

PLANNING • ENGINEERING • SURVEYING

140 Litton Drive
Suite 240
Grass Valley, CA 95945
Tel: 530.272.5841
Fax: 530.272.5880
Gen'l Email: info@scopeinc.net

Truckee: 530.582.4043

Project Description / Justification:

The Village at Gray's Crossing was reviewed and approved by the Town of Truckee Planning Commission in 2019 (Planning Commission Resolution NO. 2019-17) and a Time Extension was granted on November 16, 2021 (2021-00000096/DP-CSP-TM-EXT). The approvals consisted of Class 1 trail construction, 21 residential units above commercial space, 24 townhomes, residential 4-plex and a 129-unit hotel (83,371 s.f.) with a Conference Center (4,989 s.f.) and pool.

This Project Amendment Application is directed specifically to modifications made to the Hotel and Conference Center **Site Layout** and **Architecture**. Additionally, it is requested that Condition #23 (trash enclosure location) be removed as a requirement as design has achieved the same practical effect (see discussion herein).

Site Plan

As indicated in existing Condition #22, the hotel footprint was modified to allow the hotel footprint to shift easterly achieving a 20' minimum setback from the easterly right of way line of State Highway 89. Additionally, parking around the hotel has been refined to include the current requirements for EV spaces and CA Green Code requirements. Access to the hotel is achieved from Edwin Way and the porte cochere is located in the same location. One connection to Edwin Way has been removed, but three connections to Edwin Way remain, providing good circulation and vehicle movement for the general public, deliveries and emergency vehicles. The layout of the Conference Center has been improved and refined with connected outdoor spaces providing inviting outdoor gathering spaces for four (4) season event usage. The outdoor spaces are intended to be extensions of the immediately adjacent buildings for the sole use of the hotel guests, including the use of the Conference Center. The service areas have been designed to not be the focal point but be in close proximity for efficient service and use.

Grading for the site is generally the same as previously approved with pedestrian connectivity being a focus to Edwin Way and the overall village core. Multiple pedestrian paths are provided with required ramps and ADA compliant slopes up to the porte cochere and main level hotel and conference center. Connectivity and access also invites and provides easy accessibility to other commercial buildings amongst the overall Village. Grading to the south of the hotel is at the same hotel elevation, but then transitions up to the Conference Center elevation which works with the existing terrain and topography. Condition #23 was recommended previously and added by staff based upon concerns of visibility of the trash enclosure from the Highway 89 corridor. The same practical effect has been achieved with thoughtful design and grading around the westerly side of the conference center. The integration of a loading/unloading dock area brings the access elevation down which has the added benefit where the trash enclosure cannot be viewed from Highway 89. The dual trash enclosures which were to be for the Neighborhood commercial to the North have also been reduced to only 1 as the hotel trash and recycling will be placed in the southwest corner as described.

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October 5, 2023

Storm drainage is collected in multiple treatment quadrants and routed for both storm retention and water quality treatment through both a landscape integrated basin and subsurface chamber treatment areas. Storm Water then is routed easterly to storm drainage connection points in Edwin Way which continues to the west and the drainage ways through the Gray's Crossing Golf Course.

Water and Sewer routing is consistent with Truckee Fire Protection District, TDPUD & TSD requirements for hydrants, fire service, domestic and landscape water requirements. Electrical and other dry-utilities are all underground and appropriate routing has been determined to serve the site per appurtenant District requirements. Site lighting utilizes a variety of architectural pleasing light fixtures (see lighting plan/cut sheets) and utilizes down light fixtures, max. 14 ft. light poles and is intended to give a minimal level of accent and safety lighting while protecting the night sky of Truckee.

Overall site coverage is essentially the same as the originally approved project (103,950s.f.) with the refined site plan being 104,182 s.f. for the building, asphalt and hardscape areas.

Condition #18 requires 269 shared parking spaces (includes 25% shared parking reduction) that are to be shared amongst the hotel, conference center, mixed use commercial and residential units. It is the intent of this hotel design to provide amenities and dining opportunities to support, service and attract the guests of the Hotel and the Conference Center. The revised site plan has been refined to increase the parking count by six (6) spaces to 275 shared spaces to account for a minor increase of potential outside individuals that may try to utilize the hotel main floor dining/outdoor dining facilities. This equates that 74% of the main floor restaurant and outdoor dining patrons are hotel guests and therefore up to 26% of patrons might be from the greater Truckee area. The plan identifies sixteen (16) spaces of indoor bike spaces within the hotel building with an additional twelve (12) spaces at two (2) outdoor racks at the hotel and conference center areas. Within the Village at Gray's Crossing hotel and mixed-use areas as a whole, ninety-two (92) bike spaces have been integrated into the plan. Based upon the uses and the amounts provided it appears a significant amount of bike parking has been proposed. If the Planning Commission requests additional spaces, those could be accommodated with expansion of the two (2) proposed outside bike racks (if necessary).

The outdoor areas are intended for some gathering space and transition to more formally programmed indoor spaces. Outdoor music has not been directly proposed for this outdoor area. If outdoor music is to occur we would anticipate "low level" background music as you might here in a lobby, or restaurant, or unamplified (such as a guitarist). We would indicate that any minor background music would be significantly below 70 db (A) in conformance with section 18.44 of the Truckee Development Code.

Since the hotel development permit approval, the project owners and design team have worked diligently with Marriott to refine the interior/exterior spaces and program areas to meet Marriott requirements and to address minor comments to the plan conforming to the original submitted design with regards to the square footage allotments and layout. The architectural team developed exterior elevations to match the overall design of the Gray's Crossing campus. The materials and colors are to complement the existing planning approved Townhomes and Mixed Use buildings. The project elevations are to conform with the approvals made at the Planning Commission hearing that approved the projects with respect to the roof line, windows, material usage, and scale.

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Floor Plans

The overall hotel square footage has increased but has remained within the limits of the allotted 10% increase. The overall layout of the hotel remains similar to the original design submittal with the Conference Center as a separate building. The building footprint has increased to accommodate the final functional floor plan layout. The conference center square footage remains similar to the original layout and minimizes the impact to the site. In order to achieve the optimum room count for the hotel, the building's second and third floors have increased in square footage accordingly.

Here are the square footage breakdowns:

Previously Approved Hotel Design Square Footages:

First Floor: 27,796 gross S.F. approx

Second Floor: 26,656 S.F.

Third Floor: 25,223 S.F.

Previously Approved Design:

Total Hotel Gross SF - 83,371 SF

Proposed Hotel Design Square Footages

First Floor: 31,592 SF (3,796 SF over previous design - 13.6%)

Second Floor: 29,473 SF

Third Floor: 28,589 SF

Proposed Hotel Total Gross SF: 89,654

Gross SF Increase from Previous Design: 6,283 SF (7.5%)

Areas not included in Gross SF:

- Basement: 2,050 SF
- Pool Maintenance and Storage: 360 SF

Previously Approved Conference Design Square Footages:

Conference Center:

Gross SF - 4,989

Proposed Conference Center Design Square Footages:

Conference Center:

Gross SF - 4,820

The building has an internal restaurant amenity available to the hotel guests and is intended when the hotel is at full capacity to serve hotel guests only. The seating count for this restaurant is intended to be at approximately 72. The restaurant is calculated to serve a max seating occupant load of 90 persons based on a 1:15 load factor per CBC Chapter 10. This seating count is expected to be reduced by approximately 18 seats to accommodate and increase to a 1:20 load factor in order to offer high-end service to this clientele base. The third story has a flex space and bar that will serve as a large guest gathering space, private party, or meeting area. The occupancy for this space is intended, at its most restrictive, to be 49 occupants. The bar is proposed to be designed with fixed seating to serve a maximum of 49 guests in order to comply with requirements of the CBC Chapter 10 means of egress. The team has made an effort to

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maximize the parking spaces on site to accommodate these included potentially concentrated uses.

Exterior Elevations

Condition #26 requires that exterior building materials are consistent with the approved materials and colors palette. The building exterior elevations are designed to mimic the approved Townhomes and Mixed-Use buildings and the exterior materials and colors will be the same as selected and approved for the rest of the project. An effort has been made to respect the approved height limits. The roof design provides variation and visual interest while respecting the requirement to limit long roof spans. The window design and placement are complementary to the existing approved structures. There is a sufficient amount of variation in the massing. The building exterior alternates materials, colors, and texture to create visual interest and thereby reducing the size and scale of the project.

Project Lighting Plans

Condition #28 requires a lighting plan identifying locations, types, and lumens for all lights including building, site, and sign lighting. A comprehensive lighting plan has been prepared to show that lighting is compatible with the architecture and landscaping. All exterior lighting will comply with the night sky ordinance and the selected fixtures are shielded downward. The design is limited to the minimum necessary to address low level lighting that meets code and safety requirements. Fixtures are color corrected with warm color temperatures of 3,000K. The included photometric study ensures that no light will spill onto adjacent properties.

Signage Plans

Condition #44 allows up to 2 center identification signs. In addition to the approved signage for the Townhomes and Mixed Use, the Hotel has a minimum standard for signage. A comprehensive signage plan has been prepared to show the minimum required signage for the hotel in order to allow proper way finding for patrons to ensure long range visibility, mid range visibility, and drive-up or walk-up visibility. Signs are to be illuminated and designed to meet the development code section 18.54080 and be consistent with the architecture of the Village.

Landscape Plans

Proposed landscape is included as required by Chapter 18.40. The Preliminary landscape plan includes a mix of evergreen trees, deciduous trees, shrubs and groundcover. The plan identifies proposed plantings in key areas of the development to provide for accent and softening of building edges and buffering of parking areas. Further, the project frontage along the highway provides a combination of earth berming and evergreen trees for screening and noise attenuation.

The proposed pool area and common area spaces include a combination of at-grade and raised planters for additional accent and texture. All plants are appropriate for the Truckee climate and are consistent with the requirements of the Grays Crossing Specific plan. Native, adapted and drought-tolerant plantings have been selected to conserve water and to minimize landscape maintenance. The location of planter areas throughout the site have been provided to allow for snow storage within landscape areas.

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The project has been refined through detailed design and input from Marriott and Town staff and is still consistent with the Gray's Crossing Specific Plan, Town Development Code and CA State requirements. With approval of these refinements and minor modifications to the Hotel and Conference Center, building plans and construction documents can continue to move forward to completion.

Findings – Development Permit

1. The proposed development is:

A. Allowed by Article II (Zoning Districts and Allowable Land Uses) within the applicable zoning district with the approval of a Development Permit, and complies with all applicable provisions of the Truckee Development Code, Municipal Code, and Public Improvement and Engineering Standards; and

A. Consistent with the Town of Truckee General Plan, any applicable Specific Plan and/or Master Plan, the Trails Master Plan, the Truckee Tahoe Airport Land Use Compatibility Plan, and the Particulate Matter Air Quality Management Plan.

The adopted Gray's Crossing Specific Plan established zoning, land uses, standards and guidelines for development on this site. The proposed project is consistent with the Development Standards within the Gray's Crossing Specific Plan and the Town's Development Code.

0. The proposed development is consistent with the design guidelines, achieves the overall design objectives of the design guidelines, and would not impair the design and architectural integrity and character of the surrounding neighborhood.

The adopted Gray's Crossing Specific Plan has design guidelines specific to the Village Area, CN zoning district. The project design and architecture is consistent with those design guidelines and similar in character with the development in the surrounding area and draws from forms, materials and colors from the overall village development.

0. The Development Permit approval is in compliance with the requirements of the California Environmental Quality Act (CEQA) and there would be no potentially significant adverse effects upon environmental quality and natural resources that would not be properly mitigated and monitored unless a Statement of Overriding Considerations is adopted.

The certified FEIR for the overall Specific Plan found that development on the site would not have a significant effect on the environment. Specific findings confirming such were adopted as part of the resolution approving the Specific Plan and certifying the FEIR.

0. There are adequate provisions for public and emergency vehicle access, fire protection, sanitation, water, and public utilities and services to ensure that the proposed development would not be detrimental to public health and safety. Adequate provisions shall mean that distribution and collection facilities and other infrastructure are installed at the time of development and in operation prior to occupancy of buildings and the land, and all development fees have been paid prior to occupancy of buildings and the land.

As part of the Gray's Crossing Specific Plan approval process, Truckee Sanitary District (sewer), Truckee Donner Public Utility District (water & electrical), Truckee Fire Protection District, and Town Engineering reviewed the documents and confirmed existing and required infrastructure to ensure adequate provisions would be in place prior to building occupancy. Facilities fees for all agencies, including water, sewer, and fire are required prior to building permit issuance or Final Map recordation.

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0. ***The subject site is:***

A. ***Physically suitable for the type and density/intensity of development being proposed;***

A. ***Adequate in size and shape to accommodate the use and all fences and walls, landscaping, loading, parking, yards and other features required by the Truckee Development Code; and***

A. ***Served by streets adequate in width and pavement type to carry the quantity and type of traffic generated by the proposed development.***

The proposed development conforms to the adopted Gray's Crossing Specific Plan. That plan evaluated the site's physical capabilities and was validated by a certified Environmental Impact Report (EIR). The EIR concluded the site was physically suitable for the density and intensity being proposed.

The project is served by existing roadways that meet Town standards. Traffic studies have been conducted as part of the Gray's Crossing Specific Plan approval to determine specific road improvements needed to serve buildout of the Plan area and cumulative buildout of the Truckee General Plan. Both the on-site and off-site improvements recommended in the Traffic reports, Conditions of Project Approval and Mitigation Measure listed in the Projects FEIR have been constructed.

6. ***The proposed development is consistent with all applicable regulations of the Nevada County Department of Environmental Health and the Truckee Fire Protection District for the transport, use, and disposal of hazardous materials.***

Not applicable.

October 6, 2023

Town of Truckee
10183 Truckee Airport Road
Truckee, CA
96161

Dear Ms. Yumie Dahn:

This letter is intended to provide more context regarding the percentage of hotel patrons versus public guests patronizing a ground floor hotel restaurant at the [TBD Name Hotel], a Tribute Portfolio Hotel, in Truckee, CA. From our experience operating comparable restaurants in comparable hotels in comparable markets, we anticipate a hotel patron to public guest capture ratio of 85% to 15%.

We are basing our estimate off comparable full-service hotels with ground floor restaurants in similar non-urban markets such as:

- Hilton Meadowlands, East Rutherford, NJ
- Crowne Plaza Valley Forge, King of Prussia, PA
- Sheraton Harrisburg Hershey Hotel, Harrisburg, PA

Furthermore, we have found that in upscale, full-service hotels, when occupancy increases to near, or full, capacity, hotel guests generally obtain the majority of onsite reservations; therefore, the onsite hotel guests will fill the majority of the restaurant.

Thank you,



Mark Dombkoski
Senior Corporate Director | Restaurants + Bars
PM Hotel Group

DRAINAGE REPORT

Village at Gray's Hotel- Preliminary

Truckee, CA



Prepared For:

Matthew Abbate
140 Heron Way
Merced, CA 95340
Phone: (209) 628-3658
matthew@aliacorp.net

Prepared By:

SCO PLANNING & ENGINEERING, INC.
140 Litton Drive, Suite 240
Grass Valley, CA 95945
Phone: (530) 272-5841
Fax: (530) 272-5880

May 2023

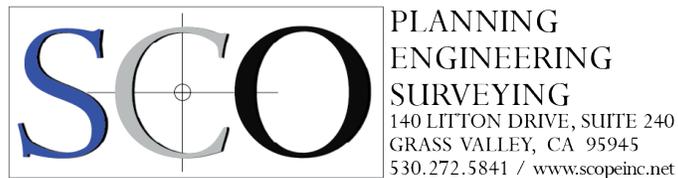


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- Appendix D Rainfall Intensity Report
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1. Project Description

The project site is approximately three point four (3.4) acres in Truckee, California. The property consists of undeveloped land except for infrastructure associated with Edwin Way. Two adjacent projects, Studio Lofts (North) and Four Plex (south) are designed concurrently. Proposed development includes construction of a hotel and relevant infrastructure.

The purpose of this document is to:

- 1) Describe the existing watershed characteristics of the Project area.
- 2) Evaluate pre- and post-development hydrology for the 2-, 10-, and 100-year storm events to meet Town of Truckee flood control requirements.
- 3) Provide documentation for design and sizing of water-quality treatment and hydromodification management features to meet requirements of the Phase II Municipal Separate Storm System (MS4) Permit.

2. Existing Conditions

2.1 Existing Land Uses

The project site is currently undeveloped except for Edwin Way, which connects to Henness Road to the south and Prosser Dam Road to the north.

2.2 Existing Site Drainage

Surface water drainage across the undeveloped portion of the site consists of overland sheet flow east towards Edwin Way. Runoff is collected in the road gutter and is conveyed to existing subsurface drainage. Drainage ultimately discharges to Prosser Creek below Prosser Creek Reservoir. Existing Drainage Management Areas (DMAs) are shown on Plate 1.

2.3 Existing Soils Data

A geotechnical investigation prepared by NV5 and dated January 16th, 2020 concluded the top 6 to 12 inches of soil consisted of loose silty sand containing organic material. Medium dense to very dense silty sand and sandy gravel with varying amounts of cobbles were observed between 2 and 14 feet. Essential refusal was encountered on very dense soil approximately 3 to 7 feet depths.

2.4 Groundwater

No groundwater was encountered during subsurface investigations by NV5.

3. Proposed Conditions

3.1 Proposed Land Uses

This project site is proposed to have a hotel and adjacent event center, with relevant parking infrastructure.

3.2 Proposed Site Drainage

The proposed drainage utilizes and expands on the exiting drainage facilities located within Edwin Road and discharges at three locations as shown in Plate 2. Onsite roof and parking runoff is direct through curb and gutters and storm drain systems into infiltration chambers and one (1) bioretention pond. Outfalls of infiltration chambers connect into the existing storm drain system located in Edwin way, at the two (2) locations shown on Plate 2. Outfall from the bioretention pond connects to the storm drain proposed to be install as part of the approved studio lofts project.

4. Hydrologic and Hydraulic Modeling

4.1 Methodology

The hydrology and hydraulics of the storm drainage for the project site was modeled using Hydrology Studio Software. Rainfall to runoff calculations were completed according to USDA Soil Conservation Service (SCS) Methods outlined in Technical Release 55. The SCS curve numbers were assigned per Town of Truckee Standards (SD#65). A composite curve number was applied to each basin representative of the land use.

The average annual precipitation in the watershed is 32 inches per Truckee Standards Precipitation Map (SD#63). NOAA Atlas 14 were used for the 2-, 10- and 100-year rainfall depths and are presented in Table 1. Times of concentration was calculated per the TR-55 guidelines, with a minimum time of concentration of 0.1 hours (6 minutes).

Table 1 - Analysis Rainfall Depth

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active			✓			✓			✓
SCS Storms	> SCS Dimensionless Storms								
SCS 6hr		1.07	1.25	0	1.50	1.73	2.08	2.39	2.73
Type I, 24-hr		2.28	2.92	0	3.75	4.42	5.31	5.99	6.67
Type IA, 24-hr	✓	2.28	2.92	0	3.75	4.42	5.31	5.99	6.67

4.2 Existing & Proposed Conditions Modeling and Results

Peak flow rates for the 2-,10-, and 100- year storm events are shown on table 2 below. To meet design requirements Post flow rates must not exceed pre flow rates. Flow requirements are met in all cases, except the 100-yr flow for DMA-1. DMA-1 includes a large patio area at the rear of the hotel, which for preliminary purposes has been conservatively assumed to be 90% impervious. Upon final design this impervious area will be reduced, or the design of chambers will be updated to allow for a lower Q value on Post Match DMA-1.

Table 2 - Existing Conditions Model Results

Hydrograph Name	Peak Outflow (cfs)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Pre dma 1		0.353			0.903			1.868
Pre dma 2		0.197			0.503			1.040
Pre dma 3		0.141			0.359			0.744
Post MATCH DMA 1		0.338			0.898			1.874
Post MATCH DMA 2		0.190			0.483			1.037
Post MATCH DMA 3		0.101			0.351			0.674

5. Water Quality Management

Water Quality management was determined using the town SWQP Calculator. Minimum infiltration values of 0.17 in/hr were used to determine maximum ponding depth. Additional information can be found in appendix C.

6. References

California Stormwater Quality Association (CASQA), 2003, Stormwater best management practices handbook, new development and redevelopment

State Water Resources Control Board, 2013, Water quality order no. 2013-0001-DWQ, National pollutant discharge elimination system (NPDES) general permit no. CAS000004, Waste discharge requirements (WDRs) for storm water discharges from small municipal separate storm sewer systems (MS4s) (General Permit)

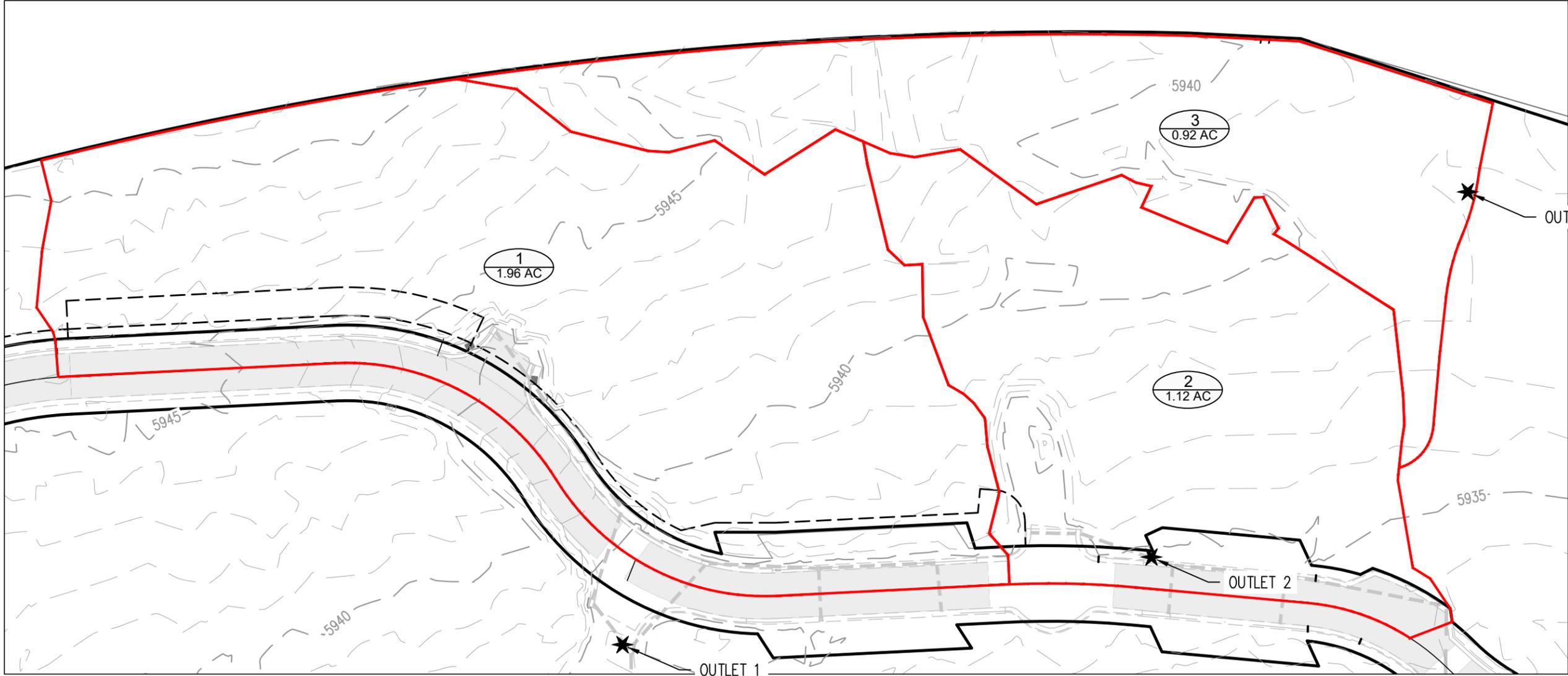
Town of Truckee, 2003, Town of Truckee Public Improvement and Engineering Standards

US Department of Agriculture (USDA), 1986, Urban hydrology for small watershed TR-55, for the Natural Resources Conservation Service and Conservation Engineering Division,

PLATES

— PRE DMA AREA BOUNDARY

1
X.XX AC PRE DMA



DESIGNED: SLK	NO. REVISIONS	DATE
DRAWN: SLK		
PROJ. NO: 201644		
DWG. SEE PLOT STAMP		
DATE: NOVEMBER, 2021		

VILLIAGE AT GRAYS HOTEL
DRAINAGE STUDY
PRE-DEVELOPMENT

TOWN OF TRUCKEE
CALIFORNIA

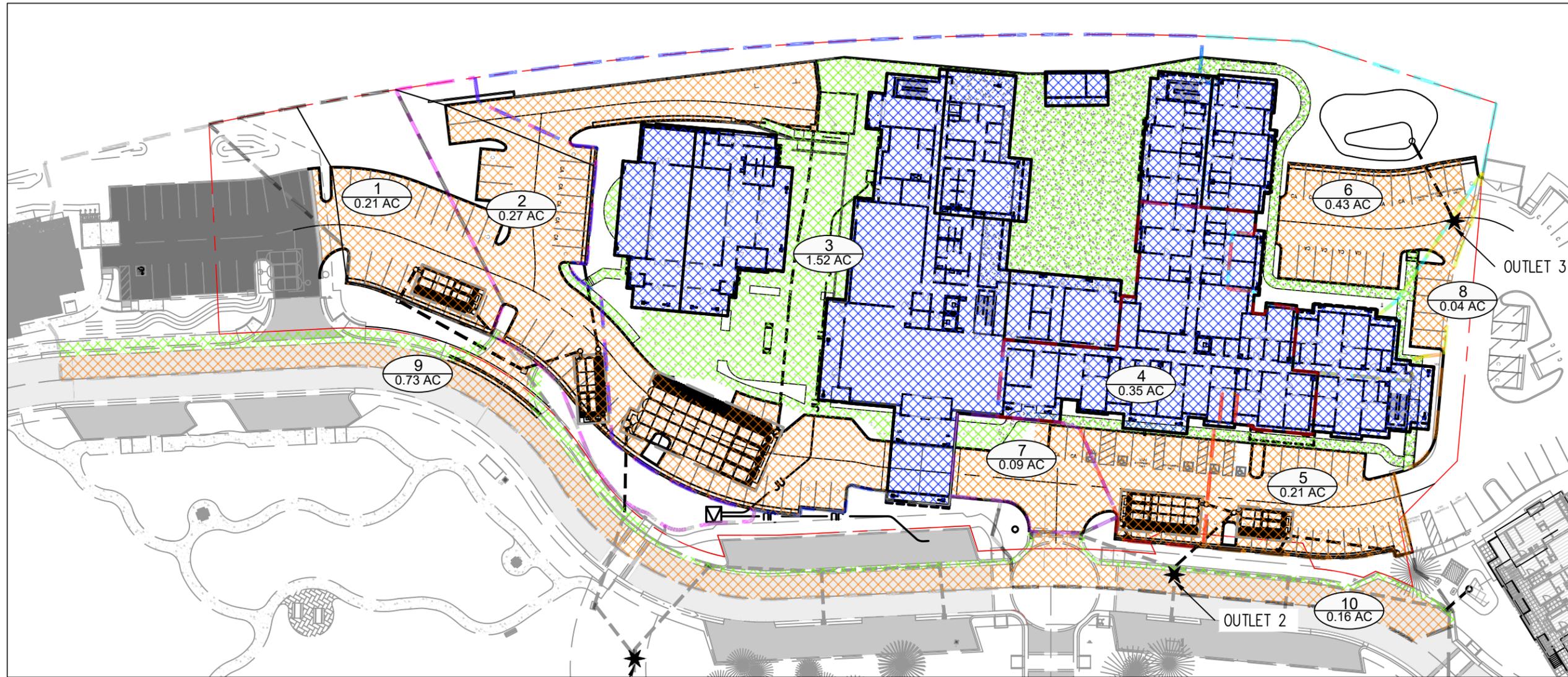


GRASS VALLEY
530-272-8841
FAX: 530-272-8880
TRUCKEE
530-582-4043

- DMA-1
- DMA-2
- DMA-3
- DMA-4
- DMA-5
- DMA-6
- DMA-8
- DMA-9
- DMA-10

-  ASPHALT PAVING
-  CONCRETE FLATWORK
-  ROOF

 DMA



NO.	REVISIONS	DATE	DESIGNED: NJB
			DRAWN: NJB
			PROJ. NO: 202211
			DWG. SEE PLOT STAMP
			DATE: MAY, 2023

VILLAGE AT GRAYS - HOTEL
 DRAINAGE STUDY
 POST-DEVELOPMENT
 TOWN OF TRUCKEE
 CALIFORNIA



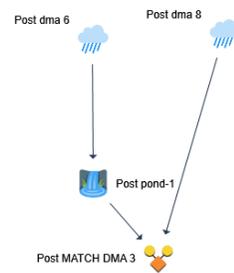
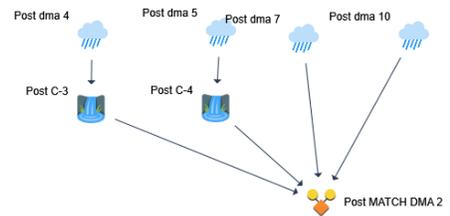
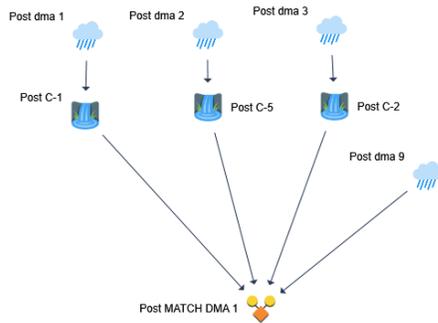
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 TRUCKEE
 530-582-4043

Basin Model

Hydrology Studio v 3.0.0.27

Project Name: Village Hotel

05-16-2023



APPENDIX A

Hydrograph Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-16-2023

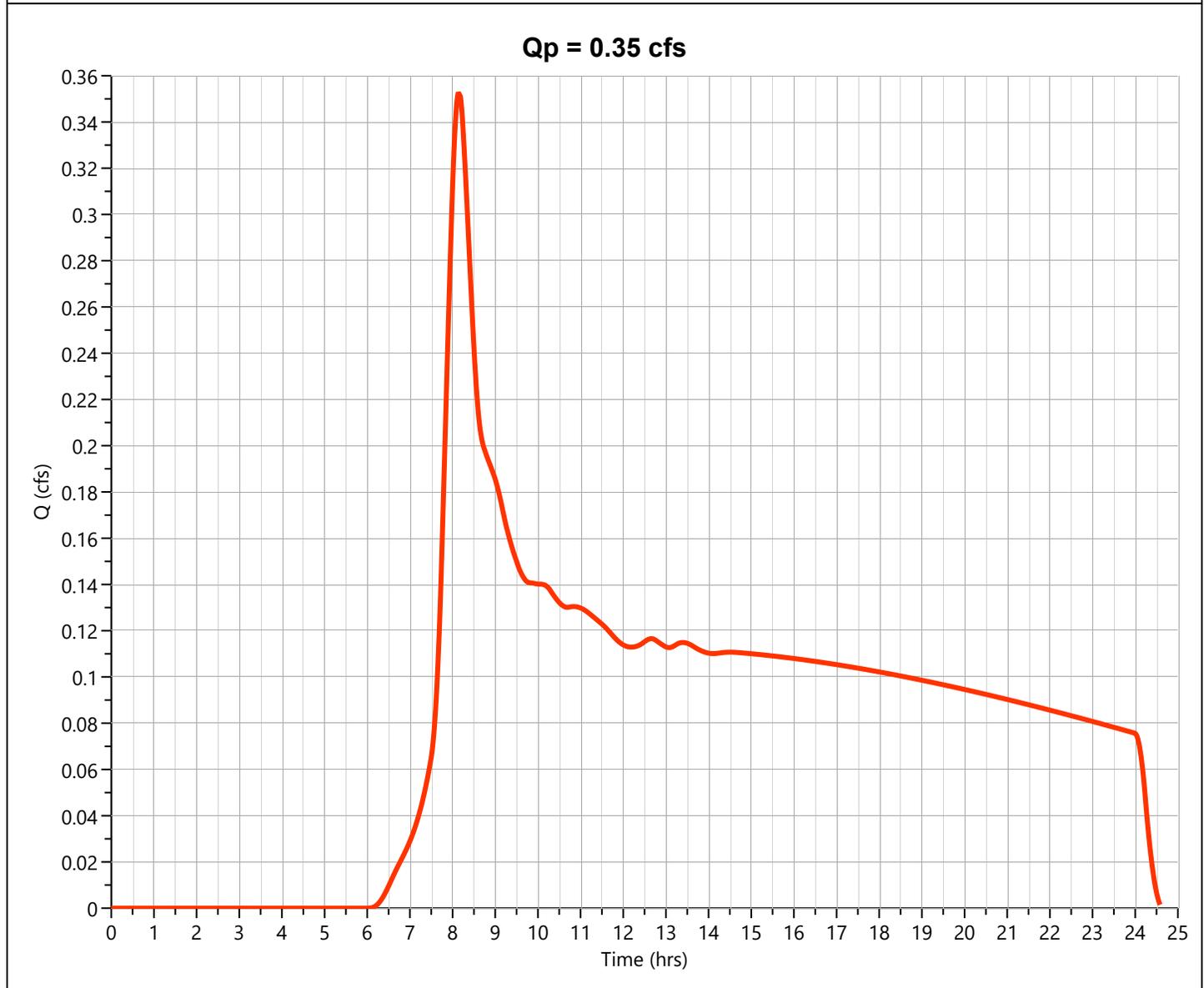
Pre dma 1

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.353 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.15 hrs
Time Interval	= 1 min	Runoff Volume	= 7,221 cuft
Drainage Area	= 1.958 ac	Curve Number	= 77*
Tc Method	= User	Time of Conc. (Tc)	= 24.0 min
Total Rainfall	= 2.92 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.238	98	PAVEMENT
1.72	74	NATURAL
1.958	77	Weighted CN Method Employed



Hydrograph Report

Project Name: Village Hotel

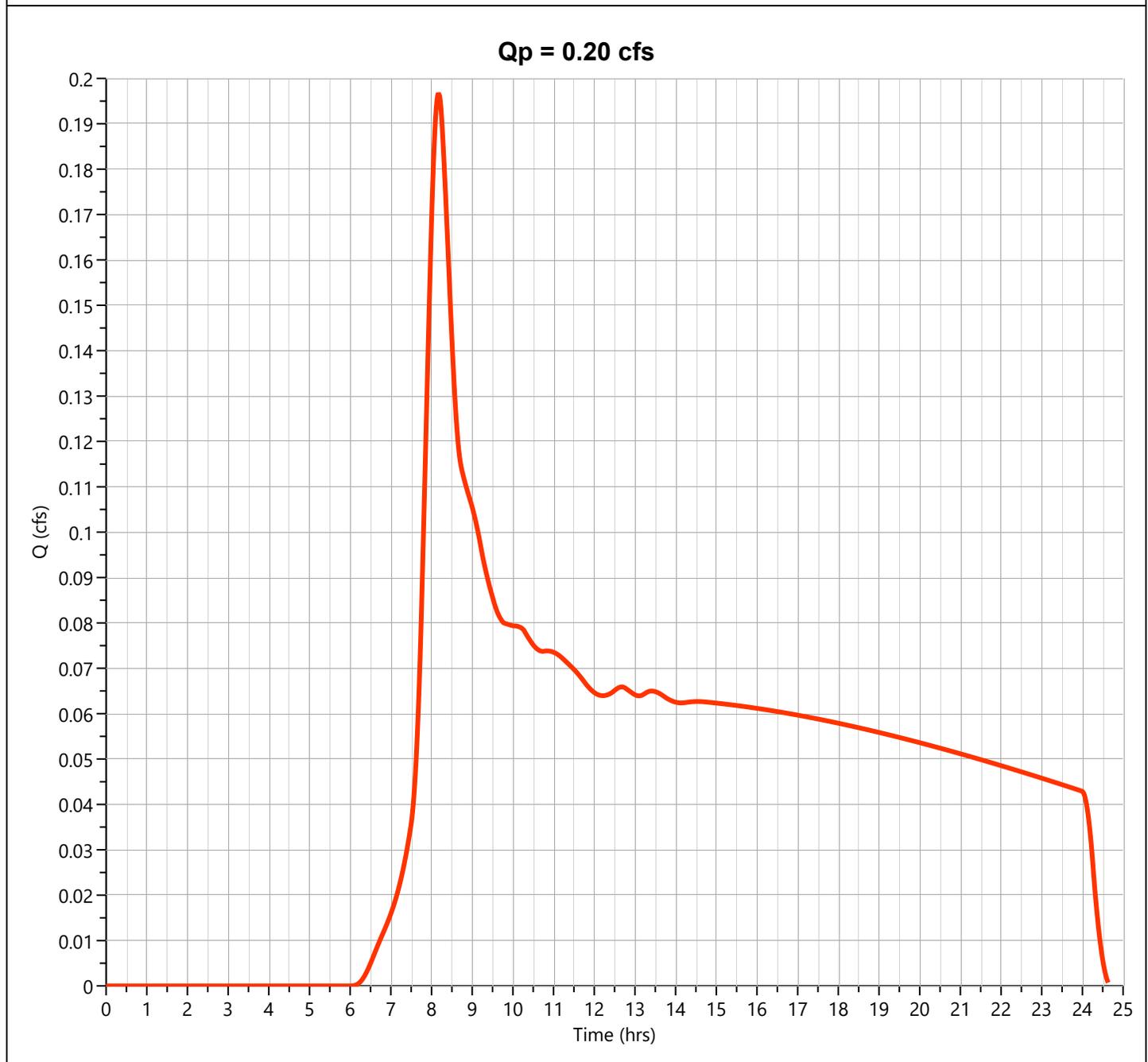
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 2

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.197 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.17 hrs
Time Interval	= 1 min	Runoff Volume	= 4,089 cuft
Drainage Area	= 1.1 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 27.0 min
Total Rainfall	= 2.92 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

Project Name: Village Hotel

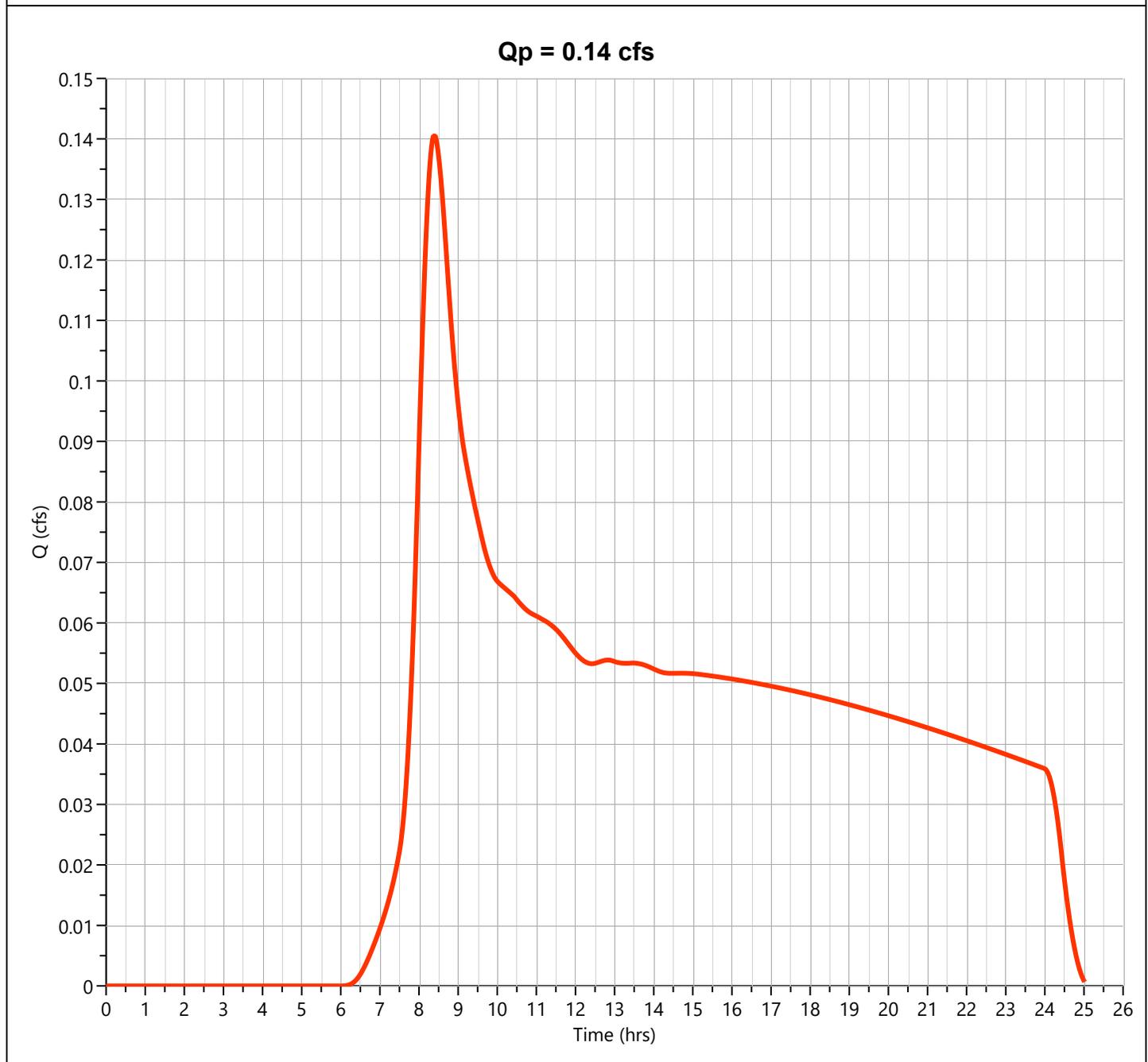
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 3

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.141 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.40 hrs
Time Interval	= 1 min	Runoff Volume	= 3,377 cuft
Drainage Area	= 0.92 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 43.0 min
Total Rainfall	= 2.92 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-16-2023

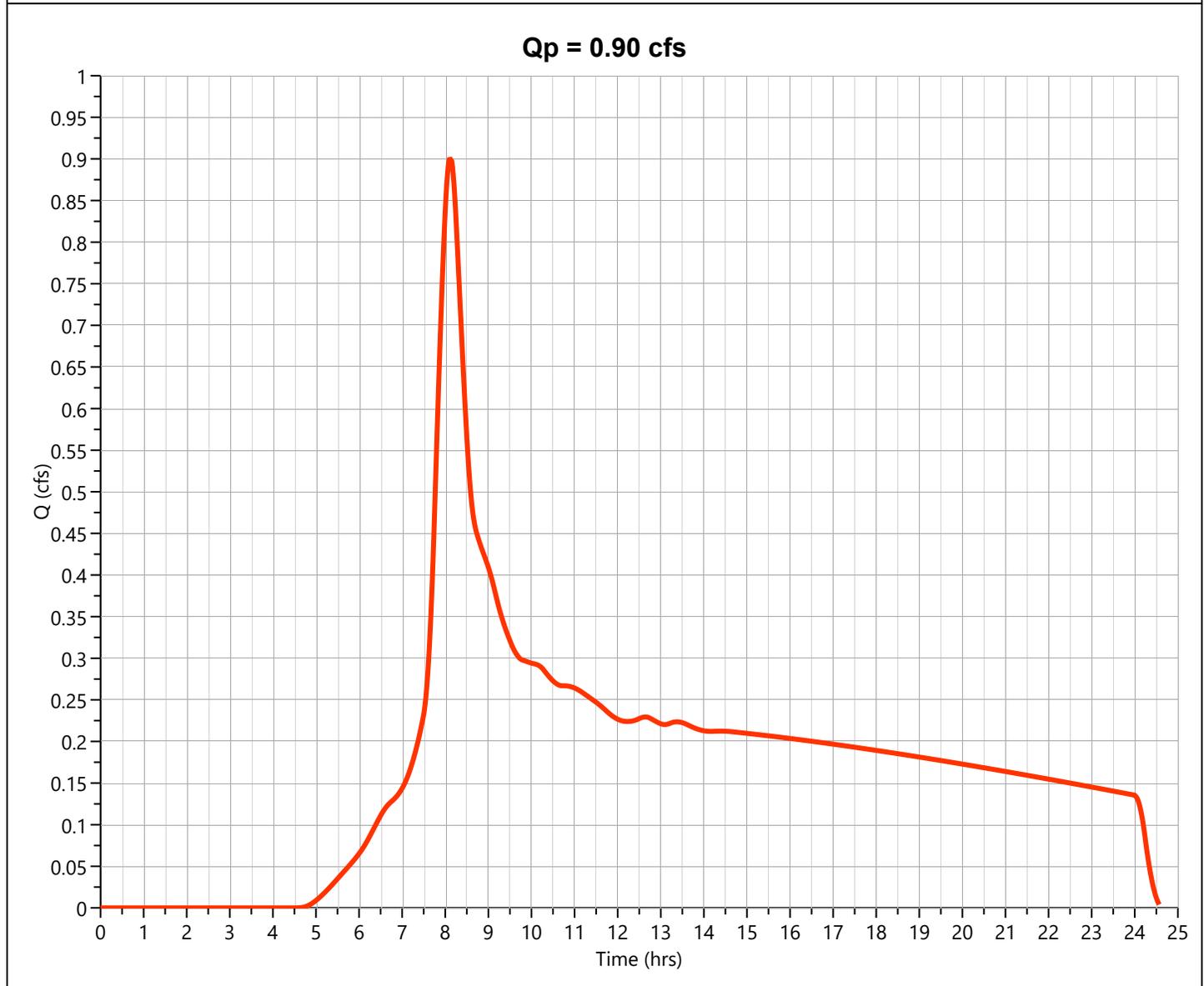
Pre dma 1

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.903 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.12 hrs
Time Interval	= 1 min	Runoff Volume	= 15,252 cuft
Drainage Area	= 1.958 ac	Curve Number	= 77*
Tc Method	= User	Time of Conc. (Tc)	= 24.0 min
Total Rainfall	= 4.42 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.238	98	PAVEMENT
1.72	74	NATURAL
1.958	77	Weighted CN Method Employed



