# **APPENDIX J**

Hydrology and Water Quality Technical Memorandum



Antelope Valley Line Capacity and Service Improvements Program

Project	Antelope Valley Line Capacity and Service Improvements Program
Project #	21-019.0
Client	Mott MacDonald
Subject	Water Resources and Hydrology Technical Memorandum
Date	May 7, 2021
Prepared by	Jennifer J. Walker, P.E., D.WRE, ENV SP, CFM, QSD

## Introduction

Watearth Inc. (Watearth) performed a Hydrological Evaluation for three proposed capital improvement projects along the Antelope Valley Line (AVL) rail corridor to determine drainage patterns, peak flows, and potential hydromodification and erosion that could result from the improvements. Further, an impact analysis was performed for the proposed construction and operation activities.

The Hydrological Evaluation was conducted using a desktop study and site reconnaissance. The desktop study evaluated existing soils, generated drainage areas and hydrologic parameters, and identified streams and outfalls used in modeling based on satellite digital elevation model (DEM) imagery obtained from the United States Department of Agriculture (USDA). The site reconnaissance observations were obtained from Metrolink stations, station parking lots, and public roads due to the constraints accessing the Metro right-of-way (ROW). Results and conclusions are discussed at the end of this memorandum (Memo).

# **Project Description**

The Proposed Project would construct three capital improvements along the existing AVL rail corridor to provide operational flexibility and facilitate increased and more reliable Metrolink service along the corridor. The AVL right of way (ROW) is owned by Metro and used by the Southern California Regional Rail Authority (SCRRA), which operates Metrolink commuter rail service. The AVL is an existing 76.6-mile rail corridor that runs from LAUS in the City of Los Angeles to the Lancaster Terminal in the City of Lancaster within the County of Los Angeles. The corridor consists of the former Southern Pacific Valley Line and parallels the Interstate 5 (I-5) freeway from Los Angeles to Santa Clarita, turns east, then north, to parallel State Route 14 (SR-14) to the City of Lancaster.

The route is Federal Railroad Administration Track Class 4, with a maximum speed of 79 miles per hour (mph). The Union Pacific Railroad (UPRR) operates Class 1 freight service along the corridor as well. There are up to 30 Metrolink commuter trains and 12 UPRR freight trains per day on the AVL.



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Figure 1 shows the regional context of the Project corridor and the location of the proposed capital improvements.

### Project Objectives

The AVL plays a critical role in connecting communities in North Los Angeles County to LAUS and the cities in between. Consistent with the State Rail Plan and Metrolink's Southern California Optimized Rail Expansion (SCORE) program, and in anticipation of substantial population and employment growth in the North Los Angeles County region over the next 20 years, Metro seeks to improve rail service on the AVL to realize its full potential as a regional mobility enhancement and not just a peak-hour commuter service. Accordingly, the AVL Capacity and Service Enhancement Improvement Project seeks to:

- Provide regular and more frequent Metrolink services to improve regional connectivity, and accessibility through the enabling of 30-minute bi-directional passenger rail service to the Santa Clarita Valley, and 60-minute bi-directional service to Lancaster along the AVL corridor.
- Improve passenger service reliability and efficiency on the AVL rail corridor.
- Provide necessary infrastructure improvements to enhance operational flexibility and reliability along the AVL corridor.
- Support the vision and goals for rail service in the region consistent with the California State Rail 2040 Plan and Metrolink's SCORE program.





Figure 1: Regional Context of the Study Corridor Antelope Valley Line Capacity and Service Improvements Program



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### **Proposed Project**

The Proposed Project is intended to enable improved service along the AVL by constructing three capital improvements at three locations strategically selected along the AVL corridor to provide the most operational flexibility possible for the level of investment available. These three capital improvements are the Balboa Double Track Extension in the City of Los Angeles, the Canyon Siding Extension in the City of Santa Clarita, and the Lancaster Terminal Improvements in the City of Lancaster.

#### **Balboa Double Track Extension**

The Balboa Double Track Extension would extend the existing Sylmar siding approximately 6,300 feet north from Balboa Boulevard to Sierra Highway. It is anticipated that the existing railroad ROW would accommodate most of the Balboa Double Track Extension. In addition to installation of the proposed double track extension, the improvement would require realignment of the existing Main Track through portions of the site to accommodate the second track and the required clearance to existing structures. The proposed double track would be positioned to the east of the existing AVL Main Track and would tie-in at the existing Sylmar siding terminus on the south end of the site and reconnect with the existing Main Track at the north end just south of the Sierra Highway road bridge. **Figure 2** presents the location of the proposed improvement and its surroundings.





Figure 2: Balboa Double Track Extension Vicinity
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#### **Canyon Siding Extension**

The Canyon Siding Extension would improve the existing Saugus Siding by adding approximately 8,400 feet of new track between Bouquet Canyon Road and Golden Oak Road. The Canyon Siding Extension would not require realignment of the Main Track as there is adequate horizontal clearance for both tracks within the existing ROW. The proposed Canyon Siding Extension would include a second side-platform at the existing Santa Clarita Metrolink Station. A new crossover track south of the Santa Clarita Station would be provided to facilitate turnback of Metrolink trains at Santa Clarita Station and improve operational flexibility and reliability. **Figure 3** provides the location of the proposed Canyon Siding Extension and its surroundings.

#### Platform to Platform Pedestrian Undercrossing Design Option

An option to use a grade separated pedestrian undercrossing at Santa Clarita Station has been considered to connect the existing platform to the new second platform.

#### Island Platform with Platform to Parking Lot Pedestrian Undercrossing Design Option

An option to provide a new island platform (with two platform faces) has been considered and would include a grade separated pedestrian undercrossing connecting the Santa Clarita Metrolink Station parking area to the new island platform.





Figure 3: Canyon Siding Extension Vicinity
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#### Lancaster Terminal Improvements

The Lancaster Terminal Improvements would include the expansion of the existing train layover facilities by adding one new 1,000-foot-long and two 500-foot-long train storage tracks of Lancaster Boulevard. The train storage track design may require an operating easement within the UPRR ROW subject to further design refinements. The proposed layover facility would accommodate up to four 5-car trains. **Figure 4** provides the location of the proposed improvement and its surroundings.

#### Island Platform with Pedestrian Undercrossing Design Option

An option has been developed to provide an island platform with two platform faces at Lancaster Station. The island platform would be constructed within the footprint of the existing station platform and parking lot at Lancaster Station. A grade separated pedestrian undercrossing to the island platform would be constructed in the middle of the new island platform with ramps for access to the proposed island platform.

#### Island Platform with Pedestrian Overcrossing Design Option

Similar to the previous option (Island Platform with Pedestrian Undercrossing Design Option), the Island Platform with Pedestrian Overcrossing Design Option would have generally the same track and station configuration and would use a grade separated pedestrian overcrossing to access the island platform. The pedestrian overcrossing would be constructed on the north end of the island platform with stairs and an elevator to go up and over the railroad track. Pedestrians would access the ground level in the station parking lot near the existing Lancaster Metrolink Station building.





Figure 4: Lancaster Terminal Improvements Vicinity Map Antelope Valley Line Capacity and Service Improvements Program



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#### **Operational Characteristics**

The Proposed Project is intended to enable the increase in Metrolink service to 30-minute bidirectional service from LAUS to the Santa Clarita Valley and 60-minute bi-directional services to Lancaster. As of 2019, Metrolink operates 30 weekday trains, 12 Saturday trains, and 12 Sunday trains with an end-to-end trip time of approximately two hours and 15 minutes. Peak service operates roughly every 30-60 minutes with most of the trains making all stops, and one train providing express service. Non-peak direction service operates from every 45 minutes to over two hours and does not serve all the northern-most stations (Vincent Grade/Acton, Palmdale and Lancaster). Train speeds along the AVL range from approximately 30 to 70 mph depending on topography, track geometry, and whether there is a single track or double track configuration.

#### Construction

The Proposed Project would almost entirely be constructed within existing rail or street ROW. Minor acquisitions, easements, or temporary construction easements may be necessary at select locations mainly to accommodate construction staging and laydown areas and to accommodate the required grading activities associated with the proposed capital improvements. Generally, construction activities associated with each Capital Improvement would include site clearing, grading and retaining wall installation, utility relocation and installation, and track and systems installation and station platform construction.

Construction equipment anticipated to be used for the Proposed Project include track installation equipment, front-end loaders, dump and haul trucks, excavators, medium to large rams for braking rock, small/medium scrapers, drills for tiebacks/rock bolts, construction forklifts, crane, concrete pump trucks, concrete haul trucks, rail-mounted drill rig (for pier protection wall installation) and utility/service vehicles.

The construction duration of the Proposed Project is expected to last approximately 24 months per Capital Improvement. For safety reasons and to limit disruptions to rail service, project specific work windows would be required for much of the construction work. Similarly, certain activities that could disrupt rail service may require nighttime and weekend construction to minimize disruption. The overall project schedule anticipates construction commencing beginning 2024 and completion in 2028.



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### **Regulatory Framework**

Federal Regulations

#### **Clean Water Act**

Under the Clean Water Act (CWA) of 1977, the United States Environmental Protection Agency (EPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finances municipal wastewater treatment facilities, and manages polluted runoff. The CWA authorizes the EPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the State Water Resources Control Board (SWRCB), which has nine regional boards. The Lahontan Regional Water Quality Control Board (RWQCB - Region 6V) and the Los Angeles RWQCB (Region 4) regulate water quality in the project area.

Sections 401 and 404 of the CWA are administered through the Regulatory Program of the U.S. Army Corps of Engineers (USACE) and regulate the water quality of all discharges of fill or dredged material into waters of the U.S. including wetlands and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." If there are ephemeral drainages and wetlands identified in the Proposed Plan Area, construction and other activities may require the acquisition of a permit from the USACE under Section 404 of the CWA and water quality certification from the RWQCB under Section 401 of the CWA. Section 401 certification is required from the RWQCB prior to final issuance of Section 404 permits by the USACE.

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish a total maximum daily load (TMDL) for the pollutant causing the conditions of impairment. TMDL is the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

Typically, TMDL is the sum of allowable loads of a single pollutant from all contributing point and non-point sources. The intent of the 303(d) list is to identify water bodies that require future development of a TMDL to maintain water quality. In accordance with Section 303(d), the Lahontan and Los Angeles RWQCBs have identified impaired water bodies within their respective jurisdictions and the pollutant or stressor responsible for impairing the water quality. There are several lakes, reservoirs, rivers, and creeks within the project area that are on the 303(d) impaired water bodies list. Therefore, future development pursuant to the Proposed Project within the project area could adversely impact these impaired water bodies. **Antelope Valley Line Capacity and Service Improvements Program** 



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#### National Pollutant Discharge Elimination System

The NPDES permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States from their municipal separate storm sewer systems (MS4s). Under the NPDES program, all facilities which discharge pollutants into waters of the U.S. are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs.

The capital improvement sites are subject to the waste discharge requirements of the Los Angeles County MS4 Permit (Order No. R4-2012-0175) and NPDES Permit No. CAS004001, as amended by Order No. R8-2010-0062. Los Angeles County, the Los Angeles County Flood Control District (LACFCD), and 84 incorporated cities within the coastal watersheds of Los Angeles County are co-permittees under the MS4 Permit, except for the City of Long Beach, which is covered under a separate MS4 permit. Pursuant to the MS4 Permit, the co-permittees have the flexibility to develop Watershed Management Programs (WMP), which implement the requirements of the Permit on a watershed scale through customized strategies, control measures, and best management practices (BMPs). WMPs have been developed for the Upper Santa Clara River Watershed, the Upper Los Angeles River Watershed, and the Upper San Gabriel River Watershed, all of which encompass part of the project area. No management program has been adopted for the Antelope Valley Watershed. The MS4 Permit also requires the municipalities to develop and implement low impact development (LID) ordinances and green streets policies in at least 50% of the area covered by the WMP.

The MS4 Permit also requires that new development or significant redevelopment projects use BMPs, including site design planning, source control, and treatment techniques to ensure that the water quality of receiving waters is protected. These requirements are detailed in the Los Angeles County's 2014 Low Impact Development Standards Manual. Within the project area, any new development designated and non-designated projects must meet the requirements of the LID Standards Manual. To ensure that the LID measures are maintained, the Los Angeles County Department of Public Works (DPW) may require submittal of a Maintenance Plan and execution of a Maintenance Agreement with the owner/operator of the stormwater quality control measures.

### State Regulations and County Regulations

#### Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. Under this Act, the SWRCB has ultimate control over state water rights and water quality policy. In California, the EPA has delegated authority to issue NPDES permits to the SWRCB. The state is divided into nine regions related to water quality and quantity characteristics. The SWRCB, through its nine RWQCBs, carries out the regulation, protection, and administration of water quality in each region.



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Each regional board is required to adopt a Water Quality Control Plan or Basin Plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems.

#### California Anti-Degradation Policy

The California Anti-Degradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB in 1968. Unlike the Federal Anti-Degradation Policy, the California Anti-Degradation Policy applies to all waters of the state, not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

#### **California Toxics Rule**

In 2000, the EPA promulgated the California Toxics Rule which establishes water quality criteria for certain toxic substances to be applied to waters in the state. The EPA declared this rule based on the determination that the numeric criteria are necessary in the state to protect human health and the environment. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters, enclosed bays, and estuaries that are designated by the Los Angeles RWQCB as having beneficial uses protective of aquatic life or human health.

#### **California Water Plan**

The California Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs.

The goal for the California Water Plan update is to meet Water Code requirements, receive broad support among those participating in California's water planning, and be a useful document for the public, water planners throughout the state, legislators, and other decisionmakers.

#### Sustainable Groundwater Management Act

On September 16, 2014, the State of California signed into law the Sustainable Groundwater Management Act (SGMA). Comprised of three bills, AB 1739, SB 1168, and SB 1319, the SGMA



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provides a framework for long-term sustainable groundwater management across California and requires governments and water agencies of high and medium priority basins to halt overdraft and brings groundwater basins into balanced levels of pumping and recharge. Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins have formed Groundwater Sustainability Agencies (GSA) that will oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Local stakeholders have until 2022 (in critically overdrafted basins until 2020) to develop, prepare, and begin implementation of GSPs. GSAs will have until 2042 (2040 in critically overdrafted basins) to achieve groundwater sustainability. The project site overlies a basin which is not designated as critically overdrafted and, as such, no GSA has been formed to develop a local GSP for its management yet.

#### **County of Los Angeles Hydrology Manual**

Pursuant to the City of Los Angeles (City) Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County (County) Department of Public Works Hydrology Manual as its Conceptual Engineering Design for storm drainage facilities. The Hydrology Manual requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. Areas with sump conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event. The County also limits the allowable discharge into existing storm drain facilities based on the MS4 permit, which is enforced on all new developments that discharge directly into the County's storm drain system. Any proposed drainage improvements of County-owned storm drain facilities such as catch basins and storm drain lines require approval and/or review from the LACFCD.

Drainage and flood control structures and improvements within the City are subject to review and approval by the City's DPW, Bureau of Engineering, and Department of Building and Safety. As required by the DPW, all public storm facilities must be designed in conformity with the standards set forth by Los Angeles County. The DPW reviews and approves storm drain plans prior to construction. Any proposed increases in discharge directly into County facilities, or proposed improvements of County-owned storm drain facilities, such as catch basins and storm drain lines, require approval from County Flood Control to ensure compliance with the County's Municipal NPDES permit requirements.

#### County of Los Angeles Low Impact Development Manual

LID is a design strategy using naturalistic, on-site BMPs to lessen the impacts of development on stormwater quality and quantity. The goal of LID is to mimic the undeveloped runoff conditions of the development site with the post-development conditions. In 2014 the County of Los Angeles revised LID requirements for development occurring within unincorporated portions of the County.



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The *LID Manual* explains how a site designer/engineer could use a wide array of simple costeffective techniques that focus on site-level hydrologic control to meet LID regulations. The *LID Manual* describes those techniques, provides examples and descriptions of how they work, and contains BMP fact sheets.

#### **Stormwater Pollution Prevention Program**

For all construction activities disturbing more than one acre of land, California mandates the development and implementation of a Stormwater Pollution Prevention Program (SWPPP). The SWPPP documents the selection and implementation of BMPs (i.e., state-of-the-art control and treatment techniques for reducing environmental impacts) for a specific construction project. The SWPPP also charges property owners with stormwater quality management responsibilities. A construction site subject to the General Permit must prepare and implement the SWPPP that meets General Permit requirements.

The SWPPP is meant to identify potential sources and types of pollutants associated with construction activity and list BMPs that would prohibit pollutants from being discharged from the construction site into the public storm drain system. BMPs typically address stabilization of construction areas, minimization of erosion during construction, sediment control, control of pollutants from construction materials, and post-construction stormwater management (e.g., the minimization of impervious surfaces or treatment of stormwater runoff). The SWPPP is also required to include a discussion of the proposed program to inspect and maintain all BMPs.

#### Standard Urban Stormwater Mitigation Plan

A Municipal NPDES Permit was issued in December 2001 to Los Angeles County and 84 incorporated permittee cities within the County (Permittee). The permit defines the minimum required BMPs that must be adopted by Permittee municipalities and included by developers within plans for facility operations. To obtain coverage under this permit, a developer must obtain approval of a project-specific Standard Urban Stormwater Mitigation Plan (SUSMP) from the appropriate Permittee.

The SUSMP addresses the discharge of pollutants within stormwater generated following new construction or redevelopment. Under recent regulations adopted by the Los Angeles RWQCB, projects are required to implement an SUSMP during the operational life of a project to ensure that stormwater quantity and quality are addressed by incorporating BMPs into project design. This plan defines water quality design standards to ensure that stormwater runoff is managed for water quality concerns and to ensure that pollutants carried by stormwater are confined and not delivered to receiving waters. Applicants are required to abide by source control and treatment control BMPs from the list approved by the Los Angeles RWQCB and included in the SUSMP. These measures include infiltration of stormwater into the ground, as well as filtering



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runoff before it leaves a site. This can be accomplished through various means, including the use of infiltration pits, flow-through planter boxes, hydrodynamic separators, and catch basin filters.

#### Los Angeles County MS4 Permit

Los Angeles RWQCB Order No. R4-2012-0175, NPDES No. CAS00400, effective December 28, 2012, Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges within the Coastal Watersheds of Los Angeles County (MS4 Permit), controls the quality of runoff entering municipal storm drains in the County. The requirements of Order No. R4-2012-0175 cover 84 cities and most of the unincorporated areas of Los Angeles County. LACFCD is designated as the Principal Permittee. The other permittees are the 84 Los Angeles County cities (including the City of Los Angeles) and Los Angeles County. Collectively, these are the "Co-Permittees." The MS4 Permit is intended to ensure that combinations of site planning, source control, and treatment control practices are implemented to protect the quality of receiving waters. To do so, the MS4 Permit requires that new development employ BMPs designed to control pollutants in stormwater runoff, details specific sizing criteria for BMPs, and specifies flow control requirements. These BMPs include structural practices, source control and treatment techniques and systems, and site design planning principles addressing water quality.

#### Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code, the Los Angeles RWQCB has adopted the "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan. The Basin Plan is a resource for the Los Angeles RWQCB and others who use water and/or discharge wastewater in the Los Angeles region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

### Local Regulations

#### City of Los Angeles Section 62.105, Construction "Class B" Permit

Any proposed drainage improvements within the street ROW or any other property owned by, to be owned by, or under the control of the City, requires the approval of a B-Permit (Section



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62.105, Los Angeles Municipal Code [LAMC]). Under the B-Permit process, storm drain installation plans are subject to review and approval by the City of Los Angeles DPW, Bureau of Engineering (BOE). Additionally, any connections to the City's storm drain system from a property line to a catch basin or a storm drainpipe requires a storm drain permit from the BOE.

#### City of Los Angeles Section 64.70.01, Stormwater and Urban Runoff Pollution Control Ordinance

LAMC Section 64.70.01, the Stormwater and Urban Runoff Pollution Control Ordinance, was added by Ordinance No. 172,176 in 1998, and prohibits the discharge of unauthorized pollutants in the City. The Ordinance applies to all dischargers and places of discharge that discharge stormwater or non-stormwater into any storm drain system or receiving waters. While this practice is prohibited under the County's Municipal NPDES Permit, adoption of the Ordinance allows enforcement by DPW as well as the levy of fines for violations. The Ordinance prohibits the discharge of pollutants by persons operating or performing industrial or commercial activities into the storm drain system and receiving waters, except as authorized by a general or separate NPDES permit; defines illicit, exempt, and conditionally exempt discharges; prohibits the placement or discharge of trash, sewage, hazardous materials, and other waste in storm drains or receiving waters, or the accumulation, storage, or disposal of these materials in such a way as to contaminate runoff discharged to these facilities; requires control of pollutants from parking lots; and prohibits illicit connections to municipal storm drain facilities.

#### City of Los Angeles Water Quality Compliance Master Plan for Urban Runoff

The Water Quality Compliance Master Plan for Urban Runoff (Water Quality Master Plan) was developed by the Bureau of Sanitation, Watershed Protection Division in collaboration with stakeholders in response to a 2007 City Council motion for the development of a water quality master plan addressing pollution from urban runoff within the City. The Water Quality Master Plan was adopted in April 2009.

The Water Quality Master Plan addresses planning, budgeting, and funding for achieving clean stormwater and urban runoff for the next 20 years and presents an overview of the status of urban runoff management within the City. The Water Quality Master Plan identifies the City's four watersheds, summarizes water quality conditions in the City's receiving waters as well as known sources of pollutants, summarizes regulatory requirements for water quality, describes BMPs required by the City for stormwater quality management, and discusses related plans for water quality that are implemented within the Los Angeles region, particularly TMDL Implementation Plans and Watershed Management Plans in Los Angeles.



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#### **County of Los Angeles Sedimentation Manual**

The County of Los Angeles Sedimentation Manual (Sedimentation Manual) established LACDPW's sedimentation design criteria (LACDPW 2006b). The procedures and standards contained in the Sedimentation Manual were developed by LACDPW as the need arose to design erosion control structures, sediment retention structures, and channels carrying sediment laden flows. These sedimentation techniques are applicable in the design of local debris basins, storm drains, retention and detention basins, and channel projects within Los Angeles County.

#### **Enhanced Watershed Management Program**

The City of Santa Clarita, Los Angeles County, and LACFCD jointly developed an Enhanced Watershed Management Program (EWMP), which allows collaboration among agencies on multi-benefit regional projects to retain both non-stormwater and stormwater runoff, as well as to facilitate flood control and increase water supply. Nearly 90% of the Upper Santa Clara River Watershed (USCRW) is open space with approximately 88% being undeveloped land and contains one of the last remaining natural rivers in Southern California. The USCRW presents unique challenges for maintaining the balance of population growth, conservation of endangered species habitat, floodplain management, water supply, and wildlife corridors that depend on the Santa Clara River and its floodplain. The EWMP has been developed to protect these beneficial uses of the USCRW receiving waters, while recognizing these unique characteristics.

# City of Santa Clarita Stormwater and Urban Runoff Pollution Control (SCMC Chapter 10.04)

Section 10.04.070 (Construction Activity Stormwater Measures) of Chapter 10.04 of the Santa Clarita Municipal Code (SCMC) identifies specific requirements related to water runoff and discharges during construction within the City.

#### City of Santa Clarita Floodplain Management Ordinance (SCMC Chapter 10.06)

The City of Santa Clarita participates in the National Flood Insurance Program (NFIP). The intention of the NFIP is to lessen the financial devastation caused by flooding in communities across the United States. It is a voluntary program based on a mutual agreement between the Federal Emergency Management Agency (FEMA) and the local community. Participation in the program makes federally backed flood insurance available to City residents and allows them to obtain direct federal relief following declared flood disasters (City of Santa Clarita 2020). In cooperation with FEMA, the City has adopted a Floodplain Management Ordinance (Chapter 10.06 of the SCMC), which governs development in the City's floodplains.

In order to remain an NFIP community, the City must regulate development in its flood hazard areas per the requirements of the Floodplain Management Ordinance along with other various technical documents published by FEMA.



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# City of Santa Clarita Stormwater Mitigation Plan Implementation (SCMC Chapter 17.95)

Chapter 17.95 of the SCMC identifies certain requirements for post-construction stormwater activities for development projects to comply with the NPDES and MS4 permits. This chapter requires that each project develop and implement a mitigation plan to lessen the water quality impacts of development by using smart growth practices and BMPs that integrate LID design principles to mimic pre-development hydrology conditions through infiltration, evapotranspiration, rainfall harvest, and use.

#### Antelope Valley Integrated Water Management Plan

The Antelope Valley Integrated Water Management Plan includes a description of the region and participants, regional objectives and priorities, water management strategies, implementation, impacts and benefits, data management, financing, stakeholder involvement, relationships to local planning, and state and federal coordination.

### Existing Conditions and Settings – Balboa Double Track Extension

The section below discusses the hydrology, drainage areas, and flood zones of the Balboa Double Track Extension site.

### Hydrology Analysis

The Balboa Double Track Extension project site extends the existing double track approximately 6,300 feet north from Balboa Boulevard (Blvd.) to Sierra Highway (Hwy) (**Exhibit 1**). As shown in **Exhibit 2**, Balboa extends from the intersection at Balboa Road (Rd) northwest across Sierra Hwy. Based on LiDAR data (**Exhibit 3**), surface topography ranges from approximately 1,300 feet (ft) to 1,600 ft above mean sea level (msl). Drainage in the Balboa Double Track Extension site generally flows from north to south, running parallel to I-5. Based on the local Flood Insurance Rate Map (FIRM), most of the Balboa Double Track Extension site lies within Flood Zone D (Area of Undetermined Flood Hazard) with small areas that fall in Flood Zones AE (1% chance of flooding) and X (0.2% chance of flooding) (**Exhibit 4**). The land use of Balboa is categorized as low-density development surrounded by roadways and undeveloped land (**Exhibit 5**). The land use comes from raster data from the Multi-Resolution Land Characteristics (MLRC) consortium. It is a group of several federal agencies who generate relevant land cover information.

### Drainage Area

Following a process of subcatchment delineation, seven discharge locations were observed from the field assessment, review of the Conceptual Engineering Design (CED), and Google Earth aerial reconnaissance. No locations show signs of sheet flow erosion or obstructions. Sheet



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flow from the drainage areas discharge to the concrete channel. **Exhibit 6** highlights all Balboa Double Track Extension drainage area (DA) locations.

### Hydrologic Parameters

Soil types for each drainage area were determined from the LA County Hydrology Map. The Balboa Double Track Extension site contains soil types 63 and 64 which are called "UPPER LOS ANGELES RIVER" in Appendix C of the Los Angeles County Hydrology Manual (LACHM). **Exhibit 7** shows the soil types for the Balboa Double Track Extension site.

**Tables 1** shows subcatchment hydrologic inputs for existing conditions analysis. Area, imperviouscover, flow path length, and flow path slope were determined from aerial and GIS data.

Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	86.9	0.32	3,872	0.027	63	0
DA-02	687.4	0.04	15,134	0.024	64	0
DA-03	246.8	0.04	12,463	0.028	64	0
DA-04	752.9	0.28	10,473	0.021	64	0
DA-05	33.5	0.96	2,625	0.022	64	0
DA-06	175.6	0.08	7,107	0.035	64	0
DA-07	25.4	0.68	2,148	0.039	63	0

# Table 1: Existing Conditions Hydrology Parameters – Balboa Double Track Extension

### Modeling Results

Peak flows for existing conditions for the Balboa Double Track Extension sites are displayed in **Table 2**. Existing peak flow hydrographs are shown in **Figures 5**. Balboa Double Track Extension site proposed conditions peak flows show increases over existing conditions for all storm events (**Table 3**). Proposed conditions are discussed further in the Impacts section of the memo.

#### Table 2: Existing Conditions Peak Flow – Balboa Double Track Extension

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	34	60	82	120	148	180	200
DA-02	260	493	655	860	1,019	1,169	1,258



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Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-03	94	177	235	309	366	420	452
DA-04	347	605	782	1,006	1,178	1,343	1,439
DA-05	24	41	54	71	86	100	106
DA-06	69	129	170	222	273	334	368
DA-07	15	29	39	54	65	77	87



*Figure 5:* Existing Balboa Double Track Extension site peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms

## Table 3: Change in Peak Flow from Existing to Proposed Condition – Balboa Double Track Extension

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	1	1	1	1	6	7	8
DA-02	0	0	0	0	0	0	0



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Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-03	0	0	0	0	0	0	0
DA-04	1	1	1	1	1	1	1
DA-05	0	0	0	0	0	0	0
DA-06	0	0	0	0	0	0	0
DA-07	3	3	4	2	2	2	2

Modeling results hydrographs visually confirm that there is minimal difference between existing and proposed conditions cumulative peak flows. **Figure 6** shows the difference in Balboa Double Track Extension site peak flows for the two-year design storm event, while **Figure 7** shows the difference in peak flows for the 100-year design storm event.

Additionally, the shapes of the proposed conditions runoff hydrographs for the Balboa Double Track Extension site match the shapes of the existing conditions runoff hydrographs. This indicates there is minimal increase in runoff volume as shown by the area under the hydrograph. **Appendix B** includes additional details on results including HydroCalc inputs and resulting hydrographs for individual drainage areas directly out of HydroCalc.



**Figure 6:** Balboa Double Track Extension site two-year storm event cumulative hydrograph peak flow comparison



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**Figure 7:** Balboa Double Track Extension site 100-year storm event cumulative hydrograph peak flow comparison

# Existing Conditions and Settings – Canyon Siding Extension

The section below discusses the hydrology, drainage areas, and flood zones of Canyon Siding Extension site.

### Hydrology Analysis

The Canyon Siding Extension project site improvement project adds approximately 8,400 ft of new double track between Soledad Canyon Rd to Golden Oak Rd and would also provide a second station platform at the existing Santa Clarita Metrolink station (**Exhibit 8**). **Exhibit 9** shows how the Canyon Siding Extension site extends from the foothills and runs parallel to Soledad Canyon Rd. Based on LiDAR data shown in **Exhibit 10**, surface topography ranges from approximately 1,200 ft to 1,300 ft above msl. Drainage in this capital improvement site flows in an east-to-west direction. Based on the local FIRM, all of the Canyon Siding Extension site lies within the 0.2% recurrence interval Flood Zone X (**Exhibit 11**). **Exhibit 12** displays the site land use which is categorized as medium density development surrounded by patches of developed land.



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### Drainage Area

Based on field reconnaissance and desktop analysis using topographic DEMs three subcatchments (drainage area) were delineated to define drainage patterns, with drainage areas ranging from 18 ac to 793 ac. There are no changes or obstructions to sheet flow drainage flowing from upstream of the ROW. Sheet flow drains away from developed areas to isolated parking lot areas. **Figure 8** shows the on-site and off-site sheet flow drainage discharge point. **Figure 9** illustrates DA1 and DA2 drainage discharging into the receiving stream. **Exhibit 13** highlights all Canyon Siding Extension site drainage area locations.



Figure 8: Canyon Siding Extension site sheet flow discharge location from all DAs



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Figure 9: Canyon Siding Extension site DA2 drainage discharge location

### Hydrologic Parameters

Soil types for each drainage area were determined from the LA County Hydrology Map. The Canyon Siding Extension site contains only soil type 97 which is called "SANTA CLARA RIVER" in Appendix C of the LACHM. **Exhibit 14** shows the soil type for the Canyon Siding Extension site.

**Table 4** shows subcatchment hydrologic inputs for existing conditions analysis. Area, impervious cover, flow path length, and flow path slope were determined from aerial and GIS data.

					3	
Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	18.2	0.45	2,000	0.051	97	0
DA-02	20.0	0.19	1,989	0.073	97	0
DA-03	794.0	0.64	16,524	0.018	97	0

#### Table 4: Existing Conditions Hydrology Parameters – Canyon Siding Extension

#### Modeling Results

Peak flows for existing conditions for the Canyon Siding Extension site are displayed in **Table 5**. Existing peak flow hydrographs are shown in **Figure 10** and two- to 100-year event hydrographs in **Figures 11** and **12**. Canyon Siding Extension site proposed conditions peak flows show



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increases over existing conditions for all storm events (**Table 6**). Proposed conditions are discussed further in the Impacts section of the memo.

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs
DA-01	9	17	24	33	40	48	51
DA-02	7	17	24	34	42	50	56
DA-03	402	640	799	1,004	1,156	1,311	1,398

#### Table 5: Existing Conditions Peak Flow – Canyon Siding Extension



**Figure 10:** Existing Canyon Siding Extension site peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms



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# Table 6: Change in Peak Flow from Existing to Proposed Condition – Canyon Siding Extension

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	0	0	0	0	0	0	0
DA-02	0	0	0	0	0	0	0
DA-03	20	23	25	26	27	28	28



**Figure 11:** Canyon Siding Extension site two-year storm event cumulative hydrograph peak flow comparison



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Figure 12: Canyon Siding Extension site 100-year storm event cumulative hydrograph peak flow comparison

# Existing Conditions and Settings – Lancaster Terminal Improvements

The section below discusses the hydrology, drainage areas, and flood zones of the Lancaster Terminal Improvements site.

### Hydrology Analysis

The Lancaster Terminal Improvements site expands the existing yard with two new 1,000-footlong train storage tracks and a second station platform at Lancaster Metrolink Station including double tracking between W Avenue to Jackman Street (**Exhibit 15**). The Lancaster Terminal Improvements site will run parallel to Sierra Hwy until the intersection at W Avenue (**Exhibit 16**). Based on LiDAR data shown in **Exhibit 17**, surface topography ranges from approximately 2,335 ft to 2,360 ft above msl. Drainage in the Lancaster Terminal Improvements site flows from south to north alongside Sierra Hwy. Based on the local FIRM, all the site lies within the 0.2% recurrence interval Flood Zone X (**Exhibit 18**). The site is located in an urbanized setting and land use is categorized as medium density development (**Exhibit 19**).



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The Lancaster Terminal Improvements site is in the Antelope River-Fremont Valleys Basin of the Armargosa Creek Tributary River where it runs northwest. Improvements in this project are along the Southern Pacific RR. The streams in this capital improvement site are intermittent meaning they have full streams in wet weather.

### Drainage Area

The Lancaster Terminal Improvements site is a flat developed area that runs parallel to Armargosa Creek tributary. A field evaluation and DEM aerial image drainage pattern review were used to delineate 35-acre and 260-acre subcatchments (drainage areas). Many streams are present along roads due to the flat gradient. Sheet flow drains from south to north along railroad sides with no observed obstructions until discharging into the receiving waters. **Figure 13** shows the development layout. **Figure 14** illustrates the project area and sheet flow drainage being far from the railroad. **Exhibit 20** highlights all Lancaster Terminal Improvements site drainage locations.



Figure 13: Lancaster Terminal Improvements site area and railroad



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Figure 14: Lancaster Terminal Improvements project area, railroad, and streams

### Hydrologic Parameters

Soil types for each drainage area were determined from the LA County Hydrology Map. The Lancaster Terminal Improvements site contains soil types 120 and 124 which are called "ANTELOPE VALLEY" in Appendix C of the LACHM.

**Table 7** shows subcatchment hydrologic inputs for existing conditions analysis. Area, imperviouscover, flow path length, and flow path slope were determined from aerial and GIS data.

Table 7: Existing Conditions Hydrology Parameters – Lancaster 1	[erminal
Improvements	

Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	35.0	1.00	8,700	0.0062	124	0
DA-02	260.1	0.82	16,000	0.0059	120	0



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### Modeling Results

Peak flows for existing conditions for the Lancaster Terminal Improvement site are displayed in **Table 8** while **Table 9** shows the changes in peak flows from existing to proposed conditions. Existing peak flow hydrographs are shown in **Figure 15**. The Lancaster Terminal Improvements site shows no increases in peak flows for all storm events. Proposed conditions are discussed further in the Impacts section of the memo.

#### Table 8: Existing Conditions Peak Flow – Lancaster Terminal Improvements

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	9	13	16	20	22	25	27
DA-02	55	83	101	124	143	163	174



*Figure 15:* Existing Lancaster Terminal Improvements site peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms



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# Table 9: Change in Peak Flow from Existing to Proposed Condition – Lancaster Terminal Improvements

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	0	0	0	0	0	0	0
DA-02	0	0	0	0	0	0	0

Figures 16 and 17 show the difference in Lancaster Terminal Improvements site peak flows for the two- and 100-year design storm events.

As illustrated by the hydrographs, proposed conditions peak runoffs for the Lancaster Terminal Improvements site remain the same compared to existing conditions for all events. **Appendix B** includes additional details on results including HydroCalc inputs and resulting hydrographs for individual drainage areas directly out of HydroCalc.

Note that HydroCalc does not have an option to run the 200-year event. To simulate the 200-year event, the multiplication factor extrapolated from Table 5.3.1 of the LACHM was applied to the 50-year event and then ran as a 50-year event.



**Figure 17:** Lancaster Terminal Improvements site two-year storm event cumulative hydrograph peak flow comparison



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**Figure 18:** Lancaster Terminal Improvements site 100-year storm event cumulative hydrograph peak flow comparison

### Assessment of LID

The three capital improvement sites are all considered "non-designated projects" as they do not meet any of the criteria set forth by the County of Los Angeles DPW *LID Manual 2014*. There is more than one acre of disturbed land at all three capital improvement sites, but each site does not add more than 10,000 square feet (sq-ft) of impervious surface area. Accordingly, the capital improvement sites do not require retention-based stormwater quality control measures.

# Methodology

The following describes the methods for impact evaluation:

#### Mapping of water features

DEM satellite imagery was downloaded from the USDA and processed using Arc Hydro 10.8 to generate drainage areas and stream locations. ArcGIS was used to calculate other hydrologic parameters including drainage areas soil types, impervious cover, slopes, and longest flow paths. Seven subcatchments (drainage area) were defined for the Balboa site, with drainage areas ranging from 25 acre (ac) to 753 ac. The storm drainage system in this area is complex; it has a network of roads such as I-5, developments, storage space, and parking lots.



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#### Application of engineering concepts

Modeling was performed per the January 2006 LACHM. The modified rational method (MODRAT) is the standard method for hydrologic studies within the county. MODRAT applies a time of concentration (TC) to each design storm to determine rainfall intensities, which are used to obtain soil runoff coefficients. The rational formula then provides a flow rate for a specific time. Plotting the time specific flow rate yields a hydrograph and an associated flow volume for each subcatchment.

#### Calculation of event storms

Per the LACHM, approved modeling software must be used that can run MODRAT. As such, the three capital improvement sites were modeled in HydroCalc version 1.0.3. All rainfall data was obtained from the LA County Hydrology Map. The LACHM requires that the 50-year event be used to calculate the two-, 10-, 25-, 100-, and 200-year events by using a 50-year event multiplication factor. See **Appendix A** for rainfall data for the tree capital improvement sites.

#### Selection of hydraulic parameters

MODRAT requires assigning a single soil type for each subarea modeled. If a subarea contains more than one soil type, the predominant soil type in the subarea is used. The model then uses a runoff coefficient curve associated with that soil type number (179 total soil types in all) to model the runoff response of the soil to the changing intensity of rainfall.

# **Thresholds and Impacts**

This section provides an impact analysis to address the following concerns, limited to Watearth's scope of work as shown in the analysis above. As a result, Threshold B (groundwater) is not included.

#### Impact A

Would the Proposed Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

#### Construction

The Proposed Project would be entirely constructed within existing LA Metro ROW for all three capital improvement sites. Minor acquisitions, easements, or temporary construction easements may be necessary at select locations to accommodate construction staging, laydown areas, and required grading activities associated with the proposed capital improvements. Generally, construction activities associated with each capital improvement would include site clearing, grading, and retaining wall installation, utility relocation and installation, and track and systems installation. Station platforms proposed as part of the Canyon Siding Extension and Lancaster



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Terminal Improvements sites would require cast in-place concrete slabs and foundations as well as installation of typical station platform elements such as canopies and seating.

Construction equipment anticipated to be used for the Proposed Project include track installation equipment, front-end loaders, dump and haul trucks, excavators, medium to large rams for breaking rock, small/medium scrapers, drills for tiebacks/rock bolts, construction forklifts, cranes, concrete pump trucks, concrete haul trucks, rail-mounted drill rigs for pier protection wall installation, and utility/service vehicles. Additional smaller equipment may also be used such as walk-behind compactors, compact excavators and tractors, and small hydraulic equipment. The construction duration of the Proposed Project is expected to last approximately 24 months at each of the three capital improvement sites. Water usage as part of construction would be limited such that groundwater supplies would not be affected.

Outfalls were identified at all three capital improvement sites. The Balboa Double Track Extension site has seven discharges into an existing drainage channel, there are two outfalls into Castaic Creek/Santa Clara River at the Canyon Siding Extension site, and sheet flow runs off of the Lancaster Terminal Improvements site to the north. Stormwater would be managed according to the SWPPP written by a Qualified SWPPP Developer, and monitored until final stabilization of the capital improvement sites. In addition, the capital improvement sites would be subject to all aspects of the California Construction General Permit for stormwater. Therefore, construction water use for the Proposed Project would not result in a significant impact.

In addition, the general contractor should prepare an SWPPP for the Proposed Project, which shall prescribe sediment runoff controls, hazardous materials handling procedures for reducing potential spills during construction, and an emergency response program to ensure quick and safe cleanup of accidental spills. Additionally, an environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, response measures, and SWPPP measures to all field personnel. Further, a monitoring program shall be implemented to ensure that the plans are followed during all construction, operations, and maintenance activities. This would ensure that impacts are minimized as related to water contaminants.

#### Operation

No aspect of the Proposed Project activities described above in the project description could affect water usage or water quality. Addition of a new double track extension will increase the peak flow only 0.3 %, resulting in no potential hydrologic hydromodification impacts. In addition, the project's SWPPP would incorporate any long-term BMPs that could be required for soil stabilization for long-term project operations. Impacts would be less than significant with incorporation of the following SWPPP mitigation measures.


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The post-construction drainage system does not include any BMPs or LID features. As runoff will only marginally increase as described above, and now significant land use changes are proposed, impacts would be less than significant with incorporation of the following mitigation measure. See the table below for proposed conditions related to hydrology parameters at the Balboa Double Track Extension site during long-term operations.

### Proposed Conditions - Balboa Double Track Extension

Improvements at the Balboa Double Track Extension site are kept inside the ROW while field reconnaissance photos are displayed in **Figure 19** and **Figure 20**. Google Earth images are exhibited in **Figures 21** and **22** and hydrologic maps in **Figure 23**. From the above, the proposed double track extension will change the extent of the existing rail track by a minimum of 30 feet which adds additional impervious area along the project area. In LA Metro's Composite Utility Rearrangement Plan (CURP), we noted some improvements to the existing outfalls (culvert).



Figure 19: Balboa Double Track Extension site upstream view



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Figure 20: Balboa Double Track Extension site downstream view



Figure 21: Balboa Double Track Extension site upstream view



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Figure 22: Balboa Double Track Extension site downstream view



Figure 23: Balboa Double Track Extension site subcatchment areas



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After a desktop assessment of CED there is no evidence of construction activities that would block or lead to changes in flow patterns. Further, on-site sheet flow draining down the ROW will follow the existing conditions pattern, and there will be no changes to existing conditions subcatchment hydrologic parameters except for minor impervious cover adjustments.

Table 10 shows the hydrologic inputs for the proposed conditions model. Area, impervious cover,flow path length, and flow path slope were determined from aerial and GIS data. Proposedpeak flows for Balboa Double Track Extension are displayed in Table 11 and Figure 24.

## Table 10: Proposed Conditions Hydrology Parameters - Balboa Double Track Extension

Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	86.9	0.35	3,872	0.027	63	0
DA-02	687.4	0.04	15,134	0.024	64	0
DA-03	246.8	0.04	12,463	0.028	64	0
DA-04	752.9	0.28	10,473	0.021	64	0
DA-05	33.5	0.99	2,625	0.022	64	0
DA-06	175.6	0.08	7,107	0.035	64	0
DA-07	25.4	0.72	2,148	0.039	63	0

#### Table 11: Proposed Conditions Peak Flow – Balboa Double Track Extension

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	35	61	83	121	153	187	208
DA-02	260	493	655	860	1,019	1,169	1,258
DA-03	94	177	235	309	366	420	452
DA-04	347	605	782	1,006	1,179	1,343	1,440
DA-05	24	42	55	71	86	100	107
DA-06	69	129	170	222	273	334	368
DA-07	18	32	43	57	68	80	89



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*Figure 24:* Proposed Balboa Double Track Extension peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms

### Proposed Conditions - Canyon Siding Extension

From field reconnaissance and desktop analysis, the improvements in Canyon are kept inside the ROW. The proposed rail bed extension would be extended at least 30 feet plus some additional grading of existing slopes. Finally, the Project Area is completely inside the three drainage areas (**Figure 25**). In the CURP, some culvert improvements to the existing storm drain run through the Site.



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Figure 25: Canyon Siding Extension site drainage patterns and streams

After a desktop assessment of CED, there is no evidence of construction activities that will block sheet flow or cause changes in drainage patterns. Further, on-site sheet flow draining down the ROW will follow the existing conditions pattern, and there will be no changes to existing conditions subcatchment hydrologic parameters except for minor impervious cover adjustments.

Table 12 shows the hydrologic inputs for the proposed conditions model. Area, impervious cover,flow path length, and flow path slope were determined from aerial and GIS data. Table 13 andFigure 26 explore proposed peak flows for the Canyon Siding Extension site.

Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	18.2	0.45	2,000	0.051	97	0
DA-02	20.0	0.20	1,989	0.073	97	0
DA-03	794.0	0.72	16,524	0.018	97	0

Table 12: Proposed Conditions Hydrology Parameters – Canyon Siding Extension	2: Proposed Conditions Hydrology Parame	eters – Canyon Siding E	xtension
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#### Table 13: Proposed Conditions Peak Flow – Canyon Siding Extension

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	9	17	24	34	40	48	51
DA-02	7	17	24	34	42	50	56
DA-03	422	664	824	1,030	1,183	1,339	1,427



*Figure 26:* Proposed Canyon Siding Extension site peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms

### Proposed Conditions - Lancaster Terminal Improvements

From field reconnaissance and desktop analysis, the improvements in the Lancaster Terminal Improvements site are kept inside the ROW, while field reconnaissance photos are shown in Figure 27 and Figure 28. In the CURP, we also noted some existing and proposed storm drainage.



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Field reconnaissance observed no significant grade changes. Inlets were observed throughout existing station parking lot. Parking spaces closest to Sierra Hwy are lower in elevation than the station platform and track. Sheet flow has a natural path to the north based on elevation differences.



Figure 17: Lancaster Terminal Improvements site - inlet

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Figure 28: Lancaster Terminal Improvements inlet - inlet

Based on the desktop analysis, there are no changes in flow pattern due to construction activities since the sheet flow will continue draining from south to north until it reaches the receiving water. Thus, except for minor changes in impervious cover, subcatchment hydrologic parameters will be the same as existing conditions.

Table 14 shows the hydrologic inputs for the proposed conditions model. Area, impervious cover,flow path length, and flow path slope were determined from aerial and GIS data. Table 15 andFigure 29 illustrate proposed peak flows for Lancaster Terminal Improvements.

#### Table 14: Proposed Conditions Hydrology Parameters – Lancaster Terminal Improvements

Drainage Area	Area (ac)	Impervious Cover (0.01-1.0)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	Soil Type	Fire Factor
DA-01	35.0	1.00	8,700	0.0062	124	0
DA-02	260.1	0.82	16,000	0.0059	120	0



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#### Table 15: Proposed Conditions Peak Flow – Lancaster Terminal Improvements

Drainage Area	Two-yr, 24-hr Peak Flow (cfs)	Five-yr, 24-hr Peak Flow (cfs)	10-yr, 24-hr Peak Flow (cfs)	25-yr, 24-hr Peak Flow (cfs)	50-yr, 24-hr Peak Flow (cfs)	100-yr, 24-hr Peak Flow (cfs)	200-yr, 24-hr Peak Flow (cfs)
DA-01	9	13	16	20	23	25	27
DA-02	55	83	101	125	143	163	174



*Figure 29:* Proposed Lancaster Terminal Improvements site peak flow hydrograph for two-, five-, 10-, 25-, 50-, 100-, and 200-year design storms



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#### Impact C

Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

- 1. result in substantial erosion or siltation on- or off-site;
- 2. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- 4. impede or redirect flood flows?

