2024	INITIAL ISSUE

PACIFIC ENGINEERING
CIVIL STRUCTURAL
200 S. COLUMBIA STREET, SUITE 300, WENATCHEE, WA 98801
(509) 662-1161 www.pacificengineering.net

MARTIN P. DAVY — STATE OF WASHINGTON — 34565 — REGISTERED PROFESSIONAL ENGINEER

ACKERMAN CONSTRUCTION INC.

ACKERMAN-HURST

RESIDENTIAL SUBDIVISION

DOUGLAS COUNTY, WA

PROJECT NO. 21114CA

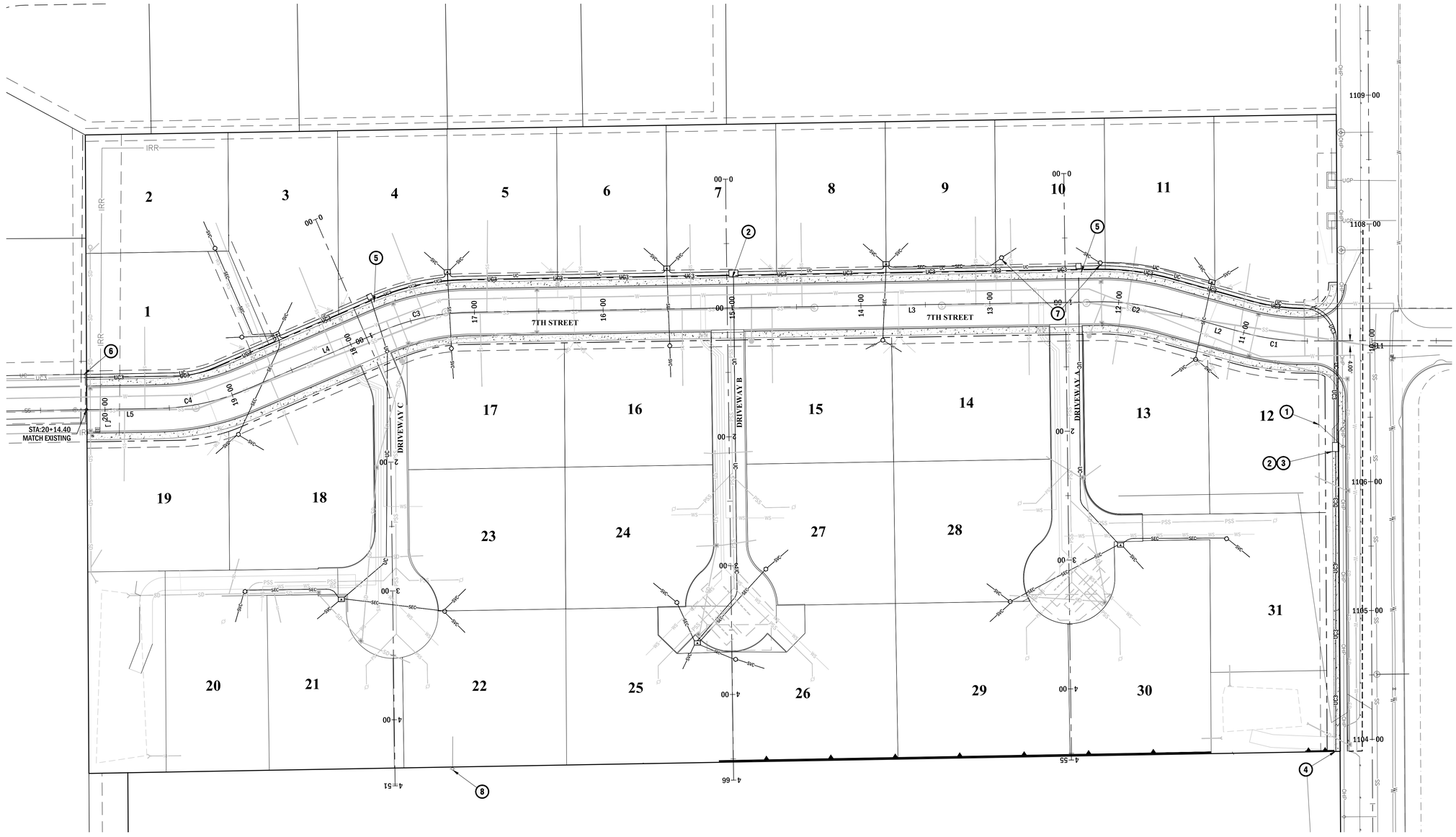
PRELIMINARY

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

0 1"

PRELIMINARY SEWER AND WATER PLAN

C3.0



KEYED NOTES

1. EXISTING THREE PHASE WIND MACHINE SERVICE TO BE REMOVED
2. 5' x 7' VAULT
3. STUB 3 CONDUITS ADJACENT TO EXIST POLE
4. CAP AND MARK FOR FUTURE USE
5. 4' x 4' VAULT
6. CONNECT TO FOUR CONDUITS INSTALLED WITH SUMMER RUN
7. OPTIONAL HANDHOLE AND SECONDARY LOCATIONS. ONE OR THE OTHER MAY BE OMITTED WHEN HOME PLAN FOR LOT #10 IS DETERMINED
8. EXISTING SERVICES AND OVERHEAD LINE TO BE REMOVED BACK TO 8TH STREET

N

DRY UTILITY PLAN
SCALE: 1" = 40'

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION
0	02/23/2024	INITIAL ISSUE

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MARTIN P. DAVY
WASHINGTON
34065
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY

ACKERMAN CONSTRUCTION INC.
ACKERMAN-HURST
RESIDENTIAL SUBDIVISION
DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

IF NOT ONE INCH ON THIS SHEET
ADJUST SCALE ACCORDINGLY
0 1"

PRELIMINARY DRY UTILITY PLAN

C4.0

PRELIMINARY
STORM DRAINAGE REPORT

FOR

ACKERMAN HURST SUBDIVISION
7TH STREET SE
DOUGLAS COUNTY, WASHINGTON

BY

Martin Davy, P.E.
Professional Engineer

PACIFIC ENGINEERING
CIVIL STRUCTURAL

200 South Columbia Street, Suite 300
Wenatchee, WA 98801
P 509.662.1161 I F 509.663.8227

March 21, 2022
Revised February 22, 2024
Project No. 21114CA

TABLE OF CONTENTS

APPENDIX

1.0 INTRODUCTION

This report presents a conceptual overview of how stormwater will be handled for the Ackerman Hurst Subdivision off 7th Street SE and west of S Nile Avenue, within the East Wenatchee Urban Growth Area in Douglas County. This is a proposed development of 31 residential lots on approximately 11 acres.

A new County Road and three private driveways will be constructed to access the lots. These will include an east-west extension of 7th Street SE from S Nile Avenue to a portion of 7th Street previously constructed with an adjacent subdivision to the west. Three private driveways will extend south from 7th Street SE and will access four lots each. S Nile will also be widened along the project frontage to current County standards.

County Standards require retention of the runoff generated from the site by the 100-year storm with the SCS Type 2 distribution, and accommodation of off-site flows.

This Preliminary Report provides an outline of the concepts and methods proposed to be used for Stormwater control for the development, and will be replaced by a Final Report, with full analysis, at the time of submittal of Construction Plans.

2.0 EXISTING SITE CONDITIONS

The site is in orchard with a house and an adjacent ancillary building near its south property line. These structures will be demolished, and the orchard will be removed.

The site slopes generally from NE to SW at an average of around 7%, with pronounced valleys and a central ridge, with maximum slope of 15-20%.

On site soils are Burch, Cashmere and Peshastin Fine Sandy Loams.

3.0 OFFSITE TRIBUTARY BASINS

Approximately 4 acres of pasture drains as sheet flow to the east half of the site from the north. The existing subdivision to the north of the west half of the site has been constructed with a storm drainage system and will contribute minimal runoff to the development. S Nile Avenue cuts off drainage from the east.

4.0 CONVEYANCE

The proposed internal roadways and frontage improvements will pick up runoff from pavement, sidewalks, and from the offsite tributary basin. It will be conveyed as gutter flow to catch basins and then in piped storm drainage systems to the water quality and infiltration facilities. Where lots are not graded towards the roadways. Driveways and roof drainage will generally be tied to pipe stubs connected directly into the piped storm drainage system . These systems will run within Right of Way and easements as necessary to reach the treatment and disposal facilities.

5.0 RUNOFF CONTROL

Runoff from the new construction and offsite basin will be infiltrated onsite in four facilities to be owned and maintained by the Homeowners Association. Two retention ponds will be constructed within tracts located at the southwest and southeast corners of the development, and infiltration galleries will be constructed under the turnarounds of the central and eastern private driveways. These facilities will infiltrate all runoff from tributary onsite and offsite basins for the design storm. Due to the topography, overflow routes to County right of Way with existing storm facilities are not available from these ponds and galleries, and so the systems will be sized to accommodate off-site flows and will also be oversized to accommodate runoff from

125% of the subdivision area to allow for storms larger than the design event.

Test pits on adjacent sites revealed coarse gravelly sand. Based on previous design infiltration rates recommended for this material, an infiltration rate of around 12" per hour is anticipated, but this will be tested and confirmed during detailed design. It may be necessary to replace less permeable overburden material with drain rock or spalls in order to utilize this gravelly sand for infiltration.

Due to topography and planned grading, it will not be possible to convey runoff from three lots at the south side of the development to the four facilities referenced above without pipe runs through back yards. These are not preferred as they would be vulnerable to damage and inaccessible for maintenance and repair. Therefore, design and construction of on-site drainage facilities will be required for each of these three lots when homes are built on them. This will be enforced by a plat note.

6.0 WATER QUALITY TREATMENT

Treatment will be provided in accordance with the Stormwater Management Manual for Eastern Washington. This will probably be provided by bio-infiltration swales within the infiltration ponds and bioretention soil media within upstream cells of the infiltration galleries. This preliminary analysis used an infiltration rate of 3" per hour in BSM (Bioretention Soil Media), and allowed a maximum water depth of 6" above the BSM for the water quality storm

7.0 MODELING PROCEDURE

The pervious and impervious areas of the development, its stormwater facilities and the uphill tributary basin will be modeled with Autodesk's "Storm and Sanitary" computer program. Input parameters will include area, runoff curve number, rainfall type, time of concentration, and amount of precipitation. Input parameters for hydrograph development will be determined using the methods outlined in Chapter 2 of "Urban Hydrology for Small Watersheds, Second Edition," Technical Release Number 55 (TR 55), Soil Conservation Service (SCS).

The major factors that determine the runoff curve number (RCN) for a given drainage area are the density of development, the type and condition of ground cover and the hydrologic soil group (HSG).

Surface soil types on the site and in the off-site tributary area were determined from the SCS Soil Survey for Douglas County to be Cashmere, Burch and Peshastin Fine Sandy Loams, designated as HSG A, B and C respectively.

The tributary area to each facility was determined based on the construction plans for roads, grading and storm drainage, and existing topography for the offsite basin Each of the four tributary on-site areas was split into sub-basins and analyzed as follows:

1. Impervious areas directly connected to the storm system. For example, roadways and sidewalks, and driveways and roofs on lots with storm stubs.
2. Pervious areas of those lots with all impervious areas directly connected (i.e. with storm stubs).
3. Lots having a portion of their impervious area directly connected to the storm system. Here, 'composite' basins were developed for the pervious areas and unconnected impervious areas. These are lots which are graded to drain towards the roadways.

These analyses were based on typical houses with driveways, roofs and patios totaling 4,500sf,

assuming 100% connected to the storm system where a storm stub is provided, 50% connected where the home is directly above a road, and 0% connected where the lot is directly adjacent to a storm pond and grading can be used to direct runoff to the pond or to a catch basin in the yard that is piped to the pond. Anticipated pavement widths for the new and widened roads plus sidewalks were also used. A factor of 125% was used for the on-site basins and the frontage widening on South Nile to address the lack of overflow routes. Appropriate RCNs for each sub-basin were derived from TR 55, based on impervious area, soil type and surfacing/vegetative cover.

Composite RCNs were developed within the Basin Data. For the offsite basin actual impervious areas were measured from aerial mapping with pasture in fair condition, with the appropriate HSG, assumed for the pervious areas. For the on-site areas, pervious areas were assumed to be landscaping in good condition, again with appropriate HSGs

Runoff Curve Numbers

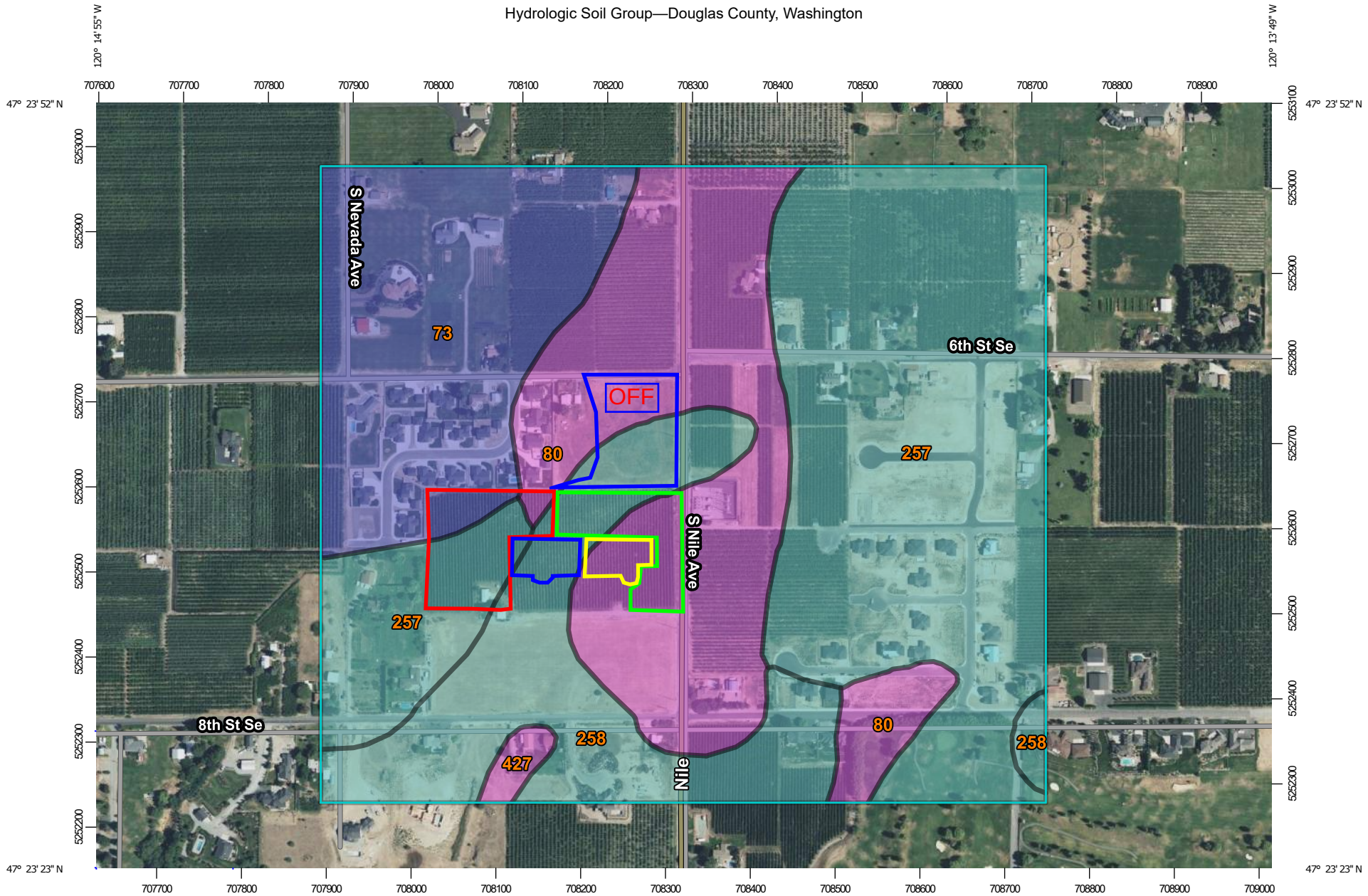
HSG	Vegetative Cover	TR-55 Reference	RCN
Any	Impervious	Table 2-2a.	98
A	Pasture, Fair	Table 2-2c.	49
C	Pasture, Fair	Table 2-2c.	79
A	Landscape, Good	Table 2-2a.	39
B	Landscape, Good	Table 2-2a.	61
C	Landscape, Good	Table 2-2a.	74

Rainfall for the site for flow control is the 2.4” 100-year 24-hour design storm, as determined from the NOAA Isopluvial maps, with the SCS Type 2 distribution as required by Douglas County. The Water Quality event is the 6-month SCS Type 1A storm, which is approximated as 64% of the 1.1” 2-year storm, which is 0.704”.

Each sub-basin was then modeled to provide a hydrograph for the design storm. The off-site basin hydrograph was added to the appropriate on-site basin hydrographs and routed through the water quality and infiltration facilities which were sized to ensure that the required runoff is infiltrated with appropriate freeboard for flow control, and maximum allowed water depth in the water quality components.

Preliminary design and analysis demonstrate that the tracts as shown on the preliminary plat will have adequate area to meet County requirements. Further refinement will be provided at the time of detailed design and pipes will be sized to accommodate determine the peak flow rates.

APPENDIX A
MAPPING



Map Scale: 1:6,340 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Douglas County, Washington
Survey Area Data: Version 23, Aug 23, 2021

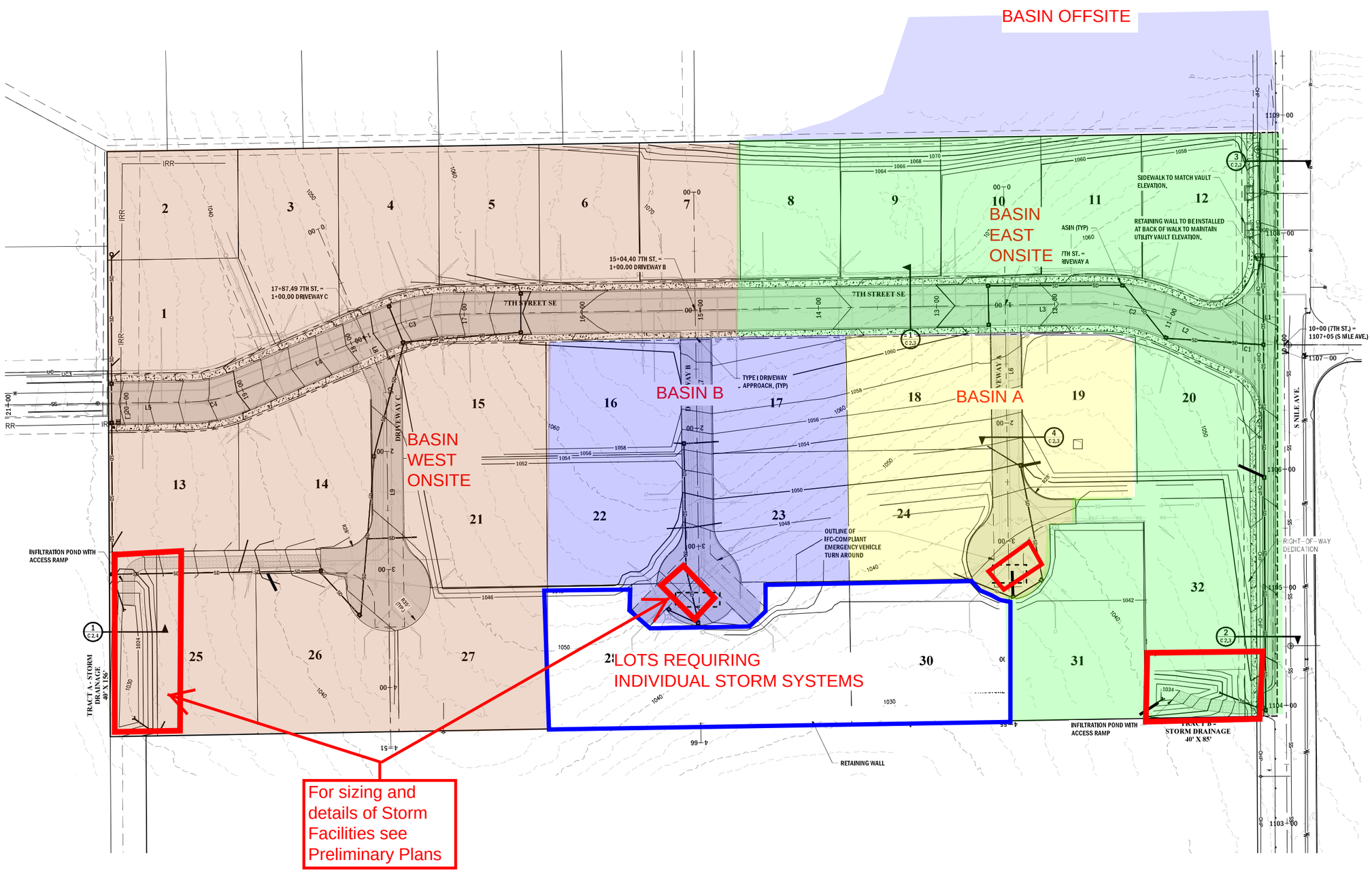
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2021—Nov 23, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
73	Burch fine sandy loam, 8 to 15 percent slopes	B	30.5	19.2%
80	Cashmere fine sandy loam, 3 to 8 percent slopes	A	39.0	24.6%
257	Peshastin fine sandy loam, compacted substratum, 3 to 8 percent slopes	C	62.5	39.3%
258	Peshastin fine sandy loam, compacted substratum, 8 to 15 percent slopes	C	25.6	16.1%
427	Torriorthents, very steep	A	1.1	0.7%
Totals for Area of Interest			**158.8**	**100.0%**



7th St SE				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L1		20.06	N89° 55' 54.27"W	
C1	124.47	53.10	N77° 42' 31.47"W	24°26'46"
L2		23.09	N65° 29' 08.66"W	
C2	157.00	69.77	N78° 12' 59.72"W	25°27'42"
L3		542.63	S89° 03' 09.23"W	
C3	158.18	61.18	S77° 52' 51.84"W	22°09'32"
L4		133.85	S66° 42' 34.45"W	
C4	107.00	41.73	S77° 52' 51.84"W	22°20'35"
L5		214.99	S89° 03' 09.23"W	

Driveway A				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L6		249.01	S0° 45' 00.22"E	

Driveway B				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L7		266.37	S0° 47' 00.10"E	

Driveway C				
NUMBER	RADIUS	LENGTH	BEARING	DELTA
L8		36.11	S23° 17' 25.55"E	
C5	50.00	19.67	S12° 01' 12.89"E	22°32'25"
L9		195.55	S0° 45' 00.22"E	

N

ROAD, GRADING AND STORM PLAN
SCALE: 1" = 40'

REV	DATE	DESCRIPTION
0	##/##/####	INITIAL ISSUE

REV	DATE	DESCRIPTION

PACIFIC ENGINEERING
CIVIL STRUCTURAL
200 S. COLUMBIA STREET, SUITE 300, WENATCHEE, WA 98801
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ACKERMAN CONSTRUCTION INC.
ACKERMAN-HURST RESIDENTIAL SUBDIVISION
DOUGLAS COUNTY, WA
PROJECT NO. 21114CA

IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0 1"

PRELIMINARY
ROAD, GRADING & STORM PLAN

C2.0

WEST HALF OF SITE

Map Scale: 1:1,230 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
73	Burch fine sandy loam, 8 to 15 percent slopes	B	1.1	19.8%
80	Cashmere fine sandy loam, 3 to 8 percent slopes	A	0.3	5.2%
257	Peshastin fine sandy loam, compacted substratum, 3 to 8 percent slopes	C	2.8	51.6%
258	Peshastin fine sandy loam, compacted substratum, 8 to 15 percent slopes	C	1.3	23.5%
Totals for Area of Interest			**5.5**	**100.0%**

EAST HALF OF SITE

Map Scale: 1:1,220 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
80	Cashmere fine sandy loam, 3 to 8 percent slopes	A	3.2	60.9%
258	Peshastin fine sandy loam, compacted substratum, 8 to 15 percent slopes	C	2.0	39.1%
Totals for Area of Interest			**5.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

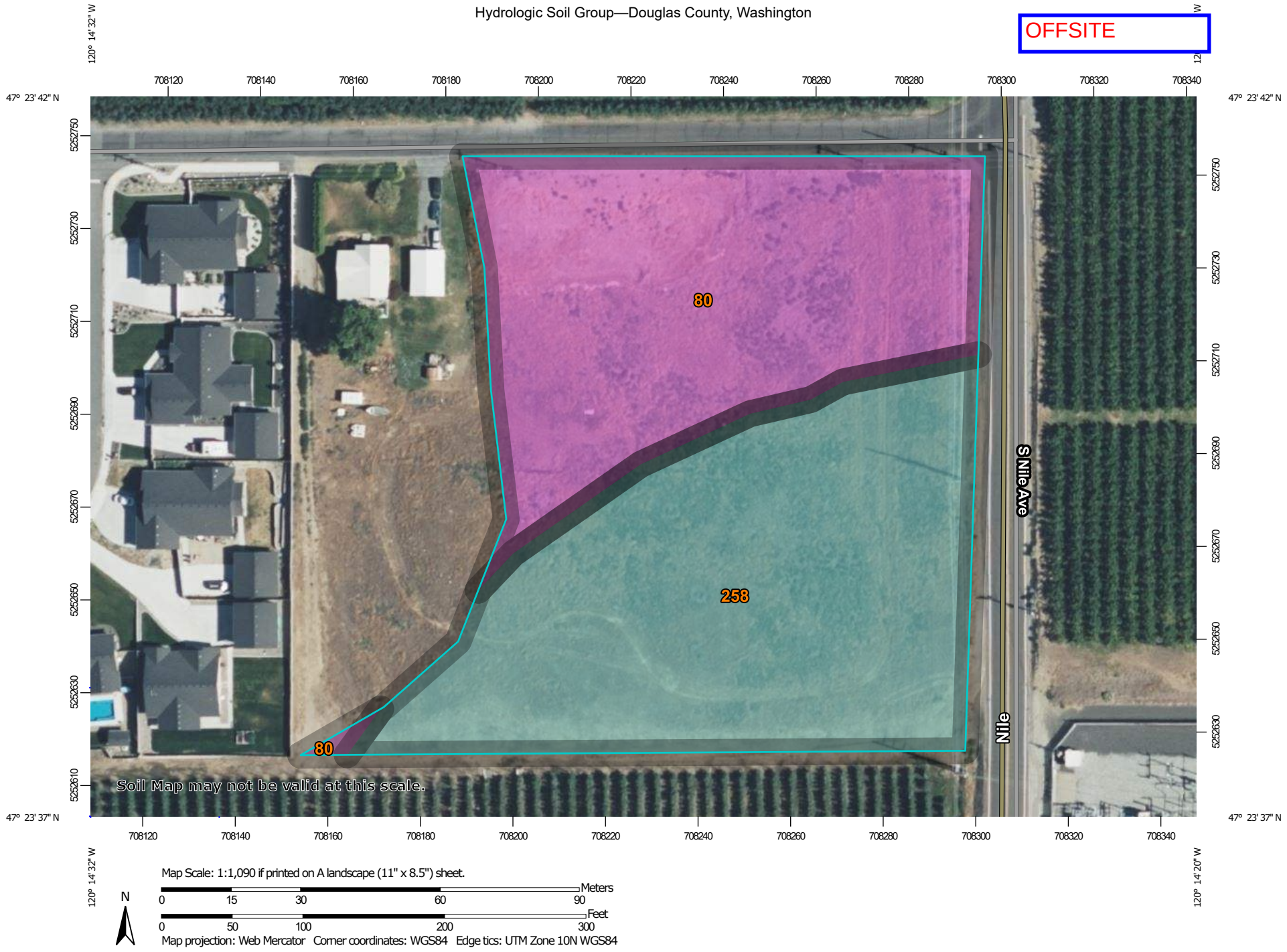
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:1,090 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
80	Cashmere fine sandy loam, 3 to 8 percent slopes	A	1.6	46.0%
258	Peshastin fine sandy loam, compacted substratum, 8 to 15 percent slopes	C	1.9	54.0%
Totals for Area of Interest			**3.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

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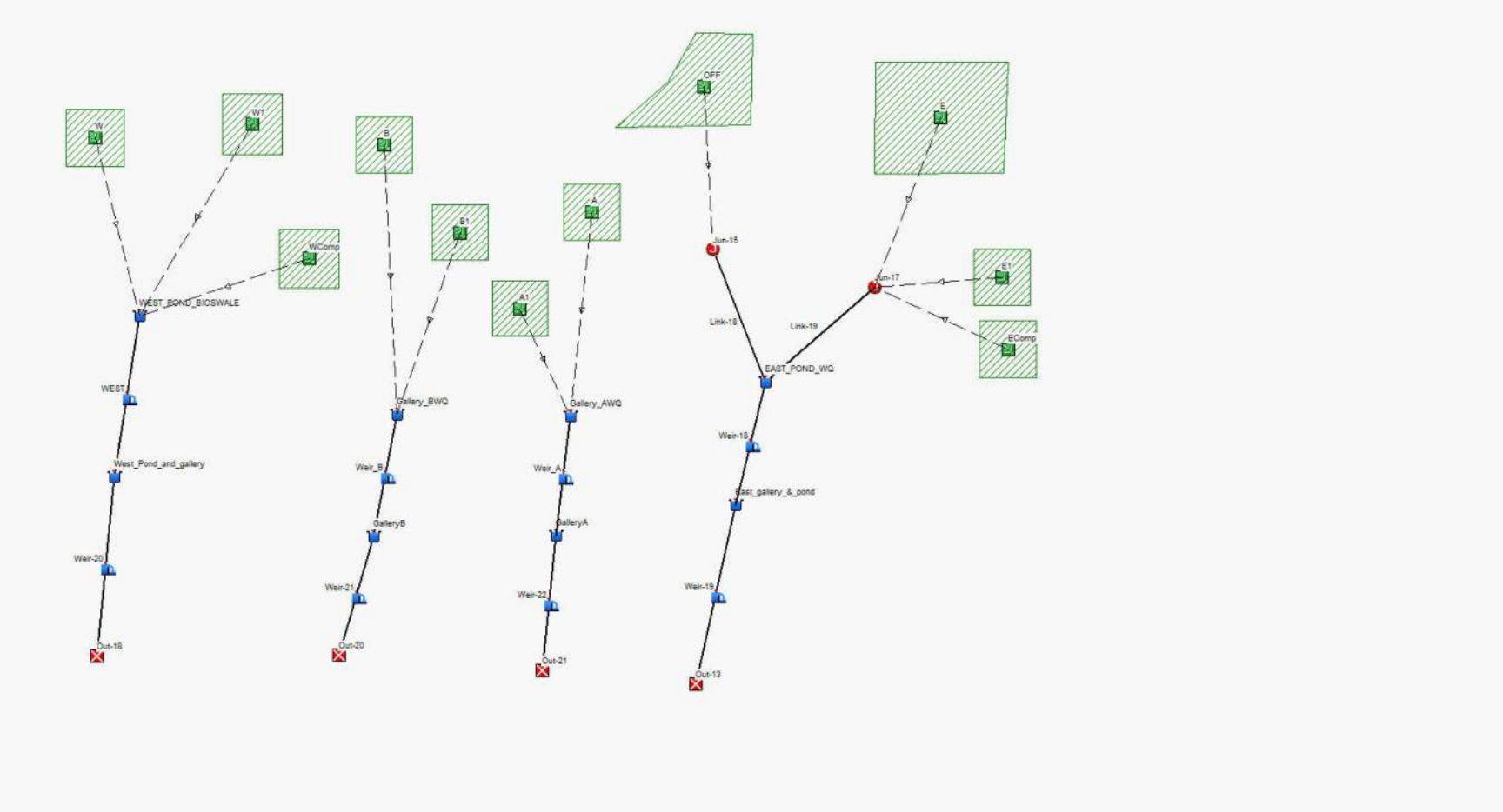
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