Hydrograph Report

Project Name: Village Hotel

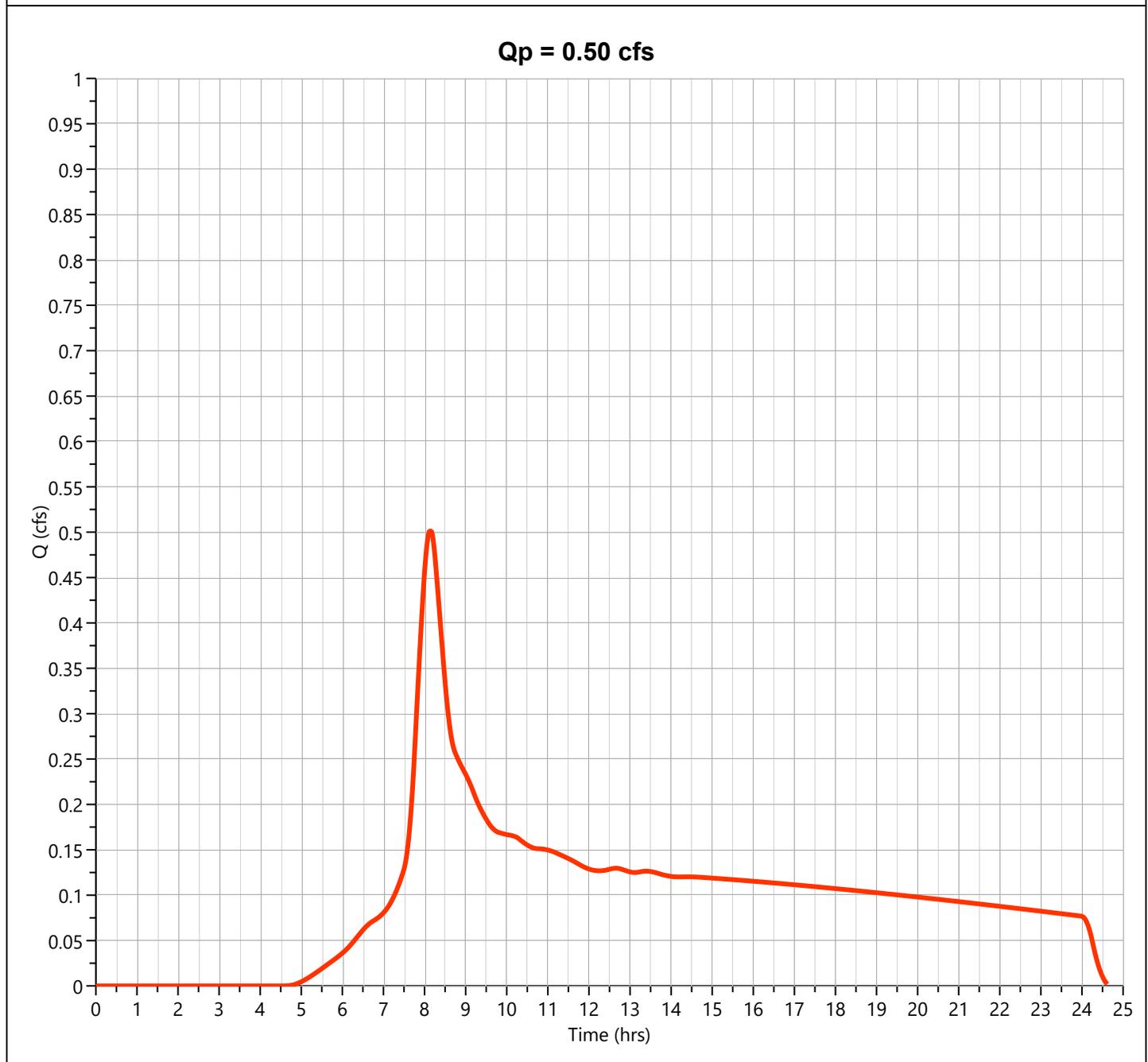
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 2

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.503 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.13 hrs
Time Interval	= 1 min	Runoff Volume	= 8,635 cuft
Drainage Area	= 1.1 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 27.0 min
Total Rainfall	= 4.42 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

Project Name: Village Hotel

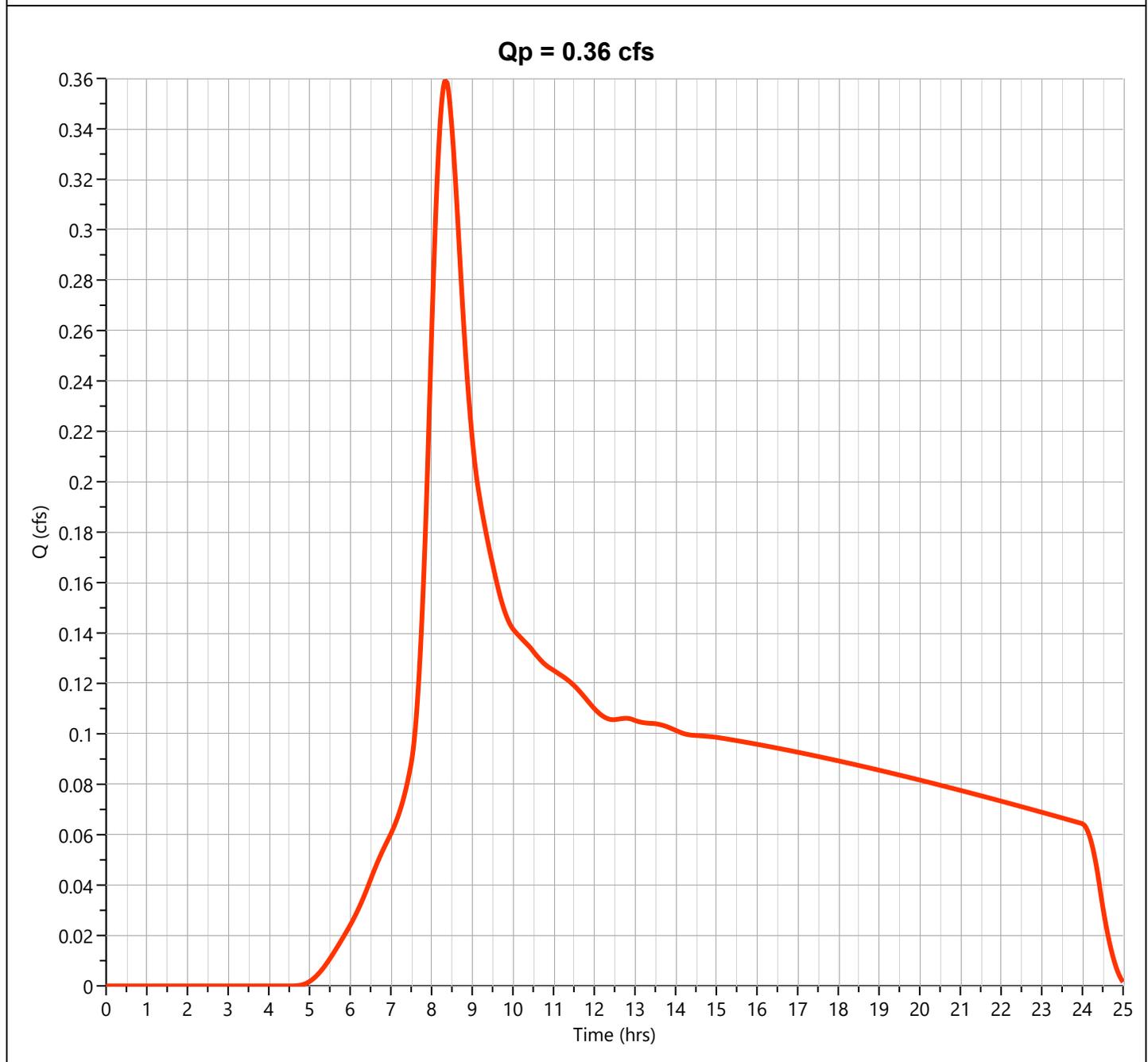
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 3

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.359 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.35 hrs
Time Interval	= 1 min	Runoff Volume	= 7,132 cuft
Drainage Area	= 0.92 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 43.0 min
Total Rainfall	= 4.42 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-16-2023

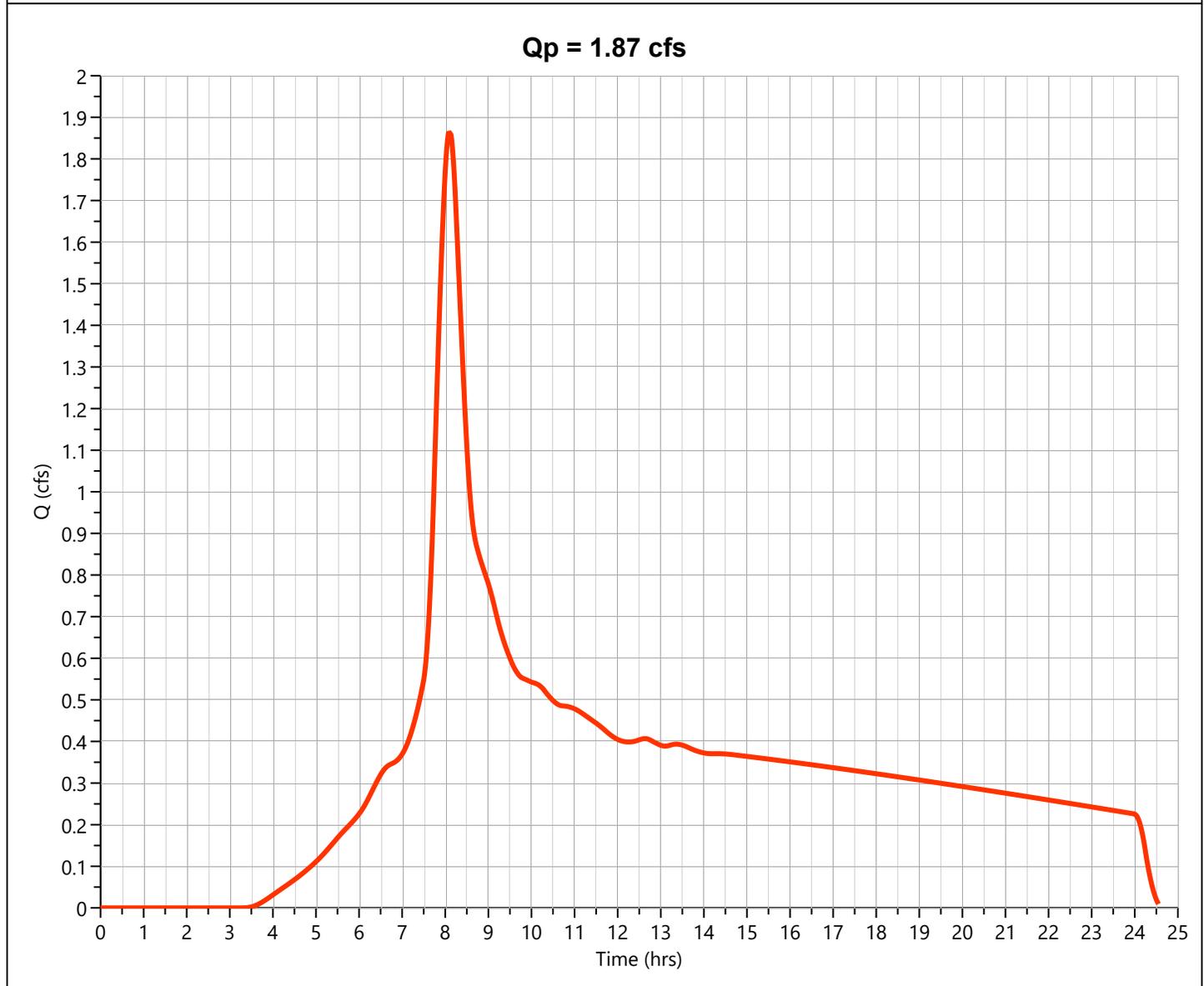
Pre dma 1

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.868 cfs
Storm Frequency	= 100-yr	Time to Peak	= 8.10 hrs
Time Interval	= 1 min	Runoff Volume	= 28,931 cuft
Drainage Area	= 1.958 ac	Curve Number	= 77*
Tc Method	= User	Time of Conc. (Tc)	= 24.0 min
Total Rainfall	= 6.67 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.238	98	PAVEMENT
1.72	74	NATURAL
1.958	77	Weighted CN Method Employed



Hydrograph Report

Project Name: Village Hotel

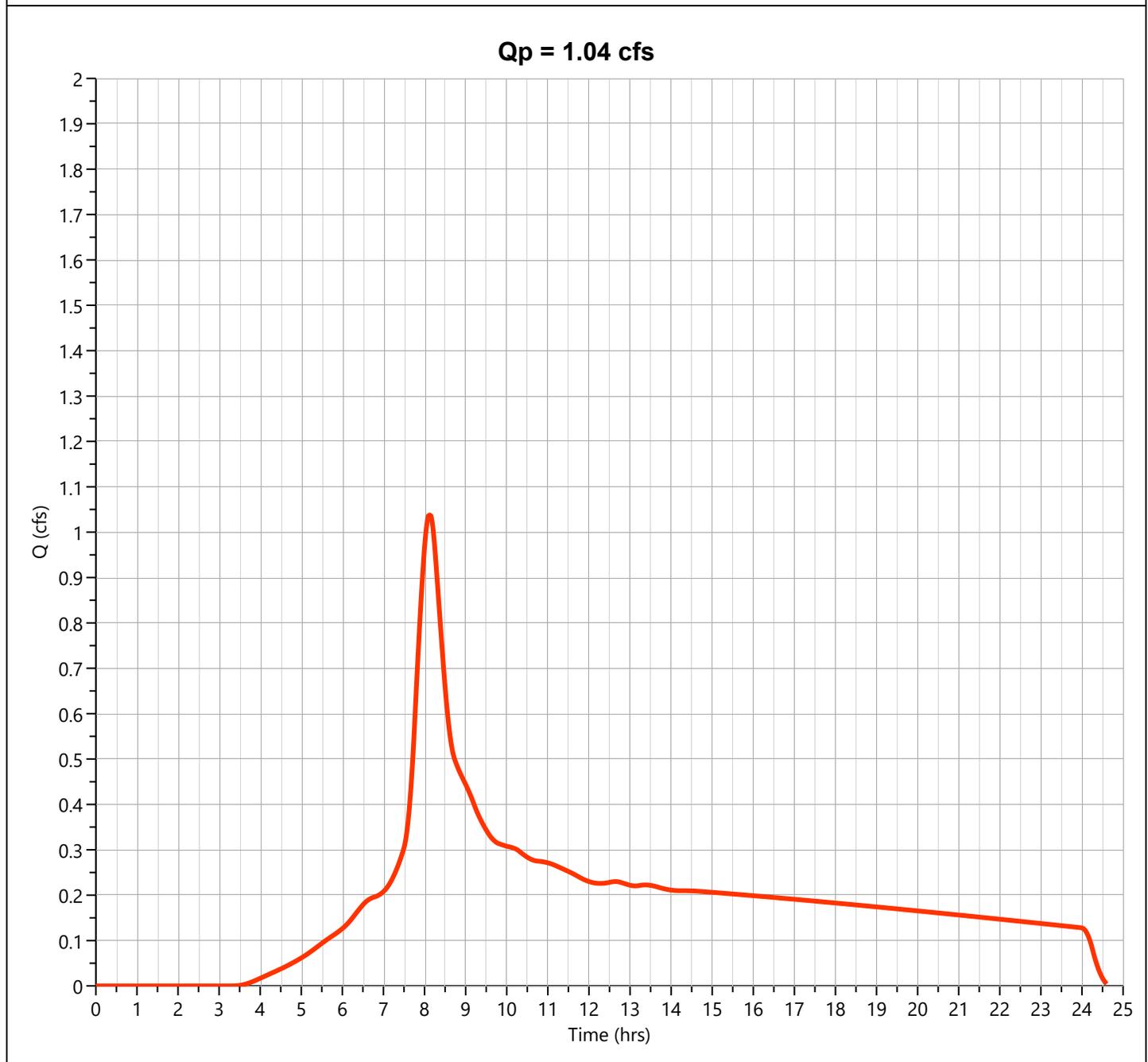
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 2

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.040 cfs
Storm Frequency	= 100-yr	Time to Peak	= 8.12 hrs
Time Interval	= 1 min	Runoff Volume	= 16,380 cuft
Drainage Area	= 1.1 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 27.0 min
Total Rainfall	= 6.67 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

Project Name: Village Hotel

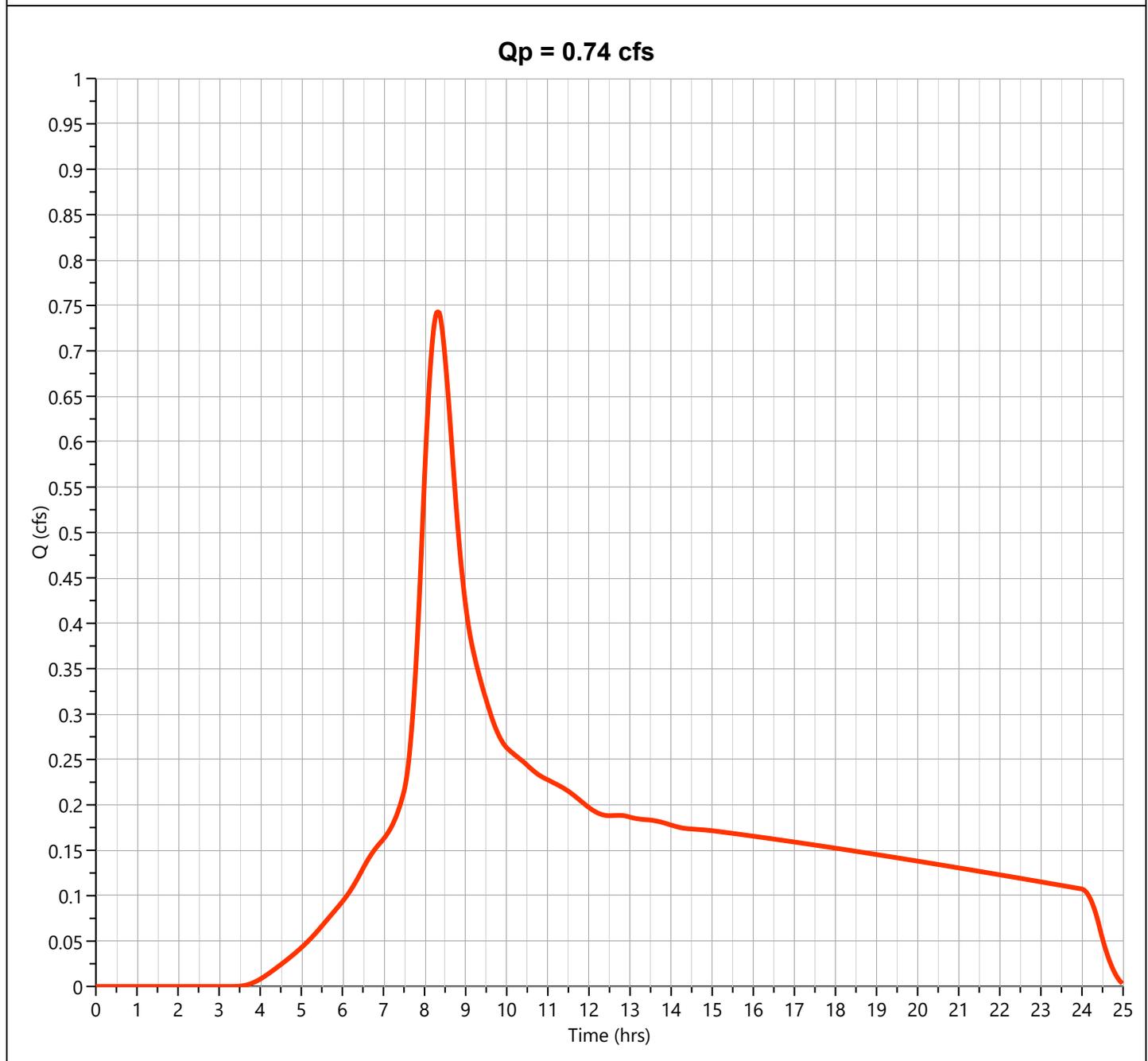
Hydrology Studio v 3.0.0.27

05-16-2023

Pre dma 3

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.744 cfs
Storm Frequency	= 100-yr	Time to Peak	= 8.32 hrs
Time Interval	= 1 min	Runoff Volume	= 13,528 cuft
Drainage Area	= 0.92 ac	Curve Number	= 77
Tc Method	= User	Time of Conc. (Tc)	= 43.0 min
Total Rainfall	= 6.67 in	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 484



APPENDIX B

Hydrograph Report

Project Name: Village Hotel

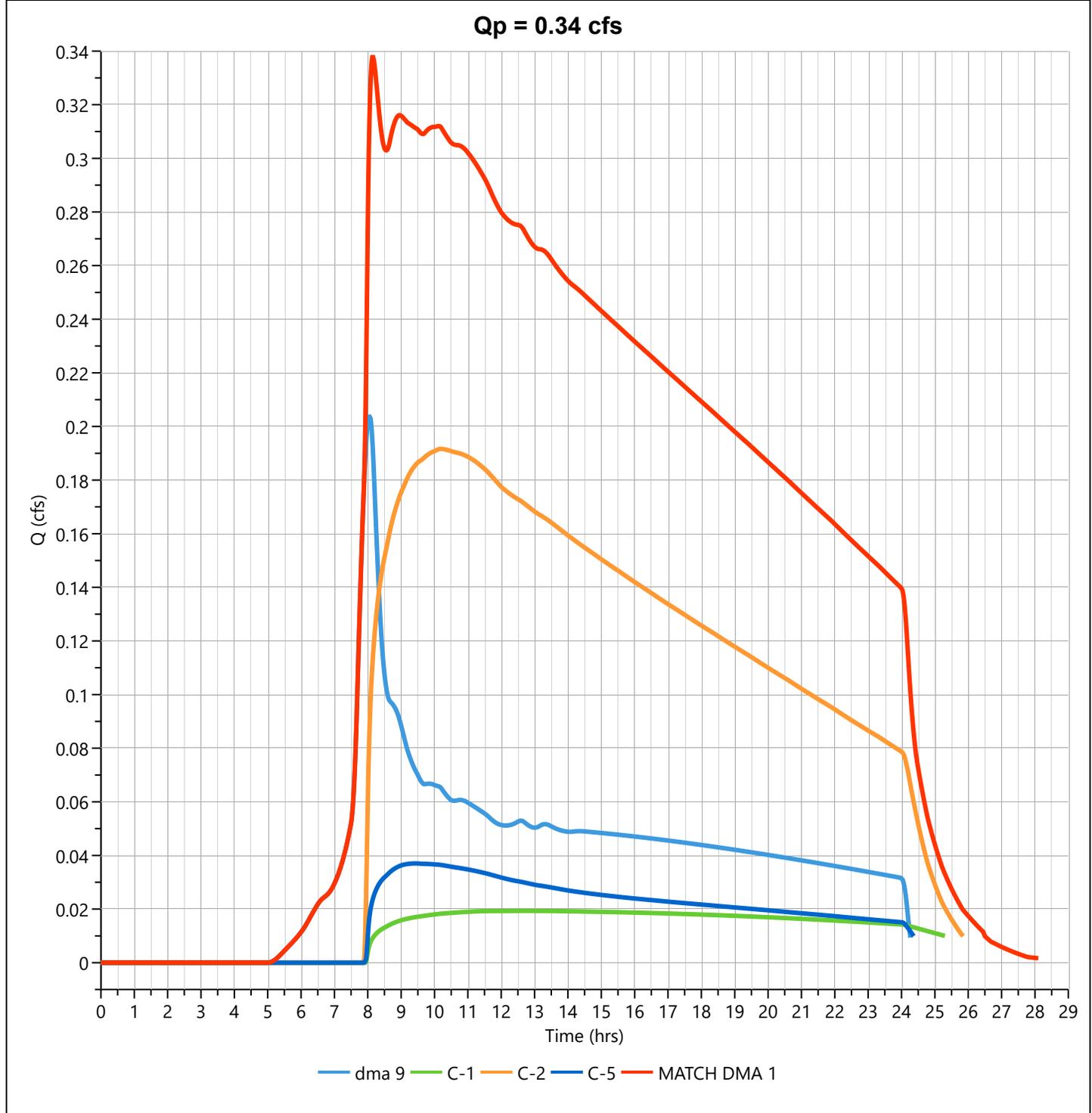
Hydrology Studio v 3.0.0.27

05-16-2023

Post MATCH DMA 1

Hyd. No. 22

Hydrograph Type	= Junction	Peak Flow	= 0.338 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 14,311 cuft
Inflow Hydrographs	= 12, 14, 15, 21	Total Contrib. Area	= 0.733 ac

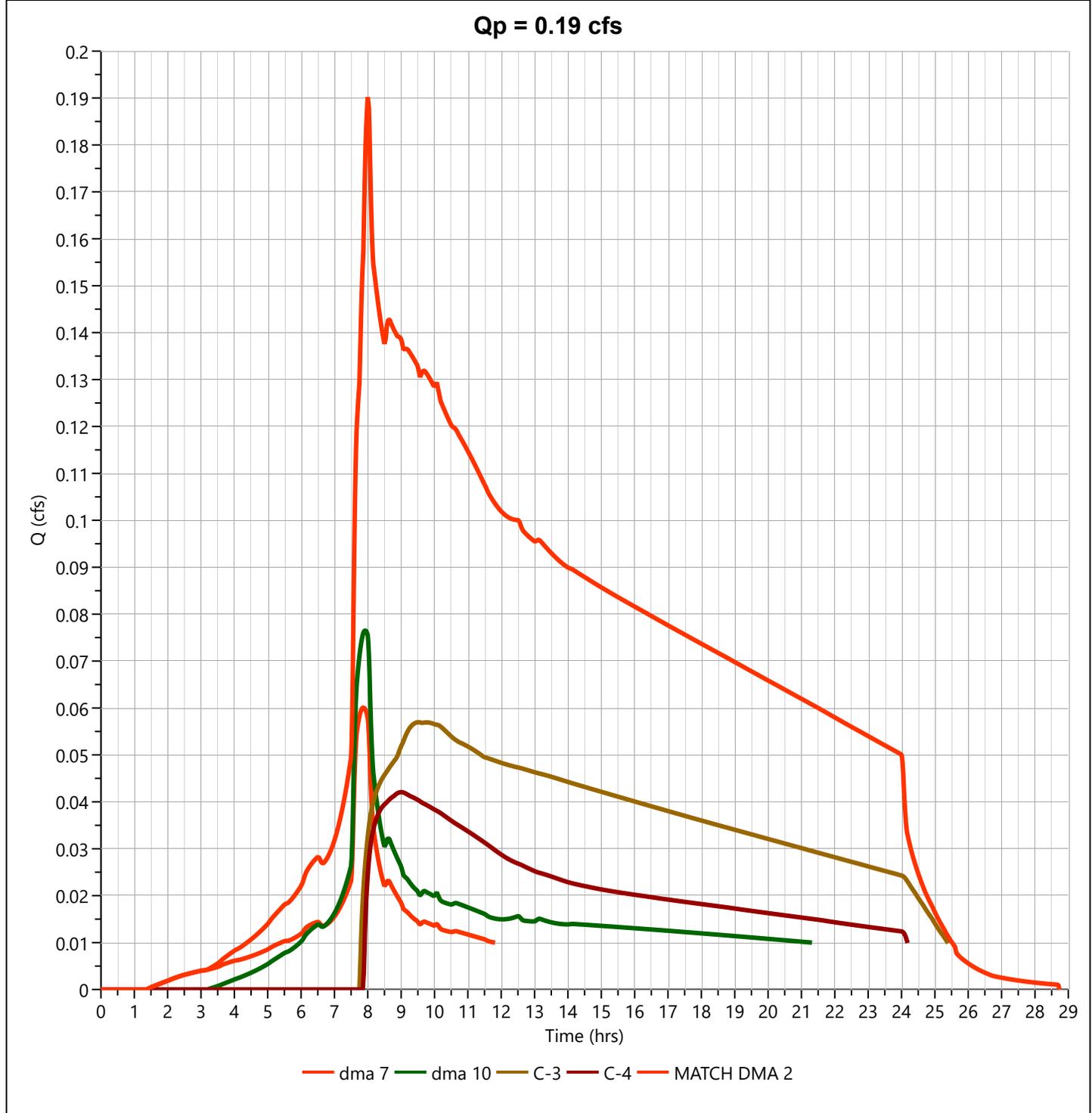


Hydrograph Report

Post MATCH DMA 2

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 0.190 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 5,738 cuft
Inflow Hydrographs	= 10, 13, 16, 17	Total Contrib. Area	= 0.251 ac



Hydrograph Report

Project Name: Village Hotel

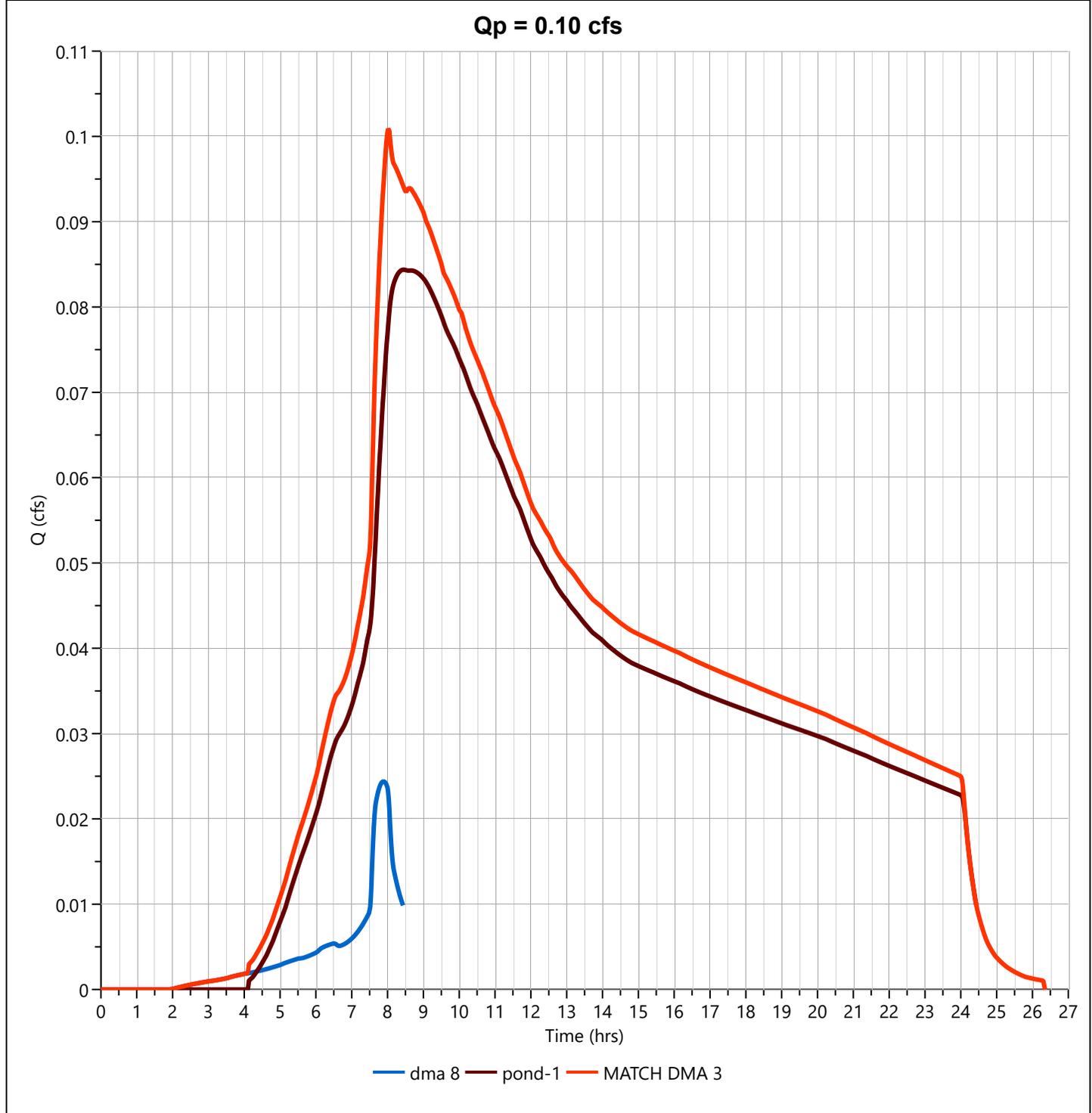
Hydrology Studio v 3.0.0.27

05-16-2023

Post MATCH DMA 3

Hyd. No. 20

Hydrograph Type	= Junction	Peak Flow	= 0.101 cfs
Storm Frequency	= 2-yr	Time to Peak	= 8.03 hrs
Time Interval	= 1 min	Hydrograph Volume	= 3,219 cuft
Inflow Hydrographs	= 11, 19	Total Contrib. Area	= 0.04 ac



Hydrograph Report

Project Name: Village Hotel

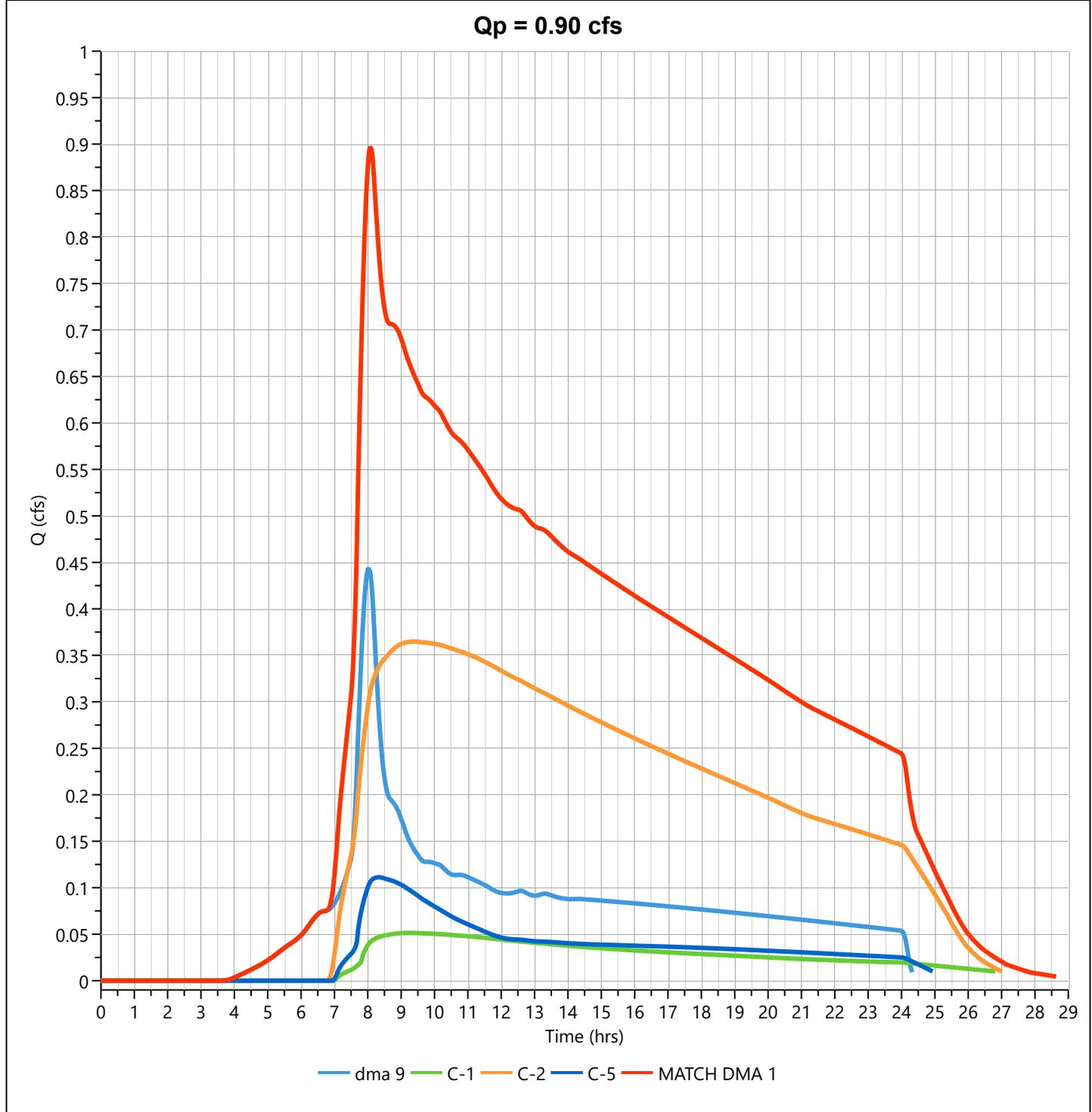
Hydrology Studio v 3.0.0.27

05-16-2023

Post MATCH DMA 1

Hyd. No. 22

Hydrograph Type	= Junction	Peak Flow	= 0.898 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.08 hrs
Time Interval	= 1 min	Hydrograph Volume	= 28,200 cuft
Inflow Hydrographs	= 12, 14, 15, 21	Total Contrib. Area	= 0.733 ac

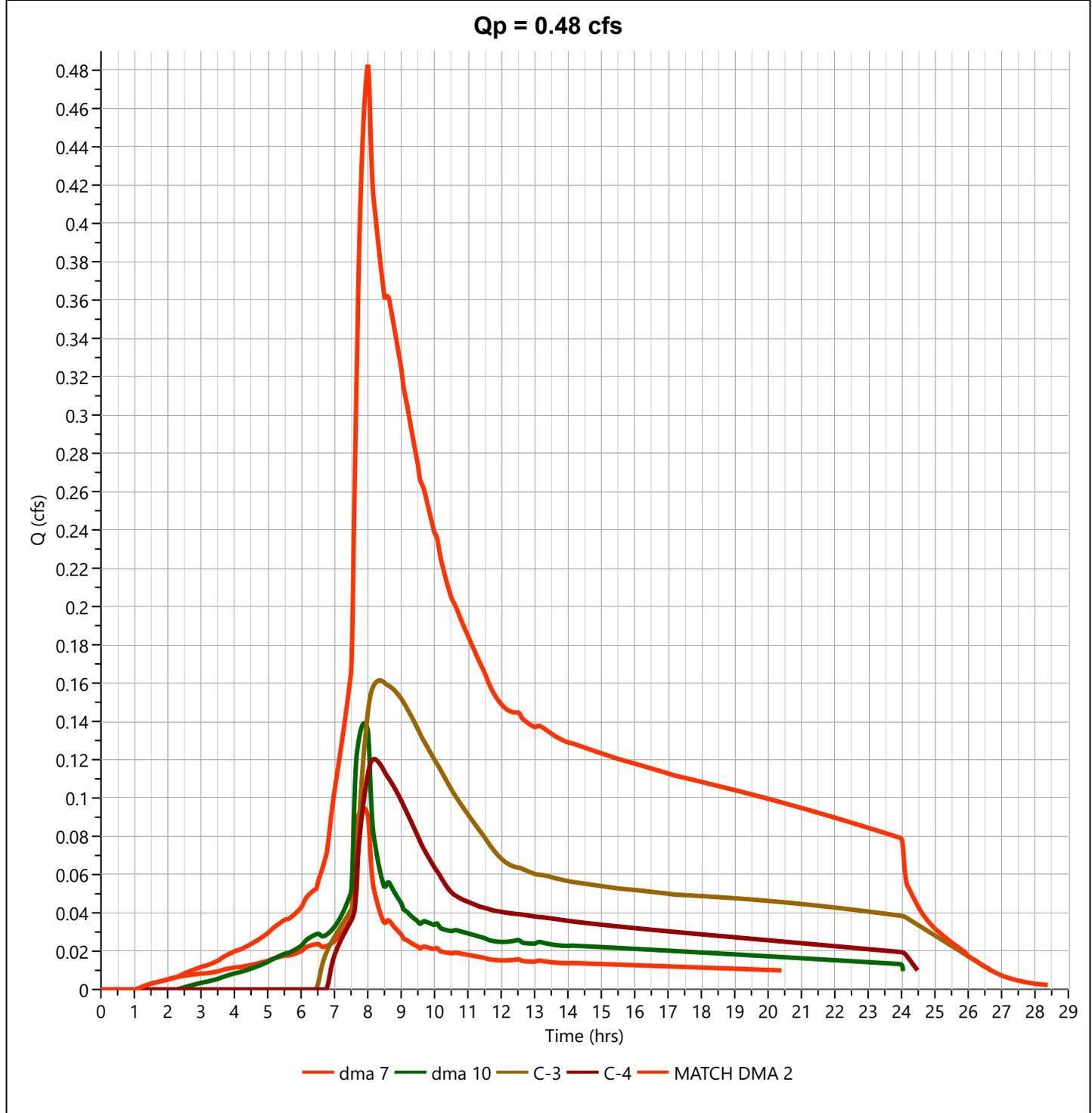


Hydrograph Report

Post MATCH DMA 2

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 0.483 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 10,196 cuft
Inflow Hydrographs	= 10, 13, 16, 17	Total Contrib. Area	= 0.251 ac



Hydrograph Report

Project Name: Village Hotel

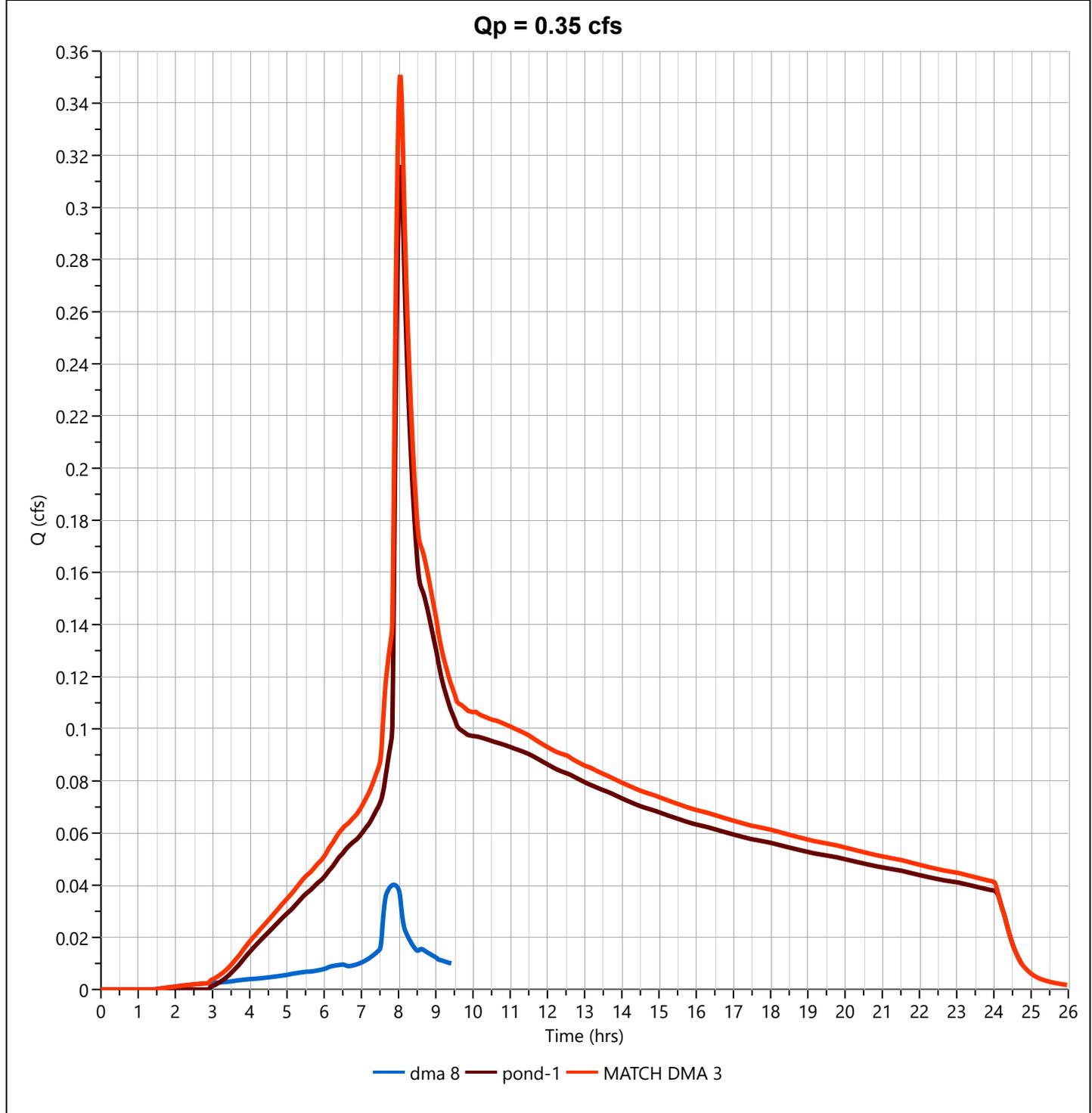
Hydrology Studio v 3.0.0.27

05-16-2023

Post MATCH DMA 3

Hyd. No. 20

Hydrograph Type	= Junction	Peak Flow	= 0.351 cfs
Storm Frequency	= 10-yr	Time to Peak	= 8.05 hrs
Time Interval	= 1 min	Hydrograph Volume	= 5,663 cuft
Inflow Hydrographs	= 11, 19	Total Contrib. Area	= 0.04 ac