### Hydrology - Balboa Double Track Extension

The hydrologic approach to assess potential hydromodification is to compare cumulative existing and proposed hydrographs and peak flows for all storm events at the receiving stream. **Exhibit 21** displays the reach of stream downstream from the project site that was evaluated for hydromodification that has not been disturbed by prior construction activities as well as the analysis point. The receiving stream and analysis point for the entire watershed is at Balboa Blvd. **Table 16** shows the difference in cumulative peak flows at Balboa Blvd for all design storm events over the watershed. As previously discussed, there are slight differences in impervious cover between the existing and proposed conditions. However, since all other hydrologic parameters remain constant there is no increases in peak discharges, thereby indicating low hydromodification potential. **Figure 30** shows cumulative hydrographs for the watershed for the two-, five-, and 10-year design storm events.



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**Figure 30:** Balboa Double Track Extension site comparison of cumulative hydrographs and peak flows for the two-year, five-year, and 10-year design storm events

#### Table 16: Change in Cumulative Peak Flow from Existing to Proposed Condition – Balboa Double Track Extension site

	Two-yr,	Five-yr,	10-yr,	25-yr,	50-yr,	100-yr,	200-yr,
	24-hr						
	Peak Flow						
	(cfs)						
Watershed	0.0	0.0	0.0	0.0	0.0	0.0	0.0

### Hydrology - Canyon Siding Extension

At the Canyon Siding Extension site, there is little change in ground elevation along the entire 8,400 ft ROW of new, proposed double tracking. From field observations, most changes will occur with cutting or filling existing slopes and depressions, respectively, in the proposed construction area. Existing circular culverts throughout the Proposed Project area will need to be modified or replaced with future maintenance being performed to avoid hydromodification, which is affirmed from Mott McDonald aerials. Some existing culverts were confirmed through field verification, while some outfalls could not be verified due to ROW constraints.



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**Exhibit 22** displays the downstream reach of receiving stream to be evaluated for hydromodification, which has not been disturbed by prior construction activities. **Table 17** shows the difference in cumulative peak flows at Castaic Creek for all watershed design storm events. The analysis point for cumulative peak flows is in Castain Creek. There are slight differences in impervious cover between the existing and proposed conditions.

However, since all other hydrologic parameters remain constant there is no increases in peak discharges, thereby indicating low hydromodification potential. **Figure 31** shows cumulative hydrographs for the watershed for the two-, five-, and 10-year design storm events.

### Table 17: Change in Cumulative Peak Flow from Existing to Proposed Condition – Canyon Siding Extension

	Two-yr,	Five-yr,	10-yr,	25-yr,	50-yr,	100-yr,	200-yr,
	24-hr	24-hr	24-hr	24-hr	24-hr	24-hr	24-hr
	Peak Flow	Peak	Peak Flow				
	(cfs)	Flow (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
Watershed	0.0	0.0	0.0	0.0	0.0	0.0	0.0



**Figure 31:** Canyon Siding Extension site comparison of cumulative hydrographs and peak flows for the two-year, five-year, and 10-year design storm events



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### Hydrology - Lancaster Terminal Improvements

At the Lancaster Terminal Improvements site, field observations reveal that the only change in grade is the decrease in elevation between the ROW and sidewalk adjacent to Sierra Hwy. The change in grade can be observed in the existing Metro parking lot as well as the existing City owned parking lot to the north. Plans show several parking lot inlets that receive flow due to this grade.

From Mott MacDonald Antelope Valley Line Environmental and Technical Studies CED, Lancaster Terminal Improvements will include a 22-foot-wide island platform that will impact the existing station parking lot. The proposed layover facility to the north is an extension from the existing main track. The existing City of Lancaster parking lot west will be impacted due to proposed additional storage tracks. A new storm drainage connection is proposed through Sierra Highway to the nearest manhole north of the layover facility. From Mott McDonald aerials, proposed stormwater improvements include storm drains in the northern project area near the intersection of Sierra Highway and West Avenue I, as seen in **Figure 28**.

**Exhibit 23** displays the downstream reach of receiving stream to be evaluated for potential hydromodification, which has not been disturbed by prior construction activities. **Table 18** shows the difference in cumulative peak flows at Armargosa Creek tributary for all watershed design storm events. The analysis point for cumulative peak flows is in Armargosa Creek tributary as shown in **Exhibit 23.** There are slight differences in impervious cover between the existing and proposed conditions. However, since all other hydrologic parameters remain constant there is no increases in peak discharges, thereby indicating low hydromodification potential. **Figure 29** shows cumulative hydrographs for the watershed for the two-, five-, and 10-year design storm events.



Figure 28: Lancaster Terminal Improvements site proposed storm drain



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#### Table 18: Change in Cumulative Peak Flow from Existing to Proposed Condition – Lancaster Terminal Improvements

	Two-yr,	Five-yr,	10-yr,	25-yr,	50-yr,	100-yr,	200-yr,
	24-hr						
	Peak Flow						
	(cfs)						
Watershed	0.0	0.0	0.0	0.0	0.0	0.0	0.0



**Figure 29:** Lancaster Terminal Improvements site comparison in peak flow from existing to proposed condition for watershed drainage area in the two-year, five-year, and 10-year design storm events



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### Assessment of Erosion Impacts - Construction Activities and Existing Site Conditions

In addition to review of possible hydrologic impacts, potential erosion from proposed construction activities and existing site conditions needs to be considered. A review of the Geotechnical memorandum - Metrolink Antelope Valley Line - Santa Clarita Station has determined the following:

#### **Field Assessment**

Field observations reveal that a community of trees and vegetation have been established at all three capital improvement sites, thereby forming part of the existing ecology. These tree and vegetative species protect the current steep slopes and provide gradient stabilization. However, from Mott MacDonald, AVL Environmental and Technical Studies CED, construction activities will provide potential disturbance. Accordingly, additional field observations were conducted along the stream to note trees and vegetation that may be affected due to cut and fill operations.

Along the Balboa Double Track Extension site, it was determined that 14 Southern California Black Walnut (*Juglans californica*) are present in over 30% of the steep slope between the unimproved open channel and existing ROW. Southern California Black Walnut is used for bank stabilization, so removal during construction operations will pose a greater threat of erosion.

Another vegetative species observed was Coast Live Oaks (Quercus agrifolia) north of the I-5 underpass. Also known for its extensive root system to provide bank stabilization, this species is dotted throughout the project area. Removal of this species would affect slope integrity between I-5 and the ROW. An extent community of Coast Live Oaks are established with varying density along Canyon. From the CED, some sections require further cuts into previously excavated vertical slopes. Removal of this species will affect existing slope integrity and lead to potential erosion.

Finally, landscape trees were observed along the Lancaster Terminal Improvements site. The trees are aligned along Lancaster Station parking lot and City of Lancaster parking lot. There may be tree removal required during construction operations that could lead to potential erosion.

#### **Balboa Double Track Extension**

 The area under I-5 at the Balboa Double Track Extension site has been identified as an area subject to potential hydromodification due to proposed construction activities. According to the CED, the existing track under I-5 will be realigned since it narrows through this underpass. From Sylmar Siding Plan and Profile maps, the planned



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construction activities include retaining walls, pier protection, and grading along I-5 as displayed in **Figure 30**. Field observations and review of Mott McDonald aerials indicate the open channel that starts from Balboa Blvd. and crosses I-5 will be subject to erosion due to the slope between the ROW and open channel being subject to re-grading and placement of fill.



Figure 30: Balboa Double Track Extension potential hydromodification under I-5

- 2. The California Geologic Survey Seismic Hazards Program have identified the hillsides adjacent to the ROW as zones/areas of potential landslides. The hillsides have the potential of producing landslides during periods of moderate to high precipitation. A dormant rockslide was mapped in 1997 and 1998 and is located between Station (Sta.) 1343 and Sta. 1357.
- 3. The existing geological sedimentary deposits reveal a raveling and erosion potential on cut slopes greater than a 2H:1V. Grading in soil cut range from 5 ft to 25 ft.

#### **Canyon Siding Extension**

- 1. The California Geologic Survey Seismic Hazards Program have been identified the hillsides adjacent to the ROW as zones/areas of potential landslides. The hillsides have the potential of producing landslides during periods of moderate to high precipitation.
- 2. The existing geological structure of unknown origins may pose a block failure, raveling and/or erosion potential on cut slopes greater than 2H:1V. Grading in soil and rock cut range from 15 ft to 44 ft.



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#### Erosion in Outfalls (Culvert) in the ROW

As it was detailed before in proposed condition, there is an increase in peak flow in some of the subcatchments in the Balboa Double Track Extension and Canyon Siding Extension project sites. Thus, it is expected an increase in velocity generating potential erosion. **Exhibits 24** through **26** show the potential erosion maps for the Balboa Double Track Extension, Canyon Siding Extension, and Lancaster Terminal Improvements sites, respectively.

#### **Erosivity Assessment**

From the EPA and NPDES, small construction sites are allowed to waive NPDES permitting requirements via a low erosivity waiver (LEW) for stormwater discharges if less than five acres are disrupted due to construction activity, and the rainfall erosivity factor R-value in the revised universal soil loss equation (RUSLE) is less than five during the period of construction.

The rainfall erosivity factor for all three sites was calculated based on recommendations from the EPA. The required information includes the project location and the duration of construction, which is estimated to be six months. The calculated R-value for Balboa Double Track Extension and Canyon Siding Extension sites is 14.1, and for the Lancaster Terminal Improvements site the value is 5.73. Accordingly, an NPDES stormwater permit is required for all three capital improvement sites.

#### Construction

No aspect of project construction would significantly alter the course of a stream or river as detailed in the discussion above, and impervious features associated with project construction would be adjacent to existing development on the AVL and its stations. As a result, streams would not be significantly impacted in terms of siltation or runoff, and flood flows would be unaffected. Although there is erosion potential in the Balboa Double Track Extension site area under I-5, the channel is not expected to be modified to an extent such that significant erosion is likely to occur beyond existing conditions. In addition, the project's construction would be in compliance with a project-specific SWPPP above as well as the Construction General Permit under NPDES.

Outfalls were identified at all three capital improvement sites. The Balboa Double Track Extension site has seven discharges into an existing drainage channel, there are two outfalls into Castaic Creek/Santa Clara River at the Canyon Siding Extension site, and sheet flow runs off of the Lancaster Terminal Improvements site to the north. Although discharges would occur following project implementation, project design as well as the implementation of a SWPPP would minimize impacts such that they are less than significant.

#### Operation

Because no project features are proposed in areas that could significantly affect streams, the addition of a new double track extension will only increase the peak flow 0.3 % resulting in no **Antelope Valley Line Capacity and Service Improvements Program** 



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potential hydrologic hydromodification impacts, and because the project footprint would not significantly increase beyond existing conditions within existing ROW, project operations would have less than significant impacts in terms of erosion, runoff, and flood flows. Although there is elevated erosion potential due to channel improvements under I-5, the project does not propose alterations of the existing channel slope to an extent that erosion is likely to be significant. In addition, the minor increase in peak flows described above is unlikely to significantly impact downstream system capacity although specific hydraulics analysis is outside the scope of this investigation.

An Erosion Control Plan will be developed as required by the NPDES permit. **Exhibits 24, 25**, and **26** display the erosion maps for the three capital improvement sites.

#### Impact D

Is the Proposed Project in a flood hazard, tsunami, or seiche zone? If so, would the Proposed Project risk release of pollutants due to project inundation?

#### **Construction and Operations**

None of the three capital improvements sites along the AVL are in flood zones as identified by FEMA. Peak flows are not appreciably increased in the 100-year or larger flood events and the Addition of a new double track extension will increase the peak flow only 0.3 % resulting in no potential hydrologic hydromodification impacts. Because no aspect of the Proposed Project's construction or operation can increase potential flood hazards, impacts would be less than significant.

#### Impact E

Would the Proposed Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

#### Construction

Construction of the project would involve activities that have the potential to conflict with the water quality goals in the relevant plans detailed in the regulatory setting above through the spread of contaminants into surface or groundwater supplies. Outfalls were identified at all three project sites. The Balboa Double Track Extension site has seven discharges into an existing drainage channel, there are two outfalls into Castaic Creek/Santa Clara River at the Canyon Siding site, and sheet flow runs off of the Lancaster Terminal Improvements site to the north.

However, as previously detailed, the construction SWPPP, project design, and adherence to the mitigation measure would prevent the spread of contaminants into surface water through adherence to the U.S.



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Occupational Safety and Health Administration regulations for the handling and storing of hazardous materials as well as the Construction General Permit and the MS4 Permit for the prevention of erosion. These regulations and practices, including those identified above as adopted by Los Angeles County, effectively control the potential for stormwater surface water pollution during construction.

#### **Operations**

No aspect of ongoing operations would be expected to obstruct implementation of a water quality control plan or sustainable groundwater management plan as the addition of a new double track extension will increase the peak flow only 0.3 %, resulting in no potential hydrologic hydromodification impacts (**Exhibits 27, 28**, and **29**). The only changes relative to existing conditions are an increase of train frequency and volume in existing ROW as well as minor increases in peak flows resulting in less than significant levels of increased runoff such that any water quality control plan would be unaffected. Accordingly, impacts would be less than significant.

### References

Mott MacDonald. 2020. Antelope Valley Line Environmental & Technical Studies Conceptual Engineering Design.

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County of Los Angeles Department of Public Works, Low Impact Development, Standards Manual February 2014.

Los Angeles County Department of Public Works. Hydrology Manual, Water Resources Division January 2006. http://dpw.lacounty.gov/wrd/Publication/engineering/2006 Hydrology Manual.pdf

Los Angeles County Hydrological Map. https://dpw.lacounty.gov/wrd/hydrologygis/

Multi-Resolution Land Characteristics. https://www.mrlc.org



Antelope Valley Line Capacity and Service Improvements Program

### **Exhibits**

Exhibit 1- Balboa Double Track Extension Site Vicinity Exhibit 2 – Balboa Double Track Extension Aerial Photograph Exhibit 3 – Balboa Double Track Extension Topographic Exhibit 4 – Balboa Double Track Extension FEMA Floodplain Exhibit 5 - Balboa Double Track Extension Land Cover Exhibit 6 – Balboa Double Track Extension Existing Drainage Area Exhibit 7 – Balboa Double Track Extension Existing Soil Type Exhibit 8 – Canyon Siding Extension Site Vicinity Exhibit 9 – Canyon Siding Extension Aerial Photograph Exhibit 10 - Canyon Siding Extension Topographic Exhibit 11 – Canyon Siding Extension FEMA Floodplain Exhibit 12 - Canyon Siding Extension Land Cover Exhibit 13 – Canyon Siding Extension Existing Drainage Area Exhibit 14 - Canyon Siding Extension Existing Soil Type Exhibit 15 – Lancaster Terminal Improvements Site Vicinity Exhibit 16 – Lancaster Terminal Improvements Aerial Photoaraph Exhibit 17 – Lancaster Terminal Improvements Topographic Exhibit 18 - Lancaster Terminal Improvements FEMA Floodplain Exhibit 19 – Lancaster Terminal Improvements Land Cover Exhibit 20 – Lancaster Terminal Improvements Existing Drainage Area Exhibit 21 – Balboa Double Track Extension Watershed Map Exhibit 22 - Canyon Siding Extension Watershed Map Exhibit 23 – Lancaster Terminal Improvements Watershed Map Exhibit 24 – Balboa Double Track Extension Erosion Map Exhibit 25 – Canyon Siding Extension Erosion Map Exhibit 26 – Lancaster Terminal Improvements Erosion Map Exhibit 27 – Balboa Double Track Extension Hydromodification Map Exhibit 28 – Canyon Siding Extension Hydromodification Map Exhibit 29 – Lancaster Terminal Improvements Hydromodification Map

### Appendices

Appendix A – Rainfall Data

Appendix B - MODRAT Input and Output Data



Antelope Valley Line

### **Exhibits**

**Capacity and Service Improvements Project** 









21-019.0 A. LePera - March 22, 2021



Los Angeles County Metropolitan Transportation Authority Antelope Valley Line Capacity and Service Improvements Program Exhibit 3 - Balboa Double Track Extension Topographic Map									
Watearth	Legend Project Area Antelope Valley Line Stream 50-Foot Contour Elevation (Feet) 1,250 - 1,300 1,300 - 1,350	1,350 - 1,400 1   1,400 - 1,450 1   1,450 - 1,500 1   1,500 - 1,550 1   1,550 - 1,600 1   1,600 - 1,650 1	1,650 - 1,700 1,700 - 1,750 1,750 - 1,800 1,800 - 1,850 1,850 - 1,900	1,950 - 2,000 2,000 - 2,050 2,050 - 2,100 2,100 - 2,150 2,150 - 2,200 2,200 - 2,250		Project Location			

Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, USDA



























Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, USDA













Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, Metro.net, Google Earth, ArcHydro














Los Angeles County Metropolitan Transportation Authority Antelope Valley Line Capacity and Service Improvements Program Exhibit 17 - Lancaster Terminal Improvements Topographic Map										
	Legend	Elevation (Feet)		Project						
	<ul> <li>Lancaster Metrolink Station</li> </ul>	2,330 - 2,335	2,355 - 2,360							
Watearth	Antelope Valley Line	2,335 - 2,340	2,360 - 2,365	Lancaster						
	Stream	2,340 - 2,345	2,365 - 2,370							
	5-Foot Contour Line	2,345 - 2,350	2,370 - 2,375	Quartz Hill						
	Lancaster Project Area	2,350 - 2,355		* /1						

















21-019.0 A. LePera - March 22, 2021 Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, Google Earth, CDFW





Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, Google Earth, CDFW











Los Angeles County Metropolitan Transportation Authority Antelope Valley Line Capacity and Service Improvements Program Exhibit 25 - Canyon Siding Extension Erosion Map



Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, Google Earth







Los Angeles County Metropolitan Transportation Authority Antelope Valley Line Capacity and Service Improvements Program Exhibit 27 - Balboa Double Track Extension Hydromodification Map Legend Stream  $\circ$ Discharge Location Project Earthen Stream location Watearth Existing Outfall 0 **Closed Channel** Flow Direction Arrow ----- Concrete Channel Antelope Valley Line Project Area





Datum: NAD83, Units: US Feet Sources: LA County, Koordinates.com, FEMA, Metro.net, Google Earth







# Water Resources and Hydrology Technical Memo

Antelope Valley Line



**Capacity and Service Improvements Project** 

#### Antelope Valley Line Capacity and Service Improvements Program Balboa Double Track Extension Rainfall Data

# Watearth Inc. Project #21-019.0

Rainfall Frequency Multiplication Factors - Table 5.3.1				
Frequency	Multiplication Factor			
2-Year	0.387			
5-Year	0.584			
10-Year	0.714			
25-Year	0.878			
50-Year	1			
100-Year	1.122			
200-Year	1.192			

Frequency Isohyetal Depth					
Frequency	Isohyetal Depth (in)				
2-Year	3.02				
5-Year	4.56				
10-Year	5.57 6.85				
25-Year					
50-Year	7.80				
100-Year	8.75				
200-Year	9.30				

	LA County Hydrology Map						
	50yr Two Tenths (Rainfall)	7.8 in					
https://dpw.lacounty.gov/wrd/hydrologygis/							

Project Site: Balboa Double Track Extension (closest) Address: 14747 San Fernando Rd, Sylmar, CA 91342

Time	Depth	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	200-Year
Minutes	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.01111	0.0335	0.0506	0.0619	0.0761	0.0867	0.0972	0.1033
60	0.022361	0.0675	0.1019	0.1245	0.1531	0.1744	0.1957	0.2079
90	0.033758	0.1019	0.1538	0.1880	0.2312	0.2633	0.2954	0.3139
120	0.045307	0.1368	0.2064	0.2523	0.3103	0.3534	0.3965	0.4212
150	0.068889	0.2079	0.3138	0.3837	0.4718	0.5373	0.6029	0.6405
210	0.080937	0.2443	0.3687	0.4508	0.5543	0.6313	0.7083	0.7525
240	0.093166	0.2812	0.4244	0.5189	0.6380	0.7267	0.8154	0.8662
270	0.105586	0.3187	0.4810	0.5880	0.7231	0.8236	0.9240	0.9817
300	0.118206	0.3568	0.5385	0.6583	0.8095	0.9220	1.0345	1.0990
330	0.131037	0.3955	0.5969	0.7298	0.8974	1.0221	1.1468	1.2183
360	0.14409	0.4350	0.6564	0.8025	0.9868	1.1239	1.2610	1.3397
390	0.15/3//	0.4/51	0.7169	0.8765	1.0778	1.2275	1.3773	1.4632
420	0.170913	0.5159	0.7785	0.9518	1.1705	1.3331	1.4958	1.5891
430	0.104711	0.5570	0.8414	1.0287	1.2030	1.4407	1.0103	1.7174
510	0.2133168	0.6439	0.9717	1.1880	1.4609	1.6639	1.8669	1.9833
540	0.227865	0.6878	1.0380	1.2690	1.5605	1.7773	1.9942	2.1186
570	0.242905	0.7332	1.1065	1.3528	1.6635	1.8947	2.1258	2.2584
600	0.258314	0.7797	1.1767	1.4386	1.7690	2.0148	2.2607	2.4017
630	0.274121	0.8275	1.2487	1.5266	1.8773	2.1381	2.3990	2.5487
660	0.290362	0.8765	1.3227	1.6171	1.9885	2.2648	2.5411	2.6997
690	0.307075	0.9269	1.3988	1.7102	2.1030	2.3952	2.6874	2.8551
720	0.323307	0.9759	1.4727	1.8006	2.2141	2.5218	2.8295	3.0060
750	0.342111	1.0327	1.5584	1.9053	2.3429	2.6685	2.9940	3.1808
810	0.300332	1.0004	1.0424	2.0080	2.4032	2.0123	3 3230	3 5303
840	0.399666	1.2064	1.8206	2.2258	2.7371	3.1174	3.4977	3.7159
870	0.420552	1.2695	1.9157	2.3421	2.8801	3.2803	3.6805	3.9101
900	0.442511	1.3358	2.0157	2.4644	3.0305	3.4516	3.8727	4.1143
930	0.465738	1.4059	2.1215	2.5938	3.1896	3.6328	4.0760	4.3302
960	0.490493	1.4806	2.2343	2.7317	3.3591	3.8258	4.2926	4.5604
970	0.499144	1.5067	2.2737	2.7798	3.4183	3.8933	4.3683	4.6408
980	0.508022	1.5335	2.3141	2.8293	3.4791	3.9626	4.4460	4.7234
990	0.51/145	1.5611	2.355/	2.8801	3.5416	4.0337	4.5258	4.8082
1000	0.520538	1.5894	2.5385	2.9324	3.6723	4.1070	4.0080	4.8555
1010	0.5462399	1.6489	2.4882	3.0421	3.7409	4.2607	4,7805	5.0787
1030	0.556617	1.6802	2.5355	3.0999	3.8119	4.3416	4.8713	5.1752
1040	0.567402	1.7128	2.5846	3.1600	3.8858	4.4257	4.9657	5.2755
1050	0.578651	1.7467	2.6359	3.2226	3.9628	4.5135	5.0641	5.3801
1060	0.590431	1.7823	2.6895	3.2882	4.0435	4.6054	5.1672	5.4896
1070	0.60283	1.8197	2.7460	3.3573	4.1284	4.7021	5.2757	5.6049
1080	0.615962	1.8593	2.8058	3.4304	4.2184	4.8045	5.3907	5.7270
1090	0.625983	1.9017	2.8097	3 5928	4.3144	4.9139	5.5134	5.8373
1100	0.661694	1.9974	3.0141	3.6851	4,5315	5.1612	5.7909	6.1522
1115	0.67068	2.0245	3.0551	3.7352	4.5931	5.2313	5.8695	6.2357
1120	0.680257	2.0534	3.0987	3.7885	4.6587	5.3060	5.9533	6.3248
1125	0.690568	2.0845	3.1457	3.8459	4.7293	5.3864	6.0436	6.4206
1130	0.701824	2.1185	3.1969	3.9086	4.8064	5.4742	6.1421	6.5253
1135	0.714364	2.1564	3.2541	3.9784	4.8923	5.5720	6.2518	6.6419
1136	0.717072	2.1646	3.2664	3.9935	4.9108	5.5932	6.2755	6.6670
113/	0.71986	2.1/30	3.2/91	4.0090	4.9299 A QAGE	5.0149	6 2251	0.6930 6 7107
1138	0.725713	2.1906	3.3058	4.0416	4.9700	5.6606	6.3511	6.7474
1105	0.728799	2.2000	3.3198	4.0588	4.9911	5.6846	6.3782	6.7761
1145	0.746492	2.2534	3.4004	4.1574	5.1123	5.8226	6.5330	6.9406
1150	0.772454	2.3317	3.5187	4.3020	5.2901	6.0251	6.7602	7.1820
1151	0.780923	2.3573	3.5573	4.3491	5.3481	6.0912	6.8343	7.2607
1152	0.8	2.4149	3.6442	4.4554	5.4787	6.2400	7.0013	7.4381
1153	0.809944	2.4449	3.6895	4.5107	5.5468	6.3176	7.0883	7.5305
1154	0.814358	2.4582	3./096	4.5353	5.5770	6.3520	7.1269	/.5716
1155	0.81/8 0.82/722	2.4080 2.4775	3./252	4.5545	5.0006	6.3/88 6./017	7.15/1	7.5035
1150	0.020732	2.4773	3.7500	4.5708	5.6285	6 / 220	7 2055	7.0308
1157	0.825702	2.4925	3.7612	4.5985	5.6547	6.4405	7.2262	7.6770
1159	0.82789	2.4991	3.7712	4.6107	5.6697	6.4575	7.2454	7.6974
1160	0.829936	2.5052	3.7805	4.6221	5.6837	6.4735	7.2633	7.7164
1161	0.831864	2.5111	3.7893	4.6328	5.6969	6.4885	7.2801	7.7343
1162	0.833694	2.5166	3.7976	4.6430	5.7095	6.5028	7.2962	7.7514
1163	0.83544	2.5219	3.8056	4.6527	5.7214	6.5164	7.3114	7.7676
1164	0.837112	2.5269	3.8132	4.6620	5./329	6.5295	/.3261	/.7831
1105	0.030/21	2.3318	5.0205	4.0/10	5.7439	0.5420	/.5402	/./981

