DOLLAR TREE – GRANDY

POPLAR BRANCH TOWNSHIP, CURRITUCK COUNTY, NORTH CAROLINA

DRAINAGE NARRATIVE (PRELIMINARY)

JULY 25, 2023

PREPARED BY:

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

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Dollar Tree – Grandy
Drainage Narrative

Cedar Run Capital, LLC is proposing to develop a vacant 1.85-acre site they are purchasing in Grandy, North Carolina. The site is located in a commercial subdivision and is bound by NC 168 (Caratoke Highway) to the north, a vacant lot to the west, an existing Sonic drive-in restaurant to the east, and Neuse Street to the south. The site is zoned GB (General Business) and will be served by public water and on-site septic.

Development for this project will include construction of a driveway that will run through the site from NC 168 to Neuse Street, a building with related parking and sidewalks, concrete pads for HVAC equipment and dumpster, subsurface drainage network, stormwater infiltration basin, and a septic field. The basin will serve as means of treatment and detention for the runoff generated by the site. Proposed coverage, on-site, will include 10,062 sf of building, 2,864 sf of concrete (including sidewalks and pads), and 26,265 sf of asphalt parking/drive. Off-site coverage will include 1,116 sf of driveway apron and sidewalk to be constructed within the adjacent street rights-of-way.

All runoff from on-site impervious coverage will be collected in the underground drainage system and routed to the infiltration basin. The infiltration basin has been designed with a bottom elevation of 9.75' based on a Seasonal High Water Table estimated at approximately elevation 7.75' by Protocol Sampling. The storm drainage will enter the basin in an area that will be lower than the basin bottom to receive the pipe. Side slopes for the basin will be 5:1. The top elevation will be 12' and the storage elevation has been set at 10.75' to provide the required storage. A drainage basin will provide for outflow of water in excess of the minimum storage volume. This outflow will discharge into the roadside ditch along Neuse Street. The volume of the 12 inches of storage is 9,113 cf. The required volume per NCDEQ for treatment is only 4,915 cf. The basin has been oversized to meet the requirements of the Currituck County Stormwater Ordinance which requires commercial sites to control discharge of the post-development 5-yr, 24-hour storm to rates less than a 2-yr, 24-hour storm pre-development and as if wooded. We utilized the rational method to determine peak runoff rates for both conditions. The results show a 1.016 cfs peak discharge for the 2-yr, pre-development condition and a 6.86 cfs peak discharge for the 5-yr, post-development condition. The modified rational method indicates that a storage volume of 5,329 cf will provide the required reduction in peak discharge. While we have greatly increased the storage above what is required, the limited depth of 12 inches is estimated to infiltrate in only 24 hours at the minimum rate of 0.5 inches/hour estimated by Protocol Sampling.

The disturbed area for the entire project will not exceed 2.15 acres. Standard erosion control measures such as temporary gravel construction entrances, silt fence, check dams, culvert inlet protection and required seeding are shown on the plans and in details. The plans indicate that the sediment basin area shall be protected during construction and is not to be excavated until the site is substantially stabilized.

Appendix A

Stormwater & Erosion Control Calculations

- Infiltration Basin Summary
- Hydraflow Data & Results - Includes 2, 5, and 10-year storms for Pre-development and Post-development conditions with Modified Rational Method showing Post-development control based on the 2-year Pre-development Peak Discharge)

Pond Summary Sheets

Proposed Infiltration Basin

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Project Name: DT Grandy
TG Project No. 59040
Date: 7/25/2023
Calculated By: KDH

Drainage Area Properties

Data Input			Notes and Descriptions
Drainage Area, A_{TOT}	80,913	SF	Total area draining to basin
(as acreage)	1.86	AC	
Impervious Area	39,191	SF	Total impervious area received by basin
(as acreage)	0.90	AC	
Percent Impervious	48.44	%	
Runoff Coefficient	0.49		$R_V = 0.05 + 0.9 * I_A$ I_A = Impervious Fraction
K (in/hr)	0.50		Hydraulic Conductivity of Soil
R_D (in)	1.50		Design Storm Depth