APPENDIX B
PRELIMINARY FLOW CONTROL ANALYSIS DATA AND RESULTS



Autodesk Storm and Sanitary Analysis

Project Description

File Name	Rev Prelim 125% design.SPF
Description	ACKERMAN HURST SUBDIVISION

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	May 03, 2021	00:00:00
End Analysis On	May 05, 2021	00:00:00
Start Reporting On	May 03, 2021	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	11
Nodes	14
Junctions	2
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	11
Channels	0
Pipes	2
Pumps	0
Orifices	0
Weirs	9
Outlets	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	A	0.67	0.00	98.00	2.40	2.17	1.45	2.08	0 00:05:00
2	A1	0.64	0.00	39.00	2.40	0.00	0.00	0.00	0 00:05:00
3	B	0.78	0.00	98.00	2.40	2.17	1.70	2.41	0 00:05:00
4	B1	0.94	0.00	74.00	2.40	0.55	0.52	0.73	0 00:05:00
5	E	1.36	0.00	98.00	2.40	2.17	2.95	4.20	0 00:05:00
6	E1	0.18	0.00	39.00	2.40	0.00	0.00	0.00	0 00:05:00
7	EComp	2.14	0.00	54.99	2.40	0.07	0.14	0.02	0 00:05:00
8	OFF	3.70	0.00	67.05	2.40	0.32	1.17	0.58	0 00:35:26
9	W	2.38	0.00	98.00	2.40	2.17	5.18	7.38	0 00:05:00
10	W1	1.88	0.00	70.76	2.40	0.43	0.82	1.10	0 00:05:00
11	WComp	1.25	0.00	74.54	2.40	0.57	0.72	1.03	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)
1	Jun-15	Junction	1043.00	6.00	0.00	0.00	0.00	0.58	1043.00	0.00	0.00	0 00:00	0.00
2	Jun-17	Junction	1042.00	6.00	0.00	0.00	0.00	4.19	1042.00	0.00	0.00	0 00:00	0.00
3	Out-13	Outfall	0.00					0.00	0.00				
4	Out-18	Outfall	0.00					0.00	0.00				
5	Out-20	Outfall	0.00					0.00	0.00				
6	Out-21	Outfall	0.00					0.00	0.00				
7	East_gallery_&_pond	Storage Node	1036.00	1040.00	0.00		0.00	4.10	1038.99				0.00
8	EAST_POND_WQ	Storage Node	1041.00	1042.00	0.00		0.00	4.22	1041.25				0.00
9	Gallery_AWQ	Storage Node	100.00	110.00	0.00		0.00	2.08	101.65				0.00
10	Gallery_BWQ	Storage Node	100.00	110.00	0.00		0.00	3.12	101.70				0.00
11	GalleryA	Storage Node	0.00	10.00	0.00		0.00	2.06	4.53				0.00
12	GalleryB	Storage Node	0.00	10.00	0.00		0.00	3.08	4.39				0.00
13	West_Pond_and_gallery	Storage Node	1025.00	1029.00	0.00		0.00	8.99	1027.67				0.00
14	WEST_POND_BIOSWALE	Storage Node	1028.00	1029.00	0.00		0.00	9.35	1028.91				0.00

Total Time Flooded (min)
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00

Subbasin Hydrology

Subbasin : A

Input Data

Area (ac) 0.67
Peak Rate Factor 0.00
Weighted Curve Number 98.00
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	0.67	A	98.00
Composite Area & Weighted CN	0.67		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

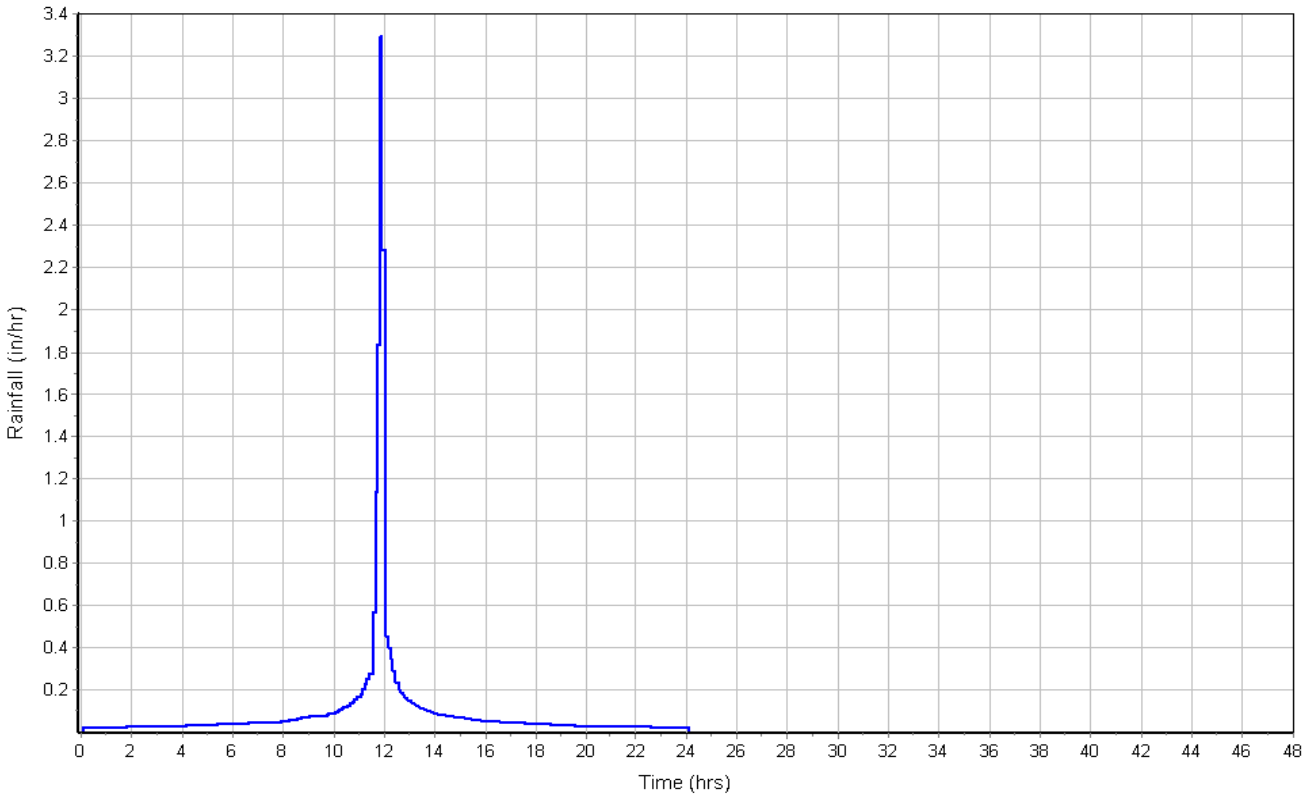
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

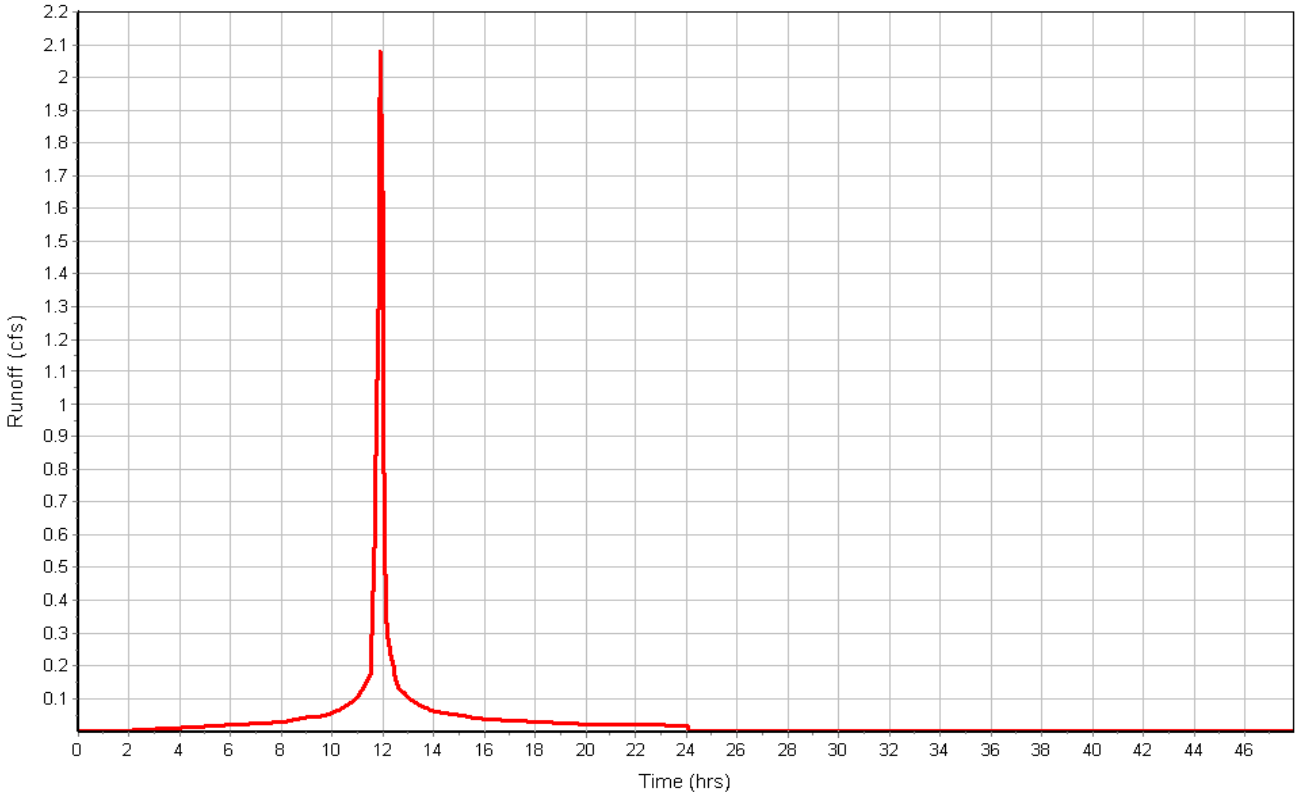
Total Rainfall (in) 2.40
Total Runoff (in) 2.17
Peak Runoff (cfs) 2.08
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : A

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : A1

Input Data

Area (ac) 0.64
Peak Rate Factor 0.00
Weighted Curve Number 39.00
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.64	A	39.00
Composite Area & Weighted CN	0.64		39.00

Time of Concentration

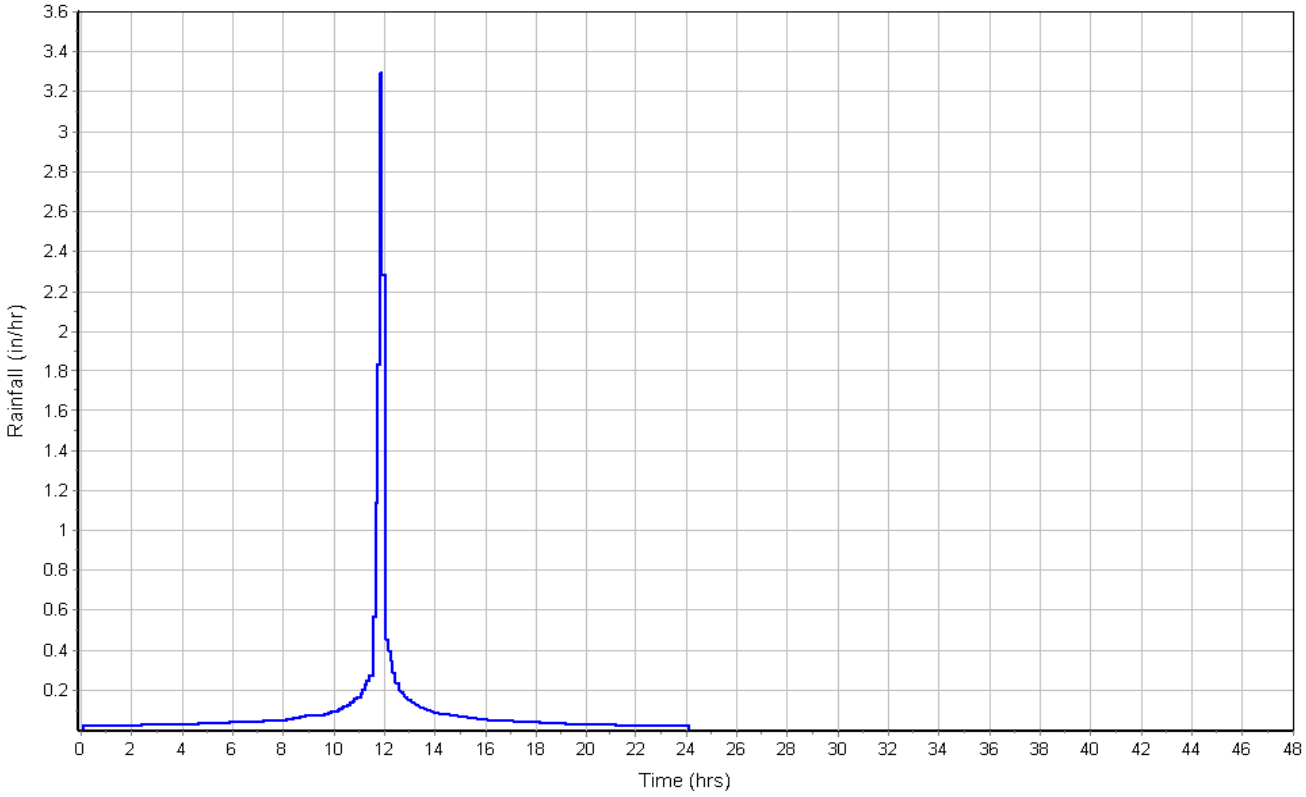
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

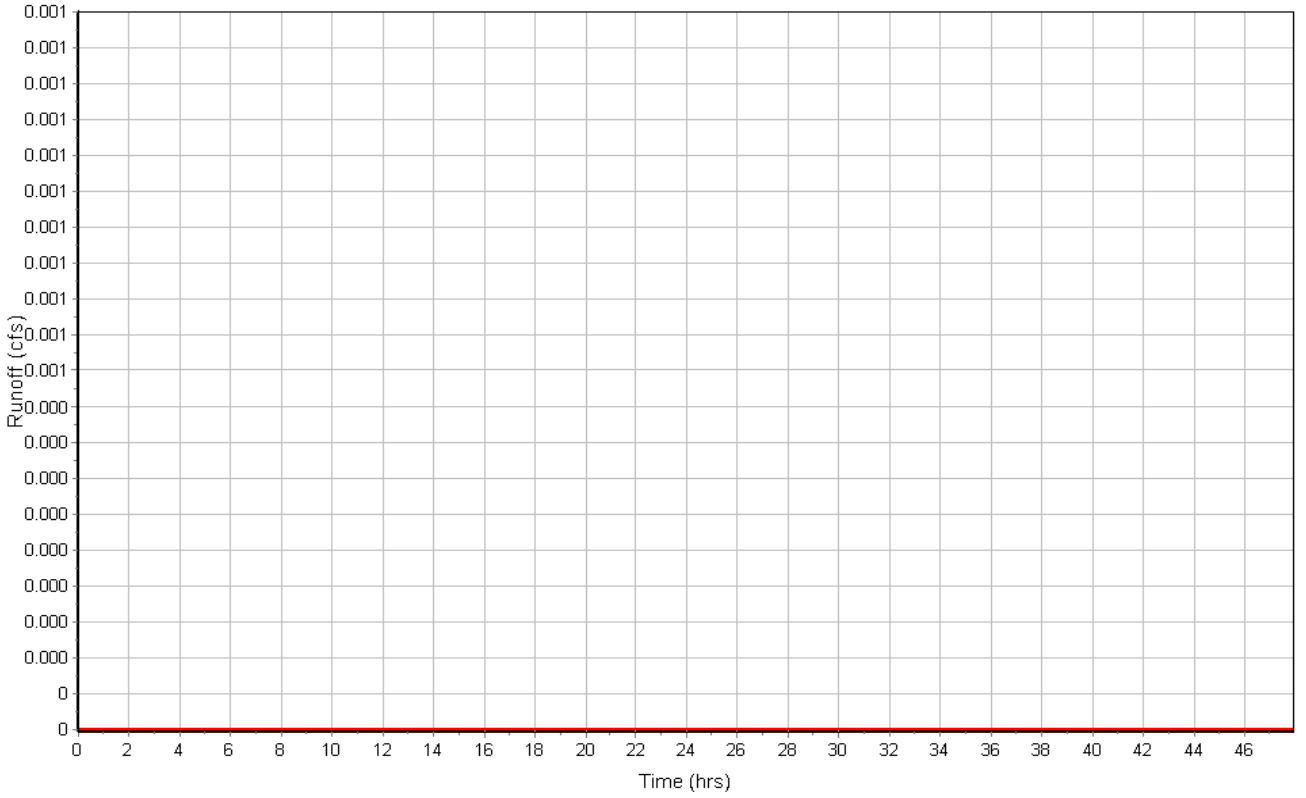
Total Rainfall (in) 2.40
Total Runoff (in) 0.00
Peak Runoff (cfs) 0.00
Weighted Curve Number 39.00
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : A1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : B

Input Data

Area (ac)	0.78
Peak Rate Factor	0.00
Weighted Curve Number	98.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	0.78	A	98.00
Composite Area & Weighted CN	0.78		98.00

Time of Concentration

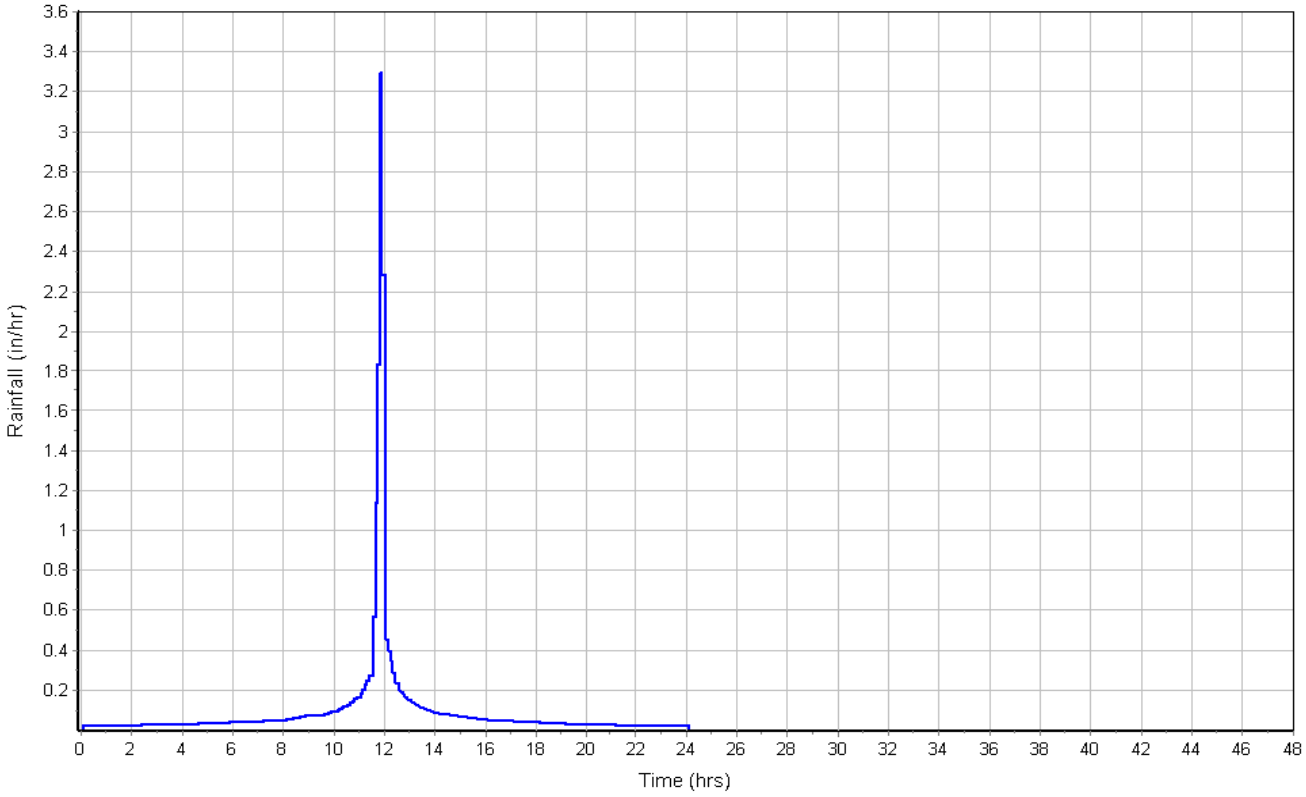
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

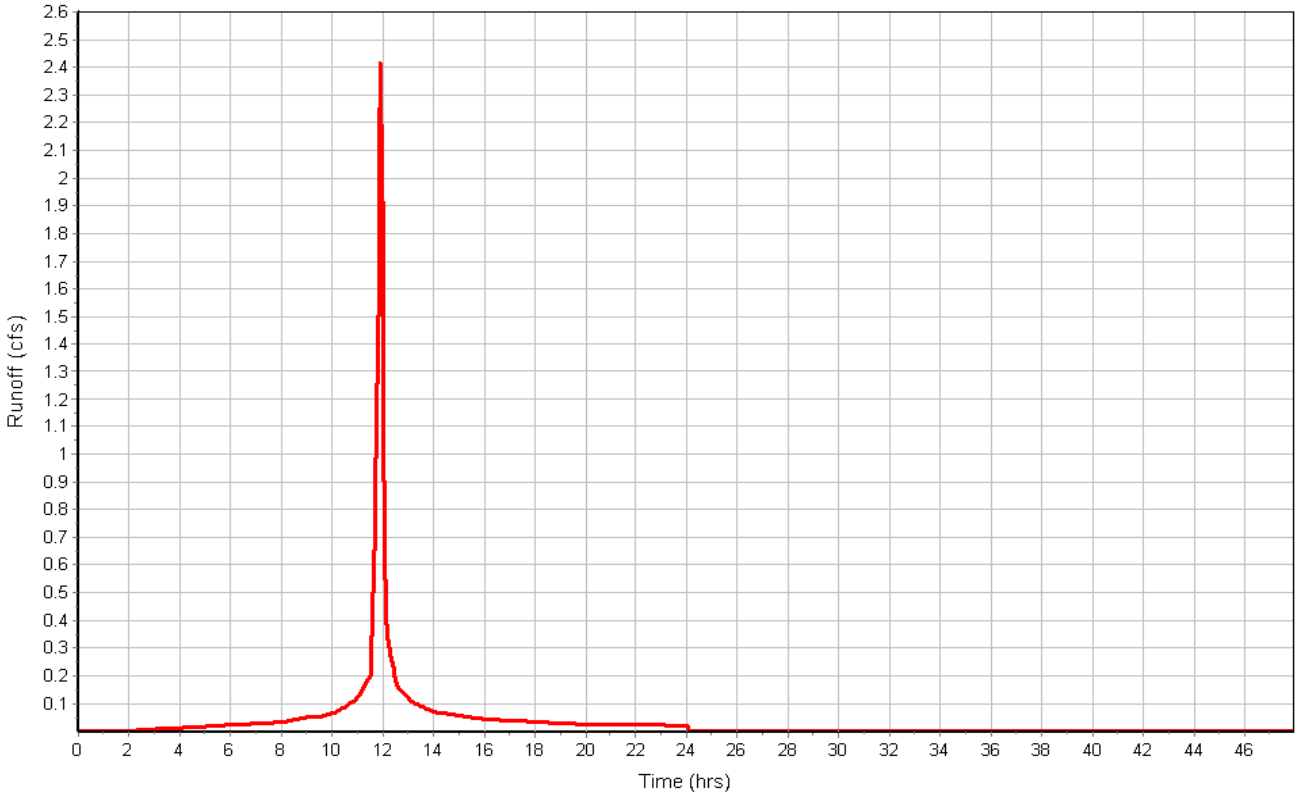
Total Rainfall (in)	2.40
Total Runoff (in)	2.17
Peak Runoff (cfs)	2.41
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : B

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : B1

Input Data

Area (ac)	0.94
Peak Rate Factor	0.00
Weighted Curve Number	74.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.94	C	74.00
Composite Area & Weighted CN	0.94		74.00

Time of Concentration

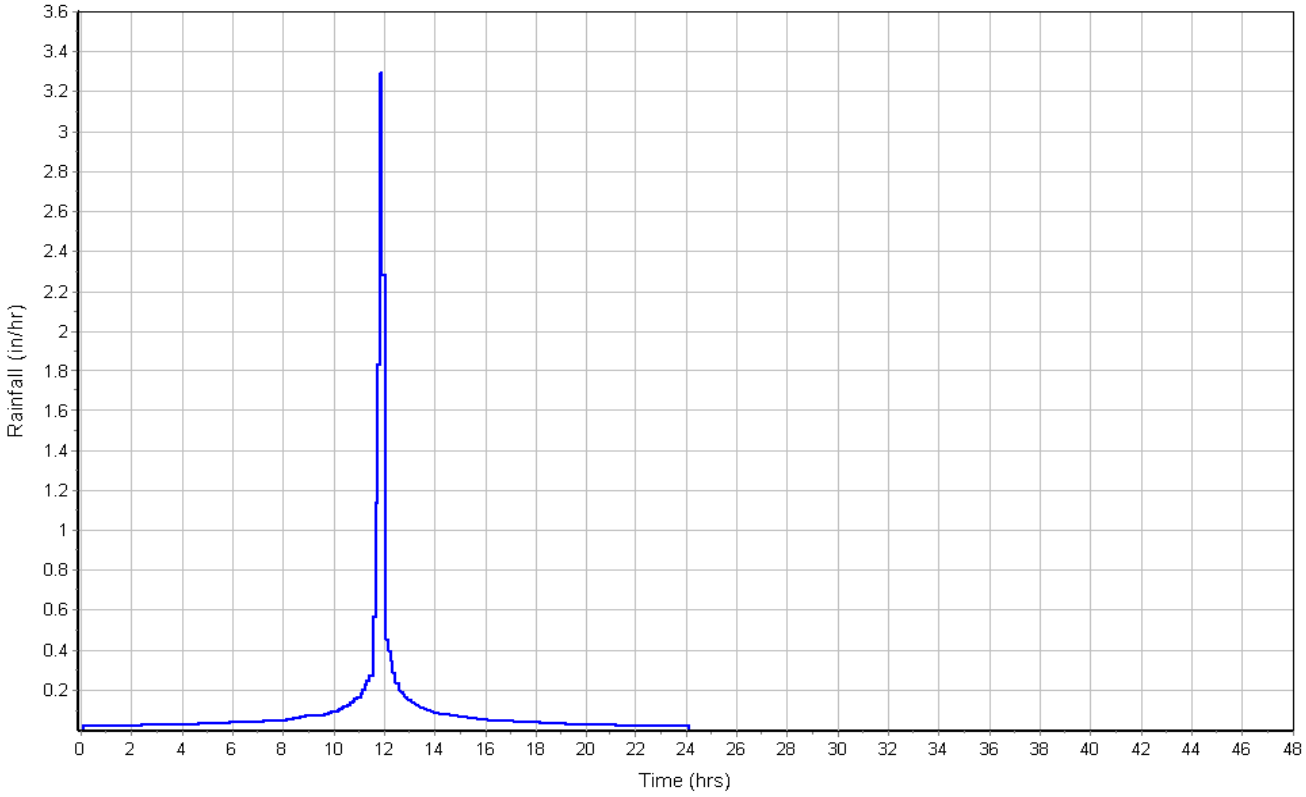
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

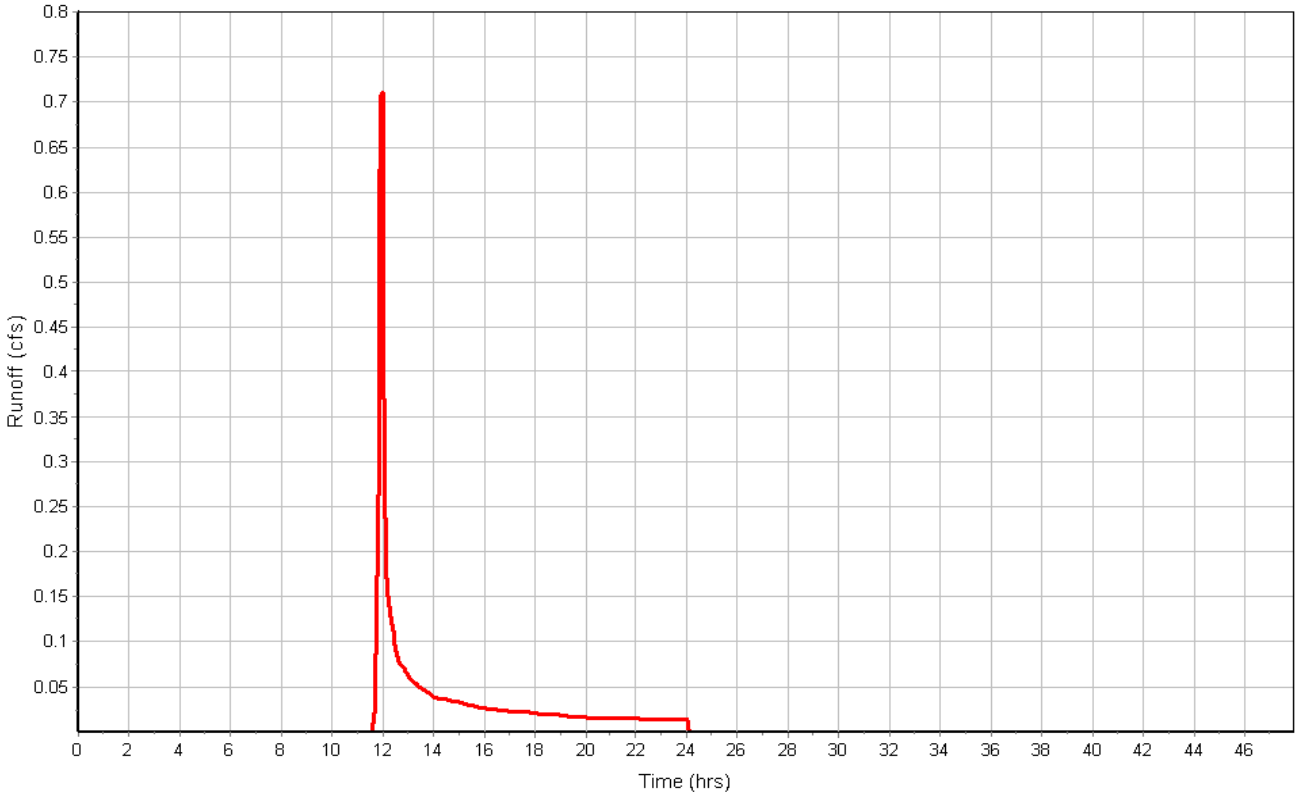
Total Rainfall (in)	2.40
Total Runoff (in)	0.55
Peak Runoff (cfs)	0.73
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : B1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E

Input Data

Area (ac)	1.36
Peak Rate Factor	0.00
Weighted Curve Number	98.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	1.36	A	98.00
Composite Area & Weighted CN	1.36		98.00

Time of Concentration

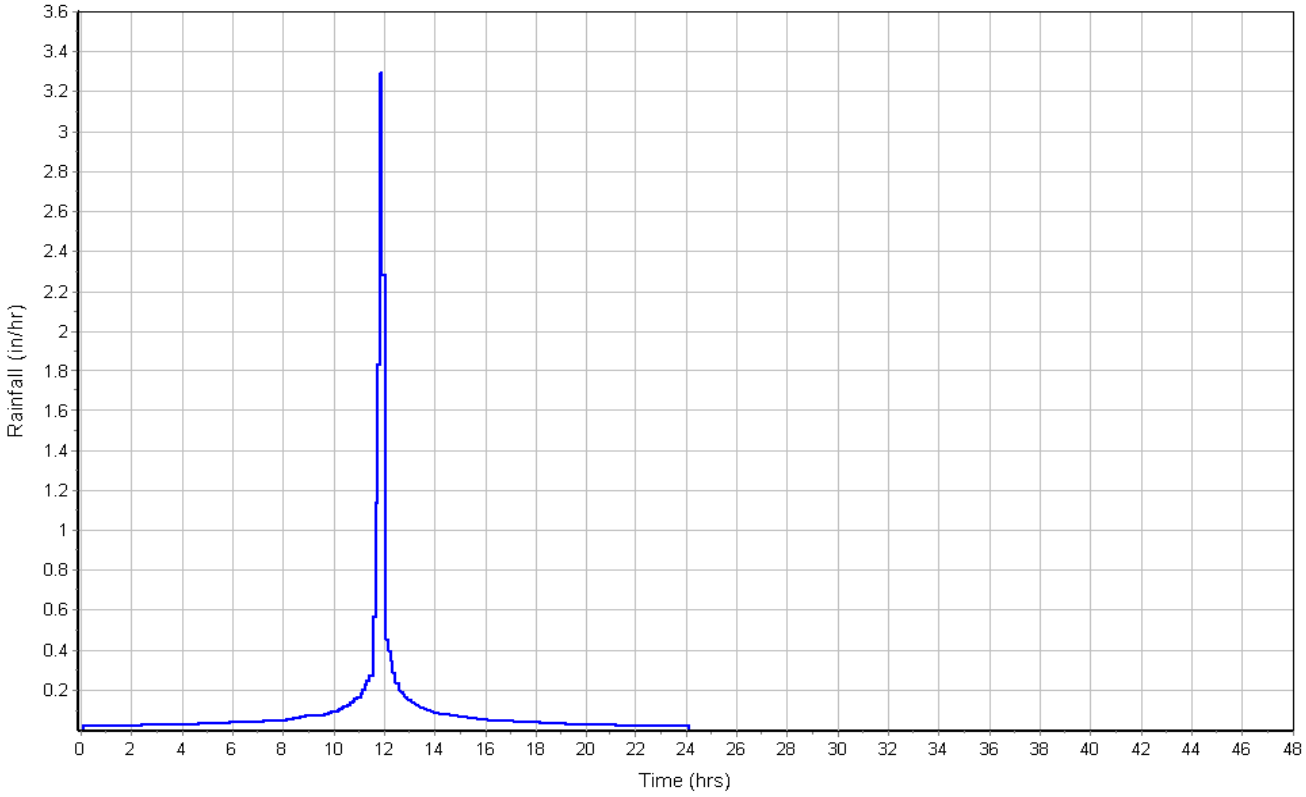
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