## Antelope Valley Line Capacity and Service Improvements Program Balboa Double Track Extension Rainfall Data

11 11 11 11	6 0.840272	2.5364	2 8 2 7 6	4 (70)		C = = + +	3 0 5 0 3	
11 11 11			3.8270	4.6796	5.7545	6.5541	/.353/	7.8125
11	0.841//2	2.5410	3.8344	4.6880	5.7648	6.5658	7.3669	7.8265
11	0.843225	2.5454	3.8411	4.6961	5.7747	6.5772	7.3796	7.8400
11	9 0.844636	2.5496	3.8475	4.7039	5.7844	6.5882	7.3919	7.8531
11	0.846009	2,5538	3.8537	4,7116	5,7938	6.5989	7.4039	7.8659
	1 0.847347	2 5578	3 8598	4 7190	5 8030	6 6093	7 4156	7 8783
11	0.047347	2.5578	3.8338	4.7190	5.8030	0.0093	7.4130	7.8785
11	2 0.848652	2.5617	3.8658	4.7263	5.8119	6.6195	/.42/1	7.8904
11	3 0.849926	2.5656	3.8716	4.7334	5.8206	6.6294	7.4382	7.9023
11	4 0.851172	2.5693	3.8773	4.7403	5.8292	6.6391	7.4491	7.9139
11	5 0.852392	2.5730	3.8828	4,7471	5.8375	6.6487	7,4598	7.9252
	0.853588	2 5766	2 9992	1 7528	5 8457	6 6580	7 4702	7 9262
11	0.0555580	2.5700	3.8883	4.7558	5.8437	0.0580	7.4703	7.5505
11	/ 0.854/6	2.5802	3.8936	4.7603	5.8537	6.6671	7.4805	7.9472
11	8 0.85591	2.5836	3.8988	4.7667	5.8616	6.6761	7.4906	7.9579
11	9 0.857039	2.5871	3.9040	4.7730	5.8693	6.6849	7.5005	7.9684
11	0 0.858149	2,5904	3,9090	4,7792	5.8769	6.6936	7,5102	7.9787
	1 0.859241	2 5027	2 01/0	1 7952	5 9944	6 7021	7 5 1 9 7	7 0880
11	0.053241	2.5557	3.9140	4.7855	5.0044	0.7021	7.5157	7.5885
11	2 0.860315	2.5969	3.9189	4.7913	5.8918	6./105	7.5291	7.9989
11	3 0.861372	2.6001	3.9237	4.7972	5.8990	6.7187	7.5384	8.0087
11	4 0.862414	2.6033	3.9285	4.8030	5.9062	6.7268	7.5475	8.0184
11	5 0.86344	2.6064	3.9331	4.8087	5.9132	6.7348	7,5565	8.0279
11	6 0.864452	2 6094	3 9378	4 8143	5 9201	6 7427	7 5653	8 0373
11	0.004432	2.0034	2.0422	4.0145	5.5201	6.7427	7.5055	0.0373
11	0.80545	2.0124	3.9423	4.8199	5.9209	6.7505	7.5741	8.0466
11	8 0.866434	2.6154	3.9468	4.8253	5.9337	6.7582	7.5827	8.0558
11	9 0.867406	2.6184	3.9512	4.8308	5.9403	6.7658	7.5912	8.0648
11	0 0.868366	2.6212	3.9556	4.8361	5.9469	6.7733	7.5996	8.0737
11	0.869313	2 6241	3 9599	4 8414	5 9534	6 7806	7 6079	8 0825
11	2 0.000010	2.0241	3.5555	4.0414	E 0500	C 7000	7.0075	0.0025
11	0.8/025	2.0209	3.9042	4.8466	5.9598	0.7880	1.0101	8.0912
11	3 0.871175	2.6297	3.9684	4.8517	5.9662	6.7952	7.6242	8.0998
11	4 0.87209	2.6325	3.9725	4.8568	5.9724	6.8023	7.6322	<u>8.</u> 1083
11	5 0.872995	2.6352	3.9767	4.8619	5.9786	6.8094	7.6401	8.1168
11	6 0.873889	2.6379	3,9807	4.8669	5,9847	6.8163	7.6479	8.1251
11	7 0 074775	2.0375	3.0040	4 0740	E 0000	C 0110	7.0475	0 1 1 2 2
11	0.8/4//5	2.0406	3.9848	4.8/18	5.9908	0.8232	/ 2007/	0.1333
11	8 0.875651	2.6432	3.9888	4.8767	5.9968	6.8301	7.6633	8.1415
11	9 0.876518	2.6459	3.9927	4.8815	6.0027	6.8368	7.6709	8.1495
12	0 0.877377	2.6485	3.9966	4.8863	6.0086	6.8435	7.6785	8.1575
12	0.879227	2.6540	4.0051	4.8966	6.0213	6.8580	7.6946	8.1747
12	0.879069	2 6526	4 0042	4 8057	6 0202	6 8567	7 6022	8 1722
12	0.879009	2.0330	4.0043	4.6937	0.0202	0.8307	7.0955	8.1732
12	3 0.879903	2.6561	4.0081	4.9004	6.0259	6.8632	7.7006	8.1810
12	4 0.88073	2.6586	4.0119	4.9050	6.0316	6.8697	7.7078	8.1887
12	5 0.881549	2.6610	4.0156	4.9095	6.0372	6.8761	7.7150	8.1963
	0.882361	2.6635	4.0193	4,9140	6.0428	6.8824	7,7221	8.2038
12		2.6650	4.0220	4 0185	6.0493	6 8887	7 7201	8 2112
12	0 992166	/ 6654		4.3103	0.0403	0.0007	1.1251	8.2115
12	7 0.883166	2.0059	4.0230	1 0000	6 05 07	6 00 10	7 70 64	0.0103
12 12 12	7 0.883166 8 0.883964	2.6683	4.0250	4.9230	6.0537	6.8949	7.7361	8.2187
12 12 12 12 12	7 0.883166 8 0.883964 9 0.884755	2.6683 2.6683 2.6707	4.0250 4.0266 4.0302	4.9230 4.9274	6.0537 6.0592	6.8949 6.9011	7.7361 7.7430	8.2187 8.2261
12 12 12 12 12 12	7 0.883166 8 0.883964 9 0.884755 0 0.88554	2.6683 2.6707 2.6731	4.0230 4.0266 4.0302 4.0338	4.9230 4.9274 4.9317	6.0537 6.0592 6.0645	6.8949 6.9011 6.9072	7.7361 7.7430 7.7499	8.2187 8.2261 8.2334
12 12 12 12 12 12 12 12	7 0.883166 8 0.883964 9 0.884755 0 0.88554 1 0.886318	2.6653 2.6683 2.6707 2.6731 2.6754	4.0250 4.0266 4.0302 4.0338 4.0374	4.9230 4.9274 4.9317 4.9361	6.0537 6.0592 6.0645 6.0699	6.8949 6.9011 6.9072 6.9133	7.7361 7.7430 7.7499 7.7567	8.2187 8.2261 8.2334 8.2406
12 12 12 12 12 12 12 12 12	7 0.883166 8 0.883964 9 0.884755 0 0.88554 1 0.886318 2 0.987004	2.6653 2.6683 2.6707 2.6731 2.6754 2.6754	4.0230 4.0266 4.0302 4.0338 4.0374	4.9230 4.9274 4.9317 4.9361 4.9404	6.0537 6.0592 6.0645 6.0699 6.0752	6.8949 6.9011 6.9072 6.9133 6.9133	7.7361 7.7430 7.7499 7.7567 7.7567	8.2187 8.2261 8.2334 8.2406 8.2478
12 12 12 12 12 12 12 12 12	7 0.88316 8 0.883964 9 0.884755 0 0.88554 1 0.886318 2 0.887051	2.6683 2.6683 2.6707 2.6731 2.6754 2.6754	4.0230 4.0266 4.0302 4.0338 4.0374 4.0409	4.9230 4.9274 4.9317 4.9361 4.9404	6.0537 6.0592 6.0645 6.0699 6.0752	6.8949 6.9011 6.9072 6.9133 6.9193	7.7361 7.7430 7.7499 7.7567 7.7635 7.7635	8.2187 8.2261 8.2334 8.2406 8.2478
12 12 12 12 12 12 12 12 12 12	7 0.883166 8 0.883964 9 0.884755 0 0.88554 1 0.886318 2 0.887091 3 0.887857	2.6683 2.6683 2.6707 2.6731 2.6754 2.6754 2.6778 2.6801	4.0230 4.0266 4.0302 4.0338 4.0374 4.0409 4.0444	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804	6.8949 6.9011 6.9072 6.9133 6.9193 6.9253	7.7361 7.7430 7.7499 7.7567 7.7635 7.7702	8.2187 8.2261 8.2334 8.2406 8.2406 8.2478 8.2549
12 12 12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886518           2         0.887091           3         0.887857           4         0.888618	2.6633 2.6603 2.6707 2.6731 2.6754 2.6758 2.6801 2.6824	4.0266 4.0302 4.0338 4.0338 4.0374 4.0409 4.0444 4.0478	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9489	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856	6.8949 6.9011 6.9072 6.9133 6.9193 6.9253 6.9312	7.7361 7.7430 7.7499 7.7567 7.7635 7.7702 7.7768	8.2187 8.2261 8.2344 8.2406 8.2478 8.2549 8.2549 8.2620
12 12 12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88654           2         0.88705           3         0.887857           4         0.886518           5         0.889372	2.6833 2.6633 2.6707 2.6731 2.6754 2.6778 2.6801 2.6824 2.6847	4.0230 4.0266 4.0302 4.0338 4.0374 4.0409 4.0444 4.0478 4.0518	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9447 4.94531	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0908	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371	7.7361 7.7430 7.7499 7.7567 7.7635 7.7635 7.7702 7.7702 7.77834	8.2187 8.2261 8.2334 8.2406 8.2478 8.2478 8.2549 8.2620 8.2690
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7 0.883166 9 0.883964 9 0.884755 0 0 0.88554 1 0.886318 2 0.887091 3 0.887857 4 0.888631 5 0.889372 6 0.889121	2.6633 2.6633 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6847 2.6847	4.0266 4.0266 4.0302 4.0374 4.0374 4.0478 4.0444 4.0478 4.0513 4.0513	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9489 4.9531 4.9531	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0908	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9371 6.9429	7.7361 7.7430 7.7499 7.7556 7.7635 7.7702 7.7768 7.7768 7.7768 7.7834 7.7900	8.2187 8.2261 8.2334 8.2406 8.2478 8.2549 8.2549 8.2620 8.2690 8.2690 8.2760
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7 0.883166 0.883964 0.883964 9 0.884755 0 0.88554 1 0.886318 2 0.887057 4 0.887057 4 0.888618 5 0.889372 6 0.889372 7 0.890855	2.6653 2.6653 2.6707 2.6731 2.6754 2.6754 2.6824 2.6824 2.6847 2.6869 2.6869	4.0256 4.0266 4.0302 4.0338 4.0374 4.0409 4.0409 4.0444 4.0478 4.0513 4.0551	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9489 4.9531 4.9573 4.9573	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0959 6.0959	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9312 6.9371 6.9489 6.9485	7.7361 7.7430 7.7499 7.7567 7.7635 7.7702 7.7768 7.7834 7.7900 7.7900	8.2187 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2690 8.2760 8.2760 8.2790
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88654           2         0.88705           3         0.887857           4         0.88618           5         0.889372           6         0.890825           7         0.890865	2.6633 2.6633 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6824 2.6849 2.6869 2.6892	4.0256 4.0266 4.0302 4.0338 4.0374 4.0409 4.0444 4.0478 4.0479 4.0444 4.0478 4.0513 4.0547	4.9230 4.9274 4.9317 4.9361 4.9404 4.9404 4.9404 4.9409 4.9531 4.9531 4.9553 4.9553 4.95573	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0908 6.0959 6.1010	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9487	7.7361 7.7430 7.7499 7.7567 7.7635 7.7702 7.7768 7.7708 7.7768 7.7784 7.7900 7.7965	8.2187 8.2261 8.2334 8.2406 8.2478 8.2478 8.2549 8.2620 8.2690 8.2760 8.2760 8.2829 8.2760
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888618           5         0.888937           6         0.890121           7         0.890855           8         0.891603	2.6633 2.6633 2.6707 2.6731 2.6754 2.6754 2.6754 2.6801 2.6824 2.6847 2.6849 2.6892 2.6892 2.6892	4.0266 4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0581 4.0581	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9489 4.9537 4.9614 4.9655	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0908 6.0909 6.1010 6.1061	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9487 6.9545	7.7361 7.7430 7.7499 7.7567 7.7635 7.7702 7.7768 7.7702 7.7765 7.7834 7.7900 7.7965 7.8030	8.2187 8.2267 8.2264 8.2334 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2690 8.2760 8.2789 8.2789 8.2789 8.2829 8.2829
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883164           8         0.883964           9         0.883964           0         0.88554           1         0.886518           2         0.887051           3         0.887057           4         0.88618           5         0.889372           6         0.890125           7         0.890825           8         0.891603           9         0.892336	2.6833 2.6633 2.6707 2.6731 2.6754 2.6754 2.6824 2.6847 2.6869 2.6869 2.6892 2.6914 2.6936	4.0266 4.0266 4.0302 4.0338 4.0374 4.0409 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0614	4,9230 4,9274 4,9317 4,9361 4,9404 4,9404 4,9489 4,9531 4,9573 4,9655 4,9695 4,9695	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1011	6.8949 6.9011 6.9072 6.9133 6.9133 6.9233 6.9312 6.9311 6.9429 6.9429 6.9449 6.9545 6.9602	7,7361 7,7499 7,7567 7,7633 7,7702 7,7768 7,7788 7,7788 7,7884 7,7900 7,7965 7,8030 7,8030	8.2187 8.2267 8.2264 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2828 8.2898 8.2898 8.2966
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88654           2         0.887057           3         0.887857           4         0.88618           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064	2.6833 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6847 2.6892 2.6892 2.6914 2.6936 2.6936 2.6936	4.0256 4.0302 4.0332 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0688	4.9230 4.9274 4.9317 4.9361 4.9404 4.9404 4.9404 4.9409 4.9531 4.9533 4.9614 4.9655 4.9696 4.9737	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0908 6.0959 6.1010 6.1061 6.1111 6.1111	6.8949 6.9011 6.9072 6.9133 6.9253 6.9331 6.9371 6.9371 6.9429 6.9487 6.9487 6.9695 6.9602 6.9659	7.7361 7.7499 7.7567 7.7635 7.7702 7.7768 7.7700 7.7768 7.7834 7.7900 7.7965 7.8030 7.8094 7.8157	8.2187 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2690 8.2690 8.2760 8.2829 8.2829 8.2828 8.2868 8.2966 8.3034
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888932           5         0.889312           7         0.890855           8         0.891603           9         0.823336           1         0.883787	2.6633 2.6633 2.6707 2.6731 2.6754 2.6807 2.6847 2.6847 2.6847 2.6849 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958	4.0266 4.0266 4.0302 4.0338 4.0374 4.0409 4.0444 4.0478 4.0547 4.0581 4.0614 4.0614 4.0681 4.0614	4.9230 4.9274 4.9317 4.9361 4.9404 4.9404 4.9447 4.9489 4.9537 4.9573 4.9614 4.9655 4.9655 4.9655 4.9655 4.9737 4.9777	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1161 6.1210	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9487 6.9545 6.9602 6.9602 6.9659 6.9715	7.7361 7.7430 7.7499 7.7657 7.7633 7.7702 7.7768 7.7834 7.7900 7.7965 7.8030 7.8030 7.8049 7.8157 7.821	8.2187 8.2267 8.2264 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2829 8.2829 8.2829 8.2839 8.2839 8.2839 8.2834 8.2749 8.
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883164           8         0.883964           9         0.88354           0         0.88554           1         0.886318           2         0.887051           3         0.887857           4         0.88618           5         0.889372           6         0.890121           7         0.89085           8         0.891603           9         0.893236           0         0.893087           1         0.893787           2         0.894505	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6847 2.6869 2.6892 2.6936 2.6936 2.6958 2.6958 2.6958	4.0256 4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0409 4.0444 4.0478 4.0513 4.0547 4.05547 4.05547 4.05547 4.0568 4.06681 4.06681 4.07646	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9447 4.9489 4.9531 4.9531 4.9553 4.9655 4.9695 4.9737 4.9737 4.9777 4.9817	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0959 6.1010 6.1061 6.1161 6.1111 6.1161 6.1210	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9442 6.9445 6.9602 6.9602 6.9659 6.9711	7,7361 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8030 7,8034 7,8037 7,8031 7,8034 7,8037 7,8031 7,8034	8.2187 8.2267 8.2264 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2760 8.2829 8.2898 8.2986 8.3034 8.3034 8.3167
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.889312           7         0.890121           7         0.890465           8         0.891603           9         0.892336           0         0.893064           1         0.8930767           2         0.894505	2.6833 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6847 2.6892 2.6892 2.6892 2.6914 2.6936 2.6936 2.6958 2.6980 2.7002	4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0548 4.0681 4.0618 4.0714	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9489 4.9531 4.9573 4.9614 4.9655 4.9661 4.9673 4.9777 4.9777 4.9877	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0908 6.0909 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9487 6.9487 6.9642 6.9602 6.9659 6.9711 6.9771 6.9771	7,7361 7,7499 7,7567 7,7635 7,7702 7,7768 7,7700 7,7768 7,7834 7,7900 7,7965 7,8034 7,8094 7,8094 7,8157 7,8221 7,8223 7,8224 7,8223 7,8224	8.2187 8.2267 8.2267 8.2240 8.2406 8.2478 8.2549 8.2549 8.2569 8.2760 8.2760 8.2760 8.2780 8.2780 8.2780 8.2780 8.2829 8.2829 8.2898 8.3034 8.3101 8.3107 8.31777 8.31777 8.31777 8.317777 8.31777777777777777777777777777777777777
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888618           5         0.889312           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895218	2.6633 2.6633 2.6707 2.6731 2.6754 2.6804 2.6847 2.6847 2.6847 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958	4.0266 4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0581 4.0614 4.0614 4.0614 4.0614 4.0614 4.0714 6.0714	4.9230 4.9274 4.9361 4.9361 4.9404 4.9447 4.9489 4.9533 4.9614 4.9655 4.9655 4.9655 4.9655 4.9655 4.9737 4.9737 4.9817	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0805 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1161 6.1259 6.1308	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9321 6.9321 6.9371 6.9429 6.9449 6.9455 6.9602 6.9602 6.9655 6.9711 6.9711 6.9871	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7788 7,7834 7,7900 7,7855 7,8030 7,8030 7,8034 7,8034 7,8034 7,8034 7,8034 7,8034 7,8221 7,8223 7,8224	8.2187 8.2261 8.2334 8.2406 8.2478 8.2578 8.2578 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.2838 8.2966 8.3034 8.3034 8.3167 8.3167
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.88354           0         0.88554           1         0.886318           2         0.88703           3         0.887857           4         0.888618           5         0.889172           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.89372           2         0.894505           3         0.895218           4         0.8935218	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6824 2.6847 2.6869 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002	4.0266 4.0302 4.0338 4.0374 4.0409 4.0444 4.0478 4.0547 4.0581 4.0547 4.0581 4.0648 4.0688 4.0688 4.0674 4.0714 4.0779 4.0811	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9404 4.9409 4.9531 4.9531 4.9531 4.9531 4.9553 4.9636 4.9737 4.9777 4.9836 4.9836 4.9896	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0959 6.1010 6.1061 6.1011 6.1161 6.1210 6.1259 6.1357	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.96487 6.9602 6.9602 6.9615 6.9612 6.9715 6.9827 6.9882	7,7361 7,7499 7,7567 7,7635 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8034 7,8157 7,8221 7,8228 7,8346 7,8346 7,8408	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2760 8.2760 8.2898 8.2898 8.2986 8.3034 8.3101 8.3107 8.3234 8.3300
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.889312           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895218           4         0.895926           5         0.8955218	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6847 2.6892 2.6892 2.6892 2.6914 2.6936 2.6936 2.6936 2.6980 2.7002 2.7002 2.7002	4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0618 4.0714 4.08111 4.08111 4.08111 4.08111 4.08111 4.08111111111111111111111	4.9230 4.9274 4.9317 4.9361 4.9404 4.9447 4.9499 4.9531 4.9573 4.9614 4.9655 4.9696 4.9737 4.9777 4.9876 4.9856 4.9896 4.9896 4.9896	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0909 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1308 6.1357 6.1405	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9487 6.9659 6.9602 6.9659 6.9711 6.9822 6.9882 6.9882 6.9882 6.9937	7,7361 7,7499 7,7567 7,7635 7,7702 7,7768 7,7700 7,7900 7,7965 7,8304 7,8304 7,8094 7,8094 7,8094 7,8157 7,8221 7,8223 7,8346 7,8408 7,8408	8.2187 8.2267 8.2264 8.2476 8.2476 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2780 8.2780 8.2780 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887091           3         0.887857           4         0.88618           5         0.889372           6         0.89011           7         0.890855           8         0.8911603           9         0.892336           0         0.89304           1         0.893084           2         0.894505           3         0.895218           4         0.8952218           4         0.895236           5         0.89663           6         0.89733	2.6633 2.6633 2.6707 2.6731 2.6754 2.6824 2.6824 2.6847 2.6847 2.6869 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7086	4.0256 4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0547 4.0548 4.0648 4.0648 4.0648 4.0779 4.0875	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9409 4,9543 4,9553 4,9551 4,9553 4,9655 4,9655 4,9655 4,9696 4,9737 4,9817 4,9817 4,9856 4,9935 4,9974	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9312 6.9371 6.9429 6.9429 6.9449 6.9545 6.9602 6.9655 6.9715 6.9711 6.9827 6.9827 6.98827 6.98827 6.98827 6.98827 6.98827 6.99	7,7361 7,7499 7,7567 7,7633 7,7702 7,7758 7,7834 7,7900 7,7965 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8213 7,8346 7,8469 7,8531	8.2187 8.2267 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2898 8.2996 8.3034 8.3031 8.3167 8.3234 8.3234 8.3305 8.3234 8.3305 8.3365 8.3430
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883164           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.889372           6         0.890121           7         0.890865           9         0.823366           0         0.8393064           1         0.893364           2         0.893064           3         0.892336           0         0.893064           1         0.893787           2         0.894505           3         0.895218           4         0.895226           5         0.89653           6         0.89733           7         0.889024	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6847 2.6847 2.6847 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7004 2.7066 2.7087 2.7087	4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0648 4.0618 4.0714 4.0714 4.0779 4.0811 4.0811 4.0835 4.0875 4.0807 4.0811	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9404 4.9409 4.9531 4.9531 4.9531 4.9531 4.9553 4.9636 4.9737 4.9777 4.9836 4.9836 4.9896 4.9896 4.9933 4.9974 5.0013	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0959 6.1010 6.1061 6.1061 6.1111 6.1161 6.1210 6.1259 6.1357 6.1405 6.1453 6.1453	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9487 6.9545 6.9602 6.9602 6.9659 6.9715 6.9771 6.9827 6.9822 6.9882 6.9937 6.9937 6.9937 6.9937 7.0046	7,7361 7,7490 7,767 7,7635 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8054 7,8030 7,8054 7,8157 7,8221 7,8283 7,8346 7,8408 7,8508 7,8	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2760 8.2898 8.2898 8.2986 8.3034 8.3034 8.3107 8.3127 8.3234 8.3300 8.3365 8.3435 8.3495
12 12 12 12 12 12 12 12 12 12 12 12 12 1	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.88618           5         0.889372           6         0.890121           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.895926           6         0.895926           7         0.898024           8         0.898715	2.6833 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7002 2.7004 2.7066 2.7087 2.7108	4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0714 4.0714 4.0788 4.0714 4.0781 4.0715 4.0757 4.0813 4.0844 4.0843 4.0843 4.0844 4.0843 4.0843 4.0844 4.0843 4.0714 4.0774 4.0714 4.0714 4.0774 4.0714 4.0774 4.0714 4.0774 4.0714 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0774 4.0843 4.0843 4.0847 4.0843 4.0847 4.0843 4.0847 4.0843 4.0847 4.0847 4.0843 4.0847 4.09777 4.09777 4.09777 4.097774 4.0977774 4.09777777777777777777777777777777777777	4.9230 4.9274 4.9361 4.9404 4.9447 4.9494 4.9493 4.9531 4.9573 4.9614 4.9655 4.9696 4.9737 4.9777 4.9856 4.9856 4.9896 4.9895 4.9935 4.9935 4.9935 4.9935	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0804 6.0856 6.0909 6.1010 6.1010 6.1011 6.1111 6.1161 6.1210 6.1259 6.1308 6.1308 6.1357 6.1405 6.1453 6.1500	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9487 6.9659 6.9602 6.9659 6.9711 6.9822 6.9882 6.9882 6.9937 6.9882 6.9937 6.9882 6.9937 6.9949 7.0040	7,7361 7,7430 7,7499 7,7567 7,7635 7,7702 7,7768 7,7834 7,7965 7,7834 7,7965 7,8030 7,8030 7,8040 7,8157 7,8221 7,8233 7,8346 7,8469 7,8469 7,8531 7,8531 7,8531	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2829 8.2829 8.2829 8.3034 8.3101 8.3167 8.3167 8.3236 8.3306 8.3340 8.3365 8.3430 8.3430 8.3430 8.3430 8.3430 8.3450
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.88618           5         0.889372           6         0.89012           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.893064           1         0.893787           2         0.894505           3         0.895218           4         0.8952216           5         0.89663           6         0.89733           7         0.89663           6         0.89733           7         0.898024           8         0.898718           9         0.898024	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6824 2.6847 2.6869 2.6892 2.6936 2.6936 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7024 2.7024 2.7067 2.7108 2.7129 2.7129	4.0256 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0547 4.0547 4.0548 4.0648 4.0648 4.06681 4.0746 4.0779 4.0813 4.0746 4.0779 4.0813 4.0875 4.0907 4.0907	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9489 4.9531 4.9531 4.9553 4.9655 4.9696 4.9737 4.9777 4.9817 4.9817 4.9856 4.9935 4.9935 4.9974 5.0013 5.0051 Ε. 6009	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1405 6.1405 6.1548	6.8949 6.9011 6.9072 6.9133 6.9133 6.9233 6.9312 6.9312 6.9342 6.9429 6.9429 6.9455 6.9602 6.9655 6.9711 6.9827 6.9927 7.0046 7.0046 7.0046 7.0048	7,7361 7,7499 7,7567 7,7633 7,7702 7,7758 7,7784 7,7768 7,7834 7,7905 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8221 7,8233 7,8346 7,8469 7,8531 7,8531 7,8531 7,8531 7,8531	8.2187 8.2267 8.2264 8.2406 8.2478 8.2478 8.2549 8.2620 8.2620 8.2760 8.2898 8.2966 8.3034 8.3031 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3430
12 12 12 12 12 12 12 12 12 12	7         0.883164           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           0         0.893064           1         0.893064           1         0.893364           2         0.893064           3         0.892336           0         0.893064           1         0.893064           1         0.893064           2         0.894505           3         0.895218           4         0.895226           6         0.89733           0         0.898024           8         0.898024           9         0.898024           9         0.898024	2.6833 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6847 2.6892 2.6892 2.6892 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7129 2.7129	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0674 4.0714 4.0714 4.0714 4.0714 4.0714 4.0714 4.0881 4.0779 4.0811 4.0881 4.0977 4.0811 4.0897 4.0907 4.0907 4.0938	4.9230 4.9274 4.9361 4.9404 4.9404 4.9404 4.9404 4.9409 4.9531 4.9531 4.9533 4.9634 4.9636 4.9636 4.9636 4.9737 4.9856 4.9856 4.9896 4.9835 4.9895 4.9895 4.9937 4.9937 4.9051 5.0013	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0908 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1357 6.1405 6.1453 6.1453 6.1548 6.1595	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9487 6.9602 6.9602 6.9602 6.9615 6.9715 6.9715 6.9827 6.9822 6.9822 6.9822 7.0046 7.0100 7.0103 7.0250	7,7361 7,7499 7,7567 7,7635 7,7702 7,7768 7,7700 7,7905 7,8030 7,8030 7,8054 7,8157 7,8221 7,8234 7,8245 7,8346 7,8408 7,	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2898 8.2998 8.2898 8.2998 8.2998 8.3034 8.3034 8.3107 8.3234 8.3300 8.3365 8.3430 8.3455 8.3559 8.3559
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888318           5         0.889312           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89653           6         0.895237           7         0.8960373           7         0.898024           8         0.898715           9         0.899401           0         0.900083	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7004 2.7008 2.7008 2.7008 2.7108 2.7129 2.7149	4.0266 4.0302 4.0384 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0581 4.0547 4.0581 4.0681 4.0746 4.0746 4.0774 4.0785 4.0774 4.0833 4.0875 4.0875 4.0970 4.0988 4.0970 4.0988 4.0970 4.0988 4.0970 4.0988 4.0970 4.0988 4.0970 4.0988 4.0970 4.0988 4.0970 4.0970 4.0978 4.0970 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0977 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0970 4.0978 4.0977 4.0978 4.0978	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9655 4,9655 4,9655 4,9655 4,9655 4,9655 4,9696 4,9737 4,9817 4,9817 4,9856 4,9935 4,9974 5,0013 5,0051 5,0089 5,0127	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0805 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1161 6.1111 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548	6.8949 6.9071 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9429 6.9427 6.9545 6.9602 6.9602 6.9655 6.9711 6.9877 6.9827 6.9827 6.9837 6.9937 6.9932 6.9937 6.9932 6.9932 7.0046 7.0153 7.0206	7,7361 7,7499 7,7567 7,7633 7,7702 7,7702 7,7788 7,7884 7,7900 7,7965 7,8030 7,8034 7,8034 7,8034 7,8034 7,8221 7,8223 7,8234 7,8245 7,8245 7,8245 7,8245 7,8245 7,8245 7,8311 7,8552 7,8512 7,8512 7,8712 7,8712 7,8712	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.3300 8.3365 8.3430 8.3430 8.3455 8.3559 8.3623 8.3623 8.3623
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.88354           1         0.88554           1         0.88554           2         0.88709           3         0.887857           4         0.88618           5         0.889372           6         0.89011           7         0.890855           8         0.89111           7         0.890855           9         0.892336           0         0.89304           1         0.89304           1         0.893787           2         0.894505           3         0.895218           4         0.895218           4         0.895218           5         0.89663           6         0.89733           7         0.898024           8         0.89733           9         0.899401           0         0.900083           1         0.900761	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6847 2.6849 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7003 2.7044 2.7066 2.7199 2.7149 2.7149	4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0547 4.0548 4.0547 4.0548 4.0681 4.0681 4.0799 4.0811 4.0799 4.0811 4.0875 4.0907 4.0811 4.0875 4.0907 4.0907 4.0907	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9409 4,9531 4,9531 4,9531 4,9531 4,9533 4,9635 4,9636 4,9737 4,9777 4,9817 4,9817 4,9856 4,9936 4,9935 4,9937 4,9974 5,0013 5,0051 5,0051	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1548 6.1548 6.1595 6.1641	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9429 6.9429 6.9455 6.9602 6.9602 6.9659 6.9711 6.9827 6.9882 6.9932 7.0046 7.0100 7.0259	7,7361 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8231 7,8233 7,8346 7,8469 7,8469 7,8531 7,8531 7,8552 7,8712 7,8712 7,8712	8.2187 8.2267 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2898 8.2966 8.3034 8.3031 8.3167 8.3234 8.3305 8.3234 8.3305 8.3430 8.3365 8.3430 8.3435 8.3559 8.3559 8.3686 8.3749
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.887857           6         0.890121           7         0.890855           8         0.891603           9         0.893364           1         0.893364           1         0.893364           2         0.894505           3         0.895218           4         0.895926           5         0.89663           6         0.897515           9         0.898024           8         0.898715           9         0.899401           0         0.900083           1         0.900761           2         0.901435	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7003 2.7066 2.7087 2.7109 2.7149 2.7149 2.7149	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0547 4.0541 4.0648 4.0648 4.0648 4.0719 4.0719 4.0714 4.0714 4.0714 4.0714 4.0714 4.0729 4.0811 4.0843 4.0877 4.0970 4.0938 4.0970 4.1001 4.1031 4.1031	4.9230 4.9274 4.9317 4.9361 4.9404 4.9404 4.9404 4.9409 4.9531 4.9573 4.9614 4.9655 4.9696 4.9737 4.9777 4.9856 4.9856 4.9836 4.9935 4.9935 4.9935 4.9935 5.0013 5.0089 5.0127 5.0165 5.0203	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1161 6.1161 6.1210 6.1259 6.1357 6.1405 6.1357 6.1405 6.1548 6.1595 6.1641 6.1588 6.1595	6.8949 6.9011 6.9072 6.9133 6.9253 6.9371 6.9371 6.9429 6.9487 6.9487 6.9602 6.9602 6.9602 6.9659 6.9715 6.9822 6.9822 6.9882 6.9882 6.9882 7.0046 7.0100 7.0153 7.0259 7.0312	7,7361 7,7430 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7834 7,7965 7,8030 7,8030 7,8094 7,8157 7,8221 7,8233 7,8346 7,8408 7,8408 7,8459 7,8531 7,8531 7,8531 7,8532 7,8532 7,8531 7,8532 7,	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2789 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3234 8.3365 8.3345 8.3345 8.3430 8.3430 8.3455 8.3559 8.3559 8.3559 8.3623 8.3623 8.3649 8.3749 8.3812
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.887857           4         0.888932           5         0.889312           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.8930787           2         0.894505           3         0.895216           5         0.89653           6         0.89733           7         0.898024           9         0.898015           9         0.899401           0         0.900763           1         0.900761           2         0.901435           3         0.902105	2.6633 2.6633 2.6707 2.6731 2.6754 2.6754 2.6801 2.6847 2.6847 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7004 2.7007 2.7108 2.7129 2.7149 2.7170 2.7190 2.7121 2.7211 2.7211	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0547 4.0541 4.0681 4.0681 4.0746 4.0774 4.0774 4.0774 4.0774 4.0774 4.0875 4.0970 4.0938 4.0970 4.1001 4.1001 4.1062 4.1093	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9817 4,9835 6,4,9835 4,9935 5,0051 5,0089 5,0127 5,0165 5,0203 5,0240	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0805 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1337 6.1453 6.1500 6.1548 6.1595 6.1641 6.1548 6.1734 6.1734	6.8949 6.9071 6.9072 6.9133 6.9133 6.9253 6.9312 6.9312 6.9371 6.9429 6.9429 6.9455 6.9602 6.9655 6.9715 6.9715 6.9827 6.9827 6.9827 6.9827 6.9937 6.9992 7.0046 7.0153 7.0266 7.0259 7.0344	7,7361 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8094 7,8157 7,8221 7,8233 7,8346 7,8469 7,8459 7,8531 7,8552 7,8572 7,8772 7,8772 7,8772 7,8772 7,8874 7,8890 7,8890 7,8890 7,8890 7,8890	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.3300 8.3355 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.355 8.3523 8.3553 8.35555 8.35555 8.35555 8.35555 8.35555555555
12 12 12 12 12 12 12 12 12 12	7         0.883164           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.886318           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893364           2         0.894505           3         0.895218           4         0.895226           5         0.89653           6         0.89733           0         0.895218           4         0.895226           5         0.89663           6         0.89733           0         0.900833           1         0.900761           2         0.901435           3         0.902102           4         0.902772	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6847 2.6847 2.6847 2.6847 2.6847 2.6847 2.6849 2.6938 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.70787 2.7149 2.7129 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149	4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0474 4.0474 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0648 4.0688 4.0688 4.0719 4.0811 4.0746 4.0779 4.0811 4.0875 4.0907 4.0938 4.0907 4.0938 4.0907 4.1001 4.1001 4.1002 4.	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9404 4,9409 4,9531 4,9573 4,9513 4,9573 4,9636 4,9737 4,9636 4,9737 4,9777 4,9856 4,9856 4,9896 4,9935 4,9974 5,0013 5,0025 5,0203 5,0220 5,0227	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1357 6.1405 6.1357 6.1405 6.1548 6.1595 6.1548 6.1595 6.1644 6.1734 6.1780 6.1780	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9545 6.9602 6.9602 6.9602 6.9659 6.9711 6.9827 6.9882 6.9832 6.9937 6.9933 6.9932 7.0046 7.0100 7.0100 7.0259 7.0312 7.0344 7.0416	7,7361 7,7490 7,7499 7,7567 7,7635 7,7700 7,7768 7,7834 7,7900 7,7905 7,8030 7,8030 7,8030 7,8034 7,8034 7,8034 7,8034 7,8034 7,8233 7,8346 7,8469 7,8531 7,8531 7,8531 7,8531 7,8531 7,8532 7,8722 7,8722 7,8722 7,8830 7,8890 7,8890 7,8890 7,8890	8.2187 8.2267 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2760 8.2898 8.2966 8.3034 8.3034 8.3034 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3455 8.3430 8.3455 8.3430 8.3559 8.3559 8.3686 8.3749 8.3686 8.3749 8.3812 8.3874 8.3812 8.3874 8.3812 8.3812 8.3814 8.3812 8.3814 8.3812 8.3814 8.
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.889372           6         0.890121           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89653           6         0.895265           7         0.898024           8         0.898715           9         0.898714           0         0.900083           1         0.900761           2         0.91435           3         0.902172           4         0.902727           5         0.03226	2.6833 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7108 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251	4.0266 4.0302 4.0384 4.0374 4.0499 4.0444 4.0478 4.0547 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0648 4.0681 4.0714 4.0714 4.0748 4.0757 4.0970 4.0938 4.0970 4.1093 4.1093 4.1093 4.1093 4.1195 4.1195	4.9230 4.9274 4.9361 4.9361 4.9404 4.9489 4.9531 4.9573 4.9655 4.9696 4.9737 4.9777 4.9817 4.9817 4.9837 4.9974 5.0013 5.0051 5.0089 5.0127 5.0165 5.0203 5.0240	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1161 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1548 6.1780 6.1780 6.1780	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9321 6.9371 6.9429 6.9429 6.9455 6.9602 6.9655 6.9711 6.9771 6.9827 6.9827 6.9827 6.9937 6.9932 7.0046 7.0100 7.0153 7.0266 7.0364 7.0455	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7788 7,7884 7,7900 7,7965 7,8030 7,8094 7,8157 7,8221 7,8283 7,8346 7,8469 7,8531 7,8552 7,8712 7,8712 7,8712 7,8712 7,8839 7,8849 7,8849 7,8849 7,8849 7,8849 7,8849	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2829 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3230 8.3365 8.3430 8.3365 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3440 8.
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.889312           6         0.890121           7         0.890865           8         0.891063           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89652           6         0.89523           7         0.89663           6         0.895216           5         0.89603           6         0.89733           7         0.898044           0         0.900763           1         0.900761           2         0.901435           3         0.902105           4         0.902772           5         0.903434           0         0.902450	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6847 2.6869 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7044 2.7066 2.7087 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149	4.0256 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0547 4.0581 4.0547 4.0581 4.0681 4.0681 4.0681 4.0719 4.0681 4.0779 4.0813 4.0779 4.0813 4.0779 4.0813 4.0779 4.0813 4.0907 4.0907 4.0907 4.1001 4.1001 4.1031 4.1032 4.1033 4.1123 4.1123	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9531 4,9553 4,9655 4,9655 4,9655 4,9655 4,9655 4,9655 4,9737 4,9777 4,9817 4,9817 4,9817 5,0013 5,0025 5,0013 5,0026 5,0127 5,0165 5,0203 5,0240	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1405 6.1548 6.1595 6.1548 6.1595 6.1644 6.1588 6.1734 6.1734 6.1825 6.1825	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9312 6.9312 6.9312 6.9429 6.9429 6.9429 6.9455 6.9602 6.9655 6.9711 6.9827 6.9827 6.9822 7.0466 7.0103 7.0259 7.0346 7.0416 7.0416 7.0446	7,7361 7,7499 7,7567 7,7633 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8221 7,8233 7,8346 9,7,8348 7,8469 7,8531 7,8591 7,8591 7,8591 7,8592 7,8712 7,8712 7,8712 7,8712 7,8712 7,8831 7,8830 7,8949 7,9007 7,9005	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2829 8.2838 8.2966 8.3034 8.3101 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3455 8.3455 8.3455 8.35555 8.35555 8.35555
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.88709           3         0.887857           4         0.887857           5         0.889312           7         0.890365           8         0.891613           9         0.82366           0         0.892336           0         0.893064           1         0.893064           1         0.893064           2         0.84505           3         0.895218           4         0.895226           5         0.89663           6         0.897367           9         0.898024           8         0.895218           9         0.898024           9         0.898024           9         0.898024           9         0.898024           9         0.898024           1         0.900761           2         0.901435           3         0.902105           3         0.902172	2.6833 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6914 2.6936 2.6958 2.6980 2.7002 2.7023 2.7023 2.7024 2.7026 2.7027 2.7129 2.7149 2.7129 2.7149 2.7170 2.7211 2.7251 2.7251 2.7251 2.7251	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0681 4.0714 4.0714 4.0748 4.0714 4.0714 4.0748 4.0719 4.0811 4.0757 4.0907 4.0907 4.0907 4.0907 4.1093 4.1093 4.1093 4.1093 4.1093 4.1093 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.1194 4.	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9404 4.9404 4.9404 4.9409 4.9531 4.9531 4.9531 4.9531 4.9531 4.9573 4.9696 4.9737 4.9856 4.9896 4.9935 4.9935 4.9935 4.9935 4.9935 5.0013 5.0029 5.0127 5.0155 5.0203 5.0240 5.0240 5.0314 5.0495	6.0537           6.0592           6.0645           6.0699           6.0752           6.0804           6.0856           6.0959           6.1010           6.1010           6.1011           6.1011           6.1111           6.1010           6.1210           6.1210           6.1210           6.1259           6.1367           6.1405           6.1453           6.1548           6.1595           6.1641           6.1734           6.1780           6.1780           6.1825           6.1821           6.2094	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9659 6.9602 6.9659 6.9715 6.9602 6.9827 6.9827 6.9882 6.9832 7.0046 7.0100 7.0153 7.0259 7.0312 7.0364 7.0468 7.0458	7,7361 7,7490 7,7499 7,7567 7,7635 7,7700 7,7900 7,7905 7,8030 7,8054 7,8030 7,8054 7,8157 7,8221 7,8253 7,8346 7,8408 7,8408 7,8408 7,8408 7,8408 7,8408 7,8408 7,8531 7,8531 7,8551 7,8521 7,8532 7,8772 7,8772 7,8831 7,8890 7,8949 7,9065 7,9350	8.2187 8.2267 8.2267 8.2274 8.2406 8.2478 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2760 8.2780 8.3034 8.3034 8.3034 8.3034 8.3101 8.3167 8.3234 8.3305 8.3365 8.3430 8.3365 8.3430 8.3559 8.3623 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.8887857           4         0.8887857           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89663           6         0.89733           7         0.898024           8         0.898715           9         0.899401           0         0.900783           1         0.900763           2         0.901435           3         0.902105           4         0.902772           5         0.903434           0         0.906691           5         0.903435      0         0.906691	2.6833 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7002 2.7002 2.7003 2.7044 2.7066 2.7087 2.7108 2.7149 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251 2.7251 2.7251 2.7251 2.7365 2.7465	4.0256 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0547 4.0547 4.0548 4.0648 4.0648 4.0648 4.0779 4.0875 4.0907 4.0875 4.0907 4.0907 4.0938 4.0970 4.1001 4.1023 4.1033 4.1123 4.1123 4.1123 4.1302 4.1464	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9655 4,9655 4,9655 4,9656 4,9777 4,9777 4,9817 4,9817 4,9817 4,9826 4,9935 5,0051 5,0029 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0277	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0805 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1453 6.1500 6.1548 6.1595 6.1641 6.1548 6.1595 6.1641 6.1734 6.1734 6.1734 6.1734 6.1825 6.1871 6.1825 6.1871 6.2094 6.2034	6.8949 6.9071 6.9072 6.9133 6.9133 6.9253 6.9312 6.9312 6.9371 6.9429 6.9429 6.9429 6.9455 6.9715 6.9715 6.9715 6.9827 6.9827 6.9827 6.9827 6.9937 6.9992 7.0046 7.0153 7.0266 7.0259 7.0354 7.0354 7.0416 7.0416 7.0422 7.0969	7,7361 7,7499 7,7567 7,7633 7,7702 7,7702 7,7784 7,7834 7,7900 7,7965 7,8030 7,8094 7,8050 7,8030 7,8094 7,8050 7,8030 7,8040 7,8459 7,8531 7,8552 7,8712 7,9712 7,972 7,972 7,972 7,972 7,972	8.2187 8.2267 8.2264 8.2274 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2760 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.3300 8.3365 8.3430 8.3430 8.3455 8.3559 8.3623 8.3623 8.3686 8.3749 8.3874 8.
12         12	7         0.883164           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.886318           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893787           2         0.844505           3         0.895218           4         0.895263           6         0.89733           7         0.888024           8         0.89673           7         0.898024           8         0.898021           9         0.898024           8         0.898021           9         0.898021           9         0.898021           9         0.898021           9         0.898021           1         0.900761           2         0.901435           3         0.902125	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6824 2.6824 2.6847 2.6849 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7024 2.7044 2.7066 2.7088 2.7119 2.7129 2.7149 2.7129 2.7121 2.7231 2.7252 2.7552 2.75555 2.75555 2.75555 2.755555 2.75555555555	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0746 4.0746 4.0749 4.0811 4.0881 4.0746 4.0746 4.0749 4.0811 4.0831 4.0875 4.0907 4.0907 4.0931 4.0927 4.0931 4.0932 4.0937 4.0932 4.0937 4.0931 4.1031 4.1031 4.1032 4.1123 4.1123 4.1123 4.1123 4.1123 4.1125	4.9230 4.9274 4.9361 4.9361 4.9404 4.9447 4.9489 4.9531 4.9531 4.9531 4.9533 4.9636 4.9737 4.9636 4.9737 4.9737 4.9856 4.9856 4.9856 4.9937 5.0013 5.0023 5.0029 5.0127 5.0165 5.0203 5.0240 5.0277 5.0314 5.044 5.0672 5.0844	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1548 6.1595 6.1548 6.1548 6.1595 6.1548 6.1548 6.1734 6.1734 6.1780 6.1871 6.1871 6.2523	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9371 6.9429 6.9429 6.9487 6.9587 6.9602 6.9602 6.9602 6.9612 6.9711 6.9827 6.9827 6.9932 7.0046 7.0100 7.0259 7.0312 7.0364 7.0468 7.0468 7.0468 7.0468 7.0468 7.0722 7.0969 7.0320 7.0468 7.0468 7.0468 7.0468 7.0468 7.0468 7.0269 7.0269 7.0321 7.0468 7.0468 7.0468 7.0269 7.0269 7.0269 7.0468 7.0468 7.0269 7.0269 7.0269 7.0468 7.0468 7.0269 7.0269 7.0269 7.0468 7.0468 7.0269 7.0269 7.0468 7.0468 7.0269 7.0269 7.0269 7.0468 7.0468 7.0468 7.0468 7.0269 7.0468 7.0468 7.0468 7.0468 7.0269 7.0468 7.0269 7.0468 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0269 7.0268	7,7361 7,7499 7,763 7,763 7,763 7,7763 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8231 7,8233 7,8346 7,8469 7,8531 7,8531 7,8531 7,8532 7,9555 7,855 7,955	8.2187 8.2267 8.2261 8.2334 8.2406 8.2478 8.2549 8.2620 8.2620 8.2760 8.2898 8.2966 8.3034 8.3010 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3450 8.
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.887857           6         0.890121           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893364           0         0.893064           1         0.893367           2         0.894505           3         0.895218           4         0.895926           5         0.89663           6         0.89737           7         0.898024           8         0.898024           8         0.898021           9         0.898024           9         0.898024           8         0.898024           1         0.900631           2         0.901435           3         0.902072           4         0.902705	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7023 2.7044 2.7066 2.7067 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7170 2.7251 2.7251 2.7369 2.7465 2.7558 2.7558	4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0719 4.0714 4.0748 4.0719 4.0714 4.0729 4.0938 4.0970 4.0938 4.0970 4.1093 4.1093 4.1093 4.1153 4.1302 4.1302 4.1364 4.1587 4.1302 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1364 4.1587 4.1367	4.9230 4.9274 4.9361 4.9361 4.9404 4.9404 4.9447 4.9409 4.9531 4.9531 4.9531 4.9573 4.9656 4.9737 4.9676 4.9737 4.9777 4.9856 4.9856 4.9895 5.0013 5.0029 5.0127 5.0125 5.0203 5.0240 5.0240 5.0241 5.0314 5.0495 5.0672 5.0672	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1259 6.1308 6.1357 6.1357 6.1453 6.1549 6.1548 6.1548 6.1548 6.1548 6.1548 6.1730 6.1780 6.1780 6.1780 6.1825 6.1871 6.1871 6.294 6.2311 6.2523 6.2523	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9487 6.9545 6.9602 6.9602 6.96715 6.9715 6.9771 6.9827 6.9827 6.9827 6.9837 6.9932 7.0046 7.0100 7.0153 7.0259 7.0312 7.0364 7.0468 7.0722 7.0969 7.1210 7.1446	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7804 7,7856 7,8030 7,8030 7,8040 7,8157 7,8221 7,8233 7,8344 7,8459 7,8531 7,8552 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,9055 7,9350 7,9527 7,9828 8,81522	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2760 8.2760 8.2760 8.2782 8.3034 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365 8.3343 8.3430 8.3430 8.3430 8.3430 8.3559 8.3559 8.3523 8.3623 8.3623 8.3623 8.3623 8.3623 8.3623 8.3624 8.3749 8.3812 8.3874 8.3998 8.3812 8.3874 8.3998 8.34301 8.3998 8.4301
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89663           6         0.89733           7         0.898024           8         0.898715           9         0.899401           0         0.900763           1         0.900772           5         0.903434           0         0.902772           5         0.903434           0         0.9026691           5         0.903434           0         0.902725           0         0.903434           0         0.902862	2.6833 2.6683 2.6707 2.6731 2.6774 2.6754 2.6801 2.6824 2.6847 2.6869 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7044 2.7065 2.7129 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251 2.7251 2.7255 2.7558 2.7650 2.7558 2.7650	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0409 4.0444 4.0478 4.0513 4.0547 4.0547 4.0547 4.0547 4.0547 4.0547 4.0681 4.0681 4.0681 4.0681 4.0746 4.0799 4.0843 4.0779 4.0843 4.0875 4.0907 4.0907 4.0907 4.0907 4.1001 4.1031 4.1033 4.1123 4.1123 4.1362	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9531 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9826 4,9935 4,9974 5,0013 5,0023 5,0023 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0495 5,0495 5,0495 5,0495 5,0495 5,0495 5,0492 5,0494 5,0495 5,0492 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,0494 5,0495 5,0494 5,0494 5,0495 5,0494 5,0494 5,0495 5,0494 5,0494 5,0495 5,0494 5,0495 5,0494 5,0495 5,0494 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1405 6.1548 6.1595 6.1641 6.1548 6.1734 6.1568 6.1734 6.1825 6.1871 6.1825 6.1871 6.2994 6.2311 6.2523 6.2729	6.8949 6.9071 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9455 6.9602 6.9655 6.9715 6.9715 6.9715 6.9827 6.9827 6.9827 6.9827 6.9827 6.9932 7.0046 7.0046 7.0153 7.0266 7.0259 7.0354 7.0354 7.0416 7.0458 7.0456 7.0458	7,7361 7,7499 7,7567 7,7633 7,7700 7,7768 7,7784 7,7700 7,7785 7,8030 7,8030 7,8094 7,8030 7,8034 7,8030 7,8034 7,8034 7,8221 7,8233 7,8346 7,8469 7,8531 7,8552 7,8551 7,8552 7,8572 7,8772 7,8772 7,8772 7,8772 7,8772 7,8772 7,8794 7,8000 7,8949 7,9007 7,9065 7,93500 7,9627 7,9627 7,9628 8,0162 7,9628 8,0162 7,9628 7,9658 7,9628 7,9628 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9658 7,9758 7,9758 7,8758 7,9758 7	8.2187 8.2267 8.2264 8.2274 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2760 8.2829 8.2829 8.2828 8.2966 8.3034 8.3031 8.3101 8.3107 8.3107 8.3234 8.3300 8.3365 8.3430 8.3430 8.3430 8.3430 8.3430 8.355 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3549 8.3555 8.4301 8.4301 8.4355 8.4364 8.4364 8.4364 8.4365 8.4465 8.4
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.88709           3         0.88709           3         0.88709           3         0.88709           4         0.888318           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893064           2         0.894505           3         0.895218           4         0.895266           6         0.89737           7         0.898024           8         0.898024           9         0.898024           1         0.900761           2         0.900433           1         0.900772           3         0.902172           5         0.903434           0         0.9026691           5         0.903434	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6847 2.6847 2.6847 2.6849 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7074 2.7109 2.7129 2.7149 2.7170 2.7170 2.7121 2.7231 2.7251 2.7255 2.7650 2.7650	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0513 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0648 4.0648 4.0648 4.0714 4.0744 4.0744 4.0744 4.0743 4.0749 4.0811 4.0835 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0938 4.0938 4.0927 4.0938 4.0958 4.0957 4.0958 4.0958 4.0958 4.0958 4.0957 4.0958 4.0958 4.0957 4.0958 4.0957 4.0958 4.0957 4.0958 4.0957 4.0958 4.0957	4.9230 4.9274 4.9361 4.9361 4.9404 4.9447 4.9489 4.9531 4.9573 4.9634 4.9531 4.9573 4.9636 4.9737 4.9777 4.9856 4.9377 4.9856 4.9937 4.9977 5.0013 5.0023 5.0203 5.0203 5.0227 5.0165 5.0203 5.0227 5.0314 5.0045 5.0647 5.0647 5.0644 5.1012	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1357 6.1405 6.1535 6.1548 6.1548 6.1548 6.1548 6.1734 6.1734 6.1780 6.1871 6.1871 6.2094 6.2094 6.2211 6.2229 6.2729 6.2932	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9659 6.9602 6.9602 6.9659 6.9711 6.9827 6.9827 6.9882 6.9932 7.0046 7.0100 7.0259 7.0312 7.0364 7.0416 7.0468 7.0426 7.0456 7.0426 7.0468	7,7361 7,7490 7,7499 7,7567 7,7633 7,7700 7,7768 7,7834 7,7900 7,7960 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8231 7,8233 7,8346 7,8469 7,8450 7,8531 7,8531 7,8551 7,8512 7,8513 7,8552 7,8712 7,8722 7,8712 7,8830 7,8849 7,9007 7,9065 7,9350 7,	8.2187 8.2187 8.2267 8.2267 8.2240 8.2406 8.2478 8.2549 8.2620 8.2620 8.2829 8.2829 8.2829 8.2829 8.3034 8.3101 8.3107 8.3134 8.3107 8.3234 8.3300 8.3365 8.3340 8.3365 8.3430 8.3355 8.3559 8.3559 8.3559 8.3559 8.3523 8.3623 8.3749 8.3812 8.3874 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.8887857           4         0.887857           5         0.889312           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893767           2         0.894505           3         0.895216           5         0.89653           6         0.8973767           2         0.894610           0         0.895216           5         0.89663           6         0.897377           9         0.898024           8         0.898715           9         0.898021           9         0.898021           1         0.900761           2         0.901435           3         0.902705           4         0.902727           5         0.903434	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7087 2.7109 2.7129 2.7149 2.7170 2.7110 2.7251 2.7251 2.7251 2.7358 2.7558 2.7558 2.7558 2.7558	4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0714 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0719 4.0970 4.0970 4.0970 4.0978 4.0970 4.1031 4.1053 4.1053 4.1054 4.1153 4.1302 4.1446 4.1587 4.1724 4.1581 4.1581 4.1592 4.1990	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9855 4,9836 4,9935 5,0051 5,0029 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0495 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1161 6.1111 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1548 6.1548 6.1548 6.1780 6.1825 6.1641 6.1780 6.1825 6.1871 6.2034 6.2311 6.2233 6.2729 6.2322 6.2729 6.3129	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9429 6.9427 6.9545 6.9602 6.9602 6.9655 6.9711 6.9877 6.9827 6.9827 6.9827 6.9827 6.9937 7.0046 7.0100 7.0153 7.0206 7.0312 7.0312 7.0364 7.0416 7.0416 7.0416 7.0416 7.0420 7.0322 7.0364 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0416 7.0420 7.0420 7.0460 7.0420 7.0400 7.0420 7.0400 7.0420 7.0400	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8157 7,8221 7,8233 7,8346 7,8459 7,8521 7,8522 7,8712 7,8521 7,8522 7,8712 7,8522 7,8712 7,8522 7,8712 7,8531 7,8552 7,8712 7,8899 7,8949 7,9007 5,79350 7,9350 7	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2620 8.2620 8.2620 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3559 8.3623 8.3623 8.3874 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888344           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893072           2         0.894505           3         0.895216           5         0.89663           6         0.89733           7         0.898024           9         0.898015           9         0.898011           0         0.900083           1         0.900761           2         0.901435           3         0.902105           4         0.902772           5         0.903434           0         0.9006621           5         0.903435           0         0.902105           0         0.903622	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6801 2.6824 2.6847 2.6849 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7002 2.7003 2.7044 2.7066 2.7087 2.7108 2.7149 2.7149 2.7149 2.7149 2.7149 2.7158 2.7251 2.7251 2.7255 2.7558 2.7650 2.7739 2.7739	4.0266 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0581 4.0581 4.0581 4.0681 4.0681 4.0799 4.0811 4.0688 4.0799 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0845 4.0907 4.0811 4.0845 4.0907 4.0907 4.0933 4.0907 4.1021 4.1031 4.1031 4.1032 4.1123 4.1123 4.1123 4.1124 4.1587 4.1587 4.1599 4.1990 4.2119	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9573 4,9655 4,9655 4,9656 4,9737 4,9777 4,9817 4,9817 4,9817 4,9817 4,9826 4,9936 5,0013 5,0013 5,0015 5,0127 5,0155 5,0203 5,0240 5,0217 5,0314 5,0495 5,0227 5,0314 5,0495 5,0495 5,0672 5,0844 5,1012 5,0137 5,01475 5,01475 5,0147555555555555555555555555555555555555	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1405 6.1405 6.1548 6.1595 6.1548 6.1595 6.1641 6.1588 6.1734 6.1688 6.1734 6.1825 6.1825 6.1821 6.2932 6.2932 6.2932 6.2932 6.3239	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9233 6.9312 6.9312 6.9342 6.9429 6.9429 6.9455 6.9602 6.9655 6.9711 6.9827 6.9827 6.9822 7.0046 7.0103 7.0259 7.0316 7.0354 7.0416 7.0468	7,7361 7,7499 7,7567 7,7633 7,7700 7,7635 7,7708 7,7784 7,7834 7,7900 7,7965 7,8030 7,9000 8,0000 7,90000 7,90000 7,90000 7,90000 7,90000000000	8.2187 8.2267 8.2261 8.2344 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2829 8.2829 8.2829 8.3034 8.3041 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3455 8.3559 8.3554 8.3549 8.3554 8.3546 8.3556 8.3546 8.35566 8.35566 8.35566 8.35566 8.35566 8.35
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.887857           5         0.889312           7         0.890365           8         0.891601           7         0.890465           0         0.892336           0         0.893064           1         0.893064           1         0.893064           1         0.893064           2         0.894505           3         0.895218           4         0.895226           5         0.89663           6         0.897367           9         0.898024           8         0.895218           9         0.898024           9         0.898024           9         0.898024           9         0.898024           9         0.899021           10         0.900761           2         0.901435           3         0.902102 <td>2.6683 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6958 2.6980 2.7002 2.7023 2.7044 2.7066 2.7073 2.7129 2.7129 2.7129 2.7129 2.7129 2.7121 2.7251 2.7251 2.7369 2.7465 2.7558 2.7558 2.7558 2.7558</td> <td>4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0581 4.0547 4.0581 4.0574 4.0581 4.0575 4.0577 4.0577 4.0577 4.0577 4.0577 4.0577 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1153 4.1252 4.1254</td> <td>4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9513 4,9513 4,9656 4,9656 4,9656 4,9737 4,9856 4,9856 4,9856 4,9856 4,9896 4,9856 5,0013 5,0023 5,0020 5,0127 5,0155 5,0203 5,0244 5,0127 5,0314 5,0495 5,0672 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0127 5,0121 5,</td> <td>6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1357 6.1405 6.1548 6.1595 6.1641 6.1734 6.1780 6.1780 6.1780 6.1780 6.1780 6.1825 6.1825 6.1821 6.2034 6.2034 6.2111 6.2034 6.2129 6.2332 6.2729 6.2332 6.3139</td> <td>6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9545 6.9602 6.9659 6.9715 6.9771 6.9827 6.9882 6.9882 6.9937 6.9882 7.0046 7.0100 7.0153 7.0266 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0259 7.0312 7.0364 7.0259 7.0259 7.0312 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.0272 7.2272 7.2238 7.2238</td> <td>7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7834 7,7965 7,8030 7,8030 7,8040 7,8030 7,8040 7,8157 7,8221 7,8233 7,8346 7,8459 7,8531 7,8531 7,8532 7,8531 7,8552 7,8712 7,9055 7,9350 7,9527 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,95577 7,95577 7,9557777777777</td> <td>8.2187 8.2187 8.2267 8.2267 8.2476 8.2476 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2760 8.2780 8.2780 8.2780 8.2780 8.2829 8.2829 8.3034 8.3034 8.3030 8.3365 8.3343 8.3365 8.3430 8.3430 8.3430 8.3559 8.3623 8.3623 8.3623 8.3623 8.3623 8.3998 8.4301 8.4301 8.4555 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3559 8.</td>	2.6683 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6958 2.6980 2.7002 2.7023 2.7044 2.7066 2.7073 2.7129 2.7129 2.7129 2.7129 2.7129 2.7121 2.7251 2.7251 2.7369 2.7465 2.7558 2.7558 2.7558 2.7558	4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0581 4.0547 4.0581 4.0574 4.0581 4.0575 4.0577 4.0577 4.0577 4.0577 4.0577 4.0577 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1052 4.1153 4.1252 4.1254	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9404 4,9513 4,9513 4,9656 4,9656 4,9656 4,9737 4,9856 4,9856 4,9856 4,9856 4,9896 4,9856 5,0013 5,0023 5,0020 5,0127 5,0155 5,0203 5,0244 5,0127 5,0314 5,0495 5,0672 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0844 5,0012 5,0127 5,0121 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1357 6.1405 6.1548 6.1595 6.1641 6.1734 6.1780 6.1780 6.1780 6.1780 6.1780 6.1825 6.1825 6.1821 6.2034 6.2034 6.2111 6.2034 6.2129 6.2332 6.2729 6.2332 6.3139	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9545 6.9602 6.9659 6.9715 6.9771 6.9827 6.9882 6.9882 6.9937 6.9882 7.0046 7.0100 7.0153 7.0266 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0312 7.0364 7.0259 7.0259 7.0312 7.0364 7.0259 7.0259 7.0312 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0364 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.02722 7.0259 7.0272 7.2272 7.2238 7.2238	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7834 7,7965 7,8030 7,8030 7,8040 7,8030 7,8040 7,8157 7,8221 7,8233 7,8346 7,8459 7,8531 7,8531 7,8532 7,8531 7,8552 7,8712 7,9055 7,9350 7,9527 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,8577 7,95577 7,95577 7,9557777777777	8.2187 8.2187 8.2267 8.2267 8.2476 8.2476 8.2478 8.2549 8.2620 8.2620 8.2760 8.2760 8.2760 8.2780 8.2780 8.2780 8.2780 8.2829 8.2829 8.3034 8.3034 8.3030 8.3365 8.3343 8.3365 8.3430 8.3430 8.3430 8.3559 8.3623 8.3623 8.3623 8.3623 8.3623 8.3998 8.4301 8.4301 8.4555 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3556 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3558 8.3559 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.8887857           4         0.8887857           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89653           6         0.899733           7         0.898024           8         0.898715           9         0.898014           0         0.900783           1         0.900781           2         0.901435           3         0.902705           4         0.90272105           4         0.90272105           5         0.901435           0         0.9026631           5         0.912954	2.6833 2.6683 2.6707 2.6731 2.6754 2.6774 2.6754 2.6801 2.6824 2.6847 2.6869 2.6892 2.6914 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7024 2.7023 2.7024 2.7027 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251 2.7251 2.7255 2.7558 2.7558 2.7650 2.7739 2.7826 2.7826 2.7995 2.7826 2.7995 2.8077	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9655 4,9655 4,9655 4,9656 4,9737 4,9777 4,9817 4,9817 4,9817 4,9826 4,9935 5,0013 5,0023 5,0023 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0089 5,0127 5,0344 5,0072 5,0844 5,0177 5,1337 5,1495 5,1649 5,1801	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1595 6.1641 6.1548 6.1595 6.1641 6.1734 6.1734 6.1734 6.1825 6.1871 6.2934 6.2934 6.2934 6.2934 6.2333 6.2729 6.3129 6.3139 6.3513 6.3513 6.3513	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9455 6.9715 6.9715 6.9715 6.9715 6.9827 6.9827 6.9827 6.9827 6.9937 6.9992 7.0046 7.0100 7.0153 7.0266 7.0259 7.0354 7.0416 7.0416 7.0416 7.0456 7.0416 7.0416 7.0453 7.0456	7,7361 7,7499 7,7567 7,7633 7,7702 7,7768 7,7702 7,7784 7,7834 7,7900 7,7965 7,8030 7,8094 7,8054 7,8034 7,8054 7,8221 7,8233 7,8344 7,8409 7,8409 7,8409 7,8531 7,8532 7,	8.2187 8.2267 8.2264 8.2274 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.3300 8.3365 8.3430 8.3345 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.
12 12 12 12 12 12 12 12 12 12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893364           1         0.893063           2         0.894505           3         0.895218           4         0.895266           5         0.89663           6         0.89736           7         0.898024           8         0.898024           9         0.898024           9         0.8994013           1         0.900761           2         0.901435           3         0.902172           5         0.903434           0         0.902651           0         0.919254	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6824 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7074 2.7109 2.7129 2.7149 2.7129 2.7149 2.7129 2.7149 2.7211 2.7251 2.7251 2.7251 2.7251 2.7369 2.7465 2.7550 2.7739 2.7465 2.7550 2.7739 2.7826 2.7951 2.7739	4.0266 4.0266 4.0302 4.0374 4.0499 4.0444 4.0474 4.0474 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0648 4.0648 4.0648 4.0648 4.0719 4.0811 4.0648 4.0719 4.0811 4.0648 4.0729 4.0811 4.0835 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0927 4.0938 4.1025	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9573 4,9656 4,9531 4,9656 4,9737 4,9656 4,9737 4,9656 4,9737 4,9856 4,9856 4,9856 4,9896 4,9974 5,0013 5,0081 5,0081 5,0023 5,0127 5,0165 5,0203 5,02240 5,0127 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0224 5,0165 5,0203 5,0244 5,0127 5,0314 5,0045 5,0672 5,0844 5,1012 5,1137 5,1337 5,1345 5,1649 5,1840	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1595 6.1308 6.1595 6.1548 6.1595 6.1548 6.1595 6.1548 6.1595 6.1641 6.1525 6.16433 6.1525 6.1643 6.1734 6.1734 6.1734 6.1730 6.1871 6.2523 6.2729 6.2332 6.3231 6.3513 6.3513 6.3513 6.3513 6.3513 6.3513 6.3513	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9545 6.9602 6.9602 6.9602 6.9659 6.9711 6.9827 6.9827 6.9827 6.9982 7.0046 7.0100 7.0259 7.0312 7.0364 7.0456 7.0456 7.0456 7.0456 7.0456 7.0456 7.0456 7.0456 7.1210 7.1212 7.2338 7.2550 7.2559 7.2559 7.1210 7.1212 7.2338 7.2550 7.2559 7.255	7,7361 7,7499 7,7499 7,7567 7,7635 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8034 7,8034 7,8034 7,8034 7,8034 7,8034 7,8233 7,8346 7,8469 7,8469 7,8459 7,8531 7,8531 7,8532 7,9555 7,9557 7,9555 7,9557 7,9555 7,9557 8,959 7,95577 7,95577 7,95577 7,955777 7,9557777777777	8.2187 8.2187 8.2267 8.2267 8.2246 8.2476 8.2476 8.2549 8.2620 8.2620 8.2829 8.2829 8.2829 8.2829 8.3034 8.3101 8.3107 8.3134 8.3107 8.3234 8.3303 8.3365 8.3343 8.3365 8.3343 8.3365 8.3430 8.3359 8.3559 8.3559 8.3523 8.3623 8.3749 8.3812 8.3874 8.3874 8.3874 8.3874 8.3874 8.3988 8.3998 8.3595 8.3556 8.3557 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.88618           5         0.889327           6         0.890121           7         0.890855           8         0.891603           9         0.82336           0         0.893364           1         0.893364           1         0.893365           3         0.895216           3         0.89526           3         0.89526           5         0.89663           6         0.89526           7         0.898024           8         0.89526           0         0.90083           1         0.900761           2         0.901435           3         0.902712           5         0.903862           0         0.902691           5         0.903434           0         0.902691           5         0.918923 <t< td=""><td>2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7023 2.7044 2.7066 2.7066 2.7087 2.7109 2.7149 2.7149 2.7149 2.7149 2.7149 2.7170 2.7251 2.7369 2.7369 2.7369 2.7369 2.7369 2.7369 2.7358 2.75572 2.8577 2.8557 2.85572 2.85772 2.85</td><td>4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0714 4.0681 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0719 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0758 4.0970 4.0938 4.0970 4.1031 4.1032 4.1153 4.1302 4.1329 4.1329 4.1245 4.1258 4.2369 4.2245 4.2369 4.2451 4.2369</td><td>4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9551 4,9551 4,9655 4,9696 4,9737 4,9777 4,9777 4,9817 4,9855 4,9836 4,9935 5,0051 5,0023 5,0023 5,00240 5,0027 5,0035 5,00240 5,0027 5,0044 5,0045</td><td>6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0909 6.1010 6.1010 6.1011 6.1111 6.1111 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1555 6.1641 6.1780 6.1825 6.1871 6.2934 6.2934 6.2311 6.2523 6.3129 6.3231 6.2533 6.3231 6.3253 6.3231 6.3253 6.3231 6.3253 6.3233 6.3233 6.3533 6.3543 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.35555 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556</td><td>6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9429 6.9429 6.9429 6.9602 6.9655 6.9711 6.9711 6.9827 6.9827 6.9827 6.9827 6.9827 7.0046 7.0100 7.0153 7.0206 7.0322 7.0364 7.0416 7.0416 7.0416 7.0420 7.0322 7.0364 7.0416 7.0420 7.0322 7.0364 7.0416</td><td>7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8157 7,8221 7,8283 7,8346 7,8459 7,8351 7,8522 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8849 7,9007 7,9005 7,9055 7,9350 7,</td><td>8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2829 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3343 8.3430 8.3355 8.3559 8.3623 8.3623 8.3626 8.3749 8.3812 8.3874 8.3938 8.</td></t<>	2.6633 2.6633 2.6707 2.6731 2.6754 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7023 2.7044 2.7066 2.7066 2.7087 2.7109 2.7149 2.7149 2.7149 2.7149 2.7149 2.7170 2.7251 2.7369 2.7369 2.7369 2.7369 2.7369 2.7369 2.7358 2.75572 2.8577 2.8557 2.85572 2.85772 2.85	4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0714 4.0681 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0719 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0748 4.0714 4.0758 4.0970 4.0938 4.0970 4.1031 4.1032 4.1153 4.1302 4.1329 4.1329 4.1245 4.1258 4.2369 4.2245 4.2369 4.2451 4.2369	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9551 4,9551 4,9655 4,9696 4,9737 4,9777 4,9777 4,9817 4,9855 4,9836 4,9935 5,0051 5,0023 5,0023 5,00240 5,0027 5,0035 5,00240 5,0027 5,0044 5,0045	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0909 6.1010 6.1010 6.1011 6.1111 6.1111 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1555 6.1641 6.1780 6.1825 6.1871 6.2934 6.2934 6.2311 6.2523 6.3129 6.3231 6.2533 6.3231 6.3253 6.3231 6.3253 6.3231 6.3253 6.3233 6.3233 6.3533 6.3543 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.35555 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9429 6.9429 6.9429 6.9602 6.9655 6.9711 6.9711 6.9827 6.9827 6.9827 6.9827 6.9827 7.0046 7.0100 7.0153 7.0206 7.0322 7.0364 7.0416 7.0416 7.0416 7.0420 7.0322 7.0364 7.0416 7.0420 7.0322 7.0364 7.0416	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8157 7,8221 7,8283 7,8346 7,8459 7,8351 7,8522 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8722 7,8849 7,9007 7,9005 7,9055 7,9350 7,	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2829 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3343 8.3430 8.3355 8.3559 8.3623 8.3623 8.3626 8.3749 8.3812 8.3874 8.3938 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           8         0.891603           9         0.82336           0         0.893064           1         0.893073           2         0.894505           3         0.895216           5         0.89653           6         0.89733           7         0.898024           8         0.897215           9         0.898011           0         0.900763           1         0.900761           2         0.901435           3         0.902772           5         0.903434           0         0.9006691           5         0.903426           0         0.9019295           5         0.92181      0         0.927409	2.6833 2.6683 2.6707 2.6731 2.6731 2.6754 2.6801 2.6824 2.6824 2.6892 2.6914 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7023 2.7044 2.7066 2.7087 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7149 2.7158 2.7758 2.7758 2.7758 2.7558 2.7558 2.7558 2.7558 2.7559 2.7739 2.7757 2.7739 2.77577 2.77577 2.77577 2.7757777777777	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0681 4.0681 4.0799 4.0681 4.0799 4.0813 4.0779 4.0813 4.0779 4.0813 4.0779 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0799 4.0813 4.0907 4.0907 4.0907 4.0907 4.1001 4.1031 4.1052 4.1123 4.1123 4.1123 4.1123 4.1254 4.1259 4.1259 4.1299 4.2245 4.2259 4.22491 4.2259 4.22491 4.2259 4.2259 4.22491 4.2259 4.2599 4.2	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9553 4,9655 4,9655 4,9655 4,9655 4,9655 4,9656 4,9737 4,9777 4,9817 4,9817 4,9817 4,9826 4,9935 5,0013 5,0013 5,0013 5,0015 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0495 5,0672 5,0844 5,1012 5,1049 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1405 6.1459 6.1405 6.1599 6.1644 6.1599 6.1644 6.1588 6.1734 6.1734 6.2523 6.2729 6.2932 6.2729 6.3233 6.3513 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9233 6.9312 6.9312 6.9342 6.9429 6.9449 6.9455 6.9602 6.9655 6.9711 6.9827 6.9822 6.9832 6.9932 7.0046 7.0046 7.0259 7.0354 7.0354 7.0354 7.0416 7.1210 7.1210 7.1212 7.0364 7.1212 7.0364 7.1212 7.1212 7.2550 7.2758 7.2550 7.2758 7.2953 7.2953 7.2955 7.2758 7.2955 7.2758 7.2955 7.2758 7.2955	7,7361 7,7499 7,7567 7,7633 7,7700 7,7768 7,7784 7,7700 7,7768 7,7834 7,8030 7,8030 7,8034 7,8030 7,8034 7,9007 7,9055 7,9350 8,1401 8,1401 8,1401 8,1401 8,1401 8,1401 8,1401 8,1401 8,1401 7,1404 7,	8.2187 8.2267 8.2264 8.2278 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.3034 8.3041 8.3101 8.3107 8.3107 8.3234 8.3300 8.3365 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.355 8.3543 8.3558 8.3598 8.3598 8.3598 8.3598 8.3595 8.3596 8.5706 8.5706 8.5969 8.577 8.6480 8.5728 8.6480 8.6728
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893064           1         0.893064           2         0.845055           3         0.895218           4         0.895262           5         0.89663           6         0.897367           7         0.898024           8         0.898024           9         0.8994013           0         0.900761           2         0.901435           3         0.902072           5         0.903434           0         0.902072           5         0.903129      5         0.9021842	2.6833 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6892 2.6892 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7129 2.7149 2.7129 2.7149 2.7170 2.7121 2.7231 2.7231 2.7255 2.7369 2.7465 2.7550 2.7650 2.7739 2.7826 2.7739 2.7826 2.7955 2.7955 2.7955 2.8377 2.8157 2.8157 2.8157 2.8314	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0513 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0714 4.0714 4.0744 4.0744 4.0744 4.0743 4.0714 4.0743 4.0714 4.0833 4.0714 4.0843 4.0729 4.0811 4.0843 4.0907 4.0938 4.0907 4.0938 4.0907 4.0938 4.0927 4.0938 4.1052 4.1055 4.1052	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9477 4,9361 4,9573 4,9656 4,9531 4,9573 4,9656 4,9737 4,9656 4,9737 4,9777 4,9856 4,9956 4,9957 4,9974 5,0013 5,0029 5,0127 5,0165 5,0203 5,0240 5,0240 5,0240 5,0314 5,0049 5,0649 5,0649 5,1049 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.1061 6.1011 6.1161 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1595 6.1348 6.1595 6.1548 6.1595 6.1548 6.1595 6.1641 6.1525 6.1643 6.1525 6.1641 6.1734 6.1734 6.1730 6.1871 6.2523 6.2729 6.2322 6.2323 6.3513 6.3513 6.3533 6.3513 6.3553 6.3699 6.3882 6.3649 6.3882 6.3513 6.3553 6.3699 6.3882 6.3649 6.3882 6.3649 6.3882 6.3649 6.3649 6.3882 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3649 6.3659 6.3659 6.3729 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9487 6.9659 6.9602 6.9602 6.9659 6.9711 6.9827 6.9827 6.9827 6.9822 7.0046 7.0100 7.0259 7.0259 7.0312 7.0312 7.0364 7.0468 7.0456 7.0259 7.0312 7.0364 7.0456 7.2758 7.2758 7.3164	7,7361 7,7490 7,7499 7,7567 7,7633 7,7700 7,7768 7,7834 7,7900 7,7960 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8231 7,8231 7,8233 7,8346 7,8469 7,8469 7,8531 7,8531 7,8531 7,8532 7,8722 7,8712 7,8722 7,8712 7,8722 7,8732 7,8349 7,9305 8,0410 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,0400 8,04000 8,040000000000	8.2187 8.2267 8.2267 8.2267 8.2476 8.2476 8.2478 8.2490 8.2549 8.2549 8.2569 8.2760 8.2760 8.2760 8.2760 8.2760 8.2760 8.2760 8.3034 8.3034 8.3034 8.3030 8.3365 8.3430 8.3365 8.3430 8.3430 8.3430 8.3559 8.3623 8.3623 8.3749 8.3874 8.3874 8.3988 8.3998 8.4301 8.3998 8.4301 8.5766 8.5959 8.5559 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.8887857           4         0.889312           7         0.890855           8         0.89121           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893787           2         0.894505           3         0.895216           5         0.89653           6         0.8973787           7         0.898024           8         0.898715           9         0.898024           1         0.900761           2         0.901435           3         0.902705           4         0.902651           5         0.903424           0         0.9026631           5         0.912954           0         0.912954           0         0.927409 <td>2.6683 2.6683 2.6707 2.6731 2.6731 2.6754 2.6784 2.6801 2.6824 2.6892 2.6892 2.6936 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7024 2.7023 2.7044 2.7067 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251 2.7251 2.7251 2.7255 2.7558 2.7650 2.7650 2.7739 2.7826 2.7995 2.7826 2.7995 2.8077 2.8157 2.8157 2.8391</td> <td>4.0256 4.0266 4.0302 4.0374 4.0374 4.0409 4.0444 4.0478 4.0547 4.2455 4.2455 4.2459 4.2459 4.2459 4.2459 4.2454</td> <td>4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9551 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9817 4,9825 4,9935 4,9974 5,0013 5,0051 5,0029 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0049 5,0277 5,0314 5,0049 5,0277 5,0314 5,0499 5,0672 5,0844 5,0495 5,0672 5,0844 5,0127 5,0135 5,0203 5,0240 5,0277 5,0314 5,0499 5,0672 5,0844 5,0127 5,0135 5,0293 5,</td> <td>6.0537 6.0592 6.0645 6.0692 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1453 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1548 6.1734 6.1641 6.1734 6.1734 6.1734 6.1825 6.1871 6.2523 6.2729 6.3129 6.3231 6.3513 6.3514 6.3514 6.3512 6.</td> <td>6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9427 6.9545 6.9715 6.9715 6.9715 6.9715 6.9712 6.9827 6.9827 6.9827 6.9827 7.0364 7.0100 7.0153 7.0266 7.0259 7.0354 7.0364 7.0416 7.0416 7.0422 7.0364 7.0416 7.1420 7.0469 7.1220 7.0364 7.1210 7.1220 7.0364 7.1210 7.1220 7.0364 7.1210 7.1220 7.2550 7.2758 7.2550 7.2758 7.3164</td> <td>7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8034 7,8034 7,8034 7,8034 7,8034 7,8034 7,8221 7,8233 7,8344 7,8459 7,8531 7,8532 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 8,</td> <td>8.2187 8.2261 8.2264 8.2274 8.2406 8.2474 8.2549 8.2549 8.2620 8.2620 8.2829 8.2829 8.3034 8.3010 8.3101 8.3101 8.3101 8.3167 8.3234 8.3300 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.355 8</td>	2.6683 2.6683 2.6707 2.6731 2.6731 2.6754 2.6784 2.6801 2.6824 2.6892 2.6892 2.6936 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7024 2.7023 2.7044 2.7067 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7251 2.7251 2.7251 2.7251 2.7255 2.7558 2.7650 2.7650 2.7739 2.7826 2.7995 2.7826 2.7995 2.8077 2.8157 2.8157 2.8391	4.0256 4.0266 4.0302 4.0374 4.0374 4.0409 4.0444 4.0478 4.0547 4.2455 4.2455 4.2459 4.2459 4.2459 4.2459 4.2454	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9551 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9817 4,9825 4,9935 4,9974 5,0013 5,0051 5,0029 5,0127 5,0165 5,0203 5,0240 5,0277 5,0314 5,0049 5,0277 5,0314 5,0049 5,0277 5,0314 5,0499 5,0672 5,0844 5,0495 5,0672 5,0844 5,0127 5,0135 5,0203 5,0240 5,0277 5,0314 5,0499 5,0672 5,0844 5,0127 5,0135 5,0293 5,	6.0537 6.0592 6.0645 6.0692 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1453 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1548 6.1734 6.1641 6.1734 6.1734 6.1734 6.1825 6.1871 6.2523 6.2729 6.3129 6.3231 6.3513 6.3514 6.3514 6.3512 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9427 6.9545 6.9715 6.9715 6.9715 6.9715 6.9712 6.9827 6.9827 6.9827 6.9827 7.0364 7.0100 7.0153 7.0266 7.0259 7.0354 7.0364 7.0416 7.0416 7.0422 7.0364 7.0416 7.1420 7.0469 7.1220 7.0364 7.1210 7.1220 7.0364 7.1210 7.1220 7.0364 7.1210 7.1220 7.2550 7.2758 7.2550 7.2758 7.3164	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8034 7,8034 7,8034 7,8034 7,8034 7,8034 7,8221 7,8233 7,8344 7,8459 7,8531 7,8532 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 7,8552 8,	8.2187 8.2261 8.2264 8.2274 8.2406 8.2474 8.2549 8.2549 8.2620 8.2620 8.2829 8.2829 8.3034 8.3010 8.3101 8.3101 8.3101 8.3167 8.3234 8.3300 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.355 8
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889327           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893366           0         0.893064           1         0.893064           1         0.893064           2         0.894515           3         0.895218           4         0.895266           5         0.900761           2         0.900433           0         0.900772           2         0.901435           3         0.902772           5         0.903434           0         0.902725           5         0.903434           0         0.924638           5         0.9218973 <td>2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6824 2.6824 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7109 2.7129 2.7149 2.7129 2.7149 2.7129 2.7129 2.7129 2.7231 2.7251 2.7251 2.7251 2.7255 2.7550 2.7755 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.8077 2.8237 2.8237 2.8237 2.8237 2.8237 2.8237</td> <td>4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0548 4.0581 4.0547 4.0581 4.0548 4.0719 4.0811 4.0648 4.0744 4.0744 4.0744 4.0744 4.0743 4.0743 4.0744 4.0743 4.0875 4.0907 4.0811 4.0831 4.0927 4.0811 4.0848 4.0927 4.0927 4.0811 4.1021 4.1031 4.1031 4.1032 4.1123 4.1123 4.1123 4.1123 4.1123 4.1257 4.2859 4.2899 4.2288 4.2288 4.2288 4.2897 4.2895 4.2855</td> <td>4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9531 4,9531 4,9573 4,9656 4,9531 4,9656 4,9737 4,9656 4,9737 4,9817 4,9817 4,9817 4,9856 4,9974 5,0013 5,0023 5,0023 5,0023 5,0127 5,0165 5,0203 5,0240 5,0217 5,0314 5,0025 5,0672 5,0314 5,0027 5,0027 5,</td> <td>6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1548 6.1595 6.1548 6.1595 6.1548 6.1595 6.1641 6.1548 6.1595 6.1641 6.1523 6.2523 6.2729 6.2932 6.2729 6.2932 6.3133 6.3513 6.</td> <td>6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9455 6.9602 6.9545 6.9602 6.9545 6.9711 6.9827 6.9822 7.0046 7.0100 7.0153 7.0259 7.0312 7.0346 7.0456 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.2558 7.2550 7.3557</td> <td>7,7361 7,7499 7,7499 7,7567 7,7635 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8030 7,8094 7,8030 7,8030 7,8030 7,8030 7,8030 7,8233 7,8346 7,8469 7,8459 7,8351 7,8551 7,8551 7,8551 7,8552 7,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,2352 8,</td> <td>8.2187 8.2267 8.2264 8.2248 8.2446 8.2478 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.300 8.3365 8.3430 8.3430 8.3455 8.3559 8.3</td>	2.6833 2.6683 2.6707 2.6731 2.6754 2.6754 2.6824 2.6824 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7109 2.7129 2.7149 2.7129 2.7149 2.7129 2.7129 2.7129 2.7231 2.7251 2.7251 2.7251 2.7255 2.7550 2.7755 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.7555 2.8077 2.8237 2.8237 2.8237 2.8237 2.8237 2.8237	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0548 4.0581 4.0547 4.0581 4.0548 4.0719 4.0811 4.0648 4.0744 4.0744 4.0744 4.0744 4.0743 4.0743 4.0744 4.0743 4.0875 4.0907 4.0811 4.0831 4.0927 4.0811 4.0848 4.0927 4.0927 4.0811 4.1021 4.1031 4.1031 4.1032 4.1123 4.1123 4.1123 4.1123 4.1123 4.1257 4.2859 4.2899 4.2288 4.2288 4.2288 4.2897 4.2895 4.2855	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9531 4,9531 4,9573 4,9656 4,9531 4,9656 4,9737 4,9656 4,9737 4,9817 4,9817 4,9817 4,9856 4,9974 5,0013 5,0023 5,0023 5,0023 5,0127 5,0165 5,0203 5,0240 5,0217 5,0314 5,0025 5,0672 5,0314 5,0027 5,0027 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1548 6.1595 6.1548 6.1595 6.1548 6.1595 6.1641 6.1548 6.1595 6.1641 6.1523 6.2523 6.2729 6.2932 6.2729 6.2932 6.3133 6.3513 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9455 6.9602 6.9545 6.9602 6.9545 6.9711 6.9827 6.9822 7.0046 7.0100 7.0153 7.0259 7.0312 7.0346 7.0456 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.0259 7.0312 7.0346 7.0456 7.0259 7.2558 7.2550 7.3557	7,7361 7,7499 7,7499 7,7567 7,7635 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8030 7,8094 7,8030 7,8030 7,8030 7,8030 7,8030 7,8233 7,8346 7,8469 7,8459 7,8351 7,8551 7,8551 7,8551 7,8552 7,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,8352 8,2352 8,	8.2187 8.2267 8.2264 8.2248 8.2446 8.2478 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3234 8.300 8.3365 8.3430 8.3430 8.3455 8.3559 8.3
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889312           7         0.890855           8         0.891603           9         0.82336           0         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           2         0.894505           3         0.895218           4         0.895226           5         0.89663           6         0.89737           0         0.900631           2         0.901435           3         0.902107           4         0.902707           5         0.903434           0         0.904543           0         0.912954           10         0.927409           0         0.93129	2.6683 2.6683 2.6707 2.6731 2.6754 2.6801 2.6824 2.6801 2.6824 2.6892 2.6892 2.6992 2.6936 2.6958 2.6980 2.7002 2.7023 2.7023 2.7044 2.7066 2.7087 2.7028 2.7129 2.7129 2.7129 2.7149 2.7170 2.7211 2.7251 2.7251 2.7369 2.7465 2.7558 2.	4.0266 4.0302 4.0302 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0547 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0597 4.0597 4.1051 4.1052 4.2255 4.255	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9531 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9855 4,9696 4,9737 4,9777 4,9817 4,9817 4,9817 4,9817 5,0013 5,0013 5,0013 5,0013 5,0020 5,0127 5,0165 5,0020 5,0127 5,0165 5,0020 5,0214 5,0023 5,0240 5,0237 5,0240 5,0271 5,0127 5,0165 5,0203 5,0240 5,0271 5,0127 5,0165 5,0203 5,0240 5,0271 5,0127 5,0165 5,0203 5,0240 5,0271 5,0177 5,0165 5,0203 5,0240 5,0271 5,0177 5,0175 5,0267 5,0273 5,0177 5,0175 5,0267 5,0273 5,0274 5,0273 5,0275 5,0267 5,0275 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1548 6.1548 6.1548 6.1780 6.1825 6.1871 6.1871 6.2932 6.3323 6.3231 6.2932 6.3323 6.3532 6.3532 6.3542 6.3542 6.3542 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6.35556 6	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9487 6.9545 6.9602 6.96715 6.9715 6.9715 6.9771 6.9827 6.9827 6.9827 6.9827 6.9937 7.0046 7.0100 7.0153 7.0266 7.0322 7.0364 7.0468 7.0722 7.0364 7.0468 7.0722 7.0969 7.1210 7.1250 7.2550 7.2550 7.2550 7.2550 7.3362 7.336	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8030 7,8040 7,8050 7,8221 7,8233 7,8344 7,8459 7,8531 7,8531 7,8552 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 7,8712 7,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,8722 8,2744	8.2187 8.2267 8.2267 8.2264 8.2476 8.2476 8.2476 8.2476 8.2549 8.2569 8.2760 8.2760 8.2760 8.2780 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3234 8.3300 8.3365 8.3365 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3559 8.3559 8.3523 8.3623 8.3623 8.3623 8.3623 8.3623 8.3623 8.3623 8.3599 8.3431 8.3596 8.3596 8.3596 8.3596 8.3516 8.3596 8.3516 8.3596 8.3516 8.3596 8.3516 8.3596 8.3517 8.3517 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.886318           2         0.887091           3         0.887857           4         0.8887857           4         0.8887857           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.829336           0         0.893064           1         0.8930787           2         0.894505           3         0.895216           5         0.89653           6         0.89733           7         0.898024           8         0.898715           9         0.898011           0         0.900763           1         0.900763           2         0.900435           3         0.902705           4         0.902725           5         0.903434           0         0.9090862           0         0.912954           5         0.927409     <	2.6683 2.6683 2.6707 2.6731 2.6754 2.6774 2.6824 2.6824 2.6892 2.6914 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7023 2.7023 2.7023 2.7044 2.7066 2.7027 2.7108 2.7129 2.7149 2.7149 2.7149 2.7149 2.7151 2.7251 2.7251 2.7255 2.7558 2.7650 2.7739 2.7369 2.7739 2.7369 2.7739 2.7369 2.7739 2.7739 2.7850 2.7739 2.7851 2.	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0581 4.0582 4.0799 4.0681 4.0799 4.0815 4.0799 4.0815 4.0799 4.0815 4.0907 4.0907 4.0907 4.0907 4.0907 4.0907 4.0907 4.0907 4.0907 4.0907 4.1001 4.1031 4.1032 4.1123 4.1123 4.123 4.1259 4.2269 4.22728 4.2843 4.2557 4.3069 4.3778 4.3269 4.3278 4.3278	4,9230 4,9274 4,9274 4,9361 4,9404 4,9404 4,9404 4,9489 4,9531 4,9531 4,9553 4,9655 4,9696 4,9737 4,9777 4,9877 4,9877 4,9877 4,9877 4,9877 4,9875 5,013 5,0013 5,0013 5,0023 5,0127 5,0165 5,0203 5,0203 5,0204 5,0277 5,0165 5,0203 5,0240 5,0277 5,0165 5,0203 5,0240 5,0277 5,0165 5,0203 5,0240 5,0277 5,0314 5,0495 5,0495 5,0672 5,0844 5,0177 5,1137 5,1495 5,1649 5,1801 5,1949 5,2086 5,2239 5,2230 5,2239	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1010 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1453 6.1453 6.1500 6.1548 6.1555 6.1641 6.1548 6.1734 6.1555 6.1641 6.1825 6.1641 6.1825 6.1871 6.2934 6.323 6.2729 6.323 6.2729 6.323 6.3513 6.3513 6.3513 6.3513 6.3513 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.3645 6.365	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9429 6.9455 6.9655 6.9655 6.9711 6.9827 6.9827 6.9827 6.9937 6.9932 7.0046 7.0153 7.0266 7.0259 7.0354 7.0354 7.1210 7.1210 7.1210 7.1212 7.0364 7.1255 7.2555 7.2558 7.2555 7.3748 7.3557 7.3548 7.3557 7.3748 7.2550 7.3577 7.3748 7.3557 7.3748 7.2550 7.3748 7.3577 7.3748 7.3557 7.3748 7.3758 7.3758	7,7361 7,7499 7,7499 7,7567 7,7633 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8059 7,8030 7,8094 7,8050 7,8030 7,8040 7,8459 7,8531 7,8531 7,8532 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8542 8,8544 8,2542 8,2542 8,2544 8,2544 8,2544 8,2554 8,2756 8,2756 8,2756 8,2756 8,2756 8,2756 8,2756 8,2756 8,2756 8,	8.2187 8.2187 8.2261 8.2334 8.2406 8.2478 8.2549 8.2549 8.2620 8.2760 8.2829 8.2829 8.2829 8.3034 8.3010 8.3101 8.3107 8.3107 8.3234 8.3300 8.3365 8.3430 8.3355 8.3430 8.3430 8.3355 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3559 8.3559 8.3558 8.3598 8.3598 8.3598 8.3598 8.3598 8.3598 8.3598 8.3598 8.3595 8.3595 8.3595 8.3595 8.4301 8.4301 8.4301 8.4301 8.4301 8.4301 8.4305 8.4303 8.4301 8.4301 8.4303 8.4301 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4301 8.4301 8.4303 8.4301 8.4301 8.4303 8.4301 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4301 8.4303 8.4301 8.4301 8.4301 8.4303 8.4301 8.4301 8.4303 8.4301 8.4301 8.4301 8.4303 8.4301 8.4301 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4301 8.4303 8.4303 8.4301 8.4303 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888318           5         0.889312           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           2         0.894505           3         0.895218           4         0.895266           5         0.89663           6         0.89736           7         0.898024           8         0.898024           8         0.898021           9         0.8990403           1         0.900761           2         0.901435           3         0.902172           5         0.903434	2.6833 2.6683 2.6707 2.6731 2.6774 2.6824 2.6824 2.6824 2.6892 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7109 2.7129 2.7149 2.7129 2.7149 2.7129 2.7149 2.7129 2.7455 2.7650 2.7739 2.7465 2.7650 2.7739 2.7465 2.7650 2.7739 2.7465 2.7650 2.7739 2.7465 2.7650 2.7739 2.7465 2.7650 2.7739 2.7465 2.7650 2.7739 2.7826 2.7951 2.7955 2.8237 2.8314 2.8314 2.8314 2.8414 2.8614	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0474 4.0474 4.0513 4.0547 4.0581 4.0547 4.0581 4.0597 4.0581 4.0581 4.0581 4.0581 4.0597 4.0581 4.0581 4.0581 4.0597 4.0597 4.0581 4.0597 4.0597 4.0597 4.0581 4.0597 4.0597 4.0597 4.0597 4.0581 4.0597	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9489 4,9531 4,9573 4,9655 4,9573 4,9656 4,9737 4,9656 4,9737 4,9856 4,9856 4,9856 4,9876 4,9876 5,0013 5,0013 5,0013 5,0013 5,0013 5,0027 5,0165 5,0203 5,0204 5,0127 5,0165 5,0203 5,0204 5,0127 5,0165 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0217 5,0314 5,0015 5,0203 5,0204 5,0204 5,0205 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1595 6.1308 6.1595 6.1548 6.1595 6.1548 6.1595 6.1641 6.1528 6.1595 6.1641 6.1528 6.1734 6.1734 6.1734 6.1734 6.1734 6.1734 6.1739 6.1871 6.2932 6.3131 6.2932 6.3131 6.3513 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9253 6.9312 6.9371 6.9429 6.9429 6.9487 6.9545 6.9602 6.9602 6.9602 6.9629 7.046 7.0100 7.0150 7.0259 7.0312 7.0312 7.0364 7.0468 7.0259 7.0312 7.0325 7.0312 7.0364 7.0468 7.0459 7.0259 7.0312 7.0364 7.0468 7.0468 7.0459 7.0259 7.0312 7.0322 7.0346 7.0468 7.0468 7.0468 7.0459 7.0312 7.0357 7.259 7.3164 7.3164 7.3164 7.3362 7.3378 7.3748 7.3378	7,7361 7,7499 7,7499 7,7567 7,7635 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8030 7,8094 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8030 7,8331 7,8351 7,8351 7,8351 7,8351 7,8551 7,9007 7,9055 7,9355 7,9355 7,9355 7,9353 7,9355 7,9357 7,9355 7,9355 7,9357 7,9355 7,9355 7,9355 7,9357 7,9355 7,9355 7,9357 7,9355 7,9357 7,9355 7,9357 7,9355 7,9355 7,9357 7,9355 7,9357 7,9355 7,9357 7,9355 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,9357 7,	8.2187 8.2187 8.2267 8.2267 8.2246 8.2476 8.2476 8.2476 8.2549 8.2620 8.2620 8.2760 8.2760 8.2760 8.2780 8.3034 8.3034 8.3034 8.3034 8.3101 8.3167 8.3234 8.3305 8.3365 8.3340 8.3345 8.3430 8.3435 8.3559 8.3559 8.3559 8.3553 8.3623 8.3623 8.3749 8.3812 8.3874 8.3988 8.3988 8.3988 8.3988 8.3988 8.3998 8.3556 8.3559 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888387           5         0.887857           6         0.890121           7         0.890855           8         0.891603           9         0.82336           0         0.893364           1         0.8933787           2         0.894505           3         0.895216           5         0.89653           6         0.895326           7         0.898024           8         0.895216           5         0.89663           6         0.89737           7         0.898024           8         0.898715           9         0.898021           9         0.898021           10         0.900761           2         0.910433           10         0.900761           2         0.901435           3         0.902712	2.6683 2.6683 2.6707 2.6731 2.6754 2.6824 2.6801 2.6824 2.6847 2.6892 2.6892 2.6892 2.6936 2.6936 2.6936 2.6936 2.6936 2.7002 2.7002 2.7023 2.7044 2.7066 2.7066 2.7087 2.7129 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7149 2.7129 2.7251 2.7369 2.7369 2.7369 2.7369 2.7369 2.7369 2.7358 2.7558 2.7739 2.8077 2.8157 2.8371 2.8314 2.8391 2.8466 2.8544 2.8686	4.0266 4.0302 4.0324 4.0334 4.0374 4.0409 4.0444 4.0478 4.0547	4,9230 4,9274 4,9361 4,9361 4,9404 4,9489 4,9551 4,9551 4,9553 4,9655 4,9696 4,9737 4,9777 4,9817 4,9817 4,9825 4,9837 4,9974 5,0013 5,0051 5,0059 5,0127 5,0165 5,0029 5,0127 5,0165 5,0029 5,0127 5,0165 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0029 5,0127 5,0125 5,0127 5,0125 5,0127 5,0125 5,0127 5,0125 5,0127 5,0125 5,0127 5,0125 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0129 5,0127 5,0125 5,0125 5,0127 5,0125 5,0127 5,0125 5,0125 5,0127 5,0125 5,0127 5,0125 5,0125 5,0127 5,0125 5,0127 5,0125 5,	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1011 6.1111 6.1111 6.1161 6.1259 6.1308 6.1357 6.1453 6.1453 6.1453 6.1500 6.1548 6.1548 6.1555 6.1641 6.1780 6.1825 6.1871 6.2523 6.1871 6.2523 6.3129 6.3211 6.2523 6.3129 6.3231 6.3252 6.3251 6.3252 6.3252 6.3251 6.3252 6.3552 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.3555 6.35556 7.35556 7.35556 7.35566 7.355667 7.355667 7.35567 7.35567 7.35567 7.35567 7.355677 7.355677 7.35567777777777777777777777777777777777	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9312 6.9312 6.9371 6.9429 6.9429 6.9429 6.9622 6.9655 6.9711 6.9545 6.9711 6.9877 6.9827 6.9827 6.9827 6.9937 6.9932 7.0046 7.0100 7.0153 7.0266 7.0259 7.0312 7.0364 7.0416	7,7361 7,7490 7,7499 7,7567 7,7633 7,7702 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8157 7,8221 7,8233 7,8346 7,8459 7,8459 7,8459 7,852 8,852 8,855	8.2187 8.2267 8.2264 8.2344 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2829 8.2829 8.3034 8.3034 8.3101 8.3167 8.3167 8.3234 8.3300 8.3365 8.3430 8.3355 8.3430 8.3355 8.3430 8.3355 8.3559 8.3623 8.3559 8.3623 8.3812 8.3874 8.3936 8.4301 8.5156 8.5438 8.5164 8.5728 8.6480 8.6728 8.7447 8.7680 8.7680 8.7680 8.8133 8.8355 8.
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888618           5         0.889312           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893364           1         0.893364           1         0.893364           2         0.894505           3         0.895218           4         0.895263           6         0.89733           0         0.898024           4         0.895218           4         0.895218           5         0.89663           6         0.89733           7         0.898024           8         0.898021           9         0.898021           1         0.900761           2         0.901435           3         0.902772	2.6833 2.6683 2.6707 2.6731 2.6774 2.6754 2.6824 2.6824 2.6892 2.6914 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7109 2.7129 2.7149 2.7149 2.7149 2.7149 2.7170 2.7190 2.7211 2.7251 2.7251 2.7251 2.7251 2.7558 2.7558 2.7558 2.7650 2.7739 2.7745 2.7558 2.7650 2.7739 2.7858 2.7650 2.7739 2.7858 2.8857 2.8854 2.8854 2.8854 2.8854	4.0266 4.0302 4.0324 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0547 4.0547 4.0547 4.0548 4.0681 4.0681 4.0681 4.0799 4.0811 4.0681 4.0799 4.0811 4.0683 4.0779 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0683 4.0799 4.0811 4.0845 4.0907 4.0811 4.1021 4.1031 4.1031 4.1032 4.1123 4.1123 4.1123 4.1123 4.1123 4.1123 4.1259 4.2491 4.2269	4,9230 4,9274 4,9361 4,9361 4,9404 4,9404 4,9447 4,9489 4,9573 4,9655 4,9655 4,9656 4,9737 4,9737 4,9777 4,9817 4,9817 4,9817 4,9826 4,9936 5,0013 5,0013 5,0015 5,0023 5,0127 5,0155 5,0203 5,0240 5,0217 5,0155 5,0223 5,0240 5,0217 5,0314 5,0495 5,0672 5,0844 5,1012 5,1177 5,11337 5,1495 5,1649 5,10495,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5,1049 5	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0856 6.0959 6.1010 6.0959 6.1010 6.1061 6.1111 6.1111 6.1161 6.1210 6.1259 6.1308 6.1357 6.1405 6.1453 6.1595 6.1405 6.1548 6.1595 6.1644 6.1588 6.1734 6.1688 6.1734 6.1688 6.1734 6.1688 6.1734 6.1689 6.1825 6.1825 6.1821 6.2932 6.2932 6.2932 6.2932 6.3133 6.3513 6.3513 6.3513 6.3699 6.3823 6.3513 6.3699 6.3823 6.3513 6.3699 6.3823 6.3513 6.3699 6.3823 6.3513 6.3699 6.3823 6.3513 6.3699 6.3823 6.3751 6.3852 6.3851 6.3851 6.3851 6.3851 6.3851 6.3852 6.3851 6.3852 6.3851 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9133 6.9233 6.9312 6.9312 6.9342 6.9429 6.9429 6.9449 6.9455 6.9602 6.9659 6.9711 6.9827 6.9827 6.9827 6.9827 6.9822 7.0046 7.0103 7.0269 7.0259 7.0364 7.0416 7.0468 7.0456 7.0259 7.0354 7.0354 7.0456 7.1210 7.1210 7.1222 7.0969 7.1210 7.1238 7.2558 7.2963 7.2558 7.3364 7.3484 7.3367 7.3484 7.3424 7.3367 7.3484 7.3424 7.3367 7.3444 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307 7.4124 7.4307	7,7361 7,7499 7,7499 7,7567 7,7633 7,7700 7,7768 7,7834 7,7900 7,7965 7,8030 7,8094 7,8030 7,8094 7,8030 7,8030 7,8034 7,8030 7,8030 7,8030 7,8030 7,8040 7,8459 7,8531 7,8551 7,9552 8,3164 8,31642 8,2554 8,3175 8	8.2187 8.2261 8.2234 8.2406 8.2478 8.2549 8.2549 8.2620 8.2620 8.2760 8.2829 8.2829 8.2829 8.2829 8.2829 8.3034 8.3041 8.3101 8.3167 8.3234 8.3300 8.3365 8.3430 8.3430 8.3430 8.3455 8.3559 8.3623 8.3558 8.3599 8.3559 8.3558 8.4833 8.3998 8.3998 8.3559 8.4833 8.5164 8.5746 8.5748 8.5740 8.721 8.721 8.721 8.721 8.721 8.721 8.721 8.724 8.7255 8.724 7.724 8.724 7.725 8.724 7.725 8.724 7.725 8.724 7.725 7.725 7.725 7.725 7.725 7.725 7.725 7.725 7.7257 7.7257777777777
12         12	7         0.883166           8         0.883964           9         0.884755           0         0.88554           1         0.88554           2         0.887091           3         0.887857           4         0.888387           5         0.889372           6         0.890121           7         0.890865           8         0.891603           9         0.892336           0         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.893064           1         0.895218           4         0.895226           5         0.89663           6         0.89737           7         0.898024           8         0.898024           8         0.898021           9         0.898024           1         0.900761           2         0.900761           2         0.900763           3         0.9021072	2.6683 2.6683 2.6707 2.6731 2.6754 2.6824 2.6824 2.6824 2.6892 2.6892 2.6914 2.6936 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.6958 2.7002 2.7002 2.7023 2.7044 2.7066 2.7087 2.7129 2.7149 2.7129 2.7149 2.7170 2.7121 2.7211 2.7231 2.7255 2.7369 2.7465 2.7650 2.7739 2.7465 2.7739 2.7465 2.7739 2.7650 2.7739 2.7826 2.7759 2.7826 2.7759 2.7827 2.8157 2.8314 2.8314 2.8814 2.8866 2.8857 2.8827	4.0266 4.0302 4.0323 4.0374 4.0426 4.0332 4.0374 4.0409 4.0444 4.0478 4.0513 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0547 4.0581 4.0714 4.0688 4.0688 4.0714 4.0744 4.0744 4.0744 4.0744 4.0743 4.0811 4.0843 4.0779 4.0811 4.0843 4.0977 4.0811 4.0843 4.0977 4.0811 4.0938 4.0977 4.0938 4.0977 4.0938 4.0977 4.0938 4.0977 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.0979 4.0938 4.123 4.123 4.123 4.123 4.1245 4.2245 4.2245 4.2269 4.2278 4.2285 4.3069 4.3179 4.3285 4.3395 4.3395 4.3395 4.3501 4.3501 4.3501 4.3501 4.3501 4.3501 4.3501 4.3501 4.3395 4.3501 4.3501 4.3501 4.3501 4.3501 4.3501 4.3501 4.3395 4.3501 4.	4,9230 4,9274 4,9361 4,9361 4,9404 4,9449 4,9489 4,9531 4,9573 4,9654 4,9737 4,9656 4,9737 4,9656 4,9737 4,9777 4,9856 4,9974 5,0013 5,0029 5,0127 5,0165 5,0203 5,0220 5,0220 5,0220 5,0224 5,0127 5,0165 5,0203 5,0227 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0047 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,0314 5,0127 5,01255 5,0127555555555555555555555555555555555555	6.0537 6.0592 6.0645 6.0699 6.0752 6.0804 6.0908 6.0908 6.0908 6.0909 6.1010 6.1061 6.1111 6.1111 6.1161 6.1259 6.1308 6.1259 6.1308 6.1453 6.1453 6.1453 6.1595 6.1641 6.1595 6.1641 6.1595 6.1641 6.1780 6.1780 6.1825 6.1641 6.1780 6.1825 6.1641 6.1780 6.1825 6.1641 6.1780 6.1825 6.1641 6.1780 6.1825 6.1641 6.1780 6.1825 6.1641 6.2231 6.2232 6.3323 6.3513 6.3699 6.3882 6.3513 6.3699 6.3882 6.4511 6.4513 6.	6.8949 6.9011 6.9072 6.9133 6.9133 6.9253 6.9322 6.9371 6.9429 6.9487 6.9545 6.9602 6.9602 6.96715 6.9715 6.9715 6.9771 6.9827 6.9827 6.9827 6.9827 6.9827 7.0046 7.0100 7.0153 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0722 7.0364 7.0458 7.0722 7.0364 7.0458 7.0722 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.0312 7.0364 7.0458 7.0259 7.2338 7.2550 7.2358 7.2358 7.2358 7.2358 7.2358 7.2359 7.2378 7.3367 7.3367 7.3367 7.348 7.3367 7.348 7.3487	7,7361 7,7490 7,7490 7,7567 7,7633 7,7702 7,7768 7,7834 7,7834 7,7900 7,7965 7,8030 7,8030 7,8034 7,8030 7,8034 7,8157 7,8221 7,8231 7,8334 7,8340 7,8459 7,8531 7,8531 7,8552 7,8712 7,872 7,9055 7,9350 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 7,9557 8,8142 8,8144 8,8145 8,8144 8,8145 8,8144 8,8145 8,8144 8,8145 8,8144 8,8145 8,8144 8,8145 8,8145 8,8144 8,8145 8,8	8.2187 8.2267 8.2267 8.2274 8.2274 8.2406 8.2476 8.2476 8.2549 8.2620 8.2620 8.2760 8.2760 8.2760 8.2780 8.2829 8.2829 8.3034 8.3034 8.3034 8.3030 8.3365 8.3343 8.3345 8.3345 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.3430 8.359 8.3623 8.3623 8.3623 8.3623 8.3623 8.3596 8.3596 8.3596 8.3596 8.3596 8.4301 8.5766 8.5972 8.6480 8.5744 8.7211 8.7447 8.7880 8.7908 8.8133 8.8133 8.8133 8.8133