Impervious Area Breakdown	
Coverage	**Impervious Area (sf)**
Buildings	10,062
Road	
Parking	26,265
Sidewalks	2,354
Gravel	
Other	510
Total Site Coverage	**39,191**

Required Surface Area (SA)		
Minimum Surface Area (sf)	3276.46	SA = FS * (DV*12/K*T)
FS (Safety Factor)	2	
Maximum Dewatering Time, T (hours)	72	
DV (Design volume - in ft^3)	4915	$DV = 3630 * R_D * R_V * A$
Design Depth (ft)	**1**	
Surface Area Required (sf)	4915	Based on Design Volume and Depth

Pond Volume Calculations

Description	Elevation	Area SF	Cumulative Volume CF
Pond Bottom	9.75	8,151	
Pond Top	10.75	10,074	9,113

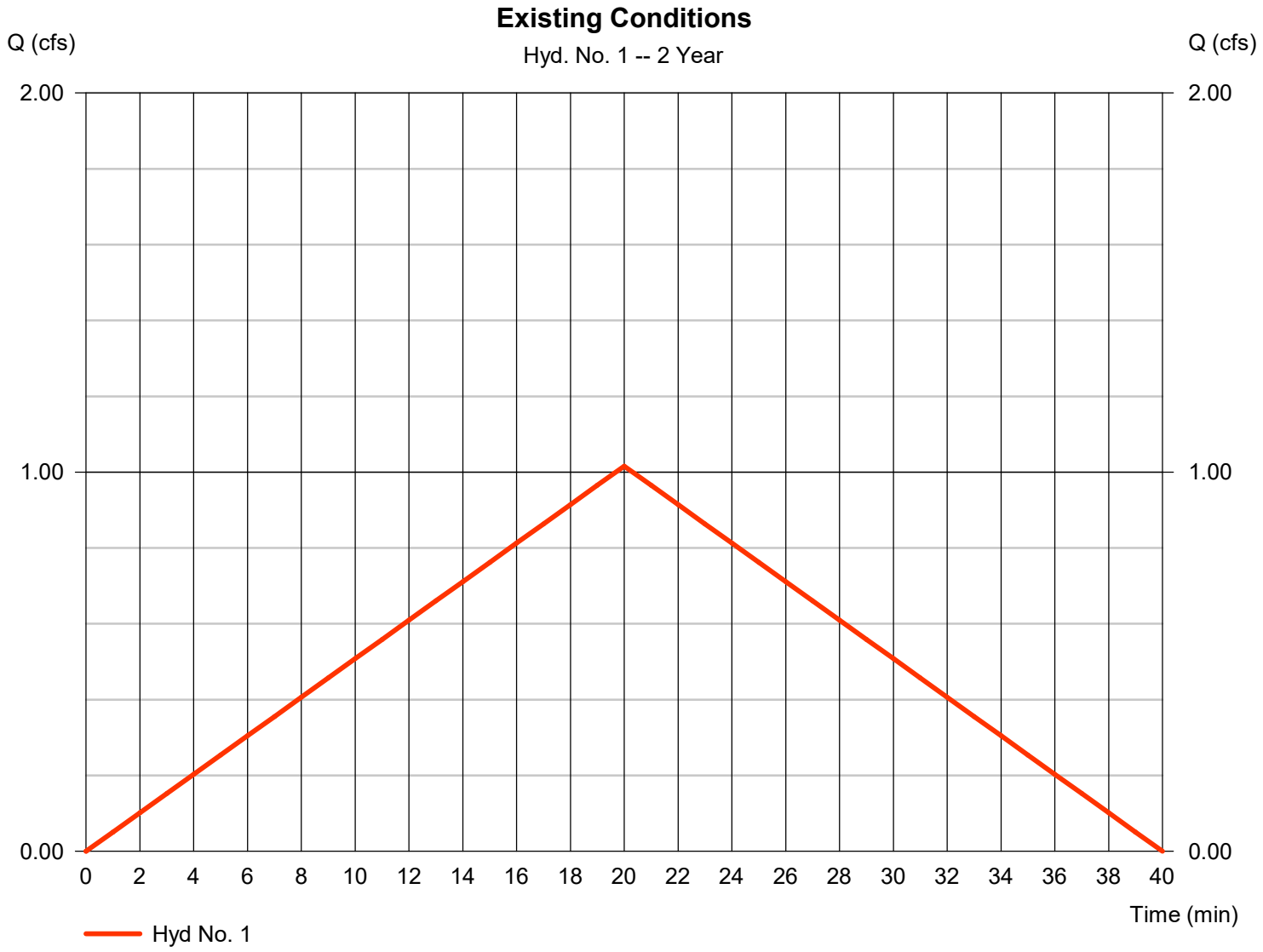
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023 Monday, 07 / 3 / 2023