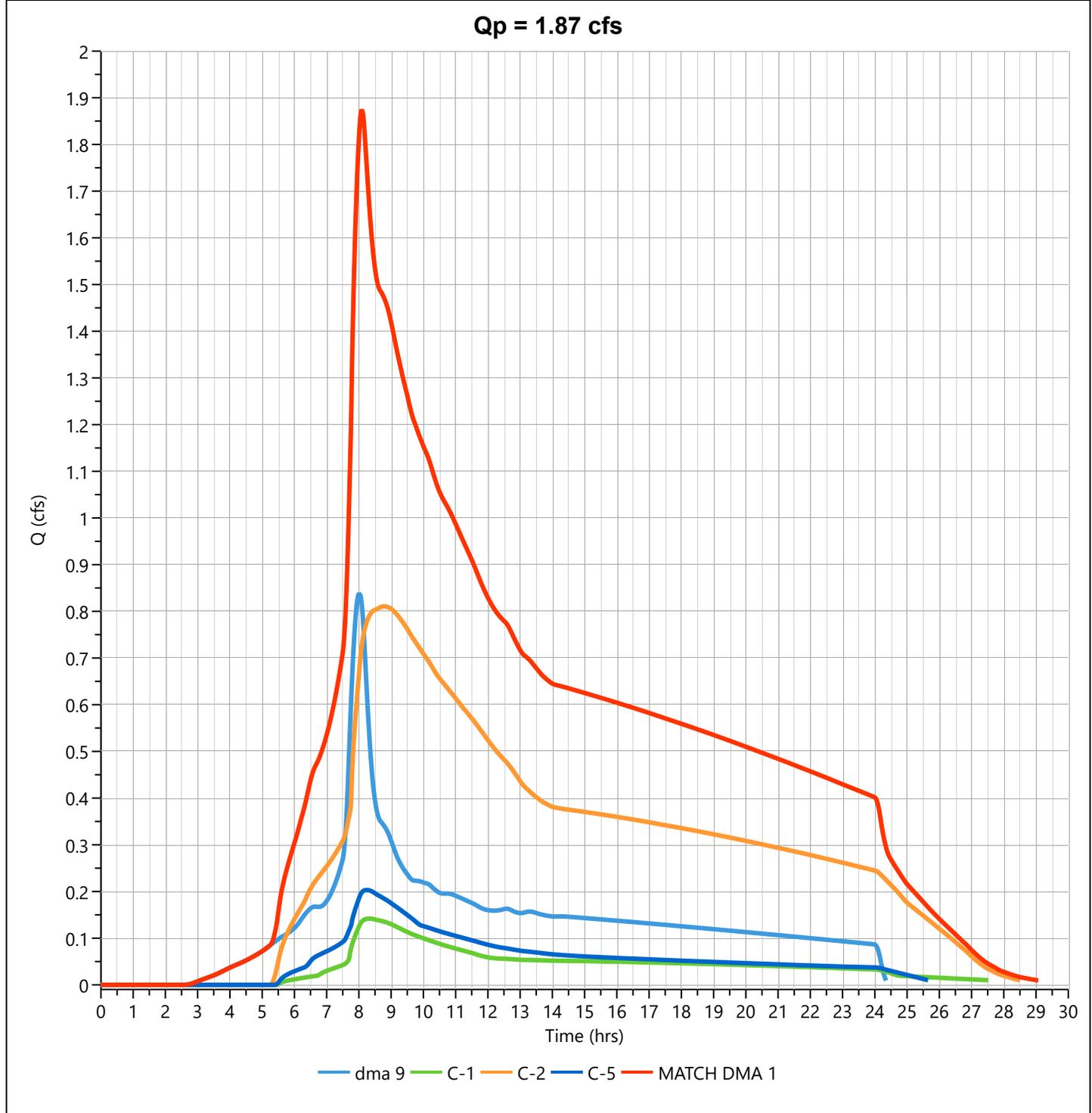


Hydrograph Report

Post MATCH DMA 1

Hyd. No. 22

Hydrograph Type	= Junction	Peak Flow	= 1.874 cfs
Storm Frequency	= 100-yr	Time to Peak	= 8.08 hrs
Time Interval	= 1 min	Hydrograph Volume	= 49,842 cuft
Inflow Hydrographs	= 12, 14, 15, 21	Total Contrib. Area	= 0.733 ac

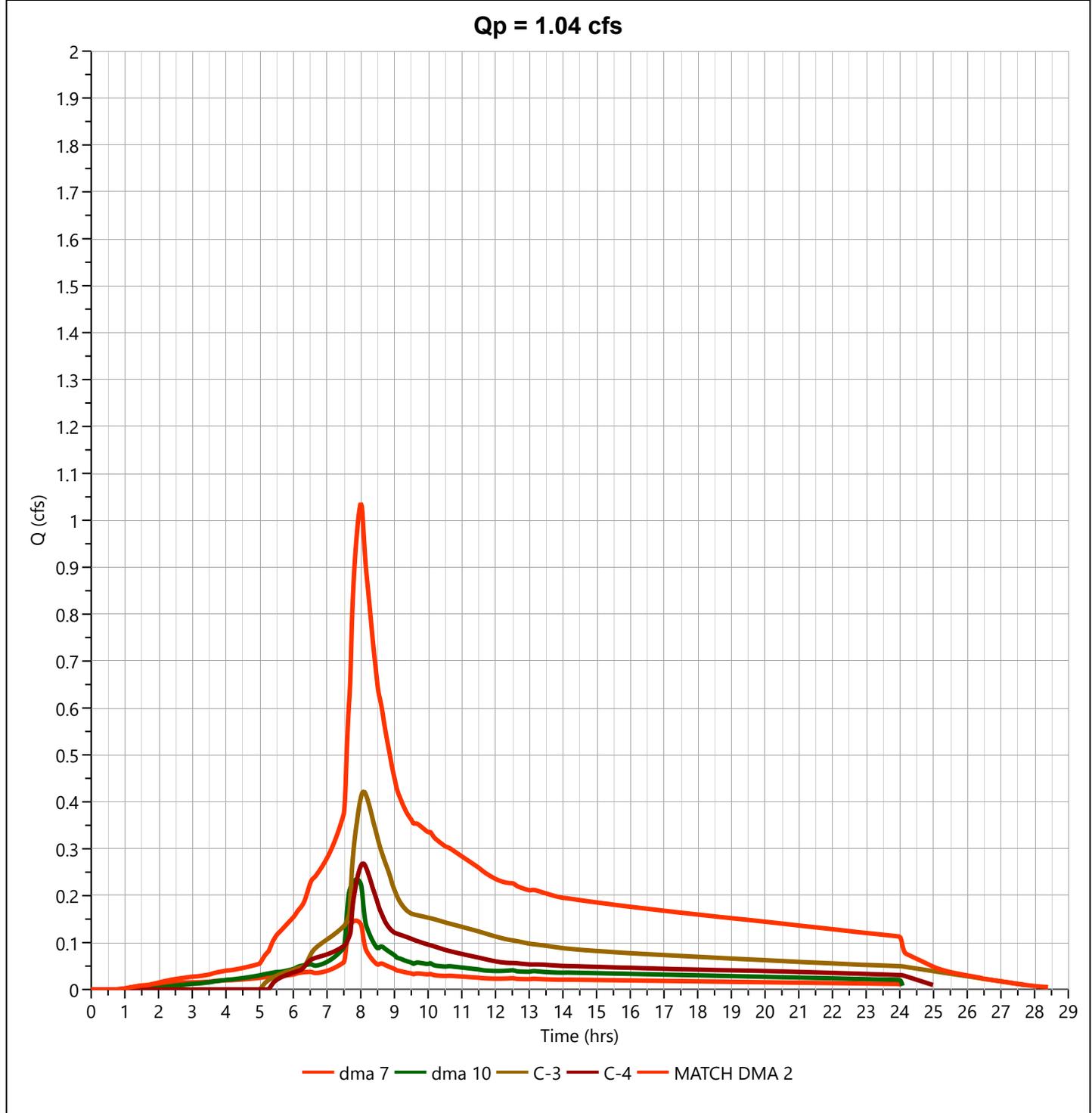


Hydrograph Report

Post MATCH DMA 2

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 1.037 cfs
Storm Frequency	= 100-yr	Time to Peak	= 8.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 16,960 cuft
Inflow Hydrographs	= 10, 13, 16, 17	Total Contrib. Area	= 0.251 ac



Hydrograph Report

Project Name: Village Hotel

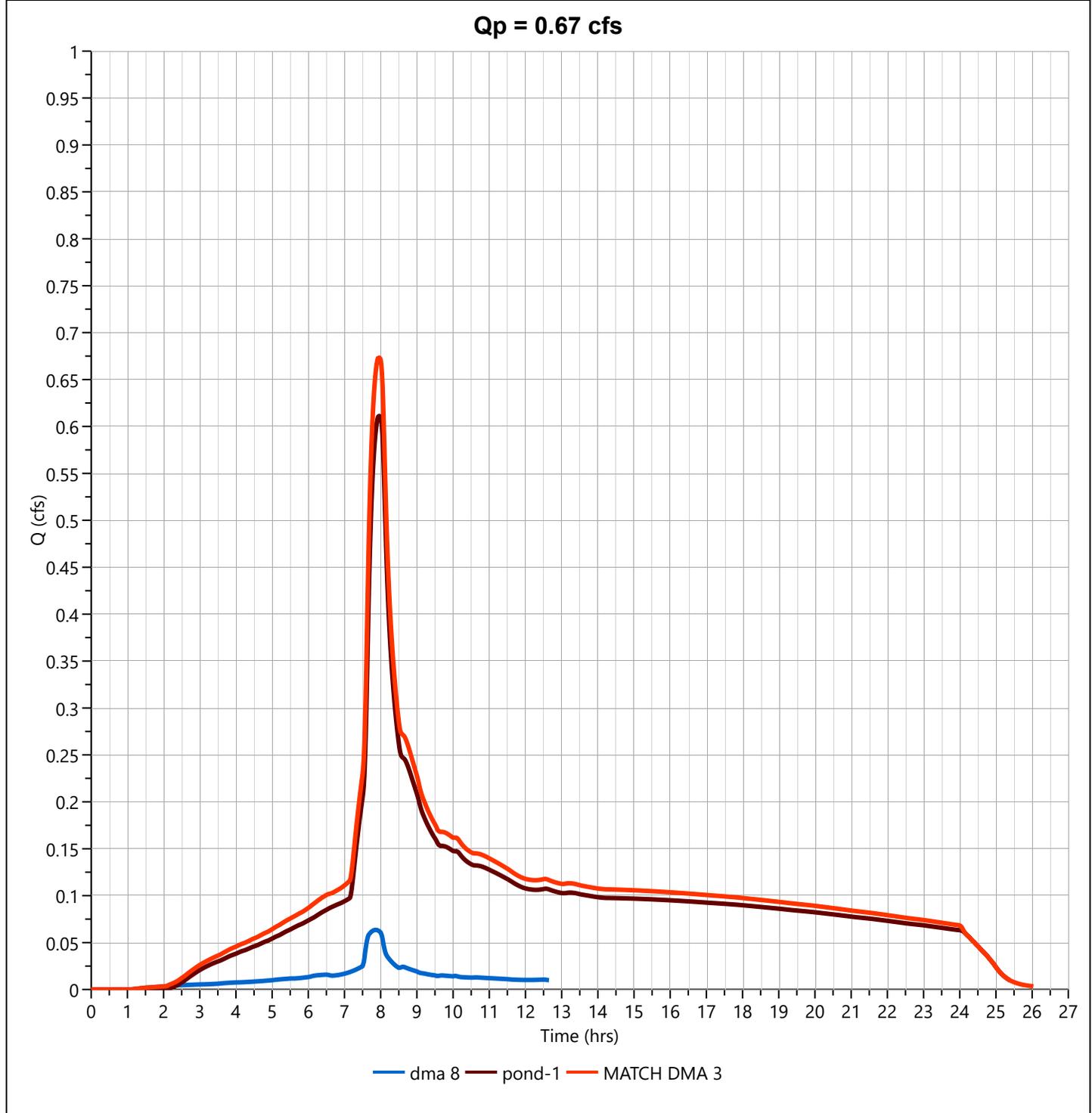
Hydrology Studio v 3.0.0.27

05-16-2023

Post MATCH DMA 3

Hyd. No. 20

Hydrograph Type	= Junction	Peak Flow	= 0.674 cfs
Storm Frequency	= 100-yr	Time to Peak	= 7.95 hrs
Time Interval	= 1 min	Hydrograph Volume	= 9,468 cuft
Inflow Hydrographs	= 11, 19	Total Contrib. Area	= 0.04 ac



APPENDIX C

Hydrograph by Return Period

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-17-2023

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	NRCS Runoff	Pre dma 1		0.353			0.903			1.868
2	NRCS Runoff	Pre dma 2		0.197			0.503			1.040
3	NRCS Runoff	Pre dma 3		0.141			0.359			0.744
4	NRCS Runoff	Post dma 1		0.094			0.178			0.308
5	NRCS Runoff	Post dma 2		0.136			0.240			0.398
6	NRCS Runoff	Post dma 3		0.958			1.556			2.439
7	NRCS Runoff	Post dma 4		0.246			0.379			0.578
8	NRCS Runoff	Post dma 5		0.136			0.219			0.342
9	NRCS Runoff	Post dma 6		0.201			0.368			0.622
10	NRCS Runoff	Post dma 7		0.060			0.095			0.147
11	NRCS Runoff	Post dma 8		0.024			0.040			0.064
12	NRCS Runoff	Post dma 9		0.204			0.444			0.840
13	NRCS Runoff	Post dma 10		0.077			0.139			0.235
14	Pond Route	Post C-1		0.019			0.051			0.142
15	Pond Route	Post C-2		0.192			0.365			0.811
16	Pond Route	Post C-3		0.057			0.161			0.423
17	Pond Route	Post C-4		0.042			0.120			0.269
18	Junction	Post MATCH DMA 2		0.190			0.483			1.037
19	Pond Route	Post pond-1		0.084			0.316			0.612
20	Junction	Post MATCH DMA 3		0.101			0.351			0.674
21	Pond Route	Post C-5		0.037			0.111			0.203
22	Junction	Post MATCH DMA 1		0.338			0.898			1.874

APPENDIX D

APPENDIX E

Town of Truckee

Post-Construction Storm Water Quality Plan

Project Name	Village Hotel	
Brief Project Description (add separate sheet if needed)		
Owner/Developer	Full Name	
	Address	
	City, State, Zip Code	
	Phone Number	
	Email Address	
Project Location	Street Address	N/A
	City, State, Zip Code	Truckee, California, 96161
	Assessor's Parcel Number	
	Building Permit Number	TBD
	Elevation (ft. above mean sea level)	
Prepared by:	Preparer's Name	Jason Barnum, P.E.
	Address	140 Littion Drive, Suite 240
	City, State, ZIP	Grass Valley, California, 95945
	Telephone No.	(530) 272-5841
	Email Address	jason@scopeinc.net

The undersigned owner of the subject property, is responsible for ensuring that all storm water facilities are designed by an appropriately licensed and qualified professional, and for the full implementation of the provisions of this plan, including ongoing operations and maintenance (O&M), consistent with the requirements of the Town of Truckee and the State of California Phase II Small MS4 General Permit (Order No: 2013-0001-DWQ). If the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement the SWQP.

The undersigned owner hereby grants access to all representatives of the Town of Truckee for the sole purpose of performing O&M inspections of the installed treatment system(s) and hydromodification control(s) if any.

A copy of the final signed and fully approved SWQP shall be available on the subject site for the duration of construction and then stored with the project approval documentation and improvement plans in perpetuity.

X:	
Signature	Date (MM/DD/YYYY)
Preparation Date:	
Approval Date:	

Section 1 General Project Information

Form 1-1 Project Categorization and Characteristics

¹ Does the project disturb more than 20 yds ³ of soil or 500 ft ² of surface area? <i>If "Yes", complete all forms in Sections 1, 2, and complete Section 3 forms as needed.</i> <i>If "No", no additional information is required.</i>	Yes
² Does the project create and/or replace 1 acre or more of impervious surface? <i>If "Yes", complete Section 4 forms.</i> <i>If "No", no additional information is required.</i>	Yes
³ Enter the total new and/or replaced impervious surface area (ft ²)	48084
⁴ Is the project site located to the East or West of Hwy 89? <i>(Enter "East" or "West" w/out quotes)</i>	East
⁵ 85th Percentile, 24 Hour Design Storm Depth (in):	0.9
⁶ Unit Water Quality Volume (WQV) (in):	0.9

For each Drainage Management Area (DMA), enter the impervious and pervious area sizes (add pages if necessary)

Drainage Management Area ID	⁷ New and/or Replaced Impervious Area	⁸ Pervious Area
1	5055	4142
2	7781	3847
3	56694	9615
4	14932	242
5	8056	1159
6	11415	7360
7	3608	312
8	1434	322
9		
10		
11		
12		
13		
14		
15		
16		
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37		
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43		
44		

Form 3-2 Volume-Based Infiltrating Bioretention Measures

¹ DMA ID No. <i>If combining multiple DMAs from Form 3-1, enter a new unique DMA ID No.</i>	1	2	3	4
² WQV (ft ³) <i>Item 5 in Form 3-1</i> <i>If combining multiple DMAs from Form 3-1, enter the sum of their respective WQVs.</i>	227	397	3529	1030
³ Surface Loading Rate <i>Maximum 5.0 in/hr</i>	5	5	5	5
⁴ BMP Surface Area (ft ²) <i>Top of BMP</i>	389	428	2631	778
⁵ Infiltration rate of underlying soils (in/hr) <i>Use 0.17 in/hr, unless otherwise supported by the geotechnical study</i>	0.17	0.17	0.17	0.17
⁶ Maximum ponding depth (ft) <i>BMP specific, see BMP design details</i>	0.4	0.3	0.3	0.4
⁷ Ponding Depth (ft) <i>$d_{BMP} = \text{Minimum of } (1/12 * \text{Item 5} * 48 \text{ hrs}) \text{ or Item 6}$</i>	0.4	0.3	0.3	0.4
⁸ Infiltrating surface area, SA_{BMP} (ft ²) <i>Bottom of BMP</i>	389	428	2631	778
⁹ Planting media depth, d_{media} (ft)	0.0	0.0	0.0	0.0
¹⁰ Planting media porosity	100.00	100.00	100.00	100.00
¹¹ Gravel depth, d_{media} (ft) <i>Only included in certain BMP types</i>	0.5	1.5	2.5	2.5
¹² Gravel porosity	0.40	0.40	0.40	0.40
¹³ Retention Volume (ft ³) <i>$V_{retention} = \text{Item 8} * [\text{Item 7} + (\text{Item 9} * \text{Item 10}) + (\text{Item 11} * \text{Item 12}) + (1.5 * (\text{Item 5} / 12))]$</i>	249.4	407.4	3,554.9	1,082.4
¹⁴ Untreated Volume (ft ³) <i>$V_{untreated} = \text{Item 2} - \text{Item 13}$</i> <i>If greater than zero, adjust BMP sizing variables and re-compute retention volume</i>	0	0	0	0
¹⁵ Treated Flow Rate (ft ³ /s) <i>$Q_{treated} = 1/43,200 * (\text{Item 3} * \text{Item 4})$</i>	0.0450	0.0496	0.3045	0.0900
¹⁶ Total Treated Flow Rate for Project (ft ³ /s) <i>$Q_{total} = \text{Sum of Item 15 for all DMAs}$</i>	.			
¹⁷ Is the full WQV for each DMA treated on-site? <i>Check Yes if Item 14= 0 for all DMAs</i>	Yes	X	No	

Form 3-2 Volume-Based Infiltrating Bioretention Measures

¹ DMA ID No. <i>If combining multiple DMAs from Form 3-1, enter a new unique DMA ID No.</i>	5	6	7	8
² WQV (ft ³) <i>Item 5 in Form 3-1</i> <i>If combining multiple DMAs from Form 3-1, enter the sum of their respective WQVs.</i>	495	565		
³ Surface Loading Rate <i>Maximum 5.0 in/hr</i>	5	5		
⁴ BMP Surface Area (ft ²) <i>Top of BMP</i>	389	370		
⁵ Infiltration rate of underlying soils (in/hr) <i>Use 0.17 in/hr, unless otherwise supported by the geotechnical study</i>	0.17	0.17	0.17	0.17
⁶ Maximum ponding depth (ft) <i>BMP specific, see BMP design details</i>	0.5	0.7		
⁷ Ponding Depth (ft) <i>$d_{BMP} = \text{Minimum of } (1/12 * \text{Item 5} * 48 \text{ hrs}) \text{ or Item 6}$</i>	0.5	0.7	0.7	0.7
⁸ Infiltrating surface area, SA_{BMP} (ft ²) <i>Bottom of BMP</i>	389	370		
⁹ Planting media depth, d_{media} (ft)	0.0	1.5		
¹⁰ Planting media porosity	100.00	0.40		
¹¹ Gravel depth, d_{media} (ft) <i>Only included in certain BMP types</i>	2.0	1.0		
¹² Gravel porosity	0.40	0.40		
¹³ Retention Volume (ft ³) <i>$V_{retention} = \text{Item 8} * [\text{Item 7} + (\text{Item 9} * \text{Item 10}) + (\text{Item 11} * \text{Item 12}) + (1.5 * (\text{Item 5} / 12))]$</i>	498.4	629.5	-	-
¹⁴ Untreated Volume (ft ³) <i>$V_{untreated} = \text{Item 2} - \text{Item 13}$</i> <i>If greater than zero, adjust BMP sizing variables and re-compute retention volume</i>	0	0	0	0
¹⁵ Treated Flow Rate (ft ³ /s) <i>$Q_{treated} = 1/43,200 * (\text{Item 3} * \text{Item 4})$</i>	0.0450	0.0428	0.0000	0.0000

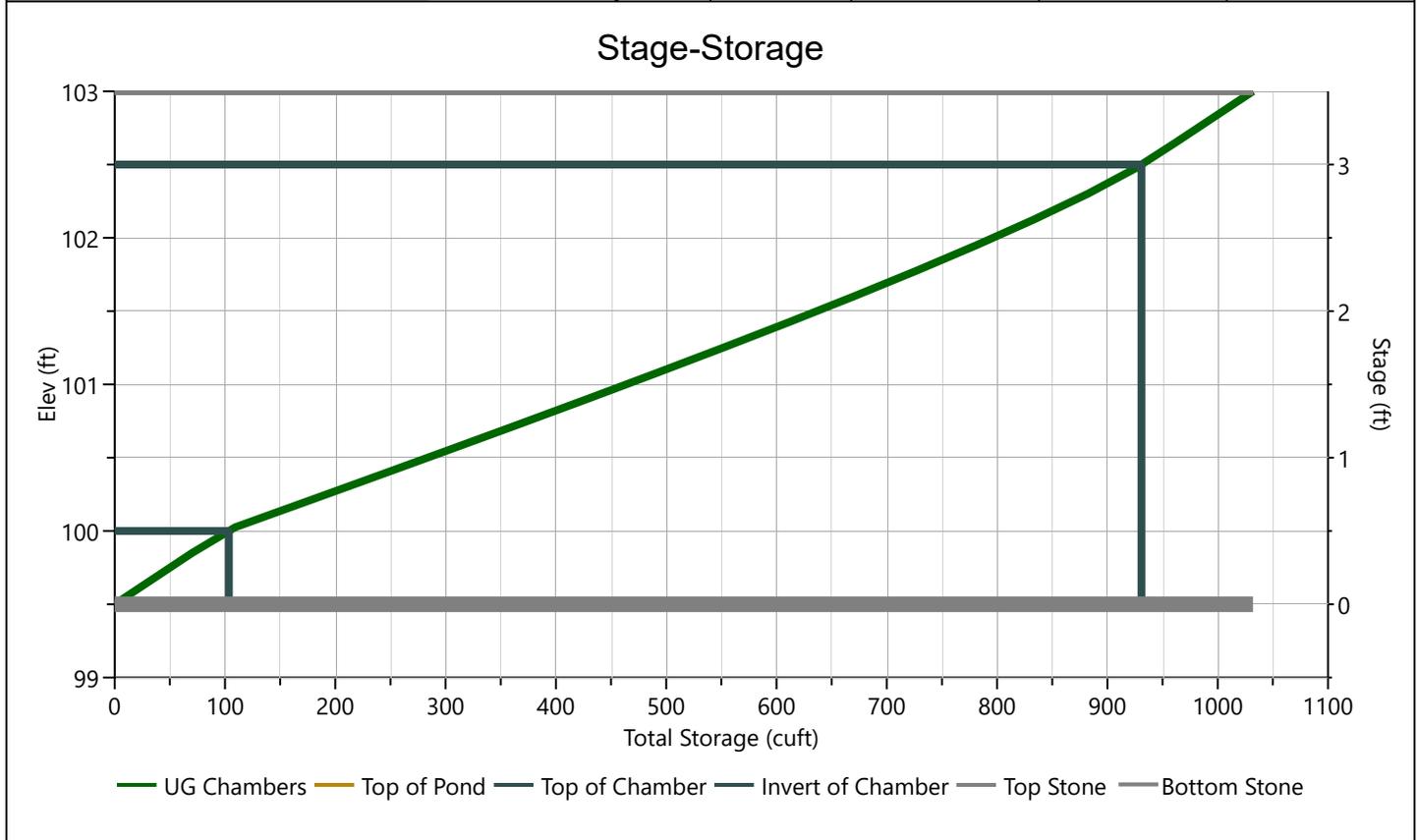
APPENDIX F

Pond Report

DMA 1

Stage-Storage

StormTech® SC-740™ Chamber		Stage / Storage Table				
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Chamber Height, in	30	0.0	99.50	501	0.000	0.000
Chamber Shape	Arch	2.1	99.68	501	35.1	35.1
Chamber Width, in	51	4.2	99.85	501	35.1	70.1
Installed Length, ft	7.12	6.3	100.03	501	39.0	109
No. Chambers	12	8.4	100.20	501	64.5	174
Bare Chamber Stor, cuft	551	10.5	100.38	501	64.3	238
No. Rows	3	12.6	100.55	501	64.0	302
Space Between Rows, in	6	14.7	100.73	501	63.5	365
Stone Above, in	6	16.8	100.90	501	62.9	428
Stone Below, in	6	18.9	101.08	501	62.1	490
Stone Sides, in	12	21.0	101.25	501	61.1	551
Stone Ends, in	12	23.1	101.43	501	59.9	611
Encasement Voids, %	40.00	25.2	101.60	501	58.5	670
Encasement Bottom Elevation, ft	99.50	27.3	101.78	501	56.8	727
		29.4	101.95	501	54.7	781
		31.5	102.13	501	52.1	833
		33.6	102.30	501	48.7	882
		35.7	102.48	501	43.5	926
		37.8	102.65	501	36.1	962
		39.9	102.83	501	35.1	997
		42.0	103.00	501	35.1	1,032



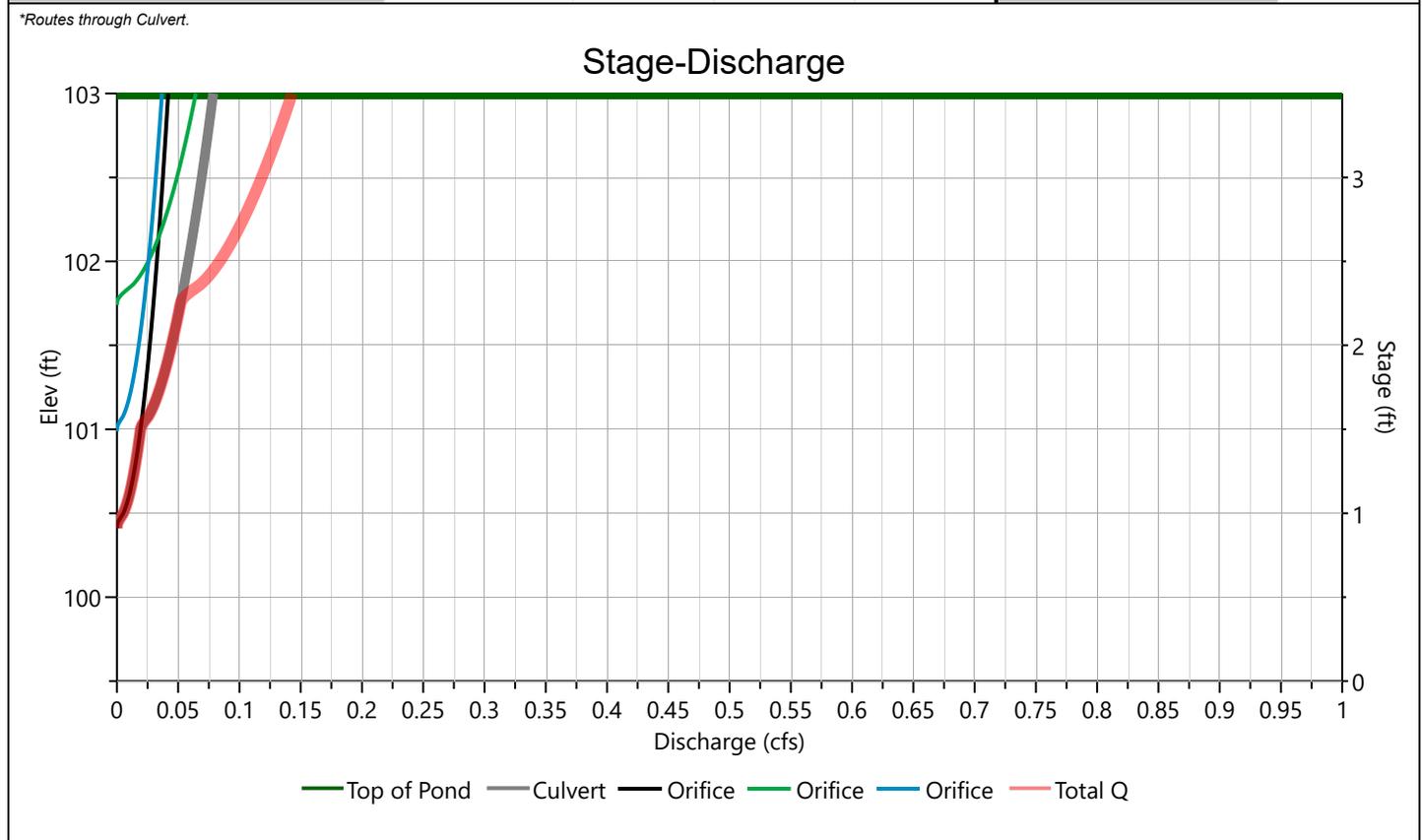
Pond Report

DMA 1

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Perforated Riser
		1*	2	3*	
Rise, in	15	1	1.5	1	Hole Diameter, in
Span, in	15	1	1.5	1	No. holes
No. Barrels	1	1	1	1	Invert Elevation, ft
Invert Elevation, ft	100.00	100.42	101.75	101.00	Height, ft
Orifice Coefficient, Co	0.60	0.60	0.60	0.60	Orifice Coefficient, Co
Length, ft	100				
Barrel Slope, %	1				
N-Value, n	0.013				
Weirs	Riser*	Weirs			Ancillary
		1	2	3	Exfiltration, in/hr
Shape / Type					
Crest Elevation, ft					
Crest Length, ft					
Angle, deg					
Weir Coefficient, Cw					

*Routes through Culvert.



Pond Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-17-2023

DMA 1

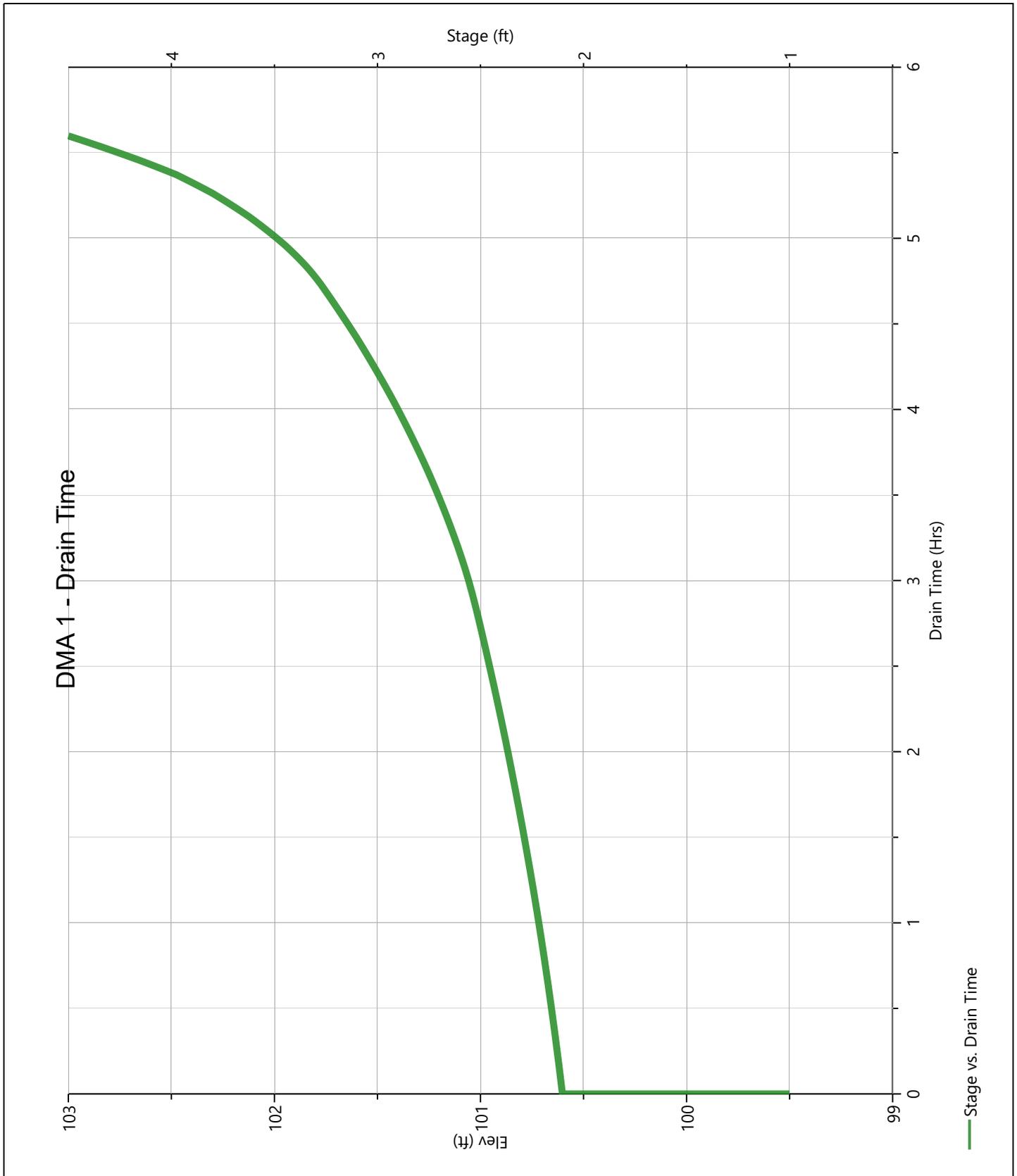
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	99.50	0.000	0.000	0.000	0.000	0.000								0.000
0.18	99.68	35.1	0.000	0.000	0.000	0.000								0.000
0.35	99.85	70.1	0.000	0.000	0.000	0.000								0.000
0.53	100.03	109	0.000	0.000	0.000	0.000								0.000
0.70	100.20	174	0.000	0.000	0.000	0.000								0.000
0.88	100.38	238	0.000	0.000	0.000	0.000								0.000
1.05	100.55	302	0.008 ic	0.008	0.000	0.000								0.008
1.23	100.73	365	0.013 ic	0.013	0.000	0.000								0.013
1.40	100.90	428	0.017 ic	0.017	0.000	0.000								0.017
1.58	101.08	490	0.025 ic	0.021	0.000	0.005								0.025
1.75	101.25	551	0.035 ic	0.023	0.000	0.012								0.035
1.93	101.43	611	0.042 ic	0.026	0.000	0.016								0.042
2.10	101.60	670	0.048 ic	0.028	0.000	0.020								0.048
2.28	101.78	727	0.053 ic	0.030	0.001	0.022								0.054
2.45	101.95	781	0.057 ic	0.032	0.022	0.025								0.079
2.63	102.13	833	0.061 ic	0.034	0.033	0.027								0.094
2.80	102.30	882	0.065 ic	0.036	0.041	0.029								0.106
2.97	102.48	926	0.069 ic	0.037	0.048	0.031								0.117
3.15	102.65	962	0.072 ic	0.039	0.054	0.033								0.126
3.32	102.83	997	0.075 ic	0.040	0.059	0.035								0.135
3.50	103.00	1,032	0.079 ic	0.042	0.064	0.037								0.143

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

DMA 1

Pond Drawdown

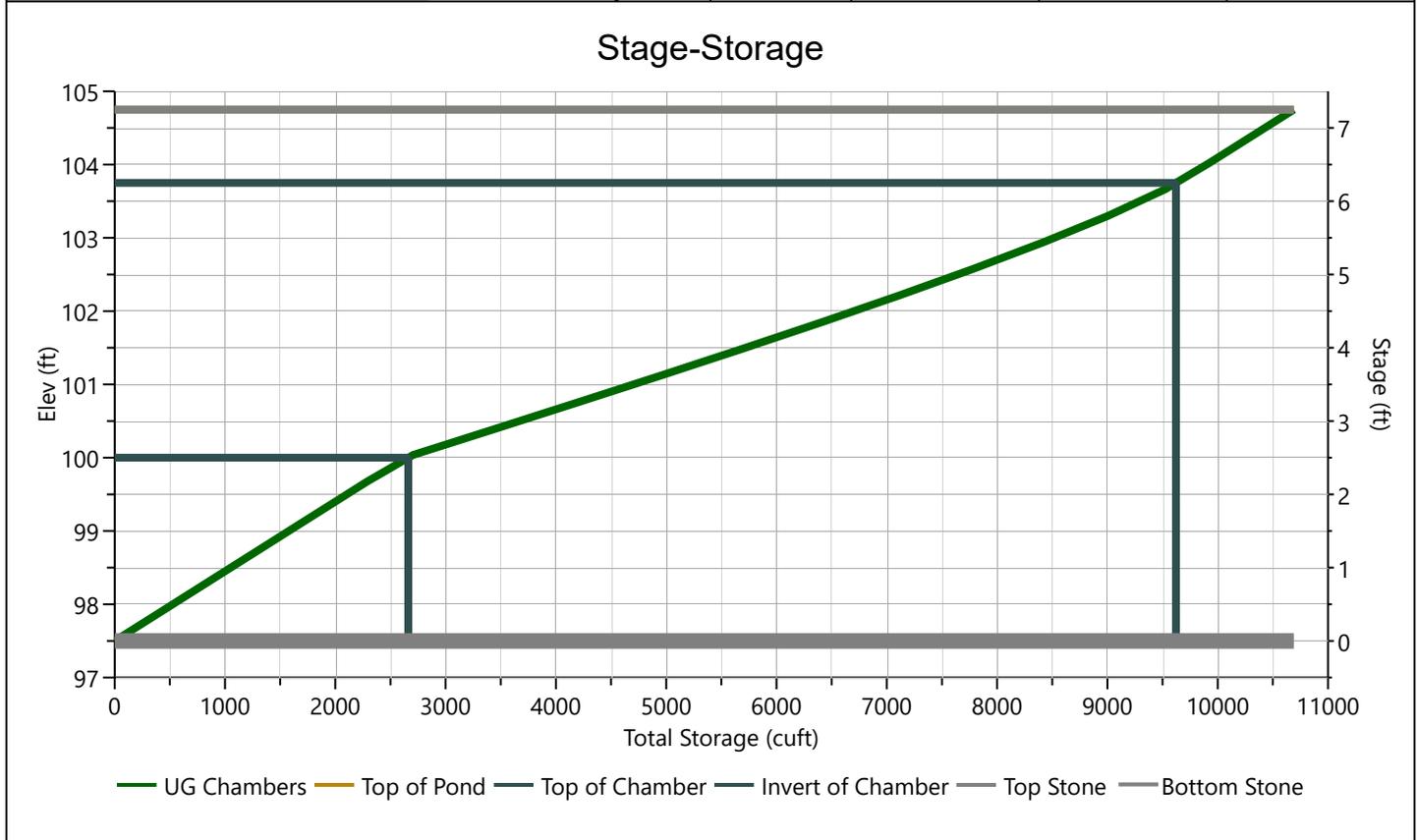


Pond Report

DMA 3

Stage-Storage

StormTech® MC-3500™ Chamber		Stage / Storage Table				
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Chamber Height, in	45	0.0	97.50	2,631	0.000	0.000
Chamber Shape	Arch	4.4	97.86	2,631	381	381
Chamber Width, in	77	8.7	98.23	2,631	381	763
Installed Length, ft	7.17	13.1	98.59	2,631	381	1,144
No. Chambers	45	17.4	98.95	2,631	381	1,526
Bare Chamber Stor, cuft	4,946	21.8	99.31	2,631	381	1,907
No. Rows	5	26.1	99.68	2,631	381	2,289
Space Between Rows, in	9	30.5	100.04	2,631	416	2,705
Stone Above, in	12	34.8	100.40	2,631	757	3,462
Stone Below, in	30	39.2	100.76	2,631	753	4,215
Stone Sides, in	12	43.5	101.13	2,631	745	4,960
Stone Ends, in	12	47.9	101.49	2,631	734	5,694
Encasement Voids, %	40.00	52.2	101.85	2,631	718	6,412
Encasement Bottom Elevation, ft	97.50	56.6	102.21	2,631	697	7,110
		60.9	102.58	2,631	671	7,780
		65.3	102.94	2,631	636	8,416
		69.6	103.30	2,631	590	9,006
		74.0	103.66	2,631	518	9,524
		78.3	104.03	2,631	403	9,928
		82.7	104.39	2,631	381	10,309
		87.0	104.75	2,631	381	10,691



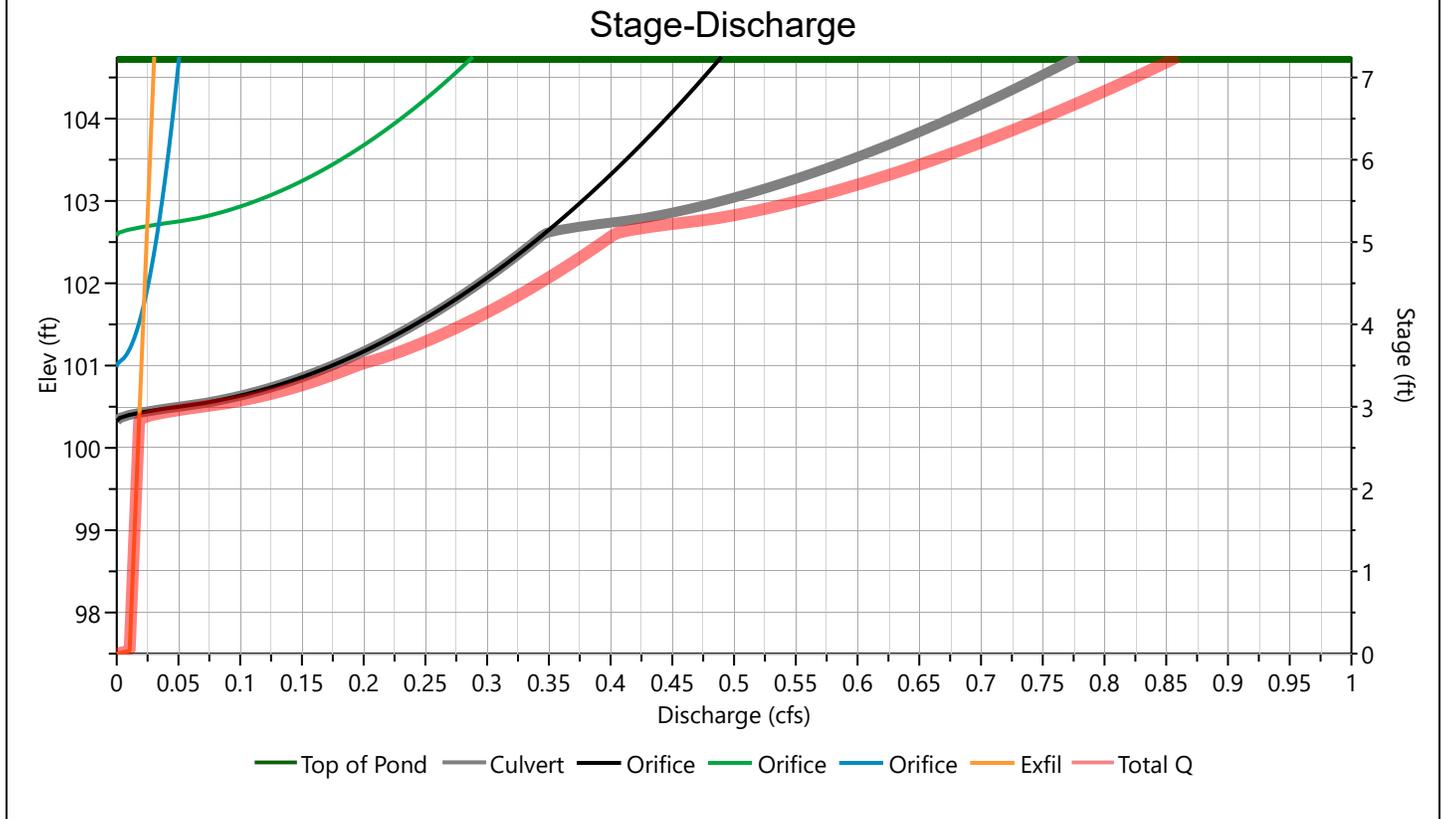
Pond Report

DMA 3

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Perforated Riser
		1*	2*	3	
Rise, in	15	3	2	1	Hole Diameter, in
Span, in	15	3	3	1	No. holes
No. Barrels	1	1	1	1	Invert Elevation, ft
Invert Elevation, ft	100.00	100.33	102.60	101.00	Height, ft
Orifice Coefficient, Co	0.60	0.60	0.60	0.60	Orifice Coefficient, Co
Length, ft	100				
Barrel Slope, %	.5				
N-Value, n	0.013				
Weirs	Riser*	Weirs			Ancillary
		1	2	3	
Shape / Type					Exfiltration, in/hr
Crest Elevation, ft					0.17**
Crest Length, ft					
Angle, deg					
Weir Coefficient, Cw					

*Routes through Culvert. **Exfiltration extracted from outflow hydrograph. Rate applied to contours.