# Antelope Valley Line Capacity and Service Improvements Program Balboa Double Track Extension Rainfall Data

1340	0.959535	2.8965	4.3709	5.3438	6.5713	7.4844	8.3975	8.9214
1345	0.96177	2.9032	4.3811	5.3563	6.5866	7.5018	8.4170	8.9422
1350	0.963978	2.9099	4.3911	5.3686	6.6017	7.5190	8.4363	8.9627
1355	0.966159	2.9164	4.4010	5.3807	6.6166	7.5360	8.4554	8.9830
1360	0.968316	2.9230	4.4109	5.3927	6.6314	7.5529	8.4743	9.0030
1365	0.970448	2.9294	4.4206	5.4046	6.6460	7.5695	8.4930	9.0228
1370	0.972558	2.9358	4.4302	5.4164	6.6605	7.5860	8.5114	9.0425
1375	0.974644	2.9421	4.4397	5.4280	6.6748	7.6022	8.5297	9.0619
1380	0.976709	2.9483	4.4491	5.4395	6.6889	7.6183	8.5478	9.0810
1385	0.978752	2.9545	4.4584	5.4509	6.7029	7.6343	8.5656	9.1000
1390	0.980775	2.9606	4.4676	5.4621	6.7167	7.6500	8.5834	9.1189
1395	0.982778	2.9666	4.4768	5.4733	6.7305	7.6657	8.6009	9.1375
1400	0.984761	2.9726	4.4858	5.4843	6.7440	7.6811	8.6182	9.1559
1405	0.986726	2.9785	4.4947	5.4953	6.7575	7.6965	8.6354	9.1742
1410	0.988673	2.9844	4.5036	5.5061	6.7708	7.7116	8.6525	9.1923
1415	0.990602	2.9902	4.5124	5.5169	6.7840	7.7267	8.6694	9.2102
1420	0.992514	2.9960	4.5211	5.5275	6.7971	7.7416	8.6861	9.2280
1425	0.99441	3.0017	4.5297	5.5381	6.8101	7.7564	8.7027	9.2456
1430	0.996289	3.0074	4.5383	5.5485	6.8230	7.7711	8.7191	9.2631
1435	0.998152	3.0130	4.5468	5.5589	6.8357	7.7856	8.7354	9.2804
1440	1	3.0186	4.5552	5.5692	6.8484	7.8000	8.7516	9.2976

# Antelope Valley Line Capacity and Service Improvements Program Canyon Siding Extension Rainfall Data

# Watearth Inc. Project #21-019.0

Rainfall Frequency Mult	iplication Factors - Table 5.3.1
Frequency	Multiplication Factor
2-Year	0.387
5-Year	0.584
10-Year	0.714
25-Year	0.878
50-Year	1
100-Year	1.122
200-Year	1.192

Frequency Isohyetal Depth						
Frequency	Isohyetal Depth (in)					
2-Year	2.71					
5-Year	4.09					
10-Year	5.00					
25-Year	6.15					
50-Year	7.00					
100-Year	7.85					
200-Year	8.34					

LA County Hydrology Map 50yr Two Tenths (Rainfall) 7. in https://dpw.lacounty.gov/wrd/hydrologygis/

> Project Site: Canyon Siding Extension (closest) Address: 22116 Soledad Canyon Road, Santa Clarita, CA, 91350