Hyd. No. 1

Existing Conditions

Hydrograph type	=	Rational	Peak discharge	=	1.016 cfs
Storm frequency	=	2 yrs	Time to peak	=	20 min
Time interval	=	1 min	Hyd. volume	=	1,219 cuft
Drainage area	=	1.860 ac	Runoff coeff.	=	0.15
Intensity	=	3.641 in/hr	Tc by User	=	20.00 min
IDF Curve	=	Grandy.IDF	Asc/Rec limb fact	=	1/1



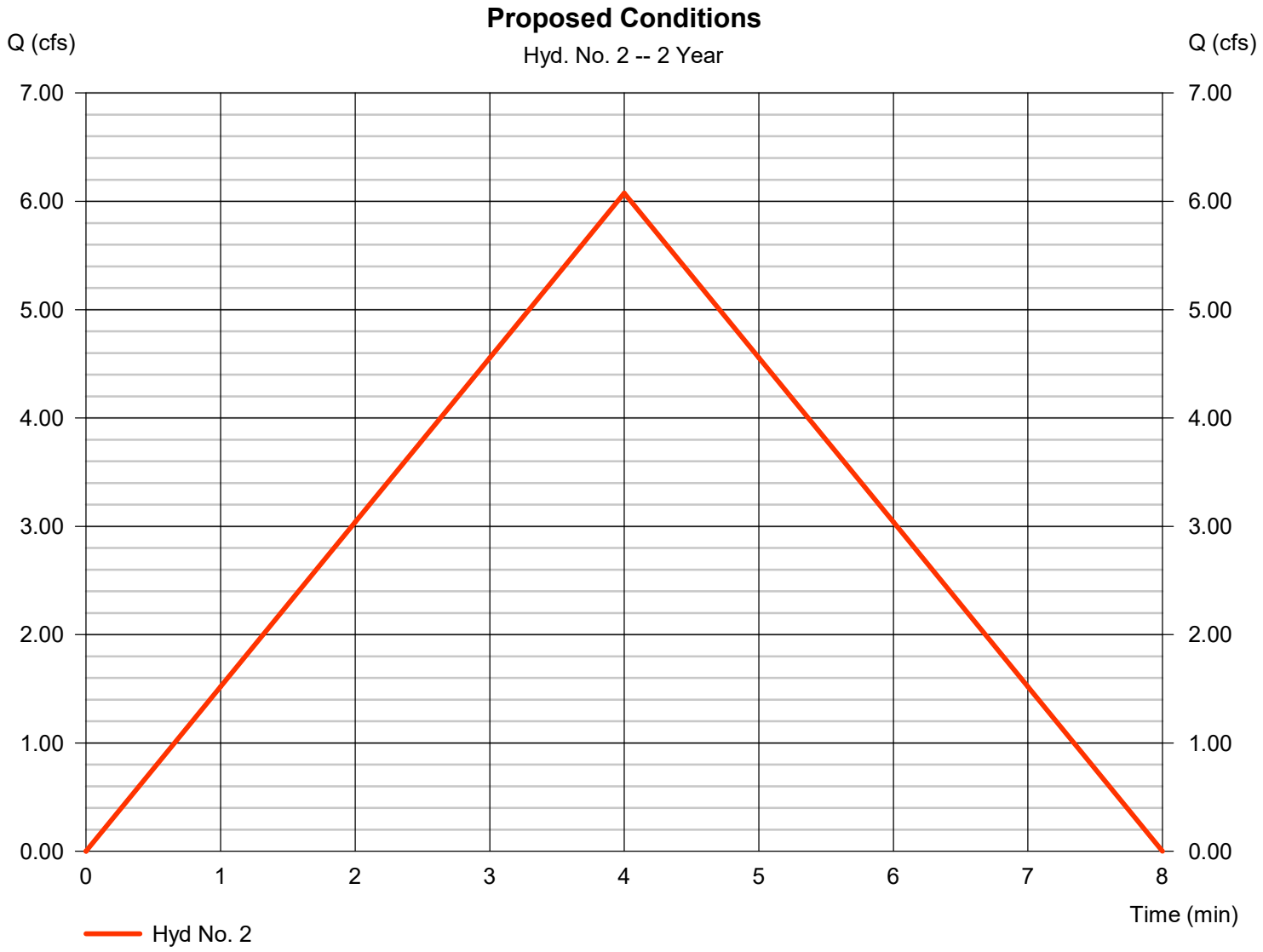
Hydrograph Report

Hyd. No. 2

Proposed Conditions

Hydrograph type	=	Rational	Peak discharge	=	6.076 cfs
Storm frequency	=	2 yrs	Time to peak	=	4 min
Time interval	=	1 min	Hyd. volume	=	1,458 cuft
Drainage area	=	1.860 ac	Runoff coeff.	=	0.5*
Intensity	=	6.533 in/hr	Tc by User	=	4.00 min
IDF Curve	=	Grandy.IDF	Asc/Rec limb fact	=	1/1