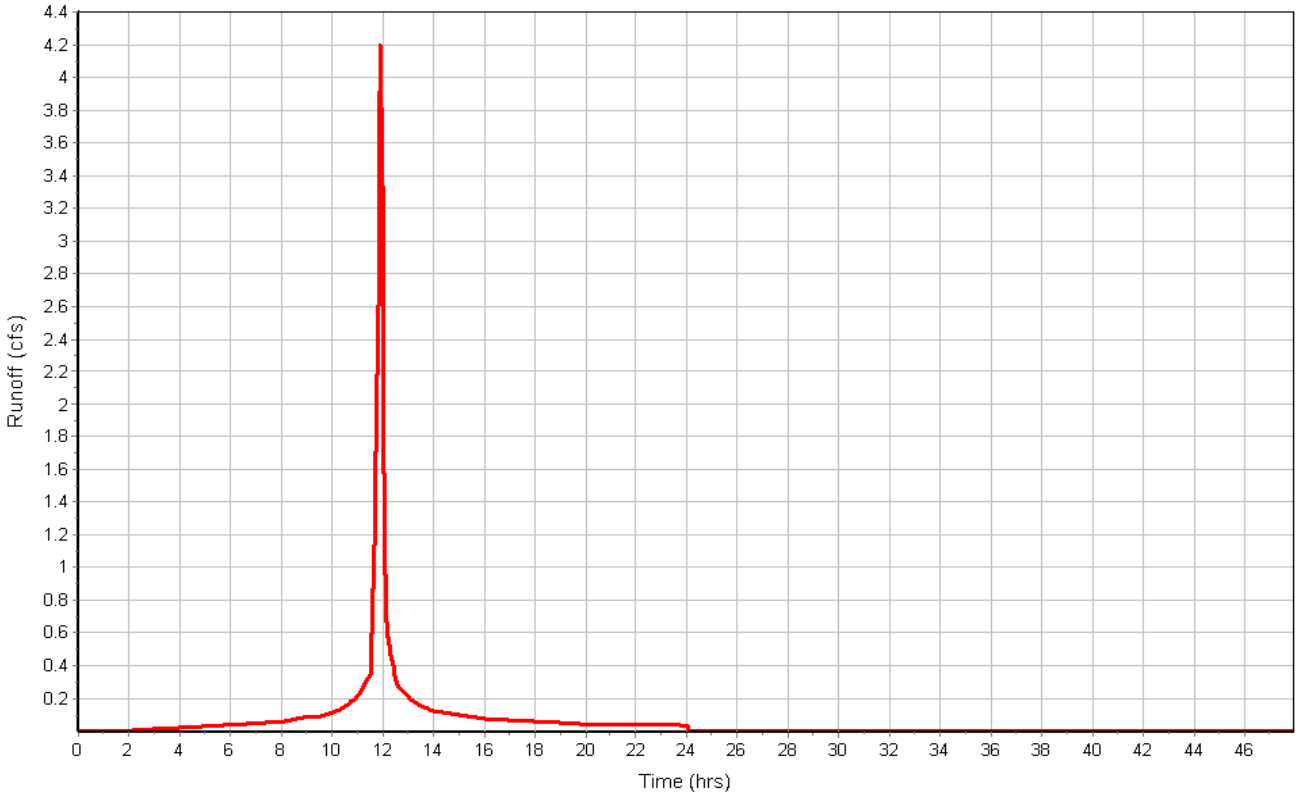
Total Rainfall (in)	2.40
Total Runoff (in)	2.17
Peak Runoff (cfs)	4.20
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : E

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E1

Input Data

Area (ac)	0.18
Peak Rate Factor	0.00
Weighted Curve Number	39.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.18	A	39.00
Composite Area & Weighted CN	0.18		39.00

Time of Concentration

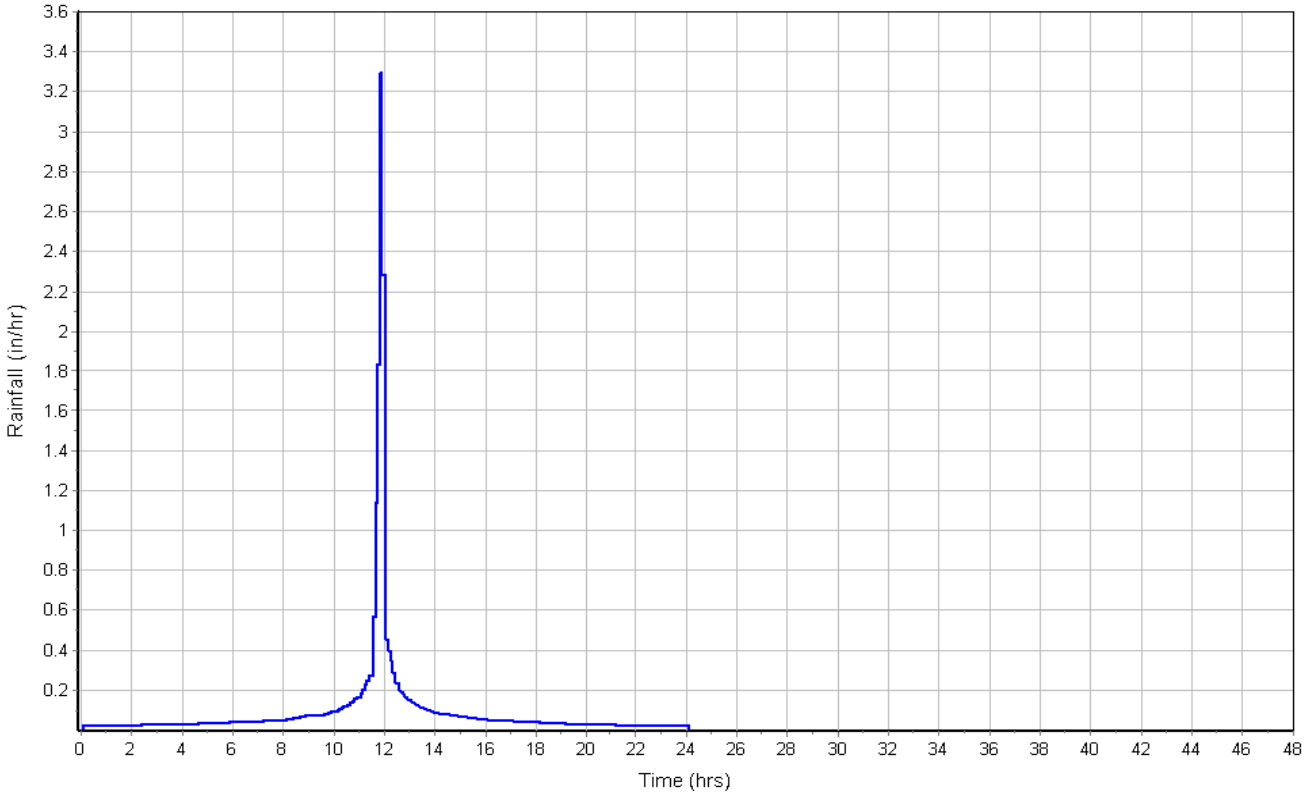
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

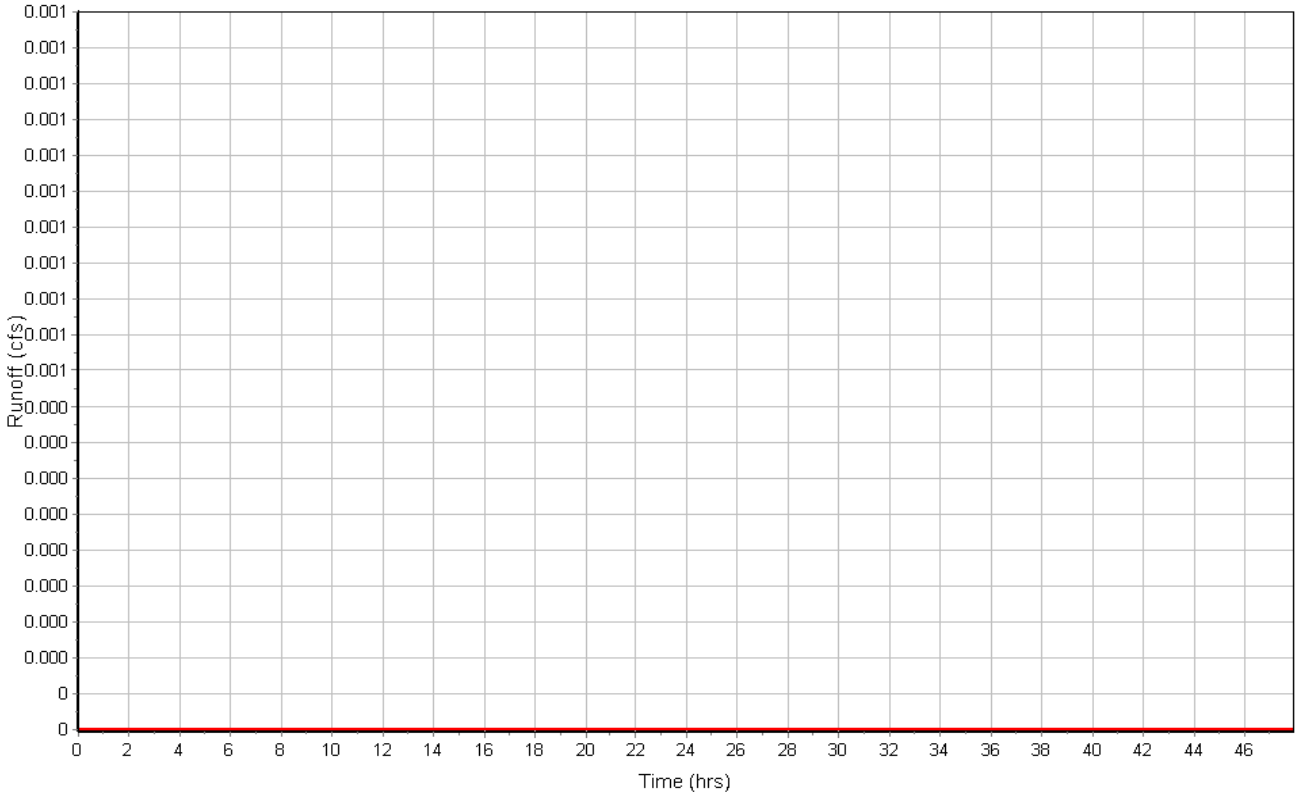
Total Rainfall (in)	2.40
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	39.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : E1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : EComp

Input Data

Area (ac)	2.14
Peak Rate Factor	0.00
Weighted Curve Number	54.99
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	1.56	A	39.00
-	0.58	-	98.00
Composite Area & Weighted CN	2.14		54.99

Time of Concentration

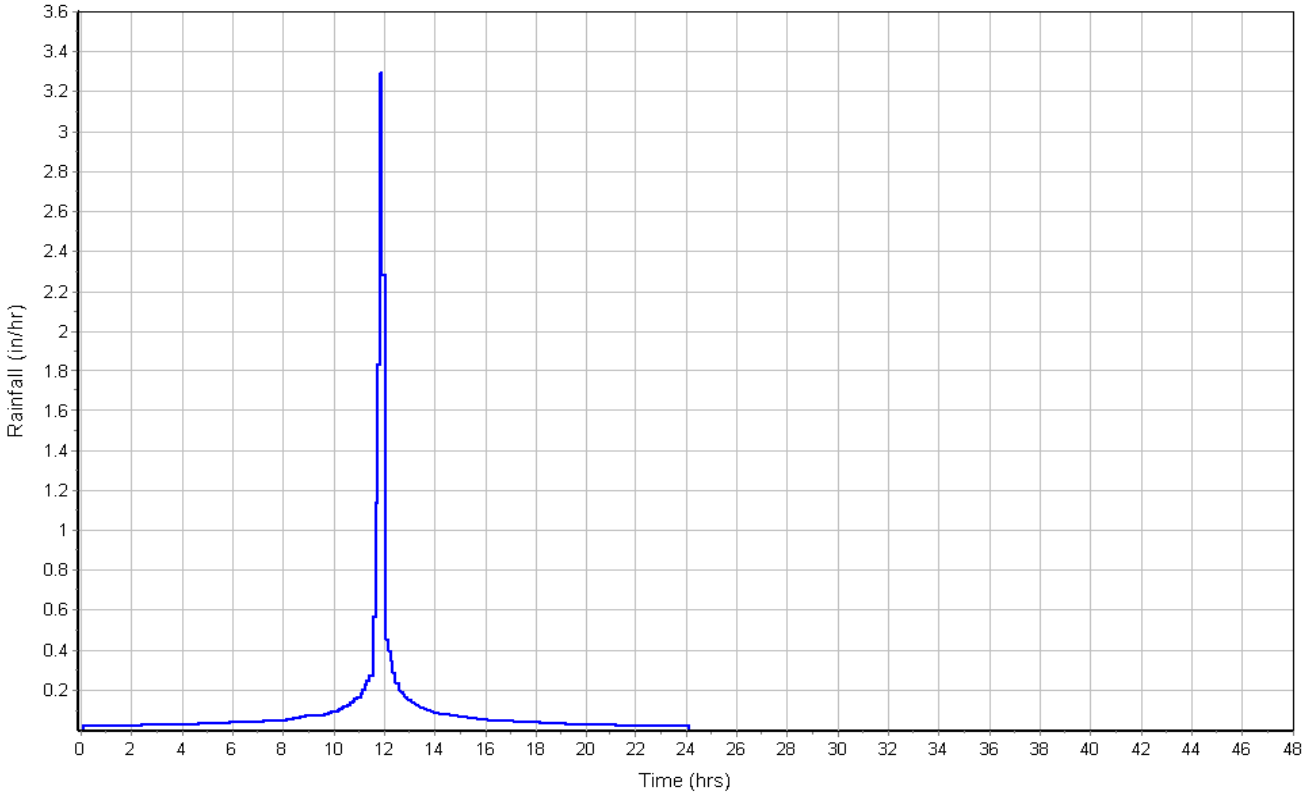
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

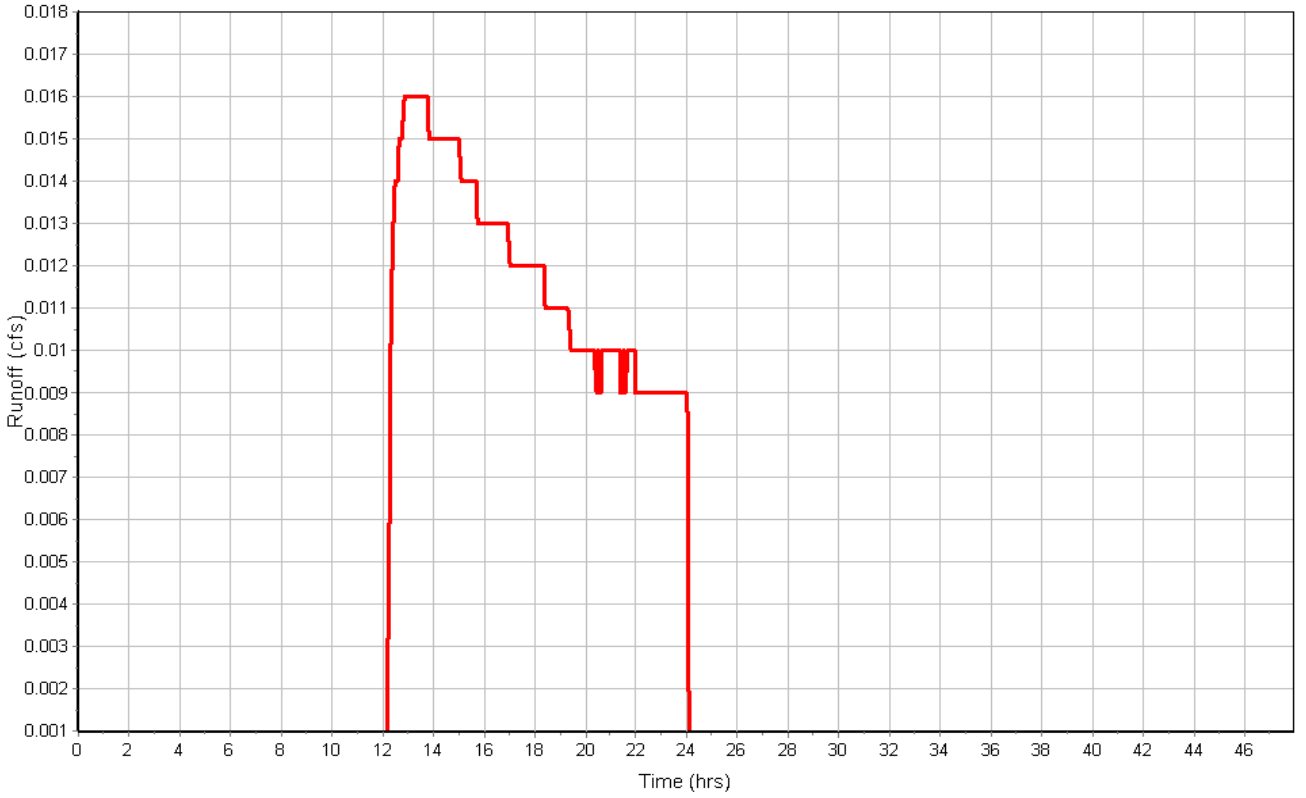
Total Rainfall (in)	2.40
Total Runoff (in)	0.07
Peak Runoff (cfs)	0.02
Weighted Curve Number	54.99
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : EComp

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : OFF

Input Data

Area (ac)	3.70
Peak Rate Factor	0.00
Weighted Curve Number	67.05
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
PASTURE-FAIR	1.60	A	49.00
PASTURE-FAIR	1.90	C	79.00
PAVEMENT	0.20	-	98.00
Composite Area & Weighted CN	3.70		67.05

Time of Concentration

Sheet Flow Computations	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness :	.2	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	1.25	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.94	0.00	0.00

Shallow Concentrated Flow Computations	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft) :	120	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec) :	0.99	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

Channel Flow Computations	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness :	.012	0.00	0.00
Flow Length (ft) :	500	0.00	0.00
Channel Slope (%) :	5	0.00	0.00
Cross Section Area (ft²) :	1	0.00	0.00
Wetted Perimeter (ft) :	2	0.00	0.00
Velocity (ft/sec) :	17.49	0.00	0.00
Computed Flow Time (min) :	0.48	0.00	0.00

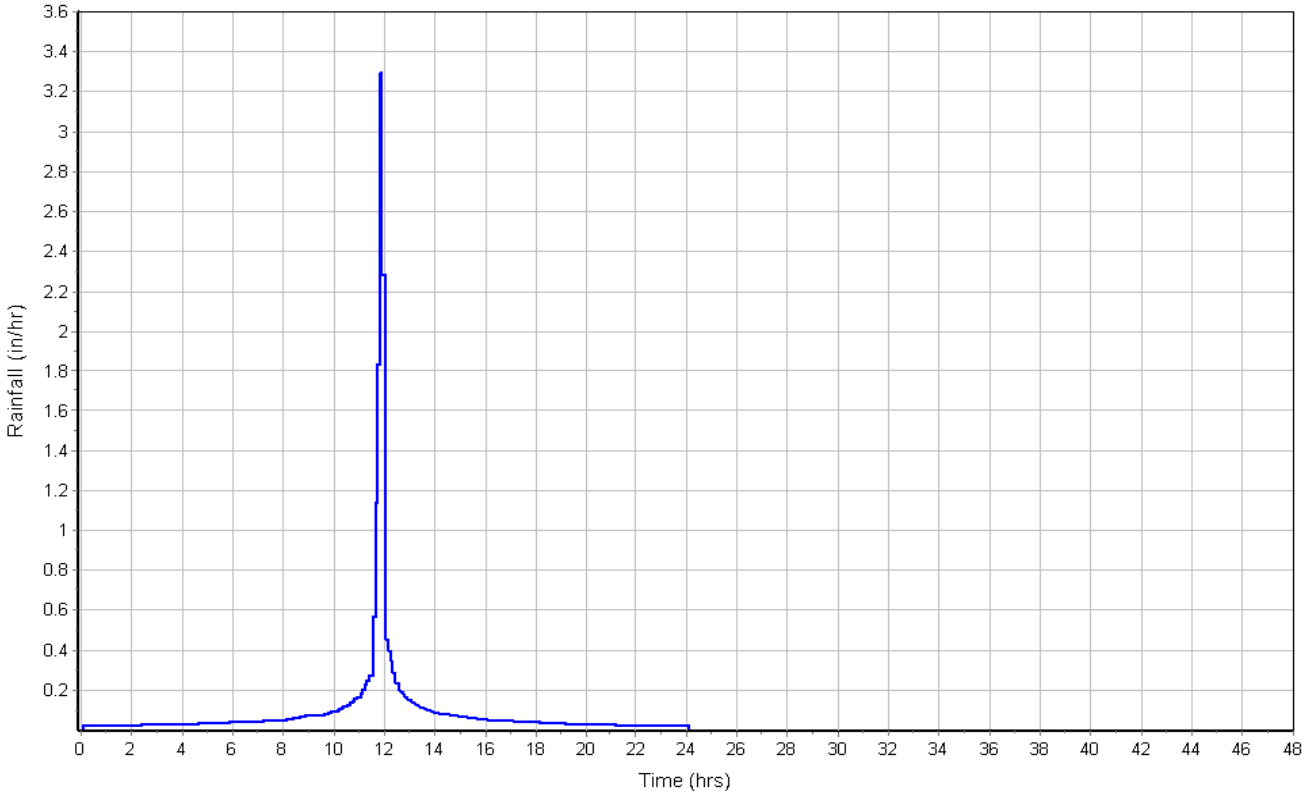
Total TOC (min) 35.44

Subbasin Runoff Results

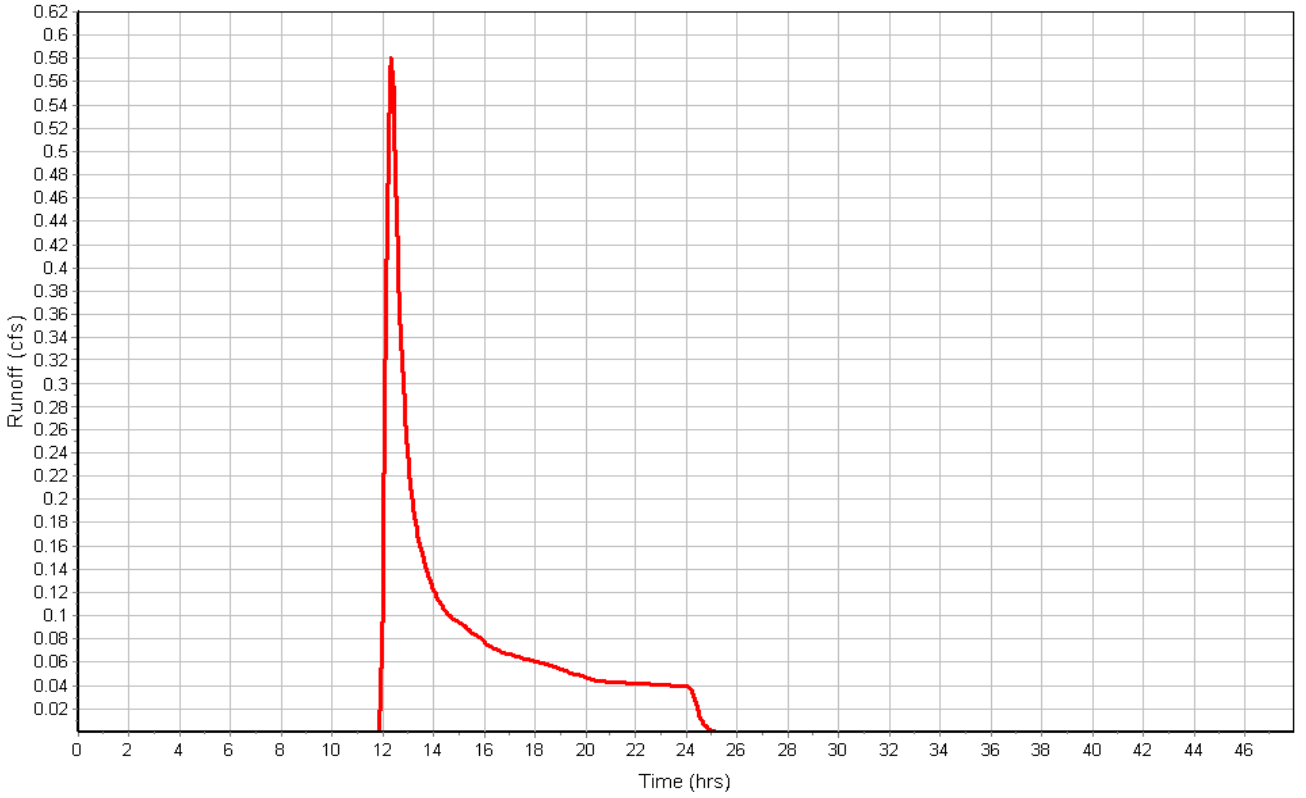
Total Rainfall (in)	2.40
Total Runoff (in)	0.32
Peak Runoff (cfs)	0.58
Weighted Curve Number	67.05
Time of Concentration (days hh:mm:ss)	0 00:35:26

Subbasin : OFF

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : W

Input Data

Area (ac)	2.38
Peak Rate Factor	0.00
Weighted Curve Number	98.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	2.38	A	98.00
Composite Area & Weighted CN	2.38		98.00

Time of Concentration

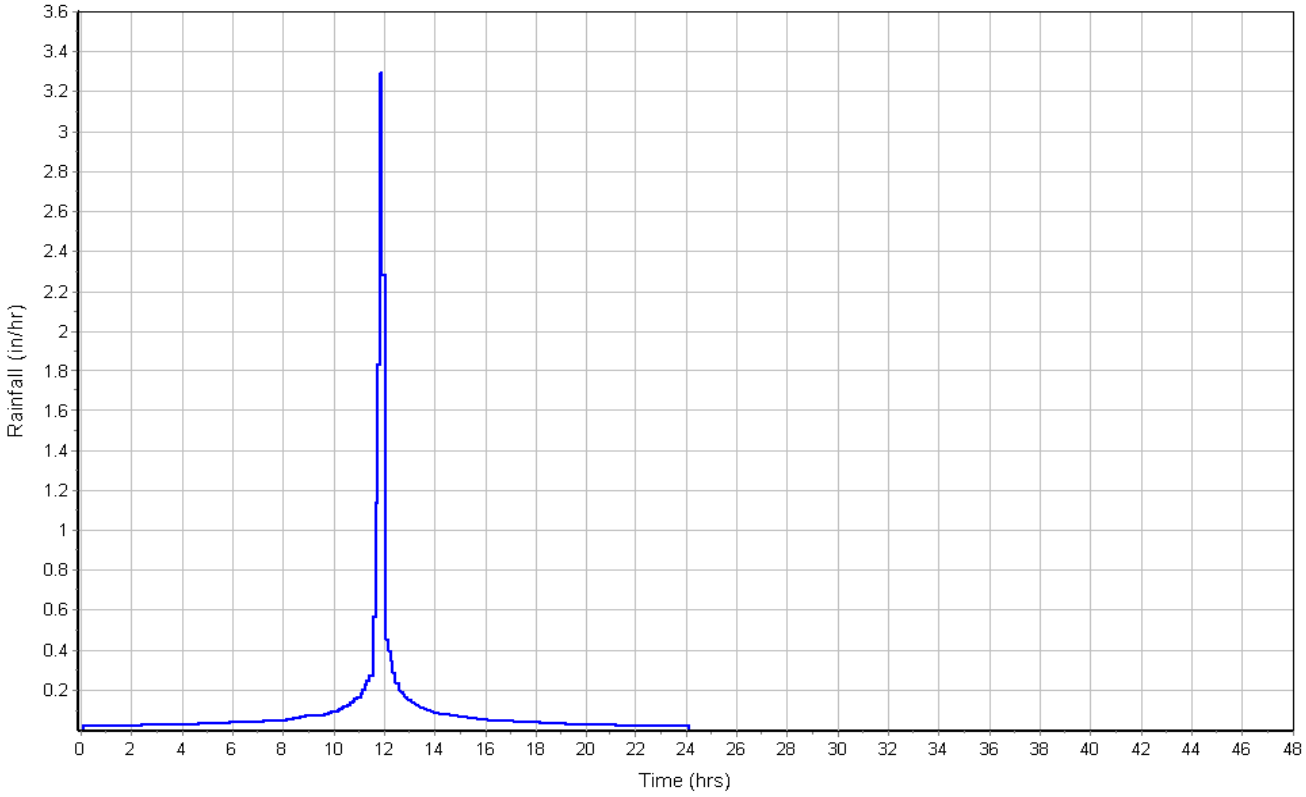
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

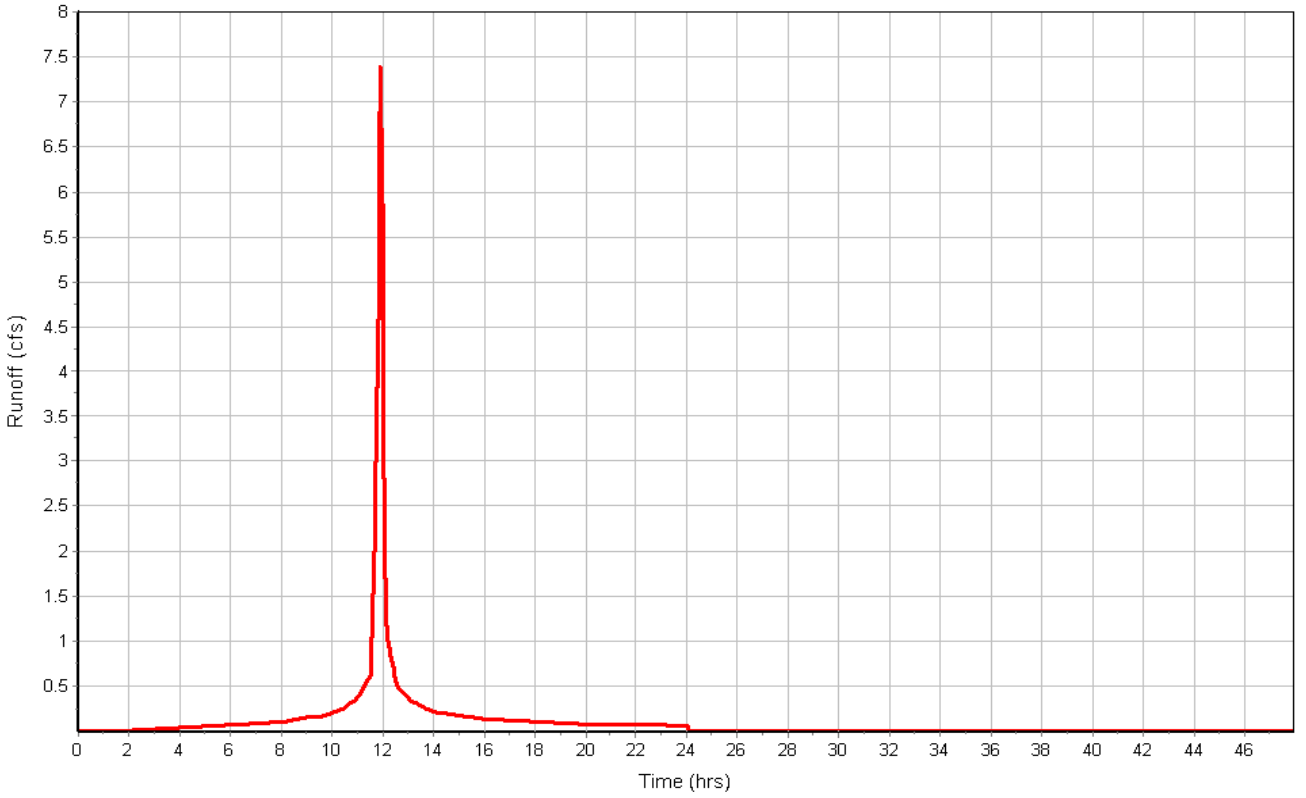
Total Rainfall (in)	2.40
Total Runoff (in)	2.17
Peak Runoff (cfs)	7.38
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : W

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : W1

Input Data

Area (ac)	1.88
Peak Rate Factor	0.00
Weighted Curve Number	70.76
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	1.41	C	74.00
> 75% grass cover, Good	0.47	B	61.00
Composite Area & Weighted CN	1.88		70.76