Time	Depth	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	200-Year
Minutes	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
0	0 01111	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.01111	0.0301	0.0454	0.0555	0.0683	0.1565	0.0873	0.1866
90	0.033758	0.0915	0.1380	0.1687	0.2075	0.2363	0.2651	0.2817
120	0.045307	0.1227	0.1852	0.2264	0.2785	0.3171	0.3558	0.3780
150	0.057015	0.1545	0.2331	0.2850	0.3504	0.3991	0.4478	0.4757
210	0.068889	0.2193	0.2816	0.3443	0.4234	0.4822	0.6357	0.5748
240	0.093166	0.2524	0.3809	0.4656	0.5726	0.6522	0.7317	0.7774
270	0.105586	0.2860	0.4316	0.5277	0.6489	0.7391	0.8293	0.8810
300	0.118206	0.3202	0.4832	0.5908	0.7265	0.8274	0.9284	0.9863
360	0.131037	0.3903	0.5890	0.7202	0.8856	1.0086	1.0232	1.2023
390	0.157377	0.4263	0.6434	0.7866	0.9672	1.1016	1.2360	1.3132
420	0.170913	0.4630	0.6987	0.8542	1.0504	1.1964	1.3424	1.4261
450	0.184711	0.5004	0.7551	0.9232	1.1352	1.2930	1.4507	1.5412
480	0.2133168	0.5779	0.8127	1.0662	1.2218	1.4932	1.6754	1.0387
540	0.227865	0.6173	0.9315	1.1389	1.4005	1.5951	1.7897	1.9013
570	0.242905	0.6580	0.9930	1.2140	1.4929	1.7003	1.9078	2.0268
600	0.258314	0.6998	1.0560	1.2911	1.5876	1.8082	2.0288	2.1554
630	0.274121	0.7426	1.1206	1.3701	1.6847	1.9188	2.1529	2.2873
690	0.307075	0.8319	1.2553	1.5348	1.8873	2.1495	2.4118	2.5622
720	0.323307	0.8758	1.3217	1.6159	1.9870	2.2631	2.5393	2.6977
750	0.342111	0.9268	1.3985	1.7099	2.1026	2.3948	2.6869	2.8546
780	0.360552	0.9767	1.4739	1.8020	2.2160	2.5239	2.8318	3.0084
810	0.379705	1.0286	1.5522	1.8978	2.3337	2.6579	2.9822	3.1683
870	0.420552	1.1393	1.7192	2.1019	2.5847	2.9439	3.3030	3.5091
900	0.442511	1.1988	1.8090	2.2117	2.7197	3.0976	3.4755	3.6923
930	0.465738	1.2617	1.9039	2.3278	2.8624	3.2602	3.6579	3.8861
960	0.490493	1.3287	2.0051	2.4515	3.0146	3.4335	3.8523	4.0927
980	0.508022	1.3762	2.0403	2.5391	3.1223	3.4940	3.9900	4.1049
990	0.517145	1.4009	2.1141	2.5847	3.1784	3.6200	4.0617	4.3151
1000	0.526538	1.4264	2.1525	2.6316	3.2361	3.6858	4.1354	4.3934
1010	0.536225	1.4526	2.1921	2.6801	3.2956	3.7536	4.2115	4.4743
1020	0.5462399	1.4798	2.2330	2.7301	3.3572	3.8237	4.2902	4.5578
1030	0.567402	1.5371	2.3195	2.8359	3.4873	3.9718	4.4564	4.7344
1050	0.578651	1.5676	2.3655	2.8921	3.5564	4.0506	4.5447	4.8283
1060	0.590431	1.5995	2.4137	2.9510	3.6288	4.1330	4.6372	4.9266
1070	0.60283	1.6331	2.4644	3.0129	3.7050	4.2198	4.7346	5.0300
1000	0.629985	1.7066	2.5754	3.1487	3.8719	4.4099	4.9479	5.2566
1100	0.645118	1.7476	2.6372	3.2243	3.9649	4.5158	5.0668	5.3829
1110	0.661694	1.7925	2.7050	3.3071	4.0668	4.6319	5.1969	5.5212
1115	0.67068	1.8169	2.7417	3.3521	4.1220	4.6948	5.2675	5.5962
1120	0.690568	1.8707	2.8230	3.4515	4.1809	4.8340	5.4237	5.7621
1130	0.701824	1.9012	2.8691	3.5077	4.3134	4.9128	5.5121	5.8560
1135	0.714364	1.9352	2.9203	3.5704	4.3905	5.0005	5.6106	5.9607
1136	0.717072	1.9425	2.9314	3.5839	4.4071	5.0195	5.6319	5.9832
1137	0.722738	1.9501	2.9428	3.6122	4.4243	5.0590	5.6764	6.0305
1139	0.725713	1.9660	2.9667	3.6271	4.4602	5.0800	5.6997	6.0553
1140	0.728799	1.9743	2.9793	3.6425	4.4792	5.1016	5.7240	6.0811
1145	0.746492	2.0222	3.0517	3.7310	4.5879	5.2254	5.8629	6.2287
1150	0.772454	2.0926	3.1578	3.8607	4.7475	5.4072	6 1334	6,4454
1152	0.8	2.1672	3.2704	3.9984	4.9168	5.6000	6.2832	6.6752
1153	0.809944	2.1941	3.3111	4.0481	4.9779	5.6696	6.3613	6.7582
1154	0.814358	2.2061	3.3291	4.0702	5.0050	5.7005	6.3960	6.7950
1155	0.8178	2.2154	3.3432	4.0874	5.0262	5.7246	6.4230	6.8237
1150	0.823335	2.2204	3.3658	4.1150	5.0602	5.7633	6.4665	6.8699
1158	0.825702	2.2368	3.3755	4.1269	5.0748	5.7799	6.4851	6.8897
1159	0.82789	2.2428	3.3844	4.1378	5.0882	5.7952	6.5022	6.9079
1160	0.829936	2.2483	3.3928	4.1480	5.1008	5.8096	6.5183	6.9250
1161	0.831864	2.2535	3.4007	4.1577	5.1126	5.8230	6 5478	6.9411
1163	0.83544	2.2632	3.4153	4.1755	5.1346	5.8481	6.5615	6.9709
1164	0.837112	2.2677	3.4221	4.1839	5.1449	5.8598	6.5747	6.9849
1165	0.838721	2.2721	3.4287	4.1919	5.1548	5.8710	6.5873	6.9983
1166	0.840272	2.2763	3.4350	4.1997	5.1643	5.8819	6.5995	7.0112
1167	0.841772	2.2804	3.4412	4.2072	5.1/35	5.8924	6.6227	7.0237
1169	0.844636	2.2881	3.4529	4.2215	5.1911	5.9125	6.6338	7.0476
1170	0.846009	2.2918	3.4585	4.2284	5.1996	5.9221	6.6446	7.0591
1171	0.847347	2.2955	3.4640	4.2350	5.2078	5.9314	6.6551	7.0703
1172	0.848652	2.2990	3.4693	4.2416 A 2470	5.2158	5.9406	6.6653	7.0812

# Antelope Valley Line Capacity and Service Improvements Program Canyon Siding Extension Rainfall Data

# Watearth Inc. Project #21-019.0

1174	0.851172	2.3058	3.4796	4.2542	5.2313	5.9582	6.6851	7.1022
1175	0.852392	2.3091	3.4846	4.2603	5.2388	5.9667	6.6947	7.1124
1176	0.853588	2.3124	3.4895	4.2662	5.2462	5.9751	6.7041	7.1223
1177	0.85476	2.3155	3.4943	4.2721	5.2534	5.9833	6.7133	7.1321
1178	0.85591	2.3187	3.4990	4.2778	5.2604	5.9914	6.7223	7.1417
1179	0.857039	2.3217	3.5036	4.2835	5.2674	5,9993	6.7312	7,1511
1180	0.858149	2 3247	3 5081	4 2890	5 2742	6.0070	6 7399	7 1604
1100	0.8592/1	2.3217	3 5126	4 2945	5 2809	6.01/7	6 7/85	7 1695
1101	0.853241	2.3277	2 5170	4.2040	5.2005	6.0223	6 7560	7.1055
1182	0.800313	2.3300	2 5212	4.2333	5.2875	6.0202	6 7652	7.1785
1103	0.801372	2.3333	3.5213	4.3031	5.2940	0.0250	0.7032	7.10/3
1184	0.862414	2.3363	3.5255	4.3103	5.3004	6.0365	6.7734	7.1960
1185	0.86344	2.3391	3.5297	4.3155	5.3067	6.0441	6.7815	7.2045
1186	0.864452	2.3418	3.5339	4.3205	5.3129	6.0512	6.7894	7.2130
1187	0.86545	2.3445	3.5380	4.3255	5.3191	6.0582	6.7972	7.2213
1188	0.866434	2.3472	3.5420	4.3304	5.3251	6.0650	6.8050	7.2295
1189	0.867406	2.3498	3.5460	4.3353	5.3311	6.0718	6.8126	7.2376
1190	0.868366	2.3524	3.5499	4.3401	5.3370	6.0786	6.8201	7.2456
1191	0.869313	2.3550	3.5538	4.3448	5.3428	6.0852	6.8276	7.2535
1192	0.87025	2.3575	3.5576	4.3495	5.3486	6.0918	6.8349	7.2614
1193	0.871175	2.3600	3.5614	4.3541	5.3542	6.0982	6.8422	7.2691
1194	0.87209	2.3625	3.5651	4.3587	5.3599	6.1046	6.8494	7.2767
1195	0.872995	2.3649	3.5688	4.3632	5.3654	6.1110	6.8565	7.2843
1196	0.873889	2.3674	3.5725	4.3677	5.3709	6.1172	6.8635	7.2917
1197	0.874775	2.3698	3.5761	4.3721	5.3764	6.1234	6.8705	7.2991
1198	0.875651	2.3721	3.5797	4.3765	5.3818	6.1296	6.8774	7.3064
1199	0.876518	2,3745	3.5832	4.3808	5.3871	6.1356	6.8842	7.3137
1200	0.877377	2,3768	3,5867	4,3851	5,3924	6.1416	6.8909	7.3208
1201	0.879227	2.3818	3.5943	4.3944	5,4037	6.1546	6.9054	7.3363
1202	0.879069	2.3814	3.5936	4.3936	5.4028	6.1535	6.9042	7.3350
1203	0.879903	2.3837	3.5970	4.3978	5,4079	6.1593	6.9108	7.3419
1203	0.88073	2.3859	3.6004	4.4019	5.4130	6.1651	6.9173	7.3488
1204	0.8815/0	2.0000	3 6038	4 4060	5.1150	6 1709	6 9727	7 3556
1205	0.001345	2.3081	3.6038	4.4000	5 4230	6 1765	6 9301	7 3624
1200	0.002301	2.3503	3.6071	4.4100 A A1A1	5.4230	6 1003	E 0364	7 3601
1207	U 8830510	2.3923	2 6126	4.4141 A A101	5.42/9	6 1077	6 0/27	7,3091
1200	0.003904	2.3947	3.0130	4.4101	5.4520 E A377	6 1023	6 0490	7.3/30 ACOC T
1209	0.884/55	2.3968	3.0109	4.4220	5.43//	6.1933	6.9489	7.3824
1210	0.88554	2.3989	3.0201	4.4259	5.4425	0.1988	0.9550	7.3889
1211	0.887304	2.4010	3.0233	4.4298	5.44/3	6.2042	6.9011	7.3954
1212	0.887091	2.4031	3.6264	4.4337	5.4521	6.2096	6.9672	7.4019
1213	0.887857	2.4052	3.6296	4.4375	5.4568	6.2150	6.9732	7.4083
1214	0.888618	2.4073	3.6327	4.4413	5.4614	6.2203	6.9792	7.4146
1215	0.889372	2.4093	3.6358	4.4451	5.4661	6.2256	6.9851	7.4209
1216	0.890121	2.4113	3.6388	4.4488	5.4707	6.2308	6.9910	7.4272
1217	0.890865	2.4134	3.6419	4.4525	5.4753	6.2361	6.9969	7.4334
1218	0.891603	2.4154	3.6449	4.4562	5.4798	6.2412	7.0026	7.4395
1219	0.892336	2.4173	3.6479	4.4599	5.4843	6.2464	7.0084	7.4457
1220	0.893064	2.4193	3.6508	4.4635	5.4888	6.2514	7.0141	7.4517
1221	0.893787	2.4213	3.6538	4.4671	5.4932	6.2565	7.0198	7.4578
1222	0.894505	2.4232	3.6567	4.4707	5.4976	6.2615	7.0254	7.4637
1223	0.895218	2.4251	3.6597	4.4743	5.5020	6.2665	7.0310	7.4697
1224	0.895926	2.4271	3.6625	4.4778	5.5064	6.2715	7.0366	7.4756
1225	0.89663	2.4290	3.6654	4.4814	5.5107	6.2764	7.0421	7.4815
1226	0.89733	2.4309	3.6683	4.4849	5.5150	6.2813	7.0476	7.4873
1227	0.898024	2.4327	3.6711	4.4883	5.5193	6.2862	7.0531	7.4931
1228	0.898715	2.4346	3.6739	4.4918	5.5235	6.2910	7.0585	7.4989
1229	0.899401	2.4365	3.6768	4.4952	5.5277	6.2958	7.0639	7.5046
1230	0.900083	2.4383	3.6795	4.4986	5.5319	6.3006	7.0693	7.5103
1231	0.900761	2.4402	3.6823	4.5020	5.5361	6.3053	7.0746	7.5159
1232	0.901435	2.4420	3.6851	4.5054	5.5402	6.3100	7.0799	7.5216
1233	0.902105	2.4438	3.6878	4.5087	5.5443	6.3147	7.0851	7.5272
1234	0.902772	2.4456	3.6905	4.5121	5.5484	6.3194	7.0904	7.5327
1235	0.903434	2.4474	3.6932	4.5154	5.5525	6.3240	7.0956	7.5383
1240	0.906691	2.4562	3.7066	4.5316	5.5725	6.3468	7.1212	7.5654
1245	0.909862	2.4648	3.7195	4.5475	5.5920	6.3690	7.1461	7.5919
1210	0.912954	2.4732	3.7322	4.5629	5.6110	6.3907	7.1703	7.6177
1255	0.915973	2.4814	3.7445	4.5780	5.6296	6.4118	7.1941	7.6429
1255	0.918923	2.4894	3.7566	4.5928	5.6477	6.4375	7.2172	7.6675
1265	0.92181	2,4972	3.7684	4.6072	5.6654	6.4527	7.2399	7.6916
1270	0.924638	2.5048	3.7799	4.6213	5.6828	6.4725	7.2621	7.7152
1275	0.927409	2.5174	3.7912	4.6352	5.6999	6.4919	7.2839	7.7383
1280	0.930129	2.5197	3.8074	4.6488	5.7166	6.5109	7.3052	7.7610
1285	0.932799	2.5270	3.8133	4.6621	5.7330	6.5296	7.3262	7.7833
1290	0.935422	2.5341	3.8240	4.6752	5.7491	6.5480	7.3468	7.8052
1295	0.938	2.5410	3.8345	4.6881	5.7649	6.5660	7.3671	7.8267
1300	0.940537	2.5479	3.8449	4,7008	5.7805	6.5838	7.3870	7.8478
1305	0.943034	2,5547	3.8551	4,7133	5,7959	6.6012	7,4066	7.8687
1303	0.945492	2.5613	3.8652	4.7256	5.8110	6.6184	7.4259	7.8892
1310	0.947915	2.5679	3.8751	4,7377	5.8259	6.6354	7.4449	7.9094
1315	0.950302	2.5744	3.8848	4.7496	5.8406	6.6521	7.4637	7.9293
1325	0.952657	2.5807	3.8945	4.7614	5.8550	6.6686	7.4822	7.9490
1325	0.95498	2.5870	3.9040	4.7730	5.8693	6.6849	7.5004	7.9684
1330	0.957272	2.5932	3.9133	4.7844	5.8834	6.7009	7.5184	7.9875
1330	0.007.272	2.5994	3.9226	4.7958	5.8973	6.7167	7.5362	8.0064
1330 1335 1340	0.959535	2.0001	3,9317	4.8069	5.9110	6.7374	7.5537	8.0250
1330 1335 1340 1345	0.959535	2.6054		1.0005	5.9246	6 7479		8 0434
1330 1335 1340 1345 1350	0.959535 0.96177 0.963978	2.6054	3.9407	4.8180	5.5240	<i>u. i</i> = · ·	7.5711	0.0754
1330 1335 1340 1345 1350 1350	0.959535 0.96177 0.963978 0.966159	2.6054 2.6114 2.6173	3.9407 3.9407	4.8180 4.8289	5 9380	6 7631	7.5/11	8 0616
1330 1335 1340 1345 1350 1355	0.959535 0.96177 0.963978 0.966159	2.6054 2.6114 2.6173 2.6222	3.9407 3.9497 3.9595	4.8180 4.8289	5.9380	6.7631	7.5711 7.5882 7.6052	8.0616
1330 1335 1340 1345 1350 1355 1350 1365	0.95933 0.96177 0.963978 0.966159 0.968316 0.970448	2.6054 2.6114 2.6173 2.6232 2.6280	3.9407 3.9497 3.9585 3.9585	4.8180 4.8289 4.8396 4.8503	5.9380 5.9513 5.9644	6.7631 6.7782 6.7031	7.5711 7.5882 7.6052 7.6219	8.0616 8.0796 8.0974
1330 1335 1340 1345 1350 1355 1360 1365 1360	0.959535 0.96177 0.963978 0.966159 0.968316 0.9768316 0.970448	2.6054 2.6114 2.6173 2.6232 2.6289 2.6289	3.9407 3.9497 3.9585 3.9672 3.9759	4.8180 4.8289 4.8396 4.8503 4.8503	5.9380 5.9513 5.9644 5.9772	6.7631 6.7782 6.7931 6.8070	7.5711 7.5882 7.6052 7.6219 7.629	8.0616 8.0796 8.0974 8.1150
1330 1333 1340 1345 1350 1355 1355 1365 1365 1365 1370 1370	0.95953 0.96177 0.963978 0.966159 0.968316 0.970448 0.972548	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403	3.9407 3.9497 3.9585 3.9672 3.9758 3.9758	4.8180 4.8289 4.8396 4.8503 4.8503 4.8608 4.8713	5.9380 5.9513 5.9644 5.9773 5.9073	6.7631 6.7782 6.7931 6.8079 6.8295	7.5/11 7.5882 7.6052 7.6219 7.6385 7.6385 7.6549	8.0616 8.0796 8.0974 8.1150 8.1324
1330 1333 1340 1345 1355 1355 1366 1366 1366 1375	0.959535 0.96177 0.963978 0.966159 0.968316 0.970448 0.970448 0.97258 0.97444	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403 2.6403	3.9407 3.9497 3.9585 3.9672 3.9758 3.9843 3.9843	4.8180 4.8289 4.8396 4.8503 4.8608 4.8713 4.8713	5.9380 5.9513 5.9644 5.9773 5.9902 6.0029	6.7631 6.7782 6.7931 6.8079 6.8225 6.8225	7.5711 7.5882 7.6052 7.6219 7.6385 7.6549 7.6549	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497
1330 1333 1340 1345 1350 1355 1360 1360 1370 1375 1370	0.959535 0.96177 0.963978 0.9663978 0.968316 0.970448 0.972558 0.974644 0.974549 0.974644	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403 2.6403 2.6459	3.9407 3.9497 3.9585 3.9672 3.9758 3.9843 3.9928 4.0011	4.8180 4.8289 4.8396 4.8503 4.8608 4.8713 4.8816 4.8816 4.8816	5.9380 5.9513 5.9644 5.9773 5.9902 6.0029 6.0154	6.763 6.763 6.7782 6.7931 6.8079 6.8225 6.8370 6.8270 6.8270 6.8510	7.5/11 7.5882 7.6052 7.6219 7.6385 7.6549 7.6549 7.6711 7.6711	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1497 8.1497
1330 1333 1340 1345 1350 1355 1365 1370 1375 1380 1375 1380 1375	0.959535 0.96177 0.963978 0.966316 0.97048 0.97048 0.97758 0.974644 0.974644 0.974644 0.974644	2.6054 2.6114 2.6173 2.6232 2.6239 2.6347 2.6403 2.6459 2.6514 2.6514	3.9407 3.9497 3.9585 3.9672 3.9758 3.9758 3.9843 3.9928 4.0011	4.8180 4.8289 4.8396 4.8503 4.8608 4.8713 4.8816 4.8918	5.9380 5.9513 5.9644 5.9773 5.9902 6.0029 6.0154 6.0154	6.7631 6.7631 6.7931 6.8075 6.8225 6.8370 6.8511 6.8511 6.8511 6.8511	7.5/11 7.5882 7.6052 7.6219 7.6385 7.6549 7.6711 7.6871 7.6871	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1667 8.1925 8.1925
1330 1333 1340 1345 1355 1355 1360 1366 1366 1375 1388 1385 1380 1385	0.959535 0.96177 0.96177 0.9663978 0.966319 0.97648 0.977048 0.97758 0.976709 0.978752 0.980775 0.980775	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403 2.6403 2.6459 2.6514 2.6569 2.6514	3.9407 3.9497 3.9585 3.9672 3.9758 3.9843 3.9928 4.0011 4.0094 4.0175	4.8180 4.8289 4.8503 4.8503 4.8608 4.8713 4.8713 4.8816 4.8918 4.9019 4.9119	5.9380 5.9513 5.9644 5.9773 5.9902 6.0029 6.0154 6.0278	6.763 6.7782 6.7931 6.8079 6.8252 6.8370 6.8511 6.8554 6.8543	7.511 7.582 7.6052 7.6219 7.6385 7.6549 7.6549 7.6741 7.6871 7.7030	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1667 8.1836 8.1836 8.2003
1330 1333 1340 1345 1355 1355 1360 1375 1375 1375 1380 1380 1385 1390 1385	0.959535 0.96177 0.963978 0.966159 0.968316 0.970448 0.97258 0.974444 0.976799 0.978752 0.938775 0.982778 0.982778	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403 2.6403 2.6403 2.6514 2.6559 2.6553 2.6559	3.9407 3.9407 3.9585 3.9672 3.9758 3.9843 3.9928 4.0011 4.0094 4.0176 4.0757	4.8180 4.8289 4.8396 4.8503 4.8603 4.8603 4.8713 4.8816 4.8918 4.9919 4.9119 4.9119	5.9380 5.9513 5.9644 5.9773 5.9702 6.0029 6.0154 6.0278 6.0402 6.0402	6.743 6.7783 6.7793 6.8225 6.8370 6.8512 6.8513 6.8654 6.8594 6.8794	7.5711 7.5882 7.6052 7.6219 7.6385 7.6549 7.6711 7.6871 7.76871 7.7030 7.7187 7.7187	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1667 8.1836 8.2003 8.2003 8.2168
1330 1333 1340 1345 1350 1355 1360 1375 1375 1375 1380 1370 1375 1380 1390 1390	0.959535 0.96177 0.96378 0.966316 0.97048 0.97048 0.97464 0.97464 0.97464 0.97464 0.97464 0.97464 0.97875 0.988775 0.988775 0.988775	2.6054 2.6114 2.6113 2.6232 2.6289 2.6347 2.6403 2.6459 2.6403 2.6459 2.6559 2.6523 2.6523 2.6627	3.9407 3.9497 3.9585 3.9672 3.9758 3.9672 3.9758 3.9843 3.9928 4.0011 4.0024 4.0176 4.0257 4.0227	4.8180 4.8289 4.8396 4.8503 4.8608 4.8713 4.8618 4.8713 4.8818 4.8918 4.9019 4.9119 4.9119 4.9218 4.921	5.9380 5.9513 5.9644 5.9773 5.9902 6.0029 6.0154 6.0278 6.0402 6.0523 6.0402	6.763 6.7782 6.793 6.8075 6.8255 6.8370 6.8513 6.8553 6.8654 6.8794 6.8933 6.8933	7.5711 7.5882 7.6052 7.6219 7.6385 7.6549 7.6741 7.76871 7.7030 7.7187 7.7343 7.7343	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1667 8.1836 8.2003 8.2003 8.2168 8.2003
1330 1333 1340 1345 1355 1360 1360 1366 1366 1366 1375 1388 1385 1385 1390 1395 1400	0.959535 0.96177 0.963978 0.9663978 0.968316 0.970448 0.972548 0.972548 0.97454 0.976709 0.978752 0.988775 0.988775 0.988775 0.988775 0.988776	2.6054 2.6114 2.6173 2.6232 2.6289 2.6347 2.6403 2.6549 2.6514 2.6569 2.6523 2.6567 2.6577 2.6730 2.677	3.9407 3.9497 3.9585 3.9585 3.9585 3.9585 3.9583 3.9583 3.9528 4.0011 4.0057 4.0176 4.0257 4.0337 4.0477	4.8180 4.8289 4.8396 4.8503 4.8608 4.8713 4.8816 4.8918 4.9019 4.9119 4.9218 4.9319 4.9218 4.9317 4.9414	5.9380 5.9513 5.9644 5.9773 5.9902 6.0154 6.0229 6.0154 6.0402 6.0402 6.0523 6.0644 6.0523	6.763 6.7782 6.7933 6.8079 6.8252 6.8370 6.8513 6.8654 6.8793 6.8933 6.9071 6.9071	7.571 7.582 7.6052 7.6219 7.6385 7.6549 7.6549 7.6549 7.6549 7.6549 7.76711 7.7873 7.7343 7.7439 7.7343	8.0616 8.0796 8.0974 8.1150 8.1324 8.1497 8.1667 8.1836 8.2003 8.2168 8.2332 8.2332 8.2468

# Antelope Valley Line Capacity and Service Improvements Program Canyon Siding Extension Rainfall Data

## Watearth Inc. Project #21-019.0

1420	0.992514	2.6887	4.0574	4.9606	6.1000	6.9476	7.7952	8.2815
1425	0.99441	2.6939	4.0651	4.9701	6.1116	6.9609	7.8101	8.2974
1430	0.996289	2.6989	4.0728	4.9795	6.1232	6.9740	7.8249	8.3130
1435	0.998152	2.7040	4.0804	4.9888	6.1346	6.9871	7.8395	8.3286
1440	1	2.7090	4.0880	4.9980	6.1460	7.0000	7.8540	8.3440
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#### Antelope Valley Line Capacity and Service Improvements Program Lancaster Terminal Improvements Rainfall Data

### Watearth Inc. Project #21-019.0

Rainfall Frequency Multiplication Factors - Table 5.3.1					
Frequency	Multiplication Factor				
2-Year	0.387				
5-Year	0.584				
10-Year	0.714				
25-Year	0.878				
50-Year	1				
100-Year	1.122				
200-Year	1.192				

Frequency Isohyetal Depth						
Frequency	Isohyetal Depth (in)					
2-Year	1.08					
5-Year	1.64					
10-Year	2.00					
25-Year	2.46					
50-Year	2.80					
100-Year	3.14					
200-Year	3.34					



Project Site: Lancaster Terminal Improvements Address: 44812 Sierra Hwy, Lancaster, CA 93534

Time	Depth	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	200-Year
Minutes	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	0.01111	0.0120	0.0182	0.0222	0.0273	0.0311	0.0349	0.0371
60	0.022361	0.0242	0.0366	0.0447	0.0550	0.0626	0.0702	0.0746
120	0.045307	0.0491	0.0741	0.0906	0.0830	0.1269	0.1423	0.1127
150	0.057015	0.0618	0.0932	0.1140	0.1402	0.1596	0.1791	0.1903
180	0.068889	0.0746	0.1126	0.1377	0.1694	0.1929	0.2164	0.2299
210	0.080937	0.0877	0.1323	0.1618	0.1990	0.2266	0.2543	0.2701
240	0.093166	0.1010	0.1523	0.1863	0.2290	0.2609	0.2927	0.3110
270	0.105586	0.1144	0.1727	0.2111	0.2596	0.2956	0.3317	0.3524
300	0.118200	0.1281	0.1955	0.2303	0.2300	0.3510	0.3714	0.3943
360	0.14409	0.1561	0.2356	0.2881	0.3542	0.4035	0.4527	0.4809
390	0.157377	0.1705	0.2573	0.3146	0.3869	0.4407	0.4944	0.5253
420	0.170913	0.1852	0.2795	0.3417	0.4202	0.4786	0.5369	0.5704
450	0.184711	0.2002	0.3020	0.3693	0.4541	0.5172	0.5803	0.6165
480	0.198/9	0.2154	0.3251	0.3974	0.4887	0.5566	0.6245	0.6635
540	0.2133108	0.2469	0.3726	0.4555	0.5602	0.6380	0.7159	0.7605
570	0.242905	0.2632	0.3972	0.4856	0.5972	0.6801	0.7631	0.8107
600	0.258314	0.2799	0.4224	0.5164	0.6350	0.7233	0.8115	0.8621
630	0.274121	0.2970	0.4482	0.5480	0.6739	0.7675	0.8612	0.9149
660	0.290362	0.3146	0.4748	0.5805	0.7138	0.8130	0.9122	0.9691
690	0.307075	0.3327	0.5021	0.6139	0.7549	0.8598	0.9647	1.0249
720	0.342111	0.3707	0.5594	0.6839	0.8410	0.9579	1.0748	1.1418
780	0.360552	0.3907	0.5896	0.7208	0.8864	1.0095	1.1327	1.2034
810	0.379705	0.4114	0.6209	0.7591	0.9335	1.0632	1.1929	1.2673
840	0.399666	0.4331	0.6535	0.7990	0.9825	1.1191	1.2556	1.3339
870	0.420552	0.4557	0.6877	0.8408	1.0339	1.1775	1.3212	1.4036
900	0.442511	0.4795	0.7236	0.8847	1.0879	1.2390	1.3902	1.4769
960	0.490493	0.5315	0.8021	0.9806	1.2058	1.3734	1.5409	1.6371
970	0.499144	0.5409	0.8162	0.9979	1.2271	1.3976	1.5681	1.6659
980	0.508022	0.5505	0.8307	1.0156	1.2489	1.4225	1.5960	1.6956
990	0.517145	0.5604	0.8456	1.0339	1.2713	1.4480	1.6247	1.7260
1000	0.526538	0.5706	0.8610	1.0527	1.2944	1.4743	1.6542	1.7574
1010	0.530225	0.5811	0.8708	1.0720	1.3185	1.5014	1.0040	1.7897
1020	0.556617	0.6032	0.9102	1.1128	1.3684	1.5585	1.7487	1.8578
1040	0.567402	0.6148	0.9278	1.1344	1.3949	1.5887	1.7826	1.8938
1050	0.578651	0.6270	0.9462	1.1568	1.4226	1.6202	1.8179	1.9313
1060	0.590431	0.6398	0.9655	1.1804	1.4515	1.6532	1.8549	1.9706
1070	0.60283	0.6532	0.9857	1.2052	1.4820	1.68/9	1.8939	2.0120
1080	0.629985	0.6827	1.0302	1.2595	1.5488	1.7247	1.9792	2.0008
1100	0.645118	0.6990	1.0549	1.2897	1.5860	1.8063	2.0267	2.1531
1110	0.661694	0.7170	1.0820	1.3229	1.6267	1.8527	2.0788	2.2085
1115	0.67068	0.7267	1.0967	1.3408	1.6488	1.8779	2.1070	2.2385
1120	0.680257	0.7371	1.1124	1.3600	1.6723	1.9047	2.1371	2.2704
1125	0.690568 0.701824	0.7483	1.1292	1.3806	1.6977	1.9336	2.1695	2.3048
1130	0.714364	0.7741	1.1681	1.4282	1.7562	2.0002	2.2443	2.3843
1136	0.717072	0.7770	1.1726	1.4336	1.7628	2.0078	2.2528	2.3933
1137	0.71986	0.7800	1.1771	1.4391	1.7697	2.0156	2.2615	2.4026
1138	0.722738	0.7832	1.1818	1.4449	1.7768	2.0237	2.2706	2.4122
1139	0.725/13	0.7864	1.186/	1.4508	1.7841	2.0320	2.2799	2.4221
1140	0.726799	0.8089	1.1917	1.4974	1.8352	2.0406	2.2690	2.4324
1150	0.772454	0.8370	1.2631	1.5443	1.8990	2.1629	2.4267	2.5781
1151	0.780923	0.8462	1.2770	1.5612	1.9198	2.1866	2.4533	2.6064
1152	0.8	0.8669	1.3082	1.5994	1.9667	2.2400	2.5133	2.6701
1153	0.809944	0.8777	1.3244	1.6192	1.9912	2.2678	2.5445	2.7033
1154	U.814358 0 8178	0.8824	1.3316	1.6281	2.0020	2.2802	2.5584	2./180
1155	0.820732	0.8893	1.3373	1.6408	2.0103	2.2980	2.5092	2.7393
1157	0.823335	0.8922	1.3463	1.6460	2.0241	2.3053	2.5866	2.7480
1158	0.825702	0.8947	1.3502	1.6507	2.0299	2.3120	2.5940	2.7559
1159	0.82789	0.8971	1.3538	1.6551	2.0353	2.3181	2.6009	2.7632
1160	0.829936	0.8993	1.3571	1.6592	2.0403	2.3238	2.6073	2.7700
1161	0.831864	0.9014	1.3603	1.0631	2.0451	2.3292	2.0134	2.//64
1162	0.83544	0.9053	1.3661	1.6702	2.0490	2.3343	2.6246	2.7823
1164	0.837112	0.9071	1.3688	1.6736	2.0580	2.3439	2.6299	2.7939
1165	0.838721	0.9088	1.3715	1.6768	2.0619	2.3484	2.6349	2.7993

# Antelope Valley Line Capacity and Service Improvements Program Lancaster Terminal Improvements Rainfall Data

1100	0.010030	0.0405	1.0710	4 6300	0.0053	0.0500	0.0000	0.0045
1166	0.840272	0.9105	1.3740	1.6799	2.0657	2.3528	2.6398	2.8045
1167	0.841//2	0.9121	1.3765	1.6829	2.0694	2.3570	2.6445	2.8095
1168	0.843225	0.9137	1.3788	1.6858	2.0730	2.3610	2.6491	2.8143
1169	0.844636	0.9152	1.3811	1.6886	2.0765	2.3650	2.6535	2.8191
1170	0.846009	0.9167	1.3834	1.6913	2.0798	2.3688	2.6578	2.8236
1171	0.847347	0.9182	1.3856	1.6940	2.0831	2.3726	2.6620	2.8281
1172	0.848652	0.9196	1.3877	1.6966	2.0863	2.3762	2.6661	2.8325
1173	0.849926	0.9210	1.3898	1.6992	2.0895	2.3798	2.6701	2.8367
1174	0.851172	0.9223	1,3918	1.7017	2.0925	2,3833	2.6740	2.8409
1175	0.852392	0 9237	1 3939	1 7041	2 0955	2 3867	2 6779	2 8449
1175	0.052552	0.0240	1.3550	1.7041	2.0000	2.3007	2.0775	2.0443
1170	0.655556	0.9249	1.3930	1.7003	2.0965	2.3900	2.0810	2.6465
11//	0.85476	0.9262	1.3977	1.7088	2.1013	2.3933	2.0853	2.8528
1178	0.85591	0.9275	1.3996	1.7111	2.1042	2.3965	2.6889	2.8567
1179	0.857039	0.9287	1.4014	1.7134	2.1069	2.3997	2.6925	2.8605
1180	0.858149	0.9299	1.4032	1.7156	2.1097	2.4028	2.6960	2.8642
1181	0.859241	0.9311	1.4050	1.7178	2.1124	2.4059	2.6994	2.8678
1182	0.860315	0.9322	1.4068	1.7199	2.1150	2.4089	2.7028	2.8714
1183	0.861372	0.9334	1.4085	1.7221	2.1176	2.4118	2.7061	2.8749
1184	0.862414	0.9345	1.4102	1.7241	2.1202	2.4148	2,7094	2.8784
1185	0.86344	0.9356	1.4119	1.7262	2.1227	2.4176	2.7126	2.8818
1186	0.864452	0.9367	1.4136	1.7282	2,1252	2,4205	2,7158	2,8852
1187	0.86545	0.9378	1 4152	1 7302	2 1276	2 4233	2 7189	2 8885
1107	0.866434	0.0370	1.4152	1.7302	2.1270	2.4255	2.7105	2.000
1180	0.800434	0.9389	1.4100	1.7322	2.1300	2.4200	2.7220	2.8510
1185	0.867400	0.9399	1.4164	1.7341	2.1324	2.4287	2.7230	2.8551
1190	0.868366	0.9410	1.4200	1.7360	2.1348	2.4314	2.7281	2.8983
1191	0.869313	0.9420	1.4215	1.7379	2.1371	2.4341	2.7310	2.9014
1192	0.87025	0.9430	1.4230	1.7398	2.1394	2.4367	2.7340	2.9045
1193	0.871175	0.9440	1.4245	1.7417	2.1417	2.4393	2.7369	2.9076
1194	0.87209	0.9450	1.4260	1.7435	2.1439	2.4419	2.7398	2.9107
1195	0.872995	0.9460	1.4275	1.7453	2.1462	2.4444	2.7426	2.9137
1196	0.873889	0.9469	1.4290	1.7471	2.1484	2.4469	2.7454	2.9167
1197	0.874775	0.9479	1.4304	1.7489	2.1505	2.4494	2.7482	2,9196
1198	0.875651	0.9489	1.4319	1.7506	2.1527	2.4518	2.7509	2.9226
1100	0.075031	0.0409	1 / 222	1 7522	2.1527	2.4510	2.7505	2.5220
1200	0.070310	0.0400	1.4333	1.7525	2.1540	2.4543	2.7557	2.5255
1200	0.877377	0.9507	1.4347	1.7541	2.1505	2.4507	2.7504	2.9285
1201	0.879227	0.9527	1.4377	1./5/8	2.1615	2.4618	2.7622	2.9345
1202	0.879069	0.9526	1.4375	1.7574	2.1611	2.4614	2.7617	2.9340
1203	0.879903	0.9535	1.4388	1.7591	2.1632	2.4637	2.7643	2.9368
1204	0.88073	0.9544	1.4402	1.7608	2.1652	2.4660	2.7669	2.9395
1205	0.881549	0.9552	1.4415	1.7624	2.1672	2.4683	2.7695	2.9423
1206	0.882361	0.9561	1.4428	1.7640	2.1692	2.4706	2.7720	2.9450
1207	0.883166	0.9570	1.4442	1.7656	2.1712	2.4729	2.7746	2.9477
1208	0.883964	0.9579	1.4455	1.7672	2.1731	2.4751	2.7771	2.9503
1209	0.884755	0.9587	1.4468	1.7688	2.1751	2.4773	2,7795	2.9530
1210	0.88554	0.9596	1,4480	1.7704	2,1770	2,4795	2,7820	2,9556
1211	0.886318	0.9604	1 4493	1 7719	2 1789	2 4817	2 7845	2 9582
1211	0.887091	0.0004	1.4403	1.7715	2.1705	2.4017	2.7045	2.5502
1212	0.087051	0.5015	1.4500	1.7750	2.1800	2.4855	2.7803	2.5008
1213	0.887857	0.9621	1.4518	1.7/50	2.1827	2.4860	2.7893	2.9633
1214	0.888618	0.9629	1.4531	1.7/65	2.1846	2.4881	2.7917	2.9655
1215	0.889372	0.9637	1.4543	1.7780	2.1864	2.4902	2.7941	2.9684
1216	0.890121	0.9645	1.4555	1.7795	2.1883	2.4923	2.7964	2.9709
1217	0.890865	0.9653	1.4567	1.7810	2.1901	2.4944	2.7987	2.9734
1218	0.891603	0.9661	1.4579	1.7825	2.1919	2.4965	2.8011	2.9758
1219	0.892336	0.9669	1.4591	1.7840	2.1937	2.4985	2.8034	2.9783
1220	0.893064	0.9677	1.4603	1.7854	2.1955	2.5006	2.8056	2.9807
1221	0.893787	0.9685	1.4615	1.7869	2.1973	2.5026	2.8079	2.9831
1222	0.894505	0.9693	1.4627	1.7883	2.1991	2.5046	2.8102	2.9855
1223	0.895218	0.9701	1,4639	1.7897	2,2008	2,5066	2.8124	2.9879
1223	0.000210	0.5701	1 4650	1 7011	2.2000	2.5000	2.0124	2.5073
1225	0.89663	0.9716	1.1653	1 7925	2.2023	2,5106	2 8169	2 9926
1223	0.05003	0.3710	1 1673	1.7923	2.2043	2.5100	2.0103	2.3920
1220	0.09/33	0.3723	1.40/3	1.7939	2.2000	2.5125	2.0191	2.9945
1227	0.898024	0.9731	1.4084	1.7933	2.2077	2.3143	2.8212	2.3372
1228	0.898/15	0.9/38	1.4696	1./96/	2.2094	2.5164	2.8234	2.9996
1229	0.899401	0.9/46	1.4707	1./981	2.2111	2.5183	2.8256	3.0018
1230	0.900083	0.9753	1.4718	1./994	2.2128	2.5202	2.8277	3.0041
1231	0.900761	0.9761	1.4729	1.8008	2.2144	2.5221	2.8298	3.0064
1232	0.901435	0.9768	1.4740	1.8021	2.2161	2.5240	2.8319	3.0086
1233	0.902105	0.9775	1.4751	1.8035	2.2177	2.5259	2.8341	3.0109
1234	0.902772	0.9782	1.4762	1.8048	2.2194	2.5278	2.8361	3.0131
1235	0.903434	0.9790	1.4773	1.8061	2.2210	2.5296	2.8382	3.0153
1240	0.906691	0.9825	1.4826	1.8127	2.2290	2.5387	2.8485	3.0262
1245	0.909862	0.9859	1.4878	1.8190	2.2368	2.5476	2.8584	3.0368
1250	0.912954	0.9893	1,4929	1.8252	2,2444	2,5563	2.8681	3.0471
1255	0.915973	0.9925	1.4978	1.8312	2.2518	2.5647	2.8776	3,0572
1255	0 018023	0 9957	1 5026	1 8371	2.2510	2.5047	2.0770	3.0670
1200	0.010920	0.3337	1 5073	1 0/20	2.2391	2.5/50	2.0003	2 0766
1205	0.92181	0.9989	1.50/3	1.8429	2.2002	2.5811	2.8960	3.0/60
12/0	0.924638	1.0019	1.5120	1.8485	2.2/31	2.5890	2.9048	3.0861
12/5	0.927409	1.0049	1.5165	1.8541	2.2/99	2.5967	2.9135	3.0953
1280	0.930129	1.0079	1.5209	1.8595	2.2866	2.6044	2.9221	3.1044
1285	0.932799	1.0108	1.5253	1.8649	2.2932	2.6118	2.9305	3.1133
1290	0.935422	1.0136	1.5296	1.8701	2.2996	2.6192	2.9387	3.1221
1295	0.938	1.0164	1.5338	1.8752	2.3060	2.6264	2.9468	3.1307
1300	0.940537	1.0192	1.5380	1.8803	2.3122	2.6335	2.9548	3.1391
1305	0.943034	1.0219	1.5420	1.8853	2.3184	2.6405	2.9626	3.1475
1310	0.945492	1.0245	1.5461	1.8902	2.3244	2.6474	2.9704	3.1557
1315	0.947915	1.0272	1.5500	1.8951	2.3304	2.6542	2.9780	3.1638
1320	0.950302	1.0297	1.5539	1.8998	2.3362	2.6608	2.9855	3.1717
1325	0.952657	1.0323	1.5578	1.9046	2.3420	2,6674	2,9929	3.1796
1325	0.95/08	1 0348	1 5616	1 9092	2.3 120	2.0074	3 0003	3 1873
100	0.33430	1 0340	1.5010	1.5032	2.3477	2.0755	3.0002	3.10/3
1333	0.33/2/2	1.03/3	1.5053	1.5138	2.3534	2.0804	5.0074	5.1950

#### Antelope Valley Line Capacity and Service Improvements Program Lancaster Terminal Improvements Rainfall Data

#### Watearth Inc. Project #21-019.0

1340	0.959535	1.0398	1.5690	1.9183	2.3589	2.6867	3.0145	3.2025
1345	0.96177	1.0422	1.5727	1.9228	2.3644	2.6930	3.0215	3.2100
1350	0.963978	1.0446	1.5763	1.9272	2.3698	2.6991	3.0284	3.2174
1355	0.966159	1.0469	1.5799	1.9315	2.3752	2.7052	3.0353	3.2247
1360	0.968316	1.0493	1.5834	1.9359	2.3805	2.7113	3.0421	3.2319
1365	0.970448	1.0516	1.5869	1.9401	2.3857	2.7173	3.0488	3.2390
1370	0.972558	1.0539	1.5903	1.9443	2.3909	2.7232	3.0554	3.2460
1375	0.974644	1.0561	1.5937	1.9485	2.3961	2.7290	3.0619	3.2530
1380	0.976709	1.0584	1.5971	1.9526	2.4011	2.7348	3.0684	3.2599
1385	0.978752	1.0606	1.6005	1.9567	2.4062	2.7405	3.0748	3.2667
1390	0.980775	1.0628	1.6038	1.9608	2.4111	2.7462	3.0812	3.2734
1395	0.982778	1.0649	1.6070	1.9648	2.4161	2.7518	3.0875	3.2801
1400	0.984761	1.0671	1.6103	1.9687	2.4209	2.7573	3.0937	3.2867
1405	0.986726	1.0692	1.6135	1.9727	2.4258	2.7628	3.0999	3.2933
1410	0.988673	1.0713	1.6167	1.9766	2.4306	2.7683	3.1060	3.2998
1415	0.990602	1.0734	1.6198	1.9804	2.4353	2.7737	3.1121	3.3062
1420	0.992514	1.0755	1.6230	1.9842	2.4400	2.7790	3.1181	3.3126
1425	0.99441	1.0775	1.6261	1.9880	2.4447	2.7843	3.1240	3.3189
1430	0.996289	1.0796	1.6291	1.9918	2.4493	2.7896	3.1299	3.3252
1435	0.998152	1.0816	1.6322	1.9955	2.4539	2.7948	3.1358	3.3314
1440	1	1.0836	1.6352	1.9992	2.4584	2.8000	3.1416	3.3376



Water Resources and Hydrology Technical Memo

Antelope Valley Line

# Appendix B MODRAT Input and Output Data

**Capacity and Service Improvements Project** 


































































































































































































Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-01
Area (ac)	10.52
Flow Path Length (ft)	976.0
Flow Path Slope (vft/hft)	0.094
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.180613567
Soil Type	97
Design Storm Frequency	2-vr
Fire Factor	$\frac{1}{0}$
LID	False
Output Results	0.700
iviodeled (2-yr) Rainfall Depth (in)	2.709
Peak Intensity (In/nr)	0.9093
Undeveloped Runott Coefficient (Cu)	0.4914
Developed Runoff Coefficient (Cd)	0.5652
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	5.4069
Burned Peak Flow Rate (cts)	5.4069
24-Hr Clear Runoff Volume (ac-ft)	0.6536
24-Hr Clear Runoff Volume (cu-ft)	28472.0693
e Hydrograph (Canyon Si	iding: DA-01)
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0 200 400 600 800	1000 1200 1400 1600
Time (minutes	3)

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	1 80	
Flow Doth Longth (ft)		
Flow Path Length (It)	547.0	_ 1
Flow Path Slope (vft/hft)	0.15	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.022686757	
Soil Type	97	
Design Storm Frequency	2-vr	
Fire Factor	0	
	Falso	
LID	1 0150	
Output Results		
Modeled (2-yr) Rainfall Donth (in)	2 700	
Noucleu (2-yr) Kalman Deptil (III)	2.103	
reak intensity (in/nr)	1.1100	
Undeveloped Runoff Coefficient (Cu)	0.5411	
Developed Runoff Coefficient (Cd)	0.5492	
Time of Concentration (min)	11.0	
Clear Peak Flow Rate (cfs)	1.1582	
Burned Peak Flow Rate (cfs)	1.1582	
24-Hr Clear Runoff Volume (ac-ft)	0.0672	
24-Hr Clear Runoff Volume (cu-ft)	2025 33/6	
	2323.3340	
Liudra man h. (Oanuan Qid		
1.2 Hydrograph (Canyon Sid	Ing: DA-UZ)	
1.0 -	-	
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(cts)		
(cts) ≥ 0.0	_	
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(\$5) 80.6 10.4 0.4	-	
(\$5) 80.6 10.4 0.4	-	
(\$5) NOLE 0.4 -	-	
(\$5) NOL 0.4 0.2		
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(\$5) NOL 0.4 0.2 -		
(sc) NOL 0.4 0.2 -		
(sc) 0.6 0.4 0.2 0.0		
(\$ <u>5</u> ) 0.6 0.4 0.2 0.0 0 0 200 400 600 800		
(s) NOL 0.4 0.4 0.2 0.0 0.0 0.0 0.2 0.0 0.0 0.0		