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



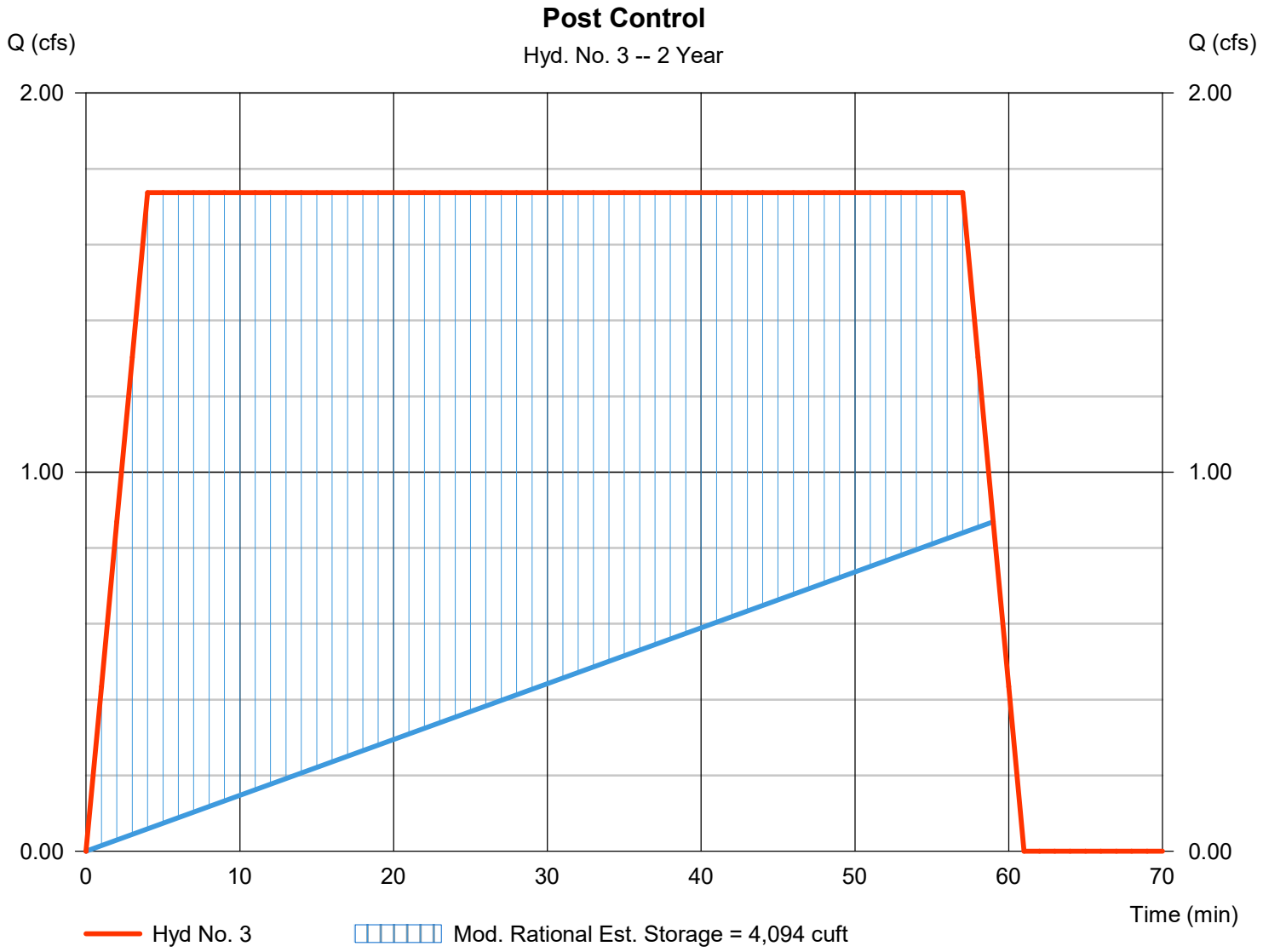
Hydrograph Report

Hyd. No. 3

Post Control

Hydrograph type	= Mod. Rational	Peak discharge	= 1.738 cfs
Storm frequency	= 2 yrs	Time to peak	= 4 min
Time interval	= 1 min	Hyd. volume	= 5,943 cuft
Drainage area	= 1.860 ac	Runoff coeff.	= 0.5*
Intensity	= 1.868 in/hr	Tc by User	= 4.00 min
IDF Curve	= Grandy.IDF	Storm duration	= 14.3 x Tc
Target Q	=1.000 cfs	Est. Req'd Storage	=4,094 cuft

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



Hydrograph Report

Hyd. No. 1

Existing Conditions

Hydrograph type	=	Rational	Peak discharge	=	1.179 cfs
Storm frequency	=	5 yrs	Time to peak	=	20 min
Time interval	=	1 min	Hyd. volume	=	1,415 cuft
Drainage area	=	1.860 ac	Runoff coeff.	=	0.15
Intensity	=	4.226 in/hr	Tc by User	=	20.00 min
IDF Curve	=	Grandy.IDF	Asc/Rec limb fact	=	1/1