Time of Concentration

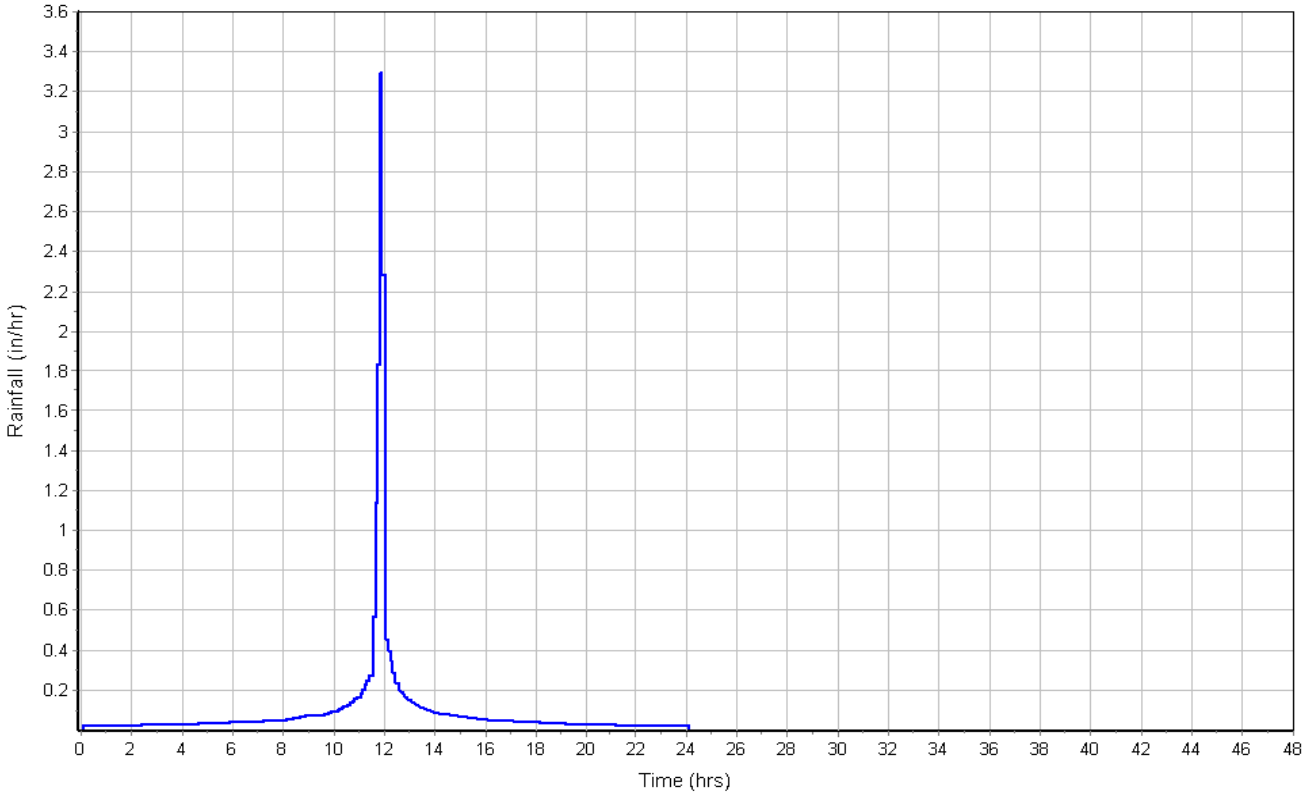
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

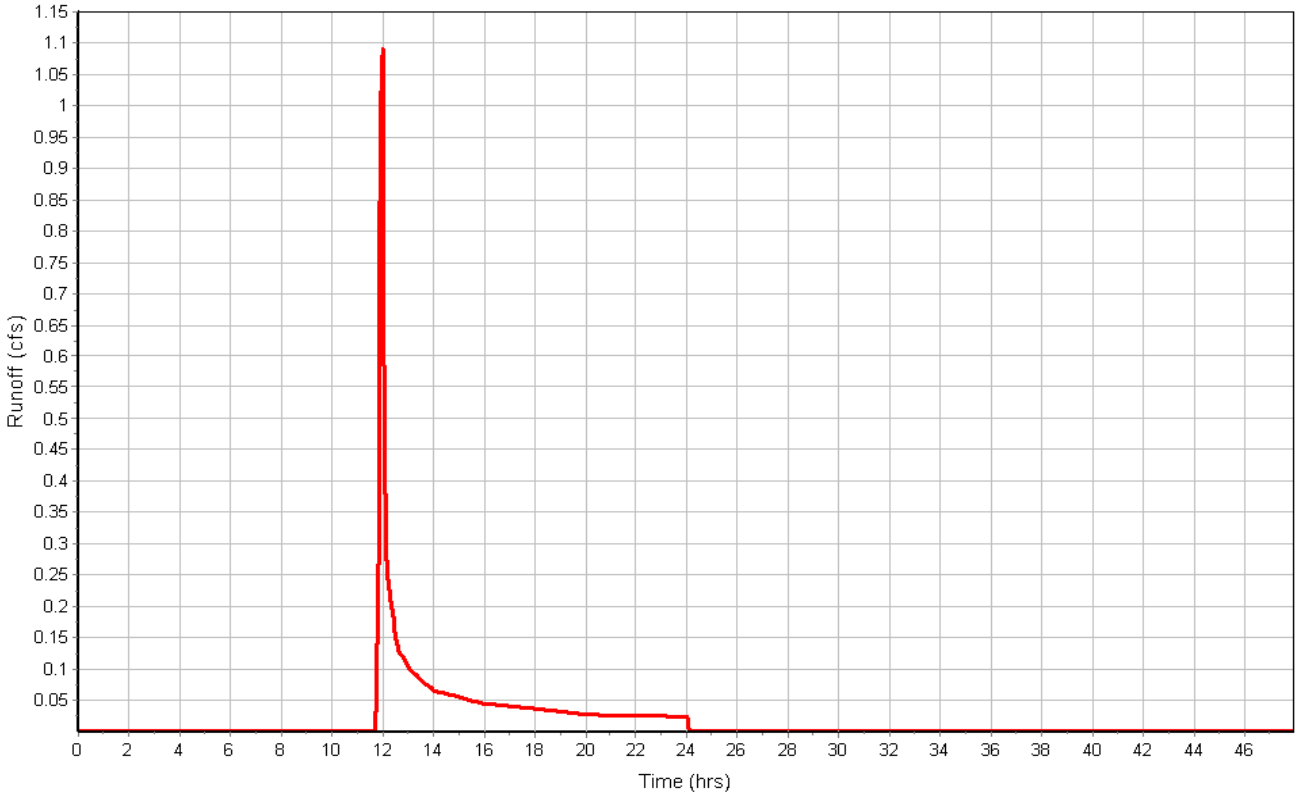
Total Rainfall (in)	2.40
Total Runoff (in)	0.43
Peak Runoff (cfs)	1.10
Weighted Curve Number	70.76
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : W1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : WComp

Input Data

Area (ac)	1.25
Peak Rate Factor	0.00
Weighted Curve Number	74.54
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.31	C	74.00
-	0.45	-	98.00
> 75% grass cover, Good	0.31	B	61.00
> 75% grass cover, Good	0.18	A	39.00
Composite Area & Weighted CN	1.25		74.54

Time of Concentration

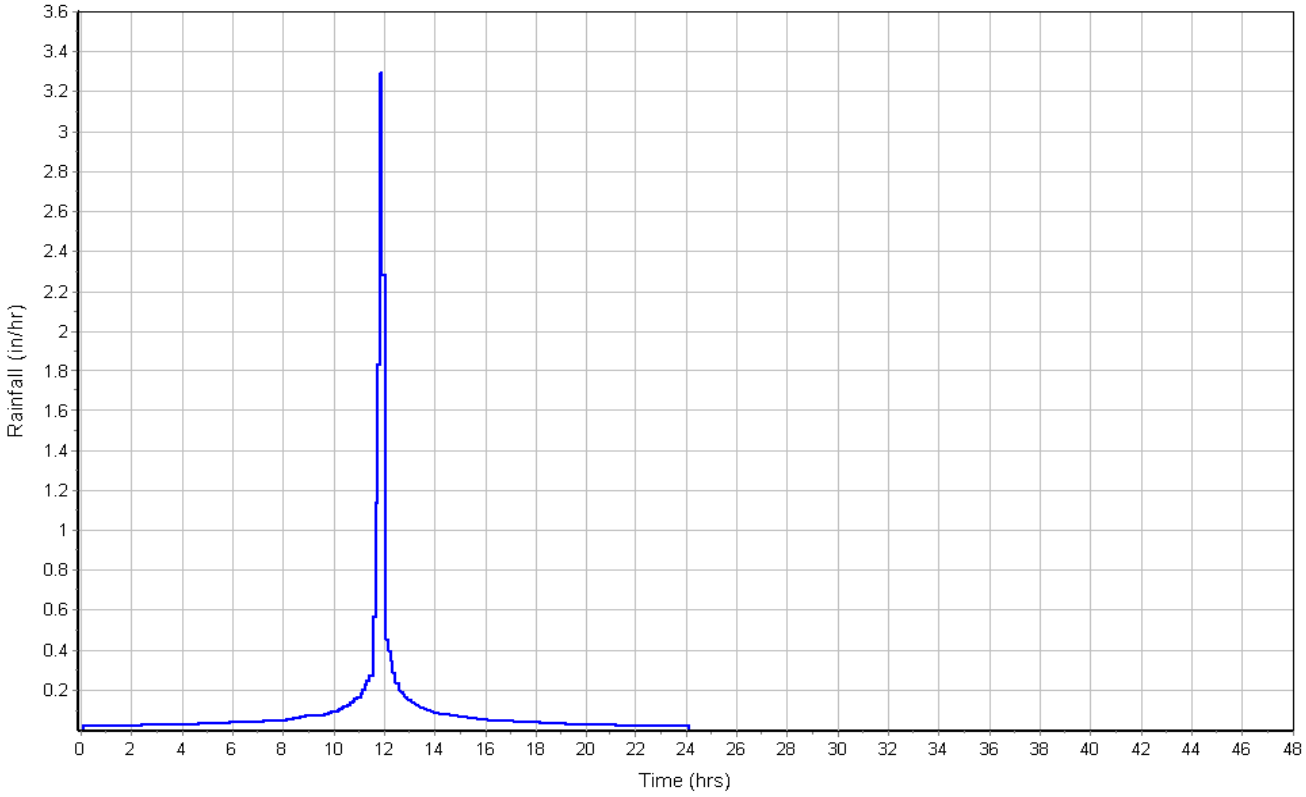
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

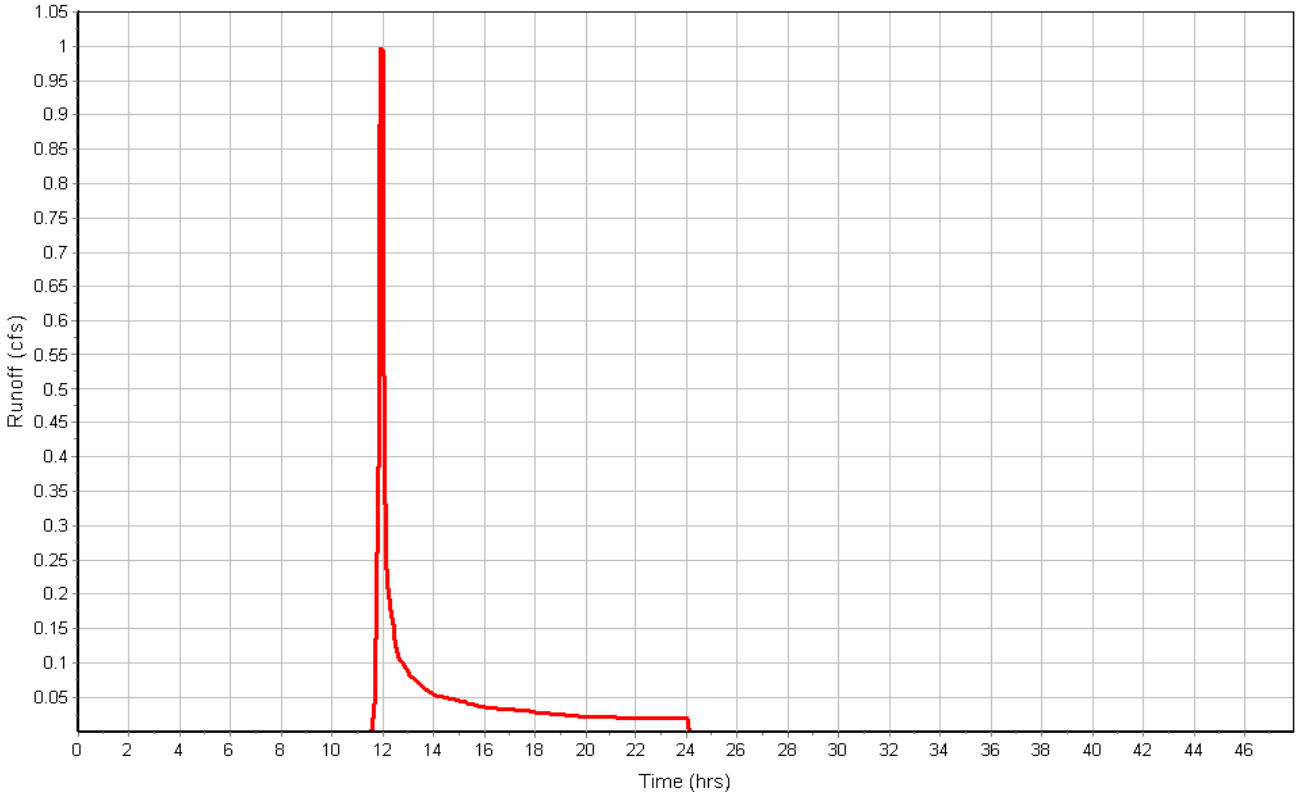
Total Rainfall (in)	2.40
Total Runoff (in)	0.57
Peak Runoff (cfs)	1.03
Weighted Curve Number	74.54
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : WComp

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : East_gallery_&_pond

Input Data

Invert Elevation (ft)	1036.00
Max (Rim) Elevation (ft)	1040.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-1036.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

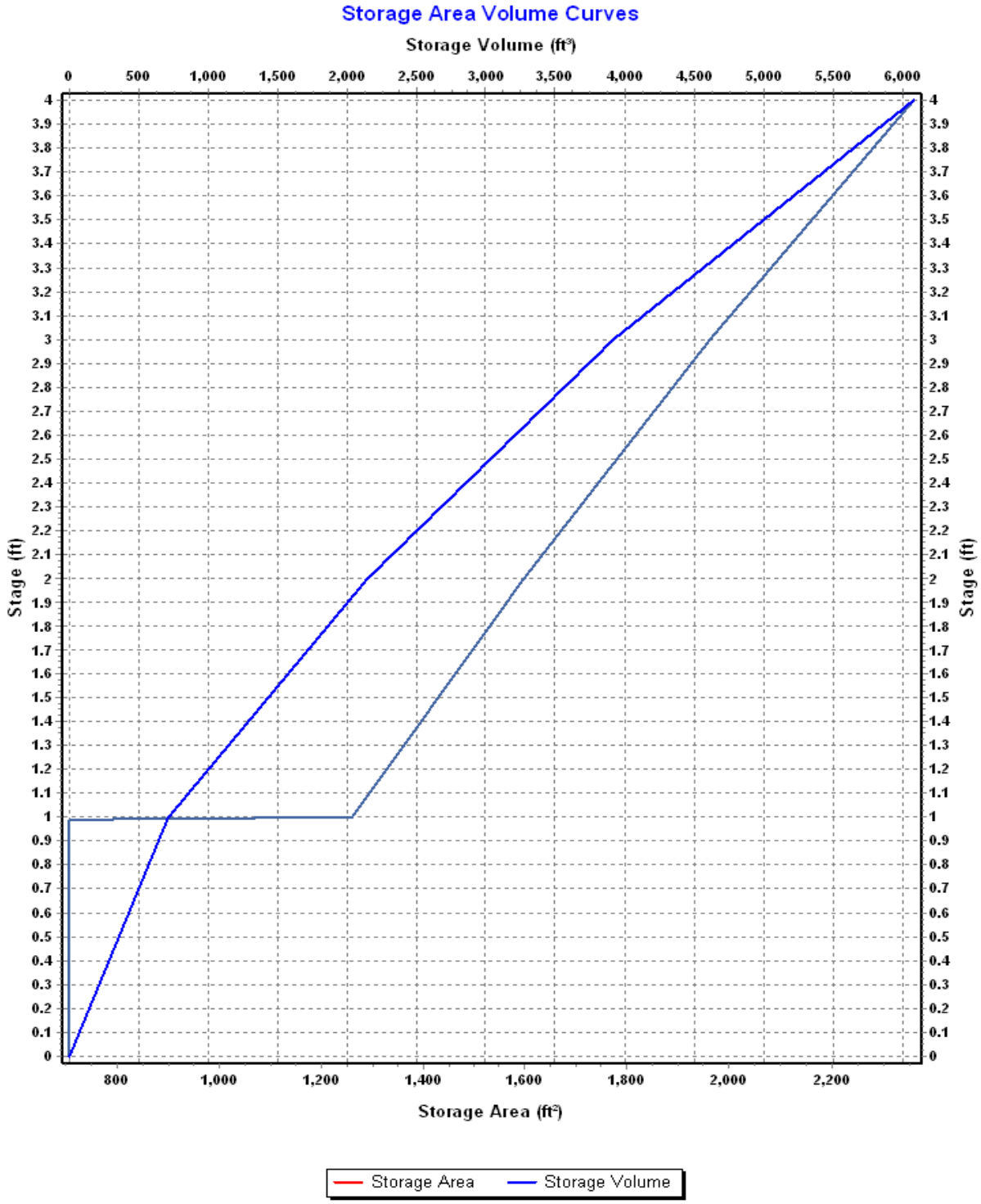
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.5625

Storage Area Volume Curves

Storage Curve : East pond & gallery

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	708	0.000
0.99	708	700.92
1	1262	710.77
2	1596	2139.77
3	1962	3918.77
4	2361	6080.27


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
6,000
Stage (ft)
Stage (ft)
Storage Area (ft²)
800
1,000
1,200
1,400
1,600
1,800
2,000
2,200
Storage Area
Storage Volume

Storage Node : East_gallery_&_pond (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	1040.00	4.00	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	4.10
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	33.75
Max HGL Elevation Attained (ft)	1038.99
Max HGL Depth Attained (ft)	2.99
Average HGL Elevation Attained (ft)	1036.18
Average HGL Depth Attained (ft)	0.18
Time of Max HGL Occurrence (days hh:mm)	0 12:49
Total Exfiltration Volume (1000-ft³)	11.597
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : EAST_POND_WQ

Input Data

Invert Elevation (ft)	1041.00
Max (Rim) Elevation (ft)	1042.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-1041.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

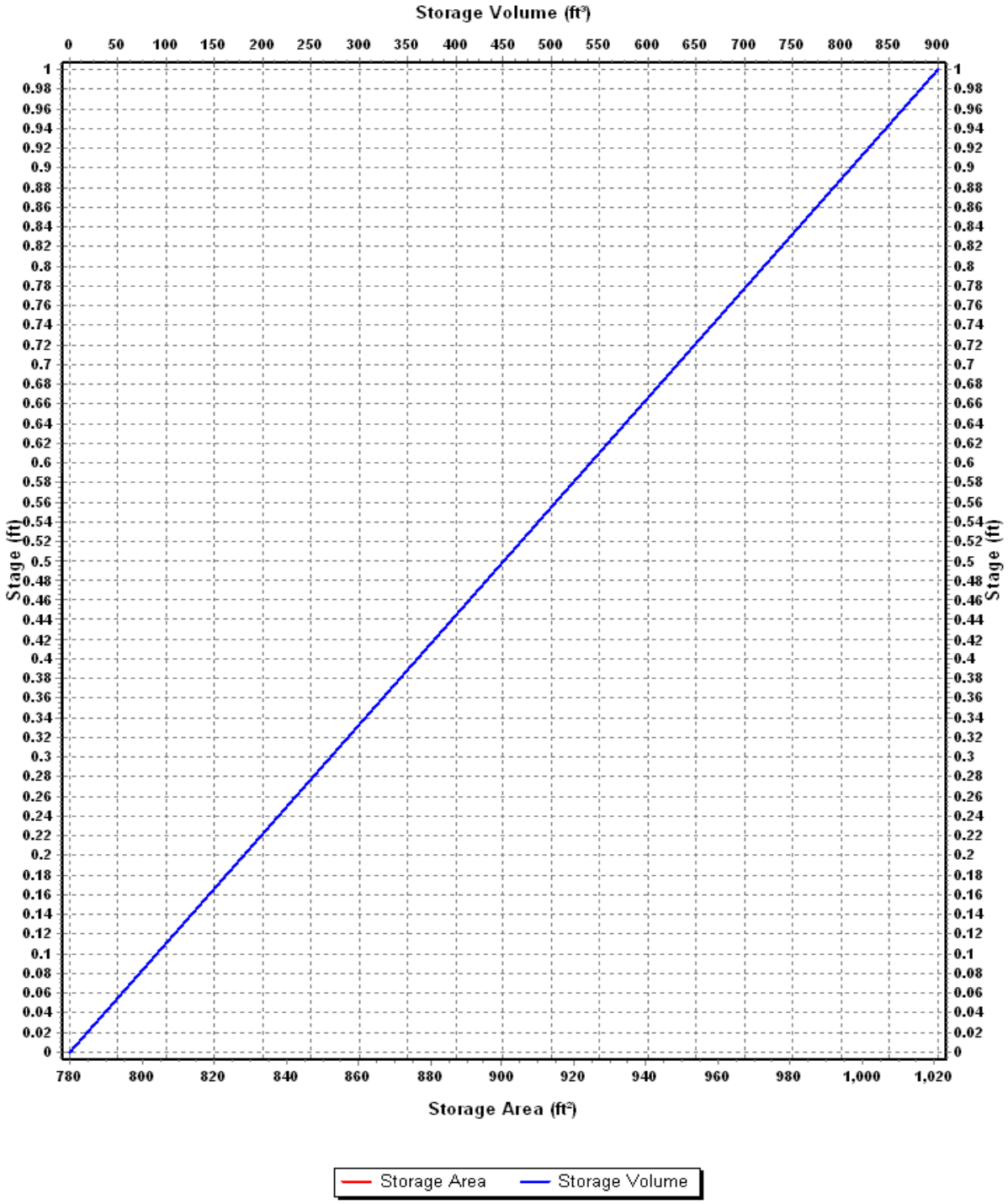
Constant Flow Rate (cfs)	0.0540

Storage Area Volume Curves

Storage Curve : Bioswale E

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	780	0.000
1	1021	900.50

Storage Area Volume Curves



Storage Node : EAST_POND_WQ (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	EAST	Trapezoidal	No	1041.50	0.50	10.00	1.00	3.33
2	Weir-18	Trapezoidal	No	1034.50	-6.50	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	4.22
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	4.10
Peak Exfiltration Flow Rate (cfm)	3.24
Max HGL Elevation Attained (ft)	1041.25
Max HGL Depth Attained (ft)	0.25
Average HGL Elevation Attained (ft)	1041.01
Average HGL Depth Attained (ft)	0.01
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	3.834
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Gallery_AWQ

Input Data

Invert Elevation (ft) 100.00
Max (Rim) Elevation (ft) 110.00
Max (Rim) Offset (ft) 10.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -100.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

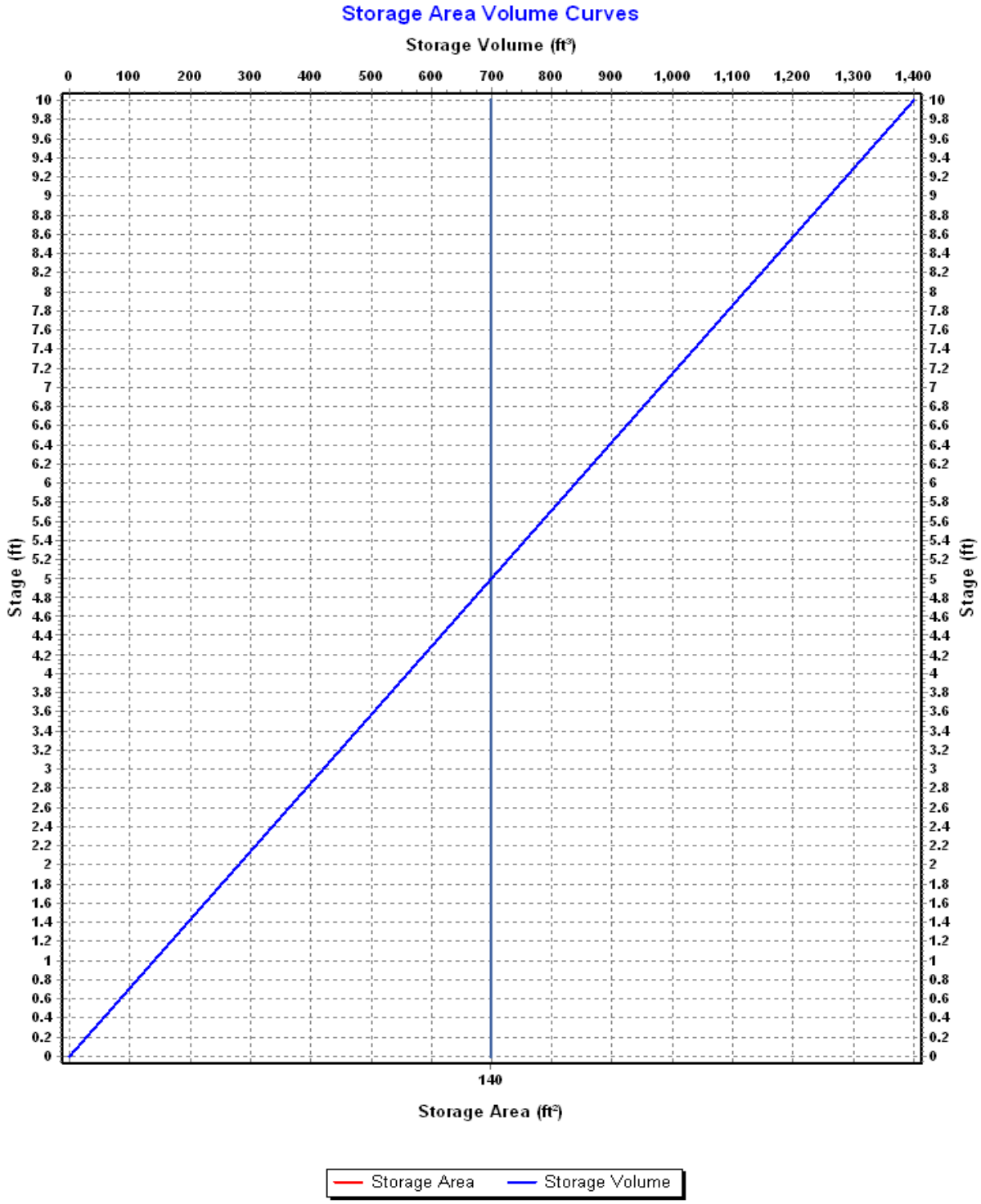
Infiltration/Exfiltration

Constant Flow Rate (cfs) 0.0278

Storage Area Volume Curves

Storage Curve : WQ Gallery A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	140	0.000
10	140	1400.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400
Stage (ft)
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3 3.2 3.4 3.6 3.8 4 4.2 4.4 4.6 4.8 5 5.2 5.4 5.6 5.8 6 6.2 6.4 6.6 6.8 7 7.2 7.4 7.6 7.8 8 8.2 8.4 8.6 8.8 9 9.2 9.4 9.6 9.8 10
140
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Gallery_AWQ (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir_A	Trapezoidal	No	101.50	1.50	10.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	2.08
Peak Lateral Inflow (cfs)	2.08
Peak Outflow (cfs)	2.06
Peak Exfiltration Flow Rate (cfm)	1.67
Max HGL Elevation Attained (ft)	101.65
Max HGL Depth Attained (ft)	1.65
Average HGL Elevation Attained (ft)	100.40
Average HGL Depth Attained (ft)	0.4
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	2.002
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Gallery_BWQ

Input Data

Invert Elevation (ft) 100.00
Max (Rim) Elevation (ft) 110.00
Max (Rim) Offset (ft) 10.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -100.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

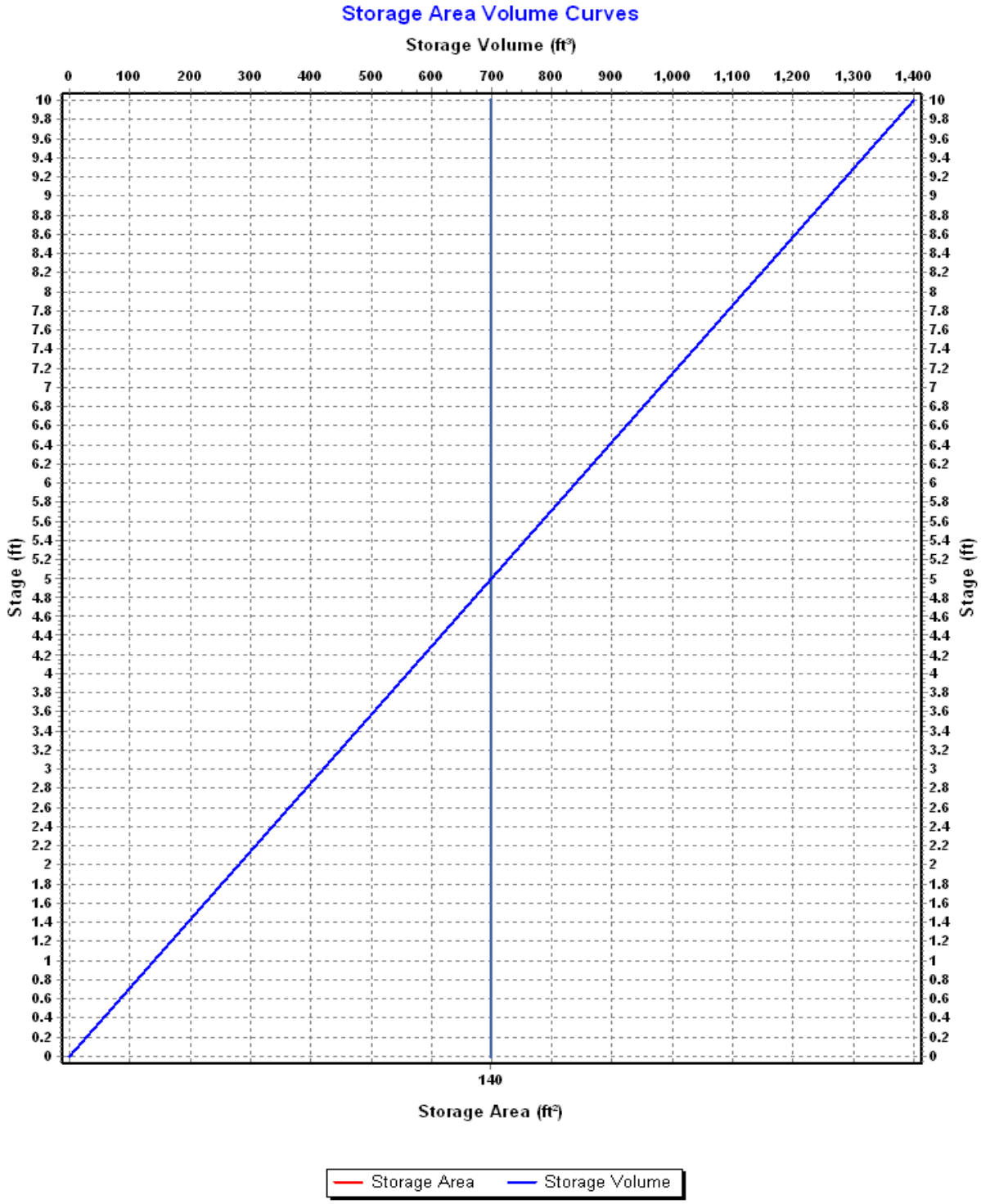
Infiltration/Exfiltration

Constant Flow Rate (cfs) 0.0327

Storage Area Volume Curves

Storage Curve : WQ Gallery A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	140	0.000
10	140	1400.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400
Stage (ft)
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3 3.2 3.4 3.6 3.8 4 4.2 4.4 4.6 4.8 5 5.2 5.4 5.6 5.8 6 6.2 6.4 6.6 6.8 7 7.2 7.4 7.6 7.8 8 8.2 8.4 8.6 8.8 9 9.2 9.4 9.6 9.8 10
140
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Gallery_BWQ (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir_B	Trapezoidal	No	101.50	1.50	10.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	3.12
Peak Lateral Inflow (cfs)	3.12
Peak Outflow (cfs)	3.08
Peak Exfiltration Flow Rate (cfm)	1.96
Max HGL Elevation Attained (ft)	101.70
Max HGL Depth Attained (ft)	1.7
Average HGL Elevation Attained (ft)	100.48
Average HGL Depth Attained (ft)	0.48
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	2.480
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : GalleryA

Input Data

Invert Elevation (ft) 0.00
Max (Rim) Elevation (ft) 10.00
Max (Rim) Offset (ft) 10.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Infiltration/Exfiltration