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-03
Area (ac)	12.03
Flow Path Length (ft)	1176.0
Flow Path Slope (vft/hft)	0 109
50-vr Rainfall Denth (in)	7.0
Borcont Imporvious	0.064263505
Soil Type	0.004203303
Soli Type Design Storm Frequency	97 2 yr
Eiro Foster	2-yi
	U Folos
LID	False
Output Results	
Modeled (2-vr) Rainfall Depth (in)	2,709
Peak Intensity (in/hr)	0.8424
Undeveloped Runoff Coefficient (Cu)	0 4707
Developed Runoff Coefficient (Cd)	0.4983
Time of Concentration (min)	20.0
Clear Deak Flow Pate (efc)	5 0501
Diedi Fear Flow Rate (CIS) Burnad Daak Elow Rate (afa)	5.0501
Duffied Peak Flow Rate (CIS)	0.0001
24-HI Clear Runoll Volume (ac-it)	0.5079
24-Hr Clear Runoπ Volume (cu-π)	22123.374
Hydrograph (Canyon Sidi	ng: DA-03)
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0 200 400 600 800 Time (minutes)	1000 1200 1400 1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-04
	6 11
Flow Doth Longth (ft)	0.44
Flow Falli Lengli (II)	927.0
Flow Path Slope (Vit/nit)	0.223
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.123940231
Soil Type	97
Design Storm Frequency	2-vr
Fire Factor	0
	False
210	
Output Results	
Modeled (2-yr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	0.9962
Undeveloped Runoff Coefficient (Cu)	0.5183
Developed Runoff Coefficient (Cd)	0.5656
Time of Concentration (min)	14.0
Clear Deak Flow Date (efa)	2 6200
Clear Peak Flow Rate (crs)	3.6288
Burned Peak Flow Rate (cfs)	3.6288
24-Hr Clear Runoff Volume (ac-ft)	0.3389
24-Hr Clear Runoff Volume (cu-ft)	14764.5606
Hydrograph (Canyon Sid	ling: DA-04)
4.0	
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0 200 400 600 800	1000 1200 1400 1600
Time (minutes)	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-05
Area (ac)	2.33
Flow Path Length (ft)	622.0
Flow Path Slope (vft/bft)	0.248
Flow Fain Slope (Mr/III)	7.0
SU-yr Rainian Depin (in)	7.0
Percent Impervious	0.027818059
Soli Type	97
Design Storm Frequency	2-yr
Fire Factor	0
LID	False
Output Results	
Modeled (2-vr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	1,1158
Undeveloped Runoff Coefficient (Cu)	0.5411
Developed Runoff Coefficient (Cd)	0.5511
Time of Concentration (min)	11 0
Closer Dock Flow Pote (ofe)	1 4207
Clear Peak Flow Rate (CIS)	1.4327
Burned Peak Flow Rate (cfs)	1.4327
24-Hr Clear Runoff Volume (ac-ft)	0.0848
24-Hr Clear Runoff Volume (cu-ft)	3694.8053
Hydrograph (Canyon 9	Siding: DA-05)
1.4 -	
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	1000 1200 1400 1000
Time (minute	as)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-06
Area (ac)	4 13
Flow Path Length (ft)	792.0
Flow Path Slope (vft/bft)	0.24
50-vr Painfall Donth (in)	7.0
Dereent Impensious	0.020967007
Percent Impervious	0.030607097
Soli Type	97
Design Storm Frequency	2-yr
Fire Factor	<u>0</u>
LID	False
Output Results	
Modeled (2-vr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	1 0315
Undeveloped Runoff Coefficient (Cu)	0.5254
Developed Runoff Coefficient (Cd)	0.5369
Time of Concentration (min)	13.0
Clear Deak Elow Pote (ofe)	2.2074
Clear Flow Rale (CIS)	2.2074
Duffied Peak Flow Rate (CIS)	2.2014
24-Hr Clear Runoff Volume (ac-ft)	0.1522
24-Hr Clear Runoπ Volume (cu-π)	6631.2571
Hydrograph (Canyon	Siding <sup>,</sup> DA-06)
2.5	
2.0 -	-
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No.	
Ĕ,	
1.0 -	1
0.5	
0.0	
0 200 400 600 800	1000 1200 1400 1600
Time (minut	es)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-07
Area (ac)	18 18
Flow Path Length (ft)	1244 0
Flow Path Slope (vft/bft)	0.208
50-vr Painfall Dopth (in)	7.0
Dereent Imperieue	0.0000000
	0.02000000
Soli Type	97
Design Storm Frequency	2-yr
Fire Factor	0
LID	False
Output Results	
Modeled (2-vr) Rainfall Depth (in)	2 709
Peak Intensity (in/hr)	0.863
Undeveloped Runoff Coefficient (Cu)	0.000
Developed Runoff Coefficient (Cd)	0.4802
Time of Concentration (min)	10.0
Clear Deak Flaw Data (cfa)	19.0
Clear Peak Flow Rale (CIS)	7.0749
Burned Peak Flow Rate (cfs)	7.6749
24-Hr Clear Runoff Volume (ac-ft)	0.6579
24-Hr Clear Runoff Volume (cu-ft)	28660.0411
Hydrograph (Canyon	Siding: DA-07)
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2 1 0 200 400 600 800	
2 1 0 0 200 400 600 800 Time (minu	1000 1200 1400 1600 tes)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-08
Area (ac)	2.26
Flow Path Length (ft)	472.0
Flow Path Slope (vft/hft)	0.438
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.156010454
Soil Type	97
Design Storm Frequency	2-vr
Fire Factor	$\frac{1}{0}$
LID	False
Output Results	0.700
Modeled (2-yr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	1.3799
Undeveloped Runoff Coefficient (Cu)	0.5904
Developed Runoff Coefficient (Cd)	0.6387
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	1.9917
Burned Peak Flow Rate (cfs)	1.9917
24-Hr Clear Runoff Volume (ac-ft)	0.1318
24-Hr Clear Runoff Volume (cu-ft)	5740.8736
Hydrograph (Canyon Sidi	na: DA-08)
2.0	
1.5 -	-
<sup>™</sup> 1.0 -	-
0.5 -	-
0.0	
0 200 400 600 800	1000 1200 1400 1600
Time (minutes)	

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-09	
Area (ac)	10 11	
Flow Path Length (ft)	1025.0	
Flow Path Slope (vft/bft)	0.202	
50-vr Painfall Dopth (in)	7.0	
Dereent Imperieue	0.097672207	
	0.007073207	
Soli Type Design Storm Frequency	97	
Design Storm Frequency	2-yi	
Fire Factor	U Falsa	
LID	False	
Output Results		
Modeled (2-vr) Rainfall Depth (in)	2.709	
Peak Intensity (in/hr)	0.9356	
Undeveloped Runoff Coefficient (Cu)	0 4996	
Developed Runoff Coefficient (Cd)	0.5347	
Time of Concentration (min)	16.0	
Clear Peak Flow Rate (cfs)	5 0574	
Burned Peak Flow Rate (cfs)	5 0574	
24-Hr Clear Runoff Volume (ac-ft)	0.4688	
24-Hr Clear Runoff Volume (ac-ft)	20/20 2818	
	20420.2010	
Hydrograph (Canyon Sic	ling <sup>.</sup> DA-09)	
6 Hydrograph (Canyon Sic	ling: DA-09)	
6 Hydrograph (Canyon Sic	ling: DA-09)	
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6 5 4 4 3 3	ling: DA-09)	
6 5 4 4 3 NOL	ling: DA-09)	
6 5 4 (stj) moj Hydrograph (Canyon Sic	ling: DA-09)	
6 5 4 4 2 2	ling: DA-09)	
6 5 4 3 2 2	ling: DA-09)	
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Hydrograph (Canyon Sic	ling: DA-09)	
6 5 5 4 4 2 1 1 -	ling: DA-09)	
$\begin{array}{c} & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & $	ling: DA-09)	1600
Hydrograph (Canyon Sic	ling: DA-09)	1600

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	7.08	
Alea (ac)	7.00	
Flow Pain Lengin (II)	887.0	
Flow Path Slope (vtt/nft)	0.226	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.140092863	
Soil Type	97	
Design Storm Frequency	2-vr	
Fire Factor	0	
	False	
	1 0.00	
	0.700	
iviodeled (2-yr) Raintall Depth (in)	2.709	
Peak Intensity (in/hr)	1.0315	
Undeveloped Runoff Coefficient (Cu)	0.5254	
Developed Runoff Coefficient (Cd)	0.5779	
Time of Concentration (min)	13.0	
Clear Peak Flow Rate (cfs)	4.2201	
Burned Peak Flow Rate (cfs)	4 2201	
24-Hr Clear Runoff Volume (ac-ft)	0 3923	
24-Hr Clear Runoff Volume (au-ft)	17000 3068	
	17090.3900	
	54.40	
4.5 Hydrograph (Canyon Sid	ing: DA-10)	
4.0 -		
4.0 -		
4.0 - 3.5 -		
4.0 - 3.5 -		
4.0 - 3.5 - 2.0	-	
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4.0 3.5 3.0 2.5		
4.0 3.5 3.0 - (9) 2.5	-	
4.0 3.5 3.0 (s) 2.5 3.0 3.0	-	
4.0 - 3.5 - 3.0 - $(s_{2}) 2.5$ - $M_{e}$ 2.0 -		
4.0 - 3.5 - 3.0 - $(s_{5}) 2.5$ - $M_{el} 2.0$ -	-	
4.0 3.5 3.0 (s) 2.5 2.5 2.0 1.5		
4.0 3.5 3.0 (sj) 2.5 2.5 1.5 1.5		
4.0 - 3.5 - 3.0 - $(s_{2})^{2} 2.5$ - $M_{L}^{0} 2.0$ - 1.5 - 1.0		
4.0 3.5 3.0 (g) 2.5 (g) 2.5 1.5 1.0		
4.0 - 3.5 - 3.0 - (s) 2.5 - $M_{L}^{0}$ 2.0 - 1.5 - 1.0 -		
4.0 3.5 3.0 3.0 3.0 2.5 3.0 1.5 1.5 1.0 0.5		
4.0 - 3.5 - 3.0 - $(\widehat{g})$ 2.5 - $\widehat{b}$ 2.0 - 1.5 - 1.0 - 0.5 -		
$4.0$ - 3.5 - 3.0 - ( $\hat{g}_{1}^{2}$ ) 2.5 - $\hat{g}_{1}^{2}$ 2.0 - 1.5 - 1.0 - 0.5 - 0.5 - 0.0 - 0.5 - 0.5 - 0.0 - 0.5 - 0.5 - 0.0 - 0.5 - 0		
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4.0 3.5 3.0 2.5 2.5 1.5 1.5 0.0 200 400 600 800 Time (minutes)		

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-11	
Area (ac)	87.33	
Flow Path Length (ft)	4047.0	<u> </u>
Flow Path Slope (vft/hft)	0 101	
50-vr Rainfall Denth (in)	7.0	
Dercent Imperieus	0.276140604	
	0.270140004	
Soli Type Design Storm Frequency	97	
Design Storm Frequency	2-yi	
	U	
LID	Faise	
Output Results	0.700	
Noueled (2-yr) Kalman Depth (in)	2.709	
Peak Intensity (In/nr)	0.6963	
Undeveloped Runoff Coefficient (Cu)	0.4142	
Developed Runott Coefficient (Cd)	0.5484	
Time of Concentration (min)	30.0	
Clear Peak Flow Rate (cfs)	33.343	_
Burned Peak Flow Rate (cfs)	33.343	
24-Hr Clear Runoff Volume (ac-ft)	6.7994	
24-Hr Clear Runoff Volume (cu-ft)	296183.1262	
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35 Hydrograph (Canyon Si		
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0 200 400 600 800	1000 1200 1400 1000	
Time (minutes)		

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	7.61	
Alta (db)	1100.0	
Flow Path Length (It)	1189.0	
Flow Path Slope (vft/hft)	0.193	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.046514217	
Soil Type	97	
Design Storm Frequency	2-vr	
Fire Factor	0	
	Ealso	
	I dise	
Madalad (0. m) Dainfall Danth (in)	0.700	
wodeled (2-yr) Raintall Depth (in)	2.709	
Peak Intensity (in/hr)	0.8852	
Undeveloped Runoff Coefficient (Cu)	0.484	
Developed Runoff Coefficient (Cd)	0.5033	
Time of Concentration (min)	18.0	
Clear Peak Flow Rate (cfs)	3 3905	
Burned Peak Flow Rate (cfs)	3 3005	
24 Hr Clear Dupoff Volume (co ft)	0.2000	
24-FIT Clear Runoff Values (au ft)	0.2909	
24-Hr Clear Runoff Volume (cu-ft)	13020.8132	
Hydrograph (Canyon Sig	ling: DA-12)	
3.5		
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2.5 (s) 2.0 (s) 2.0 1.5 1.0 0.5 0.5		
$2.5 - \frac{2.5}{2.0} - \frac{1.5}{0.5} - \frac{1.0}{0.5} - \frac{1.5}{0.0} - \frac{1.5}{0$		
2.5 30 2.0 30 1.5 1.0 0.5 0.0 0.5 0.0 0.5 0.0 0.5 0.0 0.5 0.0 0.5 0.5 0.0 0.5 0.	1000 1200 1400	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-13
Area (ac)	71.28
Flow Path Length (ft)	4280.0
Flow Path Slope (vft/hft)	0.097
50-vr Rainfall Denth (in)	7.0
Dercent Impervious	0.142666804
Soil Typo	07
Docian Storm Froquency	$\mathcal{O}_{\mathcal{M}}$
Fire Factor	2-yi
	U
LID	Faise
Output Results Modeled (2 vr) Painfall Depth (in)	2 700
Noueleu (z-yr) Kaliliali Deptil (ili) Dook Intonoity (in/br)	2.709
Peak Intensity (In/II)	0.0903
Drueveloped Runott Coetticient (Cu)	0.4142
Developed Runoff Coefficient (Ca)	0.4835
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	23.997
Burned Peak Flow Rate (cfs)	23.997
24-Hr Clear Runoff Volume (ac-ft)	3.9247
24-Hr Clear Runoff Volume (cu-ft)	170961.9395
25 Hydrograph (Canyor	n Siding: DA-13)
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	1000 1200 1400 1000

# Peak Flow Hydrologic Analysis File location: C:/Users/Watearth - Will Hahn/Watearth, Inc. Dropbox/Projects/21-019.0 LA Metro Antelope Valley Line (Mott MacDonald)/Watearth Report Version: HydroCalc 1.0.3 Input Parameters Project Name Canyon Siding Subarea ID DA-14

e abailea ib	
Area (ac)	194.19
Flow Path Length (ft)	6555.0
Flow Path Slope (vft/hft)	0.047
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.526484739
Soil Type	97
Design Storm Frequency	2-yr
Fire Factor	0
LID	False
Output Results	
	0 700

Modeled (2-yr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	0.6963
Undeveloped Runoff Coefficient (Cu)	0.4142
Developed Runoff Coefficient (Cd)	0.67
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	90.5864
Burned Peak Flow Rate (cfs)	90.5864
24-Hr Clear Runoff Volume (ac-ft)	23.423
24-Hr Clear Runoff Volume (cu-ft)	1020307.5528



Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-15
Area (ac)	13.69
Flow Path Length (ft)	2174.0
Flow Path Slope (vft/hft)	0.069
50-vr Rainfall Depth (in)	7.0
Percent Impervious	1.0
Soil Type	97
Design Storm Frequency	2-vr
Fire Factor	0
LID	False
Output Results	
Modeled (2-yr) Rainfall Depth (in)	2.709
Peak Intensity (in/hr)	0.8234
Undeveloped Runott Coefficient (Cu)	0.4648
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	21.0
Clear Peak Flow Rate (CIS)	10.1445
Burned Peak Flow Rate (CIS)	10.1445
24-Hr Clear Runoff Volume (ac-π)	2.7585
24-HI Clear Runoir Volume (cu-it)	120159.9924
12 Hydrograph (Canyon Si	iding: DA-15)
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-Ó1	
Area (ac)	10.52	
Flow Path Length (ft)	976.0	
Flow Path Slope (vft/hft)	0.094	
50-vr Rainfall Depth (in)	7 0	
Percent Impervious	0 180613567	
Soil Type	97	
Design Storm Frequency	51 5-vr	
Eiro Eastar	0	
	U Folco	
LID	Faise	
Output Results	4 000	
Noucled (5-yr) Rainiail Depth (in)	4.000	
Feak Intensity (III/III)	1.0037	
Developed Runoff Coefficient (Cd)	0.0333	
Time of Concentration (min)		
Clear Deals Flaw Data (cfa)	11.0	
Clear Peak Flow Rale (CIS)	12.0708	
Burned Peak Flow Rale (CIS)	12.0708	
24-Hr Clear Runoff Volume (ac-ft)		
24-Hr Clear Runoff Volume (cu-ft)	46509.2902	
Hydrograph (Canyon Sid	ing: DA-01)	
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0 200 400 600 800	1000 1200 1400 1600	
Time (minutes)		

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-02	
Area (ac)	1 89	
Flow Path Longth (ft)	547.0	
Flow Path Clone (1th/htt)	0.45	
Flow Pain Slope (Vil/nil)	0.15	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.022686757	
Soil Type	97	
Design Storm Frequency	5-yr	
Fire Factor	0	
LID	False	
	1 4100	
Output Results		
Modeled (5-yr) Rainfall Depth (in)	4.088	
Peak Intensity (in/hr)	2.0823	
Undeveloped Runoff Coefficient (Cu)	0.6747	
Developed Runoff Coefficient (Cd)	0.6798	
Time of Concentration (min)	7.0	
Clear Deak Flow Date (efa)	2.6754	
Clear Peak Flow Rale (CIS)	2.0754	
Burned Peak Flow Rate (crs)	2.6754	
24-Hr Clear Runoff Volume (ac-ft)	0.1185	
24-Hr Clear Runoff Volume (cu-ft)	5160.6348	
Hydrograph (Canyon Sid	ing: DA-02)	
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2.5 - 2.0 - ( <u>\$5)</u> <u>mol</u> 1.5 - 1.0 -		-
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2.5 - 2.0 - $(s_{2}) \sim m_{H}^{2}$ 1.5 - 1.0 - 0.5 -		-
2.5 - 2.0 - $\frac{(s_{2})}{MOH}$ 1.5 - 1.0 - 0.5 -		-
2.5 2.0 (st) MOL 1.5 1.0 0.5		-
2.5 $2.0$ $(5)$ $MOH$ $1.5$ $1.0$ $0.5$ $0.0$ $200$ $400$ $600$ $800$	1000 1200 1400	-
$\begin{array}{c} 2.5 \\ 2.0 \\ \hline \\ 9 \\ 0 \\ 1.5 \\ 1.0 \\ 0.5 \\ 0.0 \\ 0 \\ 200 \\ 400 \\ 600 \\ 800 \\ \hline \\ Time (minutes) \end{array}$	1000 1200 1400	-

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-03
Area (ac)	12.03
Flow Path Length (ft)	1176.0
Flow Path Slope (vft/hft)	0 109
50-vr Painfall Dooth (in)	7.0
Beroont Imperieue	0.064262505
Ceil Ture	0.004203303
	97
Design Storm Frequency	5-yr
Fire Factor	0
LID	False
Output Results	
Modeled (5 vr) Painfall Donth (in)	1 000
Rook Intensity (in/hr)	4.000
Peak Intensity (In/III)	
Undeveloped Runoff Coefficient (Cu)	0.6191
Developed Runoff Coefficient (Cd)	0.6372
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	11.9316
Burned Peak Flow Rate (cfs)	11.9316
24-Hr Clear Runoff Volume (ac-ft)	0.8739
24-Hr Clear Runoff Volume (cu-ft)	38066.9905
Hydrograph (Canyon Siding	g: DA-03)
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	6 4 4	
Flow Deth Longth (ft)	0.44	
Flow Path Length (II)	927.0	
Flow Path Slope (vft/hft)	0.223	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.123940231	
Soil Type	97	
Design Storm Frequency	5-vr	
Fire Factor	0	
	False	
LID	1 4100	
Output Results	1.000	
Modeled (5-yr) Rainfall Depth (in)	4.088	
Peak Intensity (in/hr)	1.8503	
Undeveloped Runoff Coefficient (Cu)	0.6519	
Developed Runoff Coefficient (Cd)	0.6826	
Time of Concentration (min)	9.0	
Clear Peak Flow Rate (cfs)	8,1339	
Burned Peak Flow Rate (cfs)	8 1339	
24-Hr Clear Runoff Volume (ac-ft)	0.564	
24-Hr Clear Runoff Volume (au-ft)	24566 6202	
	24300.0302	
Hydrograph (Canyon Sic	ling: DA-04)	
9 Hydrograph (Canyon Sic	ling: DA-04)	
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9 8 7 6 6 (g) 5 4 4 3	ling: DA-04)	
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Hydrograph (Canyon Sic 9 8 7 6 6 5 4 4 3 2 - 1 0 200 400 600 800	ling: DA-04)	1600
Hydrograph (Canyon Sid	ling: DA-04)	1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-05
Area (ac)	2.33
Flow Path Length (ft)	622.0
Flow Path Slope (vft/hft)	0.248
50-vr Rainfall Denth (in)	7.0
Dercent Impervieue	0.027919050
	0.027616059
Soli Type Docian Storm Fraguency	91 E xm
Eiro Fostor	5-yi
	U False
LID	Faise
Output Results	
Modeled (5-yr) Rainfall Depth (in)	1 088
Posk Intensity (in/br)	2 0823
Heak Intensity (III/III)	2.0023
Developed Runoff Coofficient (Cu)	0.0747
Developed Runoll Coefficient (Cd)	
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	3.3039
Burned Peak Flow Rate (cfs)	3.3039
24-Hr Clear Runoff Volume (ac-ft)	0.149
24-Hr Clear Runoff Volume (cu-ft)	6490.6829
3.5 Hydrograph (Canyon Sic	ling: DA-05)
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Input Parameters	
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Project Name	Canvon Siding
Subarea ID	DA-06
Area (ac)	4.13
Flow Path Length (ft)	792.0
Flow Path Slope (vft/hft)	0.24
50-vr Rainfall Denth (in)	7.0
Borcont Imporvious	0.020967007
	0.030007097
Soli Type	97
Design Storm Frequency	5-yr
Fire Factor	0
LID	False
Output Results	
Modeled (5-vr) Rainfall Depth (in)	4.088
Peak Intensity (in/hr)	1 9556
Undeveloped Runoff Coefficient (Cu)	0.6636
Developed Runoff Coefficient (Cd)	0.6709
Time of Concentration (min)	0.0703
Clear Deals Flow Date (efa)	0.U 5.4495
Clear Peak Flow Rale (CIS)	0.4180 5.4405
Burned Peak Flow Rate (CIS)	5.4185
24-Hr Clear Runoff Volume (ac-ft)	0.267
24-Hr Clear Runoff Volume (cu-ft)	11628.7382
Hydrograph (Canyon Si	ding: DA-06)
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0 200 400 600 800	1000 1200 1400 1600
Time (minutes	;)

Input Parameters         Project Name       Canyon Siding         Subarea ID       DA-07         Area (ac)       18.18         Flow Path Length (ft)       1224.0         Flow Path Slopic (vft/hft)       0.208         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.028608006         Soil Type       97         Design Storm Frequency       5-yr         Fire Factor       0         LID       False         Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6258         Developed Runoff Coefficient (Cd)       0.6336         Developed Runoff Coefficient (Cd)       0.6336         Developed Runoff Volume (ac-ft)       1.1613         24-Hr Clear Runoff Volume (ac-ft)       1.1612         9       0       0       1000       1200       1600		
Project Name Canyon Siding Subarea ID DA-07 Area (ac) DA-07 Flow Path Length (ft) 1244.0 Flow Path Length (ft) 0.208 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.028608006 Soil Type 97 Design Storm Frequency 5-yr Fire Factor 0 LID False Output Results Modeled (5-yr) Rainfall Depth (in) 4.088 Peak Intensity (in/hr) 1.6163 Undeveloped Runoff Coefficient (Cu) 0.6258 Developed Runoff Coefficient (Cd) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (ac-ft) 1.1612 25 26 27 27 28 29 20 20 20 20 20 20 20 20 20 20	Input Parameters	
Subarea ID       DA-07         Area (ac)       18.18         Flow Path Length (ft)       1244.0         Flow Path Slope (vtf/hft)       0.208         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.028608006         Soil Type       97         Design Storm Frequency       5-yr         Fire Factor       0         LID       False         Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6258         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (cu-ft)       50579.8594	Project Name	Canvon Siding
Area (ac) Flow Path Length (ft) Flow Path Slope (vft/htt) 0.208 50-yr Rainfall Depth (in) Percent Impervious 0.028608006 Soil Type 97 Design Storm Frequency Fire Factor LID <b>Output Results</b> Modeled (5-yr) Rainfall Depth (in) Hodeled (5-yr) Rainfall Depth (in) False <b>Output Results</b> Modeled (5-yr) Rainfall Depth (in) 1.6163 Undeveloped Runoff Coefficient (Cu) 0.6258 Developed Runoff Coefficient (Cu) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 0 0 0 0 0 0 0 0 0 0 0 0 0	Subarea ID	DA-07
Flow Path Length (ft)       1244.0         Flow Path Length (ft)       0.208         S0-yr Rainfall Depth (in)       7.0         Percent Impervious       0.028608006         Soil Type       97         Design Storm Frequency       5-yr         Fire Factor       0         LID       False         Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6228         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (cc-ft)       1.1612         24-Hr Clear Runoff Volume (cc-ft)       50579.8594	Area (ac)	18.18
Flow Path Slope (vft/hft) 0.208 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.028608006 Soil Type 97 Design Storm Frequency 5-yr Fire Factor 0 LID False Output Results Modeled (5-yr) Rainfall Depth (in) 4.088 Peak Intensity (in/hr) 1.6163 Undeveloped Runoff Coefficient (Cu) 0.6258 Developed Runoff Coefficient (Cd) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (ac-ft) 50579.8594 0 0 0 0 0 0 0 0 0 0 0 0 0	Flow Path Length (ft)	1244 0
S0-yr Rainfail Depth (in) 50-yr Rainfail Depth (in) Percent Impervious Soil Type Design Storm Frequency Fire Factor LID Solution Storm Frequency Fire Factor Cutput Results Modeled (5-yr) Rainfail Depth (in) Peak Intensity (in/hr) Concentration (min) 12.0 Clear Peak Flow Rate (cfs) Surned P	Flow Path Slope (vft/hft)	0.208
Percent Impervious Soil Type 97 Design Storm Frequency 5-yr Fire Factor 0 LID False Output Results Modeled (5-yr) Rainfall Depth (in) 4.088 Peak Intensity (in/hr) 1.6163 Undeveloped Runoff Coefficient (Cu) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 Burned Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (ac-ft) 50579.8594	50-vr Rainfall Depth (in)	7.0
Soil Type Soil Type Soil Type Gradient Storm Frequency Fire Factor LID Subject Results Modeled (5-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cd) Undeveloped Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) Subject Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) 50579.8594	Dercent Impervious	0.028608006
Design Storm Frequency Fire Factor LID S-yr Fire Factor Output Results Modeled (5-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff	Soil Type	0.020000000
Design 3 corr       0         LID       False         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6238         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         Burned Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (cu-ft)       50579.8594	Design Storm Frequency	97 5 yr
Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6258         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (ac-ft)       50579.8594	Design Storm Frequency	0-yi
LID Paise Output Results Modeled (5-yr) Rainfall Depth (in) 4.088 Peak Intensity (in/hr) 1.6163 Undeveloped Runoff Coefficient (Cu) 0.6258 Developed Runoff Coefficient (Cd) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 Burned Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (cu-ft) 50579.8594		U Falsa
Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6258         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (ac-ft)       1.1612         24-Hr Clear Runoff Volume (cu-ft)       50579.8594	LID	Faise
Output Results         Modeled (5-yr) Rainfall Depth (in)       4.088         Peak Intensity (in/hr)       1.6163         Undeveloped Runoff Coefficient (Cu)       0.6258         Developed Runoff Coefficient (Cd)       0.6336         Time of Concentration (min)       12.0         Clear Peak Flow Rate (cfs)       18.6182         Burned Peak Flow Rate (cfs)       18.6182         24-Hr Clear Runoff Volume (cu-ft)       50579.8594		
Modeled (3-yr) Ramia Depriv (iii) Peak Intensity (in/hr) Lensity (in/hr) Undeveloped Runoff Coefficient (Cu) Developed Runoff Coefficient (Cu) Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) Hydrograph (Canyon Siding: DA-07) (9) (10	Output Results Modeled (5 vr) Deinfell Denth (in)	4.089
Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cd) Developed Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 50579.8594	Dook Intonsity (in/br)	4.000
Developed Runoff Coefficient (Cd) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 Burned Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (cu-ft) 50579.8594	Peak Intensity (In/III)	1.0103
Leveloped Runoff Coefficient (Cd) 0.6336 Time of Concentration (min) 12.0 Clear Peak Flow Rate (cfs) 18.6182 24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (cu-ft) 50579.8594	Druceveloped Runoit Coefficient (Cu)	0.0200
Time of Concentration (min) Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 1.1612 24-Hr Clear Runoff Volume (cu-ft) 1000 100 1000	Developed Runon Coefficient (Cd)	0.6336
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 50579.8594 $ \begin{array}{c} \begin{array}{c} & & & & & & \\ & & & & & \\ \end{array} \\ & & & & &$	Time of Concentration (min)	12.0
Burned Peak How Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 50579.8594	Clear Peak Flow Rate (cfs)	18.6182
24-Hr Clear Runoff Volume (ac-ft) 1.1612 24-Hr Clear Runoff Volume (cu-ft) 50579.8594	Burned Peak Flow Rate (cfs)	18.6182
24-Hr Clear Runoff Volume (cu-ft) 50579.8594	24-Hr Clear Runoff Volume (ac-ft)	1.1612
Hydrograph (Canyon Siding: DA-07) $(g)_{H}$ $(g)_{H}$	24-Hr Clear Runoff Volume (cu-ft)	50579.8594
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0 200 400 600 800 1000 1200 1400 1600 Time (minutes)	15 - (sc) 10 - 5 -	
	0 200 400 600 800	1000 1200 1400 1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-08
Area (ac)	2.26
Flow Dath Longth (ft)	472.0
Flow Path Length (It)	472.0
Flow Path Slope (Vft/nft)	0.438
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.156010454
Soil Type	97
Design Storm Frequency	5-vr
Fire Factor	0
	False
Lib	1 4100
Output Results	
Modeled (5-yr) Rainfall Depth (in)	4.088
Peak Intensity (in/hr)	2.439
Undeveloped Runoff Coefficient (Cu)	0.7014
Developed Runoff Coefficient (Cd)	0.7324
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4 0372
Burned Beek Flow Rate (cls)	4.0372
Duffieu Feak Flow Rate (CIS)	4.0372
24-Hr Clear Runoff Volume (ac-ft)	0.2163
24-Hr Clear Runoff Volume (cu-ft)	9421.8349
	54.00
4.5 Hydrograph (Canyon Sidi	ing: DA-08)
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-09	
Area (ac)	10.11	
Flow Dath Longth (ft)	1025.0	
Flow Fall Length (It)	0.202	
Flow Path Slope (VII/III)	0.202	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.087673207	
Soil Type	97	
Design Storm Frequency	5-yr	
Fire Factor	0	
LID	False	
Output Results	1 000	
Modeled (5-yr) Raintall Depth (in)	4.088	
Peak Intensity (in/hr)	1.7609	
Undeveloped Runoff Coefficient (Cu)	0.6419	
Developed Runoff Coefficient (Cd)	0.6645	
Time of Concentration (min)	10.0	
Clear Peak Flow Rate (cfs)	11.8302	
Burned Peak Flow Rate (cfs)	11 8302	
24-Hr Clear Runoff Volume (ac-ft)	0 7942	
24-Hr Clear Runoff Volume (cu-ft)	3/507 113	
	54597.115	
Hydrograph (Canyon Sidi	$na \cdot DA_{-}09)$	
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8 - (st) 6 - 4 - 2 -		-
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		1600

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	7.08	
Flow Dath Longth (ft)	207.0	
	887.0	
Flow Path Slope (vft/hft)	0.226	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.140092863	
Soil Type	97	
Design Storm Frequency	5-vr	
Fire Factor	0	
	False	
	1 0.50	
Output Results		
Modeled (5-yr) Rainfall Depth (in)	4.088	
Peak Intensity (in/hr)	1.8503	
Undeveloped Runoff Coefficient (Cu)	0.6519	
Developed Runoff Coefficient (Cd)	0.6866	
Time of Concentration (min)	9.0	
Clear Peak Flow Pate (cfc)	8 00/7	
Dical Feak Flow Rate (CIS)	0.5547	
Duffied Peak Flow Rate (CIS)	0.9947	
24-Hr Clear Runoff Volume (ac-ft)	0.6483	
24-Hr Clear Runoff Volume (cu-ft)	28239.0818	
Hydrograph (Canyon Si	ding: DA-10)	
9Hydrograph (Canyon Si	ding: DA-10)	
9 Hydrograph (Canyon Si	ding: DA-10)	
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9 8 7 6 - (sj) M0 4 - 2 -	ding: DA-10)	
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9 8 7 6 - (sj) MCL 4 - 2 - 1 -	ding: DA-10)	
$\begin{array}{c} 9 \\ 8 \\ 7 \\ 7 \\ 6 \\ 6 \\ 7 \\ 6 \\ 7 \\ 6 \\ 7 \\ 6 \\ 7 \\ 7$	ding: DA-10)	
Hydrograph (Canyon Si 8 7 6 - (sj;) MOL 4 - 2 - 1 - 0 - - - - - - - - - - - - -	ding: DA-10)	
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Hydrograph (Canyon Si Hydrograph (Canyon Si	ding: DA-10)	1600

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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-11	
Area (ac)	87.33	
Flow Path Length (ft)	4047.0	
Flow Path Slope (vft/hft)	0 101	
50 vr Boinfoll Donth (in)	7.0	
50-yr Rainiai Depin (iii)	7.0	
	0.276140604	
Soli Type	97	
Design Storm Frequency	5-yr	
Fire Factor	0	
LID	False	
Output Results Modeled (5 vr) Painfell Depth (in)	1 000	
Noueleu (3-yr) Kaliliali Deptii (III) Dook Intonoity (in/hr)	4.000	
reak intensity (in/ni)	1.0853	
	0.5354	
Developed Runoff Coefficient (Cd)	0.6361	
Time of Concentration (min)	28.0	
Clear Peak Flow Rate (cfs)	60.2908	
Burned Peak Flow Rate (cfs)	60.2908	
24-Hr Clear Runoff Volume (ac-ft)	10.8749	
24-Hr Clear Runoff Volume (cu-ft)	473712.7921	
70 Hydrograph (Canyon Si	ding: DA-11)	
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(ş; 40 - <sup>8</sup> <sup>8</sup> <sup>1</sup> <sup>1</sup> <sup>1</sup> <sup>1</sup> <sup>1</sup> <sup>20</sup> -		
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-12	
Area (ac)	7.61	
Flow Path Length (ft)	1189.0	
Flow Path Slope (vft/hft)	0.193	
50-vr Rainfall Depth (in)	7.0	
Percent Impervious	0.046514217	
Soil Type	97	
Design Storm Frequency	5-vr	
Fire Factor	0	
	False	
Output Boculto		
Vulpul Results Modeled (5 vr) Deinfell Denth (in)	4 000	
ivioueleu (5-yr) Kaintali Depth (in)	4.U00 4.0007	
Peak Intensity (In/nr)	1.003/	
Developed Runoff Coefficient (Cu)	0.0333	
	0.0457	
Time of Concentration (min)	11.0	
Clear Peak Flow Rate (CIS)	Ø.∠/ 30 0.0705	
Burned Peak Flow Rate (cfs)	8.2735	
24-Hr Clear Runoff Volume (ac-ft)	0.5201	
24-Hr Clear Runoff Volume (cu-ft)	22654.1908	
Hydrograph (Canyon Sid	ling: $DA_{12}$	
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Time (minutes)		
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	
	71.00
Alea (dc)	11.20
Flow Path Length (ft)	4280.0
Flow Path Slope (vft/hft)	0.097
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.142666804
Soil Type	97
Design Storm Frequency	5-vr
Fire Factor	0
	False
	1 0.00
Output Results	1.000
Modeled (5-yr) Rainfall Depth (in)	4.088
Peak Intensity (in/hr)	1.0507
Undeveloped Runoff Coefficient (Cu)	0.529
Developed Runoff Coefficient (Cd)	0.5819
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	43,5806
Burned Peak Flow Rate (cfs)	43 5806
21-Hr Clear Runoff Volume (ac-ft)	6 5127
24 Hr Clear Runoff Volume (auft)	282604 0216
	203094.0210
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## **Peak Flow Hydrologic Analysis** File location: C:/Users/Watearth - Will Hahn/Watearth, Inc. Dropbox/Projects/21-019.0 LA Metro Antelope Valley Line (Mott MacDonald)/ Version: HydroCalc 1.0.3 **Input Parameters Project Name** Canyon Siding Subarea ID DA-14 Area (ac) 194.19 Flow Path Length (ft) 6555.0 Flow Path Slope (vft/hft) 0.047 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.526484739 Soil Type 97 **Design Storm Frequency** 5-yr Fire Factor 0 LID False **Output Results** Modeled (5-yr) Rainfall Depth (in) 4.088 Peak Intensity (in/hr) 1.0507 Undeveloped Runoff Coefficient (Cu) 0.529 Developed Runoff Coefficient (Cd) 0.7243 Time of Concentration (min) Clear Peak Flow Rate (cfs) 30.0 147.7854 Burned Peak Flow Rate (cfs) 147.7854 24-Hr Clear Runoff Volume (ac-ft) 36.2343 24-Hr Clear Runoff Volume (cu-ft) 1578366.5766 Hydrograph (Canyon Siding: DA-14) 160 140 120 100 Flow (cfs) 80 60 40 20 0 200 400 600 800 1000 1200 1400 1600

Time (minutes)

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
Aroa (ac)	12.60	
Aled (dC)	13.09	
Flow Path Length (It)	2174.0	
Flow Path Slope (vtt/htt)	0.069	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	1.0	
Soil Type	97	
Design Storm Frequency	5-vr	
Fire Factor	0	
	False	
Output Results	4 000	
wodeled (5-yr) Kaintall Depth (in)	4.088	
Peak Intensity (in/hr)	1.4119	
Undeveloped Runoff Coefficient (Cu)	0.5964	
Developed Runoff Coefficient (Cd)	0.9	
Time of Concentration (min)	16.0	
Clear Peak Flow Rate (cfs)	17.3956	
Burned Peak Flow Rate (cfs)	17 3956	
24-Hr Clear Runoff Volume (ac-ft)	4 1627	
24-Hr Clear Runoff Volume (cu-ft)	181326 2706	
	101020.2750	
<sup>18</sup> Hydrograph (Canyon	Siding: DA-15)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-01
Area (ac)	10.52
Flow Path Length (ft)	976.0
Flow Path Slope (vft/hft)	0.094
50-vr Rainfall Denth (in)	7.0
Borcont Imporvious	0 180613567
Soil Type	0.100013307
Soli Type Design Storm Frequency	97 10 yr
Design Storm Frequency	TO-yr
	U Felee
LID	Faise
Output Results	
Modeled (10-yr) Rainfall Depth (in)	4.998
Peak Intensity (in/hr)	2.2622
Undeveloped Runoff Coefficient (Cu)	0.6882
Developed Runoff Coefficient (Cd)	0.7264
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	17 2879
Burned Peak Flow Rate (cfs)	17 2879
24-Hr Clear Runoff Volume (ac-ft)	1 3711
24-Hr Clear Runoff Volume (cu-ft)	59725 7151
	55725.7151
Hydrograph (Canyon Sidi	ng: DA-01)
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Time (minutes)	

Input Parameters		
Project Name	Canvon Siding	
Subaraa ID		
	DA-02	
Area (ac)	1.89	
Flow Path Length (ft)	547.0	
Flow Path Slope (vft/hft)	0.15	
50-vr Rainfall Depth (in)	7.0	
Percent Impervious	0.022686757	
Soil Typo	07	
Design Starm Frequency		
Design Storm Frequency	TU-yr	
Fire Factor	0	
LID	False	
	4 000	
wodeled (TU-yr) Kainfall Depth (In)	4.998	
Peak Intensity (in/hr)	2.7371	
Undeveloped Runoff Coefficient (Cu)	0.7173	
Developed Runoff Coefficient (Cd)	0.7214	
Time of Concentration (min)	6.0	
Clear Peak Flow Rate (cfs)	3 7319	
Burnad Back Flow Rate (cfs)	2 7210	
Duffed Feak Flow Rate (CIS)	5.7519	
24-Hr Clear Runoff Volume (ac-ft)	0.1587	
24-Hr Clear Runoff Volume (cu-ft)	6912.7603	
Hvdrograph (Canvor	Sidina: DA-02)	
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2.5 (g) 2.0 1.5 1.5 0.5 0.0 0 200 400 600 800 Time (minu	1000 1200 1400 Ites)	1600

Input Parameters Project Name Canyon Siding DA-03 Area (ac) 12.03 Flow Path Length (ft) 1176.0 Flow Path Slope (vft/hft) 0.109 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.064263505 Soil Type 97 Design Storm Frequency 10-yr Fire Factor 0 LID False Output Results Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6841 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (ac-ft) 1.1549 25 26 27 26 27 27 27 27 27 27 27 27 27 27		
Project Name Canyon Siding Subarea ID DA-03 Area (ac) 12.03 Flow Path Length (ft) 1176.0 Flow Path Length (ft) 0.109 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.064263505 Soil Type 97 Design Storm Frequency 10-yr Fire Factor 0 LID False Output Results Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.684 Developed Runoff Coefficient (Cu) 0.684 Developed Runoff Coefficient (Cu) 0.684 Developed Runoff Coefficient (Cu) 0.684 Developed Runoff Coefficient (Cd) 11.7575 Burned Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cs) 17.9775 Burned Peak Flow Rate (cs) 17.9775 Burned Peak Riow Rate (cs) 17.9775 Burned Peak Riow Rate (cs) 17.9775 Burned Peak Riow Rate (cs) 17.9775 Burned Peak Flow Rate (cs) 17.9775 Burned Peak Fl	Input Parameters	
Subarea ID       DA-63         Area (ac)       12.03         Flow Path Length (ft)       1176.0         Flow Path Slope (vft/hft)       0.109         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.064263505         Soil Type       97         Design Storm Frequency       10-yr         Fire Factor       0         LID       False         Output Results         Modeled (10-yr) Rainfall Depth (in)       4.998         Peak Intensity (in/hr)       2.1529         Undeveloped Runoff Coefficient (Cu)       0.684         Developed Runoff Coefficient (Cd)       0.6941         Time of Concentration (min)       10.0         Clear Peak Flow Rate (cfs)       17.9775         Burned Peak Flow Rate (cfs)       17.9775         24-Hr Clear Runoff Volume (ac-ft)       1.1549         24-Hr Clear Runoff Volume (cu-ft)       50309.1806	Project Name	Canvon Siding
Area (ac)       12.03         Flow Path Length (ft)       1176.0         Flow Path Slope (vft/hft)       0.109         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.064263505         Soil Type       97         Design Stom Frequency       10-yr         Fire Factor       0         LID       False             Output Results             Modeled (10-yr) Rainfall Depth (in)       4.998         Peak Intensity (in/hr)       2.1529         Undeveloped Runoff Coefficient (Cu)       0.68         Developed Runoff Coefficient (Cu)       0.68         Developed Runoff Coefficient (Cd)       0.6941         Time of Concentration (min)       10.0         Clear Pack Flow Rate (cfs)       17.9775         Burned Peak Flow Rate (cfs)       17.9775         Burned Peak Rlow Rate (cfs)       17.9775         24-Hr Clear Runoff Volume (ac-ft)       1549         24-Hr Clear Runoff Volume (ac-ft)       50309.1806	Subarea ID	DA-03
Flow Path Length (ft) Flow Path Slope (vft/hft) 50-yr Rainfall Depth (in) Percent Impervious Soil Type 97 Design Storm Frequency IID Fire Factor UD <b>Output Results</b> Modeled (10-yr) Rainfall Depth (in) Peak Intensity (in/hr) Class Developed Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cu) 10.0 Clear Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Area (ac)	12.03
Flow Path Slope (vft/hft) S0-yr Rainfall Depth (in) Percent Impervious Sol Type Percent Impervious Sol Type Pesign Storm Frequency LID <b>Output Results</b> Modeled (10-yr) Rainfall Depth (in) Peak Intensity (in/hr) Label Storm Frequency Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff Volume (ac-ft) 11549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Flow Path Length (ft)	1176.0
S0-yr Rainfall Depth (in) Percent Impervious Soll Type Peskin Storm Frequency IID Fire Factor IID <b>Output Results</b> Modeled (10-yr) Rainfall Depth (in) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cu) Developed Runoff Coefficient (Cu) One Clear Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) S0309.1806 $\int_{0}^{10} \frac{1}{9} \int_{0}^{10} \frac{1}{9} \int_{0}^{10} \frac{1}{90} \int_{0}^{10} \frac$	Flow Path Slope (vft/hft)	0.109
Percent Impervious Soil Type Design Storm Frequency Fire Factor UID Fire Factor Output Results Modeled (10-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Clear Peak Flow Rate (cfs) Durned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (ac-ft) 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000	50-vr Rainfall Depth (in)	7.0
Soil Type 97 Design Storm Frequency 10-yr LID False Output Results Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (ac-ft) 50309.1806	Percent Impervious	0.064263505
Design Storm Frequency Fire Factor UD Fire Factor 0 LID Output Results Modeled (10-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Design Attensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Design Attensity (in/hr) Design Attens	Soil Type	97
Fire Factor 0 J LID False Output Results Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (ac-ft) 50309.1806	Design Storm Frequency	10-vr
LID False False Output Results Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Fire Factor	0
Dutput Results         Modeled (10-yr) Rainfall Depth (in)       4.998         Peak Intensity (in/hr)       2.1529         Undeveloped Runoff Coefficient (Cd)       0.6841         Developed Runoff Coefficient (Cd)       0.6941         Time of Concentration (min)       10.0         Clear Peak Flow Rate (cfs)       17.9775         Burned Peak Flow Rate (cfs)       17.9775         24-Hr Clear Runoff Volume (ac-ft)       1.1549         24-Hr Clear Runoff Volume (cu-ft)       50309.1806		False
Output Results         Modeled (10-yr) Rainfall Depth (in)       4.998         Peak Intensity (in/hr)       2.1529         Undeveloped Runoff Coefficient (Cd)       0.68         Developed Runoff Coefficient (Cd)       0.6941         Time of Concentration (min)       10.0         Clear Peak Flow Rate (cfs)       17.9775         Burned Peak Flow Rate (cfs)       17.9775         24-Hr Clear Runoff Volume (ac-ft)       1.1549         24-Hr Clear Runoff Volume (cu-ft)       50309.1806	2.0	
Modeled (10-yr) Rainfall Depth (in) 4.998 Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806 $\frac{18}{9}$		
Peak Intensity (in/hr) Peak Intensity (in/hr) 2.1529 Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Output Results	4.000
Peak Intensity (In/Inf) Undeveloped Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) Undeveloped Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806 Hydrograph (Canyon Siding: DA-03) 	iviodeled (10-yr) Kainfall Depth (in)	4.998
Undeveloped Runoff Coefficient (Cu) 0.68 Developed Runoff Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 50309.1806 4-Hr Clear Runoff Volume (cu-ft) 50309.1806 Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03)	Peak Intensity (In/nr)	2.1529
Developed RUNOT Coefficient (Cd) 0.6941 Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 Burned Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806 Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon Siding: DA-03)	Undeveloped Runoff Coefficient (Cu)	0.08
Time of Concentration (min) 10.0 Clear Peak Flow Rate (cfs) 17.9775 24-Hr Clear Runoff Volume (ac-ft) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Developed Runoff Coefficient (Cd)	0.6941
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 50309.1806 Hydrograph (Canyon Siding: DA-03) Hydrograph (Canyon	Time of Concentration (min)	10.0
Burned Peak How Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 24-Hr Clear Runoff Volume (cu-ft) 11.1549 24-Hr Clear Runoff Volume (cu-ft) 10 10 10 10 10 10 10 10 10 10 10 10 10	Clear Peak Flow Rate (cfs)	17.9775
24-Hr Clear Runoff Volume (ac-tr) 1.1549 24-Hr Clear Runoff Volume (cu-ft) 50309.1806	Burned Peak Flow Rate (cfs)	17.9775
24-Hr Clear Runoff Volume (cu-tt) 50309.1806	24-Hr Clear Runoff Volume (ac-ft)	1.1549
Hydrograph (Canyon Siding: DA-03) Hydrograph (Cany	24-Hr Clear Runoff Volume (cu-ft)	50309.1806
Hydrograph (Canyon Siding: DA-03)		
Hydrograph (Canyon Siding: DA-03) Hydrograph (Cany		
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Input Parameters		
Project Name	Canyon Siding	
Subarea ID	DA-04	
Area (ac)	6.44	
Flow Path Length (ft)	927.0	
Flow Path Slope (vft/hft)	0.223	
50-vr Rainfall Denth (in)	7.0	
Percent Impervious	0 123940231	
Soil Typo	07	
Docian Storm Fraguency	10 yr	
Fire Factor	TO-yi	
LID	False	
Output Results		
Modeled (10-yr) Rainfall Depth (in)	4.998	
Peak Intensity (in/hr)	2.3909	
Undeveloped Runoff Coefficient (Cu)	0.6978	
Developed Runoff Coefficient (Cd)	0.7229	
Time of Concentration (min)	8.0	
Clear Peak Flow Rate (cfs)	11 1308	
Burnod Book Flow Poto (ofc)	11 1209	
24 Hr Clear Dunoff Valuma (ap ft)	0 7222	
24-HI Clear Runoll Volume (ac-it)	0.7322	
24-Hr Clear Runoff Volume (cu-ft)	31892.4743	
Hydrograph (Canyon Sidi	ng: DA-04)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-05
Area (ac)	2 33
Flow Path Length (ft)	622.0
Flow Path Slope (vft/hft)	0.248
50-vr Painfall Donth (in)	7.0
Dereent Impervieue	0.027919050
Seil Turo	0.027010039
Soli Type Design Storm Fraguency	97 40 xm
Design Storm Frequency	10-yr
Fire Factor	U
LID	Faise
Output Results	
Modeled (10-yr) Rainfall Depth (in)	4.998
Peak Intensity (in/hr)	2.7371
Undeveloped Runoff Coefficient (Cu)	0.7173
Developed Runoff Coefficient (Cd)	0.7224
Time of Concentration (min)	60
Clear Peak Flow Rate (cfs)	4 6067
Burned Peak Flow Rate (cfs)	4.6067
24-Hr Clear Rupoff Volume (ac-ft)	0.1002
24-Hr Clear Runoff Volume (cu-ft)	8675 / 387
	0073.4307
Hydrograph (Canyon Sid	ing: DA-05)
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Time (minutes)	