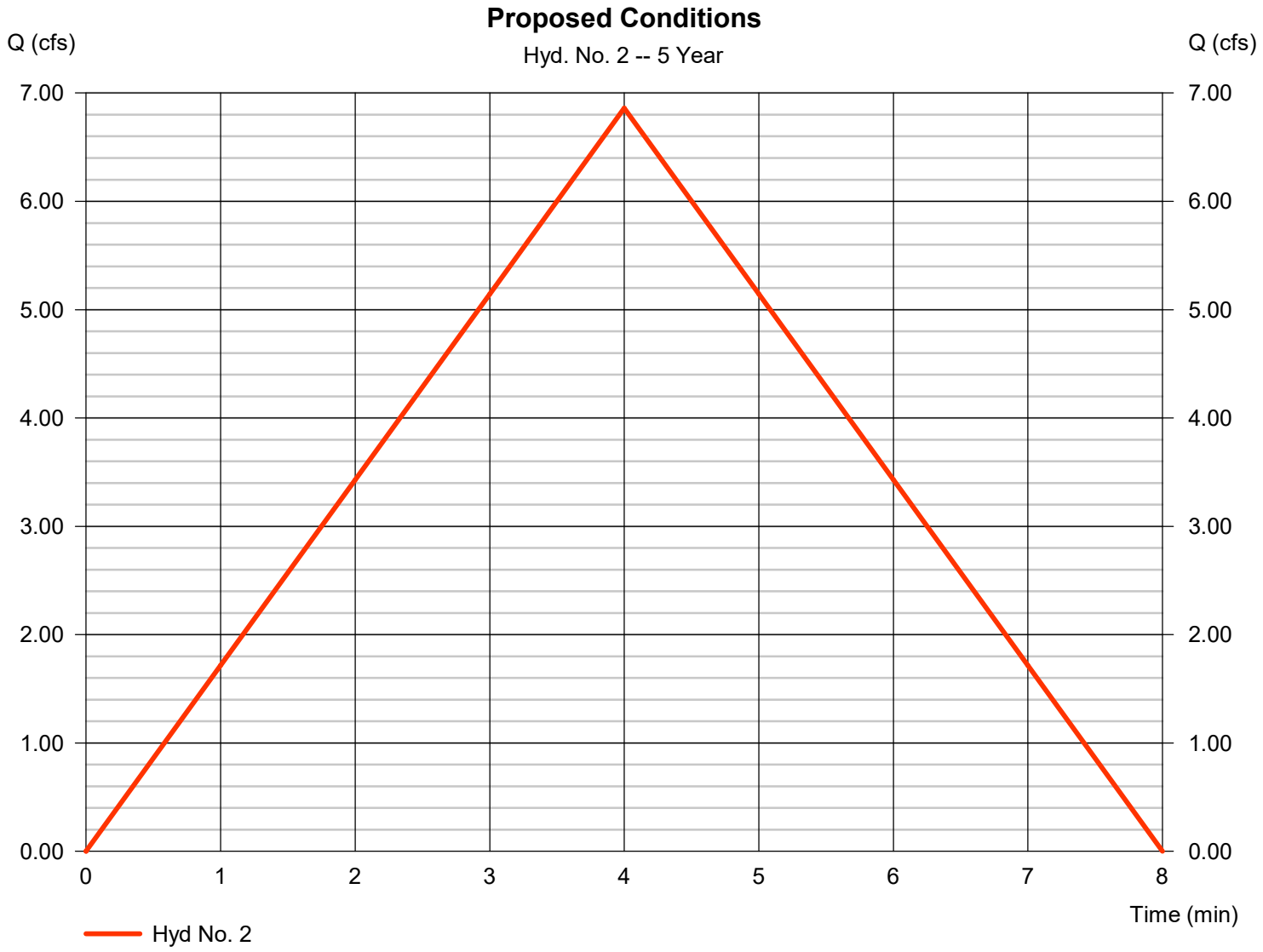
Hydrograph Report

Hyd. No. 2

Proposed Conditions

Hydrograph type	= Rational	Peak discharge	= 6.860 cfs
Storm frequency	= 5 yrs	Time to peak	= 4 min
Time interval	= 1 min	Hyd. volume	= 1,646 cuft
Drainage area	= 1.860 ac	Runoff coeff.	= 0.5*
Intensity	= 7.376 in/hr	Tc by User	= 4.00 min
IDF Curve	= Grandy.IDF	Asc/Rec limb fact	= 1/1