Pond Report

DMA 3

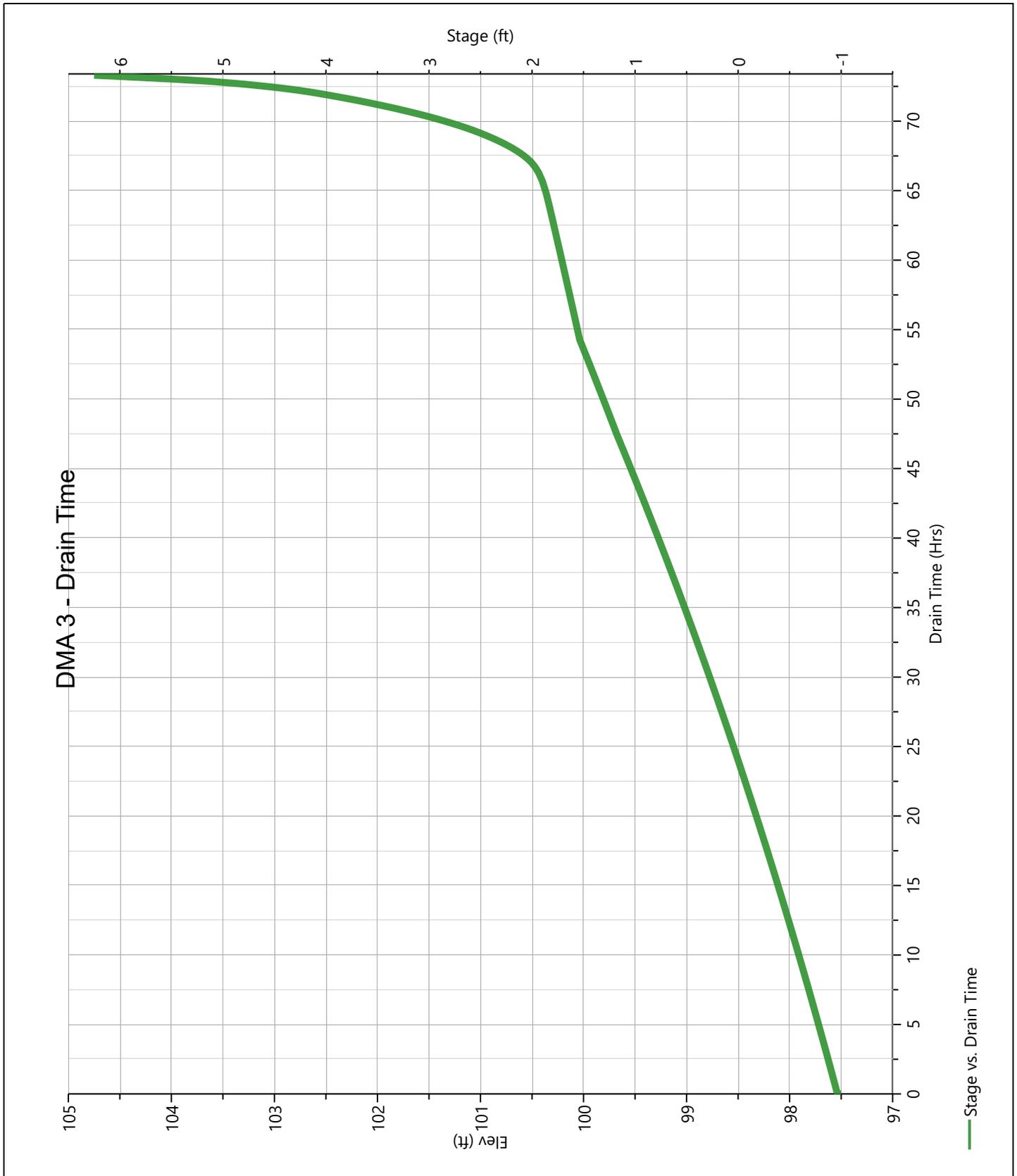
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	97.50	0.000	0.000	0.000	0.000	0.000					0.000		0.000	
0.36	97.86	381	0.000	0.000	0.000	0.000					0.011		0.011	
0.73	98.23	763	0.000	0.000	0.000	0.000					0.012		0.012	
1.09	98.59	1,144	0.000	0.000	0.000	0.000					0.013		0.013	
1.45	98.95	1,526	0.000	0.000	0.000	0.000					0.014		0.014	
1.81	99.31	1,907	0.000	0.000	0.000	0.000					0.015		0.015	
2.18	99.68	2,289	0.000	0.000	0.000	0.000					0.016		0.016	
2.54	100.04	2,705	0.000	0.000	0.000	0.000					0.017		0.017	
2.90	100.40	3,462	0.010 ic	0.010	0.000	0.000					0.018		0.028	
3.26	100.76	4,215	0.131 ic	0.131	0.000	0.000					0.019		0.150	
3.63	101.13	4,960	0.193 ic	0.193	0.000	0.008					0.020		0.221	
3.99	101.49	5,694	0.240 ic	0.240	0.000	0.018					0.021		0.279	
4.35	101.85	6,412	0.279 ic	0.279	0.000	0.024					0.022		0.325	
4.71	102.21	7,110	0.313 ic	0.313	0.000	0.028					0.023		0.365	
5.08	102.58	7,780	0.344 ic	0.344	0.000	0.033					0.024		0.401	
5.44	102.94	8,416	0.473 ic	0.372	0.101	0.036					0.025		0.535	
5.80	103.30	9,006	0.556 ic	0.399	0.158	0.039					0.026		0.622	
6.16	103.66	9,524	0.622 ic	0.423	0.199	0.043					0.027		0.692	
6.53	104.03	9,928	0.679 ic	0.447	0.232	0.045					0.028		0.753	
6.89	104.39	10,309	0.731 ic	0.469	0.262	0.048					0.029		0.808	
7.25	104.75	10,691	0.778 ic	0.490	0.288	0.051					0.030		0.859	

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

DMA 3

Pond Drawdown

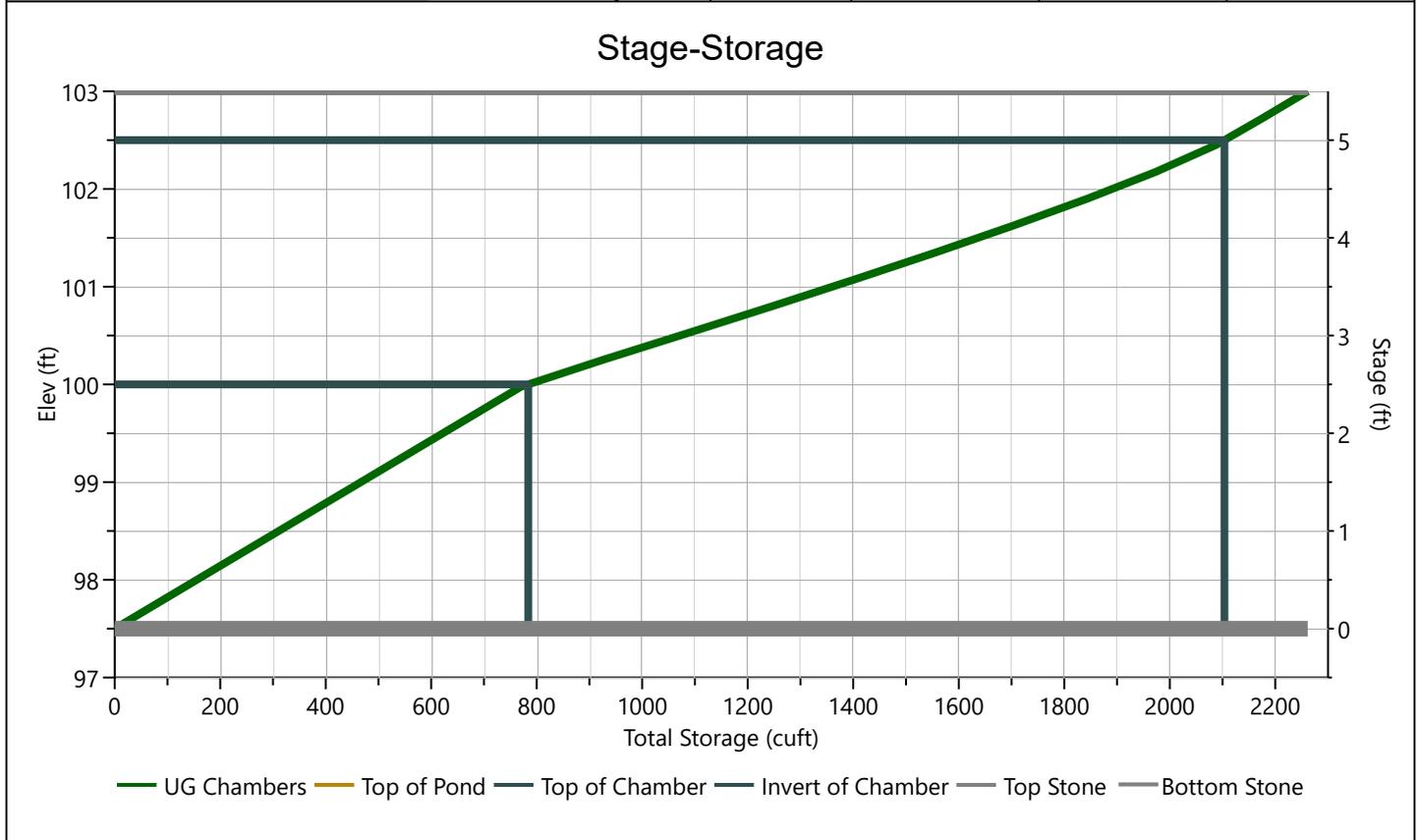


Pond Report

DMA 4

Stage-Storage

StormTech® SC-740™ Chamber		Stage / Storage Table				
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Chamber Height, in	30	0.0	97.50	778	0.000	0.000
Chamber Shape	Arch	3.3	97.78	778	85.5	85.5
Chamber Width, in	51	6.6	98.05	778	85.5	171
Installed Length, ft	7.12	9.9	98.33	778	85.5	257
No. Chambers	20	13.2	98.60	778	85.5	342
Bare Chamber Stor, cuft	918	16.5	98.88	778	85.5	428
No. Rows	4	19.8	99.15	778	85.5	513
Space Between Rows, in	6	23.1	99.43	778	85.5	599
Stone Above, in	6	26.4	99.70	778	85.5	684
Stone Below, in	30	29.7	99.98	778	85.5	770
Stone Sides, in	12	33.0	100.25	778	155	925
Stone Ends, in	6	36.3	100.53	778	162	1,086
Encasement Voids, %	40.00	39.6	100.80	778	160	1,246
Encasement Bottom Elevation, ft	97.50	42.9	101.08	778	157	1,403
		46.2	101.35	778	153	1,556
		49.5	101.63	778	147	1,703
		52.8	101.90	778	140	1,844
		56.1	102.18	778	130	1,974
		59.4	102.45	778	114	2,088
		62.7	102.73	778	88.5	2,176
		66.0	103.00	778	85.5	2,262



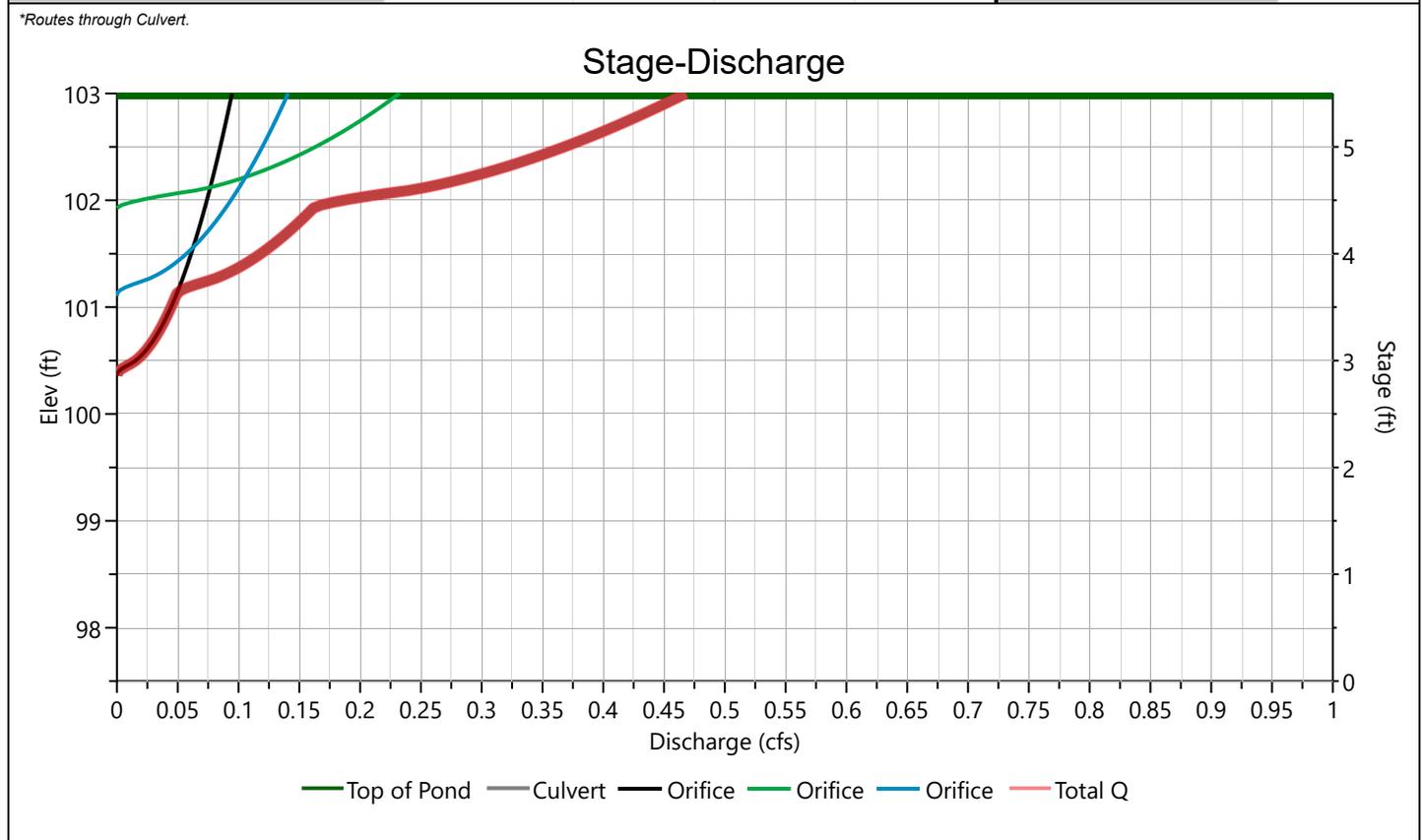
Pond Report

DMA 4

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Perforated Riser
		1*	2*	3*	
Rise, in	15	1.5	2	2	Hole Diameter, in
Span, in	15	1.5	3.5	2	No. holes
No. Barrels	1	1	1	1	Invert Elevation, ft
Invert Elevation, ft	100.00	100.37	101.93	101.12	Height, ft
Orifice Coefficient, Co	0.60	0.60	0.60	0.60	Orifice Coefficient, Co
Length, ft	100				
Barrel Slope, %	1				
N-Value, n	0.013				
Weirs	Riser*	Weirs			Ancillary
		1	2	3	Exfiltration, in/hr
Shape / Type					
Crest Elevation, ft					
Crest Length, ft					
Angle, deg					
Weir Coefficient, Cw					

*Routes through Culvert.



Pond Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-17-2023

DMA 4

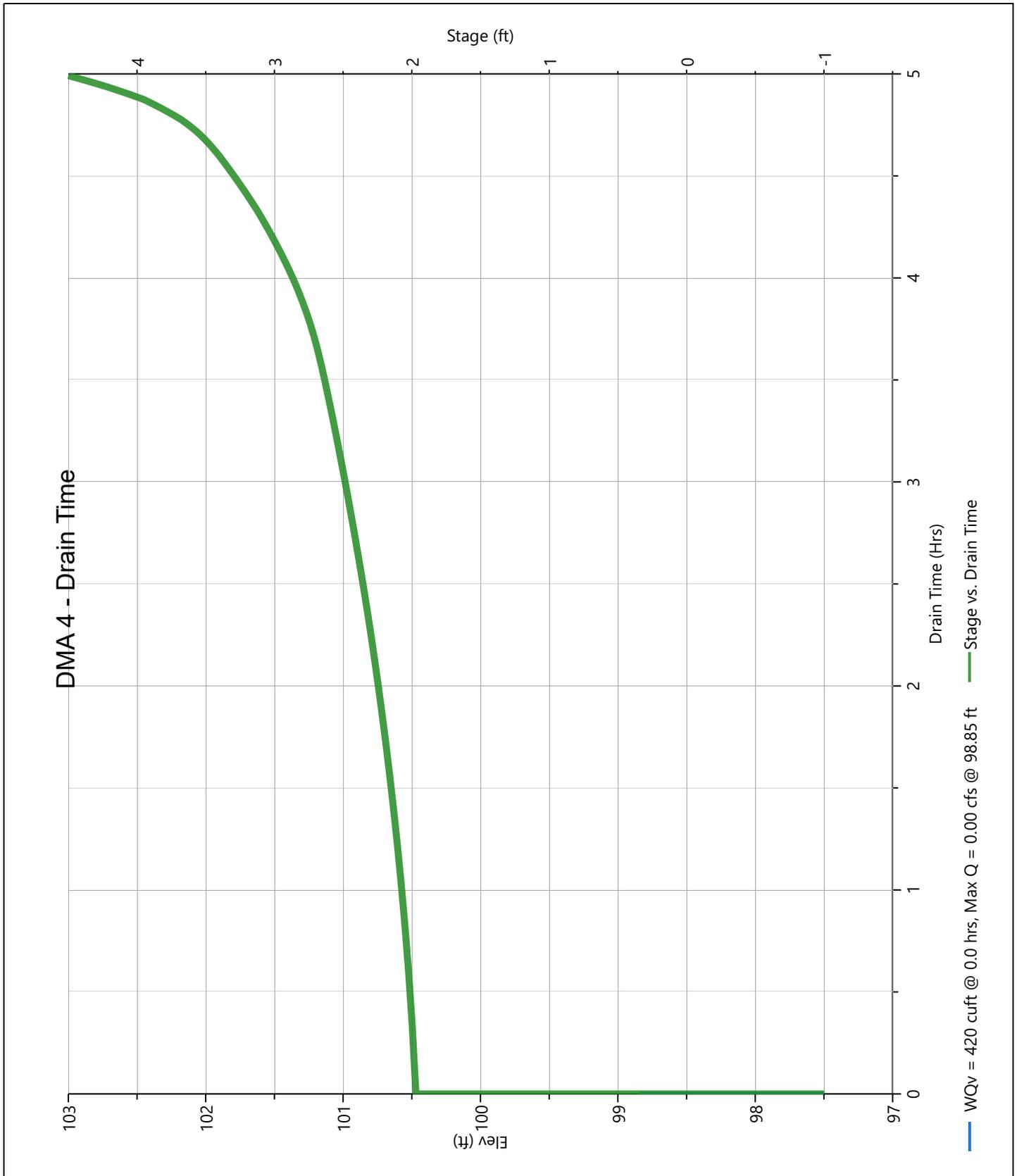
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	97.50	0.000	0.000	0.000	0.000	0.000								0.000
0.28	97.78	85.5	0.000	0.000	0.000	0.000								0.000
0.55	98.05	171	0.000	0.000	0.000	0.000								0.000
0.83	98.33	257	0.000	0.000	0.000	0.000								0.000
1.10	98.60	342	0.000	0.000	0.000	0.000								0.000
1.38	98.88	428	0.000	0.000	0.000	0.000								0.000
1.65	99.15	513	0.000	0.000	0.000	0.000								0.000
1.93	99.43	599	0.000	0.000	0.000	0.000								0.000
2.20	99.70	684	0.000	0.000	0.000	0.000								0.000
2.48	99.98	770	0.000	0.000	0.000	0.000								0.000
2.75	100.25	925	0.000	0.000	0.000	0.000								0.000
3.03	100.53	1,086	0.018 ic	0.018	0.000	0.000								0.018
3.30	100.80	1,246	0.036 ic	0.036	0.000	0.000								0.036
3.58	101.08	1,403	0.047 ic	0.047	0.000	0.000								0.047
3.85	101.35	1,556	0.097 ic	0.057	0.000	0.040								0.097
4.13	101.63	1,703	0.133 ic	0.065	0.000	0.068								0.133
4.40	101.90	1,844	0.159 ic	0.072	0.000	0.088								0.159
4.68	102.18	1,974	0.276 ic	0.078	0.094	0.104								0.276
4.95	102.45	2,088	0.356 ic	0.084	0.155	0.117								0.356
5.23	102.73	2,176	0.416 ic	0.089	0.197	0.130								0.416
5.50	103.00	2,262	0.468 ic	0.095	0.232	0.141								0.468

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

DMA 4

Extended Detention

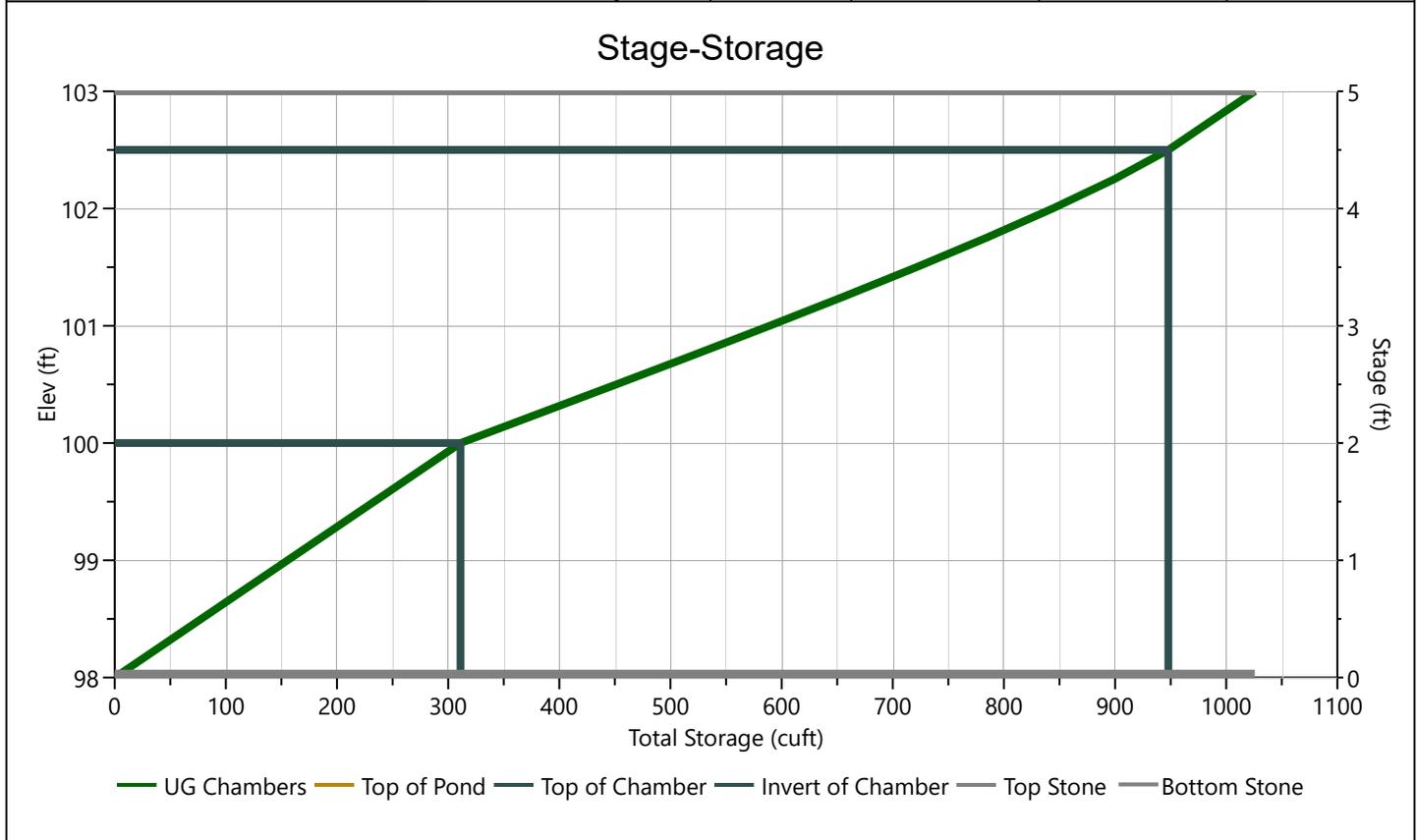


Pond Report

pond dma 5

Stage-Storage

StormTech® SC-740™ Chamber		Stage / Storage Table				
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Chamber Height, in	30	0.0	98.00	389	0.000	0.000
Chamber Shape	Arch	3.0	98.25	389	38.9	38.9
Chamber Width, in	51	6.0	98.50	389	38.9	77.8
Installed Length, ft	7.12	9.0	98.75	389	38.9	117
No. Chambers	9	12.0	99.00	389	38.9	156
Bare Chamber Stor, cuft	413	15.0	99.25	389	38.9	194
No. Rows	3	18.0	99.50	389	38.9	233
Space Between Rows, in	6	21.0	99.75	389	38.9	272
Stone Above, in	6	24.0	100.00	389	38.9	311
Stone Below, in	24	27.0	100.25	389	70.1	381
Stone Sides, in	12	30.0	100.50	389	70.0	451
Stone Ends, in	12	33.0	100.75	389	69.4	521
Encasement Voids, %	40.00	36.0	101.00	389	68.4	589
Encasement Bottom Elevation, ft	98.00	39.0	101.25	389	67.0	656
		42.0	101.50	389	65.2	721
		45.0	101.75	389	62.8	784
		48.0	102.00	389	59.7	844
		51.0	102.25	389	55.4	899
		54.0	102.50	389	48.6	948
		57.0	102.75	389	38.9	987
		60.0	103.00	389	38.9	1,026



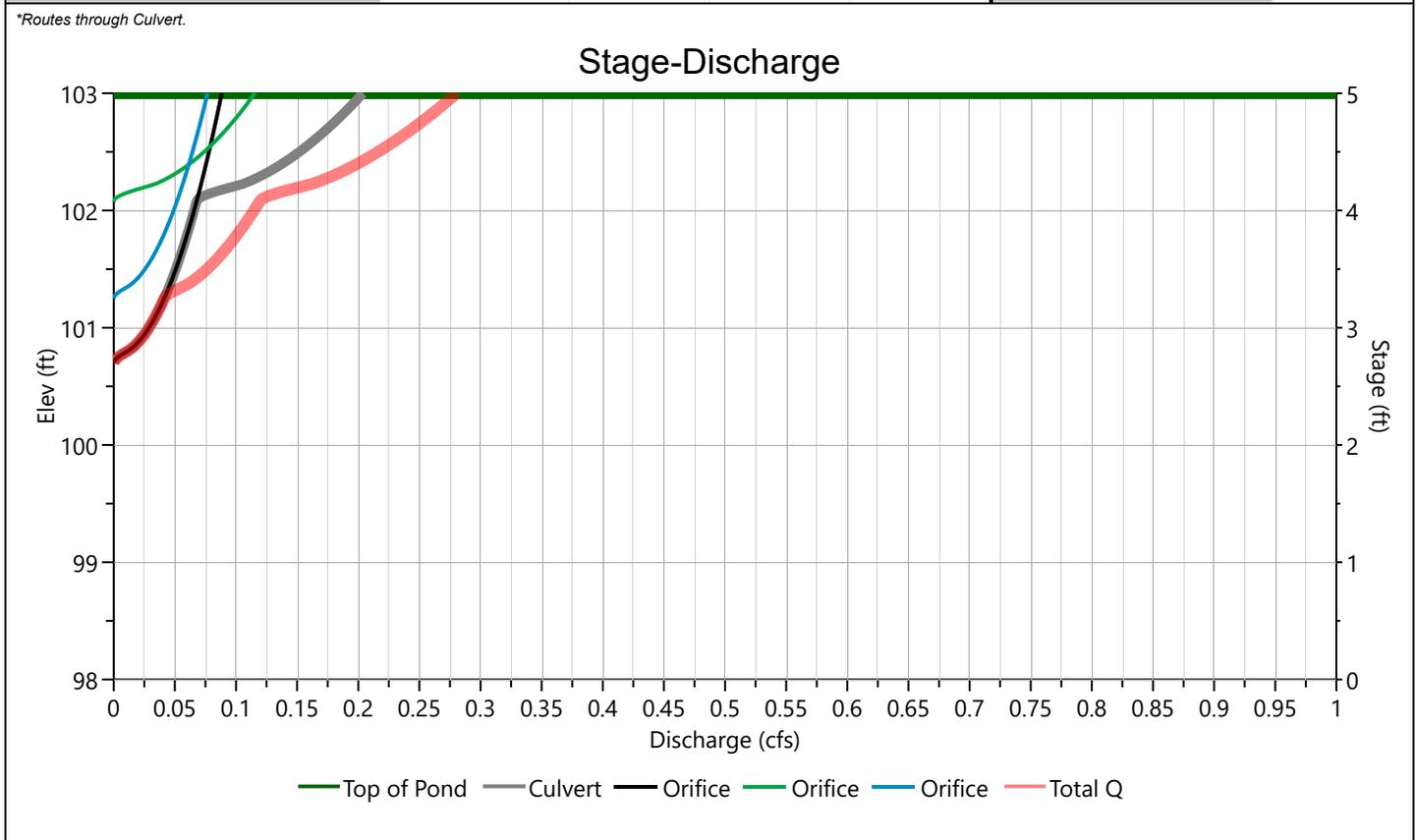
Pond Report

pond dma 5

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Perforated Riser
		1*	2*	3	
Rise, in	15	1.5	1.5	1.5	Hole Diameter, in
Span, in	15	1.5	2.5	1.5	No. holes
No. Barrels	1	1	1	1	Invert Elevation, ft
Invert Elevation, ft	100.00	100.70	102.09	101.25	Height, ft
Orifice Coefficient, Co	0.60	0.60	0.60	0.60	Orifice Coefficient, Co
Length, ft	100				
Barrel Slope, %	1				
N-Value, n	0.013				
Weirs	Riser*	Weirs			Ancillary
		1	2	3	Exfiltration, in/hr
Shape / Type					
Crest Elevation, ft					
Crest Length, ft					
Angle, deg					
Weir Coefficient, Cw					

*Routes through Culvert.



Pond Report

pond dma 5

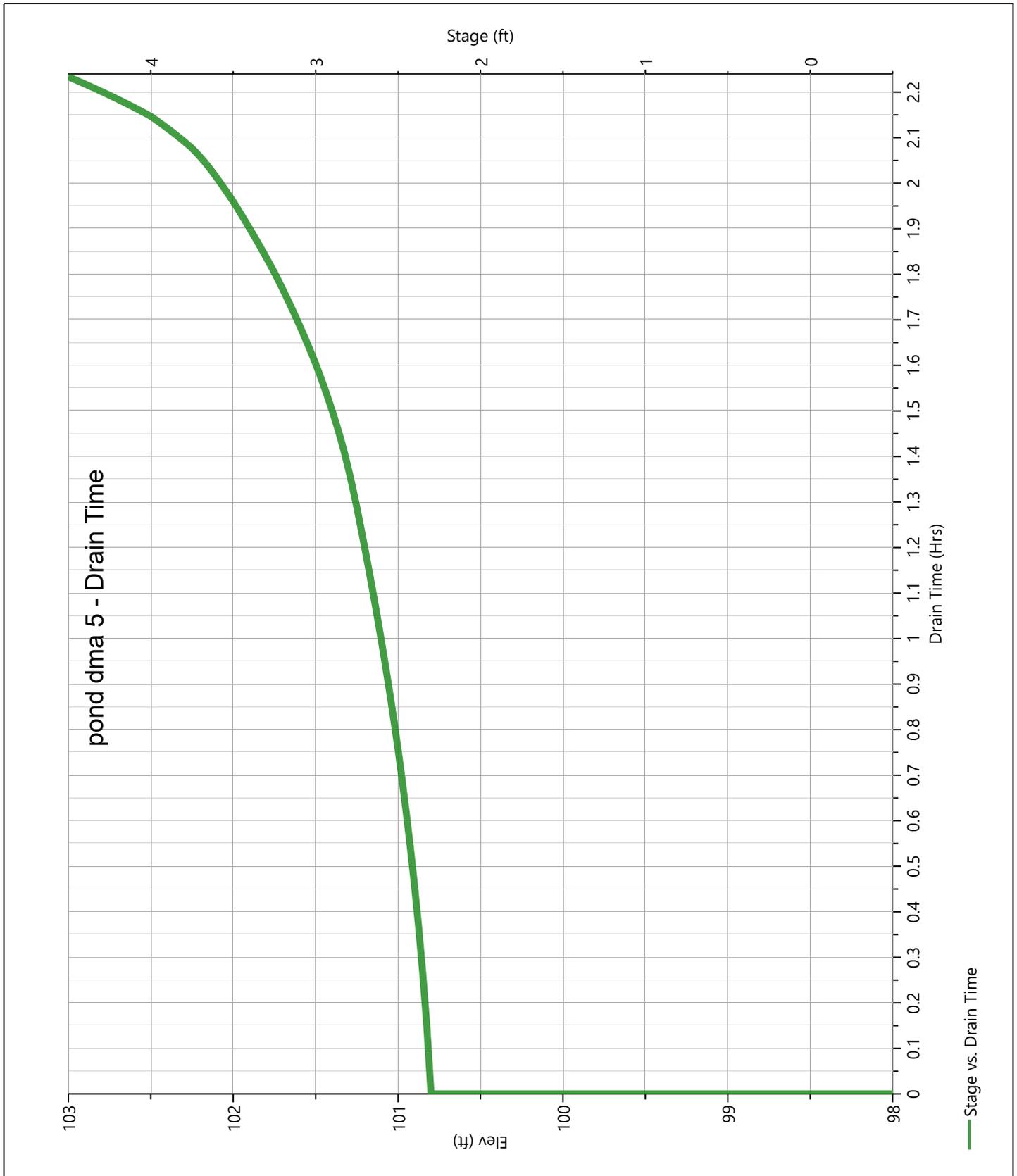
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	98.00	0.000	0.000	0.000	0.000	0.000							0.000	
0.25	98.25	38.9	0.000	0.000	0.000	0.000							0.000	
0.50	98.50	77.8	0.000	0.000	0.000	0.000							0.000	
0.75	98.75	117	0.000	0.000	0.000	0.000							0.000	
1.00	99.00	156	0.000	0.000	0.000	0.000							0.000	
1.25	99.25	194	0.000	0.000	0.000	0.000							0.000	
1.50	99.50	233	0.000	0.000	0.000	0.000							0.000	
1.75	99.75	272	0.000	0.000	0.000	0.000							0.000	
2.00	100.00	311	0.000	0.000	0.000	0.000							0.000	
2.25	100.25	381	0.000	0.000	0.000	0.000							0.000	
2.50	100.50	451	0.000	0.000	0.000	0.000							0.000	
2.75	100.75	521	0.004 ic	0.004	0.000	0.000							0.004	
3.00	101.00	589	0.029 ic	0.029	0.000	0.000							0.029	
3.25	101.25	656	0.041 ic	0.041	0.000	0.000							0.041	
3.50	101.50	721	0.051 ic	0.051	0.000	0.026							0.076	
3.75	101.75	784	0.059 ic	0.059	0.000	0.039							0.098	
4.00	102.00	844	0.066 ic	0.066	0.000	0.049							0.115	
4.25	102.25	899	0.111 ic	0.072	0.039	0.057							0.168	
4.50	102.50	948	0.152 ic	0.078	0.074	0.064							0.216	
4.75	102.75	987	0.180 ic	0.083	0.097	0.071							0.251	
5.00	103.00	1,026	0.204 ic	0.088	0.115	0.077							0.281	

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

pond dma 5

Pond Drawdown

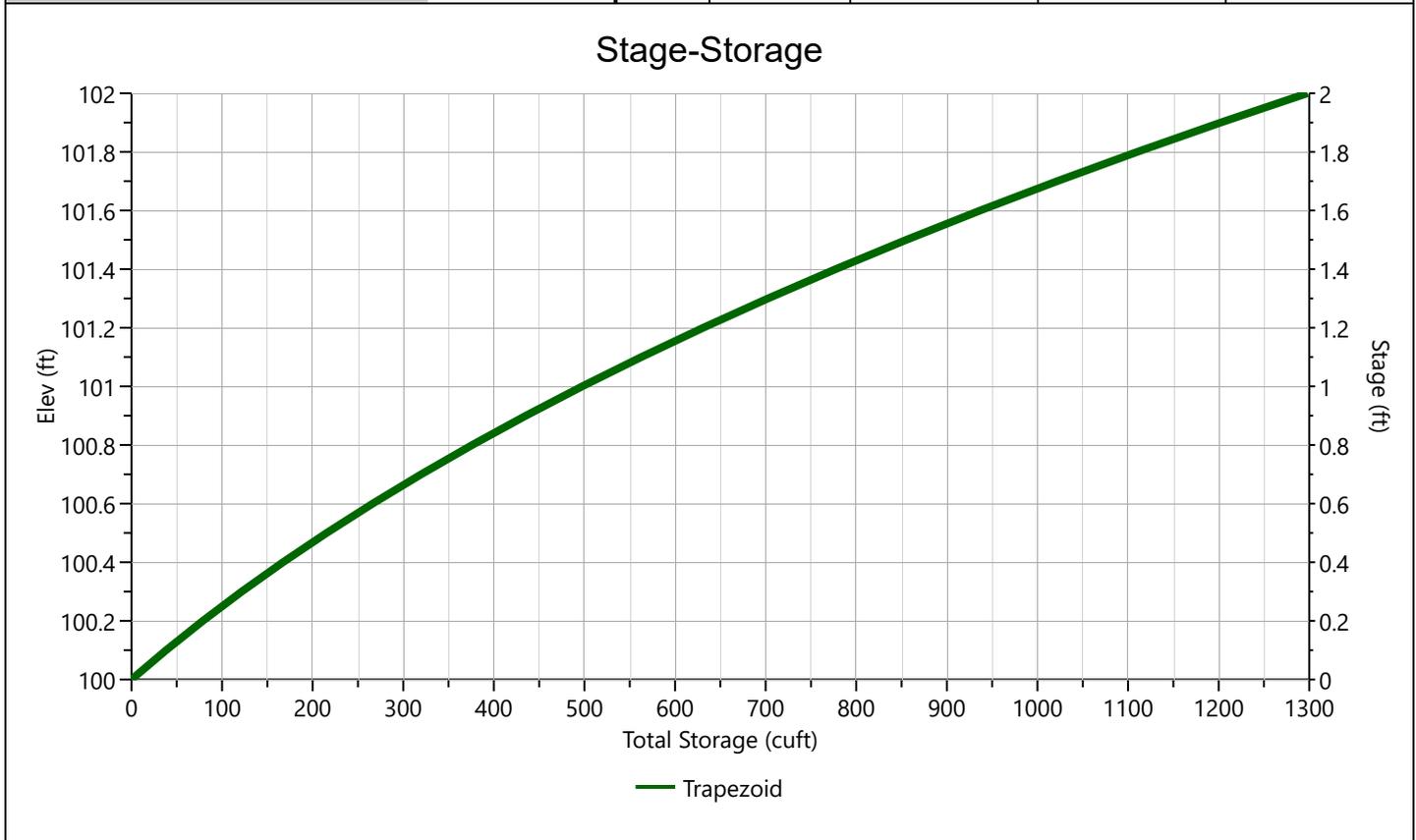


Pond Report

DMA 6

Stage-Storage

Trapezoid		Stage / Storage Table				
Description	Input	Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Bottom Elevation, ft	100.00	0.00	100.00	370	0.000	0.000
Bottom Length, ft	18.50	0.10	100.10	393	38.2	38.2
Bottom Width, ft	20.00	0.20	100.20	418	40.5	78.7
Side Slope, H:1	3.00	0.30	100.30	443	43.0	122
Total Depth, ft	2.00	0.40	100.40	468	45.5	167
Voids (%)	100.00	0.50	100.50	495	48.1	215
		0.60	100.60	522	50.8	266
		0.70	100.70	549	53.5	320
		0.80	100.80	578	56.4	376
		0.90	100.90	607	59.2	435
		1.00	101.00	637	62.2	497
		1.10	101.10	668	65.2	563
		1.20	101.20	699	68.3	631
		1.30	101.30	731	71.5	703
		1.40	101.40	764	74.7	777
		1.50	101.50	798	78.1	855
		1.60	101.60	832	81.5	937
		1.70	101.70	867	84.9	1,022
		1.80	101.80	902	88.5	1,110
		1.90	101.90	939	92.1	1,202
		2.00	102.00	976	95.7	1,298



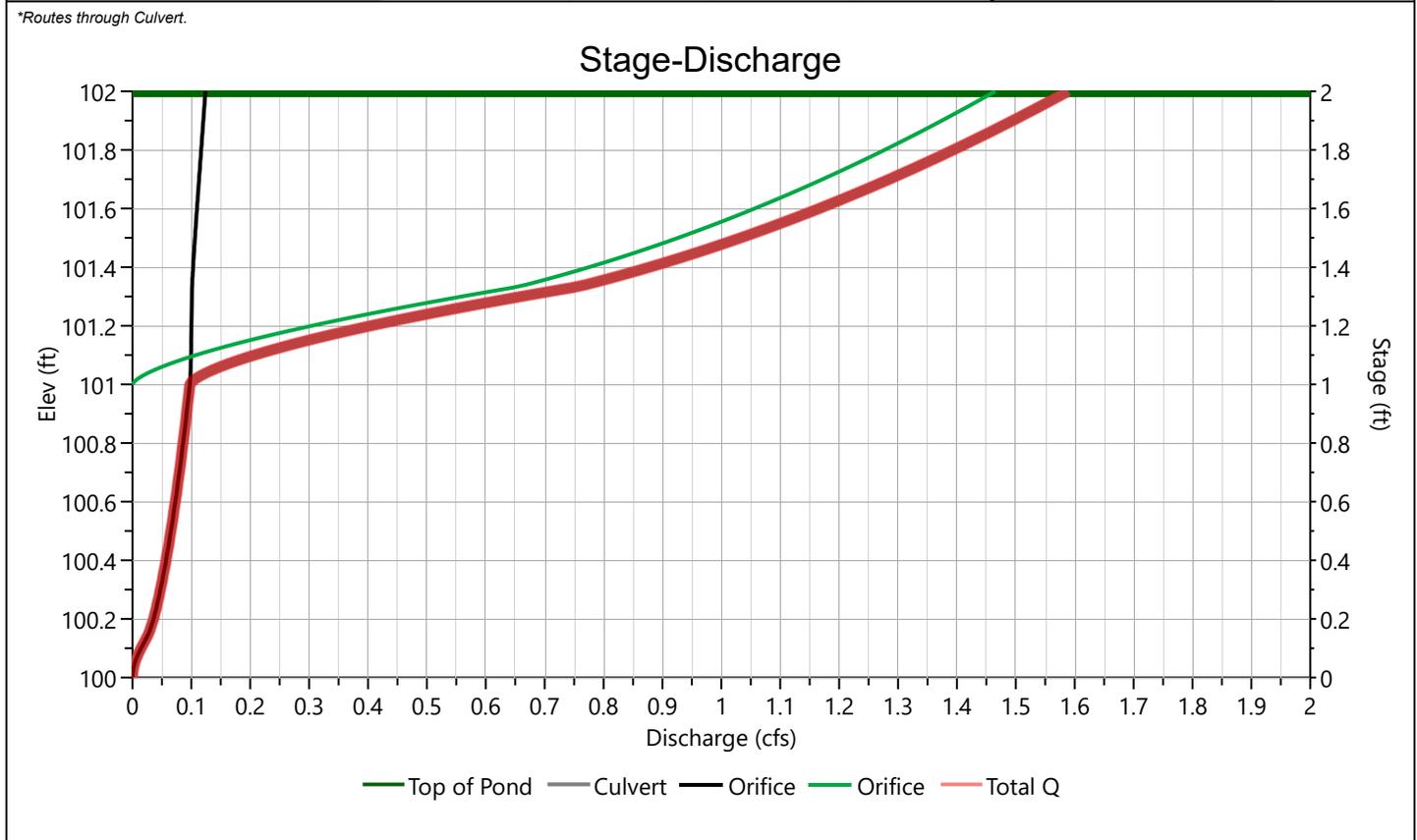
Pond Report

DMA 6

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Perforated Riser
		1*	2*	3	
Rise, in	15	2	4		Hole Diameter, in
Span, in	15	2	12		No. holes
No. Barrels	1	1	1		Invert Elevation, ft
Invert Elevation, ft	100.00	100.00	101.00		Height, ft
Orifice Coefficient, Co	0.60	0.60	0.60		Orifice Coefficient, Co
Length, ft	100				
Barrel Slope, %	1				
N-Value, n	0.013				
Weirs	Riser*	Weirs			Ancillary
		1	2	3	
Shape / Type	Circular				Exfiltration, in/hr
Crest Elevation, ft					
Crest Length, ft					
Angle, deg					
Weir Coefficient, Cw					

*Routes through Culvert.