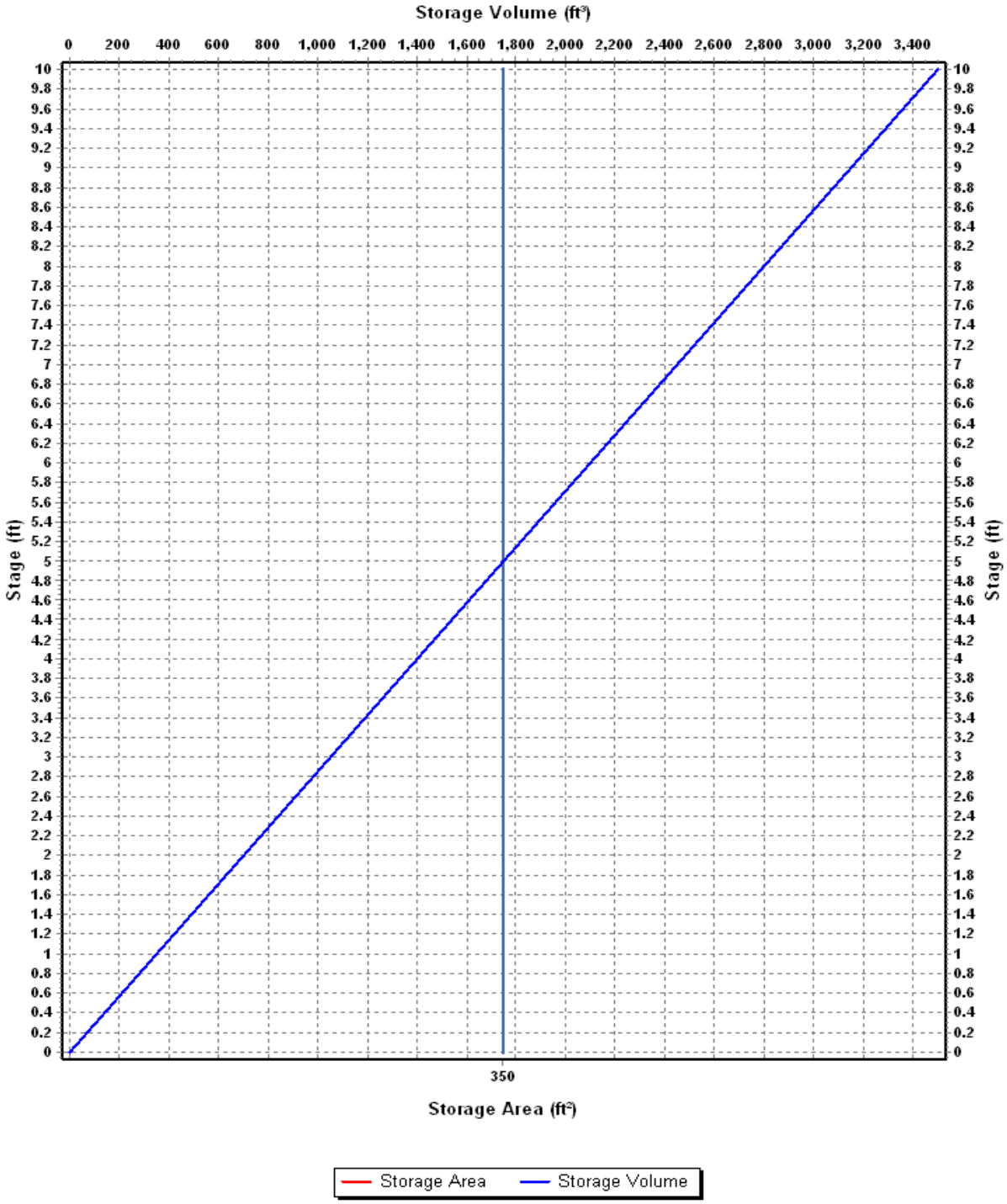
Constant Flow Rate (cfs) 0.2778

Storage Area Volume Curves

Storage Curve : EGall

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	350	0.000
10	350	3500.00

Storage Area Volume Curves



Storage Node : GalleryA (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	10.00	10.00	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	2.06
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	16.67
Max HGL Elevation Attained (ft)	4.53
Max HGL Depth Attained (ft)	4.53
Average HGL Elevation Attained (ft)	0.15
Average HGL Depth Attained (ft)	0.15
Time of Max HGL Occurrence (days hh:mm)	0 12:15
Total Exfiltration Volume (1000-ft³)	3.256
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : GalleryB

Input Data

Invert Elevation (ft) 0.00
Max (Rim) Elevation (ft) 10.00
Max (Rim) Offset (ft) 10.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Infiltration/Exfiltration

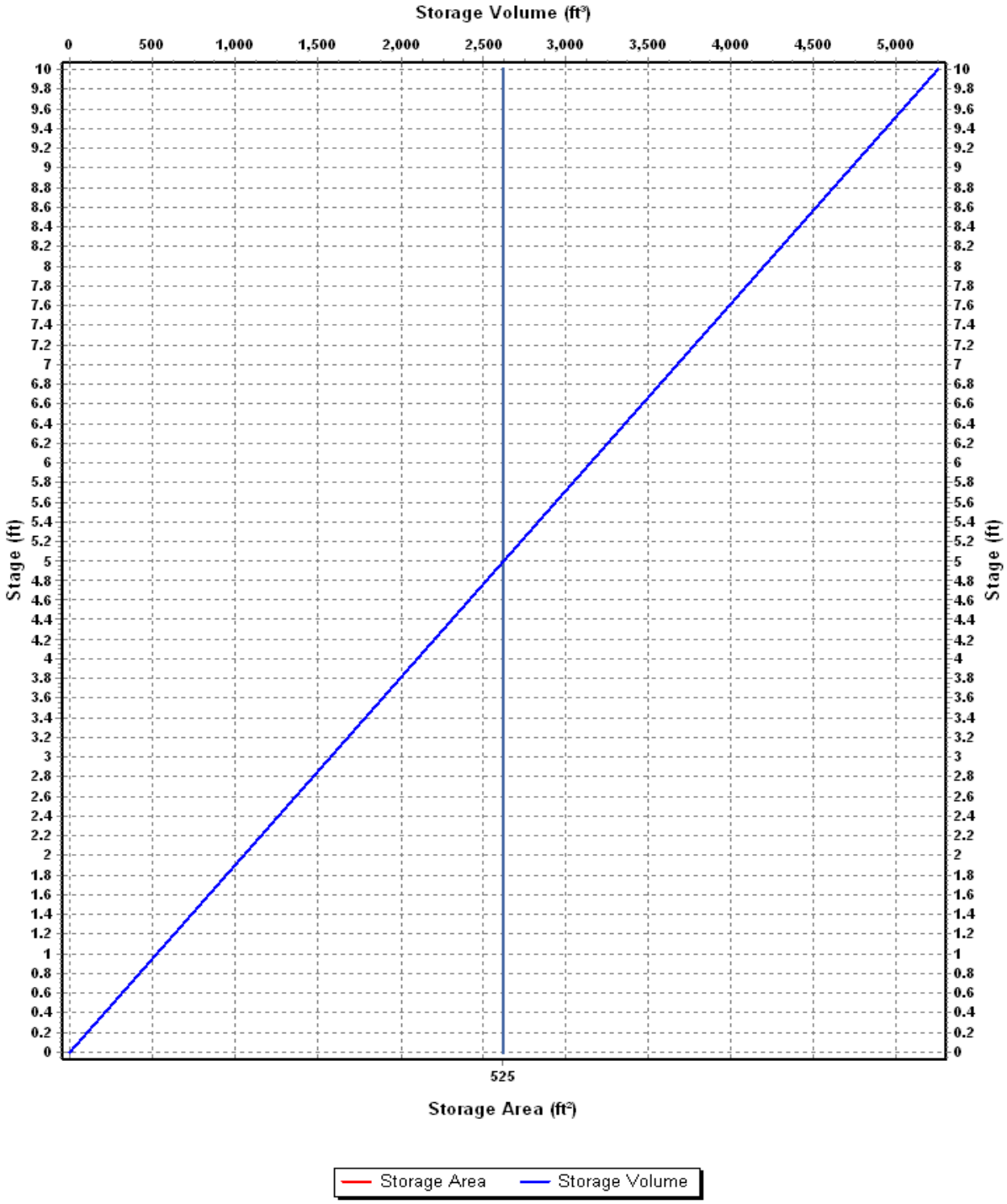
Constant Flow Rate (cfs) 0.4170

Storage Area Volume Curves

Storage Curve : WGall

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	525	0.000
10	525	5250.00

Storage Area Volume Curves



Storage Node : GalleryB (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	9.00	9.00	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	3.08
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	25.02
Max HGL Elevation Attained (ft)	4.39
Max HGL Depth Attained (ft)	4.39
Average HGL Elevation Attained (ft)	0.15
Average HGL Depth Attained (ft)	0.15
Time of Max HGL Occurrence (days hh:mm)	0 12:19
Total Exfiltration Volume (1000-ft³)	5.589
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : West_Pond_and_gallery

Input Data

Invert Elevation (ft) 1025.00
Max (Rim) Elevation (ft) 1029.00
Max (Rim) Offset (ft) 4.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -1025.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

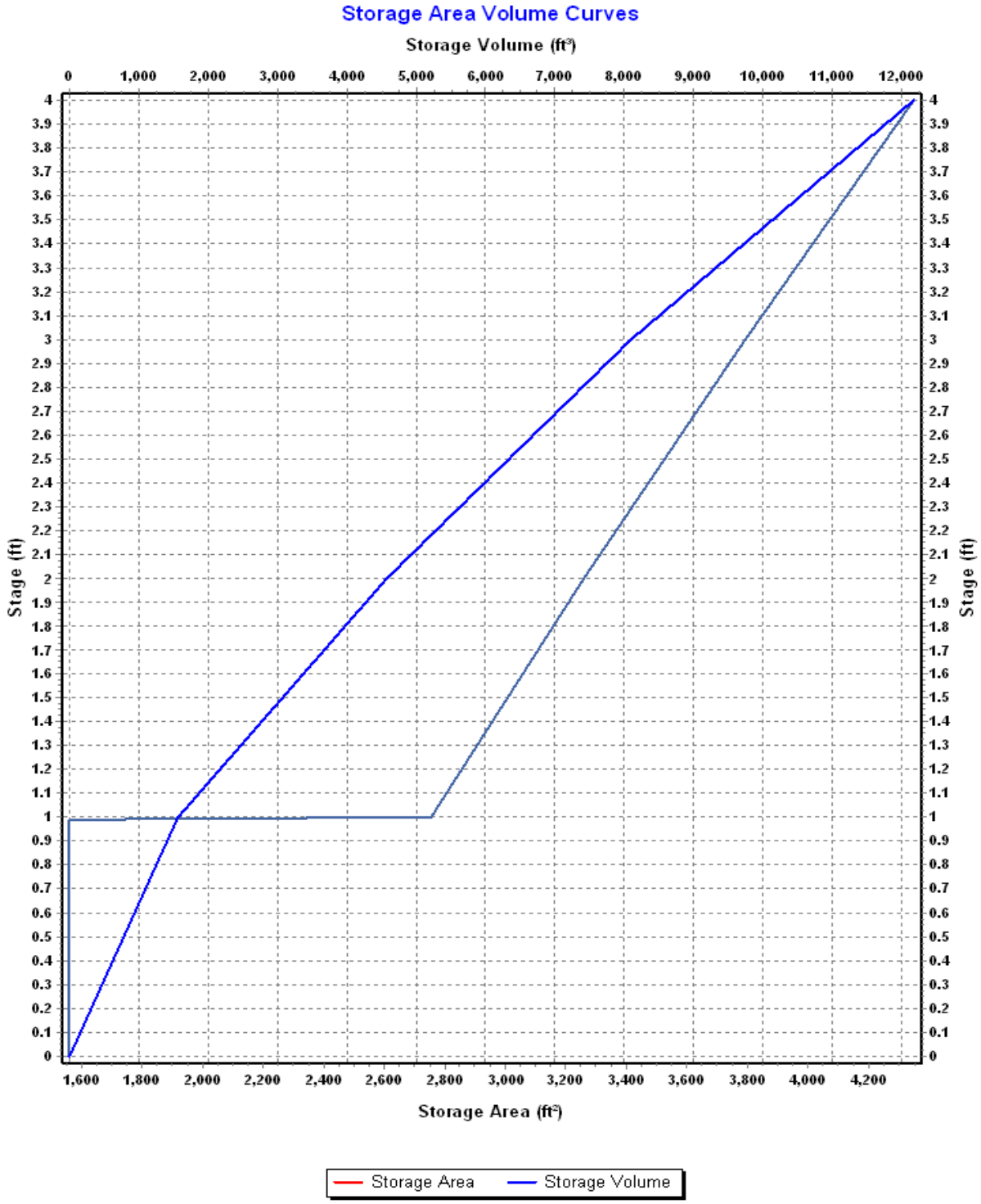
Infiltration/Exfiltration

Constant Flow Rate (cfs) 1.2380

Storage Area Volume Curves

Storage Curve : West Pond & Gallery

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1560	0.000
0.99	1560	1544.40
1	2756	1565.98
2	3258	4572.98
3	3792	8097.98
4	4350	12168.98


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
Stage (ft)
Stage (ft)
Storage Area (ft²)
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
4,200
Storage Area
Storage Volume

Storage Node : West_Pond_and_gallery (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	1029.00	4.00	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	8.99
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	74.28
Max HGL Elevation Attained (ft)	1027.67
Max HGL Depth Attained (ft)	2.67
Average HGL Elevation Attained (ft)	1025.11
Average HGL Depth Attained (ft)	0.11
Time of Max HGL Occurrence (days hh:mm)	0 12:21
Total Exfiltration Volume (1000-ft³)	15.997
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WEST_POND_BIOSWALE

Input Data

Invert Elevation (ft)	1028.00
Max (Rim) Elevation (ft)	1029.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-1028.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

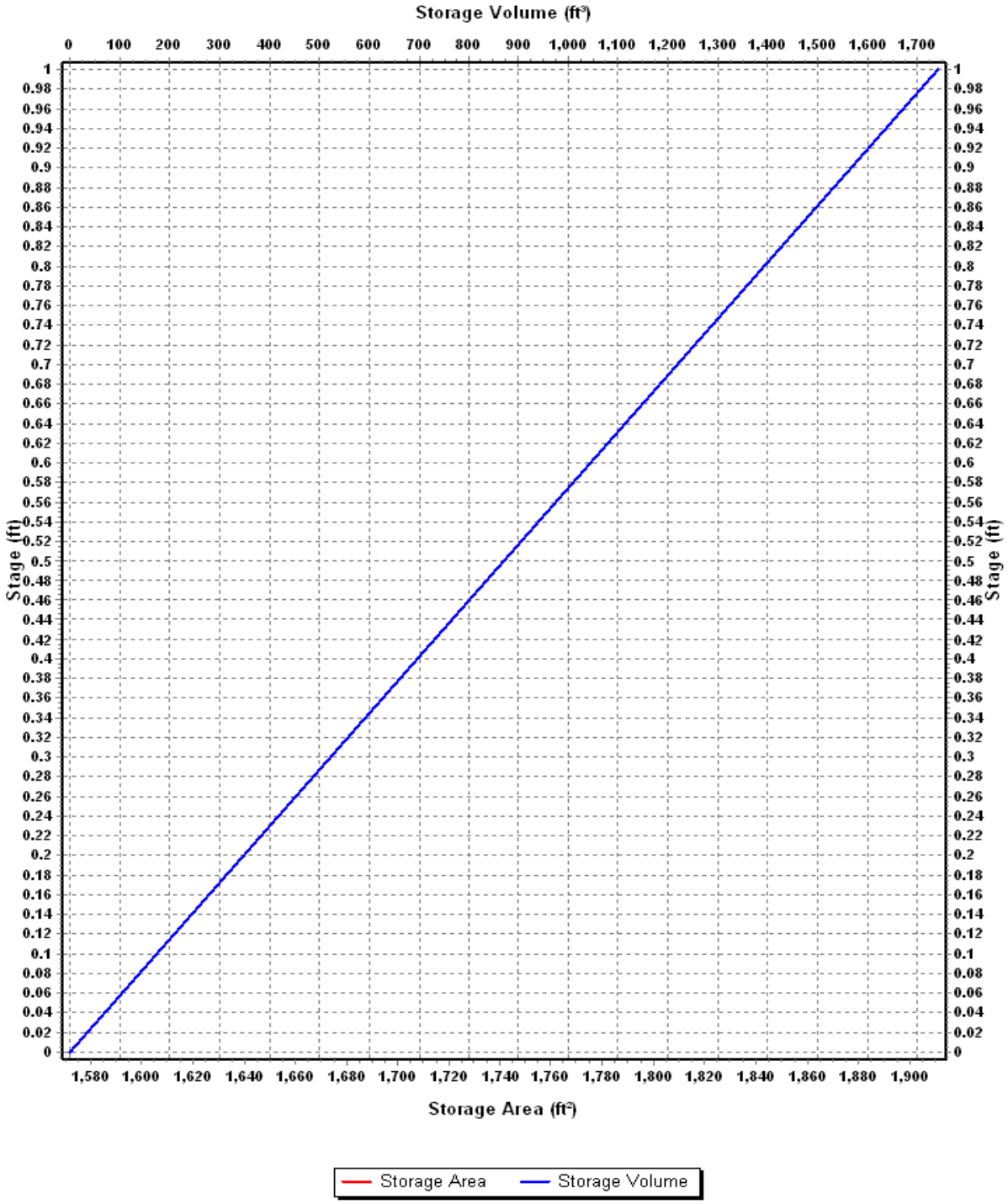
Constant Flow Rate (cfs)	0.1092

Storage Area Volume Curves

Storage Curve : Bioswale W

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1572	0.000
1	1911	1741.50

Storage Area Volume Curves



Storage Node : WEST_POND_BIOSWALE (continued)

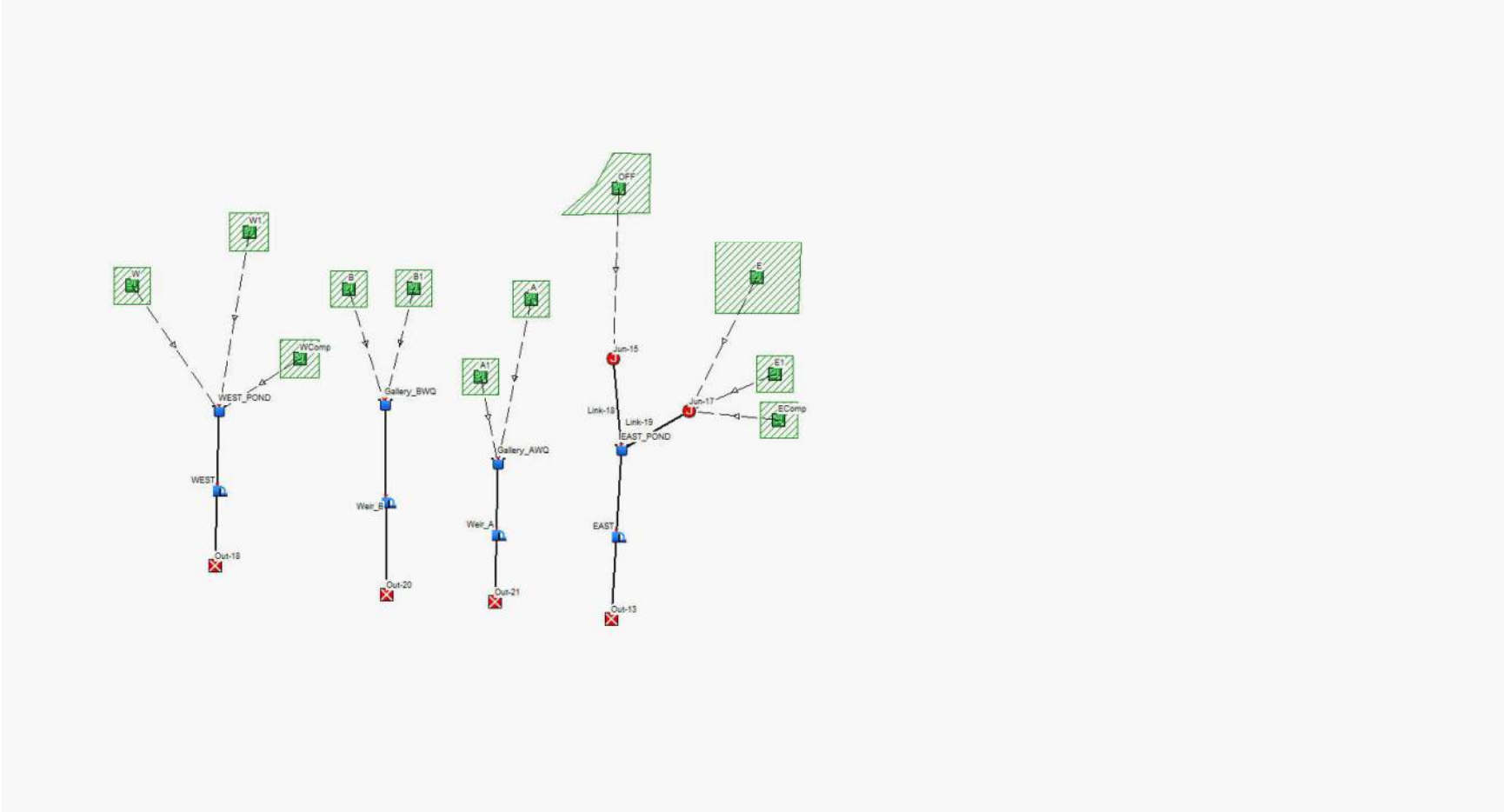
Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	WEST	Trapezoidal	No	1028.50	0.50	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	9.35
Peak Lateral Inflow (cfs)	9.35
Peak Outflow (cfs)	8.99
Peak Exfiltration Flow Rate (cfm)	6.55
Max HGL Elevation Attained (ft)	1028.91
Max HGL Depth Attained (ft)	0.91
Average HGL Elevation Attained (ft)	1028.16
Average HGL Depth Attained (ft)	0.16
Time of Max HGL Occurrence (days hh:mm)	0 12:01
Total Exfiltration Volume (1000-ft³)	8.270
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

APPENDIX C
PRELIMINARY WATER QUALITY ANALYSIS DATA AND RESULTS


OFF
W1
W
WComp
WEST_POND
WEST
Out-18
B
B1
Gallery_BWQ
Weir_B
Out-20
A
A1
Gallery_AWQ
Weir_A
Out-21
Jun-15
Link-18
Link-19
EAST_POND
EAST
Out-13
E
E1
Jun-17
EComp

Project Description

File Name	Rev Prelim 100% WQ design.SPF
Description	
	ACKERMAN HURST SUBDIVISION

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	May 03, 2021	00:00:00
End Analysis On	May 05, 2021	00:00:00
Start Reporting On	May 03, 2021	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	11
Nodes	10
Junctions	2
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	4
Links	6
Channels	0
Pipes	2
Pumps	0
Orifices	0
Weirs	4
Outlets	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	A	0.54	0.00	98.00	0.70	0.51	0.27	0.07	0 00:05:00
2	A1	0.51	0.00	39.00	0.70	0.00	0.00	0.00	0 00:05:00
3	B	0.63	0.00	98.00	0.70	0.51	0.32	0.08	0 00:05:00
4	B1	0.75	0.00	74.00	0.70	0.00	0.00	0.00	0 00:05:00
5	E	1.09	0.00	98.00	0.70	0.51	0.55	0.14	0 00:05:00
6	E1	0.14	0.00	39.00	0.70	0.00	0.00	0.00	0 00:05:00
7	EComp	1.72	0.00	55.00	0.70	0.00	0.00	0.00	0 00:05:00
8	OFF	3.70	0.00	67.05	0.70	0.00	0.00	0.00	0 00:35:26
9	W	1.91	0.00	98.00	0.70	0.51	0.97	0.25	0 00:05:00
10	W1	1.50	0.00	70.75	0.70	0.00	0.00	0.00	0 00:05:00
11	WComp	1.00	0.00	74.54	0.70	0.00	0.00	0.00	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Jun-15	Junction	1040.00	6.00	0.00	0.00	0.00	0.00	1040.00	0.00	0.00	0 00:00	0.00	0.00
2	Jun-17	Junction	1040.00	6.00	0.00	0.00	0.00	0.14	1040.00	0.00	0.00	0 00:00	0.00	0.00
3	Out-13	Outfall	0.00					0.00	0.00					
4	Out-18	Outfall	0.00					0.00	0.00					
5	Out-20	Outfall	0.00					0.00	0.00					
6	Out-21	Outfall	0.00					0.00	0.00					
7	EAST_POND	Storage Node	1041.00	1042.00	0.00		0.00	0.14	1041.21				0.00	0.00
8	Gallery_AWQ	Storage Node	100.00	110.00	0.00		0.00	0.07	100.59				0.00	0.00
9	Gallery_BWQ	Storage Node	100.00	110.00	0.00		0.00	0.08	100.58				0.00	0.00
10	WEST_POND	Storage Node	1028.00	1029.00	0.00		0.00	0.25	1028.16				0.00	0.00

Subbasin Hydrology

Subbasin : A

Input Data

Area (ac) 0.54
Peak Rate Factor 0.00
Weighted Curve Number 98.00
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	0.54	A	98.00
Composite Area & Weighted CN	0.54		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

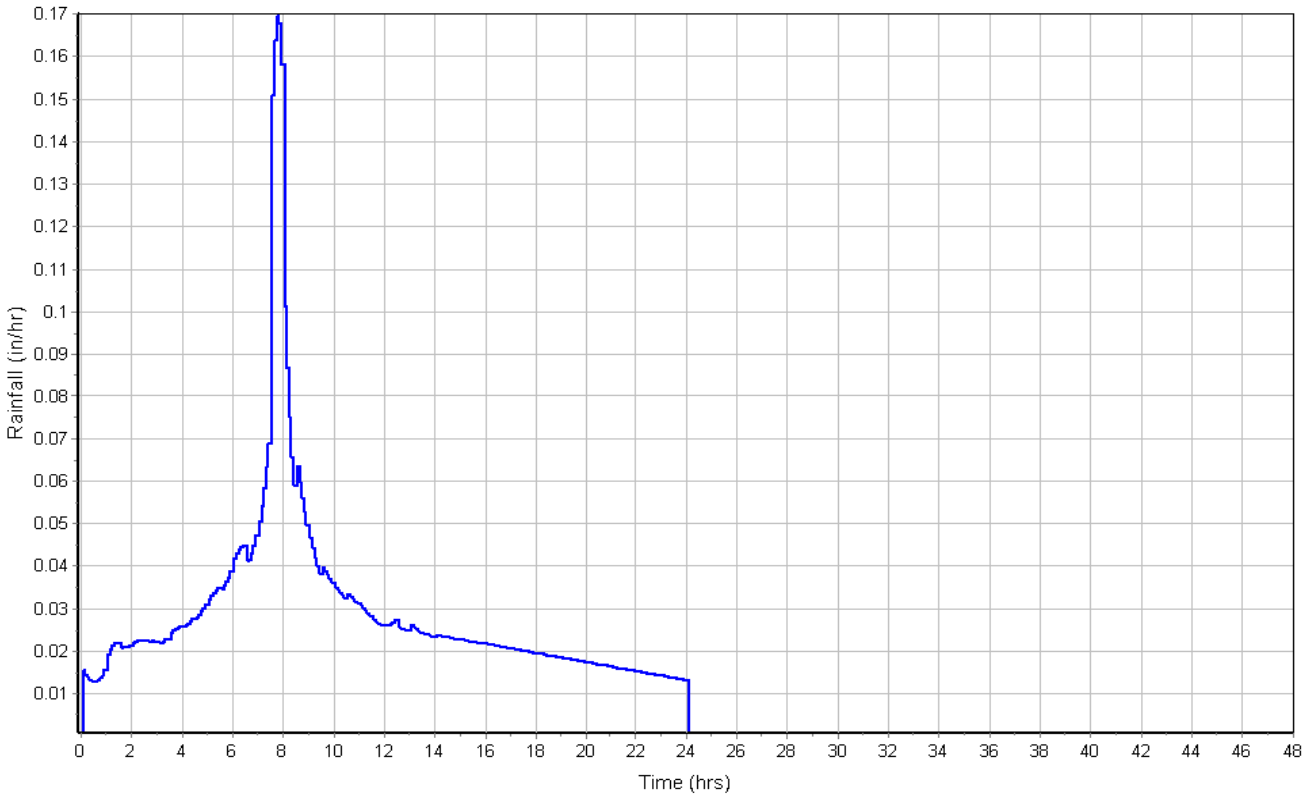
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

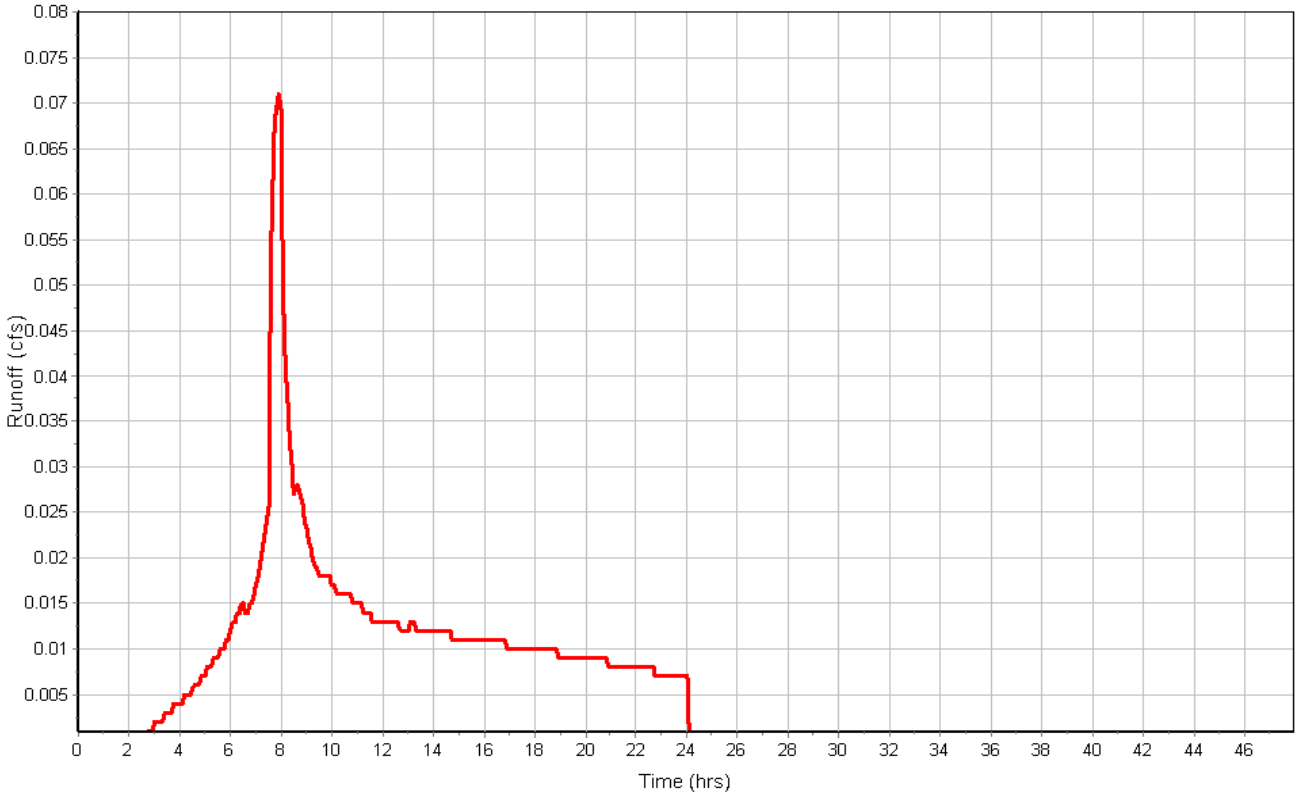
Total Rainfall (in) 0.70
Total Runoff (in) 0.51
Peak Runoff (cfs) 0.07
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : A

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : A1

Input Data

Area (ac)	0.51
Peak Rate Factor	0.00
Weighted Curve Number	39.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.51	A	39.00
Composite Area & Weighted CN	0.51		39.00