Input Parameters	
Project Name	Canvon Siding
Subaroa ID	
	1 12
Flow Dath Longth (ft)	702.0
Flow Path Length (II)	792.0
Flow Pain Slope (VII/III)	0.24
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.030867097
Soil Type	97
Design Storm Frequency	10-yr
Fire Factor	0
LID	False
Output Results	
Modeled (10-yr) Rainfall Depth (in)	4.998
Peak Intensity (in/hr)	2.5458
Undeveloped Runoff Coefficient (Cu)	0.7082
Developed Runoff Coefficient (Cd)	0.7141
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	7 5082
Burned Peak Flow Rate (cfs)	7 5082
24-Hr Cloar Pupoff Volumo (ac-ft)	0.3566
24 Hr Clear Runoff Volume (au ft)	15522 2017
	15552.2017
Hydrograph (Canyon Sidi	ng: DA-06)
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Time (minutes)	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	
	18 18
Flow Dath Longth (ft)	1244.0
Flow Path Slope (vft/bft)	0.208
50 vr Painfall Dooth (in)	7.0
Dercont Importious	0.029609006
Soil Typo	0.02000000
Soli Type Decign Storm Frequency	97 10 yr
Eiro Eactor	
	U Falco
	1 0136
Output Results	
Modeled (10-vr) Rainfall Depth (in)	4 998
Peak Intensity (in/hr)	2 1529
Undeveloped Runoff Coefficient (Cu)	0.68
Developed Runoff Coefficient (Cd)	0.6863
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	26.861
Burned Peak Flow Rate (cfs)	26.861
24-Hr Clear Runoff Volume (ac-ft)	1 5544
24-Hr Clear Runoff Volume (cu-ft)	67707 513
	01101.010
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Time (minutes)	

Input Parameters		
Project Name	Canvon Siding	
Subarea ID		
	2.26	
Flow Path Longth (ft)	472.0	
Flow Path Clana (uft/hft)	472.0	
Flow Path Slope (VII/III)	0.430	
50-yr Rainfail Depth (in)	7.0	
Percent Impervious	0.156010454	
Soil Type	97	
Design Storm Frequency	10-yr	
Fire Factor	0	
LID	False	
Output Results		
Modeled (10-yr) Rainfall Depth (in)	4.998	
Peak Intensity (in/hr)	2.9819	
Undeveloped Runoff Coefficient (Cu)	0.7289	
Developed Runoff Coefficient (Cd)	0.7556	
Time of Concentration (min)	5.0	
Cloar Poak Flow Pate (cfs)	5.0021	
Dical Fear Flow Nate (05)	5.0921	
24 Hr Clear Dunoff Valume (co. ft)	0.0921	
24-HI Clear Runoll Volume (ac-it)		
24-Hr Clear Runoff Volume (cu-π)	12134.4152	
Hydrograph (Capyon Sidi		
	Ing. DA-06)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-Ó9
Area (ac)	10.11
Flow Path Length (ft)	1025.0
Flow Path Slope (vft/hft)	0.202
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.087673207
Soil Type	97
Design Storm Frequency	10-vr
Fire Factor	0
LID	False
Output Poculto	
Vulpul Results Modeled (10 yr) Deinfell Death (in)	4 008
Noueleu (TU-yr) Kalmall Depth (In)	4.990
reak Intensity (III/III)	2.3909
Diveloped Runoff Coefficient (Cu)	0.0978
Developed Runoil Coefficient (Cd)	0.7 100
Time of Concentration (min)	8.0
Clear Peak Flow Rale (CIS)	17.2907
Burned Peak Flow Rale (CIS)	17.2907
24-Fit Clear Runoll Volume (ac-it)	1.0414
24-HI Clear Runoil Volume (cu-it)	45362.3779
Hydrograph (Canyon Sid	ing <sup>.</sup> DA-09)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-10
Area (ac)	7.08
Flow Path Length (ft)	887.0
Flow Path Slope (vft/hft)	0.226
50-vr Rainfall Denth (in)	7.0
Percent Impervious	0 140092863
Soil Type	97
Design Storm Frequency	10-vr
Fire Factor	0
	False
Output Results	4 009
Noucleu (10-yr) Kalliall Deptil (III) Dook Intonoity (in/br)	4.330
Feak IIItensity (III/III)	2.0400 0.7090
Developed Runoff Coefficient (Cd)	0.7002
Time of Concentration (min)	
Clear Deals Flow Data (efa)	1.0
Clear Peak Flow Rale (CIS)	13.2400
Duffied Peak Flow Rale (CIS)	13.2400
24-Fil Clear Runoll Volume (ac-it)	0.039
24-HI Clear Runoil Volume (cu-it)	30347.2944
Hydrograph (Capyon	Siding: DA 10)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-11
$\Delta rea (ac)$	87 33
Flow Doth Longth (ft)	4047.0
Flow Falli Lengin (II)	4047.0
Flow Path Slope (vit/nit)	0.101
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.276140604
Soil Type	97
Design Storm Frequency	10-vr
Fire Factor	0
ID	False
2.0	1 2100
Output Results Medeled (10 yr) Reinfell Depth (in)	4 009
Noueleu (10-yr) Kallilali Deptii (iii) Doold Intonoity (in/br)	4.330
reak Intensity (In/nr)	1.4200
Undeveloped Runoff Coefficient (Cu)	0.5991
Developed Runoff Coefficient (Cd)	0.6822
Time of Concentration (min)	24.0
Clear Peak Flow Rate (cfs)	84.9954
Burned Peak Flow Rate (cfs)	84.9954
24-Hr Clear Runoff Volume (ac-ft)	13,7846
24-Hr Clear Runoff Volume (cu-ft)	600458 2238
	00010012200
<sup>90</sup> Hydrograph (Canyo	on Siding: DA-11)
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-12	
Area (ac)	7.61	
Flow Path Length (ft)	1189.0	
Flow Path Slope (vft/hft)	0 103	
50-vr Rainfall Denth (in)	7.0	
Dereent Impensione	0.046514017	
	0.040514217	
Soli Type	97	
Design Storm Frequency	10-yr	
Fire Factor	<u> </u>	
LID	False	
Output Results		
Modeled (10-yr) Rainfall Depth (in)	4.998	
Peak Intensity (in/hr)	2.2622	
Undeveloped Runoff Coefficient (Cu)	0.6882	
Developed Runoff Coefficient (Cd)	0.698	
Time of Concentration (min)	9.000	
Clear Peak Flow Rate (cfs)	12 0168	
Burnod Book Flow Poto (cfs)	12.0100	
24 Hr Cloar Pupoff Volume (ac ft)	0.6012	
24-FIT Clear Runoff Volume (au ft)	20107 2550	
24-mi Clear Runoir Volume (cu-it)	30107.3559	
Hydrograph (Canyon S	Siding: DA-12)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-13
Area (ac)	71.28
Flow Path Length (ft)	4280.0
Flow Path Slope (vft/hft)	0.097
50-vr Rainfall Denth (in)	7.0
Percent Impervious	0 142666804
Soil Type	07
Design Storm Frequency	10_vr
Eiro Eactor	0
	U Foloo
LID	Faise
Output Results	
Medeled (10 yr) Poinfall Donth (in)	4 009
Rainian Depth (III)	4.330
Peak Intensity (In/In)	1.374
Developed Runoil Coefficient (Cu)	0.0093
Developed Runon Coefficient (Cd)	0.0330
Time of Concentration (min)	26.0
Clear Peak Flow Rate (cfs)	62.0546
Burned Peak Flow Rate (cfs)	62.0546
24-Hr Clear Runoff Volume (ac-ft)	8.4317
24-Hr Clear Runoff Volume (cu-ft)	367285.0617
70 Hydrograph (Canyor	n Siding: DA-13)
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0 200 400 600 800	1000 1200 1400 1600
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-14
Area (ac)	194,19
Flow Path Length (ft)	6555.0
Flow Path Slope (vft/hft)	0.047
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.526484739
Soil Type	97
Design Storm Frequency	10-vr
Fire Factor	
	False
Output Results	
Modeled (10-vr) Rainfall Depth (in)	4 998
Peak Intensity (in/hr)	1 2846
Undeveloped Runoff Coefficient (Cu)	0.5726
Developed Runoff Coefficient (Cd)	0.745
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	185 8393
Burned Peak Flow Rate (cfs)	185,8303
24-Hr Clear Runoff Volume (ac-ft)	103.0333
24-Hr Clear Runoff Volume (ac-it)	1959607 0008
	1303007.0000
200 Hydrograph (Ca 150 - (5) NO - 100 -	anyon Siding: DA-14)
50 0 0 200 400 600	800 1000 1200 1400 1600
Time	e (minutes)

Input Parameters			
Project Name		Canvon Siding	
Subarea ID		DA-15	
$\Delta rea (ac)$		13.69	
Flow Dath Longth (ft)		2174.0	
Flow Fall Length (It)		2174.0	
Flow Path Slope (vit/nit)		0.069	
50-yr Rainfall Depth (in)		7.0	
Percent Impervious		1.0	
Soil Type		97	
Design Storm Frequency		10-vr	
Fire Factor		0	
		False	
210		1 0,00	
Output Posults			
Modeled (10 yr) Painfall D	onth (in)	4 009	
Dook Intensity (in /hr)	epin (iii)	4.330	
reak intensity (in/nr)		1.838	
Undeveloped Runoff Coef	ricient (Cu)	0.6505	
Developed Runoff Coeffici	ent (Cd)	0.9	
Time of Concentration (mi	n)	14.0	
Clear Peak Flow Rate (cfs	)	22.6455	
Burned Peak Flow Rate (c	fs)	22.6455	
24-Hr Clear Runoff Volum	e (ac-ft)	5,0893	
24-Hr Clear Runoff Volum	e (cu-ft)	221689 8373	
		221003.0070	
25 20 15 65			-
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0 200 4	400 600 80 Time (m	00 1000 1200 1400 hinutes)	1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-01
Area (ac)	10.52
Flow Path Length (ft)	976.0
Flow Path Slope (vft/hft)	0.094
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.180613567
Soil Type	97
Design Storm Frequency	25-vr
Fire Factor	0
	False
<b>_</b>	
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	2.9401
Undeveloped Runoff Coefficient (Cu)	0.7269
Developed Runoff Coefficient (Cd)	0.7582
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	23.4501
Burned Peak Flow Rate (cfs)	23.4501
24-Hr Clear Runoff Volume (ac-ft)	1.7884
24-Hr Clear Runoff Volume (cu-ft)	77903.0381
25 Hydrograph (Canyon Si	ding: DA-01)
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Time (minutes	)

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-02	
Area (ac)	1 89	
Flow Path Length (ft)	547.0	
Flow Path Slope (vft/bft)	0.15	
50-vr Painfall Dopth (in)	7.0	
Dereent Imperieue	0.000696757	
	0.022000737	
Soli Type Design Storm Frequency	97 05 xm	
Design Storm Frequency	25-yi	
Fire Factor	U	
LID	False	
Output Results		
Modeled (25-yr) Rainfall Depth (in)	6.146	
Peak Intensity (in/hr)	3.6669	
Undeveloped Runoff Coefficient (Cu)	0.7583	
Developed Runoff Coefficient (Cd)	0.7615	
Time of Concentration (min)	5.0	
Clear Peak Flow Rate (cfs)	5 2778	
Burned Peak Flow Rate (cfs)	5 2778	
24-Hr Clear Runoff Volume (ac-ft)	0.2171	
24-Hr Clear Runoff Volume (cu-ft)	9455 7281	
	5455.7201	
Hydrograph (Canvon Sid	ling: DA-02)	
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Hydrograph (Canyon Sid	ling: DA-02)	
Hydrograph (Canyon Sid	ling: DA-02)	-

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-03	
Area (ac)	12.03	
Flow Path Length (ft)	1176.0	
Flow Path Slope (vft/hft)	0 109	
50-vr Rainfall Denth (in)	7.0	
Dercent Impervious	0.064263505	
Soil Type	0.004203303	
Docian Storm Fraguenov	JI DE VII	
Fire Factor	20-yi	
	U	
LID	Faise	
Output Results		
Modeled (25-yr) Rainfall Depth (in)	6.146	
Peak Intensity (in/hr)	2.7817	
Undeveloped Runoff Coefficient (Cu)	0.7194	
Developed Runoff Coefficient (Cd)	0.731	
Time of Concentration (min)	9.0	
Clear Peak Flow Rate (cfs)	24.4625	
Burned Peak Flow Rate (cfs)	24.4625	
24-Hr Clear Runoff Volume (ac-ft)	1.5542	
24-Hr Clear Runoff Volume (cu-ff)	67698.8331	
	0100010001	
Hydrograph (Canyon S	idina: DA-03)	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-04	
Area (ac)	6.44	
Flow Path Length (ft)	927.0	
Flow Path Slope (vft/hft)	0.223	
50-vr Painfall Dooth (in)	7.0	
Dercent Imperious	0.122040221	
	0.123940231	
Soli Type Design Storm Fraguenes/	97 05 xm	
Design Storm Frequency	25-yr	
	U False	
LID	Faise	
Output Results		
Modeled (25-vr) Rainfall Depth (in)	6.146	
Peak Intensity (in/hr)	3 3657	
Undeveloped Runoff Coefficient (Cu)	0 7471	
Developed Runoff Coefficient (Cd)	0.7661	
Time of Concentration (min)	6.0	
Clear Book Flow Pate (cfc)	16 6040	
Diedi Feak Flow Rale (CIS) Burnad Daak Flow Rate (cfa)	16 6049	
24 Hr Clear Dunoff Valuma (as ft)	0.0676	
24-Fit Clear Runoll Volume (ac-it)	0.9676	
24-mr Clear Runoir Volume (cu-it)	42149.078	
Hydrograph (Canyon Sidin	a <sup>.</sup> DA-04)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-05
Area (ac)	2.33
Flow Path Length (ft)	622.0
Flow Path Slope (vft/hft)	0.248
50-vr Rainfall Depth (in)	7.0
Dercent Impervieus	0.027919050
	0.027010039
Soli Type Design Starm Fragueney	97 05 ym
Design Storm Frequency	25-yi
Fire Factor	U
LID	Faise
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	3 6669
Undeveloped Runoff Coefficient (Cu)	0 7583
Developed Runoff Coefficient (Cd)	0.7623
Time of Concentration (min)	5.0
Clear Book Elow Bate (cfc)	6.5127
Diedi Feak Flow Rate (CIS) Burnad Daak Elow Pata (dia)	6 5107
24 Hr Clear Dunoff Valuma (as ft)	0.0127
24-FIT Clear Runoll Volume (ac-it)	0.2710
24-Hr Clear Runoff Volume (cu-ft)	11839.4629
Hydrograph (Canyon S	iding: DA-05)
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Time (minutes	s)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-06
Area (ac)	4.13
Flow Path Length (ft)	792.0
Flow Path Slope (vft/hft)	0.24
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.030867097
Soil Type	97
Design Storm Frequency	25-vr
Fire Factor	0
	False
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	3.3657
Undeveloped Runoff Coefficient (Cu)	0.7471
Developed Runoff Coefficient (Cd)	0.7518
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	10.451
Burned Peak Flow Rate (cfs)	10.451
24-Hr Clear Runoff Volume (ac-ft)	0.4859
24-Hr Clear Runoff Volume (cu-ft)	21164.7886
Hydrograph (Canyon	Siding: DA-06)
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Time (minu	tes)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-07
Area (ac)	18 18
Flow Path Length (ft)	12// 0
Flow Dath Slope (vft/bft)	0.209
Flow Fall Slope (VII/III)	7.0
50-yr Rainiail Depth (in)	7.0
Percent Impervious	0.028608006
Soli Type	97
Design Storm Frequency	25-yr
Fire Factor	0
LID	False
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	2.9401
Undeveloped Runoff Coefficient (Cu)	0.7269
Developed Runoff Coefficient (Cd)	0.7319
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	39,1186
Burned Peak Flow Rate (cfs)	39 1186
24-Hr Clear Runoff Volume (ac-ft)	2 1222
24-Hr Clear Runoff Volume (cu-ft)	92/13 2/9/
	52445.2454
40 Hydrograph (Canyon	Siding: DA-07)
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	1000 1200 1400 1600
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-08
Area (ac)	2.26
Flow Path Length (ft)	472.0
Flow Path Slope (vft/hft)	0.438
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0 156010454
Soil Type	0.150010454
Design Storm Frequency	91 DE vir
Design Storm Frequency	25-yi
	U
LID	False
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	3.6669
Undeveloped Runoff Coefficient (Cu)	0.7583
Developed Runoff Coefficient (Cd)	0.7804
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6 4676
Burned Peak Flow Rate (cfs)	6 4676
24-Hr Clear Runoff Volume (ac-ft)	0.3651
24-III Clear Runoff Volume (ac-it)	15002 607
	15905.097
Hydrograph (Canyon S	Siding: DA-08)
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Time (minute	s)

Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-09
Area (ac)	10 11
Flow Path Length (ft)	1025.0
Flow Path Slope (vft/hft)	0.202
50-vr Rainfall Denth (in)	7.0
Dercont Imponyious	0.097672207
	0.007073207
Soli Type Design Storm Frequency	97 DE vir
Eiro Fostor	25-yi
	U Feles
LID	Faise
Output Results	0.440
Noueled (25-yr) Kalliall Depth (In)	0.140
Heak Intensity (In/III)	J. 1300 0 700
Developed Runoff Coofficient (Cd)	0.750
Time of Concentration (min)	0.7503
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	23.7478
Burned Peak Flow Rate (CIS)	23.7478
24-Hr Clear Runoff Volume (ac-ft)	1.3899
24-Hr Clear Runoff Volume (cu-ft)	60545.0807
Hydrograph (Canyon S	Siding: DA-09)
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Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-10
Area (ac)	7.08
Flow Path Length (ft)	887.0
Flow Path Slope (vft/bft)	0.226
Flow Fall Slope (MMIL)	7.0
50-yr Rainian Depin (in)	7.0
	0.140092803
	97 05 cm
Design Storm Frequency	25-yr
Fire Factor	0
LID	False
Output Results	
Modeled (25-yr) Rainfall Depth (in)	6.146
Peak Intensity (in/hr)	3.3657
Undeveloped Runoff Coefficient (Cu)	0.7471
Developed Runoff Coefficient (Cd)	0.7685
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	18 3139
Burned Peak Flow Rate (cfs)	18 3130
24-Hr Clear Rupoff Volume (ac-ft)	1 1038
24-III Clear Runoff Volume (au-ft)	1.1000
	40002.0020
20 Hydrograph (Canyon Sidin	ng: DA-10)
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-11	
Area (ac)	87.33	
Flow Path Length (ft)	4047.0	
Flow Path Slope (vft/hft)	0.101	
50-vr Rainfall Depth (in)	7.0	
Percent Impervious	0.276140604	
Soil Type	97	
Design Storm Frequency	25-vr	
Fire Factor	0	
	False	
	1 4100	
Output Posults		
Modeled (25 yr) Reinfell Depth (in)	6 1 4 6	
Noucleu (20-yr) Kalliall Depth (III)	0.140	
reak Intensity (In/III)	1.9113	
Developed Runoff Coefficient (Cd)	0.0007	
Time of Concentration (min)	0.7255	
Clear Deals Flaw Data (cfa)	20.0	
Clear Peak Flow Rale (CIS)	121.003	
Burned Peak Flow Rate (CIS)	121.063	
24-Hr Clear Runoff Volume (ac-ft)	770400 050	
24-Hr Clear Runom Volume (cu-m)	//2186.958	
140 Hydrograph (Canyon	Siding: DA-11)	
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Input Parameters		
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Project Name	Canvon Siding	
Subarea ID	DA-12	
Area (ac)	7.61	
Flow Path Length (ft)	1189.0	
Flow Path Slope (vft/bft)	0 103	
Flow Fain Slope (VIVIII)	7.0	
Deroont Importious	0.046514217	
	0.040014217	
Soli Type	97	
Design Storm Frequency	25-yr	
Fire Factor	0	
LID	False	
Output Results		
Modeled (25-yr) Rainfall Depth (in)	6.146	
Peak Intensity (in/hr)	2.9401	
Undeveloped Runoff Coefficient (Cu)	0.7269	
Developed Runoff Coefficient (Cd)	0.735	
Time of Concentration (min)	8.0	
Clear Peak Flow Pate (cfs)	16 4441	
Burnod Book Flow Poto (ofc)	16 4441	
24 Hr Clear Pupeff Valume (as ft)	0.0261	
24-FIL Clear Runoff Volume (auft)		
24-HI Clear Runoil Volume (cu-il)	40776.078	
Hvdrograph (Canvon Sic	ing: DA-12)	
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Input	Parameters	
Drojec	t Name	Canvon Siding
Subar		
Δrea (		71 28
Flow F	Path Length (ft)	1280 0
Flow F	ath Slope (vft/bft)	0.007
50_vr	an Sope (Minni)	7.0
Doroor	Allian Depin (m)	0.142666904
		0.142000004
Deciar	/pe Storm Fraguency	
Design	i Storn Frequency	20-yi
		U Foloo
LID		raise
Outpu	t Results	
Model	ed (25-vr) Rainfall Depth (in)	6 146
Poak I	ntensity (in/hr)	1 868
Indov	aloned Runoff Coefficient (Cu)	0.6538
Dovolo	and Pupoff Coofficient (Cd)	0.000
Time	of Concentration (min)	
	Deek Flow Dete (efe)	21.0
Durne	Peak Flow Rale (CIS)	91.7329
Burned	D Peak Flow Rale (CIS)	91.7329
24-Hr	Clear Runoff Volume (ac-ft)	11.1245
24-Hr	Clear Runoff Volume (cu-ft)	484584.1571
	100 Hydrograph (Canyon Sidin	g: DA-13)
Flow (cfs)	80 - 60 - 40 - 20 -	
	0 200 400 600 800 10 Time (minutes)	000 1200 1400 1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-14
Area (ac)	194.19
Flow Path Length (ft)	6555.0
Flow Path Slope (vft/hft)	0.047
50-vr Rainfall Denth (in)	7.0
Boreont Imporvious	0.526494720
	0.520404759
Soli Type Design Storm Frequency	97 25 xm
Design Storm Frequency	25-yr
FIRE Factor	U
LID	Faise
Output Results	0.4.40
Nodeled (25-yr) Kainfall Depth (In)	0.140
reak intensity (In/nr)	
Unaevelopea Runott Coetticient (Cu)	0.6245
Developed Runoff Coefficient (Cd)	0.7696
Time of Concentration (min)	29.0
Clear Peak Flow Rate (cfs)	239.8569
Burned Peak Flow Rate (cfs)	239.8569
24-Hr Clear Runoff Volume (ac-ft)	56.4444
24-Hr Clear Runoff Volume (cu-ft)	2458718.4986
250 Hydrograph (Ca	nyon Siding: DA-14)
200 - 150 - <u>(sj:)</u> MO 100 - 50 -	
0 200 400 600 Time	800 1000 1200 1400 1600 e (minutes)

Input Paramotors		
Project Name	Canyon Siding	
Subarea ID	DA-15	
Area (ac)	13.69	
Flow Path Length (ft)	2174.0	
Flow Path Slope (vft/hft)	0.069	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	1.0	
Soil Type	97	
Design Storm Frequency	25-vr	
Fire Factor	0	
	False	
<b>_</b>		
Output Results		
Modeled (25-vr) Rainfall Depth (in)	6 146	
Peak Intensity (in/hr)	2 4299	
Undeveloped Runoff Coefficient (Cu)	0 7008	
Doveloped Runoff Coefficient (Cd)	0.000	
Time of Concentration (min)	12.0	
Clear Deals Flaw Data (afa)	12.0	
Clear Peak Flow Rale (CIS)	29.9394	
Burned Peak Flow Rate (crs)	29.9394	
24-Hr Clear Runoff Volume (ac-ft)	6.2583	
24-Hr Clear Runoff Volume (cu-ft)	272610.0125	
30 Hydrograph (Canyon Sidin	g: DA-15)	
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Input Paramotors		
Project Name	Canyon Siding	
Subarea ID	DA-01	
Area (ac)	10.52	
Flow Path Length (ft)	976.0	
Flow Path Slope (vft/hft)	0.094	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	0.180613567	
Soil Type	97	
Design Storm Frequency	50-vr	
Fire Factor		
	Falco	
LID	1 0130	
Outrout Desculte		
Output Results	7.0	
Noueleu (ou-yr) Rainial Depth (m)	1.U 2.ECEE	
Peak Intensity (In/nr)	3.5055	
Undeveloped Runoff Coefficient (Cu)	0.7554	
Developed Runoff Coefficient (Cd)	0.7815	
Time of Concentration (min)	7.0	
Clear Peak Flow Rate (cfs)	29.3139	
Burned Peak Flow Rate (cfs)	29.3139	
24-Hr Clear Runoff Volume (ac-ft)	2.1257	
24-Hr Clear Runoff Volume (cu-ft)	92597 5813	
30 Hydrograph (Canyon S	iding: DA-01)	
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0 200 400 600 800	1000 1200 1400 1600	
Time (minute	5)	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-02
Area (ac)	1 89
Flow Path Longth (ft)	547.0
Flow Dath Clong (11/	0.45
Flow Pain Slope (VII/III)	0.15
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.022686757
Soil Type	97
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	4.1764
Undeveloped Runoff Coefficient (Cu)	0.7731
Developed Runoff Coefficient (Cd)	0 776
Time of Concentration (min)	5.0
Clear Dook Flow Date (efc)	5.0 6.10E
Clear Peak Flow Rale (CIS)	0.120
Burned Peak Flow Rate (cfs)	6.125
24-Hr Clear Runoff Volume (ac-ft)	0.266
24-Hr Clear Runoff Volume (cu-ft)	11588.9589
7 Hydrograph (Canyon Sid	ding: DA-02)
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0 200 400 600 800	1000 1200 1400 1600
Time (minutes)	)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-03
Area (ac)	12.03
Flow Path Length (ft)	1176.0
Flow Dath Slope (vft/hft)	0 100
Flow Fall Slope (VII/III)	0.109
50-yr Rainiair Depth (in)	7.0
Percent Impervious	0.064263505
Soil Type	97
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	7.0
Nodeled (SU-yr) Kainfall Depth (IN)	7.0
Peak Intensity (in/hr)	3.3486
Undeveloped Runoff Coefficient (Cu)	0.7463
Developed Runoff Coefficient (Cd)	0.7562
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	30.4621
Burned Peak Flow Rate (cfs)	30,4621
24-Hr Clear Runoff Volume (ac-ft)	1 8857
24-Hr Clear Runoff Volume (cu-ft)	82140 6318
	02140:0010
35 Hydrograph (Canyon Sidi	ing: DA-03)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-04
Area (ac)	6.44
Flow Path Length (ft)	927.0
Flow Path Slope (vft/hft)	0.223
50-vr Rainfall Denth (in)	7.0
Dercont Importations	0.1230/0231
Soil Type	0.123940231
Soli Type Design Storm Fragueney	97 50 yr
Design Storm Frequency	50-yi
FIRE Factor	U
LID	Faise
Output Results	
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	3.8334
Undeveloped Runoff Coefficient (Cu)	0.7632
Developed Runoff Coefficient (Cd)	0.7801
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	19.2589
Burned Peak Flow Rate (cfs)	19.2589
24-Hr Clear Runoff Volume (ac-ft)	1.1597
24-Hr Clear Runoff Volume (cu-ft)	50516.3298
20 Hydrograph (Canyon Sid	ing: DA-04)
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0 200 400 600 800	1000 1200 1400 1600
Time (minutes)	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-05
$\Delta rea (ac)$	2 33
Flow Doth Longth (ft)	2.00 600 0
Flow Pain Lengin (II)	022.0
Flow Path Slope (VII/nII)	0.248
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.027818059
Soil Type	97
Design Storm Frequency	50-yr
Fire Factor	0
ID	False
210	
Output Results	
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	4.1764
Undeveloped Runoff Coefficient (Cu)	0.7731
Developed Runoff Coefficient (Cd)	0.7766
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	7 5573
Burned Peak Flow Rate (cfs)	7 5573
24-Hr Cloar Pupoff Volumo (ac-ft)	0.3326
24 Hr Clear Dunoff Volume (au ft)	
24-mi Clear Runoir Volume (cu-it)	14409.3000
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Input Parameters         Project Name       Canyon Siding         Subarea ID       DA-06         Area (ac)       4.13         Flow Path Length (ft)       0.24         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.030867097         Soil Type       97         Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)       7.0         Peak Intensity (in/hr)       4.1764         Undeveloped Runoff Coefficient (Cu)       0.7731         Developed Runoff Coefficient (Cd)       0.7771         Time of Concentration (min)       5.0         Deak Information (min)       5.0         Queloped Runoff Volume (ac-ft)       0.5945         24-Hr Clear Runoff Volume (ac-ft)       0.5945         24-Hr Clear Runoff Volume (cu-ft)       25896.08         Output for the part of the p		
Project Name Canyon Siding Subarea ID DA-06 Area (ac) 4.13 Flow Path Length (ft) 792.0 Flow Path Length (ft) 0.24 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.030867097 Soil Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 4.1764 Undeveloped Runoff Coefficient (Cu) 0.7771 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 Burned Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (ac-ft) 0.5945 Description (Canyon Siding: DA-06) 120 140 1600	Input Parameters	
Subarea ID Area (ac) Flow Path Length (ft) Flow Path Slope (vft/hft) 0.24 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.030867097 Soil Type 97 Design Stom Frequency 50-yr Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) 0.7771 Developed Runoff Coefficient (Cu) 0.7772 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (cu-ft) 25896.08 0 0 0 0 0 0 0 0 0 0 0 0 0	Project Name	Canyon Siding
Area (ac) Flow Path Length (ft) Flow Path Length (ft) Flow Path Length (ft) Flow Path Length (ft) Slope (vft/hft) 0.24 50-yr Rainfall Depth (in) Percent Impervious 0.030867097 Soil Type 97 Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) 0.7731 Developed Runoff Coefficient (Cd) 0.7777 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 25896.08 0 0 0 0 0 0 0 0 0 0 0 0 0	Subarea ID	DA-06
Flow Path Length (ft) Flow Path Length (ft) Flow Path Slope (vft/htt) 50-yr Rainfall Depth (in) Percent Impervious Soil Type 97 Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) 0.77731 Developed Runoff Coefficient (Cd) 0.77731 Developed Runoff Coefficient (Cd) 0.77731 Developed Runoff Coefficient (Cd) 0.77731 Developed Runoff Coefficient (Cd) 0.77731 Developed Runoff Coefficient (Cd) 0.570 Clear Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (cc-ft) 25896.08	Area (ac)	4 13
Flow Path Biope (rft/htt) Flow Path Slope (rft/htt) 50-yr Rainfall Depth (in) Percent Impervious Soil Type 97 Design Storm Frequency Fire Factor UD False Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) 100 100 100 100 100 100 100 10	Flow Path Length (ft)	702.0
To Part and the provide state of the provided state of the provid	Flow Dath Slope (vft/bft)	0.24
boy Rainan Depth (iii) Percent Impervious Soi Type Percent Impervious Soi Type 97 Design Storm Frequency 10 <b>Output Results</b> Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) 0.7771 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (ac-ft) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (ac-ft) 0.5945 0.	Flow Faul Slope (VII/III)	7.0
Percent Impervious 0.030867097 Design Storm Frequency 50-yr Fire Factor 0 LID False Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 4.1764 Undeveloped Runoff Coefficient (Cu) 0.7731 Developed Runoff Coefficient (Cd) 0.7777 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 Burned Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.55896.08	50-yr Rainiai Depin (iii)	7.0
Sol Type Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff Volume (ac-ft) Developed Runoff Volume (ac-	Percent Impervious	0.030867097
Design Storm Frequency LID Fire Factor UD False Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cd) Concentration (min) Concentration (min) Concentration (min) Clear Peak Flow Rate (cfs) Sumed Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 25896.08	Soli i ype	97
Hire Factor     U       False         Output Results       Modeled (50-yr) Rainfall Depth (in)     7.0       Peak Intensity (in/hr)     4.1764       Undeveloped Runoff Coefficient (Cu)     0.777       Time of Concentration (min)     5.0       Clear Peak Flow Rate (cfs)     13.4022       Burned Peak Flow Rate (cfs)     13.4022       24-Hr Clear Runoff Volume (ac-ft)     0.5945       24-Hr Clear Runoff Volume (cu-ft)     25896.08	Design Storm Frequency	50-yr
LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 4.1764 Undeveloped Runoff Coefficient (Cu) 0.7731 Developed Runoff Coefficient (Cd) 0.7777 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 Burned Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 25896.08	Fire Factor	0
Output Results         Modeled (50-yr) Rainfall Depth (in)       7.0         Peak Intensity (in/hr)       4.1764         Undeveloped Runoff Coefficient (Cu)       0.7731         Developed Runoff Coefficient (Cd)       0.777         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       13.4022         24-Hr Clear Runoff Volume (ac-ft)       0.5945         24-Hr Clear Runoff Volume (cu-ft)       25896.08	LID	False
Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) 0.7771 Developed Runoff Coefficient (Cd) 0.7777 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 25896.08		
Modeled (30-97) Raining Deprin (in) Peak Intensity (in/hr) Line of Concentration (min) S.0 Clear Peak Flow Rate (cfs) Line of Concentration (min) Line of Co	Output Results Modeled (50 yr) Painfall Donth (in)	70
Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cd) Developed Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (cu-ft) Clear Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (cu-ft) Clear Runoff Volume (cu-ft	Dook Intonsity (in/hr)	1.0
Undeveloped Runoff Coefficient (Cd) 0.777 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 13.4022 Burned Peak Flow Rate (cfs) 13.4022 24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (cu-ft) 25896.08 $\frac{14}{12} - \frac{14}{12} - \frac{14}{12}$	Peak Intensity (III/III)	4.1704
Understand the second s	Developed Runon Coefficient (Cu)	0.7731
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 24-Hr Clear Runoff Volume (cu-ft) 25896.08	Developed Runoff Coefficient (Cd)	0.777
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 24-Hr Clear Runoff Volume (cu-ft) 13.4022 24-Hr Clear Runoff Volume (cu-ft) 25896.08 14	Time of Concentration (min)	5.0
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 25896.08	Clear Peak Flow Rate (cts)	13.4022
24-Hr Clear Runoff Volume (ac-ft) 0.5945 24-Hr Clear Runoff Volume (cu-ft) 25896.08	Burned Peak Flow Rate (cfs)	13.4022
24-Hr Clear Runoff Volume (cu-ft) 25896.08	24-Hr Clear Runoff Volume (ac-ft)	0.5945
Hydrograph (Canyon Siding: DA-06)	24-Hr Clear Runoff Volume (cu-ft)	25896.08
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Input Decemetere	
Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-07
Area (ac)	18.18
Flow Path Length (ft)	1244.0
Flow Path Slope (vft/hft)	0.208
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.028608006
Soil Type	97
Design Storm Frequency	50-vr
Fire Factor	0
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Output Results	
Modeled (50 yr) Deinfell Denth (in)	7.0
Noueleu (SU-yr) Rainiail Depth (in)	7.U 2.ECEE
reak intensity (in/in)	0.30000
Undeveloped Runott Coefficient (Cu)	0.7554
Developed Runoff Coefficient (Cd)	0.7595
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	49.2336
Burned Peak Flow Rate (cfs)	49.2336
24-Hr Clear Runoff Volume (ac-ft)	2.5991
24-Hr Clear Runoff Volume (cu-ft)	113216.506
50 Hydrograph (Canyon Si	aing: DA-07)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-08
Area (ac)	2.26
Flow Path Length (ft)	472 0
Flow Path Slope (vft/hft)	0 / 38
50-yr Painfall Donth (in)	7.0
Dereent Impervieue	0.156010454
Seil Tuno	07
Soli Type	97 E0.vm
Design Storm Frequency	50-yr
Fire Factor	U
LID	False
Output Results	
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	4.1764
Undeveloped Runoff Coefficient (Cu)	0.7731
Developed Runoff Coefficient (Cd)	0.7929
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	7.4838
Burned Peak Flow Rate (cfs)	7.4838
24-Hr Clear Runoff Volume (ac-ft)	0.4353
24-Hr Clear Runoff Volume (cu-ft)	18959.6321
。 Hydrograph (Canyon S	Siding: DA-08)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-09
Area (ac)	10 11
Flow Doth Longth (ft)	1025.0
Flow Path Length (II)	1025.0
Flow Path Slope (vit/nit)	0.202
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.087673207
Soil Type	97
Design Storm Frequency	50-vr
Fire Factor	0
	False
	1 4150
Output Results	_
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	3.8334
Undeveloped Runoff Coefficient (Cu)	0.7632
Developed Runoff Coefficient (Cd)	0.7752
Time of Concentration (min)	60
Clear Peak Flow Rate (cfs)	30.0417
Burned Deck Flow Rate (cls)	20.0417
Duffieu Peak Flow Rate (CIS)	30.0417
24-Hr Clear Runoff Volume (ac-ft)	1.678
24-Hr Clear Runoff Volume (cu-ft)	73095.0709
35 Hydrograph (Canyon	Siding: DA-09)
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Time (minu	tes)

Input Parameters	
Project Name C	anyon Siding
Subarea ID D	A-10
Area (ac) 7	.08
Flow Path Length (ft)	87.0
Flow Path Slope (vft/bft)	226
50-vr Painfall Dopth (in)	0
Dercent Impervieue	140002962
	7
Soli Type 9	/ 0
Design Storm Frequency 5	0-yr
LID F	alse
Output Results	
Modeled (50-yr) Painfall Depth (in) 7	0
Deak Intensity (in/hr)	.0
Peak Intensity (III/III) 3	.0334
Undeveloped Runon Coefficient (Cu) 0	.7632
Developed Runoff Coefficient (Cd)	.7823
Time of Concentration (min) 6	.0
Clear Peak Flow Rate (cfs) 2	1.2328
Burned Peak Flow Rate (cfs) 2	1.2328
24-Hr Clear Runoff Volume (ac-ft) 1	.3194
24-Hr Clear Runoff Volume (cu-ft) 5	7473.2558
<sub>25</sub> Hydrograph (Canyon Siding: D	A-10)
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0 200 400 600 800 1000	1200 1400 1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-11
Area (ac)	87 33
Flow Path Longth (ft)	4047.0
Flow Path Clone (wt/htt)	4047.0
Flow Pain Slope (VII/III)	0.101
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.276140604
Soil Type	97
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	
Modeled (50-vr) Rainfall Depth (in)	7.0
Poak Intonsity (in/br)	2.2874
rean IIIterisity (III/III)	2.2014
Developed Runoil Coefficient (Cu)	0.0901
Developed Runon Coemicient (Cd)	0.7481
Time of Concentration (min)	18.0
Clear Peak Flow Rate (cfs)	149.4284
Burned Peak Flow Rate (cfs)	149.4284
24-Hr Clear Runoff Volume (ac-ft)	20.8505
24-Hr Clear Runoff Volume (cu-ft)	908246.6439
Hydrograph (Can	von Siding DA-11)
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0 200 400 600 8 Time (	300 1000 1200 1400 1600 minutes)

Input Parameters	
Project Name	Canvon Siding
Subarea ID	$D_{\Delta}$
	7.61
Flow Dath Longth (ft)	1190.0
Flow Path Clone (vft/bft)	0 402
Flow Pain Slope (VIVIII)	0.193
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.046514217
Soil Type	97
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	
Modeled (50-yr) Rainfall Depth (in)	7.0
Peak Intensity (in/hr)	3.5655
Undeveloped Runoff Coefficient (Cu)	0.7554
Developed Runoff Coefficient (Cd)	0.7621
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	20.679
Burned Peak Flow Rate (cfs)	20.679
24-Hr Clear Runoff Volume (ac-ft)	1 1409
24-Hr Clear Runoff Volume (cu-ft)	49699 4519
	+5655.4615
Hydrograph (Canyon Siding	g: DA-12)
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Input Parameters         Project Name       Canyon Siding         Subarea ID       DA-13         Area (ac)       71.28         Flow Path Length (ft)       4280.0         Flow Path Slope (vft/hft)       0.097         S0-yr Rainfall Depth (in)       7.0         Percent Impervious       0.142666804         Soil Type       97         Design Storm Frequency       50-yr         Jup Earling Storm Frequency       50-yr         LID       False         Output Results		
Project Name Canyon Siding DA-13 Subarea ID D-128 Flow Path Length (ft) 4280.0 Flow Path Length (ft) 0.097 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.142666804 Soil Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.86566 Burned Peak Flow Rate (cfs) 113.86566 Burned Peak Flow Rate (cfs) 113.86566 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Input Parameters	
Subjaces ID DA-13 To Transformed States Stat	Proiect Name	Canvon Siding
Area (ac)       71.28         Flow Path Length (ft)       4280.0         Flow Path Slope (vft/hft)       0.097         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.142666804         Soil Type       97         Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Volume (colspan="2">Volume (colspan="2")         Volume (colspan="2")       Volume (colspan="2")       Volume (colspan="2")       Volume (colspan="2")       Volume (colspan="2")       Volume (colspan="2") <td>Subarea ID</td> <td>DA-13</td>	Subarea ID	DA-13
Flow Path Length (ft) 4280.0 Flow Path Slope (vft/hft) 0.097 SO-yr Rainfall Depth (in) 7.0 Percent Impervious 0.142666804 Soli Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244 $\int_{0}^{0} \frac{1}{90} 1$	Area (ac)	71.28
Flow Path Slope (vit/hft) 0.097 S0-yr Rainfall Depth (in) 7.0 Percent Impervious 0.142666804 Soil Type 97 Design Stom Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (ac-ft) 579778.244 0 0 0 0 0 0 0 0 0 0 0 0 0	Flow Path Length (ft)	4280.0
SO-yr Rainfall Depth (in) Percent Impervious SO-yr Sol Type Pesign Storm Frequency Fire Factor LID Cutput Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) Oceas Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) SU-TYPE 2.23 Undeveloped Runoff Coefficient (Cu) Oceas Peak Flow Rate (cfs) SU-TYPE	Flow Path Slope (vft/hft)	0.097
Durgent Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.68558 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	50-yr Rainfall Denth (in)	7.0
Soil Type Soil Type Jesign Storm Frequency Fire Factor LID Storm Frequency Fire Factor LID Storm Frequency Fire Factor LID Storm Frequency Sol-yr False Solution Storm Frequency Solution Storm Storm Stor	Borcont Imponyious	0.142666904
Soli Type Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff Coefficient (Cd) Devel		0.142000004
Design Storm Frequency 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (ac-ft) 579778.244	Soli Type	97 50 xm
Pile Factor LID False Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff C	Design Storm Frequency	50-yr
LID False Output Results Modeled (50-yr) Rainfall Depth (in) 7.0 Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8059 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Fire Factor	<u> </u>
Output Results         Modeled (50-yr) Rainfall Depth (in)       7.0         Peak Intensity (in/hr)       2.23         Undeveloped Runoff Coefficient (Cd)       0.6858         Developed Runoff Coefficient (Cd)       0.7163         Time of Concentration (min)       19.0         Clear Peak Flow Rate (cfs)       113.8656         Burned Peak Flow Rate (cfs)       113.8656         24-Hr Clear Runoff Volume (ac-ft)       579778.244	LID	False
Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff Volume (cfs) Sumed Peak Flow Rate (cfs) Sumed		
Modeled (SO-97) Ramain Depin (in) Peak Intensity (in/hr) 2.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 3.3099 24-Hr Clear Runoff Volume (cu-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 100 100 100 100 100 100 100 10	Medeled (50 yr) Deinfell Denth (in)	7.0
Leak File (IIIII) 22.23 Undeveloped Runoff Coefficient (Cu) 0.6858 Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Modeled (50-yr) Kalliali Depth (III)	7.0
Undeveloped Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Heak Intensity (In/Inf)	2.23
Developed Runoff Coefficient (Cd) 0.7163 Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Undeveloped Runoff Coefficient (Cu)	0.6858
Time of Concentration (min) 19.0 Clear Peak Flow Rate (cfs) 113.8656 Burned Peak Flow Rate (cfs) 113.8056 24-Hr Clear Runoff Volume (ac-ft) 579778.244 $ \frac{120 - Hydrograph (Canyon Siding: DA-13)}{100 - 100$	Developed Runoff Coefficient (Cd)	0.7163
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Time of Concentration (min)	19.0
Burned Peak Flow Rate (cfs) 113.8656 24-Hr Clear Runoff Volume (ac-ft) 13.3099 24-Hr Clear Runoff Volume (cu-ft) 579778.244	Clear Peak Flow Rate (cfs)	113.8656
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 13.3099 579778.244	Burned Peak Flow Rate (cfs)	113.8656
24-Hr Clear Runoff Volume (cu-ft) 579778.244	24-Hr Clear Runoff Volume (ac-ft)	13.3099
Hydrograph (Canyon Siding: DA-13) $(g)_{MU}$ $(g)_{$	24-Hr Clear Runoff Volume (cu-ft)	579778.244
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Input Parameters		
Project Namo	Convon Siding	
Subaraa ID		1
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Flow Path Longth (ft)	6555.0	l
Flow Path Slope (vft/bft)	0.047	
Flow Fall Slope (VI/III)	7.0	l
50-yr Rainiai Depin (iii)	7.0	
Soil Type	0.520404739	
Soli Type Design Storm Frequency	97 E0.xm	
Eiro Easter	50-yi	
	U Foloo	
	Faise	I
Output Results		
Modeled (50-vr) Rainfall Depth (in)	70	
Peak Intensity (in/hr)	1 9243	l I
Indeveloped Runoff Coefficient (Cu)	0.6601	
Developed Runoff Coefficient (Cd)	0.786/	l I
Time of Concentration (min)	26.0	
Clear Peak Flow Rate (cfs)	203 870/	I
Burnod Book Flow Poto (cfs)	293.0704	
24-Hr Cloar Pupoff Volume (ac-ft)	65 2532	l
24-Hr Clear Runoff Volume (au-ft)	2842428 4622	
	2042420.4055	
300 Hydrograph (Canyor	Siding: DA-14)	
250 -	-	
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cfs)		
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lunut Devenetore	
Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-15
Area (ac)	13.69
Flow Path Length (ft)	2174 0
Flow Path Slope (vft/hft)	0.069
50-vr Painfall Dopth (in)	7.0
Dereent Imperieue	1.0
	1.0
Soli Type	97
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	
Modeled (50-yr) Raintall Depth (in)	7.0
Peak Intensity (in/hr)	2.8831
Undeveloped Runoff Coefficient (Cu)	0.7242
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	35.5229
Burned Peak Flow Rate (cfs)	35 5229
24-Hr Clear Runoff Volume (ac-ft)	7 1279
24-Hr Cloar Pupoff Volume (au ft)	310/80 6733
	310403.0735
$\begin{array}{c} 40 \\ 35 \\ 30 \\ 25 \\ 15 \\ 10 \\ 10 \\ \end{array}$	
5 0 0 200 400 600 800	1000 1200 1400 1600
Time (minut	tes)