Pond Report

Project Name: Village Hotel

Hydrology Studio v 3.0.0.27

05-17-2023

DMA 6

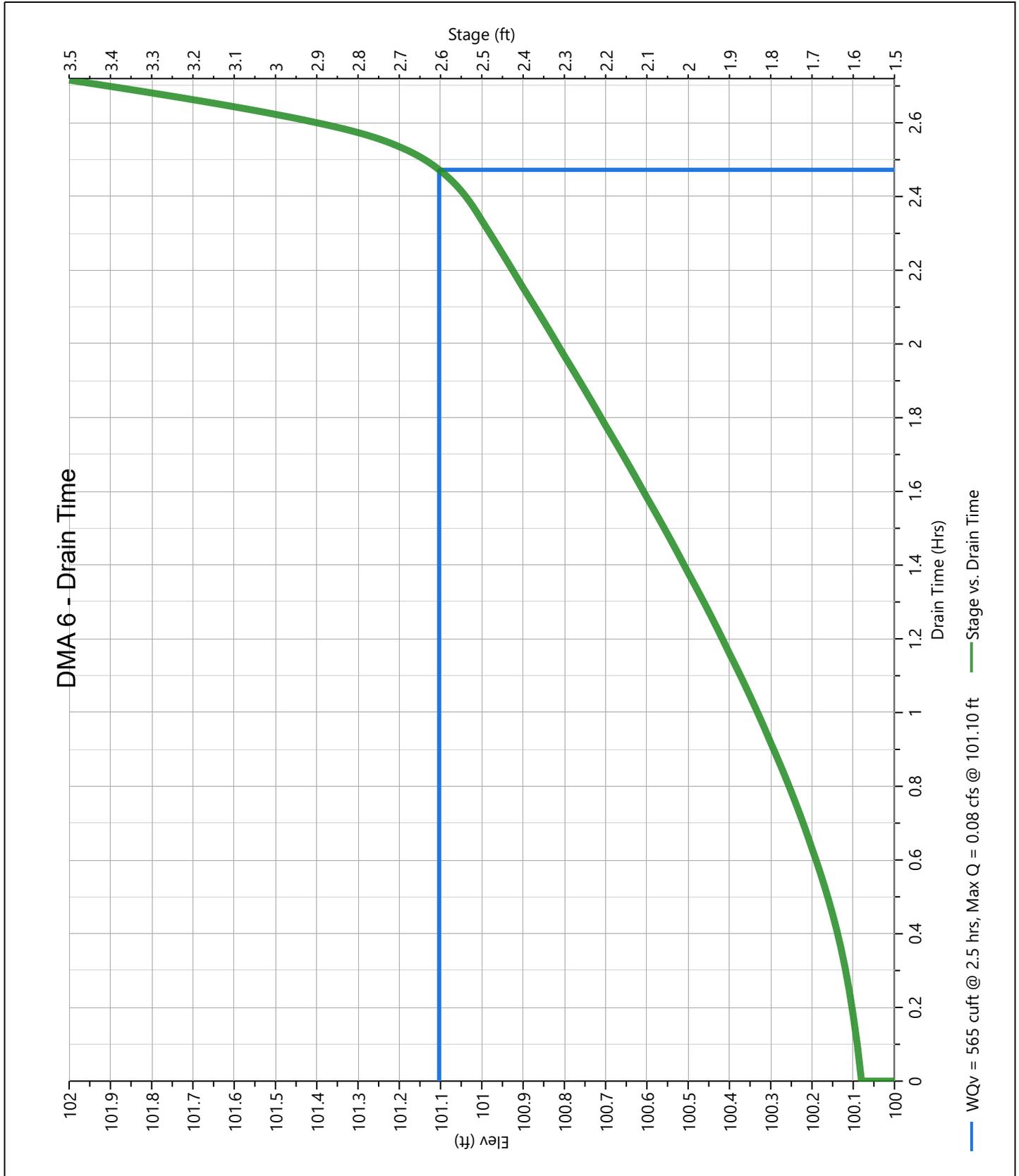
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	100.00	0.000	0.000	0.000	0.000									0.000
0.10	100.10	38.2	0.015 ic	0.015	0.000									0.015
0.20	100.20	78.7	0.036 ic	0.036	0.000									0.036
0.30	100.30	122	0.047 ic	0.047	0.000									0.047
0.40	100.40	167	0.057 ic	0.057	0.000									0.057
0.50	100.50	215	0.065 ic	0.065	0.000									0.065
0.60	100.60	266	0.073 ic	0.073	0.000									0.073
0.70	100.70	320	0.080 ic	0.080	0.000									0.080
0.80	100.80	376	0.086 ic	0.086	0.000									0.086
0.90	100.90	435	0.092 ic	0.092	0.000									0.092
1.00	101.00	497	0.098 ic	0.098	0.000									0.098
1.10	101.10	563	0.207 ic	0.099	0.108									0.207
1.20	101.20	631	0.405 ic	0.100	0.305									0.405
1.30	101.30	703	0.660 ic	0.101	0.559									0.660
1.40	101.40	777	0.878 ic	0.103	0.775									0.878
1.50	101.50	855	1.033 ic	0.106	0.927									1.033
1.60	101.60	937	1.166 ic	0.110	1.057									1.166
1.70	101.70	1,022	1.285 ic	0.113	1.172									1.285
1.80	101.80	1,110	1.394 ic	0.117	1.277									1.394
1.90	101.90	1,202	1.495 ic	0.120	1.374									1.495
2.00	102.00	1,298	1.589 ic	0.124	1.465									1.589

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

DMA 6

Extended Detention

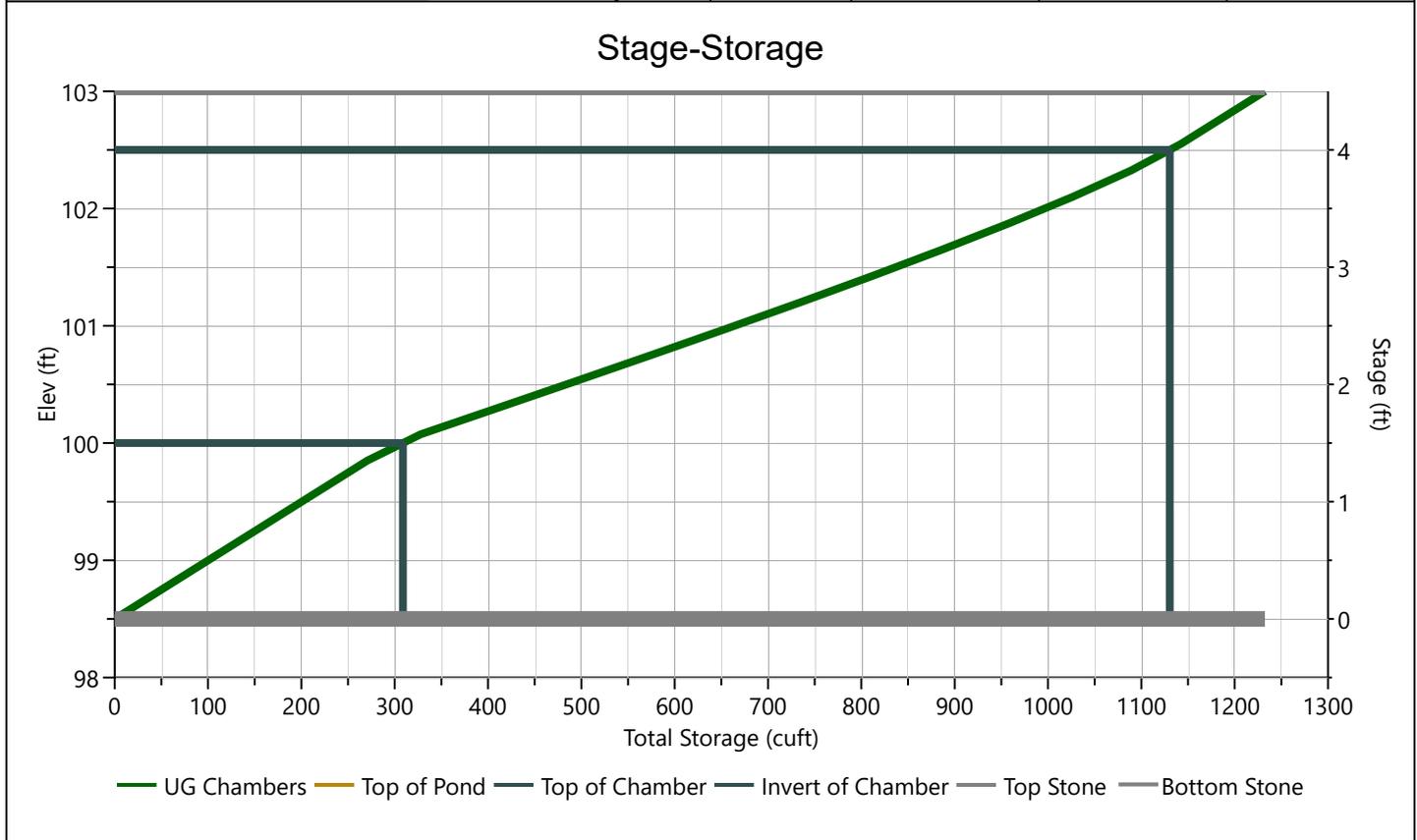


Pond Report

POND dma 2

Stage-Storage

StormTech® SC-740™ Chamber		Stage / Storage Table				
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Chamber Height, in	30	0.0	98.50	501	0.000	0.000
Chamber Shape	Arch	2.7	98.73	501	45.1	45.1
Chamber Width, in	51	5.4	98.95	501	45.1	90.2
Installed Length, ft	7.12	8.1	99.18	501	45.1	135
No. Chambers	12	10.8	99.40	501	45.1	180
Bare Chamber Stor, cuft	551	13.5	99.63	501	45.1	225
No. Rows	3	16.2	99.85	501	45.1	271
Space Between Rows, in	6	18.9	100.08	501	57.4	328
Stone Above, in	6	21.6	100.30	501	82.8	411
Stone Below, in	18	24.3	100.53	501	82.4	493
Stone Sides, in	12	27.0	100.75	501	81.7	575
Stone Ends, in	12	29.7	100.98	501	80.6	655
Encasement Voids, %	40.00	32.4	101.20	501	79.1	735
Encasement Bottom Elevation, ft	98.50	35.1	101.43	501	77.3	812
		37.8	101.65	501	74.9	887
		40.5	101.88	501	71.9	959
		43.2	102.10	501	68.0	1,027
		45.9	102.33	501	62.6	1,089
		48.6	102.55	501	53.0	1,142
		51.3	102.78	501	45.1	1,187
		54.0	103.00	501	45.1	1,232



Pond Report

POND dma 2

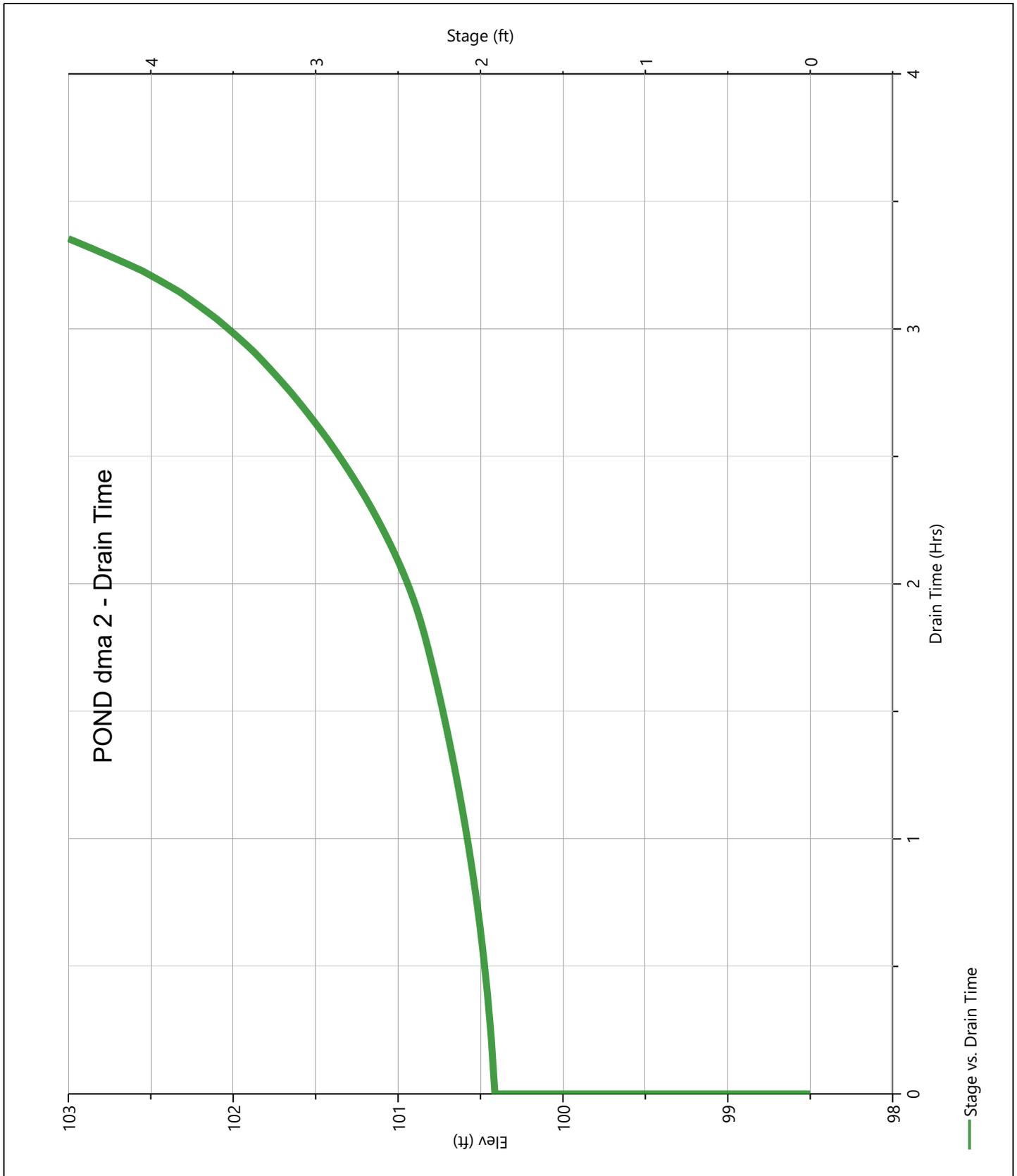
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	98.50	0.000	0.000	0.000	0.000	0.000								0.000
0.23	98.73	45.1	0.000	0.000	0.000	0.000								0.000
0.45	98.95	90.2	0.000	0.000	0.000	0.000								0.000
0.68	99.18	135	0.000	0.000	0.000	0.000								0.000
0.90	99.40	180	0.000	0.000	0.000	0.000								0.000
1.13	99.63	225	0.000	0.000	0.000	0.000								0.000
1.35	99.85	271	0.000	0.000	0.000	0.000								0.000
1.58	100.08	328	0.000	0.000	0.000	0.000								0.000
1.80	100.30	411	0.000	0.000	0.000	0.000								0.000
2.03	100.53	493	0.022 ic	0.022	0.000	0.000								0.022
2.25	100.75	575	0.035 ic	0.035	0.000	0.000								0.035
2.48	100.98	655	0.065 ic	0.045	0.000	0.020								0.065
2.70	101.20	735	0.087 ic	0.053	0.000	0.034								0.087
2.93	101.43	812	0.104 ic	0.060	0.000	0.044								0.104
3.15	101.65	887	0.119 ic	0.066	0.000	0.052								0.119
3.38	101.88	959	0.136 ic	0.072	0.005	0.059								0.136
3.60	102.10	1,027	0.156 ic	0.077	0.013	0.066								0.156
3.82	102.33	1,089	0.172 ic	0.082	0.018	0.071								0.172
4.05	102.55	1,142	0.186 ic	0.087	0.022	0.077								0.186
4.27	102.78	1,187	0.198 ic	0.091	0.025	0.082								0.198
4.50	103.00	1,232	0.210 ic	0.095	0.028	0.086								0.210

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

POND dma 2

Pond Drawdown



The Scout Hotel | Truckee, California

Lighting Equipment Schedule

Type	Description	Manufacturer	Lamp	Volts & Lumens	Dimming protocol
architectural - exterior					
XA	LED pole @ parking 12'-0" pole height, asymmetric distribution, luminaire to match existing development, finish by designer	BEGA B84252 [FINISH] K3 + 12 RFNS1 B12RFNS1-AB	LED INTEGRAL 3000K 17 watts	120-277 2010 lumens	0-10V triac, elv
XB	LED bollard, 31.5" height, finish corten, fully shielded	louis poulsen 31.5 CORTEN POST W/ANCH UNIT LED 3000K 707 120-277V/60HZ - 10000162743	LED INTEGRAL 3000K 15 watts	120-277 707 lumens	0-10V
XB.1	LED bollard, 43.3" height, finish corten, fully shielded	louis poulsen 43.3 CORTEN POST W/ANCH UNIT LED 3000K 707 120-277V/60HZ - 10000162766	LED INTEGRAL 3000K 15 watts	120-277 707 lumens	0-10V
XC	LED round wallwash, recessed, 4" aperture, wet location, microflange, flange finish by designer, satin silver baffle, ceiling thickness by contractor, lutron dimming	LUCIFER F4R [MFD FLANGE] 2 [FLANGE FINISH][AG BAFFLE] 90C14A 30 WW AT [CEILING THICKNESS] LH1	LED INTEGRAL 3000K 14 watts	120-277 677 lumens	lutron dim
XD	LED round down, recessed, 4" aperture, wet location, microflange, flange finish by designer, satin silver baffle, ceiling thickness by contractor, lutron dimming	LUCIFER F4R [MFD FLANGE] 2 [FLANGE FINISH][AG BAFFLE] 90C14A 30 40 AT [CEILING THICKNESS] LH1-04	LED INTEGRAL 3000K 14 watts	120-277 829 lumens	lutron dim
XD.1	LED recessed adjustable, 4" round aperture	LUCIFER F4R MAD 2 [FLANGE FINISH] AG 90C14A 30 15 C [CEILING THICKNESS] LH1 03	LED INTEGRAL 3000K 14 watts	120-277 966 lumens	lutron dim
XE	LED linear graze, recessed, voltage by ee, lengths by contractor for continuous coverage, damp location rated (under canopy)	FINELITE HP-WG 6W 6D [LENGTH] V930 [VOLTAGE] SC TR SSA PE-L PE-R [CEILING TYPE]	LED INTEGRAL 3000K 9.2 watts/ft	PER EE 645 lumens/ft	0-10V
XE.1	LED linear graze, to be detailed in arch cove	ELECTRIX ILLUMINATION L280W 10 [LENGTH] 830 15F A H 07 0B ZX + LFC L280W S32 + JC L280W-COILED	LED INTEGRAL 3000K 10.5 watts/ft	120-277 830 lumens/ft	0-10V
XE.2	LED wall mount down, adjustable signage wash	BK LIGHTING SN 24" L DE LED TR X102 FL [FINISH] 12 A INC 120	LED INTEGRAL 3000K 13 watts	120 1350 lumens	line voltage

Lighting Equipment Schedule

Type	Description	Manufacturer	Lamp	Volts & Lumens	Dimming protocol
XF	LED wall recessed path light	BEGA 33 055 K30 [FINISH]	LED INTEGRAL 3000K 11 watts	120-277 480 lumens	0-10V TRIAC,ELV
XG	LED asymmetric wall mount @ 7ft aff, can be used for emergency	BEGA 33 243 K3 (FINISH) EMPK	LED INTEGRAL 3000K 35 watts	120-277 4018 lumens	0-10V
XH	in.grade drive over rated with 360° port	BEGA 77 090 K3 [FINISH] BB7089LED PRE-SHIP	LED INTEGRAL 3000K 16 watts	120-277 265 lumens	0-10V
XI	not used				
XJ	pool light	HYDREL 4800 RD SS LED 120 WHT30K MFL CLS NM [CONDUIT ENTRY] CSL[LENGTH] SWM LP	LED INTEGRAL 3000K 9 watts	120V 332 lumens	line voltage

decorative

DEC by architect or interior designer

notes |

- . all reflector finishes to be approved by client & architect before ordering.
- . reference electrical engineers drawings for fixtures requiring emergency ballasts.

Application

Pole-top luminaire with asymmetric light distribution designed for the illumination of parking areas and roadways. Tool-less entry with hinged door for ease of maintenance. Provided with slip fitter to fit 3" O.D. poles.

Materials

Clear safety glass with optical texture
 Marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
 High-strength A572 stainless steel alloy
 High temperature silicone gasket
 Pure anodized aluminum reflector

NRTL listed to North American Standards, suitable for wet locations
 Protection class IP 66

Weight: 10.1 lbs.

EPA (Effective projection area): 0.32 sq. ft.

Electrical

Operating voltage 120-277V AC
 Minimum start temperature -30° C
 Maximum ambient temperature 90° C
 LED module wattage 12.6W
 System wattage 17.0W
 Controllability 0-10V, TRIAC, and ELV dimmable
 Color rendering index Ra > 80
 Luminaire lumens **2050lm**
 LED service life (L70) 60000 hrs

LED color temperature

- 4000K (K4)
- 3500K (K35)
- 3000K (K3)
- 2700K (K27)

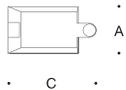
BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish

All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White, as well as optionally available RAL and Custom colors, are a polyester powder.

Available colors

- Black (BLK)
- Silver (SLV)
- RAL:
- Bronze (BRZ)
- White (WHT)
- CUS:



Area/Roadway luminaire · Asymmetric · Single

	LED	A	B	C
B84252	12.6W	10	2 ³ / ₈	17 ³ / ₈

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com © copyright BEGA 2022 Updated 09/27/22

Type:

BEGA Product:

Project:

Modified:

Available options

- AMB Amber LED
- CUS Custom finish
- DALI Digital addressable lighting interface
- FSC Fusing
- MGU Marine grade undercoat
- PCR Photocell receptacle
- RAL RAL finish

Available accessories

- BIMS-L2 Integral motion sensor
- BIMS-L3 Integral motion sensor

See individual accessory spec sheet for details.



Application

A round, non-tapered, aluminum pole with a fixed base. Useful for mounting pole-top luminaires, floodlights, banners, or other accessories. Consult a licensed structural engineer when specifying. Poles must be unwrapped when delivered and should not be allowed to sit in their packaging.

Materials & Specifications

Extruded aluminum pole shaft
 A356 aluminum alloy anchor base heat-treated to T6 temper
 Anchor bolts conform to ASTM F1554 Grade 55 with L bend on one end and galvanized minimum 12" on threaded end
 Anchor bolts provided with (2) hex nuts and (2) flat washers
 Aluminum nut covers
 Covered handhole with hardware and grounding provisions provided
 3" welded tenon
 Wall thickness: 0.125"
 Structural weight: 26 lbs

Maximum Luminaire Weight: 62 lbs

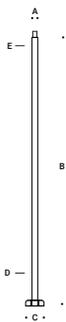
Finish

All BEGA standard finishes are a matte, textured powder coat with a minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White, as well as optionally available RAL and custom colors, are a polyester powder.

Available colors Black (BLK) White (WHT) RAL:
 Bronze (BRZ) Silver (SLV) CUS:

Disclaimer

BEGA North America warrants the specific anchor bolts and pole combination according to the product number(s) and description(s) indicated on the submittal sheet. Structural changes to the pole requested by the customer, including changes to pole length, may affect the compatibility of the anchor bolts and corresponding poles. BEGA North America is not responsible for the incompatibility of the anchor bolts and poles resulting from such structural changes without review by the BEGA North America engineering department. This includes, but is not limited to, any labor charges, charges for replacement materials and shipping. For safety reasons, do not mount more than 50 lbs. to hinged poles and more than 62 lbs. to fixed poles. Pole capacities are based upon the provisions of AASHTO 2013 (LTS-6) and assume a max vertical eccentricity to the fixture of 2'-0" above the pole top. Adequate drainage must be provided in concrete foundation or grout. Do not seal the base of the pole. Due to structural reasons, do not install pole without fixture or other appropriate weight on the top.



Aluminum pole · Round fixed non-tapered

	A	B'	C	D	E	Anchorage
12 RFNS1	3"	12'	8 7/8"	4"	4"	B12RFNS1-AB

Pole wind load rating

MPH	85	90	100	110	120	130	140	150
EPA"	5.1	4.4	3.2	2.4	1.8	1.4	1.2	1.0

Height is rounded to the nearest foot, for precise measurements see submittal drawing.
 *Data above assumes grade level installation and a maximum luminaire weight of 62 lbs.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Type:
 BEGA Pole:
 Location:
 Quote or Sales Order:
 Date:
 Specifier:
 Representative:
 BEGA Luminaire:
 Total Mounted EPA:
 Total Mounted Weight:

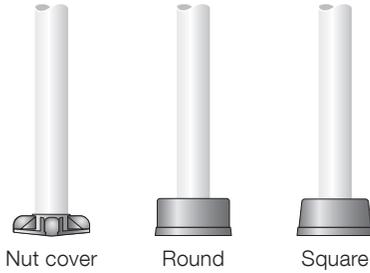


Accessories

Base Cover

Standard pole is provided with nut covers.
See alternate base cover options below.

- Round
- Square

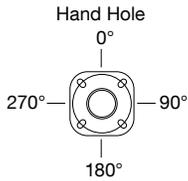


Options

Power Receptacle - Standard Location

GFCI covers provided are intended for portable tools or other portable equipment connected to the outlet when attended. Wet location listed when cover is closed. Handhole must be 18" from GFCI.

- GFCI at default location
 - Orientation: 180°; Height: 36" A.F.G.
 - In-use cover



Modifications

Any changes or additions to BEGA North America's standard pole offering that are not listed as accessories or options are considered modifications. Should a modification be required, the below section is intended to help streamline the process during the initial design and specification. All modifications will need to be quoted and approved by BEGA North America prior to order placement.

Modified Pole Height:

Power Receptacle - Nonstandard Location

- GFCI at custom location
 - Orientation:
 - Height (min. 18" A.F.G.):
 - In-use cover

Handhole

Unless otherwise specified handhole will be located 18" A.F.G. between two anchor bolts.

- Handhole at custom location
 - Orientation:
 - Height:

Vibration Dampener

- Vibration dampener
 - Solution provided will vary depending on needs.

Still not finding what you need? Additional modifications may be available. Please contact your local BEGA representative to learn more about our modification capabilities.

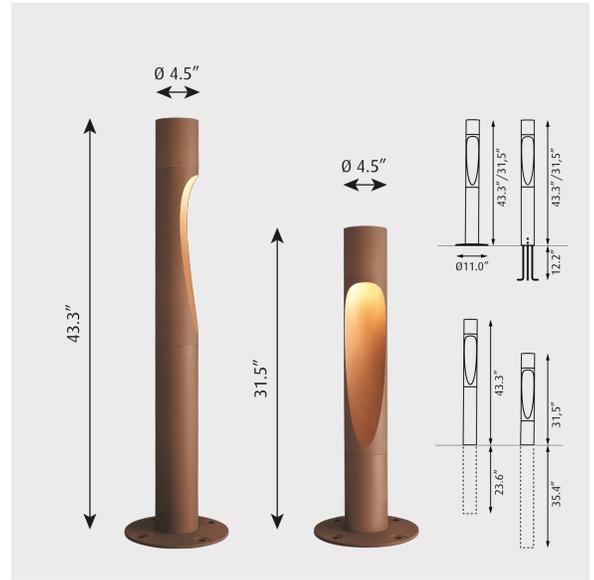
Note: Accessories, options, and modifications may require additional lead-time and increase cost. All details must be quoted and approved by BEGA North America prior to order placement.

FLINDT BOLLARD FIXTURE TYPE XB.1

Project name:

Project type:

Notes:

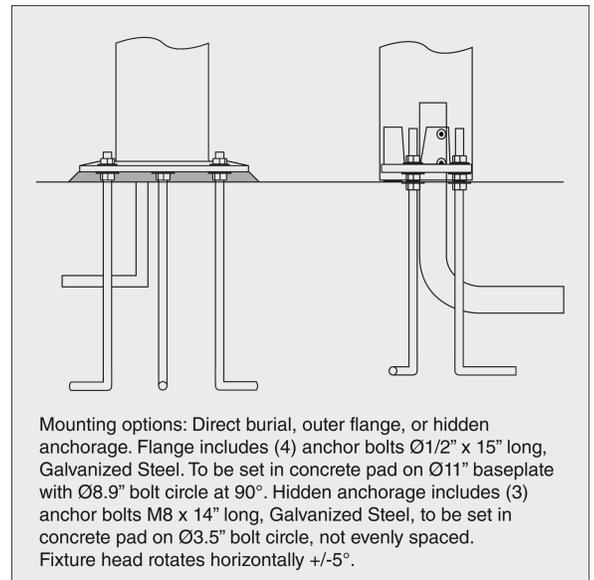


Design

Christian Flindt

Product description

Beautifully crafted slender post with a carved surface that is gently illuminated. Top section conceals downward facing LEDs that are positioned for wide distribution. Two horizontal connection lines underline the three parts of the bollard. A facet increases the visibility of the connection lines. Available in two heights, 43.3 IN and 31.5 IN. Available in three different mounting methods: with an 11 inch base plate and visible anchor bolts, with internally hidden anchor bolts, or direct burial in soil or gravel. Part of a family.



Variant options

Dimension

31.5 IN
43.3 IN

Color

● Corten color
● Natural paint aluminum

Mounting

Post w/anchorage unit
Post w/base plate
Post w/direct burial

Light source

LED 3000K
LED 4000K

Lumen

707
757
762
784

Voltage frequency

120-277V/60HZ

Specification notes

a. Direct burial mounting only available with 43.3" size.

Light description

The luminaire provides a non-glaring wide characteristic asymmetrical and functional illumination. The design of the cut-out creates a reflector part which is gradually illuminated to emphasize the depth in the luminaire. The cut-out reflector and precise location of the LED's provides an wing-shaped light pattern on the ground. A white highly reflective material around the LED's ensure a wide distribution of light and high efficacy. The cut-out reflector part can be adjusted $\pm 10^\circ$ after installation to fine tune alignment of several luminaires and light distribution. Standard CCT in 3000K or 4000K, controlled by electronic dimmable driver.

Mounting

Top section housing holds driver and LED's connected with quick-disconnect plug for easy servicing. Terminal block is located in the reflector section. Thru wiring approved. Supplied with IP68 (water-tight) glands to seal mid-section for pass thru wiring. Mounted to a concrete base with (4) anchor bolts on a bolt circle of 8.9 inches.

Information

Electrical:
 System Wattage: 15W
 LED Wattage: 14W
 Delivered lumens: 536-591 lm
 Efficacy: 35.7-39.4 lm/W
 Certifications:
 cULus, Wet Location
 Protection class IP65
 IK class 10
 BUG Rating: B0-U2-G1
 Controllability: 0-10V Dimming
 Min.-Max. Ambient Temp: -40°C to $+70^\circ\text{C}$
 Color Rendering: Ra \geq 80

Other functions

Alternative mounting options include an 11" base plate, a hidden anchor base or for direct burial. LED in 2700K or 3500K. Amber LED available for sea turtle nesting areas. Custom finishes. Custom pole heights. Alternative dimming controls, including wireless systems.

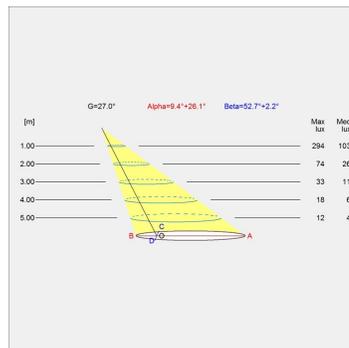
Voltage

120-277V/60HZ

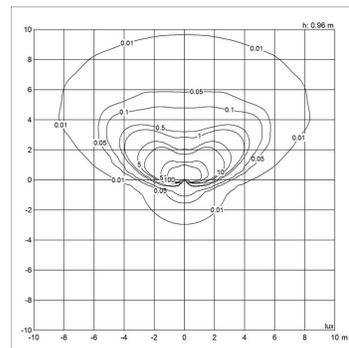
Light distribution diagrams

For the full data set on all variants, see louispoulsen.com.

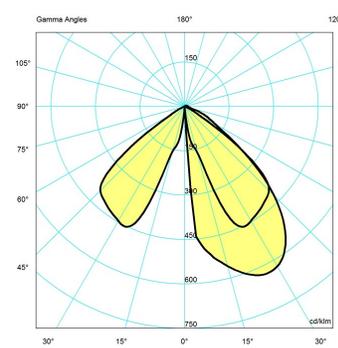
Cartesian



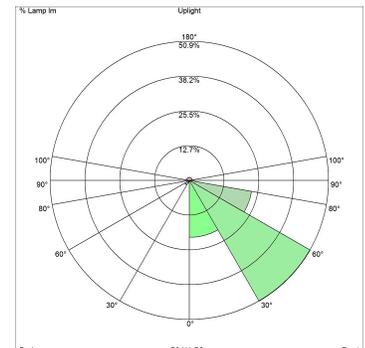
Isolux



Polar



Bug



Variant options

Dimension	Color	Mounting	Light source	Lumen	Voltage frequency	Variant number
31.5 IN	 Corten color	Post w/base plate	LED 3000K	707	120-277V/60HZ	10000162742
31.5 IN	 Corten color	Post w/anchorage unit	LED 3000K	707	120-277V/60HZ	10000162743
31.5 IN	 Natural paint aluminum	Post w/base plate	LED 3000K	762	120-277V/60HZ	10000162746
31.5 IN	 Natural paint aluminum	Post w/anchorage unit	LED 3000K	762	120-277V/60HZ	10000162747
31.5 IN	 Corten color	Post w/base plate	LED 4000K	757	120-277V/60HZ	10000162760
31.5 IN	 Corten color	Post w/anchorage unit	LED 4000K	757	120-277V/60HZ	10000162761
31.5 IN	 Natural paint aluminum	Post w/base plate	LED 4000K	784	120-277V/60HZ	10000162762
31.5 IN	 Natural paint aluminum	Post w/anchorage unit	LED 4000K	784	120-277V/60HZ	10000162763
43.3 IN	 Corten color	Post w/base plate	LED 3000K	707	120-277V/60HZ	10000162764
43.3 IN	 Corten color	Post w/direct burial	LED 3000K	707	120-277V/60HZ	10000162765
43.3 IN	 Corten color	Post w/anchorage unit	LED 3000K	707	120-277V/60HZ	10000162766
43.3 IN	 Natural paint aluminum	Post w/base plate	LED 3000K	762	120-277V/60HZ	10000162767
43.3 IN	 Natural paint aluminum	Post w/direct burial	LED 3000K	762	120-277V/60HZ	10000162768
43.3 IN	 Natural paint aluminum	Post w/anchorage unit	LED 3000K	762	120-277V/60HZ	10000162769
43.3 IN	 Corten color	Post w/direct burial	LED 4000K	757	120-277V/60HZ	10000162771
43.3 IN	 Corten color	Post w/anchorage unit	LED 4000K	757	120-277V/60HZ	10000162772
43.3 IN	 Corten color	Post w/base plate	LED 4000K	757	120-277V/60HZ	10000162770
43.3 IN	 Natural paint aluminum	Post w/base plate	LED 4000K	784	120-277V/60HZ	10000162773
43.3 IN	 Natural paint aluminum	Post w/direct burial	LED 4000K	784	120-277V/60HZ	10000162774

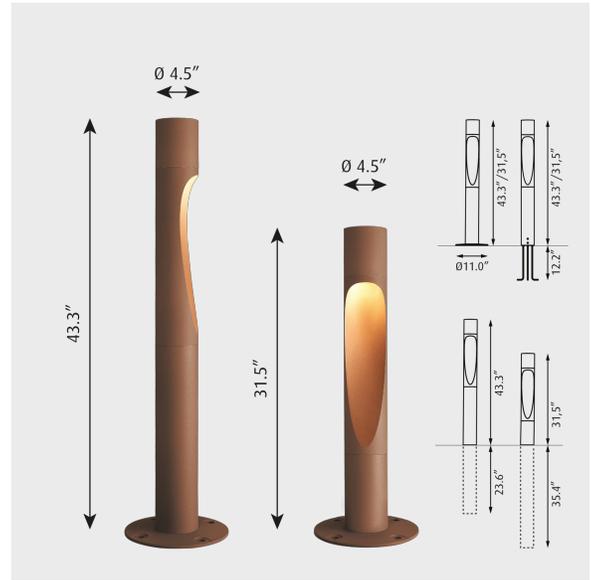
FLINDT BOLLARD

FIXTURE TYPE XB

Project name:

Project type:

Notes:

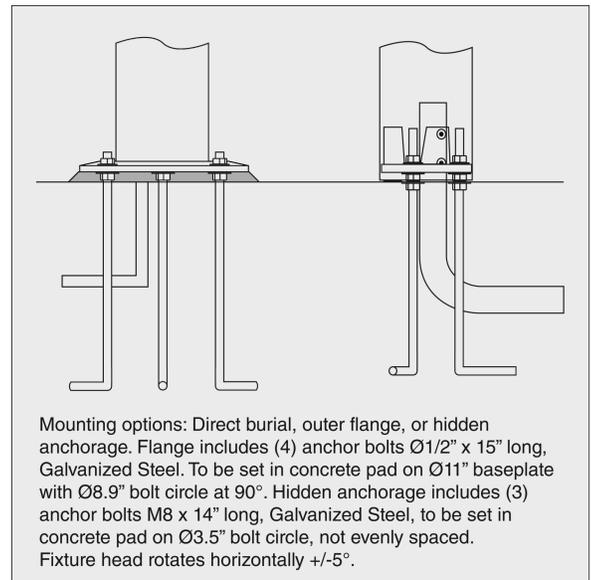


Design

Christian Flindt

Product description

Beautifully crafted slender post with a carved surface that is gently illuminated. Top section conceals downward facing LEDs that are positioned for wide distribution. Two horizontal connection lines underline the three parts of the bollard. A facet increases the visibility of the connection lines. Available in two heights, 43.3 IN and 31.5 IN. Available in three different mounting methods: with an 11 inch base plate and visible anchor bolts, with internally hidden anchor bolts, or direct burial in soil or gravel. Part of a family.



Variant options

Dimension

31.5 IN
43.3 IN

Color

● Corten color
● Natural paint aluminum

Mounting

Post w/anchorage unit
Post w/base plate
Post w/direct burial

Light source

LED 3000K
LED 4000K

Lumen

707
757
762
784

Voltage frequency

120-277V/60HZ

Specification notes

a. Direct burial mounting only available with 43.3" size.

Light description

The luminaire provides a non-glaring wide characteristic asymmetrical and functional illumination. The design of the cut-out creates a reflector part which is gradually illuminated to emphasize the depth in the luminaire. The cut-out reflector and precise location of the LED's provides an wing-shaped light pattern on the ground. A white highly reflective material around the LED's ensure a wide distribution of light and high efficacy. The cut-out reflector part can be adjusted $\pm 10^\circ$ after installation to fine tune alignment of several luminaires and light distribution. Standard CCT in 3000K or 4000K, controlled by electronic dimmable driver.

Mounting

Top section housing holds driver and LED's connected with quick-disconnect plug for easy servicing. Terminal block is located in the reflector section. Thru wiring approved. Supplied with IP68 (water-tight) glands to seal mid-section for pass thru wiring. Mounted to a concrete base with (4) anchor bolts on a bolt circle of 8.9 inches.

Information

Electrical:
 System Wattage: 15W
 LED Wattage: 14W
 Delivered lumens: 536-591 lm
 Efficacy: 35.7-39.4 lm/W
 Certifications:
 cULus, Wet Location
 Protection class IP65
 IK class 10
 BUG Rating: B0-U2-G1
 Controllability: 0-10V Dimming
 Min.-Max. Ambient Temp: -40°C to $+70^\circ\text{C}$
 Color Rendering: Ra \geq 80

Other functions

Alternative mounting options include an 11" base plate, a hidden anchor base or for direct burial. LED in 2700K or 3500K. Amber LED available for sea turtle nesting areas. Custom finishes. Custom pole heights. Alternative dimming controls, including wireless systems.

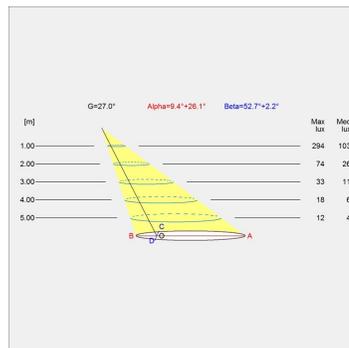
Voltage

120-277V/60HZ

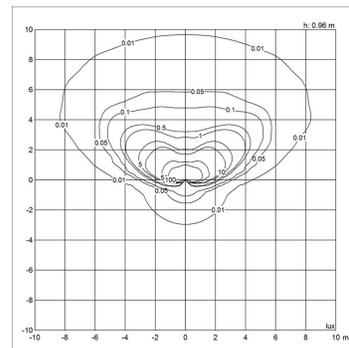
Light distribution diagrams

For the full data set on all variants, see louispoulsen.com.