Time of Concentration

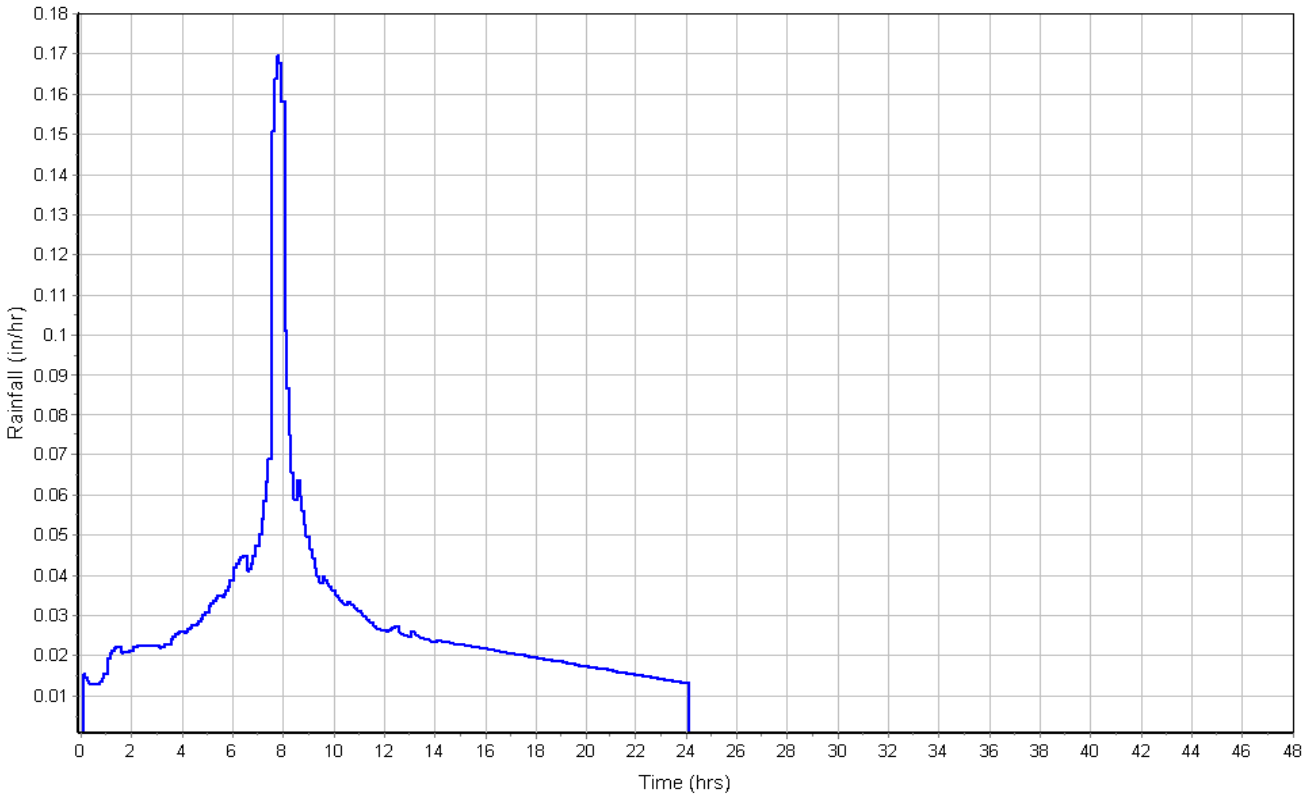
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

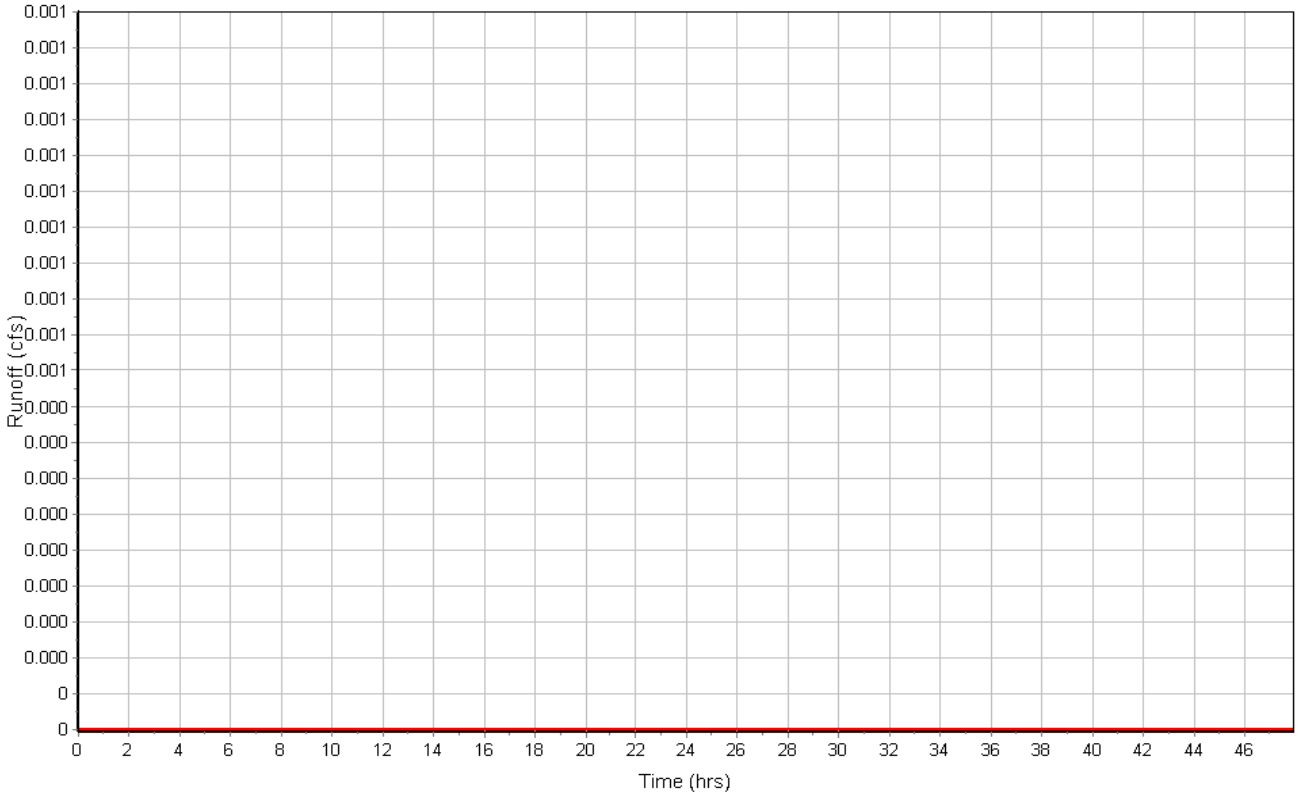
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	39.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : A1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : B

Input Data

Area (ac)	0.63
Peak Rate Factor	0.00
Weighted Curve Number	98.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	0.63	A	98.00
Composite Area & Weighted CN	0.63		98.00

Time of Concentration

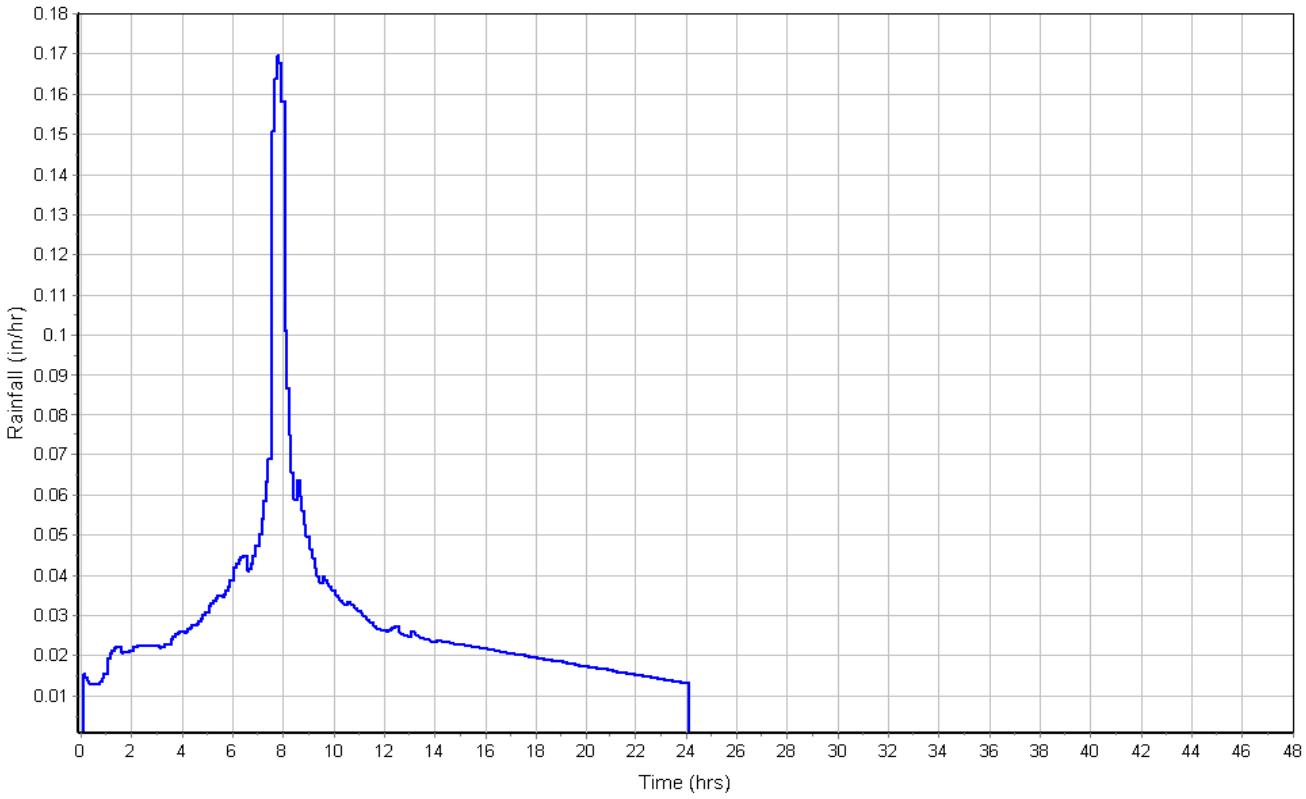
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

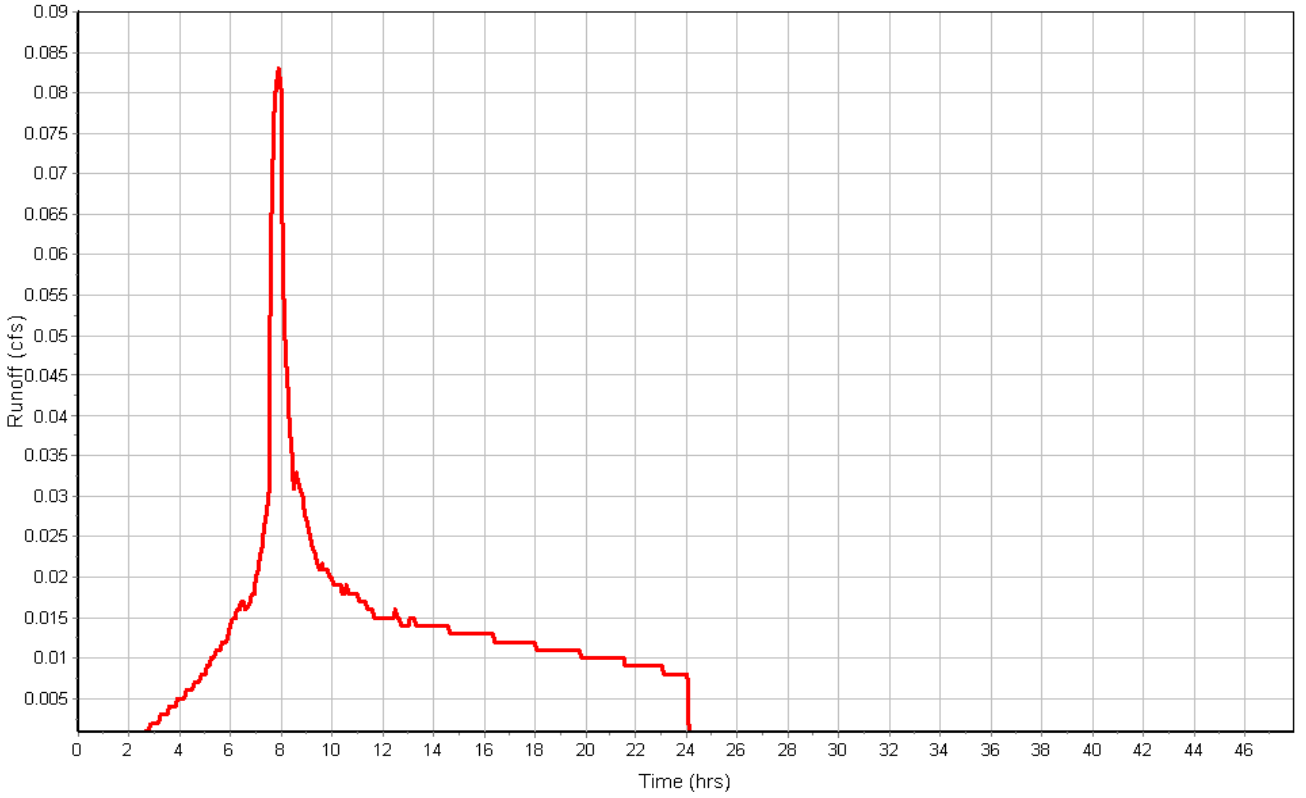
Total Rainfall (in)	0.70
Total Runoff (in)	0.51
Peak Runoff (cfs)	0.08
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : B

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : B1

Input Data

Area (ac)	0.75
Peak Rate Factor	0.00
Weighted Curve Number	74.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	0.75		74.00

Time of Concentration

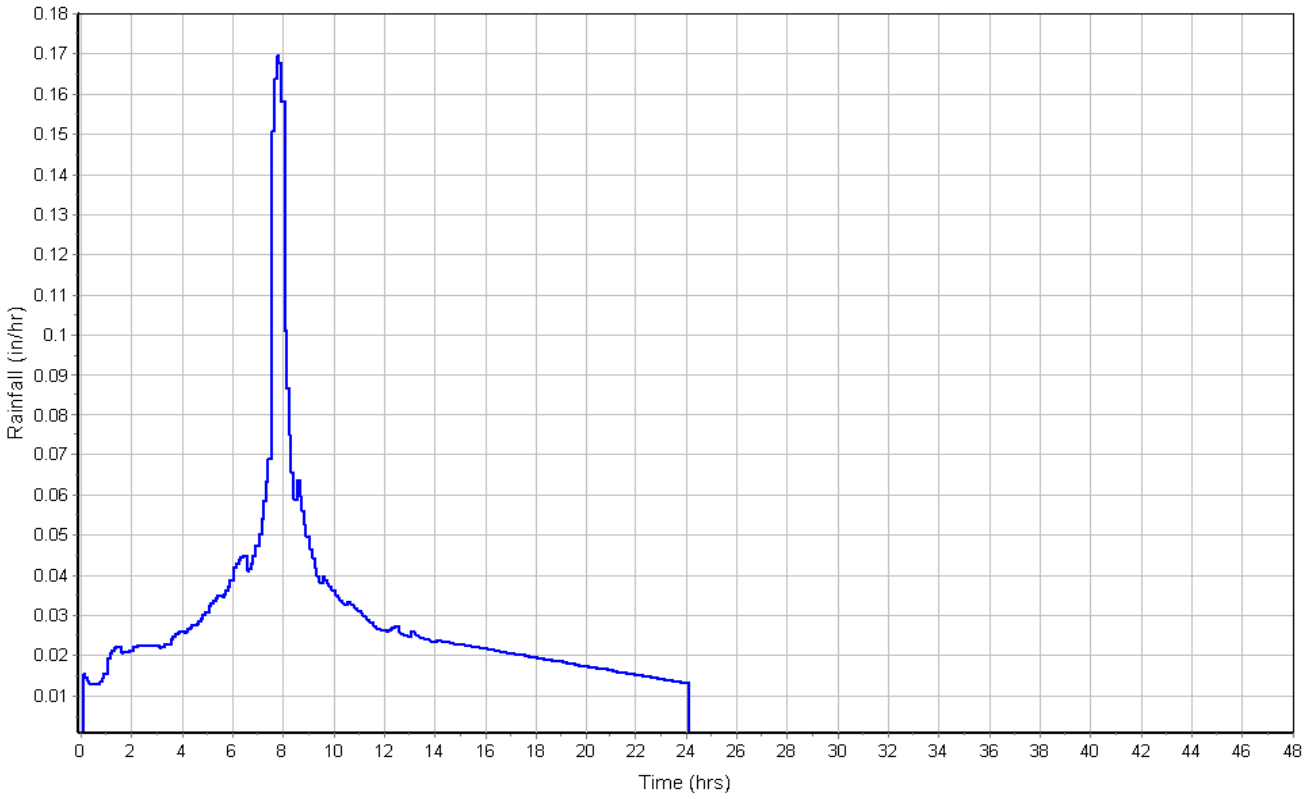
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

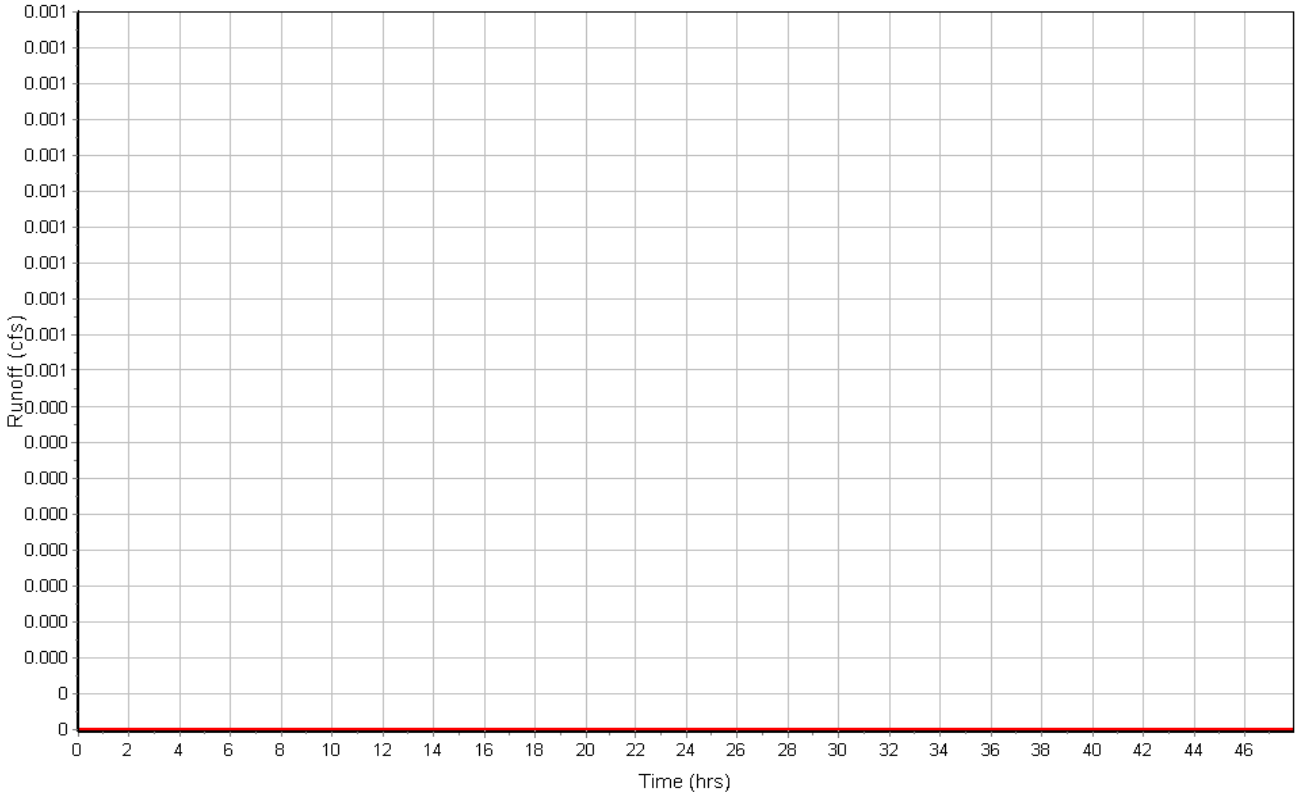
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : B1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E

Input Data

Area (ac)	1.09
Peak Rate Factor	0.00
Weighted Curve Number	98.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	1.09	A	98.00
Composite Area & Weighted CN	1.09		98.00

Time of Concentration

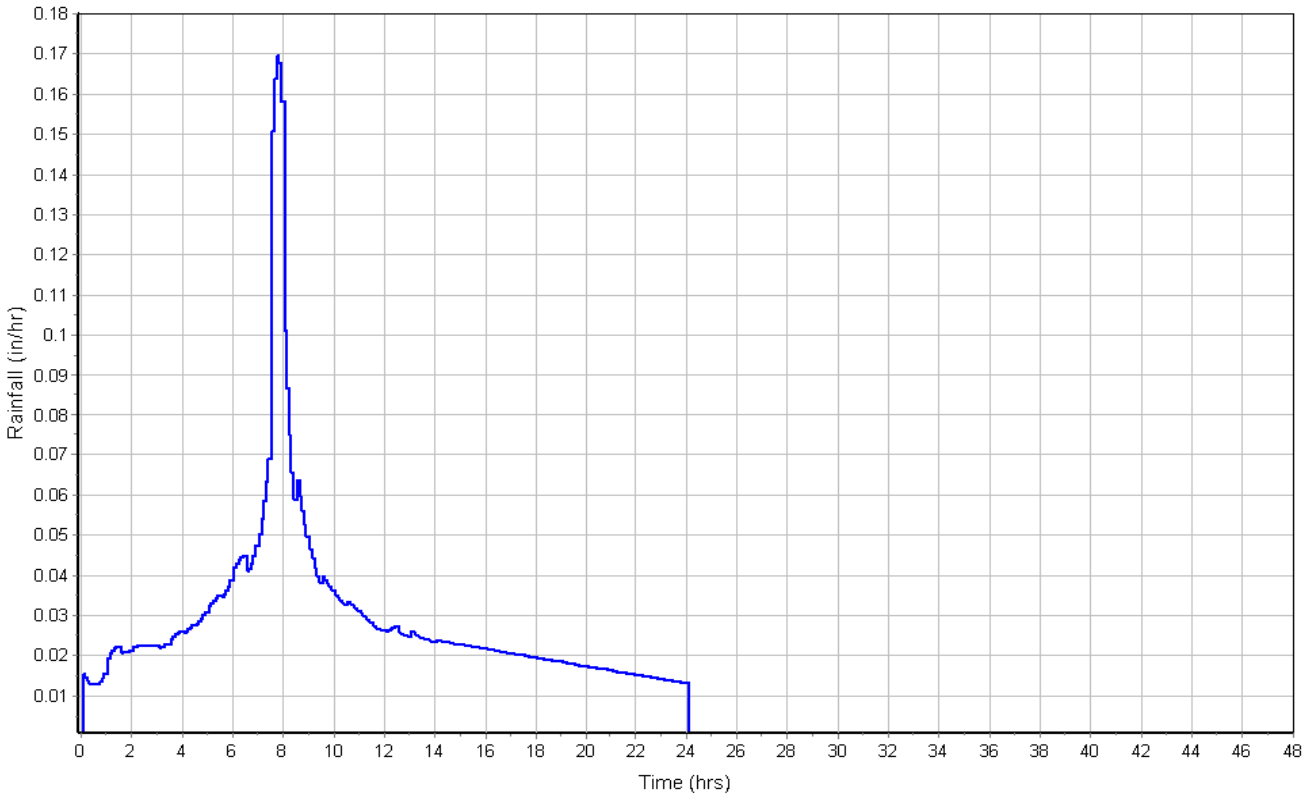
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

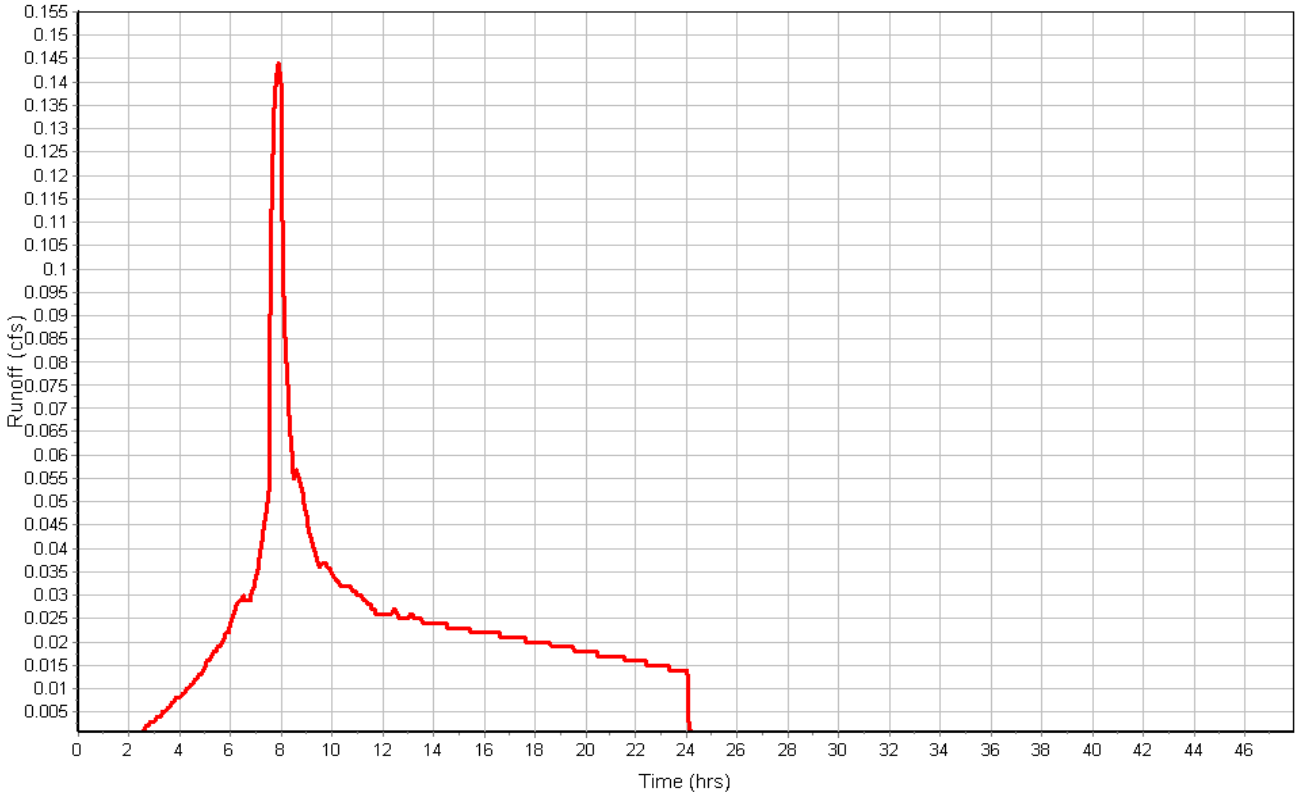
Total Rainfall (in)	0.70
Total Runoff (in)	0.51
Peak Runoff (cfs)	0.14
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : E

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E1

Input Data

Area (ac)	0.14
Peak Rate Factor	0.00
Weighted Curve Number	39.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.14	A	39.00
Composite Area & Weighted CN	0.14		39.00

Time of Concentration

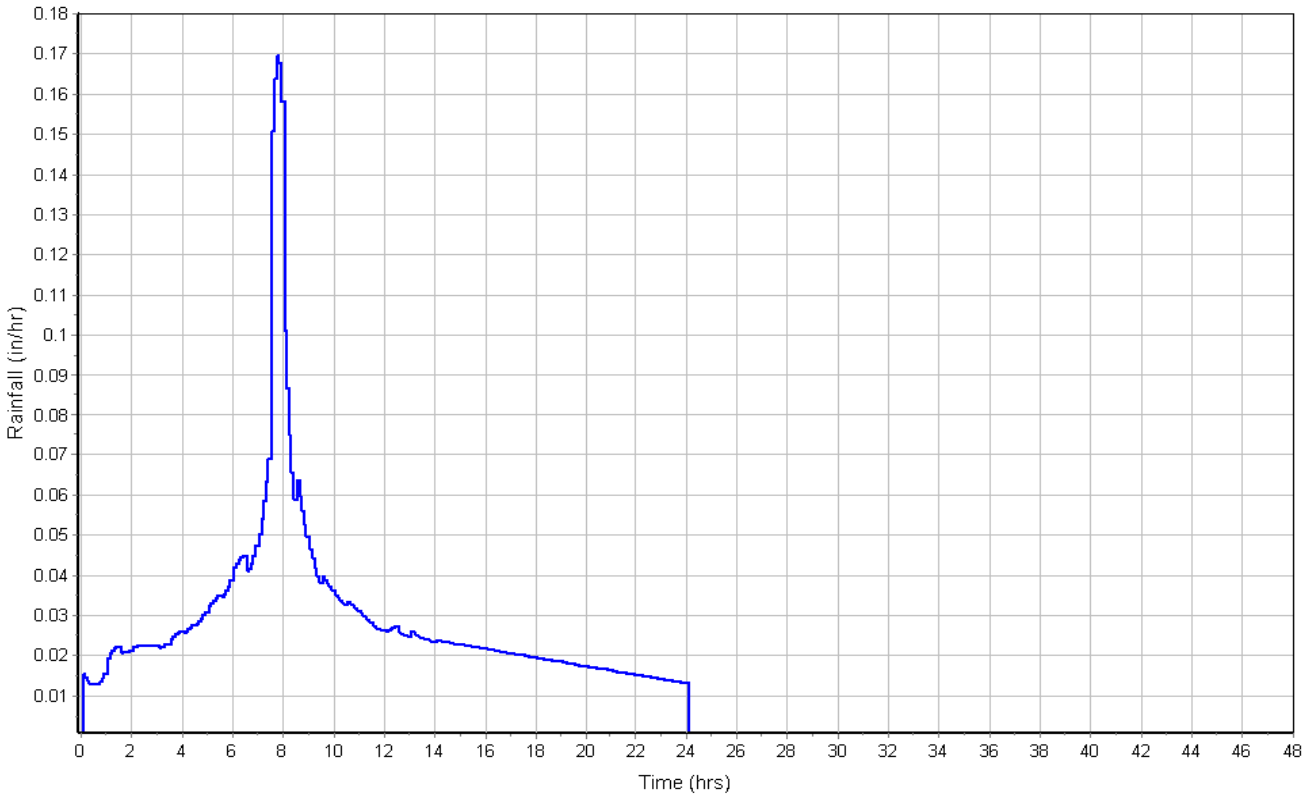
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

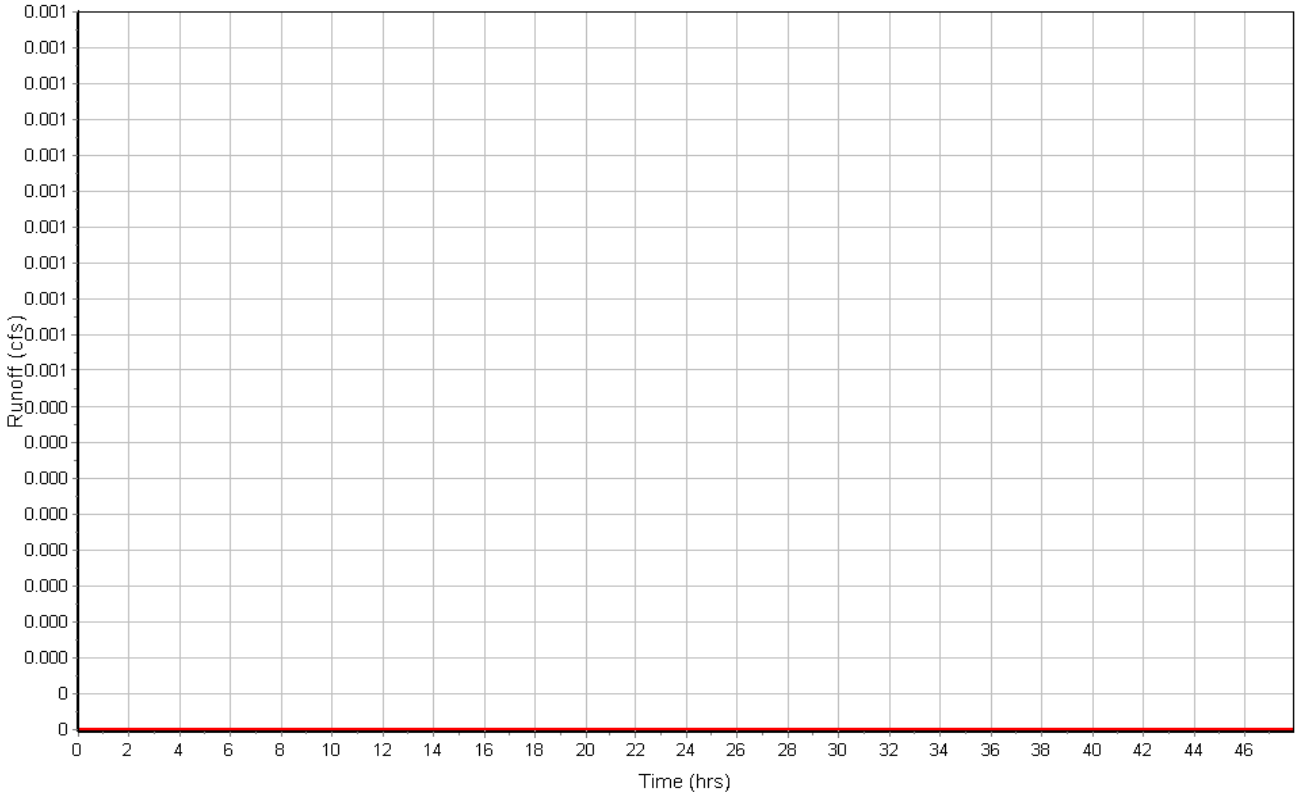
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	39.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : E1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : EComp