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-01	
Area (ac)	10.52	
Flow Path Length (ft)	976.0	
Flow Path Slope (vft/hft)	0.094	
50 vr Painfall Dopth (in)	7.0	
Dereent Imperieue	0.190612567	
Seil Turo	0.100013307	
Soli Type	97	
Design Storm Frequency	TUU-yr	
Fire Factor	U	
LID	False	
Output Results		
Modeled (100-yr) Rainfall Depth (in)	7.854	
Peak Intensity (in/hr)	4.3011	
Undeveloped Runoff Coefficient (Cu)	0.7767	
Developed Runoff Coefficient (Cd)	0.799	
Time of Concentration (min)	6.0	
Clear Peak Flow Rate (cfs)	36.1514	
Burned Peak Flow Rate (cfs)	36.1514	
24-Hr Clear Runoff Volume (ac-ft)	2.4857	
24-Hr Clear Runoff Volume (cu-ft)	108275.2485	
Hydrograph (Canyon	Siding: DA-01)	
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-02
Area (ac)	1 89
Flow Path Length (ft)	5/7 0
Flow Path Slope (vft/hft)	0 15
50 vr Painfall Donth (in)	7.0
Deroont Imperieue	0.000696757
	0.022000737
Soli Type	97 100 xm
Design Storm Frequency	100-yr
Fire Factor	U
LID	False
Output Results	
Modeled (100-vr) Rainfall Depth (in)	7.854
Peak Intensity (in/hr)	4 6859
Undeveloped Runoff Coefficient (Cu)	0 7854
Developed Runoff Coefficient (Cd)	0.788
Time of Concentration (min)	5.0
Clear Deak Flow Pate (cfc)	6.0797
Clear Flak Flow Rate (CIS) Rurnad Raak Flow Rate (ofa)	0.9707 6.0797
Durried Peak Flow Rale (CIS)	0.9707
24-FIT Clear Runoff Volume (ac-ft)	0.32
24-HI Clear Runoil Volume (cu-it)	13937.1170
7 Hydrograph (Canyon Sid	ing: DA-02)
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Time (minutes)	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-03
Area (ac)	12.03
Flow Path Length (ft)	1176.0
Flow Path Slope (vft/hft)	0 109
50-vr Rainfall Depth (in)	7.0
Borcont Importious	0.064262505
Soil Type	0.004203303
Soli Type Design Storm Frequency	97 100 xm
Design Storm Frequency	100-yi
	U Falsa
LID	False
Output Posults	
Medeled (100 yr) Painfall Donth (in)	7 95/
Pook Intonsity (in/hr)	4 0005
F Car IIICHSILY (III/III)	4.0000
Developed Runoff Coefficient (Cd)	0.700
Time of Concentration (min)	0.7700
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	37.3688
Burned Peak Flow Rate (cfs)	37.3688
24-Hr Clear Runoff Volume (ac-ft)	2.2475
24-Hr Clear Runoff Volume (cu-ft)	97899.2043
40 Hydrograph (Canyon Siding	g: DA-03)
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Input Parameters	
Proiect Name	Canvon Siding
Subarea ID	DA-04
Area (ac)	6 44
Flow Path Length (ft)	927 0
Flow Dath Slope (vft/bft)	0.000
Flow Pain Slope (VIVIII)	0.223
50-yr Rainiall Depth (in)	7.0
Percent Impervious	0.123940231
Soil Type	97
Design Storm Frequency	100-yr
Fire Factor	0
LID	False
Output Results	
Modeled (100-yr) Rainfall Depth (in)	7.854
Peak Intensity (in/hr)	4.6859
Undeveloped Runoff Coefficient (Cu)	0.7854
Developed Runoff Coefficient (Cd)	0.7996
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	24 1295
Burned Peak Flow Rate (cfs)	24.1200
24 Hr Clear Dupoff Volume (co ft)	1 267
24-FIT Clear Runoff Volume (ac-ft)	1.307
24-Hr Clear Runoπ volume (cu-π)	59547.797
Hydrograph (Capyon 9	Siding: DA 04)
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Time (minute	es)

Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-05
Area (ac)	2.33
Flow Path Length (ft)	622.0
Flow Path Slope (vft/hft)	0.248
50-vr Rainfall Depth (in)	7.0
Percent Impervious	0.027818059
Soil Type	97
Design Storm Frequency	100-vr
Fire Factor	0
LID	False
Output Booulto	
Vulpul Results Modeled (100 vr) Reinfell Death (in)	7 951
Nouelea (100-yr) Rainiall Depth (in)	1.004
reak Intensity (In/III)	4.0009 0.7054
Dideveloped Runoll Coefficient (Cu)	0.7854
Developed Runoff Coefficient (Ca)	0.7886
Time of Concentration (min)	0.0
Clear Peak Flow Rate (CIS)	8.6098
Burned Peak Flow Rale (CIS)	8.6098
24-Hr Clear Runoff Volume (ac-ft)	0.3995
24-Hr Clear Runoπ volume (cu-π)	17402.831
Hydrograph (Canyon Sidi	ng: DA-05)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-06
Area (ac)	4 13
Flow Path Length (ft)	792.0
Flow Path Slope (vft/bft)	0.24
Flow Fail Slope (Within)	7.0
50-yr Rainiair Depin (in)	7.0
Percent Impervious	0.030867097
Soli Type	97
Design Storm Frequency	100-yr
Fire Factor	0
LID	False
Output Results	7.05.4
iviodeled (100-yr) Rainfall Depth (in)	1.854
Peak Intensity (in/hr)	4.6859
Undeveloped Runoff Coefficient (Cu)	0.7854
Developed Runoff Coefficient (Cd)	0.7889
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	15.2679
Burned Peak Flow Rate (cfs)	15.2679
24-Hr Clear Runoff Volume (ac-ft)	0.7135
24-Hr Clear Runoff Volume (cu-ft)	31079.9437
Hydrograph (Canyor	n Sidina: DA-06)
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Input Parameters Project Name	
Project Name	
	Canvon Siding
Suparea ID	DA-07
Area (ac)	18 18
Flow Path Length (ft)	1244 0
Flow Path Slope (vft/hft)	0.208
50 vr Painfall Donth (in)	7.0
Dereent Impervieue	7.0
Percent Impervious	0.028608006
Soli Type	97
Design Storm Frequency	100-yr
Fire Factor	0
LID	False
Output Posults	
Madalad (100 yr) Dainfall Danth (in)	7 954
Noueleu (100-yi) Kaliliali Deptii (iii)	1.004
Peak Intensity (In/nr)	4.0005
Undeveloped Runoff Coefficient (Cu)	0.768
Developed Runoff Coefficient (Cd)	0.7718
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	56.1302
Burned Peak Flow Rate (cfs)	56.1302
24-Hr Clear Runoff Volume (ac-ft)	3.1211
24-Hr Clear Runoff Volume (cu-ft)	135956.8471
60 Hydrograph (Canyon Sidi	ng: DA-07)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	
	2.26
Aled (dc)	2.20
Flow Path Length (ft)	472.0
Flow Path Slope (vtt/htt)	0.438
50-yr Rainfall Depth (in)	7.0
Percent Impervious	0.156010454
Soil Type	97
Design Storm Frequency	100-vr
Fire Factor	0
LID	False
Output Results	7.954
Noucieu (100-yr) Kainiall Depth (in)	1.004
Peak Intensity (In/nr)	4.0859
Undeveloped Runoff Coefficient (Cu)	0.7854
Developed Runott Coetficient (Cd)	0.8033
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.5067
Burned Peak Flow Rate (cfs)	8.5067
24-Hr Clear Runoff Volume (ac-ft)	0.5105
24-Hr Clear Runoff Volume (cu-ft)	22237.5108
A Hydrograph (Canyon Sidi	ng: DA-08)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-09
Area (ac)	10.11
Flow Path Length (ft)	1025.0
Flow Path Slope (vft/bft)	0.202
50-vr Rainfall Denth (in)	7.0
Borcont Imponyious	0.007672207
	07
Soli Type Design Starm Fraguenes/	97 100 xm
Design Storm Frequency	100-yr
Fire Factor	U False
LID	Faise
Output Results	
Modeled (100-yr) Rainfall Depth (in)	7.854
Peak Intensity (in/hr)	4.3011
Undeveloped Runoff Coefficient (Cu)	0.7767
Developed Runoff Coefficient (Cd)	0.7875
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	34.2442
Burned Peak Flow Rate (cfs)	34.2442
24-Hr Clear Runoff Volume (ac-ft)	1.9898
24-Hr Clear Runoff Volume (cu-ft)	86676 8841
35 Hydrograph (Canyon S	Siding: DA-09)
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Time (minute	es)

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-10	
Area (ac)	7.08	
Flow Path Length (ft)	887.0	
Flow Path Slope (vft/hft)	0.226	
50-vr Rainfall Denth (in)	7.0	
Percent Impervious	0 140092863	
Soil Type	0.140032003	
Design Storm Frequency	100-vr	
Fire Eactor	0	
	U Folco	
LID	Faise	
Output Results		
Modeled (100-vr) Rainfall Depth (in)	7 854	
Peak Intensity (in/hr)	4 6859	
Undeveloped Runoff Coefficient (Cu)	0.7854	
Developed Runoff Coefficient (Cd)	0.8014	
Time of Concontration (min)	5.0	
Clear Book Flow Pote (ofe)	26 5990	
Ciedi Fear Flow Rale (Cis) Rurnod Dook Elow Poto (ofo)	20.0009	
	20.0009	
24-Hr Clear Runoff Volume (ac-ft)	1 551/	
24-Hr Clear Runoff Volume (ac-ft)	1.5514	
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft)	1.5514 67580.3889	
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft)	1.5514 67580.3889	
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 40 Hydrograph (Canyo	1.5514 67580.3889 n Siding: DA-10)	
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 30 Hydrograph (Canyo	1.5514 67580.3889 n Siding: DA-10)	
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 30 Hydrograph (Canyo	1.5514 67580.3889	
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24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 30 - Hydrograph (Canyo25 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	1.5514 67580.3889	
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24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft)	1.5514 67580.3889	

Input Parameters			
Project Name		Canvon Siding	
Subarea ID		DA-11	
Area (ac)		87.33	
Flow Path Length (ft)		4047.0	
Flow Path Slope (vft/hft)		0 101	
50-vr Rainfall Denth (in)		7.0	
Borcont Imporvious		0.076140604	
		0.270140004	
Soli Type		97	
Design Storm Frequency		100-yr	
Fire Factor		<u> </u>	
LID		Faise	
Output Results Modeled (100-yr) Rainfall Der	oth (in)	7 854	
Peak Intensity (in/br)		2 7125	
Indeveloped Pupoff Coofficie	ont (Cu)	0.7161	
Developed Runoff Coefficient		0.7660	
Time of Concentration (min)	(00)	0.7009	
Time of Concentration (min)		16.0	
Clear Peak Flow Rate (cts)		181.6638	
		181.6638	
Burned Peak Flow Rate (cfs)			
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a	ac-ft)	24.1404	
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a 24-Hr Clear Runoff Volume (c	ac-ft) cu-ft)	24.1404 1051556.9198	
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a 24-Hr Clear Runoff Volume (c	u-ft) cu-ft) lydrograph (Canyon )	24.1404 1051556.9198 Siding: DA-11)	_
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a 24-Hr Clear Runoff Volume (a 200 H	ac-rt) cu-ft)	24.1404 1051556.9198 Siding: DA-11)	
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a 24-Hr Clear Runoff Volume (a 150 - 150 - 50 -	ac-rt) cu-ft)	24.1404 1051556.9198	
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (a 24-Hr Clear Runoff Volume (a 150 - 150 - 50 - 50 -	lydrograph (Canyon	24.1404 1051556.9198	

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-12
Area (ac)	7.61
Flow Path Length (ft)	1189.0
Flow Path Slope (vft/hft)	0 193
50-vr Rainfall Denth (in)	7.0
Borcont Imponyious	0.046514217
Soil Type	0.040514217
Soli Type Design Storm Frequency	97 100 yr
Design Storm Frequency	TUU-yr
Fire Factor	U
LID	Faise
Output Results	
Modeled (100-yr) Rainfall Depth (in)	7.854
Peak Intensity (in/hr)	4.3011
Undeveloped Runoff Coefficient (Cu)	0.7767
Developed Runoff Coefficient (Cd)	0.7824
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	25.6102
Burned Peak Flow Rate (cfs)	25 6102
24-Hr Clear Runoff Volume (ac-ft)	1 3648
24-Hr Clear Runoff Volume (cu-ft)	59450 3923
	00100.0020
30 Hydrograph (Canyon Si	ding: DA-12)
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0 200 400 600 800	1000 1200 1400 1600
Lime (minutes	

Project Name Subarea ID Area (ac) Flow Path Length (ft) Flow Path Length (ft) Sol Type Sol Type Sol Type Sol Type Sol Type Percent Impervious Sol Type Percent Impervious Sol Type Percent Impervious Sol Type Percent Impervious Sol Type Sol	Innut Devemptore	
Project Name Canyon Siding Subarea ID DA-13 Area (ac) DA-13 Flow Path Length (ft) 4280.0 Flow Path Slope (vft/hft) 0.097 S0-yr Rainfall Depth (in) 7.0 Percent Impervious 0.14266804 Soil Type 97 Design Storm Frequency 100-yr Fire Factor 0 LID False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cu) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 Durned Peak Flow Rate Peak Flow Ra	input Parameters	
Subarea ID       DA-13         Area (ac)       71.28         Flow Path Length (ft)       4280.0         Flow Path Slope (vft/hf)       0.097         S0-yr Rainfall Depth (in)       7.0         Percent Impervious       0.142668004         Soli Type       97         Design Storm Frequency       100-yr         Fire Factor       0         LID       False         Output Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cu)       0.7125         Developed Runoff Coefficient (Cu)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         Burned Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (ac-ft)       681997.8191	Project Name	Canyon Siding
Area (ac) Flow Path Length (ft) 4280.0 Flow Path Slope (vft/hft) 0.097 50-yr Rainfall Depth (in) 7.0 Percent Impervious 0.142666804 Soil Type 97 Design Storm Frequency 100-yr Fire Factor 0 LID False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 Durned Peak Flow Rate (cfs) 136.910 Concentration (min) 15.00 Clear Peak Flow Rate (cfs) 136.910 Durned	Subarea ID	DA-13
Flow Path Length (ft) 4280.0 Flow Path Slope (vft/hft) 0.097 S0-yr Rainfall Depth (in) 7.0 Percent Impervious 0.142666804 Soil Type 97 Design Storm Frequency 100-yr Fire Factor 0 LID False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 681997.8191 100 100 100 100 100 100 100	Area (ac)	71.28
Flow Path Slopic (vft/hft)       0.097         50-yr Rainfall Depth (in)       7.0         Percent Impervious       0.142666804         Soil Type       97         Design Stom Frequency       100-yr         Fire Factor       0         LID       False         Output Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cu)       0.7125         Developed Runoff Coefficient (Cd)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         Burned Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (ac-ft)       681997.8191	Flow Path Length (ft)	4280.0
50-ry Rainfall Depth (in) Percent Impervious Soil Type 97 Design Storm Frequency Fire Factor LID Output Results Modeled (100-yr) Rainfall Depth (in) False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (cu-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 0 10 10 10 10 10 10 10 10 10	Flow Path Slope (vft/hft)	0.097
Perčent Impervious 0,142666804 Soil Type 97 Design Storm Frequency 100-yr Fire Factor 0 LID False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (cu-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 681997.8191	50-vr Rainfall Depth (in)	7.0
Soil Type 97 Design Storm Frequency 100-yr IID False Output Results Modeled (100-yr) Rainfall Depth (in) 7.854 Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 681997.8191 0 0 0 0 0 0 0 0 0 0 0 0 0	Percent Impervious	0.142666804
Design Storm Frequency Fire Factor LID False Output Results Modeled (100-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runofficient (Cd	Soil Type	97
Displayed continue (control)       0         Fire Factor       0         LID       False         Output Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cu)       0.7125         Developed Runoff Coefficient (Cd)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (cu-ft)       681997.8191	Design Storm Frequency	100-vr
LID       False         Output Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cu)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         Burned Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (cu-ft)       681997.8191	Eiro Eactor	
Dutput Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cd)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         Burned Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (cu-ft)       681997.8191		U Falco
Output Results         Modeled (100-yr) Rainfall Depth (in)       7.854         Peak Intensity (in/hr)       2.6363         Undeveloped Runoff Coefficient (Cu)       0.7125         Developed Runoff Coefficient (Cd)       0.7392         Time of Concentration (min)       17.0         Clear Peak Flow Rate (cfs)       138.916         Burned Peak Flow Rate (cfs)       138.916         24-Hr Clear Runoff Volume (ac-ft)       15.6565         24-Hr Clear Runoff Volume (cu-ft)       681997.8191	LID	1 0150
Modeled (100-yr) Rainfall Depth (in) Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (cu-ft) 681997.8191 Hydrograph (Canyon Siding: DA-13) 		
Modeled (100-yr) Rainfail Depth (in) Peak Intensity (in/hr) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 681997.8191 40 40 0 0 0 0 0 0 0 0 0 0 0 0 0	Output Results	7.054
Peak intensity (in/nf) 2.6363 Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 681997.8191	Nodeled (100-yr) Rainfall Depth (in)	7.854
Undeveloped Runoff Coefficient (Cu) 0.7125 Developed Runoff Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 681997.8191	Peak Intensity (in/nr)	2.6363
Developed Runott Coefficient (Cd) 0.7392 Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 681997.8191	Undeveloped Runott Coetticient (Cu)	0.7125
Time of Concentration (min) 17.0 Clear Peak Flow Rate (cfs) 138.916 Burned Peak Flow Rate (cfs) 138.916 24-Hr Clear Runoff Volume (ac-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 681997.8191 $\frac{140 - \frac{140}{120} - 140$	Developed Runoff Coefficient (Cd)	0.7392
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 681997.8191	Time of Concentration (min)	17.0
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 681997.8191	Clear Peak Flow Rate (cfs)	138.916
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 15.6565 24-Hr Clear Runoff Volume (cu-ft) 190 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	Burned Peak Flow Rate (cfs)	138.916
24-Hr Clear Runoff Volume (cu-ft) 681997.8191	24-Hr Clear Runoff Volume (ac-ft)	15.6565
Hydrograph (Canyon Siding: DA-13) Hydrograph (Canyon Siding: DA-13) (g) 00 00 00 00 00 00 00 00 00 00	24-Hr Clear Runoff Volume (cu-ft)	681997.8191
Hydrograph (Canyon Siding: DA-13) Hydrograph (Cany		
$\begin{array}{c} 140 \\ 120 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\$	Hydrograph (Canyor	n Siding: DA-13)
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$\begin{bmatrix} 120 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$		
(10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10)	120 -	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-14	
$\Delta rea (ac)$	194 19	
Flow Path Length (ft)	6555.0	
Flow Dath Slope (vft/bft)	0.047	
Flow Fall Slope (Vit/III)		
Dereent Imperieue	7.0	
Percent Impervious	0.526484739	
Soli Type	97	
Design Storm Frequency	100-yr	
Fire Factor	0	
LID	False	
Output Depute		
	7.054	
Nodeled (100-yr) Rainfall Depth (in)	1.804	
Peak Intensity (in/nr)	2.2419	
Undeveloped Runoff Coefficient (Cu)	0.6867	
Developed Runoff Coefficient (Cd)	0.799	
Time of Concentration (min)	24.0	
Clear Peak Flow Rate (cfs)	347.838	
Burned Peak Flow Rate (cfs)	347.838	
24-Hr Clear Runoff Volume (ac-ft)	74.3072	
24-Hr Clear Runoff Volume (cu-ft)	3236819.7833	
Hydrograph (Canyon	Siding: DA-14)	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-15	
$\Delta rea (ac)$	13.69	
Flow Dath Longth (ft)	2174.0	
Flow Palli Lengin (II)	2174.0	
Flow Path Slope (VII/III)	0.069	
50-yr Rainfall Depth (in)	7.0	
Percent Impervious	1.0	
Soil Type	97	
Design Storm Frequency	100-yr	
Fire Factor	0	
ID	False	
<b>_</b>		
Output Results	7.054	
wodeled (100-yr) Kainfall Depth (in)	7.854	
Peak Intensity (in/hr)	3.3831	
Undeveloped Runoff Coefficient (Cu)	0.7479	
Developed Runoff Coefficient (Cd)	0.9	
Time of Concentration (min)	10.0	
Clear Peak Flow Rate (cfs)	41 6827	
Burned Peak Flow Rate (cfs)	/1 6827	
24-Hr Cloar Pupoff Volumo (ac-ft)	7 0075	
24 Hr Clear Runoff Volume (auft)	249260 224	
24-mi Clear Ruhon Volume (cu-it)	340309.321	
45 Hydrograph (Canyon	Siding: DA-15)	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-Ó1	
Area (ac)	10.52	
Flow Path Length (ft)	976.0	
Flow Path Slope (vft/hft)	0.094	
50-vr Rainfall Depth (in)	8.344	
Percent Impervious	0.180613567	
Soil Type	97	
Design Storm Frequency	50-vr	
Fire Factor	0	
	False	
2.0	1 4100	
Output Results	0.244	
iviodeled (50-yr) Rainfall Depth (in)	ð.344 4 FCO 4	
Peak Intensity (In/nr)	4.5694	
Undeveloped Runoff Coefficient (Cu)	0.7836	
Developed Runoff Coefficient (Cd)	0.8046	
Time of Concentration (min)	6.0	
Clear Peak Flow Rate (cfs)	38.6768	
Burned Peak Flow Rate (cfs)	38.6768	
24-Hr Clear Runoff Volume (ac-ft)	2.7025	
24-Hr Clear Runoff Volume (cu-ft)	117721.0102	
Hydrograph (Canyon Si	ding <sup>,</sup> DA-01)	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-02	
$\Delta rea (ac)$	1 80	
Flow Path Longth (ft)	547.0	
Flow Dath Slope (vft/bft)	0.15	
Flow Pain Slope (VI/III)	0.15	
50-yr Rainiall Depth (in)	0.00000757	
Percent Impervious	0.022686757	
Soil Type	97	
Design Storm Frequency	50-yr	
Fire Factor	0	
LID	False	
Output Results		
Modeled (50-yr) Rainfall Depth (in)	8.344	
Peak Intensity (in/hr)	4.9783	
Undeveloped Runoff Coefficient (Cu)	0.79	
Developed Runoff Coefficient (Cd)	0.7925	
Time of Concentration (min)	5.0	
Clear Peak Flow Rate (cfs)	7 4564	
Burned Peak Flow Rate (cfs)	7 4564	
24-Hr Cloar Pupoff Volume (ac-ft)	0.3531	
24-Fil Clear Runoff Volume (auft)	15270 0572	
	15379.9572	
Hydrograph (Canyon Sic	ling: $DA_{02}$	
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Input Parameters		
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Project Name	Canvon Siding	
Subarea ID	DA-03	
Area (ac)	12.03	
Flow Path Length (ft)	1176.0	
Flow Dath Slope (vft/bft)	0.100	
Flow Fall Slope (VIVIII)	0.109	
50-yr Kallial Depti (III)	0.044	
Percent Impervious	0.064263505	
	97	
Design Storm Frequency	50-yr	
Fire Factor	0	
LID	False	
Output Posults		
Modolod (50 yr) Poinfall Dooth (in)	0 211	
Noucleu (30-yr) Rainiail Deptit (iii)	0.344	
reak Intensity (III/III)	4.2001	
Undeveloped Runoff Coefficient (Cu)	0.7752	
Developed Runoff Coefficient (Cd)	0.7832	
Time of Concentration (min)	7.0	
Clear Peak Flow Rate (cfs)	40.046	
Burned Peak Flow Rate (cfs)	40.046	
24-Hr Clear Runoff Volume (ac-ft)	2.4682	
24-Hr Clear Runoff Volume (cu-ft)	107516.8833	
45 Hydrograph (Canyon Sid	ling: DA-03)	
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Input Parameters		
Proiect Name	Canvon Siding	
Subarea ID	DA-04	
Area (ac)	6 4 4	
Flow Path Longth (ft)	027.0	
Flow Fall Lenger (if)	927.0	. 1
Flow Path Slope (Vit/nit)	0.223	
50-yr Rainfall Depth (in)	8.344	
Percent Impervious	0.123940231	
Soil Type	97	
Design Storm Frequency	50-vr	
Fire Factor	0	
	False	
Output Results		
Modeled (50-yr) Rainfall Depth (in)	8.344	
Peak Intensity (in/hr)	4.9783	-
Undeveloped Runoff Coefficient (Cu)	0.79	. I
Developed Runoff Coofficient (Cd)	0.8036	
Time of Concentration (min)	5 O	. I
Time of Concentration (min)	5.0	
Clear Peak Flow Rate (CIS)	25.764	. 1
Burned Peak Flow Rate (cfs)	25.764	
24-Hr Clear Runoff Volume (ac-ft)	1.4925	
24-Hr Clear Runoff Volume (cu-ft)	65014.0486	
Hydrograph (Canyon S	idina: DA-04)	
<sup>30</sup> Hydrograph (Canyon S	iding: DA-04)	
<sup>30</sup> Hydrograph (Canyon S	iding: DA-04)	
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Hydrograph (Canyon S	biding: DA-04)	

Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-05	
Area (ac)	2 33	
Flow Path Length (ft)	622.0	
Flow Path Slope (vft/bft)	0.248	
50 vr Painfall Donth (in)	9.240	
Dercent Imperieus	0.044	
Percent Impervious	0.027010059	
Soli Type Desire Charge Fragmanau	97	
Design Storm Frequency	50-yr	
Fire Factor	0	
LID	Faise	
Output Results		
Modeled (50-yr) Rainfall Depth (in)	8.344	
Peak Intensity (in/hr)	4.9783	
Undeveloped Runoff Coefficient (Cu)	0.79	
Developed Runoff Coefficient (Cd)	0.793	
Time of Concentration (min)	5.0	
Clear Peak Flow Rate (cfs)	9 1988	
Burned Peak Flow Rate (cfs)	9 1988	
24-Hr Clear Rupoff Volume (ac-ft)	0.4406	
24-Hr Clear Rupoff Volume (ac-ft)	10101 6525	
	19191.0525	
Hydrograph (Canyon S	Siding: DA-05)	
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-06	
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Alea (dc) Flow Doth Longth (ft)	4.13	
Flow Path Length (ft)	792.0	
Flow Path Slope (vft/hft)	0.24	
50-yr Rainfall Depth (in)	8.344	
Percent Impervious	0.030867097	
Soil Type	97	
Design Storm Frequency	50-vr	
Fire Factor	0	
	False	
	1 4100	
Output Results		
Modeled (50-yr) Rainfall Depth (in)	8.344	
Peak Intensity (in/hr)	4.9783	
Undeveloped Runoff Coefficient (Cu)	0.79	
Developed Runoff Coefficient (Cd)	0.7934	
Time of Concentration (min)	5.0	
Clear Peak Flow Rate (cfs)	16 312	
Burnod Poak Flow Pate (cfs)	16.312	
24 Hr Clear Bunoff Volume (as ft)	0.7965	
24-FIL Clear Runoll Volume (ac-it)		_
24-Fit Clear Runoit Volume (cu-it)	34201.307	
18 Hydrograph (Canyon Si	ding: DA-06)	
18 Hydrograph (Canyon Si	ding: DA-06)	
18 Hydrograph (Canyon Si	ding: DA-06)	
18 Hydrograph (Canyon Sid	ding: DA-06)	
18 Hydrograph (Canyon Sid	ding: DA-06)	
18 Hydrograph (Canyon Sid	ding: DA-06)	
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Input Parameters Project Name Subarea ID Area (ac)	Canyon Siding DA-07
Project Name Subarea ID Area (ac)	Canyon Siding DA-07
Subarea ID Area (ac)	DA-07
Area (ac)	
Flow (ac)	18,18
FIOW PAIN LENGIN (III)	1244 0
Flow Path Slope (vft/hft)	0.208
50-vr Rainfall Denth (in)	8 344
Dercent Impervious	0.029609006
	0.020000000
Soli Type Design Storm Frequency	97 E0.1/m
Design Storm Frequency	50-yr
FIRE FACTOR	U False
LID	Faise
Output Results	
Modeled (50-vr) Rainfall Depth (in)	8.344
Peak Intensity (in/hr)	4 5694
Undeveloped Runoff Coefficient (Cu)	0 7836
Developed Runoff Coefficient (Cd)	0.7869
Time of Concentration (min)	6.0
Clear Peak Flow Pate (cfc)	65 3684
Diedi Fear Tiow Nale (CIS) Burnad Daak Elow Pata (ofa)	65 2604
24 Hr Clear Dupoff Valuma (as ft)	00.0004
24-FIT Clear Runoff Volume (ac-it)	3.4430
24-Hr Clear Runoff Volume (cu-ft)	150001.3545
Hydrograph (Canyon Sidir	ng <sup>.</sup> DA-07)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-08
Area (ac)	2.26
Flow Path Length (ft)	472.0
Flow Path Slope (vft/hft)	0.438
50-vr Rainfall Depth (in)	8.344
Percent Impervious	0.156010454
Soil Type	97
Design Storm Frequency	50-vr
Fire Factor	0
LID	False
Output Results	0.011
Modeled (50-yr) Raintall Depth (in)	8.344
Peak Intensity (in/hr)	4.9783
Undeveloped Runoff Coefficient (Cu)	0.79
Developed Runoff Coefficient (Cd)	0.8071
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	9.0811
Burned Peak Flow Rate (cfs)	9.0811
24-Hr Clear Runoff Volume (ac-ft)	0.5559
24-Hr Clear Runoff Volume (cu-ft)	24216.9148
Hydrograph (Canyon Sid	ling: DA-08)
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Uptil Parameters         Project Name       Canyon Siding         DA-09       DA-09         Area (ac)       10.11         Flow Path Length (ft)       0.202         Flow Path Slope (vtf/hft)       0.202         Sold Type       97         Design Storm Frequency       50-yr         Soil Type       97         Design Storm Frequency       50-yr         LID       False             Output Results             Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cd)       0.7996         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (ac-ft)       94974.3638		
Project Name Canyon Siding Subarea ID DA-09 Area (ac) 10.11 Flow Path Length (ft) 1025.0 Flow Path Length (ft) 0.202 50-yr Rainfall Depth (in) 8.344 Percent Impervious 0.087673207 Soil Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 4.9783 Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cu) 0.7996 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 40.2455 Burned Peak Flow Rate (cfs) 40.2455 Burned Peak Flow Rate (cfs) 40.2455 24-Hr Clear Runoff Volume (cu-ft) 94974.3638 45 45 45 45 45 45 45 45 45	Input Parameters	
Subarea ID       DA-69         Area (ac)       10.11         Flow Path Length (ft)       1025.0         Flow Path Slope (vtf/hft)       0.202         50-yr Rainfall Depth (in)       8.344         Percent Impervious       0.087673207         Soil Type       97         Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.799         Developed Runoff Coefficient (Cd)       0.7996         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         Burned Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (cu-ft)       94974.3638         Of thy dependence of the top of the top of the top of top of the top of top of the top of top o	Project Name	Canvon Siding
Area (ac)       10.11         Flow Path Length (ft)       1025.0         Flow Path Slope (vft/hft)       0.202         50-yr Rainfall Depth (in)       8.344         Percent Impervious       0.087673207         Soil Type       97         Design Stom Frequency       50-yr         Fire Factor       0         LID       False         Volume (s0-yr) Rainfall Depth (in)         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cu)       0.796         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         Burned Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (ac-ft)       94974.3638         Time (ft)         9       90         9       90         9       90         9       90         9       90         9       90         9       90         9       90         9	Subarea ID	DA-09
Flow Path Length (ft)       1025.0         Flow Path Slope (vft/hft)       0.202         S0-yr Rainfall Depth (in)       8.344         Percent Impervious       0.087673207         Soil Type       97         Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cu)       0.799         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (cu-ft)       94974.3638	Area (ac)	10.11
Flow Path Slope (vft/hft) S0-yr Rainfall Depth (in) Biol Type Percent Impervious Output Results Modeled (50-yr) Rainfall Depth (in) HD False	Flow Path Length (ft)	1025.0
S0-yr Rainfall Depth (in) 8.344 Percent Impervious Soil Type 97 Design Storm Frequency Fire Factor LID Solution False Output Results Modeled (S0-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cd) 0.799 Developed Runoff Coefficient (Cd) 0.799 Developed Runoff Coefficient (Cd) 0.799 Developed Runoff Coefficient (Cd) 0.799 Developed Runoff Volume (cc) 2.1803 24-Hr Clear Runoff Volume (cc-ft) 3.1803 24-Hr Clear Runoff Volume (cu-ft) 94974.3638	Flow Path Slope (vft/hft)	0.202
Percent Impervious 0.087673207 Soil Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 4.9783 Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cd) 0.7996 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 40.2455 Burned Peak Flow Rate (cfs) 40.2455 24-Hr Clear Runoff Volume (ac-ft) 2.1803 24-Hr Clear Runoff Volume (ac-ft) 94974.3638	50-vr Rainfall Depth (in)	8.344
Soil Type 97 Coold Design Storm Frequency 50-yr LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 4.9783 Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cd) 0.7996 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 40.2455 Burned Peak Flow Rate (cfs) 40.2455 24-Hr Clear Runoff Volume (ac-ft) 2.1803 24-Hr Clear Runoff Volume (ac-ft) 94974.3638 Output Results 0 0 0 0 0 0 0 0 0 0 0 0 0	Percent Impervious	0.087673207
Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cd)       0.7996         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         Burned Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (cu-ft)       94974.3638	Soil Type	97
Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 4.9783 Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cd) 0.7996 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 40.2455 24-Hr Clear Runoff Volume (ac-ft) 2.1803 24-Hr Clear Runoff Volume (cu-ft) 94974.3638 $\int_{0}^{0} \frac{1}{9} \int_{0}^{0} \frac{1}{9} \int_{0}^{0} \frac{1}{9} \int_{0}^{0} \frac{1}{90} \int_{0}^{0} \frac{1}{100} \int_{120}^{0} \frac{1}{10} $	Design Storm Frequency	50-vr
LID False Cutput Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 4.9783 Undeveloped Runoff Coefficient (Cu) 0.79 Developed Runoff Coefficient (Cd) 0.7996 Time of Concentration (min) 5.0 Clear Peak Flow Rate (cfs) 40.2455 Burned Peak Flow Rate (cfs) 40.2455 24-Hr Clear Runoff Volume (ac-ft) 2.1803 24-Hr Clear Runoff Volume (cu-ft) 94974.3638	Fire Factor	0
Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cd)       0.7996         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (cu-ft)       94974.3638	LID	False
Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       4.9783         Undeveloped Runoff Coefficient (Cu)       0.79         Developed Runoff Coefficient (Cd)       0.7996         Time of Concentration (min)       5.0         Clear Peak Flow Rate (cfs)       40.2455         Burned Peak Flow Rate (cfs)       40.2455         24-Hr Clear Runoff Volume (ac-ft)       2.1803         24-Hr Clear Runoff Volume (cu-ft)       94974.3638		
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24-Hr Clear Runott Volume (cd-H) 94974.3638	24-Hr Clear Runoff Volume (ac-ft)	2.1803
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Input Parameters	
Project Name	Canyon Siding
Subarea ID	DA-10
Area (ac)	7.08
Flow Path Length (ft)	887.0
Flow Path Slope (vft/hft)	0.226
50-vr Rainfall Denth (in)	8 344
Dereent Imperieue	0.044
	0.140092003
	97 50 cm
Design Storm Frequency	50-yr
Fire Factor	0
LID	False
Output Results	0.014
iviodeled (50-yr) Rainfall Depth (in)	8.344
Peak Intensity (In/hr)	4.9783
Undeveloped Runoff Coefficient (Cu)	0.79
Developed Runoff Coefficient (Cd)	0.8054
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	28.387
Burned Peak Flow Rate (cfs)	28.387
24-Hr Clear Runoff Volume (ac-ft)	1.6916
24-Hr Clear Runoff Volume (cu-ft)	73686.3138
Hydrograph (Canyon	Siding: DA-10)
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Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-11
Area (ac)	87.33
Flow Path Longth (ft)	4047.0
Flow Path Clone (vft/bft)	4047.0
Flow Pain Slope (Vit/fill)	0.101
50-yr Rainfall Depth (in)	8.344
Percent Impervious	0.276140604
Soil Type	97
Design Storm Frequency	50-vr
Fire Factor	0
	False
219	1 4100
	0.044
iviodeled (50-yr) Rainfall Depth (in)	8.344
Peak Intensity (in/hr)	2.9705
Undeveloped Runoff Coefficient (Cu)	0.7284
Developed Runoff Coefficient (Cd)	0.7758
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	201 2417
Burned Peak Flow Rate (cfs)	201.2417
24 Hr Clear Bunoff Valuma (ap ft)	201.2417
	20.101
24-Hr Clear Runoff Volume (cu-ft)	1136961.093
Hydrograph (Canyon S	iding: DA-11)
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Input Parameters		
Proiect Name	Canvon Siding	
Subarea ID	DA-12	
Area (ac)	7.61	
Flow Path Length (ft)	1189.0	
Flow Path Slope (vft/hft)	0 193	
50-vr Rainfall Depth (in)	8 344	
Dercent Impervious	0.046514217	
Soil Type	0.040314217	
Dosign Storm Fraguency	50 yr	
Eiro Eastar	0	
	U	
LID	raise	
Output Results	0.044	
iviouelea (50-yr) Kaintall Depth (in)	8.344	
Peak Intensity (In/nr)	4.5694	
Undeveloped Runott Coefficient (Cu)	0.7836	
Developed Runoff Coefficient (Cd)	0.789	
Time of Concentration (min)	6.0	
Clear Peak Flow Rate (cfs)	27.4352	
Burned Peak Flow Rate (cfs)	27.4352	
24-Hr Clear Runoff Volume (ac-ft)	1.5019	
24-Hr Clear Runoff Volume (cu-ft)	65424.3078	
Hydrograph (Canyon S	iding: DA-12)	
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$ \begin{array}{c}       25 \\       20 \\       (s) \\       NO \\       15 \\       10 \\       5 \\       0 \\       0 \\       200 \\       400 \\       600 \\       800 \\       800       $	1000 1200 1400	1600

Input Parameters	
Project Name	Canvon Siding
Subarea ID	DA-13
Area (ac)	71.28
Flow Path Length (ft)	4280.0
Flow Path Slope (vft/hft)	0.097
50-vr Rainfall Denth (in)	8 3//
Dercont Imponyious	0.142666904
Soil Type	0.142000004
Soli Type Design Storm Frequency	97 E0 yr
Design Storm Frequency	50-yi
	U
LID	Faise
Output Results	
Medeled (50 vr) Painfall Dopth (in)	0.244
Dook Intensity (in/br)	0.044
Peak Intensity (In/III)	2.0010
Undeveloped Runon Coefficient (Cu)	0.7241
Developed Runoff Coefficient (Cd)	0.7492
Time of Concentration (min)	16.0
Clear Peak Flow Rate (cfs)	153.9007
Burned Peak Flow Rate (cfs)	153.9007
24-Hr Clear Runoff Volume (ac-ft)	17.0724
24-Hr Clear Runoff Volume (cu-ft)	743672.6805
Hydrograph (Can	yon Siding: DA-13)
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0 200 400 600 8 Time (	300 1000 1200 1400 1600 minutes)

Upter Project Name         Canyon Siding           Project Name         DA-14           Area (ac)         194.19           Flow Path Length (ft)         6655.0           Flow Path Slope (vft/hft)         0.047           S0-yr Rainfall Depth (in)         8.344           Percent Impervious         0.526484739           Soil Type         97           Design Storm Frequency         50-yr           Jong Storm Frequency         50-yr           LID         False             Output Results           Modeled (50-yr) Rainfall Depth (in)         8.344           Peak Intensity (in/hr)         2.4299           Undeveloped Runoff Coefficient (Cu)         0.7008           Developed Runoff Coefficient (Cu)         0.7008           Developed Runoff Coefficient (Cu)         0.8057           Time of Concentration (min)         23.0           Clear Peak Flow Rate (cfs)         380.1528           24-Hr Clear Runoff Volume (ac-ft)         79.6133           24-Hr Clear Runoff Volume (ac-ft)         79.6133           24-Hr Clear Runoff Volume (cu-ft)         3467955.9388		
Project Name Canyon Siding Subarea ID DA-14 Area (ac) 194.19 Flow Path Length (ft) 6555.0 Flow Path Slope (vft/hft) 0.047 50-yr Rainfall Depth (in) 8.344 Percent Impervious 0.626484739 Soil Type 97 Design Storm Frequency 50-yr Fire Factor 0 LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 2.4299 Undeveloped Runoff Coefficient (Cu) 0.7008 Developed Runoff Coefficient (Cd) 0.8057 Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) 380.1528 Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388	Input Parameters	
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Area (ac)       194.19         Flow Path Length (ft)       6555.0         Flow Path Slope (vft)rft)       0.047         50-yr Rainfall Depth (in)       8.344         Percent Impervious       97         Design Storm Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       2.4299         Undeveloped Runoff Coefficient (Cu)       0.7008         Developed Runoff Coefficient (Cu)       0.8057         Time of Concentration (min)       23.0         Clear Peak Flow Rate (cfs)       380.1528         Burned Peak Flow Rate (cfs)       380.1528         24-Hr Clear Runoff Volume (ac-ft)       79.6133         24-Hr Clear Runoff Volume (cu-ft)       3467955.9388	Subarea ID	DA-14
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Flow Path Slope (Vth/hft)       0.047         S0-yr Rainfall Depth (in)       8.344         Percent Impervious       0.526484739         Soil Type       97         Design Stom Frequency       50-yr         Fire Factor       0         LID       False         Output Results         Modeled (50-yr) Rainfall Depth (in)         Peak Intensity (in/hr)       2.4299         Undeveloped Runoff Coefficient (Cu)       0.7008         Developed Runoff Coefficient (Cd)       0.8057         Time of Concentration (min)       23.0         Clear Peak Flow Rate (cfs)       380.1528         Burned Peak Flow Rate (cfs)       380.1528         24-Hr Clear Runoff Volume (ac-ft)       79.6133         24-Hr Clear Runoff Volume (cu-ft)       3467955.9388	Flow Path Length (ft)	6555.0
SO-yr Rainfall Depth (in) SO-yr Rainfall Depth (in) SO-yr Rainfall Depth (in) SO-yr Fire Factor LID Cutput Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cd) Cear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) SO-yr Fire Factor 2.4299 Undeveloped Runoff Coefficient (Cu) 0.7008 Developed Runoff Coefficient (Cd) 2.4299 Undeveloped Runoff Coefficient (Cd) 0.8057 Time of Concentration (min) 2.3.0 Clear Peak Flow Rate (cfs) SO- The of Concentration (min) 2.4-Hr Clear Runoff Volume (cu-ft) 3467955.9388 400 	Flow Path Slope (vft/hft)	0.047
Design Storm Frequency Percent Impervious Soil Type 97 Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Ealse Nodeled (50-yr) Rainfall Depth (in) Ealse Output Results Modeled (50-yr) Rainfall Depth (in) Ealse Nodeled (50-yr) Rainfall Depth (in) Ealse Comparison of the storm of the sto	50-vr Rainfall Denth (in)	8 3//
Soli Type Design Storm Frequency Fire Factor LID Output Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Undeveloped Runoff Coefficient (Cu) O.7008 Developed Runoff Coefficient (Cd) O.8057 Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 Output Results Modeled (So-yr) Rainfall Depth (in) Saturd Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 Output Results Modeled (So-yr) Rainfall Depth (in) Saturd Peak Flow Rate (cfs) Saturd Peak Flow Rate (cfs) Saturd Peak Flow Rate (cfs) Concentration (min) 24-Hr Clear Runoff Volume (cu-ft) Saturd Peak Flow Rate (cfs) Saturd Peak Flow Rate (cfs)	Borcont Importuious	0.526484730
Design Storm Frequency Fire Factor LID Solutput Results Modeled (50-yr) Rainfall Depth (in) Peak Intensity (in/hr) Peak Intensity (in/hr) Developed Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed R	Soil Type	07
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LID False Output Results Modeled (50-yr) Rainfall Depth (in) 8.344 Peak Intensity (in/hr) 2.4299 Undeveloped Runoff Coefficient (Cu) 0.7008 Developed Runoff Coefficient (Cd) 0.8057 Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) 380.1528 Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388	Eiro Eastar	0-yi
Cutput Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       2.4299         Undeveloped Runoff Coefficient (Cu)       0.7008         Developed Runoff Coefficient (Cd)       0.8057         Time of Concentration (min)       23.0         Clear Peak Flow Rate (cfs)       380.1528         Burned Peak Flow Rate (cfs)       380.1528         24-Hr Clear Runoff Volume (ac-ft)       79.6133         24-Hr Clear Runoff Volume (cu-ft)       3467955.9388		U Falsa
Output ResultsModeled (50-yr) Rainfall Depth (in)8.344Peak Intensity (in/hr)2.4299Undeveloped Runoff Coefficient (Cd)0.8057Time of Concentration (min)23.0Clear Peak Flow Rate (cfs)380.1528Burned Peak Flow Rate (cfs)380.152824-Hr Clear Runoff Volume (ac-ft)79.613324-Hr Clear Runoff Volume (cu-ft)3467955.9388	LID	Faise
Output Results         Modeled (50-yr) Rainfall Depth (in)       8.344         Peak Intensity (in/hr)       2.4299         Undeveloped Runoff Coefficient (Cu)       0.7008         Developed Runoff Coefficient (Cd)       0.8057         Time of Concentration (min)       23.0         Clear Peak Flow Rate (cfs)       380.1528         Burned Peak Flow Rate (cfs)       380.1528         24-Hr Clear Runoff Volume (ac-ft)       79.6133         24-Hr Clear Runoff Volume (cu-ft)       3467955.9388		
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Preak mensity (mm) Undeveloped Runoff Coefficient (Cu) Developed Runoff Coefficient (Cd) Developed Runoff Coefficient (Cd) Clear Peak Flow Rate (cfs) State (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 400 	Noueleu (SU-yr) Rainiall Depth (In)	0.344
Undeveloped Runoff Coefficient (Cu) 0.7008 Developed Runoff Coefficient (Cd) 0.8057 Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) 380.1528 Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388	Peak Intensity (In/nr)	2.4299
Developed RUnoff Coefficient (Cd) 0.8057 Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) 380.1528 Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 Hydrograph (Canyon Siding: DA-14) 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 -	Undeveloped Runott Coefficient (Cu)	0.7008
Time of Concentration (min) 23.0 Clear Peak Flow Rate (cfs) 380.1528 Burned Peak Flow Rate (cfs) 380.1528 24-Hr Clear Runoff Volume (ac-ft) 79.6133 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 $\frac{400 - Hydrograph (Canyon Siding: DA-14)}{100 - 250 - 100} - \frac{100 - 100}{100 - 100} - \frac{100 - 100}{100} - $	Developed Runoff Coefficient (Cd)	0.8057
Clear Peak Flow Rate (cfs) Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 $\frac{400 - Hydrograph (Canyon Siding: DA-14)}{Hydrograph (Canyon Siding: DA-14)} - \frac{1}{100 - 100} - \frac{1}{$	Time of Concentration (min)	23.0
Burned Peak Flow Rate (cfs) 24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 400 - Hydrograph (Canyon Siding: DA-14) - Hydrograph (Can	Clear Peak Flow Rate (cfs)	380.1528
24-Hr Clear Runoff Volume (ac-ft) 24-Hr Clear Runoff Volume (cu-ft) 3467955.9388 $ \frac{400 - Hydrograph (Canyon Siding: DA-14)}{400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 400 - 40$	Burned Peak Flow Rate (cfs)	380.1528
24-Hr Clear Runoff Volume (cu-ft) 3467955.9388	24-Hr Clear Runoff Volume (ac-ft)	79.6133
Hydrograph (Canyon Siding: DA-14) 400 400 50 200 150 150 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 1	24-Hr Clear Runoff Volume (cu-ft)	3467955.9388
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Input Parameters		
Project Name	Canvon Siding	
Subarea ID	DA-15	
	13.60	
Flow Doth Longth (ft)	2174.0	
Flow Pain Lengin (II)	2174.0	
Flow Path Slope (VIT/IIT)	0.069	
50-yr Rainfall Depth (in)	8.344	_
Percent Impervious	1.0	
Soil Type	97	
Design Storm Frequency	50-vr	
Fire Factor	0	
	False	
Output Posults		
Madalad (50 ur) Dainfall Danth (in)	0.044	
iviodeled (50-yr) Raintall Depth (in)	0.344	
Peak Intensity (in/hr)	3.5941	
Undeveloped Runoff Coefficient (Cu)	0.7562	
Developed Runoff Coefficient (Cd)	0.9	
Time of Concentration (min)	10.0	
Clear Peak Flow Rate (cfs)	44,2832	
Burned Peak Flow Rate (cfs)	44 2832	
21-Hr Clear Runoff Volume (ac-ft)	8 / 96/	
24 Hr Clear Dunoff Volume (au ft)	270102 5022	
	370103.3923	
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