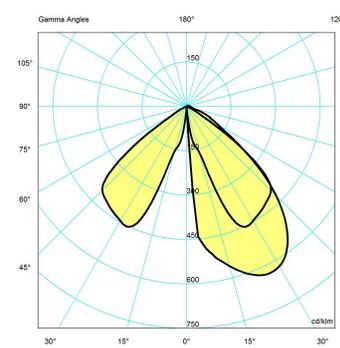
Cartesian



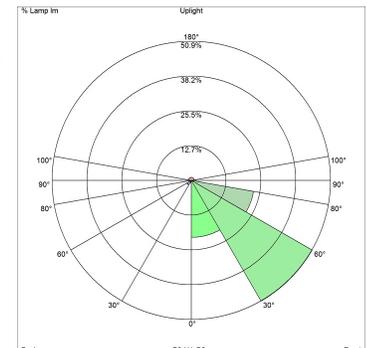
Isolux



Polar



Bug



Variant options

Dimension	Color	Mounting	Light source	Lumen	Voltage frequency	Variant number
31.5 IN	 Corten color	Post w/base plate	LED 3000K	707	120-277V/60HZ	10000162742
31.5 IN	 Corten color	Post w/anchorage unit	LED 3000K	707	120-277V/60HZ	10000162743
31.5 IN	 Natural paint aluminum	Post w/base plate	LED 3000K	762	120-277V/60HZ	10000162746
31.5 IN	 Natural paint aluminum	Post w/anchorage unit	LED 3000K	762	120-277V/60HZ	10000162747
31.5 IN	 Corten color	Post w/base plate	LED 4000K	757	120-277V/60HZ	10000162760
31.5 IN	 Corten color	Post w/anchorage unit	LED 4000K	757	120-277V/60HZ	10000162761
31.5 IN	 Natural paint aluminum	Post w/base plate	LED 4000K	784	120-277V/60HZ	10000162762
31.5 IN	 Natural paint aluminum	Post w/anchorage unit	LED 4000K	784	120-277V/60HZ	10000162763
43.3 IN	 Corten color	Post w/base plate	LED 3000K	707	120-277V/60HZ	10000162764
43.3 IN	 Corten color	Post w/direct burial	LED 3000K	707	120-277V/60HZ	10000162765
43.3 IN	 Corten color	Post w/anchorage unit	LED 3000K	707	120-277V/60HZ	10000162766
43.3 IN	 Natural paint aluminum	Post w/base plate	LED 3000K	762	120-277V/60HZ	10000162767
43.3 IN	 Natural paint aluminum	Post w/direct burial	LED 3000K	762	120-277V/60HZ	10000162768
43.3 IN	 Natural paint aluminum	Post w/anchorage unit	LED 3000K	762	120-277V/60HZ	10000162769
43.3 IN	 Corten color	Post w/direct burial	LED 4000K	757	120-277V/60HZ	10000162771
43.3 IN	 Corten color	Post w/anchorage unit	LED 4000K	757	120-277V/60HZ	10000162772
43.3 IN	 Corten color	Post w/base plate	LED 4000K	757	120-277V/60HZ	10000162770
43.3 IN	 Natural paint aluminum	Post w/base plate	LED 4000K	784	120-277V/60HZ	10000162773
43.3 IN	 Natural paint aluminum	Post w/direct burial	LED 4000K	784	120-277V/60HZ	10000162774

WALLWASH



Fraxion4 standard offers a traditional housing and separate trim assembly. Conversely, Fraxion4 Slim incorporates an LED, optic, and housing into a single complete unit featuring a removable baffle and trim.

ORDERING INFORMATION - DOWNLIGHT / HOUSING



Quick Ship Product. All rough in components ship within 10 days up to quantities of 100.



JA8-2019 INDICATED BY SHADING

SHAPE	TRIM	RATING	FLANGE FINISH	BAFFLE FINISH	LUMEN PACKAGE	CCT	OPTIC	INSTALL TYPE	CEILING THICKNESS	DRIVER
F4R Round	FWW Standard Flange MWW Microflange TWW Trimless	1 Dry/Damp 2 Wet* *(Requires provided suction cup to service or aim & focus)	WH White AG Satin Silver AU Cashmere Gold BB Burnt Bronze BK Black PR Primer 00 Trimless* *(Required for trimless) CF Custom Finish* *(Consult Factory)	WH White AG Satin Silver AU Cashmere Gold BB Burnt Bronze BK Black PR Primer CF Custom Finish* *(Consult Factory)	LOW FLUX STATIC WHITE 80C12A 80+ CRI, Delivered Lumens - 599 80C16A 80+ CRI, Delivered Lumens - 819 80C23A 80+ CRI, Delivered Lumens - 1129 90C10A 90+ CRI, Delivered Lumens - 495 90C14A 90+ CRI, Delivered Lumens - 677 90C19A 90+ CRI, Delivered Lumens - 933 97C10A 97+ CRI, Delivered Lumens - 452 97C12A 97+ CRI, Delivered Lumens - 617 97C17A 97+ CRI, Delivered Lumens - 851 HIGH FLUX STATIC WHITE 80C30B 80+ CRI, Delivered Lumens - 1724* *(Not available for IC housing applications) 90C26B 90+ CRI, Delivered Lumens - 1424* *(Not available for IC housing applications) 97C23B 97+ CRI, Delivered Lumens - 1298* *(Not available for IC housing applications) WARM DIM 90W11A 90+ CRI, Delivered Lumens - 684 Incandescent Profile 90W12A 90+ CRI, Delivered Lumens - 769 Standard Profile *SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON. TUNABLE WHITE 90T10B 90+ CRI, Delivered Lumens - 590* *(Not available for Remodel applications) 90T14B 90+ CRI, Delivered Lumens - 807* *(Not available for Remodel applications) *ALL DELIVERED LUMEN OUTPUTS AND T24 COMPLIANCE REFLECT 3000K.	22 2200K* *(Only available with 90+ CRI) 27 2700K 30 3000K 35 3500K 40 4000K 27 2700K 30 3000K 35 3500K* *(Not available for 97+ CRI) 40 4000K WL 2700K - 1800K WD 3000K - 1800K TW 5000K - 2700K	WW Wallwash Optic	HOUSING INTEGRAL DRIVER IC IC NC NIC AT IC, Airtight* *(ICCEA, Airtight & Title 24 compliant housing) HOUSING REMOTE DRIVER IR IC, Remote NR NIC, Remote AR IC, Airtight, Remote* *(ICCEA, Airtight & Title 24 compliant housing) REMODEL RM Remodel RR Remote, Remodel IC HOUSING: 6.5" TALL NIC HOUSING: 4.5" TALL	1 0.125" - 1.25"* *(Housing) 0.25" - 1.25"* *(Remodel) 0.50" - 1.25"* *(All Trimless) T 0.125" - 1.25"* *(Includes adjustable housing height bracket)	DOMESTIC (120V) TR2 Philips, 2% Leading/Trailing/Triac* *(Not available for 80C12A, 90C10A, or 97C10A unless 10° degree optic is specified. Not available for 80C30B, 90C26B, or 97C23B) L23 Lutron, Hi-Lume 1% 2-Wire UNIVERSAL (120-277V) LH1 Lutron, Hi-Lume 1% Ecosystem AN4 Philips Titanium 1% 0-10V, LOG LN2 Philips Titanium 1% 0-10V, LIN EA2 eldoLED, SOLdrive 0.1% 0-10V, LOG LA2 eldoLED, SOLdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLdrive 0.1% DALI, LOG LD1 eldoLED, SOLdrive 0.1% DALI, LIN TUNABLE WHITE POWER SUPPLIES (120-277V) DD1 eldoLED, DUALdrive 0.1% DALI, LOG DG1 eldoLED, DUALdrive 0.1% 0-10V, LOG DL1 eldoLED, DUALdrive 0.1% 0-10V, LIN



PART NUMBER NOTES

- Trim ships as e.g., F4SMWW1-WHWH-90C10A2-5I1-AN4
- Housing ships as e.g., ICT-F4R-01
- Driver ships with trim
- Remote driver ships with trim as e.g., PSF4-RMT-90C-10A-1L23

FRAXION4 WALLWASH

ACCESSORIES

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES EFFECTS DEVICE)

ASSEMBLY	SHAPE	TRIM	RATING	FLANGE FINISH
RBA				
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FWW Standard Flange MWW Microflange TWW Trimless	1 Dry / Damp 2 Wet	WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze CF Custom Finish* *(Consult Factory)
	F4S Square	FWW Standard Flange MWW Microflange TWW Trimless		

1

LOW FLUX AND WARM DIM REPLACEMENT OPTIC

Interchangeable optics accessible through fixture aperture.

- RO-70-WW-1** Wallwash optic

HIGH FLUX AND TUNABLE WHITE REPLACEMENT OPTIC

Interchangeable optics accessible through fixture aperture.

- RO-70-WW-2** Wallwash optic

T-GRID ACCESSORY KIT

Supplied with ceiling thickness "T" and recommended for installations in T-Grid and furring channel up to 1.5" tall. Available for ceiling thicknesses from 0.50" - 1.00".

- DHA-TG-KIT**

HANGER BAR EXTENDER KIT

Extends hanger bars from 24.0" to 46.0" maximum.

- FRX-HBE-46** Extender, Hanger Bar

EMERGENCY LIGHTING - REMOTE MOUNT ONLY

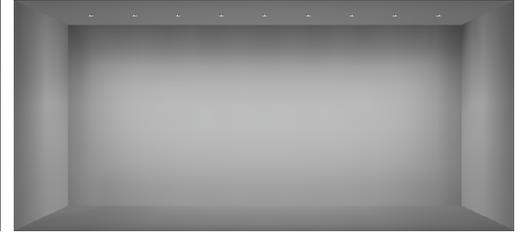
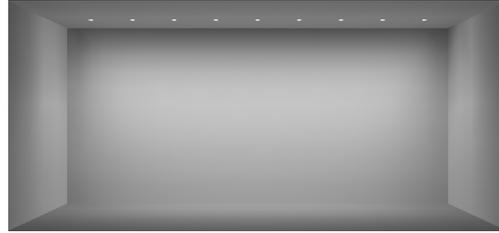
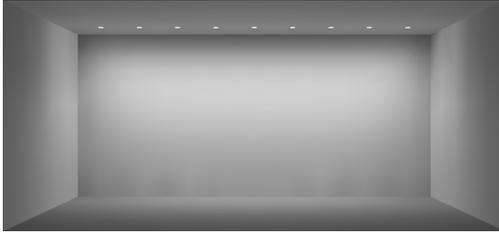
During disruption of main power, emergency battery inverter provides temporary 120V or 277V to fixture.

- EMB-S-20/25-120/277-LEDX** 20/25 watt max capacity, 120 or 277 VAC 60Hz, Non-Dimmable
- EMB-S-100-120-LEDX** 100 watt max capacity, 120 VAC 60Hz, Dimmable
- EMB-S-100-277-LEDX** 100 watt max capacity, 277 VAC 60Hz, Dimmable
- EMB-S-250-120/277-LEDX** 250 watt max capacity, 120 or 277 VAC 60Hz, Dimmable

FRAXION4 WALLWASH

WALLWASH DESIGN GUIDE

ROUND



RECOMMENDED

30" SETBACK / 30" ON CENTER SPACING

- AVERAGE FC: 23.81
- MIN / MAX: 4.23
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 25FT WALL SHOWN

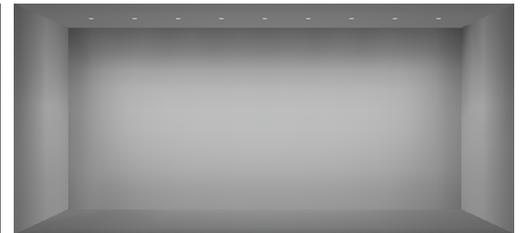
36" SETBACK / 36" ON CENTER SPACING

- AVERAGE FC: 18.27
- MIN / MAX: 4.43
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 30FT WALL SHOWN

42" SETBACK / 42" SPACING ON CENTER

- AVERAGE FC: 14.44
- MIN / MAX: 5.51
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 35FT WALL SHOWN

SQUARE



RECOMMENDED

30" SETBACK / 30" ON CENTER SPACING

- AVERAGE FC: 25.23
- MIN / MAX: 4.12
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 25FT WALL SHOWN

36" SETBACK / 36" ON CENTER SPACING

- AVERAGE FC: 19.43
- MIN / MAX: 4.19
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 30FT WALL SHOWN

42" SETBACK / 42" SPACING ON CENTER

- AVERAGE FC: 15.32
- MIN / MAX: 5.18
- 10FT CEILING SHOWN / 8-12FT IDEAL
- 9 FIXTURES / 35FT WALL SHOWN

ADDITIONAL SPACINGS AND SETBACKS

ROUND			
ON CENTER SPACING	SETBACK		
	30"	36"	42"
30"	SHOWN ABOVE	AVERAGE FC: 21.62 MIN / MAX: 4.38	AVERAGE FC: 19.42 MIN / MAX: 4.72
36"	AVERAGE FC: 16.38 MIN / MAX: 4.53	SHOWN ABOVE	AVERAGE FC: 16.53 MIN / MAX: 4.73
42"	AVERAGE FC: 17.28 MIN / MAX: 5.40	AVERAGE FC: 15.79 MIN / MAX: 5.41	SHOWN ABOVE

SQUARE			
ON CENTER SPACING	SETBACK		
	30"	36"	42"
30"	SHOWN ABOVE	AVERAGE FC: 23.05 MIN / MAX: 4.17	AVERAGE FC: 20.74 MIN / MAX: 4.15
36"	AVERAGE FC: 17.03 MIN / MAX: 4.26	SHOWN ABOVE	AVERAGE FC: 17.62 MIN / MAX: 4.51
42"	AVERAGE FC: 18.34 MIN / MAX: 5.00	AVERAGE FC: 16.79 MIN / MAX: 5.02	SHOWN ABOVE

***ALL DATA REFLECTS 90C19A LUMEN PACKAGE**

FRAXION4 WALLWASH

PERFORMANCE - 3000K

LUMEN PACKAGE	WATTAGE	WALLWASH OPTIC	
		DELIVERED	LPW
80C12A	10	599	59
80C16A	17	819	57
80C23A	21	1129	53
80C30B	30	1724	57
90C10A	10	495	49
90C14A	17	677	47
90C19A	21	933	44
90C26B	30	1424	47
97C10A	10	452	45
97C12A	17	617	43
97C17A	21	851	40
97C23B	30	1298	43
90W11A	14	684	48
90W12A	14	769	54
90T10B	14	590	42
90T14B	22	807	36

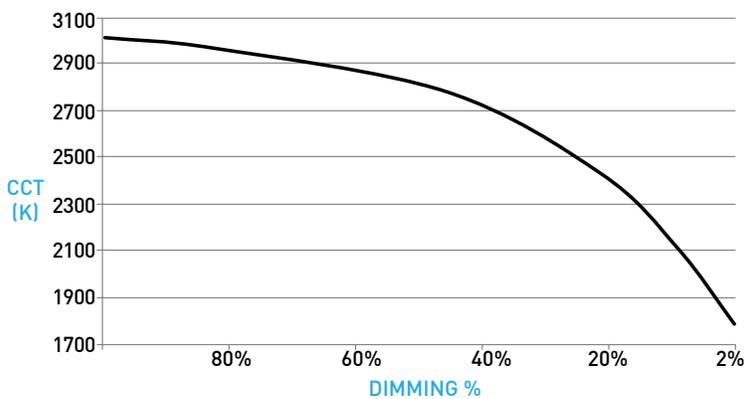
OUTPUT MULTIPLIER	
CCT	CCT SCALE
2200K (Consult factory for JA8 details)	0.800
2700K	0.957
3000K	1.000
3500K	1.019
4000K	1.030

TITLE 24 JA8-2019 INDICATED BY SHADING

WARM DIM PERFORMANCE

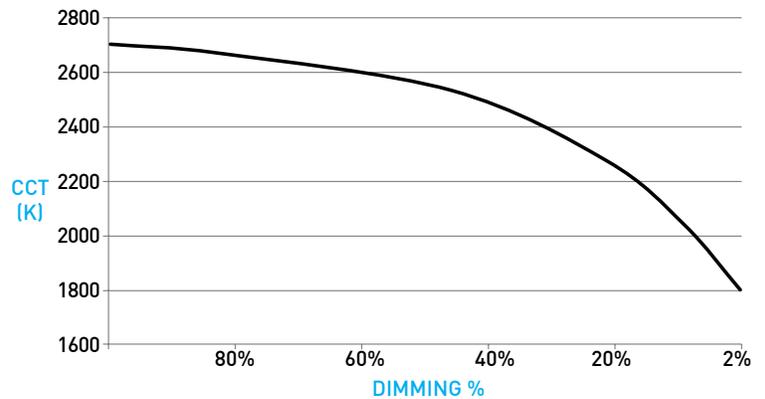
WARM DIM TO MIRROR STANDARD DIMMING PROFILE

90W12A 3000K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3200	3150	3100	3000	2700	2200	1800
Light Output (Lm)	769	615	538	384	153	76	15
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	54	54	54	54	54	54	54



WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

90W11A 2700K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	2700	2650	2620	2520	2180	1950	1800
Light Output (Lm)	684	547	479	342	136	68	13
Power (W)	14	11	10	7	3	1.5	0.5
Efficacy (LPW)	48	48	48	48	48	48	48



FRAXION4 WALLWASH

DOWNLIGHT

A BAFFLE

ROUND / SQUARE

Die-cast removable baffle provides easy access to tilting mechanism. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

TRANSITIONAL BAFFLE

Die-cast removable baffle transitions from square aperture at ceiling plane to round aperture at light source. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

B RETENTION

Integrated metal arm clamps located within fixture body allow discreet flange design, while accommodating varying ceiling thicknesses from 0.125" to 1.25". Snap-on spacer clips (3X) supplied for ceiling thickness below 0.50" only.

C1 STANDARD FLANGE PROFILE

Provides 0.86" total contractor (goof) allowance with 0.50" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

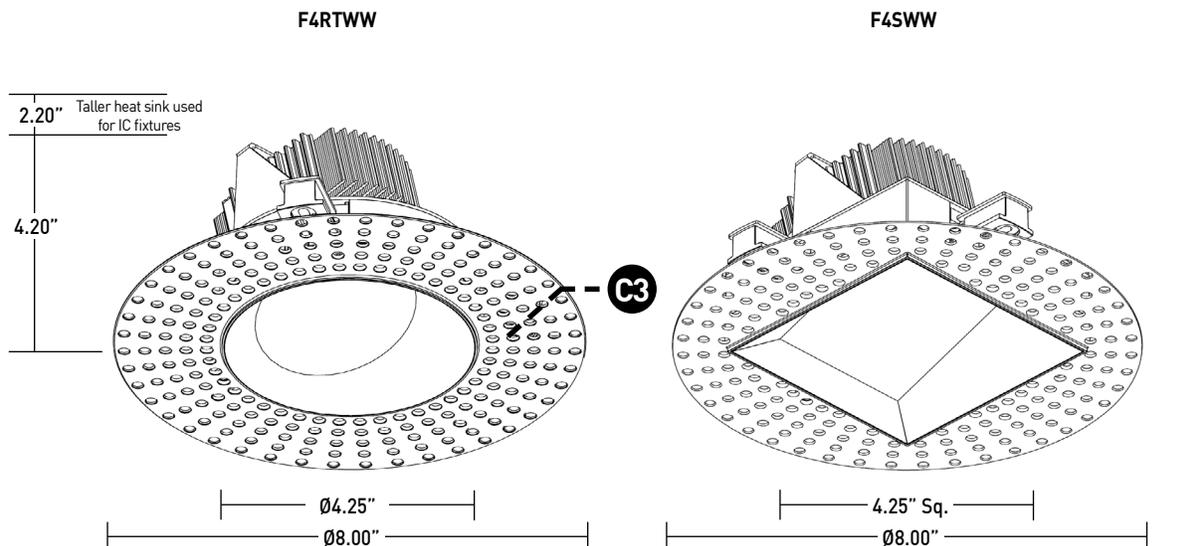
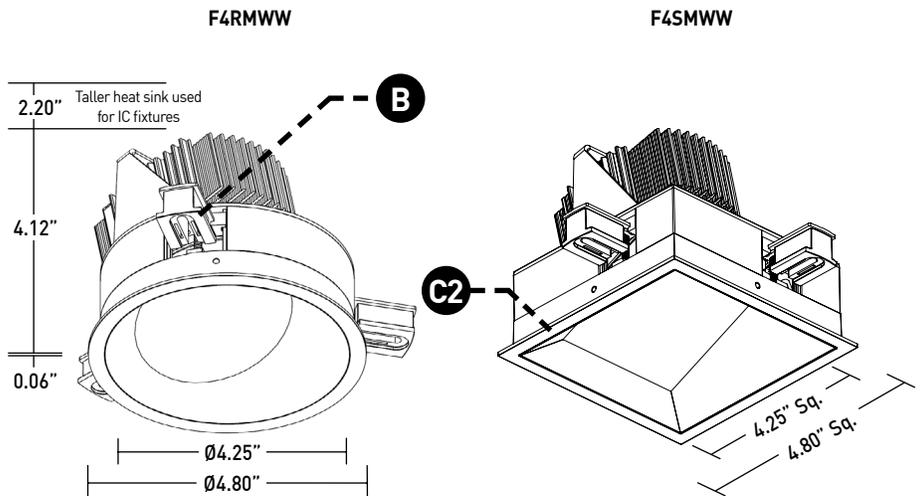
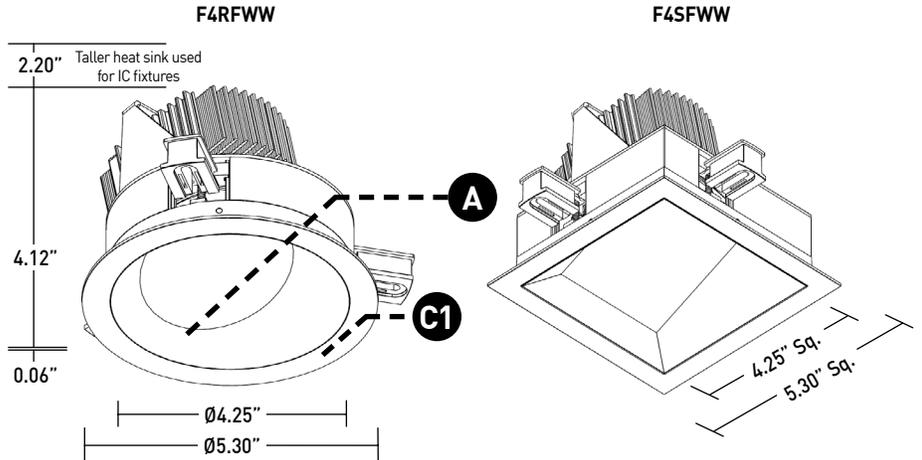
C2 MICROFLANGE PROFILE

Provides industry standard 0.42" total contractor (goof) allowance with 0.28" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

C3 TRIMLESS PROFILE

Installs totally flush with the ceiling with no visible trim. Features integrated appliqué for plaster floating directly to the baffle, thickness measures 0.15" including 0.06" plaster stop. Not recommended for stucco applications.

DIMENSIONS / DRAWINGS



FRAXION4 WALLWASH

DOWNLIGHT / HOUSING

D OPTIC
Proprietary wallwash optic design integrates Reflection, Refraction and TIR principles.

E EFFECTS DEVICES
Asymmetrical spread lens, included and sealed in place, combined with angled optic and wide aperture enhance uniformity.

HOUSING / MOUNTING

F ICT (IC) HOUSING - TALL

- For IC ceilings.
- CCEA, Airtight and Title 24 (JA8) listed.
- Accommodates max 1711 delivered lumens.
- No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.

G NCM (NIC) HOUSING - MEDIUM

- Minimum 0.50" setback from combustible and non-combustible materials on all sides and top of housing.
- Minimum 3.00" setback from insulation material having max R-Value 30 on all sides and top of housing.
- Minimum 6.00" setback from polycell spray foam insulation having max R-Value 60.

H HOUSING COLLAR

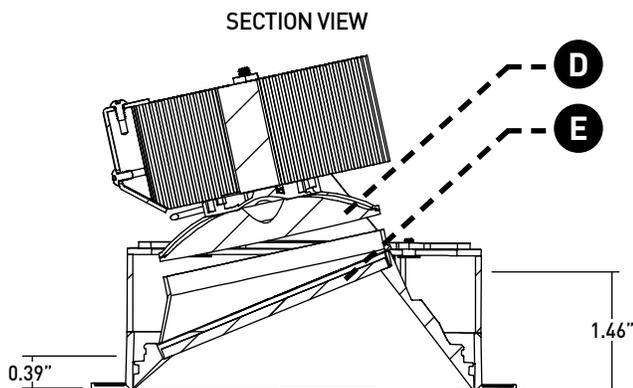
- Requires 4.625" cutout.
- Fixed round aperture or square aperture with 45 degree rotation that locks from below providing easy alignment of square aperture housings.
- Accommodates varying ceiling thicknesses.

I ADJUSTABLE HANGER BAR HEIGHT ACCESSORY
Provided with ceiling thickness "T" and recommended for installations in T-Grid and with furring channel. Hanger bars are installed to adjustable bracket. Allows housing to be raised and lowered; ceiling thickness remains 0.5" to 1.0" max.

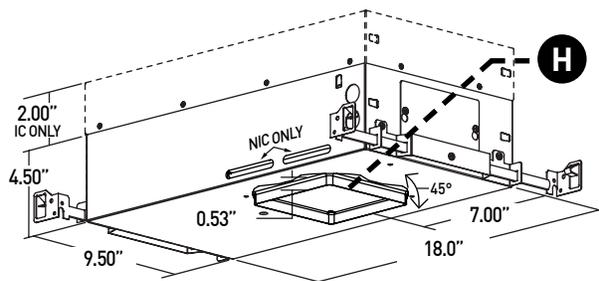
HOUSING / MOUNTING NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Hanger bars fitted to short side of housing, and long side of Low Flux housings; extend from 14.0" to 24.0", but may be field cut to accommodate narrow stud spacing. Can be extended up to 46" maximum with FRX-HBE-46 kit.
- Hanger bars and brackets add 4.00" to the overall dimension, but are exclusive of the setback requirements.
- Driver assembly ships with trim, not housing. Housing and trim feature mating quick-connect plugs for ease of installation.

DIMENSIONS / DRAWINGS

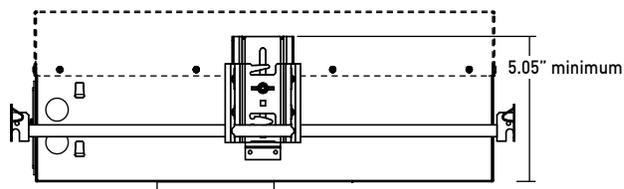


F / G



NOTE: Square housing shown, housing will feature round aperture for round fixtures.

I

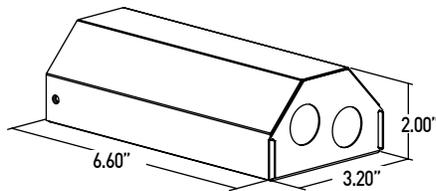


FRAXION4 WALLWASH

REMOTE POWER SUPPLY

- Provided with install types "IR", "NR" and "AR". Remote power supply provides additional driver options. See page 8 for maximum allowable wiring distance. Must be installed in an accessible location.

J / L

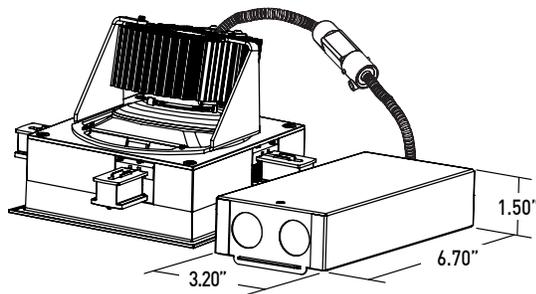


REMODEL POWER SUPPLY

K REMODEL WITH NON-IC TETHERED POWER SUPPLY

- Requires 4.42" cutout.
- Installs without conventional housing using integral mounting clamps.
- Tethered power supply / junction box with metal conduit protected wiring and quick-connect plug between fixture and power supply.
- Minimum 0.75" clearance from top of trim.
- Minimum setback from combustible and non-combustible materials of 6.63" radius from fixture centerline; minimum 3.00" from surfaces of power supply / junction box if not situated within above noted radius from fixture centerline.
- Minimum additional 3.00" setback from insulation material with max R-Value 30 from any surface of downlight fixture assembly.
- Minimum additional 6.00" setback from polycell spray foam insulation with max R-Value 60 from any surface of downlight fixture assembly.

K



L REMOTE APPLICATIONS

- Remote power supply included with "RR" Install Type.
- Requires plenum rated Class 2 cable between fixture and remote driver. Cable supplied by others.
- See page 7 for maximum allowable wiring distance.

REMODEL NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- All splice connections serviceable from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.

FRAXION4 WALLWASH

TECHNICAL

CONSTRUCTION

Downlight: Aluminum and steel. Extruded aluminum heat-sink. Painted finishes are granulated powder coat.

Housing: 22 Gauge galvanized steel.

Remote Power Supply: 22 Gauge galvanized steel.

Appliqué: Zinc Alloy

STATIC WHITE LED

2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2200K, 2700K, 3000K, 3500K and 4000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

WARM DIM LED

3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3000K or 2700K at full brightness, warming to 1800K at full dim. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

TUNABLE WHITE LED

5-step MacAdam ellipse tunable white LED module available in 90+ CRI configuration. Features tuning range of 2700K to 5000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

	ELV		ECO	0-10V						DALI		
Power Supply	TR2	L23	LH1	AN4	LN2	EA2	LA2	DL1	DG1	ED1	LD1	DD1
Minimum °C	-20 °C	0 °C	0 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
Maximum °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Dimming %	2.0%	1.0%	1.0%	1.0%	1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Note: For TR2, L23, LH1, LP1, AN4, EA2 and LA2 drivers consult chart on page 9 to confirm appropriate dimming curve for compatibility with selected control.

MAXIMUM ALLOWABLE REMOTE DRIVER WIRING DISTANCES

DRIVER	WIRE AWG				
	12	14	16	18	20
TR2, AN4, LN2	285'	180'	113'	71'	45'
L23, LH1	60'	40'	25'	15'	-
EA2, LA2, ED1, LD1, DG1, DL1, DD1	-	-	118'	72'	46'

SPACING

Recommended fixture spacing is 36" (914mm) on center with 36" (914mm) setback from wall plane.

LISTING

cTUVus listed to UL1598 standard for Dry / Damp and Wet locations.

CCEA, Airtight and Title 24 JA8-2019 Listed.

U.S. Patent: 10,344,958

WEIGHT

Trim - 2.8 lbs max

IC Housing - 7 lbs

NIC Housing - 6 lbs

Remote / Remodel Driver - 1.4 lbs

LIMITED WARRANTY

Manufacturer's Limited Warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service for 1-year. LED and power supplies are warranted to operate with 70% of original flux and remain within a range of 3 duv for a period of 5-years.

10-year Lutron Advantage limited warranty available on Lutron equipped systems. Warranty period begins from the date of shipment by Seller and conditional upon the use of manufacturer-supplied power supply. [Consult website for full warranty terms and conditions.](#)

CHANGE LOG

1. 01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.

2. 03/15/2021: UPDATED HIGH FLUX STATIC WHITE PHOTOMETRICS.

3. 03/15/2021: REMOVED HIGH FLUX 97+ CRI 3500K OFFERING.

4. 04/07/2022: REMOVED REMOTE REMODEL ACCESSORY KIT PSF4-RMT-AK.

5. 10/17/2022: REMOVED 90W13A 3200K-1800K WARM DIM AND ADDED 90W12A 3000K-1800K WARM DIM.

FRAXION® 4 SLIM DEEP REGRESS ADJUSTABLE

Fraxion4 Slim incorporates an LED, optic, and housing into a single complete unit featuring a removable baffle and trim. Conversely, Fraxion4 standard offers a traditional housing and separate trim assembly.

PROJECT NAME:

TYPE:

FIXTURE TYPE XD.1



ORDERING INFORMATION - DOWNLIGHT / HOUSING



JA8-2019 INDICATED BY SHADING

SHAPE	TRIM	RATING	FLANGE FINISH	BAFFLE FINISH	LUMEN PACKAGE	CCT	OPTIC	INSTALL TYPE	CEILING THICKNESS	DRIVER	EFFECTS DEVICE
F4R Round	FAD Standard Flange	1 Dry/Damp 2 Wet* *(Requires provided suction cup to service or aim & focus)	WH White	WH White	LOW FLUX STATIC WHITE 3.70" TALL HOUSING 80C12A 80+ CRI, Delivered Lumens - 821 80C16A 80+ CRI, Delivered Lumens - 1130 80C23A 80+ CRI, Delivered Lumens - 1555 90C10A 90+ CRI, Delivered Lumens - 705 90C14A 90+ CRI, Delivered Lumens - 966 90C19A 90+ CRI, Delivered Lumens - 1323 97C10A 97+ CRI, Delivered Lumens - 628 97C12A 97+ CRI, Delivered Lumens - 860 97C17A 97+ CRI, Delivered Lumens - 1188	22 2200K* *(Only available with 90+ CRI) 27 2700K 30 3000K 35 3500K 40 4000K	10 10°** *(Only available with 80C12A, 90C10A and 97C10A. Not available with 2200K) 15 15° 22 22°** *(Not Title 24 compliant with 2200K) 40 40° 60 60° 85 85°** *(Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread)	INTEGRAL DRIVER X IC Y NIC C IC, Airtight* *(CCEA, Airtight & Title 24 compliant housing)	1 0.50" - 1.00" T TG 0.50" - 1.00" *(Includes adjustable housing height bracket)	DOMESTIC (120V) TR2 Philips, 2% Leading/Trailing/Triac* *(Not available for 80C12A, 90C10A, and 97C10A unless 10° degree optic is specified) L23 Lutron, Hi-Lume 1% 2-Wire	STANDARD EFFECTS DEVICE 04 Soft Focus Lens NL No Lens* *(Standard with 10° optic. Not available for Wet Location, or Airtight Housings)
	MAD Microflange Trimless		AG Satin Silver	AG Satin Silver							
F4S Square	FAD Standard Flange Transitional Baffle		BB Burnt Bronze	BB Burnt Bronze	LOW FLUX WARM DIM 3.70" TALL HOUSING 90W11A 90+ CRI, Delivered Lumens - 930 Incandescent Profile 90W12A 90+ CRI, Delivered Lumens - 1046 Standard Profile *SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON.	TW 5000K - 2700K	22 22° 40 40° 60 60° 85 85°** *(Uses 60° optic and optional configuration 14 (WDL) to achieve 85° beam spread)	REMOTE DRIVER V IC, Remote NIC, Remote W Remote D IC, Airtight, Remote* *(CCEA, Airtight & Title 24 compliant housing)	1 0.50" - 1.00" T TG 0.50" - 1.00" *(Includes adjustable housing height bracket)	TUNABLE WHITE POWER SUPPLIES (120-277V) DD1 etdoLED, DUAldrive 0.1% DALI, LOG DG1 etdoLED, DUAldrive 0.1% 0-10V, LOG DL1 etdoLED, DUAldrive 0.1% 0-10V, LIN	
	MAD Microflange Transitional Baffle		CF Custom Finish* *(Required for trimless)	CF Custom Finish* *(Consult Factory)							
TAD Trimless Transitional Baffle	CF Custom Finish* *(Consult Factory)	CF Custom Finish* *(Consult Factory)	*ALL DELIVERED LUMEN OUTPUTS AND T24 COMPLIANCE REFLECT 3000K PAIRED WITH 60° OPTIC AND SOFT FOCUS LENS.								



PART NUMBER NOTES

- Housing and trim ship as e.g., F4RMAD1-WHWH-90C14A2-3X1-AN4
- Remote driver ships with fixture as e.g., PSF4-RMT-90C-14A-1L23



Declare.

FRAXION4 SLIM DEEP REGRESS ADJUSTABLE

ACCESSORIES

ALTERNATE EFFECTS DEVICES

Dry/Damp location only.

Wet location requires alternate baffle.

- CGL-F4R-2** Clear Glass Lens*
*(Not available for Warm Dim)
- FGL-F4R-2** Frosted Glass Lens
- SFL-F4R-2** Soft Focus Lens
- FSFL-F4R-2** Frosted Soft Focus Lens
- WDL-F4R-2** Wide Distribution Lens*
*(Required and only available for 85° beam spread)
- FLSL-F4R-2** Frosted Linear Spread Lens

ADJUSTABLE HCL ASSEMBLY

Dry / Damp location only.

- OLR-F3RS1-SFL-HCL** Adjustable Honeycomb Louver and Soft Focus Lens*
*(Not available for Wet location or Airtight housings)

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES EFFECTS DEVICE)

ASSEMBLY	SHAPE	TRIM	RATING	FLANGE FINISH	EFFECTS DEVICE
RBA				1	
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FAD Standard Flange MAD Microlange TAD Trimless	1 Dry / Damp 2 Wet	WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze CF Custom Finish* *(Consult Factory)	Leave blank for standard Soft Focus Lens
	F4S Square	FAD Standard Flange Transitional Baffle MAD Microlange Transitional Baffle TAD Trimless Transitional Baffle			CGL Clear Glass Lens* *(Not available for Warm Dim) FGL Frosted Glass Lens FSFL Frosted Soft Focus Lens WDL Wide Distribution Lens* *(Required and only available for 85° beam spread) FLSL Frosted Linear Spread Lens

STATIC WHITE AND WARM DIM REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

- RO-50-15-2** 15° optic
- RO-50-22-2** 22° optic
- RO-50-40-2** 40° optic
- RO-50-60-2** 60° optic

TUNABLE WHITE REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

- RO-50-22-3** 22° optic
- RO-50-40-3** 40° optic
- RO-50-60-3** 60° optic

REPLACEMENT SUCTION TOOL

One included with every six fixtures designated Wet location.

- F4-TOOL-SUCTION** Allows for removal of baffle with Wet location

TG BRACKET ASSEMBLY

Supplied with ceiling thickness "T" and recommended for installations in T-Grid and furring channel up to 1.5" tall. Available for ceiling thicknesses from 0.50" - 1.00".

- DHA-TG-KIT**

HANGER BAR EXTENDER KIT

Extends hanger bars from 24.0" to 46.0" maximum.

- FRX-HBE-46** Extender, Hanger Bar

EMERGENCY LIGHTING - REMOTE MOUNT ONLY

During disruption of main power, emergency battery inverter provides temporary 120V or 277V to fixture.

- EMB-S-20/25-120/277-LEDX** 20/25 watt max capacity, 120 or 277 VAC 60Hz, Non-Dimmable
- EMB-S-100-120-LEDX** 100 watt max capacity, 120 VAC 60Hz, Dimmable
- EMB-S-100-277-LEDX** 100 watt max capacity, 277 VAC 60Hz, Dimmable
- EMB-S-250-120/277-LEDX** 250 watt max capacity, 120 or 277 VAC 60Hz, Dimmable

FRACTION4 SLIM DEEP REGRESS ADJUSTABLE

PERFORMANCE - 3000K

LUMEN PACKAGE	WATTAGE	10° OPTIC NO SOFT FOCUS LENS		15° OPTIC SOFT FOCUS LENS		22° OPTIC SOFT FOCUS LENS		40° OPTIC SOFT FOCUS LENS		60° OPTIC SOFT FOCUS LENS		85° OPTIC WIDE DISTRIBUTION LENS	
		DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW
80C12A	10	698	48 (14W)	848	84	590	59	796	79	821	82	640	64
80C16A	14	-	-	1158	82	812	58	1096	78	1130	80	882	63
80C23A	21	-	-	1597	76	1118	53	1508	71	1555	74	1213	57
90C10A	10	592	41 (14W)	701	70	507	50	684	68	705	70	550	55
90C14A	14	-	-	957	68	694	49	937	66	966	69	753	53
90C19A	21	-	-	1320	62	951	45	1283	61	1323	63	1032	49
97C10A	10	546	38 (14W)	639	63	451	45	609	61	628	62	490	49
97C12A	14	-	-	872	62	618	44	834	60	860	61	671	47
97C17A	21	-	-	1203	57	854	40	1152	55	1188	56	927	44
90W11A	14	-	-	971	69	826	59	924	66	930	66	765	54
90W12A	14	-	-	1092	78	929	66	1039	74	1046	74	860	61
90T10A	14	-	-	-	-	547	34	721	45	785	49	612	38
90T14A	22	-	-	-	-	763	32	1015	42	1105	46	862	36

OUTPUT MULTIPLIER	
CCT	CCT SCALE
2200K (Consult factory for JA8 details)	0.800
2700K	0.957
3000K	1.000
3500K	1.019
4000K	1.030

LIGHT LOSS FACTOR MULTIPLIER	
NO LENS	
CGL	1.00
SFL	1.00
FGL	0.90
FSFL	0.87
FLSL	0.83
WDL	0.78

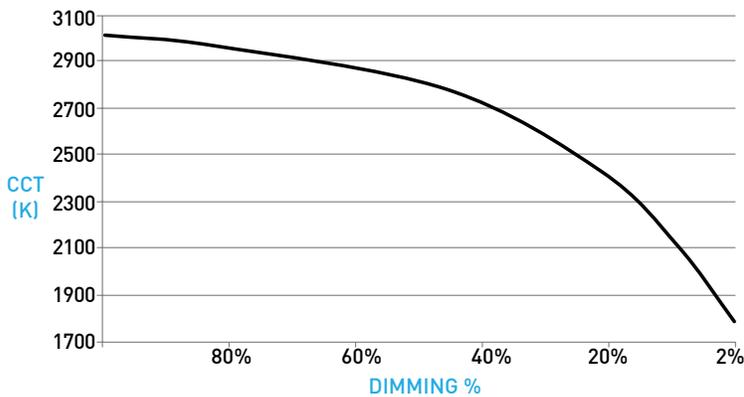


JA8-2019 INDICATED BY SHADING

WARM DIM PERFORMANCE - 60° OPTIC - SOFT FOCUS LENS

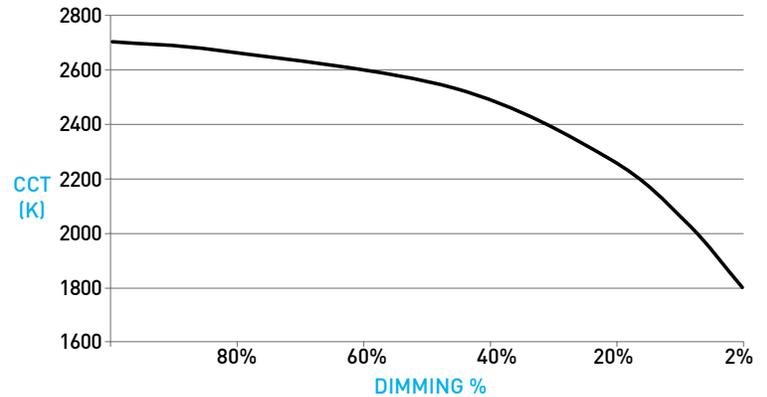
STANDARD WARM DIM PROFILE

90W12A 3000K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3000	2950	2920	2775	2375	2000	1800
Light Output (Lm)	1046	836	732	523	209	104	20
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	74	74	74	74	74	74	74



WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

90W11A 2700K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	2700	2650	2620	2520	2180	1950	1800
Light Output (Lm)	930	744	651	465	186	93	18
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	66	66	66	66	66	66	66



FRAXION4 SLIM DEEP REGRESS ADJUSTABLE

DOWNLIGHT / HOUSING

A ADJUSTABILITY

Aiming mechanism is integral to the housing, providing hot-aim tilt up to 40° and 365° rotation. Sliding pivot point optimizes center beam, ensuring unclipped beam of 15° at 40° tilt and 25° at 30° tilt. 1° tilt increments with 5° indicators, tilt guide included (see **A1** for section view).

B LED

Integral LED module design enables field service / replacement through housing aperture.

C OPTIC

Proprietary optic integrates Reflection, Refraction and TIR offering 10°, 15°, 22°, 40° & 60° beams.

D1 STANDARD FLANGE PROFILE

Installed after ceiling is complete. Requires 4.625" diameter cutout. Provides 0.86" total contractor (goof) allowance with 0.50" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

D2 MICROFLANGE PROFILE

Installed after ceiling is complete. Requires 4.625" diameter cutout. Provides 0.42" total contractor (goof) allowance with 0.28" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

D3 TRIMLESS PROFILE

Installs totally flush with the ceiling with no visible trim. Appliqué includes screws for mounting and has 0.06" plaster stop. Not recommended for stucco applications.

E EFFECTS DEVICES

Soft focus lens included and sealed in Wet location option. Fixture is limited to 1 lens. Suction tool provided for removal of wet location baffles.