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



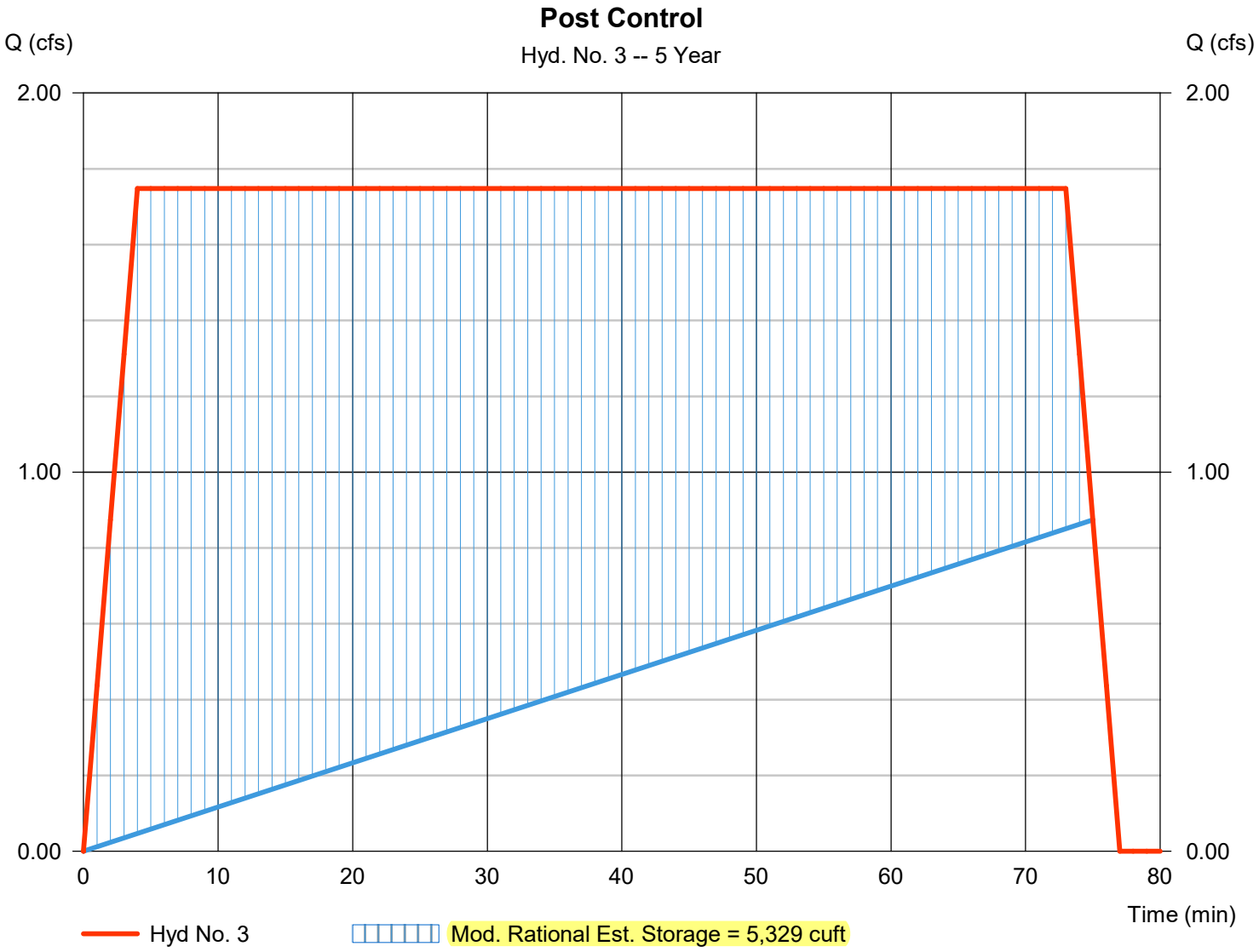
Hydrograph Report

Hyd. No. 3

Post Control

Hydrograph type	= Mod. Rational	Peak discharge	= 1.748 cfs
Storm frequency	= 5 yrs	Time to peak	= 4 min
Time interval	= 1 min	Hyd. volume	= 7,658 cuft
Drainage area	= 1.860 ac	Runoff coeff.	= 0.5*
Intensity	= 1.880 in/hr	Tc by User	= 4.00 min
IDF Curve	= Grandy.IDF	Storm duration	= 18.3 x Tc
Target Q	=1.000 cfs	Est. Req'd Storage	=5,329 cuft

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



Hydrograph Report

Hyd. No. 1

Existing Conditions

Hydrograph type	= Rational	Peak discharge	= 1.364 cfs
Storm frequency	= 10 yrs	Time to peak	= 20 min
Time interval	= 1 min	Hyd. volume	= 1,636 cuft
Drainage area	= 1.860 ac	Runoff coeff.	= 0.15
Intensity	= 4.888 in/hr	Tc by User	= 20.00 min
IDF Curve	= Grandy.IDF	Asc/Rec limb fact	= 1/1