Input Data

Area (ac)	1.72
Peak Rate Factor	0.00
Weighted Curve Number	55.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	1.25	A	39.00
-	0.47	-	98.00
Composite Area & Weighted CN	1.72		55.00

Time of Concentration

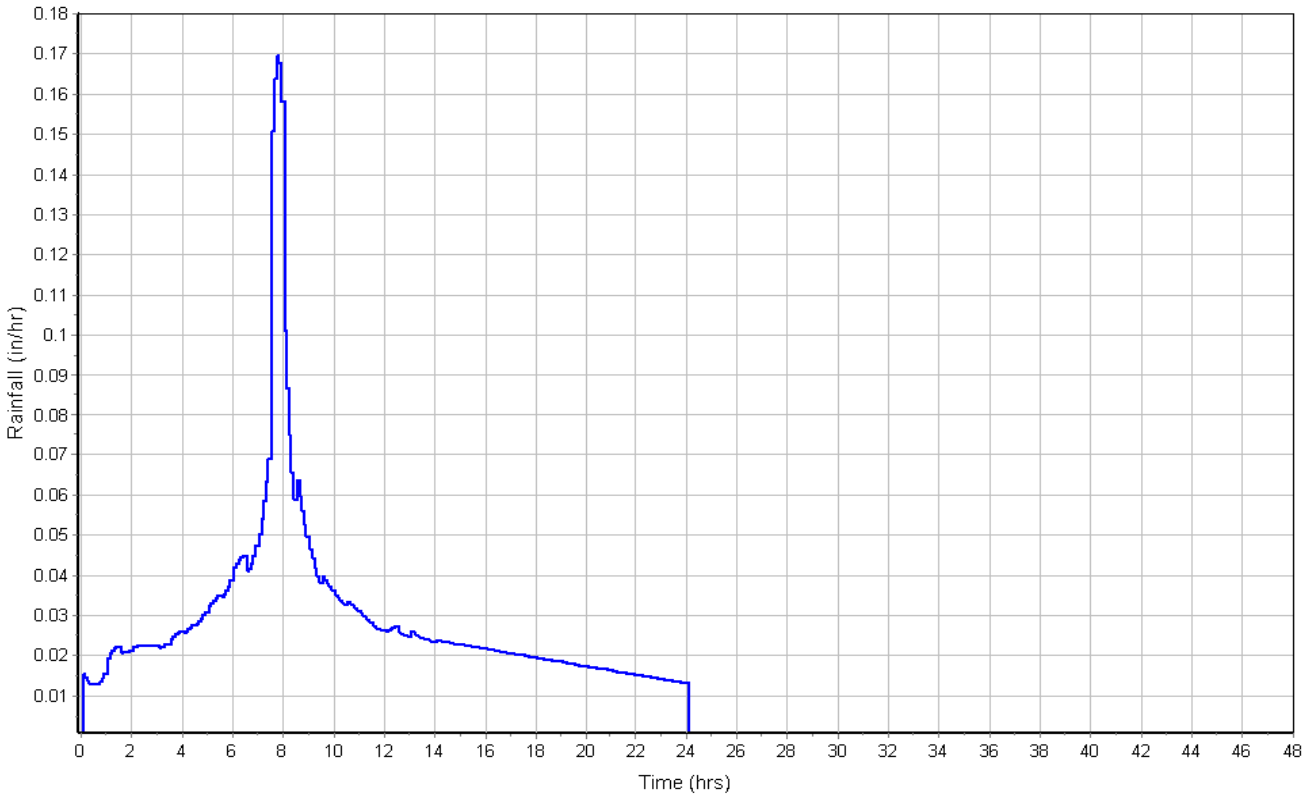
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

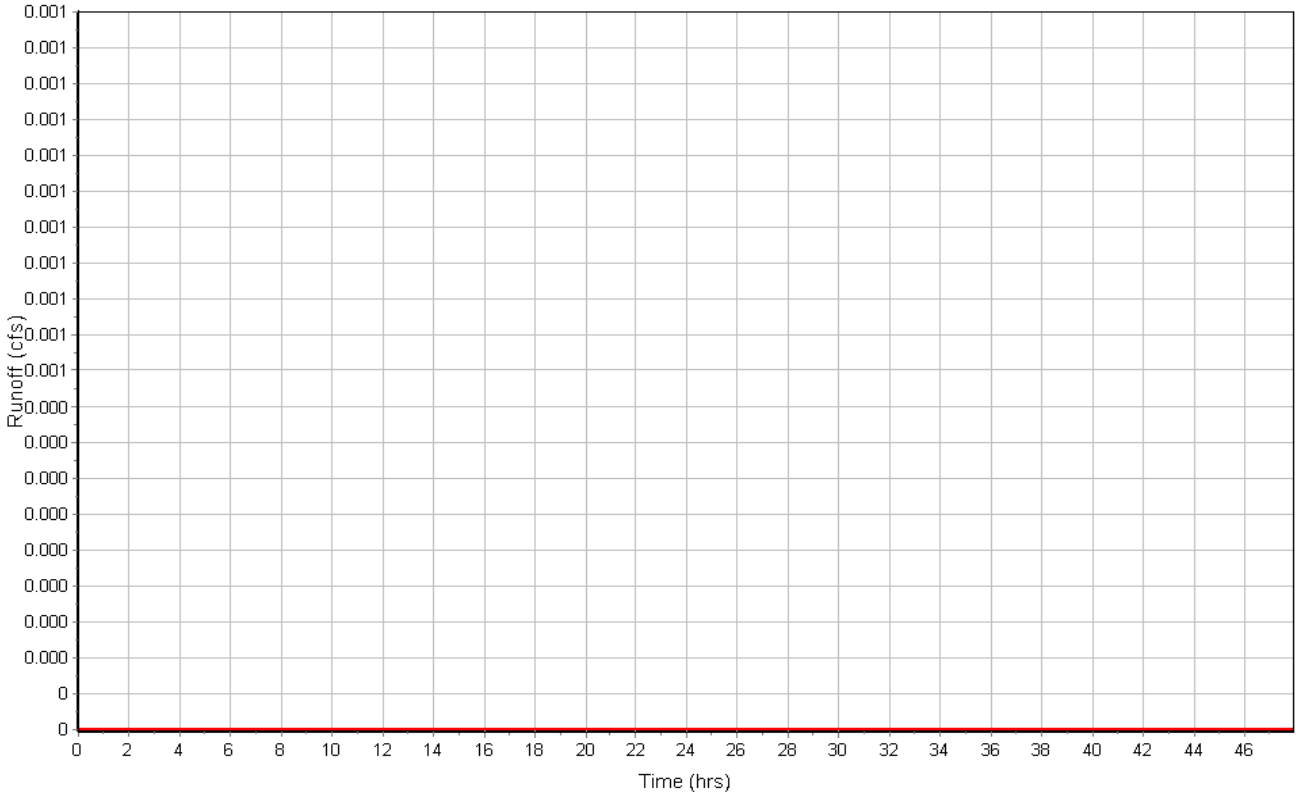
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	55.00
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : EComp

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : OFF

Input Data

Area (ac)	3.70
Peak Rate Factor	0.00
Weighted Curve Number	67.05
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
PASTURE-FAIR	1.60	A	49.00
PASTURE-FAIR	1.90	C	79.00
PAVEMENT	0.20	-	98.00
Composite Area & Weighted CN	3.70		67.05

Time of Concentration

Sheet Flow Computations	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness :	.2	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	1.25	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.94	0.00	0.00

Shallow Concentrated Flow Computations	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft) :	120	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec) :	0.99	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

Channel Flow Computations	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness :	.012	0.00	0.00
Flow Length (ft) :	500	0.00	0.00
Channel Slope (%) :	5	0.00	0.00
Cross Section Area (ft²) :	1	0.00	0.00
Wetted Perimeter (ft) :	2	0.00	0.00
Velocity (ft/sec) :	17.49	0.00	0.00
Computed Flow Time (min) :	0.48	0.00	0.00

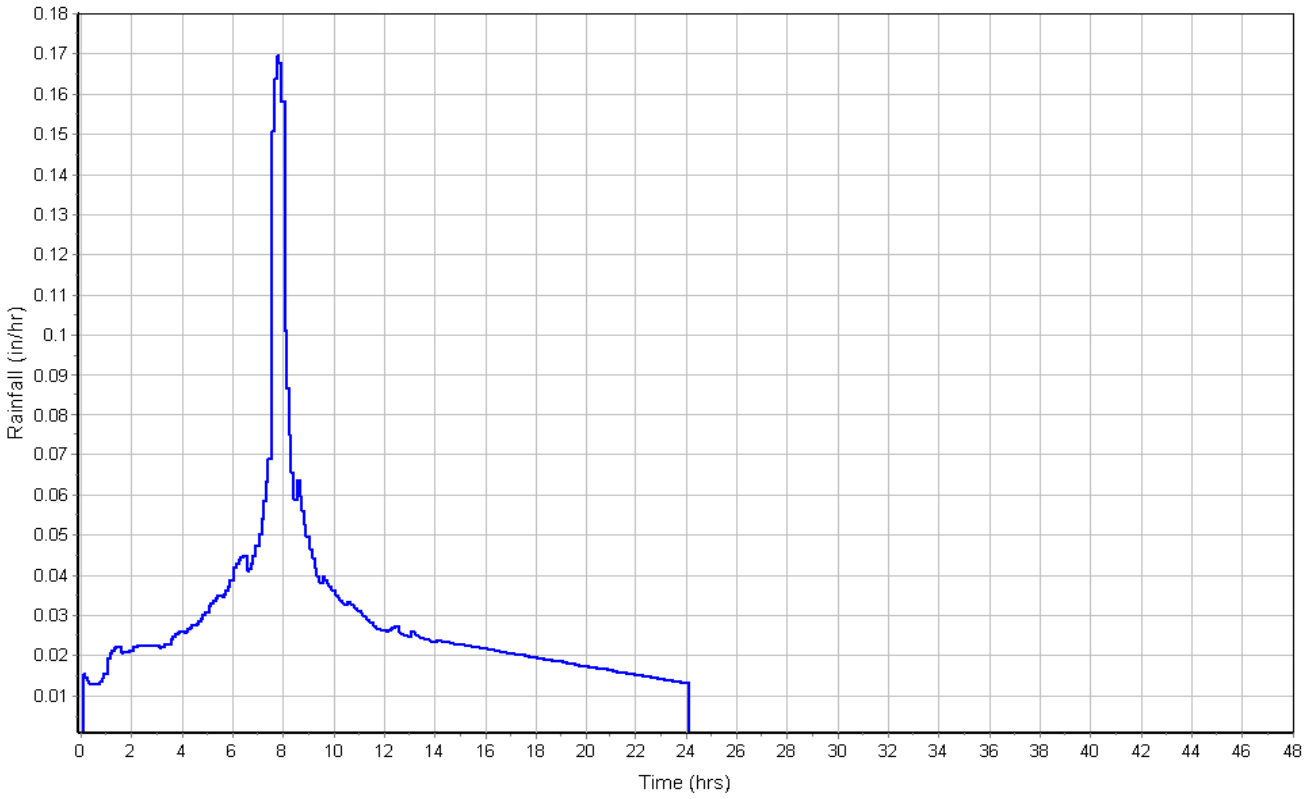
Total TOC (min) 35.44

Subbasin Runoff Results

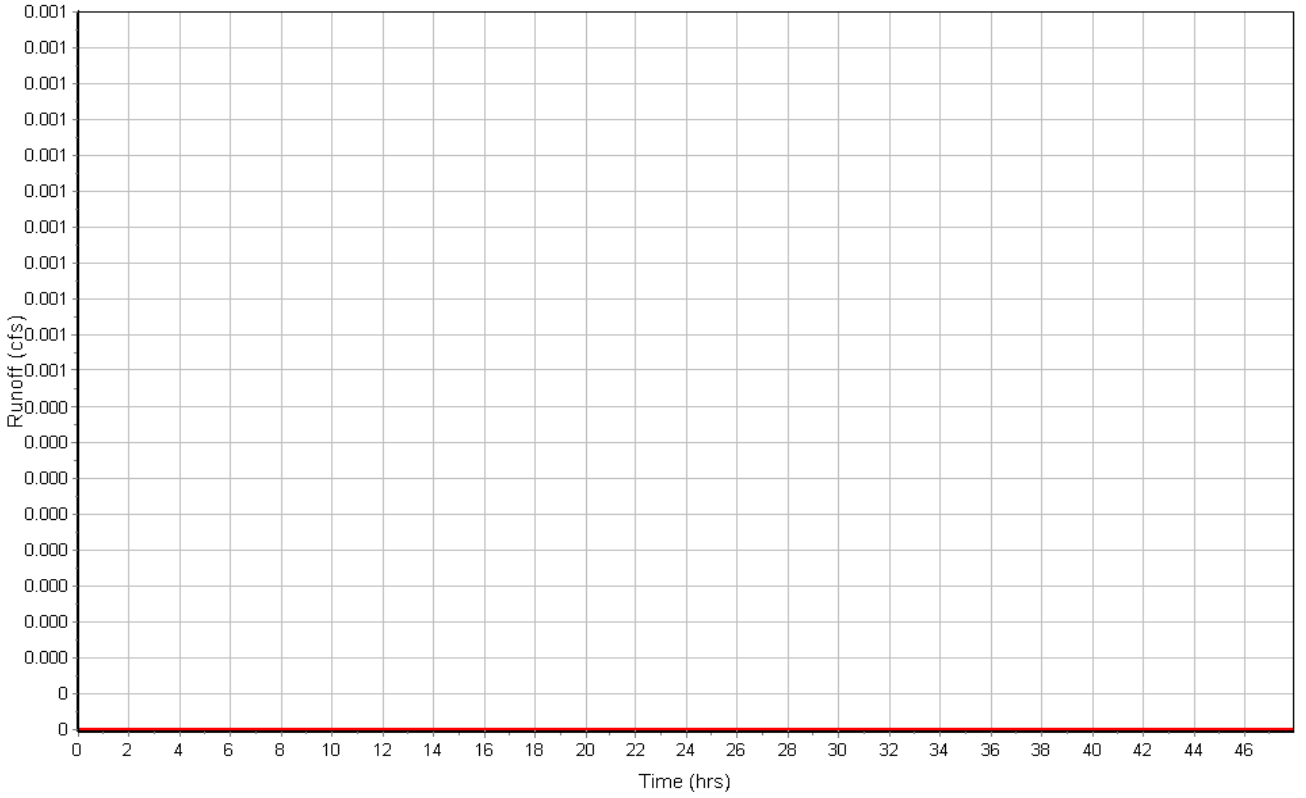
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	67.05
Time of Concentration (days hh:mm:ss)	0 00:35:26

Subbasin : OFF

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : W

Input Data

Area (ac) 1.91
Peak Rate Factor 0.00
Weighted Curve Number 98.00
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Imperv	1.91	A	98.00
Composite Area & Weighted CN	1.91		98.00

Time of Concentration

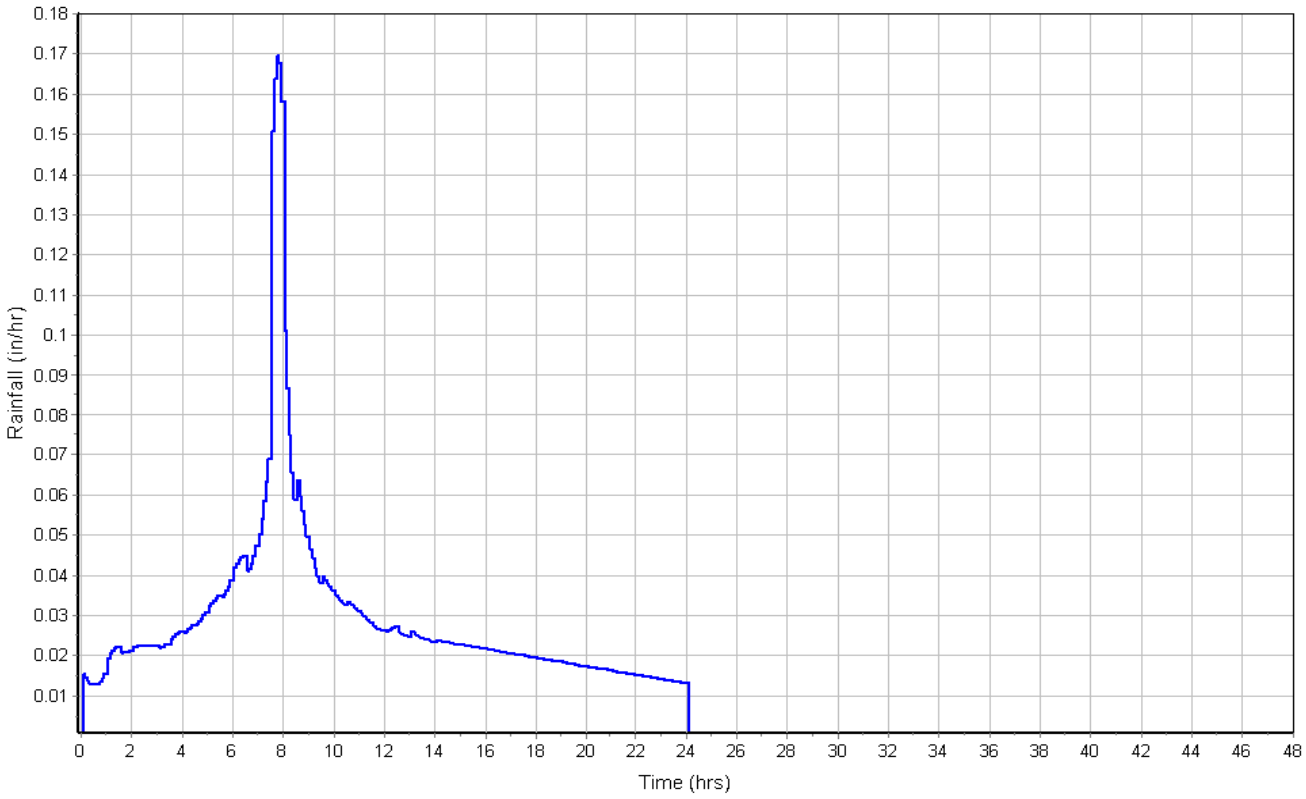
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

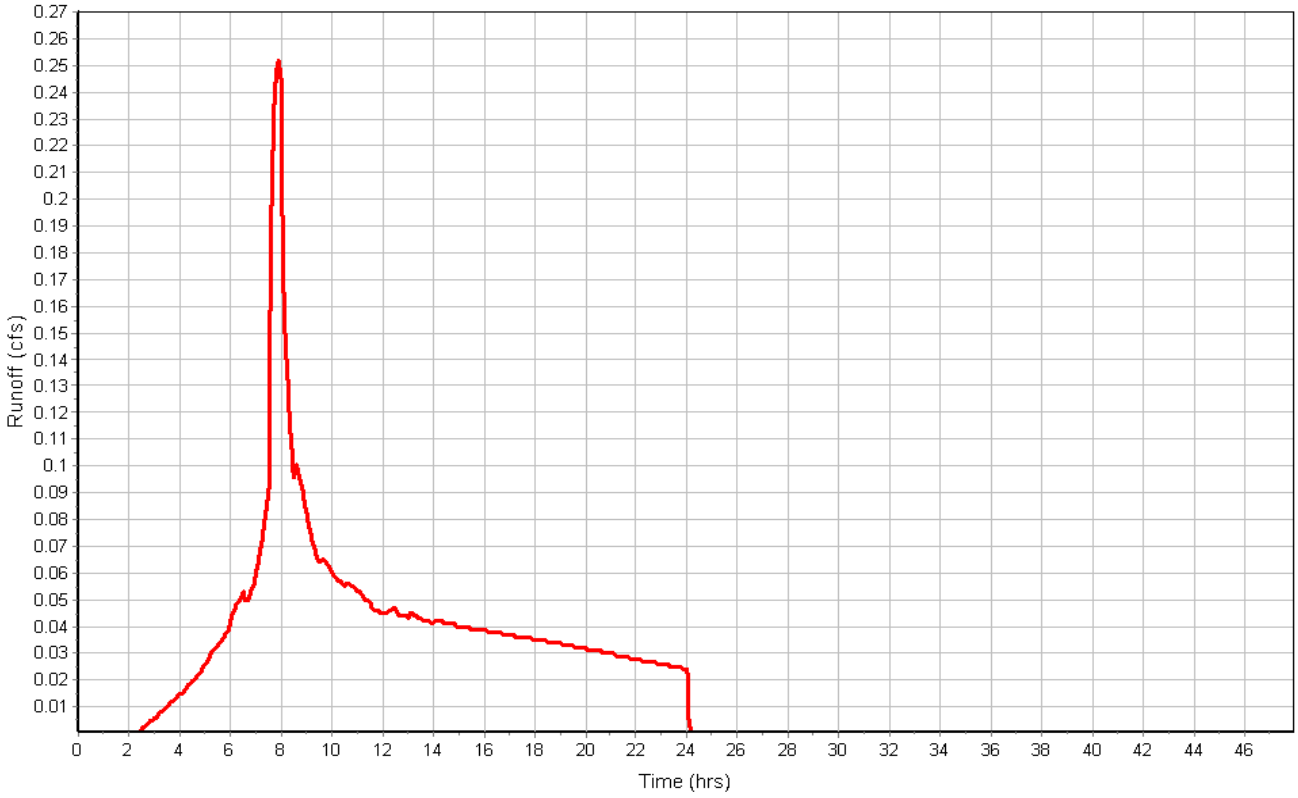
Total Rainfall (in) 0.70
Total Runoff (in) 0.51
Peak Runoff (cfs) 0.25
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : W

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : W1

Input Data

Area (ac)	1.50
Peak Rate Factor	0.00
Weighted Curve Number	70.75
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	1.13	C	74.00
> 75% grass cover, Good	0.38	B	61.00
Composite Area & Weighted CN	1.51		70.75

Time of Concentration

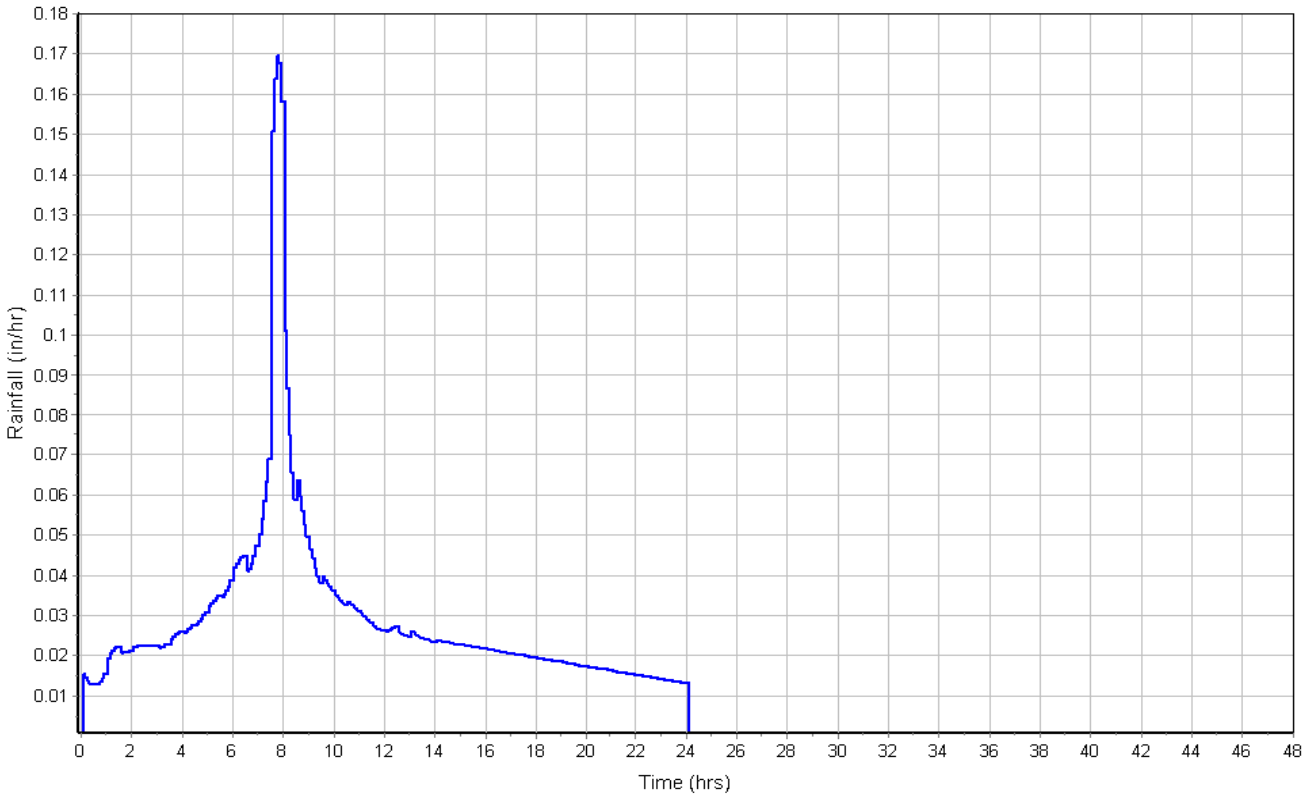
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

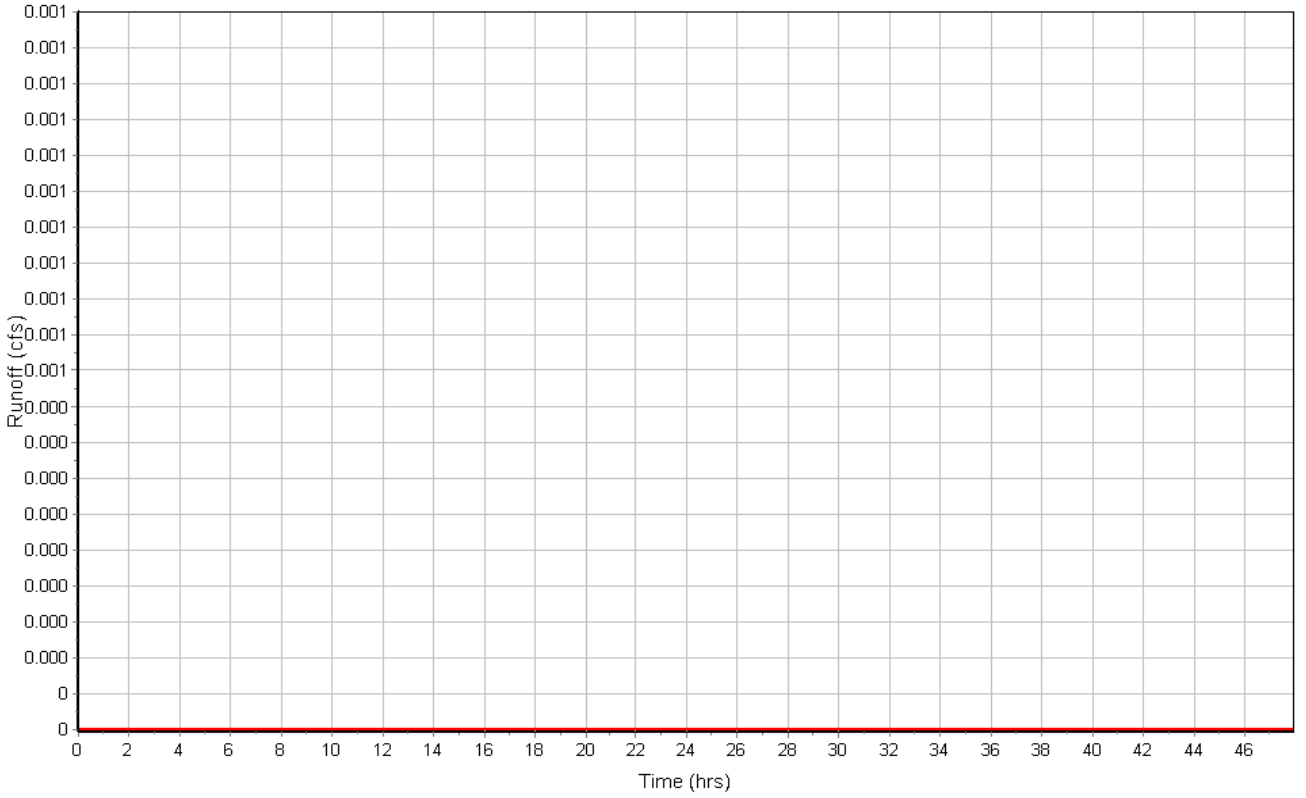
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	70.75
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : W1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : WComp

Input Data

Area (ac)	1.00
Peak Rate Factor	0.00
Weighted Curve Number	74.54
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.25	C	74.00
-	0.36	-	98.00
> 75% grass cover, Good	0.25	B	61.00
> 75% grass cover, Good	0.14	A	39.00
Composite Area & Weighted CN	1.00		74.54

Time of Concentration

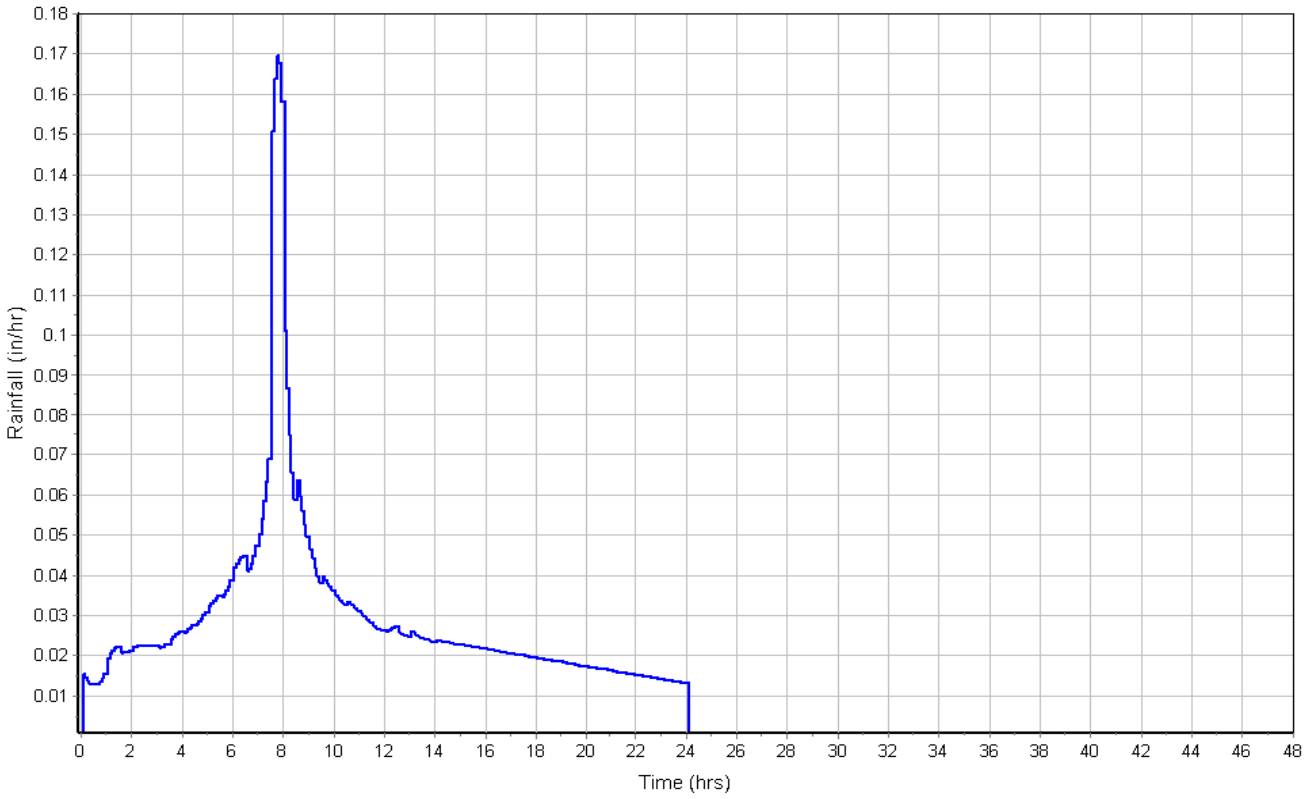
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