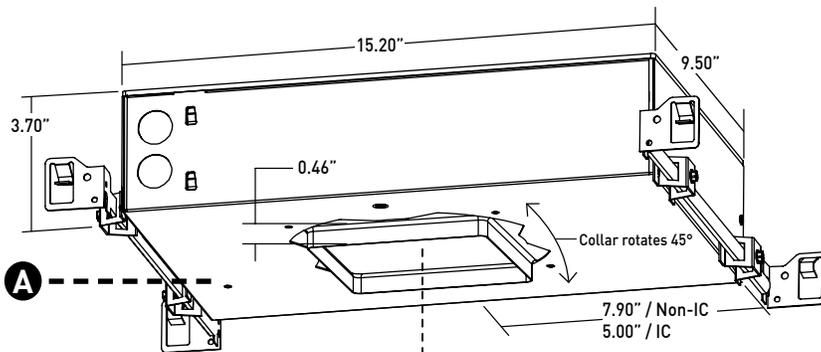
F1 ROUND BAFFLE

Die-cast deep removable baffle provides easy access to tilting mechanism and features 60° glare cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

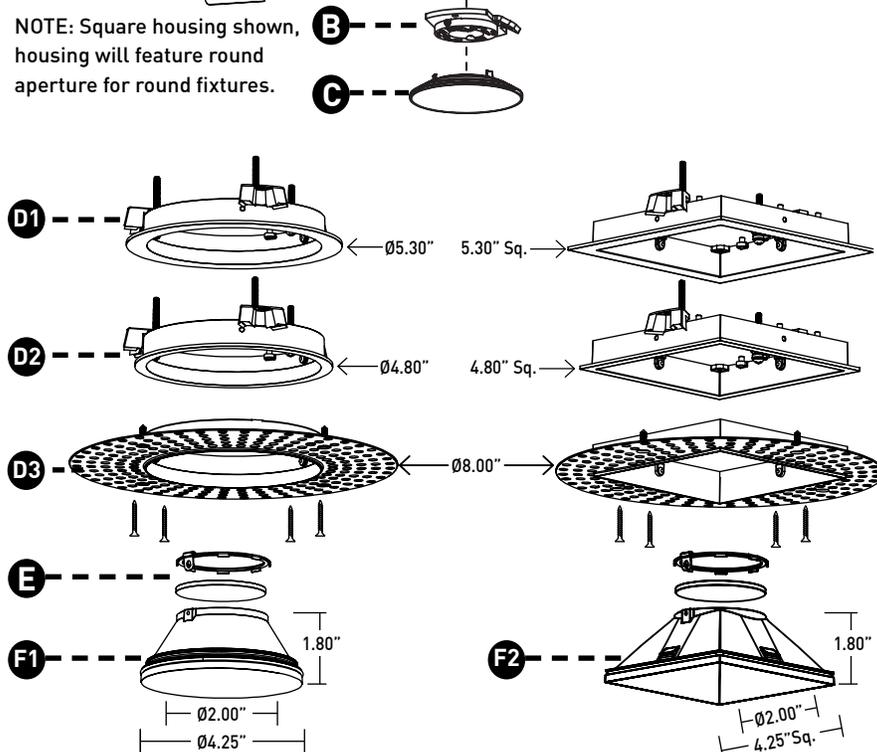
F2 TRANSITIONAL BAFFLE

Die-cast deep removable baffle provides easy access to tilting mechanism and features 60° glare cutoff. Transitions from square aperture at ceiling plane to round aperture at light source. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

DIMENSIONS / DRAWINGS

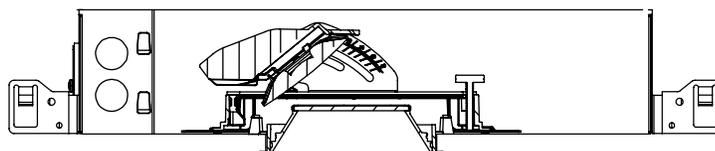


NOTE: Square housing shown, housing will feature round aperture for round fixtures.



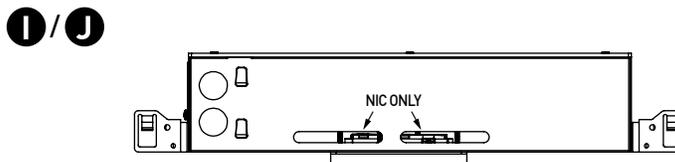
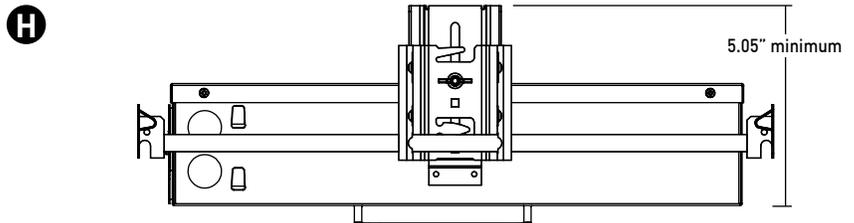
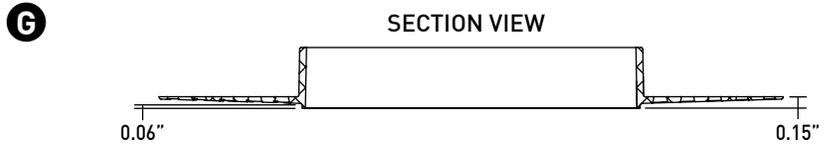
A1

SECTION VIEW

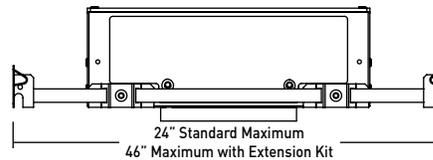


FRACTION4 SLIM DEEP REGRESS ADJUSTABLE

- G TRIMLESS APPLIQUÉ DETAIL**
Integrated appliqué for plaster floating directly to baffle.
- H TG BRACKET ASSEMBLY**
Adjustable height bracket assembly provided with ceiling thickness "T" and recommended for installations in T-Grid and with furring channel. Hanger bars are installed to adjustable bracket. Allows housing to be raised and lowered; ceiling thickness remains 0.5" to 1.0" max.
- I IC HOUSING**
 - For IC ceilings.
 - CCEA, Airtight and Title 24 (JA8) listed.
 - Accommodates max 1711 delivered lumens.
 - No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.
- J NIC HOUSING**
 - Minimum 0.50" setback from combustible and non-combustible materials on all sides and top of housing.
 - Minimum 3.00" setback from insulation material having max R-Value 30 on all sides and top of housing.
 - Minimum 6.00" setback from polycell spray foam insulation having max R-Value 60.
- K REMOTE POWER SUPPLY**
Provided with install Types "V", "W" and "D". Remote power supply provides additional driver options. See page 6 for maximum allowable secondary run lengths between PSF4-RMT and fixture. Must be installed in an accessible location.



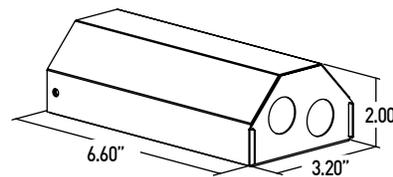
NIC HAS SAME DIMENSIONS AS IC AND FEATURES VENTS ON LONG SIDE



HOUSING NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F) for NIC configurations, or 10W and 14W IC configurations.
- Do not install in environments where ambient temperatures exceed 25°C (77°F) 21W and 22W IC configurations.
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Hanger bars fitted to short side of housing, and long side of Low Flux housings; extend from 14.0" to 24.0", but may be field cut to accommodate narrow stud spacing. Can be extended up to 46" maximum with FRX-HBE-46 kit.
- Hanger bars and brackets add 4.00" to the overall dimension, but are exclusive of the setback requirements.
- Housings for round trims feature a round aperture housing collar, and for square trims, a square housing collar, accommodating ceiling thicknesses between 0.50" and 1.00".

K



FRAXION4 SLIM DEEP REGRESS ADJUSTABLE

TECHNICAL

CONSTRUCTION

Downlight: Painted finishes are granulated powder coat.

Housing: Aluminum and 22 Gauge galvanized steel. Extruded aluminum housing panel to act as heat-sink.

Remote Power Supply: 22 Gauge galvanized steel.

Appliqué: Zinc Alloy

STATIC WHITE LED

2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2200K, 2700K, 3000K, 3500K and 4000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

WARM DIM LED

3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3000K or 2700K at full brightness, warming to 1800K at full dim. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

TUNABLE WHITE LED

5-step MacAdam ellipse tunable white LED module available in 90+ CRI configuration. Features tuning range of 2700K to 5000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

	ELV		ECO		0-10V						DALI		
Power Supply	TR2	L23	LH1	LP1	AN4	LN2	EA2	LA2	DG1	DL1	ED1	LD1	DD1
Minimum °C	-20 °C	0 °C	0 °C	0 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
Maximum °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Dimming %	2.0%	1.0%	1.0%	0.1%	1.0%	1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Note: For TR2, L23, LH1, LP1, AN4, EA2 and LA2 drivers consult chart on page 7 to confirm appropriate dimming curve for compatibility with selected control.

MAXIMUM ALLOWABLE REMOTE DRIVER WIRING DISTANCES

DRIVER	WIRE AWG				
	12	14	16	18	20
TR2, AN4, LN2	285'	180'	113'	71'	45'
L23, LH1, LP1	60'	40'	25'	15'	-
EA2, LA2, ED1, LD1, DG1, DL1, DD1	-	-	118'	72'	46'

LISTING

cTUVus listed to UL1598 standard for Dry / Damp and Wet locations.

CCEA CCEA, Airtight and Title 24 JA8-2019 Listed.

U.S. Patent: 10,317,066

BUY AMERICAN ACT

All Fraxion4 Slim Deep Regress Adjustable configurations are Buy American Act compliant.

DECLARE

LBC Red List Approved.

WEIGHT

Fixture - 8.8 lbs max

Remote Driver - 1.4 lbs

LIMITED WARRANTY

Manufacturer's Limited Warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service for 1-year. LED and power supplies are warranted to operate with 70% of original flux and remain within a range of 3 duv for a period of 5-years.

10-year Lutron Advantage limited warranty available on Lutron equipped systems. Warranty period begins from the date of shipment by Seller and conditional upon the use of manufacturer-supplied power supply. [Consult website for full warranty terms and conditions.](#)

CHANGE LOG

- 01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.
- 04/30/2021: REMOVED QUICK SHIP.
- 11/08/2021: ADDED LP1 DRIVER OFFERING.
- 11/08/2021: REMOVED IC HOUSING OFFERING FOR 90T14A.
- 06/30/2022: UPDATED HOUSING APERTURE LOCATION.
- 10/17/2022: REMOVED 90W13A 3200K-1800K WARM DIM AND ADDED 90W12A 3000K-1800K WARM DIM.
- 04/26/2023: ADDED DECLARE LBC RED LIST APPROVED.
- 04/26/2023: ADDED -28 ADJUSTABLE HCL / SFL EFFECTS DEVICE.



Declare.

FRACTION4 SLIM DEEP REGRESS ADJUSTABLE

DIMMING COMPATIBILITY

PHILIPS DRIVER COMPATIBILITY

Power supply TR2 Manufacturer	Family/Model #
Lutron Electronics	DV-600P
Lutron Electronics	DVELV-303P
Lutron Electronics	NTELV-600
Lutron Electronics	MAELV-600
Lutron Electronics	SELV-300P
Lutron Electronics	DVLV-600P
Lutron Electronics	NFTU-5A
Lutron Electronics	CTCL-153P
Lutron Electronics	GL-600H
Lutron Electronics	S-600P
Lutron Electronics	PHPM
Power supply AN4 Manufacturer	Family/Model #
Lutron Electronics	DVTV plus PP-DV
Lutron Electronics	DVSCTV plus PP-DV
Lutron Electronics	DVSTV
Lutron Electronics	DVSCSTV
Lutron Electronics	QSGRJ-XP plus GRX-TVI
Lutron Electronics	QSGRJ-XE plus GRX-TVI
Lutron Electronics	QSGR-XE plus GRX-TVI
Lutron Electronics	NFTV plus PP-DV
Lutron Electronics	NTSTV
Lutron Electronics	RMJ-5T
Lutron Electronics	RMJS-8T
Lutron Electronics	FCJS-010
Leviton	IlumaTch IP7 series
Philips	Sunrise - SR1200ZTUNV

LUTRON DRIVER COMPATIBILITY

Power supply L23 Lutron Product Family	Part No.
Maestro WirelessR 600 W dimmer	MRF2-6ND-120-
Maestro WirelessR 1000 W dimmer	MRF2-10ND-120-
Caséta® Wireless Pro 1000 W dimmer	PD-10NXD-
GRAFIK T™ CL® dimmer	GT-250M- GTJ-250M-
HomeWorks® QS adaptive dimmer	HQRD-6NA-
HomeWorks® QS 600 W dimmer	HQRD-6ND-
HomeWorks® QS 1000 W dimmer	HQRD-10ND-
RadioRA® 2 adaptive dimmer	RRD-6NA-
RadioRA® 2 1000 W dimmer	RRD-10ND
myRoom™ DIN power module	MQSE-4A1-D
HomeWorks® QS DIN power module	LQSE-4A1-D
HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120
HomeWorks® wallbox power module	HWI-WPM-6D-120
GRAFIK Eye® QS control unit	QSGR-, QSGRJ-
GRAFIK Eye® 3000 control unit	GRX-3100- GRX-3500-
RPM-4U module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120 LP-RPM-4U-120
RPM-4A module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120
GP dimming panels	Various
Ariadni CL 250W dimmer	AYCL-253P-
Diva CL 250W dimmer	DVCL-253P- DCSCCL-253P-
Nova T CL 250W dimmer	NTCL-250-
Power supply LH1 & LP1 Lutron Product Family	Part No.
PowPak Dimming Modules	RMJ-ECO32-DV-B
PowPak Dimming Modules	FCJ/FCJS-ECO
Energi Savr Nodes	QSN-1ECO-S
GRAFIK Eye QS control unit	QSN-2ECO-S
Homeworks QS control unit	QSGRJ- _E (wireless) QSGR- _E
Quantum Hub	QP2-__ 2C
Quantum Hub	QP2-__ 4C
Quantum Hub	QP2-__ 6C
Quantum Hub	QP2-__ 8C
Homeworks QS power module	LQSE-2ECO-D
myRoom Plus power module	

eldoLED DRIVER COMPATIBILITY

Power supply EA2 Manufacturer	Family/Model #
Busch-Jaeger	2112U-101
Jung	240-10
Leviton Lighting Controls	IP710-DLX
Lightolier Controls	ZP600FAM120
Merten	5729
Pass & Seymour	CD4FB-W
The Watt Stopper	DCLV1
Synergy	ISD BC
Crestron®	GLX-DIMFLV8
Crestron®	GLXP-DIMFLV8
Crestron®	GLPAC-DIMFLV4-*
Crestron®	GLPAC-DIMFLV8-*
Crestron®	GLPP-DIMFLVEX-PM
Crestron®	GLPP-1DIMFLV2EX-PM
Crestron®	GLPP-1DIMFLV3EX-PM
Crestron®	DIN-A08
Crestron®	DIN-4DIMFLV4
Crestron®	CLS-EXP-DIMFLV
Crestron®	CLCI-1DIMFLV2EX
Power supply LA2 Manufacturer	Family/Model #
Lutron Electronics	Nova T® - NTFTV
Lutron Electronics	Diva® - DVTV
Lutron Electronics	Nova® - NFTV
Lutron Electronics	GrafixEye® GRX-TVI w GRX3503
Lutron Electronics	Energy Savr Node™ - QSN-4T16-S
Lutron Electronics	TVM2 Module
Sensor Switch	nIO EZ
ABB	SD/S 2.16.1



FRAXION4 DEEP REGRESS FIXED

ACCESSORIES

ALTERNATE EFFECTS DEVICES

Dry/Damp location only.

Wet location requires alternate baffle.

- HCL-F4R-2** Honeycomb Louver w/ Diffusion Film*
*(Not available for Warm Dim, or Airtight housings)
- CGL-F4R-2** Clear Glass Lens*
*(Not available for Warm Dim)
- FGL-F4R-2** Frosted Glass Lens
- SFL-F4R-2** Soft Focus Lens
- FSFL-F4R-2** Frosted Soft Focus Lens
- WDL-F4R-2** Wide Distribution Lens*
*(Required and only available for 85° beam spread)
- FLSL-F4R-2** Frosted Linear Spread Lens

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES EFFECTS DEVICE)

ASSEMBLY	SHAPE	TRIM	RATING	FLANGE FINISH	EFFECTS DEVICE
RBA					
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FFD Standard Flange MFD Microflange TFD Trimless	1 Dry / Damp 2 Wet* *(Requires provided suction cup to service or aim & focus)	WH White BK Black PR Primer AU Cashmere Gold AG Satin Silver BB Burnt Bronze CF Custom Finish* *(Consult Factory)	<p>Leave blank for standard Soft Focus Lens</p> <p>HCL Honeycomb Louver w/ Diffusion Film* *(Not available for Wet Location, Warm Dim, or Airtight Housings)</p> <p>CGL Clear Glass Lens* *(Not available for Warm Dim)</p> <p>FGL Frosted Glass Lens</p> <p>FSFL Frosted Soft Focus Lens</p> <p>WDL Wide Distribution Lens* *(Required and only available for 85° beam spread)</p> <p>FLSL Frosted Linear Spread Lens</p>
	F4S Square	FFD Standard Flange Transitional Baffle MFD Microflange Transitional Baffle TFD Trimless Transitional Baffle			

LOW FLUX AND WARM DIM REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

- RO-50-15-2** 15° optic
- RO-50-22-2** 22° optic
- RO-50-40-2** 40° optic
- RO-50-60-2** 60° optic

HIGH FLUX AND TUNABLE WHITE REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

- RO-50-22-3** 22° optic*
*(Not available for High Flux)
- RO-50-28-3** 28° optic*
*(Not available for Tunable White)
- RO-50-40-3** 40° optic
- RO-50-60-3** 60° optic

REPLACEMENT SUCTION TOOL

One included with every six fixtures designated Wet location.

- F4-TOOL-SUCTION** Allows for removal of baffle with Wet location

T-GRID ACCESSORY KIT

Supplied with ceiling thickness "T" and recommended for installations in T-Grid and furring channel up to 1.5" tall. Available for ceiling thicknesses from 0.50" - 1.00".

- DHA-TG-KIT**

HANGER BAR EXTENDER KIT

Extends hanger bars from 24.0" to 46.0" maximum.

- FRX-HBE-46** Extender, Hanger Bar

EMERGENCY LIGHTING - REMOTE MOUNT ONLY

During disruption of main power, emergency battery inverter provides temporary 120V or 277V to fixture.

- EMB-S-20/25-120/277-LEDX** 20/25 watt max capacity, 120 or 277 VAC 60Hz, Non-Dimmable
- EMB-S-100-120-LEDX** 100 watt max capacity, 120 VAC 60Hz, Dimmable
- EMB-S-100-277-LEDX** 100 watt max capacity, 277 VAC 60Hz, Dimmable
- EMB-S-250-120/277-LEDX** 250 watt max capacity, 120 or 277 VAC 60Hz, Dimmable

FRACTION4 DEEP REGRESS FIXED

PERFORMANCE - 3000K

LUMEN PACKAGE	WATTAGE	10° OPTIC NO SOFT FOCUS LENS		15° OPTIC SOFT FOCUS LENS		22° or 28° OPTIC SOFT FOCUS LENS		40° OPTIC SOFT FOCUS LENS		60° OPTIC SOFT FOCUS LENS		85° OPTIC WIDE DISTRIBUTION LENS	
		DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW
80C12A	10	698	48 (14W)	727	72	557	55	705	70	684	68	534	53
80C16A	14	-	-	992	70	766	54	970	69	942	67	735	52
80C23A	21	-	-	1369	65	1055	50	1335	63	1296	61	1011	48
80C30B	30	-	-	-	-	1450	48	1835	61	1783	59	1391	46
90C10A	10	592	41 (14W)	601	60	478	47	605	60	588	58	458	45
90C14A	14	-	-	820	58	655	46	829	59	805	57	628	44
90C19A	21	-	-	1131	53	897	42	1136	54	1103	52	860	41
90C26B	30	-	-	-	-	1115	37	1411	47	1370	46	1069	36
97C10A	10	546	38 (14W)	548	54	426	42	539	53	523	52	408	40
97C12A	14	-	-	748	53	583	41	738	52	716	51	559	39
97C17A	21	-	-	1031	49	806	38	1020	48	990	47	773	36
97C23B	30	-	-	-	-	962	32	1218	41	1182	39	922	31
90W11A	14	-	-	712	51	579	41	719	51	720	51	561	40
90W12A	14	-	-	-	-	-	-	-	-	-	-	-	-
90T10B	14	-	-	-	-	516	32	639	40	649	41	506	32
90T14B	22	-	-	-	-	720	30	898	37	913	38	712	30

OUTPUT MULTIPLIER	
CCT	CCT SCALE
2200K (Consult factory for JA8 details)	0.800
2700K	0.957
3000K	1.000
3500K	1.019
4000K	1.030

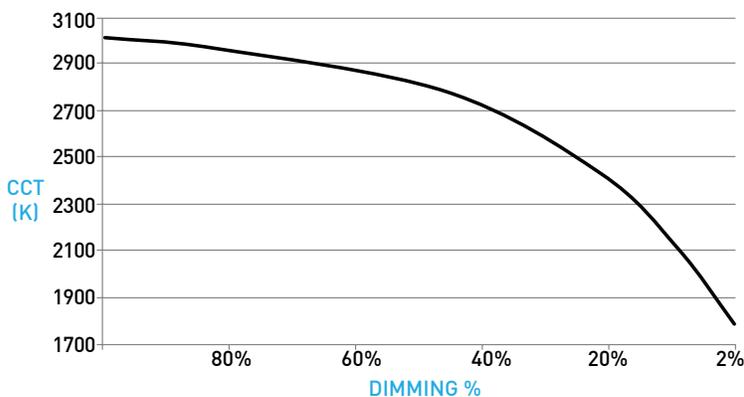
LIGHT LOSS FACTOR MULTIPLIER	
NO LENS	
CGL	1.00
SFL	1.00
FGL	0.90
FSFL	0.87
FLSL	0.83
WDL	0.78
HCL	0.65

TITLE 24 JA8-2019 INDICATED BY SHADING

WARM DIM PERFORMANCE - 40° OPTIC - SOFT FOCUS LENS

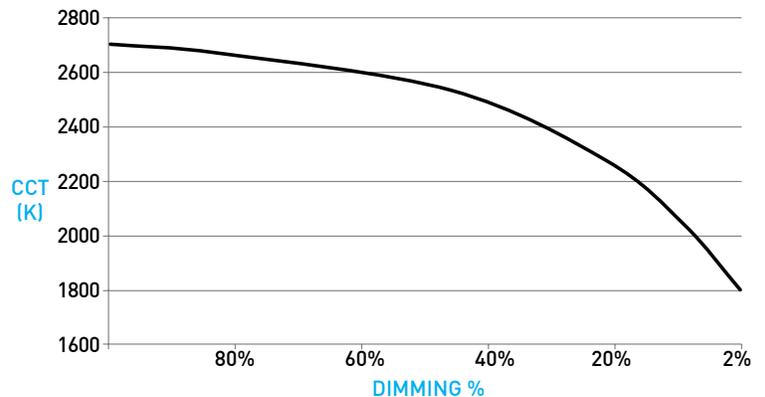
STANDARD WARM DIM PROFILE

90W12A 3000K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3000	2950	2920	2775	2375	2000	1800
Light Output (Lm)	833	666	583	416	166	83	16
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	59	59	59	59	59	59	59



WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

90W11A 2700K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	2700	2650	2620	2520	2180	1950	1800
Light Output (Lm)	741	593	518	370	148	74	14
Power (W)	14	11	10	7	3	1.5	0.5
Efficacy (LPW)	52	52	52	52	52	52	52



FRAZION4 DEEP REGRESS FIXED

DOWNLIGHT

A BAFFLE

ROUND
Die-cast deep baffle features 60° glare cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

TRANSITIONAL
Die-cast deep baffle transitions from square aperture at ceiling plane to round aperture at light source and features 60° glare cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

B RETENTION

Integrated metal arm clamps located within fixture body allow discreet flange design, while accommodating varying ceiling thicknesses from 0.125" to 2.50". Snap-on spacer clips (3X) supplied for ceiling thickness below 0.50" only.

C1 STANDARD FLANGE PROFILE

Provides 0.86" total contractor (goof) allowance with 0.50" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

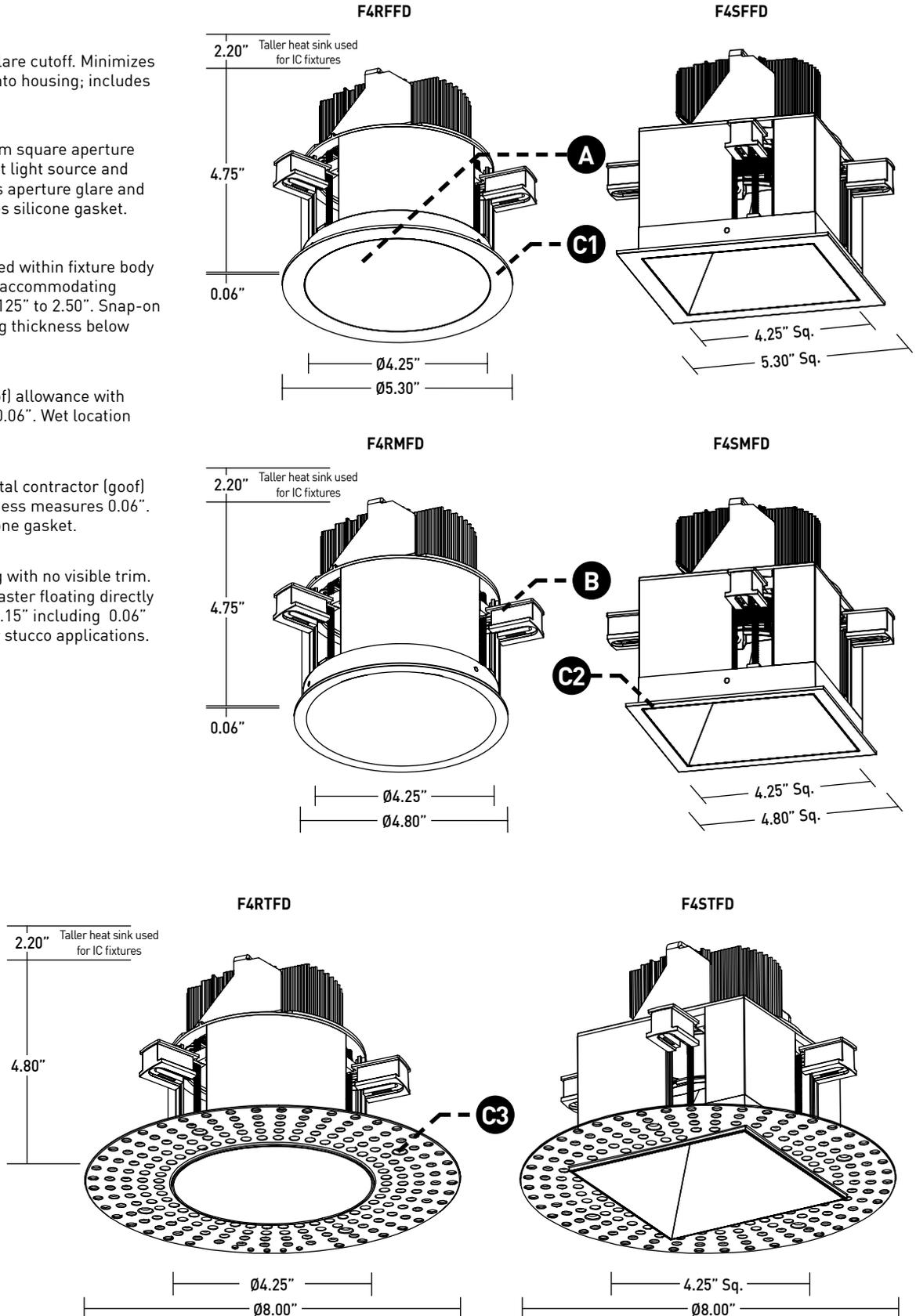
C2 MICROFLANGE PROFILE

Provides industry standard 0.42" total contractor (goof) allowance with 0.28" flange. Thickness measures 0.06". Wet location features integral silicone gasket.

C3 TRIMLESS PROFILE

Installs totally flush with the ceiling with no visible trim. Features integrated appliqué for plaster floating directly to the baffle, thickness measures 0.15" including 0.06" plaster stop. Not recommended for stucco applications.

DIMENSIONS / DRAWINGS



FRACTION4 DEEP REGRESS FIXED

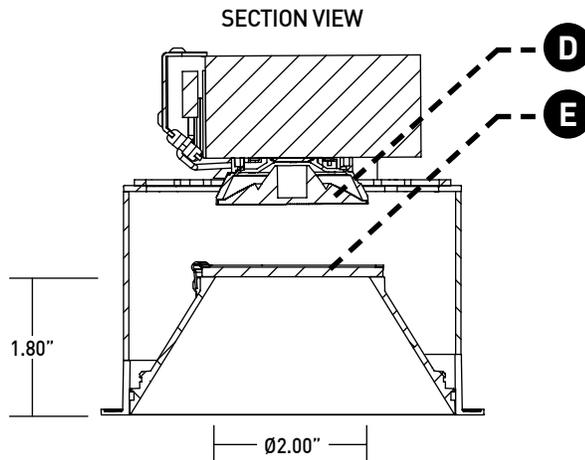
DOWNLIGHT / HOUSING

- D OPTIC**
Proprietary field-changeable optic integrates Reflection, Refraction and TIR offering 15°, 22°, 28°, 40° & 60° beams.
- E EFFECTS DEVICES**
Soft focus lens included and sealed in Wet location option. Fixture is limited to 1 lens. Suction tool provided for removal of Wet location baffles.

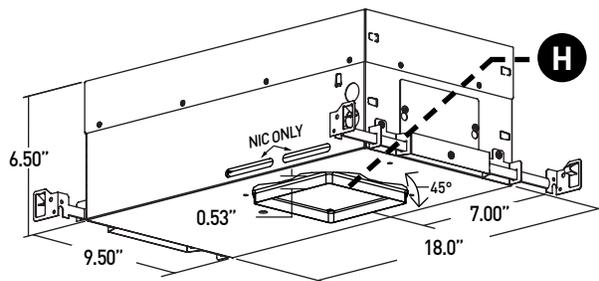
HOUSING / MOUNTING

- F ICT (IC) HOUSING - TALL**
 - For IC ceilings.
 - CCEA, Airtight and Title 24 (JA8) listed.
 - Accommodates max 1326 delivered lumens.
 - No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.
- G NCT (NIC) HOUSING - TALL**
 - Minimum 0.50" setback from combustible and non-combustible materials on all sides and top of housing.
 - Minimum 3.00" setback from insulation material having max R-Value 30 on all sides and top of housing.
 - Minimum 6.00" setback from polycell spray foam insulation having max R-Value 60.
- H HOUSING COLLAR**
 - Requires 4.625" cutout.
 - Fixed round aperture or square aperture with 45 degree rotation that locks from below providing easy alignment of square aperture housings.
 - Accommodates varying ceiling thicknesses.
- I ADJUSTABLE HANGER BAR HEIGHT ACCESSORY**
Provided with ceiling thickness "T" and recommended for installations in T-Grid and with furring channel. Hanger bars are installed to adjustable bracket. Allows housing to be raised and lowered; ceiling thickness remains 0.5" to 1.0" max.

DIMENSIONS / DRAWINGS

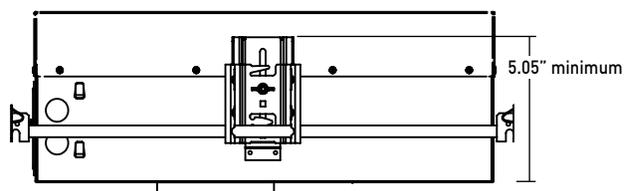


F / G



NOTE: Square housing shown, housing will feature round aperture for round fixtures.

I



HOUSING / MOUNTING NOTES

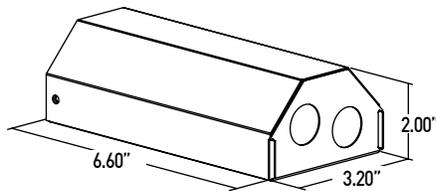
- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Hanger bars fitted to short side of housing, and long side of Low Flux housings; extend from 14.0" to 24.0", but may be field cut to accommodate narrow stud spacing. Can be extended up to 46" maximum with FRX-HBE-46 kit.
- Hanger bars and brackets add 4.00" to the overall dimension, but are exclusive of the setback requirements.
- Driver assembly ships with trim, not housing. Housing and trim feature mating quick-connect plugs for ease of installation.

FRACTION4 DEEP REGRESS FIXED

REMOTE POWER SUPPLY

- Provided with install types "IR", "NR" and "AR". Remote power supply provides additional driver options. See page 7 for maximum allowable wiring distance. Must be installed in an accessible location.

J / L

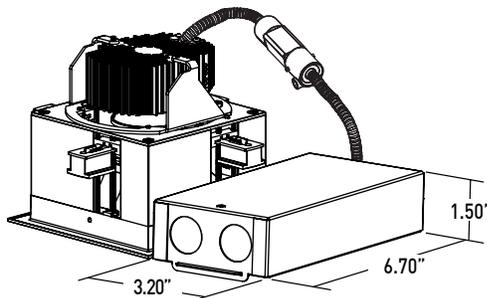


REMODEL POWER SUPPLY

K REMODEL WITH NON-IC TETHERED POWER SUPPLY

- Requires 4.42" cutout.
- Installs without conventional housing using integral mounting clamps.
- Tethered power supply / junction box with metal conduit protected wiring and quick-connect plug between fixture and power supply.
- Minimum 0.75" clearance from top of trim.
- Minimum setback from combustible and non-combustible materials of 6.63" radius from fixture centerline; minimum 3.00" from surfaces of power supply / junction box if not situated within above noted radius from fixture centerline.
- Minimum additional 3.00" setback from insulation material with max R-Value 30 from any surface of downlight fixture assembly.
- Minimum additional 6.00" setback from polycell spray foam insulation with max R-Value 60 from any surface of downlight fixture assembly.

K



L REMOTE APPLICATIONS

- Remote power supply included with "RR" Install Type.
- Requires plenum rated Class 2 cable between fixture and remote driver. Cable supplied by others.
- See page 7 for maximum allowable wiring distance.

REMODEL NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- All splice connections serviceable from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.

FRAZION4 DEEP REGRESS FIXED

TECHNICAL

CONSTRUCTION

Downlight: Aluminum and steel. Extruded aluminum heat-sink. Painted finishes are granulated powder coat.

Housing: 22 Gauge galvanized steel.

Remote Power Supply: 22 Gauge galvanized steel.

Appliqué: Zinc Alloy

STATIC WHITE LED

2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2200K, 2700K, 3000K, 3500K and 4000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

WARM DIM LED

3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3000K or 2700K at full brightness, warming to 1800K at full dim. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

TUNABLE WHITE LED

5-step MacAdam ellipse tunable white LED module available in 90+ CRI configuration. Features tuning range of 2700K to 5000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

Power Supply	ELV		ECO	0-10V							DALI	
	TR2	L23	LH1	AN4	LN2	EA2	LA2	DL1	DG1	ED1	LD1	DD1
Minimum °C	-20 °C	0 °C	0 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
Maximum °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Dimming %	2.0%	1.0%	1.0%	1.0%	1.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Note: For TR2, L23, LH1, LP1, AN4, EA2 and LA2 drivers consult chart on page 8 to confirm appropriate dimming curve for compatibility with selected control.

MAXIMUM ALLOWABLE REMOTE DRIVER WIRING DISTANCES

DRIVER	WIRE AWG				
	12	14	16	18	20
TR2, AN4, LN2	285'	180'	113'	71'	45'
L23, LH1	60'	40'	25'	15'	-
EA2, LA2, ED1, LD1, DG1, DL1, DD1	-	-	118'	72'	46'

LISTING

cTUVus listed to UL1598 standard for Dry / Damp and Wet locations.

CCEA, Airtight and Title 24 JA8-2019 Listed.

U.S. Patent: 10,344,958

WEIGHT

Trim - 3.4 lbs max

IC Housing - 7 lbs

NIC Housing - 6 lbs

Remote / Remodel Driver - 1.4 lbs

LIMITED WARRANTY

Manufacturer's Limited Warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service for 1-year. LED and power supplies are warranted to operate with 70% of original flux and remain within a range of 3 duv for a period of 5-years.

10-year Lutron Advantage limited warranty available on Lutron equipped systems. Warranty period begins from the date of shipment by Seller and conditional upon the use of manufacturer-supplied power supply. [Consult website for full warranty terms and conditions.](#)

CHANGE LOG

1. 01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.

2. 03/15/2021: UPDATED HIGH FLUX STATIC WHITE PHOTOMETRICS.

3. 03/15/2021: REMOVED HIGH FLUX 97+ CRI 3500K OFFERING.

4. 03/15/2021: REMOVED 15 AND 22 DEGREE OPTIC OFFERINGS FROM HIGH FLUX AND ADDED 28 DEGREE OPTIC OFFERING.

5. 11/08/2021: REMOVED IC HOUSING OFFERING FOR 90T14A.

6. 04/07/2022: REMOVED REMOTE REMODEL ACCESSORY KIT PSF4-RMT-AK.

7. 10/17/2022: REMOVED 90W13A 3200K-1800K WARM DIM AND ADDED 90W12A 3000K-1800K WARM DIM.

FRACTION4 DEEP REGRESS FIXED

DIMMING COMPATIBILITY

PHILIPS DRIVER COMPATIBILITY

Power supply TR2 Manufacturer	Family/Model #
Lutron Electronics	DV-600P
Lutron Electronics	DVELV-303P
Lutron Electronics	NTELV-600
Lutron Electronics	MAELV-600
Lutron Electronics	SELV-300P
Lutron Electronics	DVLV-600P
Lutron Electronics	NFTU-5A
Lutron Electronics	CTCL-153P
Lutron Electronics	GL-600H
Lutron Electronics	S-600P
Lutron Electronics	PHPM
Power supply AN4 Manufacturer	Family/Model #
Lutron Electronics	DVTV plus PP-DV
Lutron Electronics	DVSCTV plus PP-DV
Lutron Electronics	DVSTV
Lutron Electronics	DVSCSTV
Lutron Electronics	QSGRJ-XP plus GRX-TVI
Lutron Electronics	QSGRJ-XE plus GRX-TVI
Lutron Electronics	QSGR-XE plus GRX-TVI
Lutron Electronics	NFTV plus PP-DV
Lutron Electronics	NTSTV
Lutron Electronics	RMJ-5T
Lutron Electronics	RMJS-8T
Lutron Electronics	FCJS-010
Leviton	IlumaTch IP7 series
Philips	Sunrise - SR1200ZTUNV

LUTRON DRIVER COMPATIBILITY

Power supply L23 Lutron Product Family	Part No.
Maestro WirelessR 600 W dimmer	MRF2-6ND-120-
Maestro WirelessR 1000 W dimmer	MRF2-10ND-120-
Caséta® Wireless Pro 1000 W dimmer	PD-10NXD-
GRAFIK T™ CL® dimmer	GT-250M-GTJ-250M-
HomeWorks® QS adaptive dimmer	HQRD-6NA-
HomeWorks® QS 600 W dimmer	HQRD-6ND-
HomeWorks® QS 1000 W dimmer	HQRD-10ND-
RadioRA® 2 adaptive dimmer	RRD-6NA-
RadioRA® 2 1000 W dimmer	RRD-10ND
myRoom™ DIN power module	MQSE-4A1-D
HomeWorks® QS DIN power module	LQSE-4A1-D
HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120
HomeWorks® wallbox power module	HWI-WPM-6D-120
GRAFIK Eye® QS control unit	QSGR-, QSGRJ-
GRAFIK Eye® 3000 control unit	GRX-3100-GRX-3500-
RPM-4U module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120 LP-RPM-4U-120
RPM-4A module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120
GP dimming panels	Various
Ariadni CL 250W dimmer	AYCL-253P-
Diva CL 250W dimmer	DVCL-253P-DCSCCL-253P-
Nova T CL 250W dimmer	NTCL-250-
Power supply LH1 / LP1 Lutron Product Family	Part No.
PowPak Dimming Modules	RMJ-ECO32-DV-B
PowPak Dimming Modules	FCJ/FCJS-ECO
Energi Savr Nodes	QSN-1ECO-S
GRAFIK Eye QS control unit	QSN-2ECO-S
Homeworks QS control unit	QSGRJ- _E (wireless)
GRAFIK Eye QS control unit	QSGR- _E
Homeworks QS control unit	QSGR- _E
Quantum Hub	QP2-__ 2C
Quantum Hub	QP2-__ 4C
Quantum Hub	QP2-__ 6C
Quantum Hub	QP2-__ 8C
Homeworks QS power module	LQSE-2ECO-D
myRoom Plus power module	LQSE-2ECO-D

eldoLED DRIVER COMPATIBILITY

Power supply EA2 Manufacturer	Family/Model #
Busch-Jaeger	2112U-101
Jung	240-10
Leviton Lighting Controls	IP710-DLX
Lightolier Controls	ZP600FAM120
Merten	5729
Pass & Seymour	CD4FB-W
The Watt Stopper	DCLV1
Synergy	ISD BC
Crestron®	GLX-DIMFLV8
Crestron®	GLXP-DIMFLV8
Crestron®	GLPAC-DIMFLV4-*
Crestron®	GLPAC-DIMFLV8-*
Crestron®	GLPP-DIMFLVEX-PM
Crestron®	GLPP-1DIMFLV2EX-PM
Crestron®	GLPP-1DIMFLV3EX-PM
Crestron®	DIN-A08
Crestron®	DIN-4DIMFLV4
Crestron®	CLS-EXP-DIMFLV
Crestron®	CLCI-1DIMFLV2EX
Power supply LA2 Manufacturer	Family/Model #
Lutron Electronics	Nova T® - NTFTV
Lutron Electronics	Diva® - DVTV
Lutron Electronics	Nova® - NFTV
Lutron Electronics	GrafixEye® GRX-TVI w GRX3503
Lutron Electronics	Energy Savr Node™ - QSN-4T16-S
Lutron Electronics	TVM2 Module
Sensor Switch	nIO EZ
ABB	SD/S 2.16.1



DATE _____ PROJECT _____ TYPE _____ QUANTITY _____

Linear Symmetric LED Luminaire for Extreme Exterior Facades & Accents

FEATURES

- Constant current LED luminaire, Integral dimmable or non dimmable Class 2 driver with fixed or adjustable mounting
- Symmetric beam distributions ranging from 15° to 90°
- Coiled jumper cable for flexible installation
- 80+ CRI, 3-step MacAdam Ellipse



CONSTRUCTION

- Extruded aluminum driver housing with die-cast aluminum end caps
- Extruded aluminum LED luminaire body with machined aluminum bezel
- Powder coated painted silver (standard), Consult factory for non standard paint finishes. Custom colors are available with an RAL number

ELECTRICAL

- **Line voltage luminaires** powered with 120 – 277V AC
- Plug & play cable with both power and dim control
- Luminaires can be wired up to 10 fixtures in series per 16 amp circuit

ORDERING

L280W						H	07		
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PRODUCT	POWER	LENGTH	LED COLOR	OPTICS	AIMING	MOUNTING	FINISH	OPTION	CONTROL
L280W Linear Symmetric LED Luminaire	07 7.6 W/ln ft 10 10.5 W/ln ft ¹	16 16¼" actual 24 24½" actual 36 36" actual 48 47¾" actual	827 2700K White 830 3000K White 835 3500K White 840 4000K White	15F 15° frosted lens 30F 30° frosted lens 60F 60° frosted lens 90F 90° frosted lens	F Fixed A Adjustable	H Horizontal mounting clips (standard, included)	07 Silver (Standard)	00 No Option 0B External blade louver (matte black finish)	00 Non-dimming ZX 0-10V dims to 5% @ 120-277V AC (0-10V controls by others)

¹ High Power driven at 9.8 W/ln ft for Lutron drivers

ADDITIONAL COMPONENTS

SPECIFY QUANTITIES

LFC-L280W-S32 32ft leader feed cable (Dim and Non-Dim only)	LFC-L280W-S12 12ft leader feed cable (for Lutron drivers)	JC-L280W-COILED 12in Coiled jumper cable
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RATINGS & CERTIFICATION

- eTlUs Listed, IP67 Rated
- Wet location Rated
- Made in the USA
- Average rated LED life of 50,000 hours @ 70% lumen output

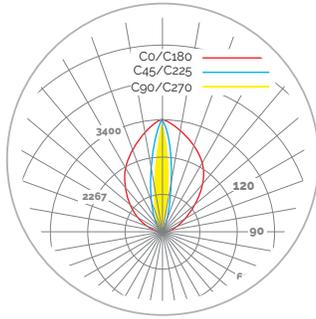


LUMEN OUTPUT

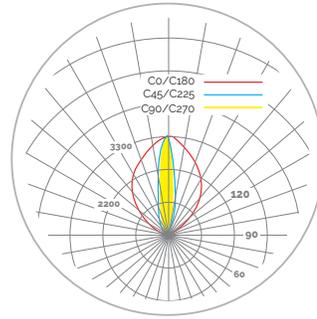
STANDARD 30°	559 Lm/ft	7.6 W/ft	74 Lm/w
HIGH 30°	772 Lm/ft	10.5 W/ft	74 Lm/w

WARRANTY 5 Year warranty visit thelightingquotient.com for details

PHOTOMETRY

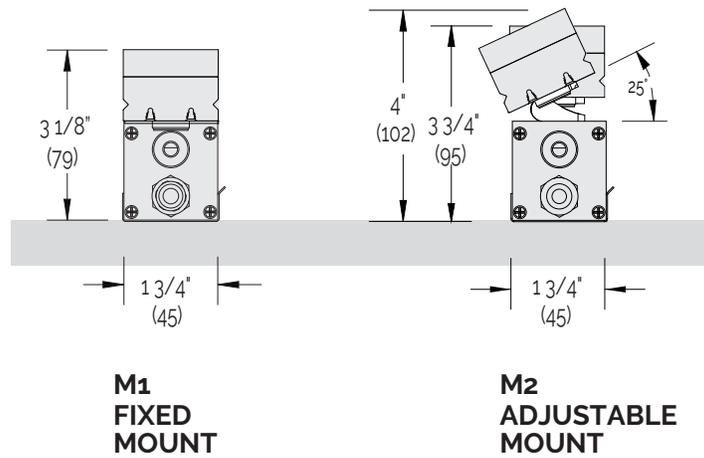


15° Symmetric



30° Symmetric

DIMENSIONS



CABLES AND OPTION

EXTERNAL BLADE LOUVER (Matte Black Finish)



LEADER FEED CABLE (ONE REQUIRED PER INSTALLATION)

LFC-L280W-S32 32ft. leader feed cable per LED feed. Straight connector (for Dim & Non-Dim drivers)

LFC-L280W-S12 12ft. leader feed cable per LED feed. Straight connector (for Lutron drivers)



JUMPER CABLE (OPTIONAL)

JC-L280W-COILED 12in coiled Jumper Cable for end to end feeds



DATE: _____ PROJECT: _____ TYPE: _____

CATALOG NUMBER LOGIC:

FIXTURE TYPE XE.2



CATALOG NUMBER LOGIC

Example: SN - 42 - L - DE - LED - TR - x99 - FL -SAP - 12 - 11 - C - SC - INC - 120

MATERIAL

Aluminum

SERIES

SN - Sign Star

STEM LENGTH

24" (Standard), 30", 36", *42", or *48"

STYLE

L - 90° Radius

FIXTURE

DE - Denali Series

SOURCE

LED - Chip on Board (COB) Technology

HOUSING

TR - Integral Driver

LED TYPE

x98 - 13W/2700K/80CRI	x101 - 13W/2700K/90CRI	✓
x99 - 13W/3000K/80CRI	x102 - 13W/3000K/90CRI	✓
x103 - 13W/3500K/80CRI	x104 - 13W/3500K/90CRI	✓
x100 - 13W/4000K/80CRI	x121 - 13W/4000K/90CRI	✓
x122 - 21W/2700K/80CRI	x126 - 21W/2700K/90CRI	✓
x123 - 21W/3000K/80CRI	x127 - 21W/3000K/90CRI	✓
x124 - 21W/3500K/80CRI	x128 - 21W/3500K/90CRI	✓
x125 - 21W/4000K/80CRI	x129 - 21W/4000K/90CRI	✓

OPTICS

SP - Spot (17°) **FL** - Flood (45°) WFL - Wide Flood (55°)

FINISH (See page 2 for full-color swatches)

Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)

Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)

Also available in RAL Finishes

LENS TYPE**

9 - Clear (Standard)

12 - Sot Focus 13 - Rectilinear

SHIELDING**

11 - Honeycomb Baffle

CAP STYLE

A - 45°

B - 90°

C - Flush

D - 45° Less Weephole (Downward Aiming Only)

E - 90° Less Weephole (Downward Aiming Only)

OPTION

SC - Safety Cable w/ Mounting Canopy (standard with 42" and above)

*Requires Safety Cable (SC).

**Accommodates up to 2 lens/shielding media

***120V only.



TITLE 24, JA8 COMPLIANT

DENALI - SIGN STAR STYLE "L" LED (INTEGRAL)

IP66 RATED

DATE:	PROJECT:	TYPE:
-------	----------	-------

CATALOG NUMBER LOGIC:



CONTROL

ELV - Dimming Driver (For use with Electronic Low Voltage Dimmer)***

INC - Dimming Driver (For use with Incandescent Dimmer)***

010 - 0-10V Dimming Driver (Dimming ≤3-100%)

INPUT VOLTAGE

120 - 120 VAC

277 - 277 VAC

*Requires Safety Cable (SC).

**Accommodates up to 2 lens/shielding media

***120V only.



TITLE 24, JA8 COMPLIANT

B-K LIGHTING

MADE IN THE USA

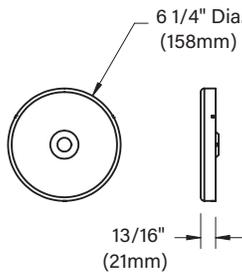
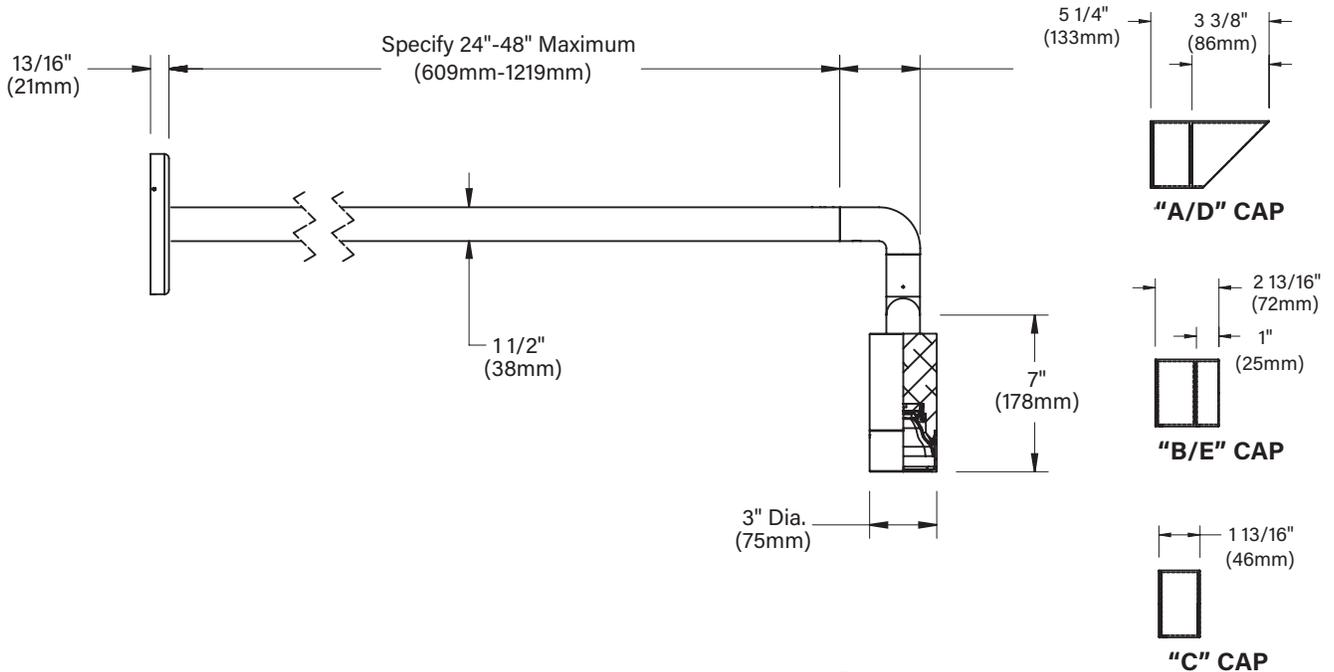
559.438.5800 | INFO@BKLIGHTING.COM | BKLIGHTING.COM

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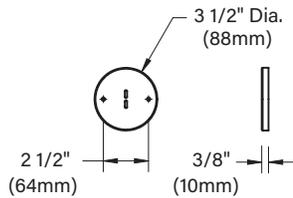
12/06/2022 SKU-1377 P2
SUB-2831-00

DATE: _____ PROJECT: _____ TYPE: _____

SIDE VIEW



COVER DETAIL



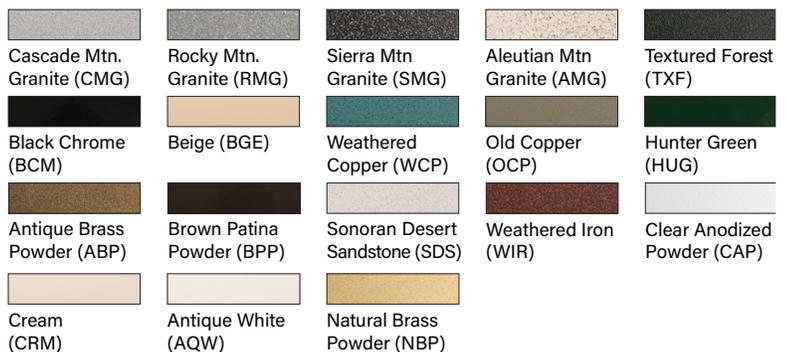
Standard w/ 42" & 48" lengths
Optional w/ 24", 30" & 36" lengths

SAFETY CABLE W/MOUNTING CANOPY

STANDARD FINISHES



PREMIUM FINISHES



[Click Here](#) to view larger, full-color swatches of all available finishes on our website.

DATE:	PROJECT:	TYPE:
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ACCESSORIES (Configure separately)

SPECIFICATIONS

ELECTRICAL	WATTAGE	13W or 21W LED
	LED	COB technology and modular design with electrical quick disconnects allow for easy field upgrade and maintenance. LM-80 certified. Title 24, JA8 compliant options available. Minimum 50,000 hour rated life at 70% of initial lumens (L70).
	COLOR MANAGEMENT	COB technology delivers natural white light. Exact color point conformity exceeds ANSI C78.377 standard. Module exceeds 80 CRI (RA>80, R9.16). Color point uniformity 2 SDCM color control for 2700K-4000K CCT.
	WIRING	INC/ELV Wiring: 3 Wire, 18GA, Stranded, XLPE, 125°C, 300V, UL3265 rated wire 0-10 Wiring: 5 Wire, (3) 18GA and (2) 22GA, Stranded, XLPE, 125°C, 300V, UL3265 rated wire
	DRIVER	Incandescent/ELV Control Option Driver: Dimming driver for use with standard incandescent or electronic low voltage dimmers (10-100% range), 120VAC only. 0-10 Control Option Driver: Dimming driver for use with standard 0-10V dimmers (≤3-100% dim. range), 120-277VAC. With [1] 440mA (13W) / 700mA (21W). 50/60Hz. >0.9 Power Factor, (INC/ELV)10.0A/(0-10) <250mA in-rush current, .20%THD (nominal at 120VAC full load). Output over-voltage, overcurrent, and short circuit protection with auto recovery. Class 2 power supply; FCC47CFR Part 15 Compliant Class B (120VAC)/Class A (277VAC).
PHYSICAL	MATERIALS	Furnished in copper-free aluminum (6061-T6).
	STYLE	G style provides dual bend for 45° transition from fixture to stem.
	BODY	Unibody design with enclosed, water-proof wireway and integral heat sink is fully machined from solid billet. Anti-condensation and corrosion vent equalizes fixture pressure and eliminates potential for damage to internal components.
	KNUCKLE	Patented 360HD mounting system features a mechanical taper-lock, which allows a full 180° vertical adjustment without the use of aim-limiting, serrated teeth. High temperature, silicone 'O' Ring provides water-tight seal and compressive resistance to maintain fixture position. Design withstands 73 lb. static load prior to movement to ensure decades of optical alignment. ½" pipe thread for mounting. Biaxial source control additionally provides 360° horizontal rotation in addition to vertical adjustment. Aim-and-Lock technology allows precision adjustment without the redundant tightening and loosening of knuckle screw.
	CAP	Fully machined and accommodates two (2) lens or louver media.
	LENS	Shock resistant, tempered, 1/8" thick soda lime glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.
	OPTICS	Interchangeable optics permit changes in the field.
	INSTALLATION	6 1/4" dia., machined canopy permits mounting to 4" octagonal junction box. Junction box installation must be designed to hold full fulcrum weight of fixture (junction box and gasket by others). Optional safety cable with mounting canopy maintains secondary support (standard with 42" and 48" lengths).
	HARDWARE	Tamper-resistant, stainless steel hardware. LOCK aiming screw is additionally black oxide treated for corrosion resistance.
	FINISH	StarGuard, our 15-stage chromate-free process, cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant.
WARRANTY	5-year limited warranty.	
CERTIFICATION & LISTING	UL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant components. Suitable for indoor or outdoor use, in wet locations. IP66 Rated. Made in the USA with sustainable processes.	



LAMP & DRIVER DATA (page 2 of 2)

DATE: _____ PROJECT: _____ TYPE: _____

LM79 DATA

OPTICAL DATA

BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	L70 Data	Angle	CBCP	Del. Lumens	Muliplier
x126	2700	90	21	50,000	17	6120	818	0.68
x126	2700	90	21	50,000	45	1650	920	0.68
x126	2700	90	21	50,000	55	1270	959	0.68
x127	3000	90	21	50,000	17	7535	1007	0.75
x127	3000	90	21	50,000	45	2031	1133	0.75
x127	3000	90	21	50,000	55	1564	1180	0.75
x128	3500	90	21	50,000	17	5406	723	0.64
x128	3500	90	21	50,000	45	1457	813	0.64
x128	3500	90	21	50,000	55	1225	847	0.64
x129	4000	90	21	50,000	17	8148	1089	0.78
x129	4000	90	21	50,000	45	2196	1225	0.78
x129	4000	90	21	50,000	55	1691	1277	0.78

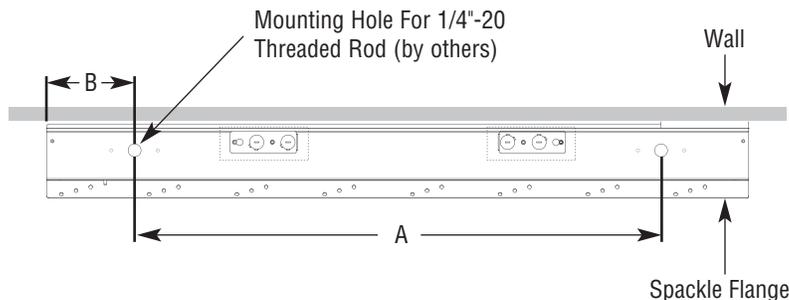
OPTICS

Optic	Angle
Spot w/ 13 Accy	16 x 50
Spot	17°
Flood	45°
Wide Flood	55°

FINELITE

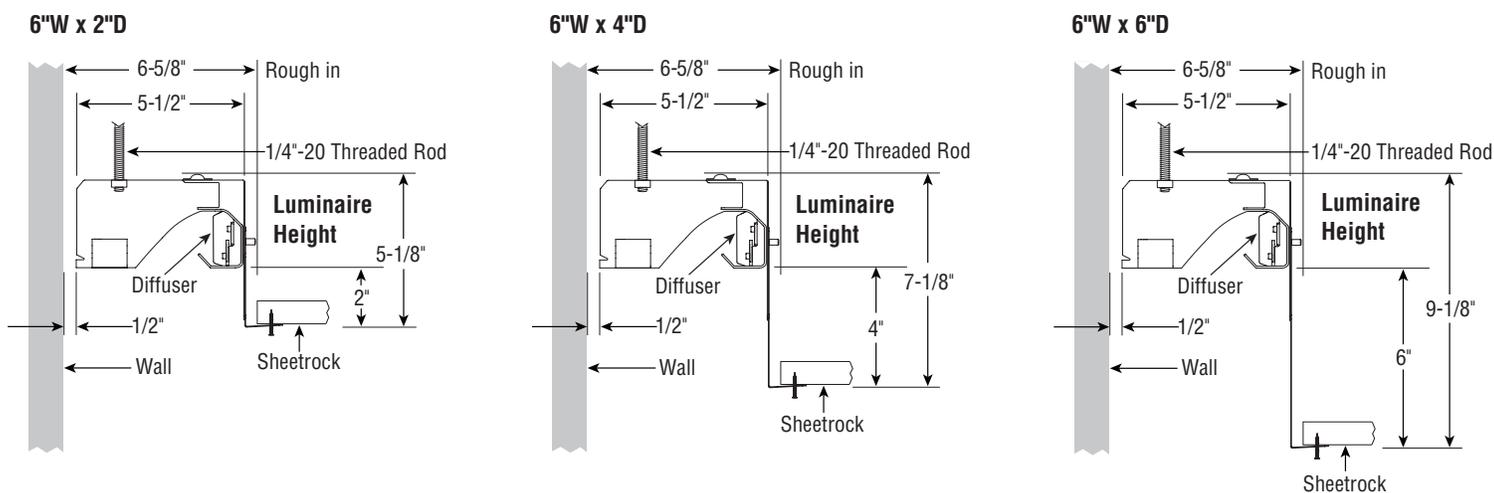
High Performance Wall Grazer (HP-WG)

THREADED-ROD (TR) MOUNTING LOCATION

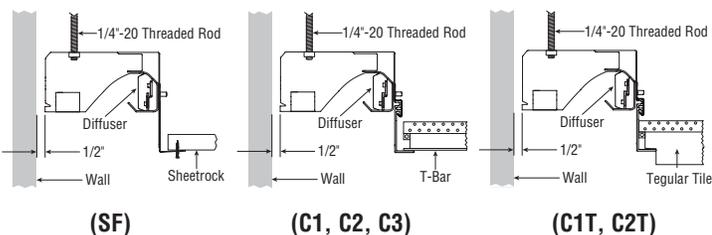


MOUNTING HOLE LOCATION TABLE		
LUMINAIRE LENGTH	A (in)	B (in)
2'	18	3
3'	30	3
4'	36	6
8'	84	6

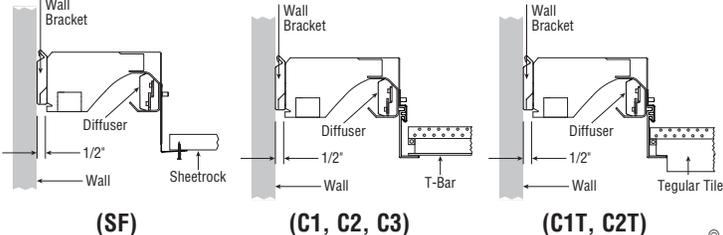
THREADED-ROD (TR) MOUNTING CROSS SECTIONS



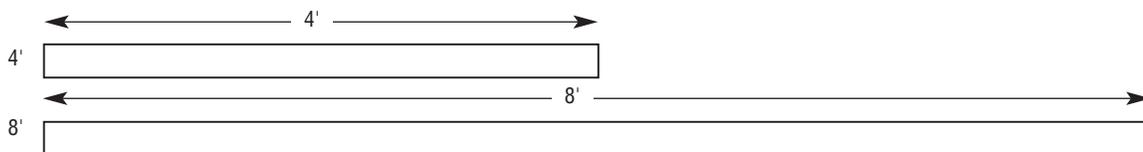
CEILING TYPES — THREADED-ROD (TR) MOUNTING



WALL BRACKET (WB) MOUNTING



RUN LENGTHS



Standard 4', and 8' section can be combined to make longer runs.

Endcaps Information

The **Flat Endcap** adds 1/8" per endcap to the section length.

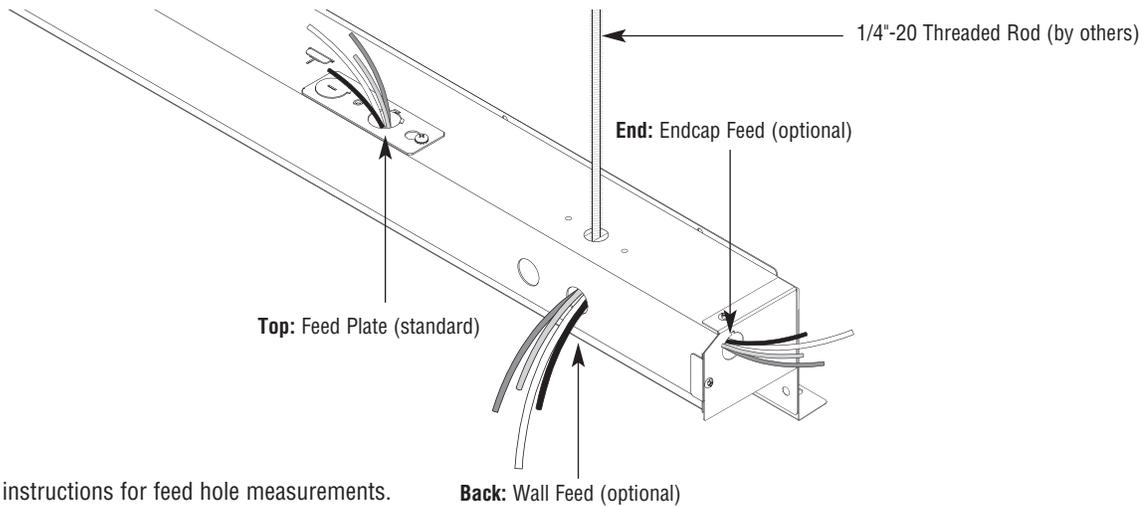
The **Pocket Slot Endcap** adds 1-1/4" for Spackle Flange and 1" for T-Bar per endcap to the section length.

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FINELITE

High Performance Wall Grazer (HP-WG)

FEED OPTIONS



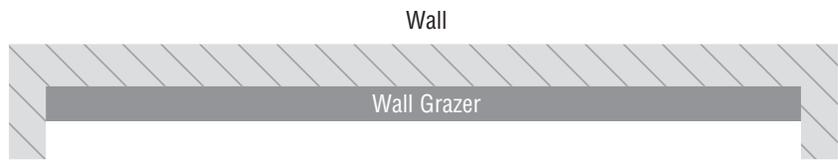
Refer to installation instructions for feed hole measurements.

ENDCAP OPTIONS

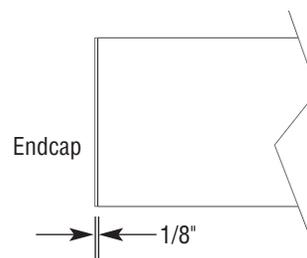
STANDARD FLAT (FE-L or FE-R)



Add 1/8" per endcap. Spackle Flange version shown, T-Bar available.



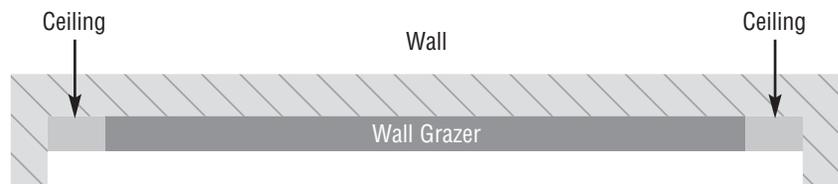
Flat end condition when luminaire terminates at a vertical surface such as a wall.



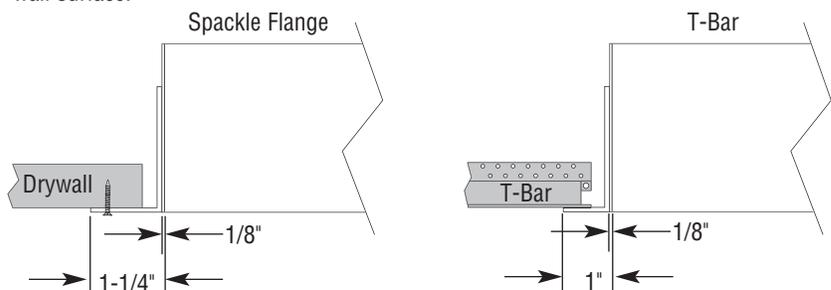
POCKET SLOT (PE-L or PE-R)



Adds 1-1/4" for Spackle Flange and 1" for T-Bar (includes endcap dimension 1/8") per endcap to the housing length on shop drawings. T-Bar version shown, Spackle Flange available.



Pocket slot end condition when slot terminates before meeting additional vertical wall surface.



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FINELITE

High Performance Wall Grazer (HP-WG)

PHOTOMETRY – 4' Luminaire

6"W x 2"D

Very High Output - 120V

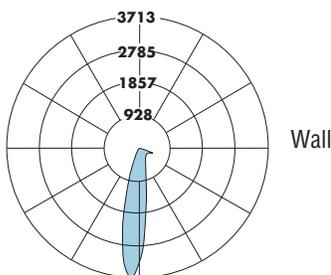
Efficacy: 70 lumens per watt

Total Luminaire Output: 2578 lumens (645 lumens/foot)

36.9 watts (9.2 watts/foot)

CCT: 3500K

ITL LM79 Report: 88542



CANDELA DISTRIBUTION						
	0.0	45	90	135	180	Flux
0	3274	3274	3274	3274	3274	3274
5	2070	2441	3253	3674	3632	274
15	787	1093	3060	2408	1367	527
25	456	628	2670	759	197	491
35	335	420	2134	129	25	401
45	294	312	1542	26	2	312
55	265	253	984	4	0	231
65	341	241	534	1	0	179
75	238	273	217	0	0	121
85	33	30	35	0	0	24
90	31	27	0	0	0	

	Total Light Output, 3500K, 80 CRI (Lumens) - 4' Luminaire			
	S*	B*	H*	V**
6"W x 2"D	1055	1327	2005	2578

Lumen Adjustment Factors - 80 CRI	
3000K	0.985
3500K	1.000
4000K	1.032

	Light Output, 3500K, 80 CRI (Lumens Per Foot)			
	S*	B*	H*	V**
6"W x 2"D	264	332	501	645

Lumen Adjustment Factors - 90 CRI	
3000K	0.746
3500K	0.760
4000K	0.789

	Power, 3500K, 80 CRI (Watts Per Foot)			
	S*	B*	H*	V**
6"W x 2"D	3.6	4.6	7.1	9.2

Apply a lumen adjustment factor to calculate lumens for the desired CCT and CRI.

	Efficacy, 3500K, 80 CRI (Lumens Per Watt)			
	S*	B*	H*	V**
6"W x 2"D	73	72	71	70

SAMPLE LUMEN ADJUSTMENT CALCULATION

High Output (H), 4000K, 90 CRI

Lumen Adjustment Factor = 0.789

$$\text{Total Light Output} = 2005 \text{ lm} \times 0.789 = 1582 \text{ lm}$$

$$\text{Total Light Output per Foot} = 501 \text{ lm/ft} \times 0.789 = 395 \text{ lm/ft}$$

$$\text{watts/foot} = 7.1 \text{ W/ft}$$

$$\text{Efficacy} = \frac{395 \frac{\text{lm}}{\text{ft}}}{7.1 \frac{\text{W}}{\text{ft}}} = 56 \text{ lm/W}$$

S - Standard Output, B - Boosted Standard Output, H - High Output, V - Very High Output

* Family Correlation based on 4' luminaire 3500K Very High Output (V) test - 120V.

** Based on ITL report: 88542

FINELITE

High Performance Wall Grazer (HP-WG)

SPECIFICATIONS

CONSTRUCTION: Precision cut 6061-T6 extruded aluminum visible flange and reflector carrier. Internal joiner system, plug-together wiring standard. Steel sheet metal galvanized and powder coated body.

ENDCAPS: The luminaire can terminate in two different end conditions to accommodate project needs. Endcaps are made of 20-gauge die-formed powder-coated steel.

END CONDITIONS:

FLAT (standard) (FE-L or FE-R): Is used when the luminaire terminates at a wall. Adds 1/8" per endcap to overall length of the luminaire.

POCKET SLOT (PE-L or PE-R): Includes the necessary hardware to accommodate ceiling materials when the luminaire doesn't terminate at a wall. Adds 1-1/4" for Spackle Flange and 1" for T-Bar per endcap to overall length of the luminaire.

REFLECTORS: 97% reflective semi-specular aluminum reflector provides reflectivity and glare control.

DIFFUSER: Frosted diffusers are 0.040". All diffusers are UV-stabilized and impact resistant virgin acrylic.

LIGHT OUTPUT: Four lumen packages available; Standard (**S**), Boosted Standard (**B**), High (**H**), and Very High (**V**). A separate chart summarizes lumen distribution and wattage. Light engines are replaceable.

LUMEN MAINTENANCE: 90% of initial light output (L90) at 100,000+ hours; 70% of initial light output (L70) at 200,000+ hours.

DRIVER: Replaceable 120V/277V/347V Constant Current Reduction dimming driver standard. Can be wired dimming or non-dimming. 0-10V dimming controls with a range of 10% - 100%. Dimming to 1% available; consult factory. Driver is fully accessible from below the ceiling. Power Factor: ≥ 0.9 . Total Harmonic Distortion (THD): $< 20\%$. Step-dimming driver (limited programable outputs. Contact Factory). Expected driver lifetime: 100,000 hours.

LUTRON DRIVER OPTIONS: **LUTES1** (Hi-lume 1% EcoSystem with Soft-On, Fade to Black dimming (LDE1 series)); **LUTES5** (5-Series 5% EcoSystem (LDE5 Series)); **LUT2W** (Hi-lume 1% 2-wire, 120V forward phase dimming (LTEA series)); Contact factory for availability of discontinued Lutron drivers, L3DA-3-wire and L3DA EcoSystem.

ELECTRICAL: Optional emergency to generator/inverter wiring, internal generator transfer switch, nightlight wiring, backup battery. Chicago Plenum Option available. Factory-choice low-profile backup battery available. 8' minimum luminaire length for low profile battery pack. Backup batteries deliver 1308 lumens. Half of a 4' section will be illuminated in emergency mode. Optional fusing is available.

CIRCUITING: 4' sections can be specified with up to 2 circuits. 8' sections can be specified with up to 4 circuits. All others are available with a single circuit.

MOUNTING: The standard mounting (Threaded Rod - TR) option eliminates the need to install luminaires prior to the slot being framed. Luminaire mounts on threaded rods. Optional Mounting Bracket installation includes wall bracket that is attached to the wall. Luminaires are then snapped onto bracket. Luminaire installation that uses the mounting bracket must be performed before the perimeter slot framing is built.

FINISH: Finelite Signal White powder coat finish standard. Optional adder: 185 colors available using RAL color chart. Custom color applies to the visible T-Bar flange.

FEED: Standard with one 18-gauge/5-conductor single-circuit feed. 14-gauge feed used when luminaire current exceeds 5 amps. Optional 6 flex conduit whips available. Dual knockouts (for dual flex conduit) are available at the top and rear feed locations. Endcaps have a single knockout and support a single flex conduit only.

LENGTHS: Any length, 2-foot minimum, in increments down to 1/16" ($\pm 1/32$ "). 8-foot maximum section length.

LABELS: Luminaire and electrical components are ETL-listed conforming to UL 1598 in the U.S.A. and CAN/CSA C22.2 No. 250.0 in Canada. In accordance with NEC Code 410.73 (G), this luminaire contains an internal driver disconnect. IC-Rated. **Damp Location.** Finelite products use electronic components that are RoHS compliant, and the mechanical components of the luminaire have been verified to not knowingly contain any restricted substances listed per RoHS Directive 2011/65/EU. Finelite makes the specification process easy when putting healthier products on your projects. Simply add – **RLA** (Red List Approved) or – **RLD** (Declared Label) to your part number.

WEIGHT: Threaded-rod luminaire 4.5 lb/ft., Wall Bracket luminaire 5 lb/ft.

WARRANTY: 10-year performance-based warranty on all standard components. Optional accessories such as emergency battery packs are covered by their individual manufacturer warranties.

FIXTURE TYPE XF

Application

LED recessed wall luminaire with asymmetrical light distribution for the illumination of ground surfaces, building entrances, stairs and footpaths.

Materials

Luminaire housing constructed of die-cast aluminum marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy
 Clear safety glass
 Silicone applied robotically to casting, plasma treated for increased adhesion
 High temperature silicone gasket
 Mechanically captive stainless steel fasteners
 Stainless steel screw clamps
 Composite installation housing

NRTL listed to North American Standards, suitable for wet locations
 Protection class IP65
 Weight: 2.1 lbs

Electrical

Operating voltage 120-277V AC
 Minimum start temperature -40°C
 LED module wattage 8.4W
 System wattage **11.0W**
 Controlability 0-10V, TRIAC, and ELV dimmable
 Color rendering index $Ra > 80$
 Luminaire lumens 480 lumens (3000K)
 LED service life (L70) 60,000 hours

LED color temperature

- 4000K - Product number + **K4**
- 3500K - Product number + **K35**
- 3000K - Product number + **K3**
- 2700K - Product number + **K27**
- Amber - Product number + **AMB**

Wildlife friendly amber LED - Optional

Luminaire is optionally available with a narrow bandwidth, amber LED source (585-600nm) approved by the FWC. This light output is suggested for use within close proximity to sea turtle nesting and hatching habitats. Electrical and control information may vary from standard luminaire.

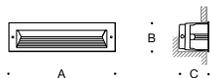
LED module wattage 8.7W (Amber)
 System wattage 10.7 (Amber)
 Luminaire lumens 111 lumens (Amber)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish

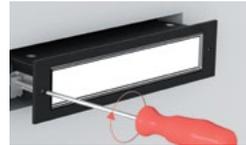
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

- Available colors Black (BLK) White (WHT) RAL:
 Bronze (BRZ) Silver (SLV) CUS :



LED recessed wall luminaires · asymmetrical				
	LED	A	B	C
33055	8.4 W	12 1/2	2 3/4	5

Type:
 BEGA Product:
 Project:
 Modified:



Fully enclosed luminaire with installation housing ensures seamless integration and weathertight operation.



Wall luminaires with directed light

FIXTURE TYPE XG

Housing: One piece die-cast aluminum supplied with universal mounting bracket for direct attachment to 3 1/2" or 4" octagonal wiring box. Die castings are marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum cover frame secured by captive socket head, stainless steel screws threaded into stainless steel inserts. Semi-specular, anodized aluminum internal reflector. Stippled tempered clear glass. Fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket.

Electrical: 29.8W LED luminaire, 35 total system watts, -20°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Options: Optional integral emergency battery pack available. Battery will operate the fixture at 62% of full light output for a minimum of 90 minutes. Ambient temperature must not go below -20°C and must not exceed 50°C. Specify EMPK operates at 120-277V AC.

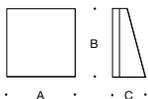
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 8.4 lbs.

Luminaire Lumens: 4018

Type:
 BEGA Product:
 Project:
 Voltage:
 Color:
 Options:
 Modified:



	Lamp	A	B	C
33243	29.8W LED	11	11	5%



Drive-over surface-mounted luminaires to illuminate ground surfaces

FIXTURE TYPE XH

Outer Housing: Constructed of high tensile strength, copper free die-cast aluminum alloy with four (4) light openings. Slotted, stainless steel base plate allows top casting to rotate to any orientation. Die castings are marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy.

Enclosure: One piece heavy duty die cast aluminum body with clear borosilicate lens. Reflector of pure anodized aluminum. All aluminum used in the construction is marine grade and copper free. All fasteners are stainless steel. Two (2) molded, one piece, high temperature silicone gaskets on top and bottom of the lens.

Electrical: 11.8W LED luminaire, 16 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming available – specify. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Mounting: Luminaire mounts directly to ground-mounted weathertight wiring box, by BEGA. Slotted holes in stainless steel luminaire base plate allow for up to 50° of base plate rotation. BEGA wiring box suitable for 1/2" side or bottom conduit entry.

Note: The luminaires must not be installed in traffic lanes where they are subject to horizontal pressure from vehicles braking, accelerating and changing direction. A foundation must be supplied by the contractor designed to bear the static pressure loads from vehicles with pneumatic tires. The luminaires are designed to withstand a static load of 2,200 lbs.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in standard BEGA Black (BLK). Custom colors not available.

CSA certified to U.S. and Canadian standards for wet locations. Protection class IP67

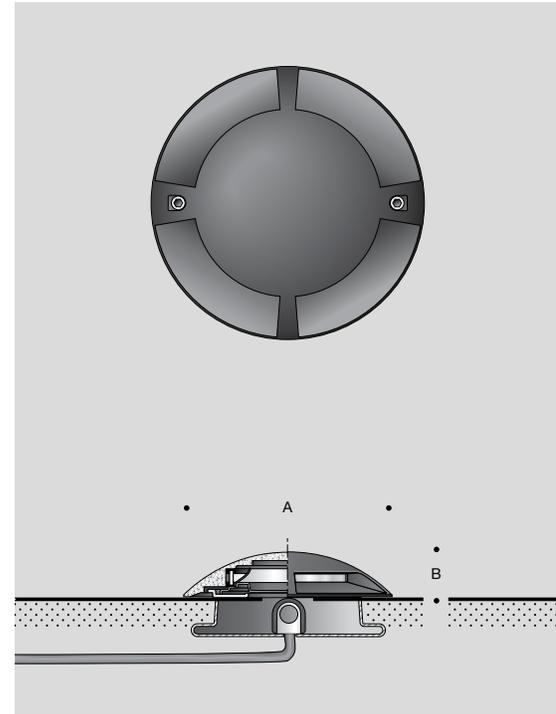
Weight: 6.4 lbs.

Luminaire Lumens: 265



The ground-mounted luminaires mount directly to BEGA in-ground wiring box.

Type:
 BEGA Product:
 Project:
 Voltage:
 Color:
 Options:
 Modified:



360° port

Lamps	A	B
77 090 11.8W LED	10 1/2	2 1/4

BB7089LED - INSTALL HOUSING AVAILABLE FOR PRE-SHIPMENT

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com

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FIXTURE TYPE XJ


4800 LED SWM

Line or Low Voltage Swimming Pool Fixture

HIGHLIGHTS

- Stainless steel housing
- Heavy wall cast bronze or stainless-steel door
- Static white: 554 lumens / 9 watts
- 27K, 30K, 41K, 53K, Amber Phosphor, Amber 590nm, Red, Green, Blue
- 12VAC, 120V with transformer
- Available in niche mount only

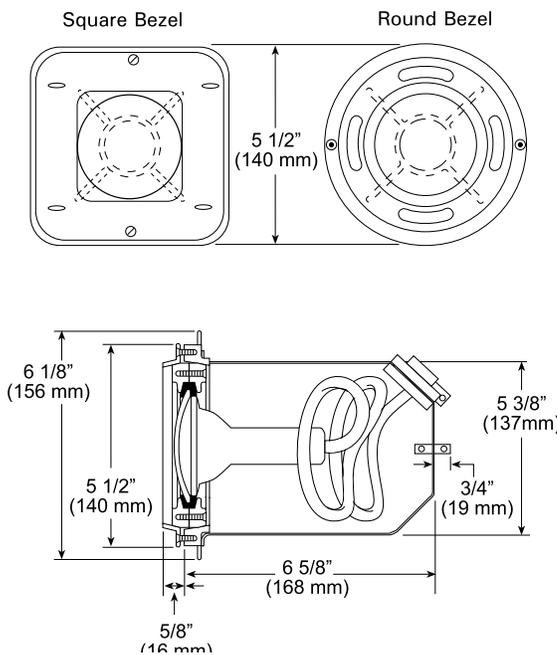
5
YEAR
warranty

LED
IP68
BAA

Specifications

Length:	6-5/8" 168 mm
Width:	5-1/2" 140 mm
Height:	6-1/8" 156 mm
Weight:	8lbs

DIMENSIONS



LUMEN PACKAGES

	NSP	MFL
Delivered Lumens	459	554
Watts	9	9
LPW	51	62

Note: Information based on WHT41K

ORDERING INFORMATION

EXAMPLE: 4800 RD B LED 120 RED MFL CLS NM 3445B CSL35 SWM LP

Model	Door Type	Material	Lamp Type	Voltage	LED Color	Distribution
4800	RD Round	B Bronze	LED	12'	WHT27K White	NSP Narrow Spot
	SQ Square	SS Stainless Steel		120 ²	WHT30K White	MFL Medium Flood
					WHT41K White	
					WHT53K White	
					AMBPC Phosphor Converted Amber	
					AMBLW Limited Wavelength Amber - 590 nm	
					RED Red	
					GRN Green	
					BLU Blue	

Lens	Mounting	Conduit Entries	Cord Set Length	Application	Lamp	Optional Listing
CLS ³ Convex Lens Swim	NM Niche Mt	3445B 3/4" NPT at 45° 1645B PG16 at 45°	CSL ⁴ 35'-120' of cord available in 5' increments	SWM Swimming Pool Fixture	LP Lamp Installed	CSA Optional Canadian Listing (for sale in Canada only) IEC ⁵ International Electro-Technical Commission (for use with 50HZ applications only)
CLC Convex Lens Clear						

Notes:

- 1 Transformer not included, sold separately. Suitable for use in fully enclosed luminaires
- 2 120 Volt includes an internal transformer.
- 3 CLS will be used if no lens is chosen.
- 4 Longer cord lengths can cause voltage drops with 12-volt fixtures. Final voltage to the fixture below 7.5 volts will cause flickering. Be sure to calculate voltage drop of the system before ordering longer cord lengths.
- 5 Only available with 12V and 1645B.

PERFORMANCE DATA

LUMEN OUTPUT

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Contact factory for performance data on any configurations not shown here.

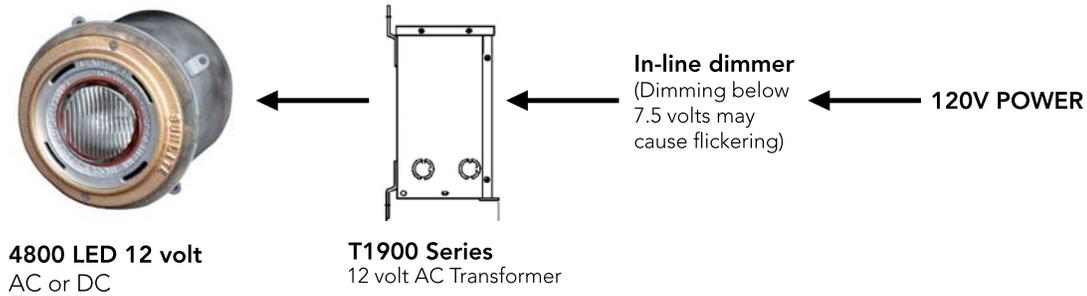
	Distribution	Nema Type	Beam Angle (50%) H x V	Field Angle (10%) H x V	Watts	LPW	Delivered Lumens
3000K 80CRI	NSP	3 x 3	13.3 x 13.3	38.4 x 38.4	9	31	276
	MFL	3 x 3	21.9 x 21.9	42.1 x 42.1	9	37	332
4000K 70CRI	NSP	3 x 3	13.3 x 13.3	38.4 x 38.4	9	51	459
	MFL	3 x 3	21.9 x 21.9	42.1 x 42.1	9	62	554
5000K 70CRI	NSP	3 x 3	13.3 x 13.3	38.4 x 38.4	9	51	459
	MFL	3 x 3	21.9 x 21.9	42.1 x 42.1	9	62	554

LED LIFE: L70/118,000 hours

OPERATING TEMPERATURE: 30°C through 40°C standard, above 40°C available with reduced milliamps.

Photometric data for underwater lighting is based on the theoretical output of a dry fixture. The final output of a fixture placed in water is determined by the depth that the fixture is placed, the clarity and turbulence of the water and the color of the surrounding concrete and/or tile.

DIMMING OPTION



SPECIFICATIONS AND FEATURES

FIXTURE HOUSING & DOOR: Stainless steel housing with heavy wall cast bronze or stainless steel door.

NICHE: Stainless steel with cast bronze mounting assembly, which has provisions for positive locking of fixture into position. The unit includes a grounding lug and a 3/4" conduit hub with 1/2" reducer or PG16 conduit hub.

LAMP: 9 Watt LED.

LENS: 3 1/8" (80mm) diameter tempered borosilicate, clear convex standard. Frosted lenses also available.

GASKET: Single-piece molded U-shaped silicone.

CORD: Minimum of 35' of #16-3STWA for US standard, 10m of HO7RN-F-2x4 for European standard, submersible rated cord with ground wire positively grounded inside the fixture. Cord length must be specified. NOTE: Sufficient cord should be coiled in the fixture niche to allow for the removal of fixture to above water level for re-lamping.

FASTENERS: Stainless steel.

BUY AMERICAN ACT: This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

LISTING: cCSAus, submersible luminaire suitable for swimming pools, Laboratory tests conducted by CSA to UL Standards UL-676 & UL-8750.

WARRANTY: 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Consult factory for details.

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.