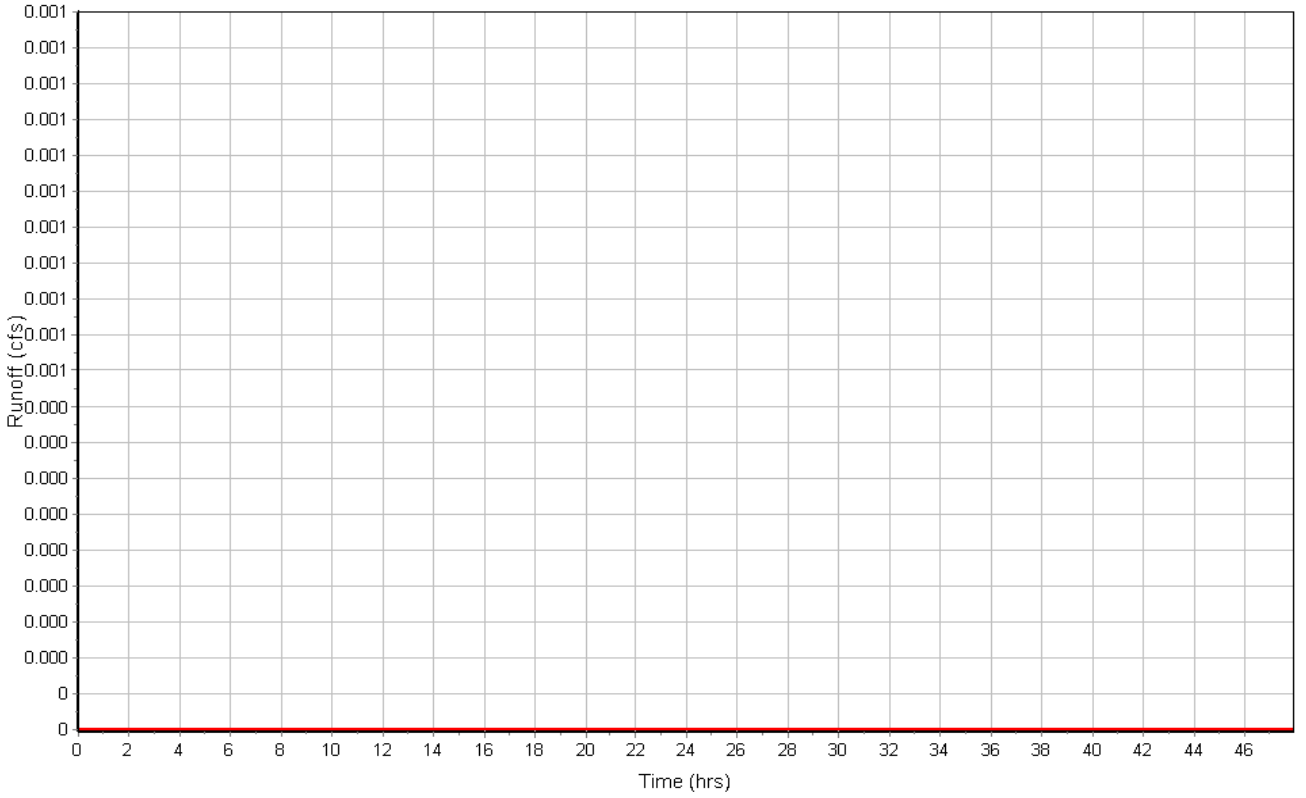
Total Rainfall (in)	0.70
Total Runoff (in)	0.00
Peak Runoff (cfs)	0.00
Weighted Curve Number	74.54
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : WComp

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : EAST_POND

Input Data

Invert Elevation (ft)	1041.00
Max (Rim) Elevation (ft)	1042.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-1041.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

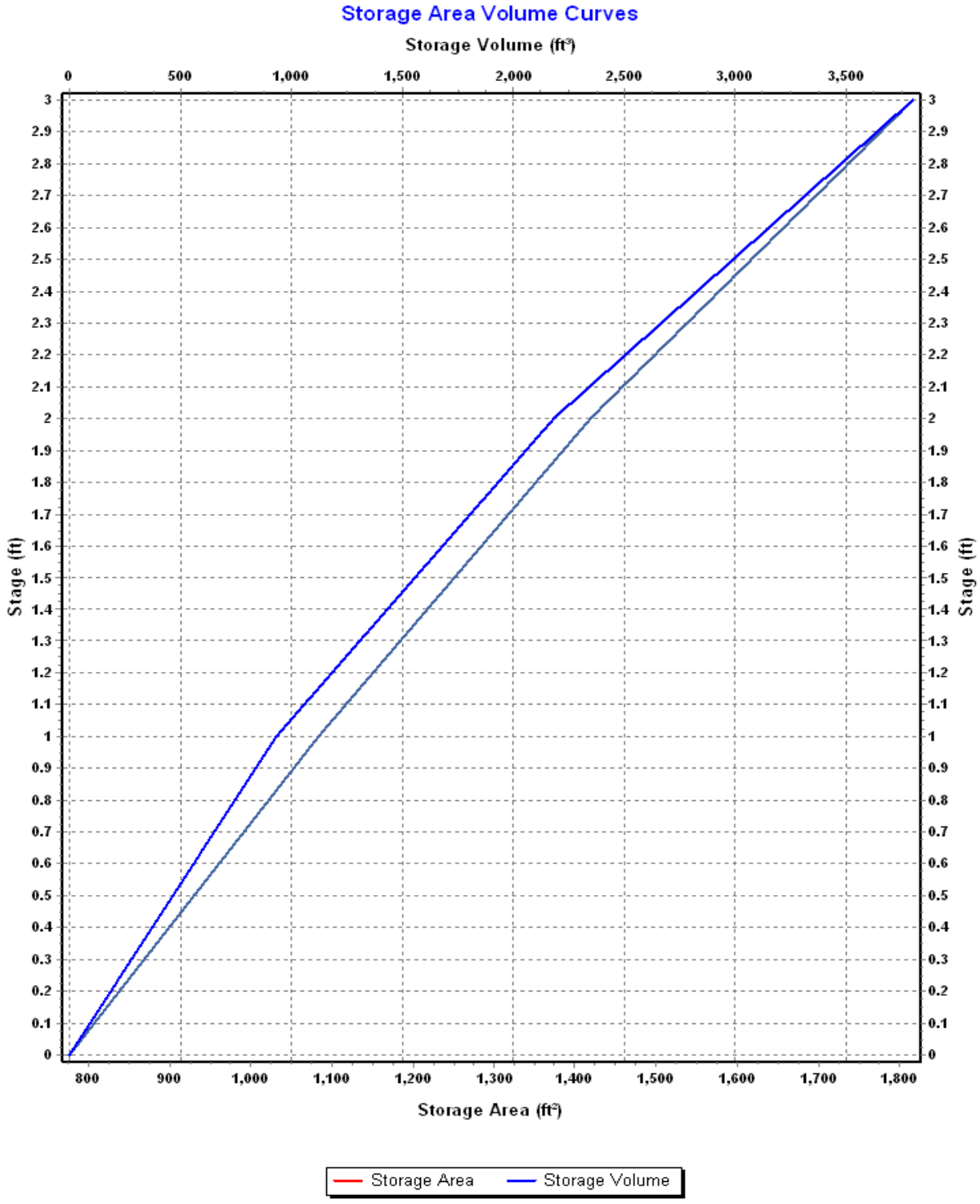
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	3.0000

Storage Area Volume Curves

Storage Curve : Bioswale E

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	777	0.000
1	1083	930.00
2	1420	2181.50
3	1816	3799.50


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
800
900
1,000
1,100
1,200
1,300
1,400
1,500
1,600
1,700
1,800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : EAST_POND (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	EAST	Trapezoidal	No	1041.50	0.50	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.14
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	3.50
Max HGL Elevation Attained (ft)	1041.21
Max HGL Depth Attained (ft)	0.21
Average HGL Elevation Attained (ft)	1041.01
Average HGL Depth Attained (ft)	0.01
Time of Max HGL Occurrence (days hh:mm)	0 08:31
Total Exfiltration Volume (1000-ft³)	2.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Gallery_AWQ

Input Data

Invert Elevation (ft)	100.00
Max (Rim) Elevation (ft)	110.00
Max (Rim) Offset (ft)	10.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-100.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

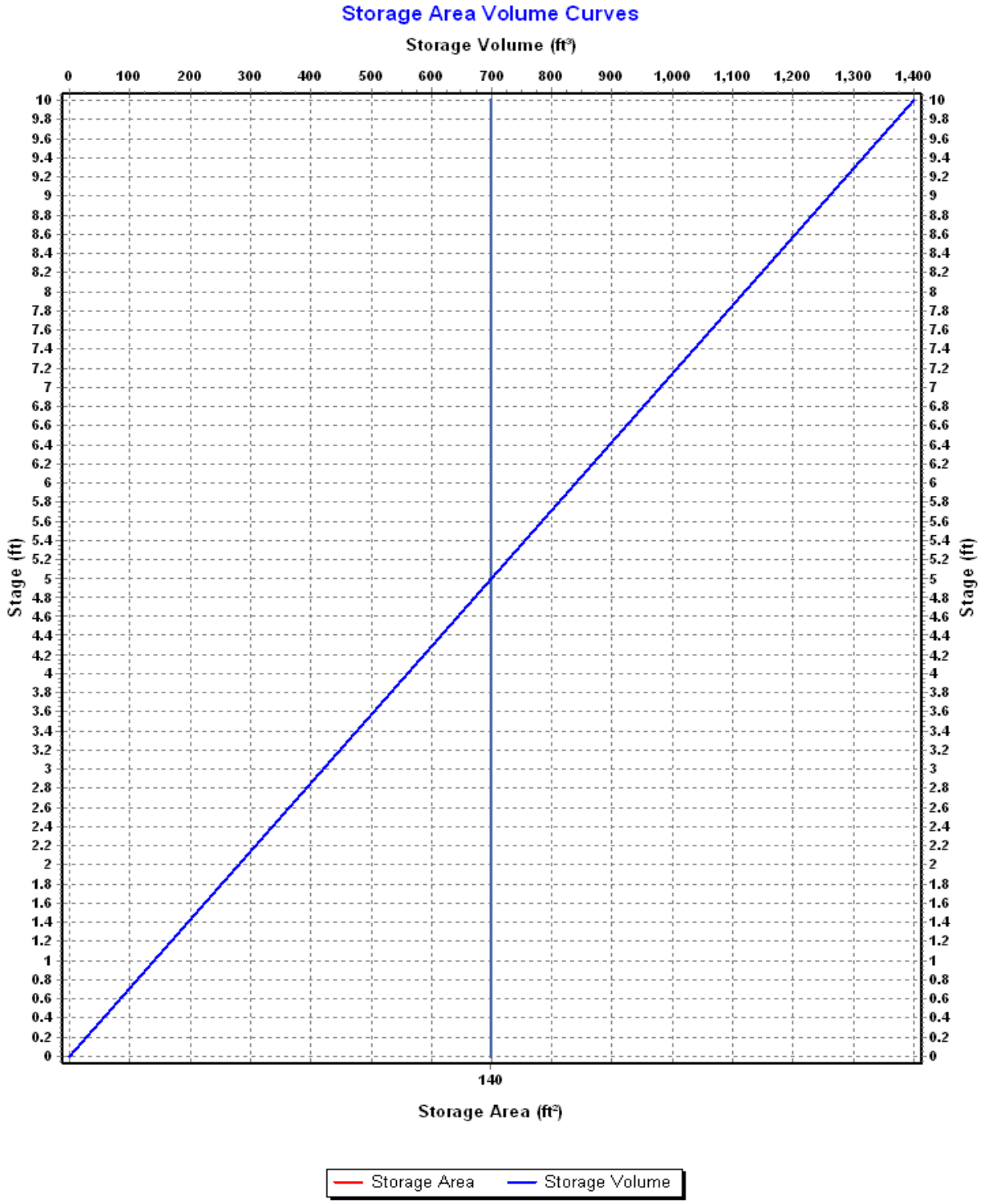
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	8.5700

Storage Area Volume Curves

Storage Curve : WQ Gallery A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	140	0.000
10	140	1400.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400
Stage (ft)
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3 3.2 3.4 3.6 3.8 4 4.2 4.4 4.6 4.8 5 5.2 5.4 5.6 5.8 6 6.2 6.4 6.6 6.8 7 7.2 7.4 7.6 7.8 8 8.2 8.4 8.6 8.8 9 9.2 9.4 9.6 9.8 10
140
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Gallery_AWQ (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir_A	Trapezoidal	No	109.50	9.50	10.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	0.07
Peak Lateral Inflow (cfs)	0.07
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	1.67
Max HGL Elevation Attained (ft)	100.59
Max HGL Depth Attained (ft)	0.59
Average HGL Elevation Attained (ft)	100.03
Average HGL Depth Attained (ft)	0.03
Time of Max HGL Occurrence (days hh:mm)	0 08:33
Total Exfiltration Volume (1000-ft³)	0.990
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Gallery_BWQ

Input Data

Invert Elevation (ft)	100.00
Max (Rim) Elevation (ft)	110.00
Max (Rim) Offset (ft)	10.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-100.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

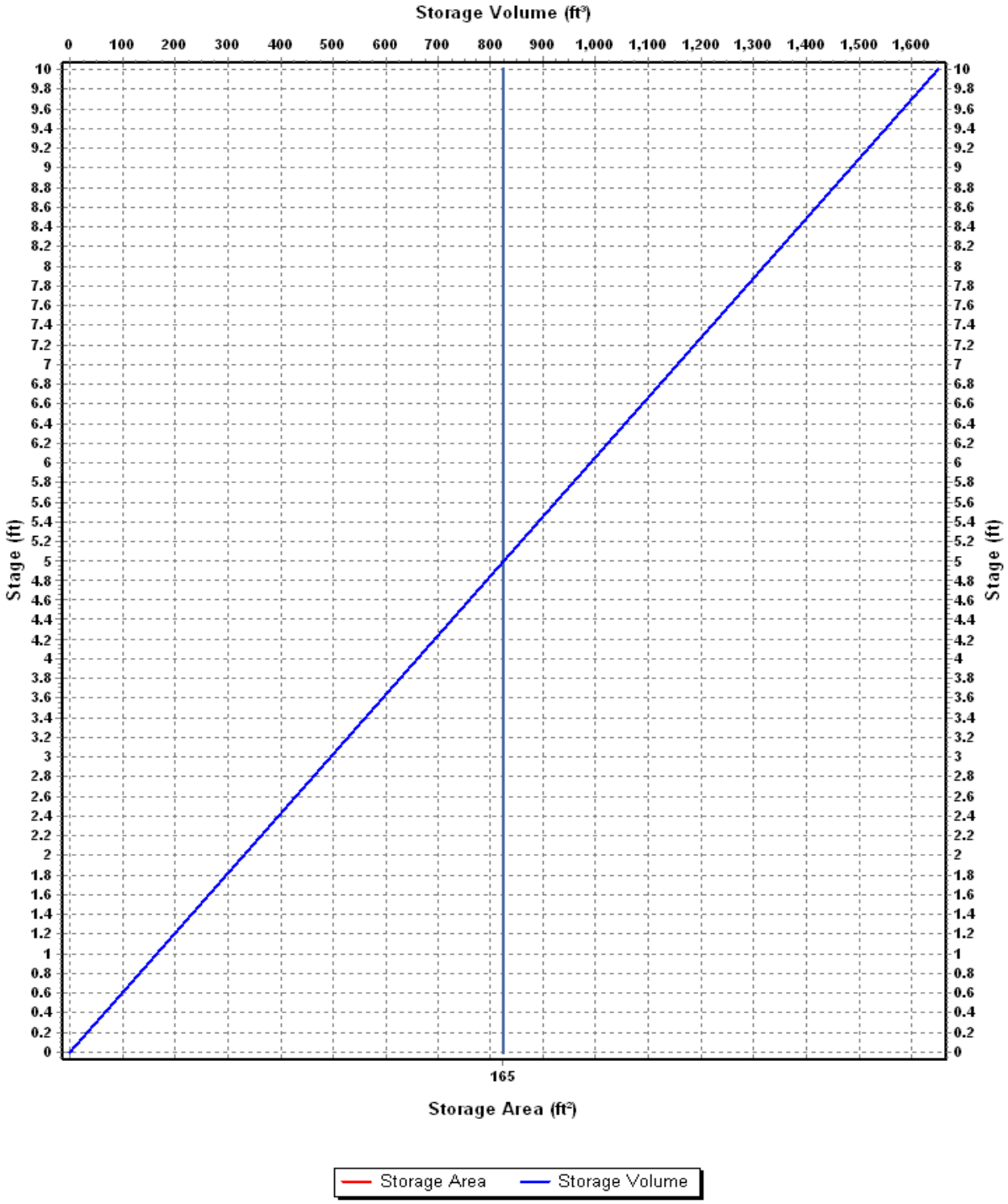
Exfiltration Rate (in/hr)	8.5700

Storage Area Volume Curves

Storage Curve : Gallery_BWQ

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	165	0.000
10	165	1650.00

Storage Area Volume Curves



Storage Node : Gallery_BWQ (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir_B	Trapezoidal	No	109.50	9.50	10.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	0.08
Peak Lateral Inflow (cfs)	0.08
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	1.96
Max HGL Elevation Attained (ft)	100.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	100.03
Average HGL Depth Attained (ft)	0.03
Time of Max HGL Occurrence (days hh:mm)	0 08:33
Total Exfiltration Volume (1000-ft³)	1.153
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WEST_POND

Input Data

Invert Elevation (ft)	1028.00
Max (Rim) Elevation (ft)	1029.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-1028.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

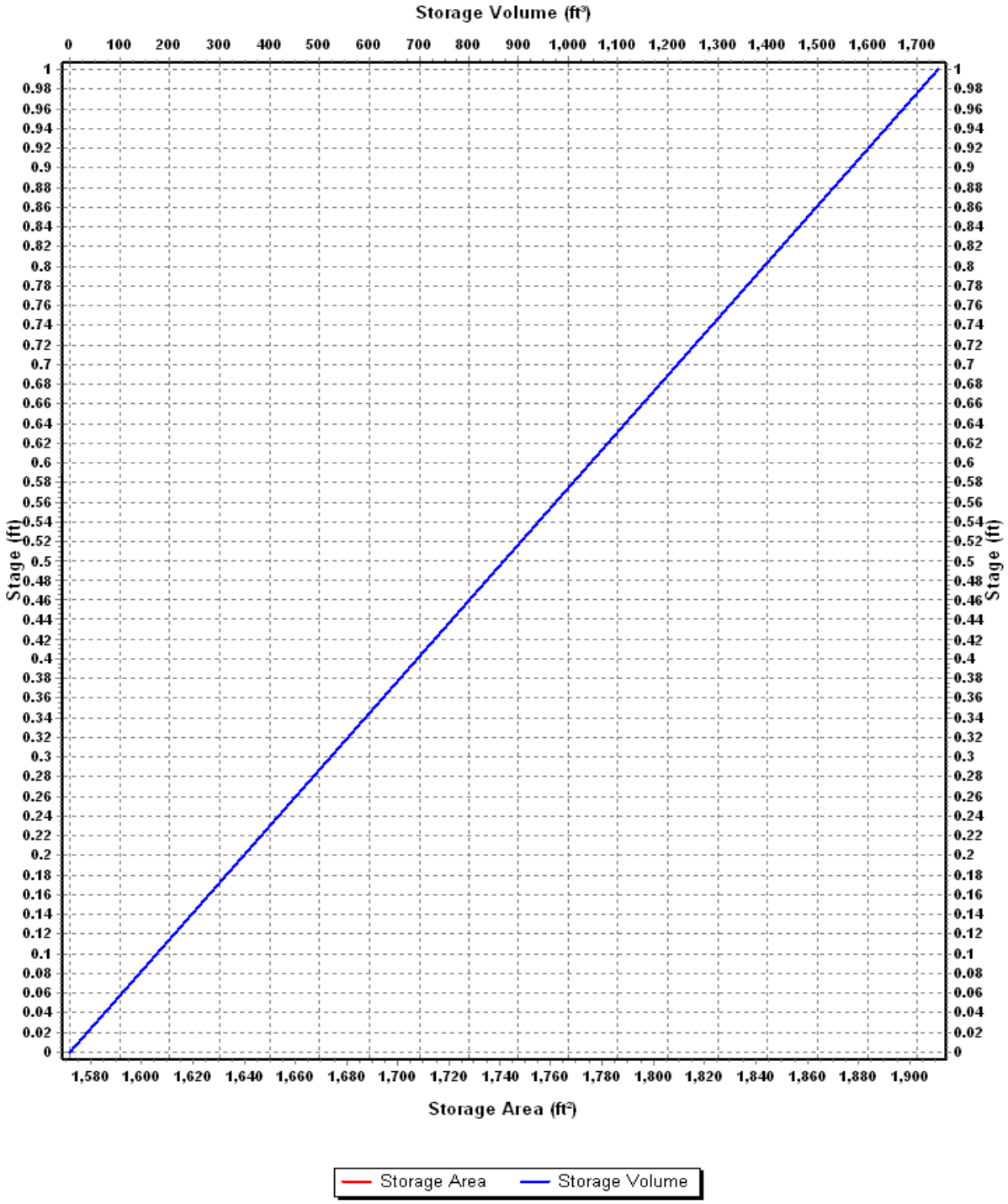
Exfiltration Rate (in/hr)	3.0000

Storage Area Volume Curves

Storage Curve : Bioswale W

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1572	0.000
1	1911	1741.50

Storage Area Volume Curves



Storage Node : WEST_POND (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	WEST	Trapezoidal	No	1029.00	1.00	10.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.25
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	6.77
Max HGL Elevation Attained (ft)	1028.16
Max HGL Depth Attained (ft)	0.16
Average HGL Elevation Attained (ft)	1028.01
Average HGL Depth Attained (ft)	0.01
Time of Max HGL Occurrence (days hh:mm)	0 08:26
Total Exfiltration Volume (1000-ft³)	3.504
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

March 25-2024

Karen Capuder, PhD
Guy Moura, Tribal Historic Preservation Officer
Confederated Tribes of Colville Reservation

Re: Cultural Resource Study

Project Site: 22-21-18-400-15
Site Address: 2347 8th Street SE

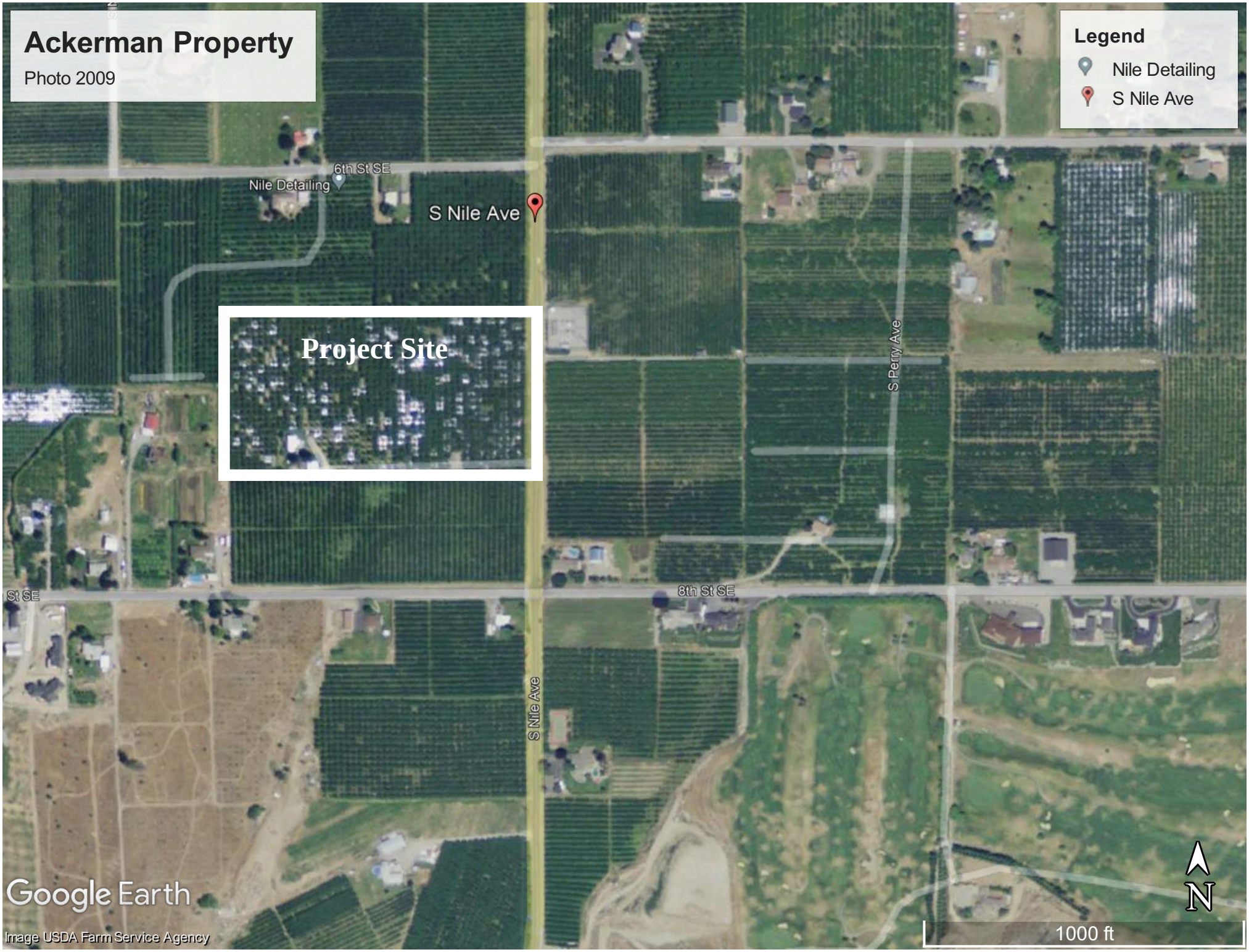
We are in the process of applying for a 31 residential lot development with Douglas County Transportation and Land Services. The site is 10 acres, located the west of South Nile Avenue and north of 8th Street SE and east of the terminus of 7th Street in East Wenatchee, WA.

We are asking for an exemption from the requirement to submit a Cultural Resource Study on this property. Based on Douglas County records, local knowledge, and Department of Ecology mapping, this site has been used for agriculture since the early 1950s. During this 70-year time frame, the parcel has been planted, re-planted and irrigation systems installed, removed and re-installed many times.
So, you can get a better understanding of the project site and surrounding area, I have attached Google Earth photos from 1990, 2009, 2011 and 2022. The photos clearly show the site was planted and replanted three (3) times during this time frame. I was not able to locate any photos prior to 1990.

Also note on the north, west and east the orchards were removed and replaced with residential developments. See attached Google Earth photos.

We would like you to consider in lieu of a cultural resource survey, we implement an Inadvertent Discovery Plan.


Ackerman Property
Photo 1990
Legend
Nile Detailing
S Nile Ave
6th St SE
Nile Detailing
S Nile Ave
Project Site
S Perry Ave
8th St SE
St SE
S Nile Ave
SE Falcon View Dr
N
1000 ft
Google Earth
Image U.S. Geological Survey


Ackerman Property
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Ackerman Property
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PLAN AND PROCEDURES FOR THE INADVERTENT DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS FOR ACKERMAN HURST SUBDIVISION

1. INTRODUCTION

Ackerman Construction, Inc. and Hurst Holdings, LLC are in the process of completing a 31 Lot Subdivision at 2347 8th Street SE, East Wenatchee, WA 98802. In addition, Ackerman-Hurst have received approval to begin the construction of a single family residential development. The following Inadvertent Discovery Plan (IDP) outline procedures to follow, in accordance with state and federal laws.

2. RECOGNIZING CULTURAL RESOURCES

A cultural resource discovery could be prehistoric or historic. Examples includes:

- An accumulation of shell burned rocks, or other food related materials.
- Bones or small pieces of bone
- An area of charcoal or very dark stained soil with artifacts
- Stone tools or waste flakes
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years.

Should anyone working on the property be "in doubt", they are to assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

STEP 1: STOP WORK IMMEDIATELY. If anyone working on the above-mentioned property, whether that is a contractor or subcontractor believe that they have uncovered a cultural resource at any point in the project, all work adjacent to the discovery must stop. The discovery location should be secured at all times.

STEP 2: NOTIFY Should any discovery be made immediately contact the owner will make all other calls and notifications. If human remains are encountered, treat them with dignity and respect at all times. Cover the remains with tarps or other materials (not soil or rocks) for temporary protection in place and to shield them from being photographed. Do not call 911 or speak with the media.

4. FURTHER CONTACTS AND CONSULTATION

A. Owner's Responsibilities:

- Protect the find: The owners are responsible for taking appropriate steps to protect the discovery site. All work will stop to enable the total security, protection, and integrity of the resource. Vehicles, equipment, and unauthorized personnel will not be permitted to travel through the discovery site. Work in the immediate area will not resume until treatment of the discovery has been completed following the provisions for treating archaeological/cultural material as set forth in this document.
- Direct Construction Elsewhere On-site: The Owners may direct construction to other areas of the construction site not affected by the discovery or finding prior to contacting the concerned parties.

- Identify Find: The Owners will ensure that a qualified professional archaeologist examines the find to determine if it is archaeological.

  1. If it is determined not archaeological, work may proceed with no further delay.

  2. If it is determined to be archaeological, the Owners will continue the notification process set forth within this Plan.

  3. If the find may be human remains or funerary objects, The Owners will ensure that a qualified physical anthropologist examines the find. If it is determined to be human remains, the procedure described in Section 5 will be followed.

- Notify DAHP: The Owners will contact the involved federal agencies (if any) and the Department of Archaeology and Historic Preservation (DAHP)
- Notify Tribes: If the discovery may relate to Native American interests, the Manager will also contact the project's Tribal Liaison, or, if the project is not assigned a Liaison, the Executive Tribal Liaison.

Federal Agencies: No Federal Agencies are involved in this project.

Department of Archaeology and Historic Preservation:

Dr. Allyson Brooks, State Historic Preservation Officer, (360) 586-3066 or
Dennis Wardlaw, Transportation Archaeologist (360) 586-3085
The Tribal Liaison, or the Owners will contact the interested and affected Tribes.
Tribe: Confederated Tribes of the Colville Reservation – Guy Moura, Tribal Preservation Officer, (509) 634-2695 or guy.moura@colvilletribes.com

B. Further Activities
- Archaeological discoveries will be documented as described in Section 6.
- Construction in the discovery area may resume as described in Section 7.

5. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect.

Federal Lands: This project will not involve any Federal Lands nor easements through Federal Lands.

Non-Federal Lands: The Owners will comply with applicable state and federals laws, and the following procedure:

A. Notify Law Enforcement Agency and Coroner's Office:

In addition to the actions described in Sections 3 and 4, the Owners will immediately notify the local law enforcement agency and coroner's office.

The medical examiner (with the assistance of law enforcement personnel) will determine if the remains are human, whether the discovery site constitutes a crime scene, and will notify DAHP if the remains are determined to be non-forensic.

Chelan County Coroner – Wayne Harris – (509) 667-6431

B. Participate in Consultation:
Per RCW 27.44.055, RCW 68.50, and RCW 68.60, DAHP will have jurisdiction over non-forensic human remains and will decide of whether the remains are Indian or not and notify all affected tribes. The owners will assist as requested in the consultation.

C. Further Activities:

- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in RCW 27.44.055, RCW 68.50 and RCW 68.60.
- When consultation and documentation activities are complete, construction in the discovery area may resume as described in Section 7.

6. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS
Archaeological deposits discovered during construction will be assumed eligible for inclusion om the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

Cultural Resources Program staff will ensure the proper documentation and assessment of any discovered cultural resources in cooperation with the federal agencies (if any), DAHP, affected tribes, and a contracted consultant (if any).

All prehistoric and historic cultural material discovered during the project construction will be recorded by a professional archaeologist on State of Washington cultural resource site or isolate form using standard techniques. Site overviews, features, and artifacts will be photographed; stratigraphic profiles and soil/sediment descriptions will be prepared for subsurface exposures. Discovery locations will be documented on scaled site plans and site location maps.

Cultural features, horizons and artifacts detected in buried sediments may require further evaluation using hand-dug test units. Units may be dug in controlled fashion to expose features, collect samples from undisturbed contexts, or interpret complex stratigraphy. A test excavation unit or small trench might also be used to determine if an intact occupation surface is present. Test units will be used only when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. Excavations will be conducted using state-of-the-art techniques for controlling provenience.

Spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock will be recorded for each probe on a standard form. Test excavation units will be recorded on unit-level forms, which include plan maps for each excavation level, and material type, number, and vertical provenience (depth below surface and

stratum association where applicable) for all artifacts recovered from the level. A stratigraphic profile will be drawn for at least one wall of each test excavation unit.

Sediments excavated for purposes of cultural resources investigation will be screened through 1/8 inch mesh, unless soil conditions warrant ¼ inch mesh.

All prehistoric and historic artifacts collected from the surface and from probes and excavation units will be analyzed, catalogued, and temporarily curated. Ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, and the affected tribes.

Within 90 days of concluding fieldwork, a technical report describing any and all monitoring and resultant archaeological excavations will be provided to The Owners, for review and delivery to the federal agencies (if any), SHPO, and the affected tribe(s).

If assessment activity exposes human remains (burials, isolated teeth, or bones), the process described in Section 5 above will be followed.

7. PROCEEDING WITH CONSTRUCTION

Project construction outside the discovery location may continue while documentation and assessment of the cultural resources proceed. A CR Specialist must determine the boundaries of the discovery location. In consultation with DAHP and affected tribes, The Owners and Cultural Resources Program staff will determine the appropriate level of documentation and treatment of the resource. If federal agencies are involved, the agencies will make the final determinations about treatment and documentation.

Construction may continue at the discovery location only after the process outlined in this plan is followed and City (and the federal agencies, if any) determine that compliance with state and federal laws is complete.

2024-04-29

Geological Risk Assessment or Study/ Report – not required.

2024-04-29

Fish and Wildlife Management and Mitigation Plan – not required.

2024-04-29

Request of Deferral/Alternative – no request

2024-04-29

Wetland Management and Mitigation Plan – not required.