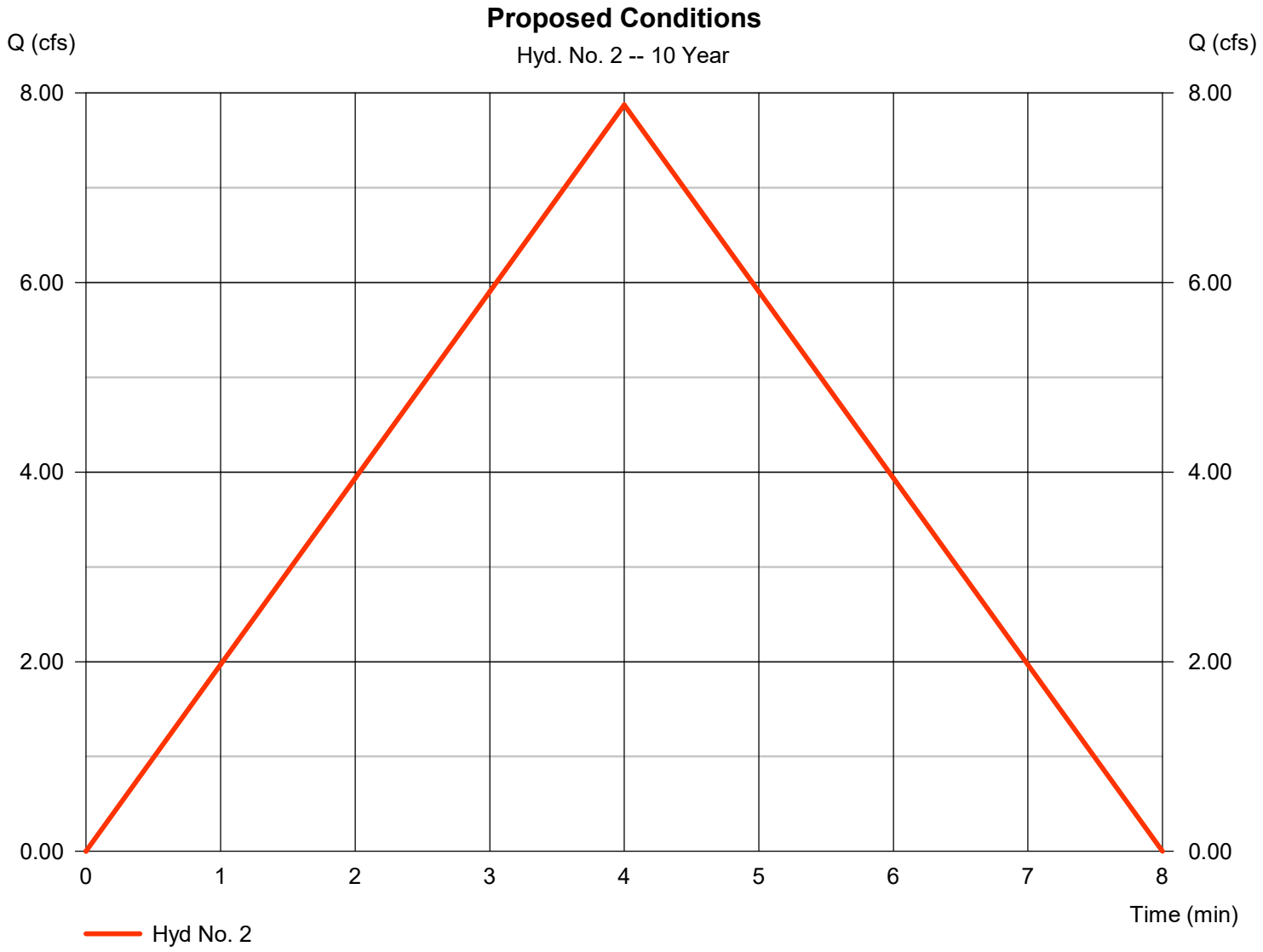
Hydrograph Report

Hyd. No. 2

Proposed Conditions

Hydrograph type	=	Rational	Peak discharge	=	7.875 cfs
Storm frequency	=	10 yrs	Time to peak	=	4 min
Time interval	=	1 min	Hyd. volume	=	1,890 cuft
Drainage area	=	1.860 ac	Runoff coeff.	=	0.5*
Intensity	=	8.467 in/hr	Tc by User	=	4.00 min
IDF Curve	=	Grandy.IDF	Asc/Rec limb fact	=	1/1

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



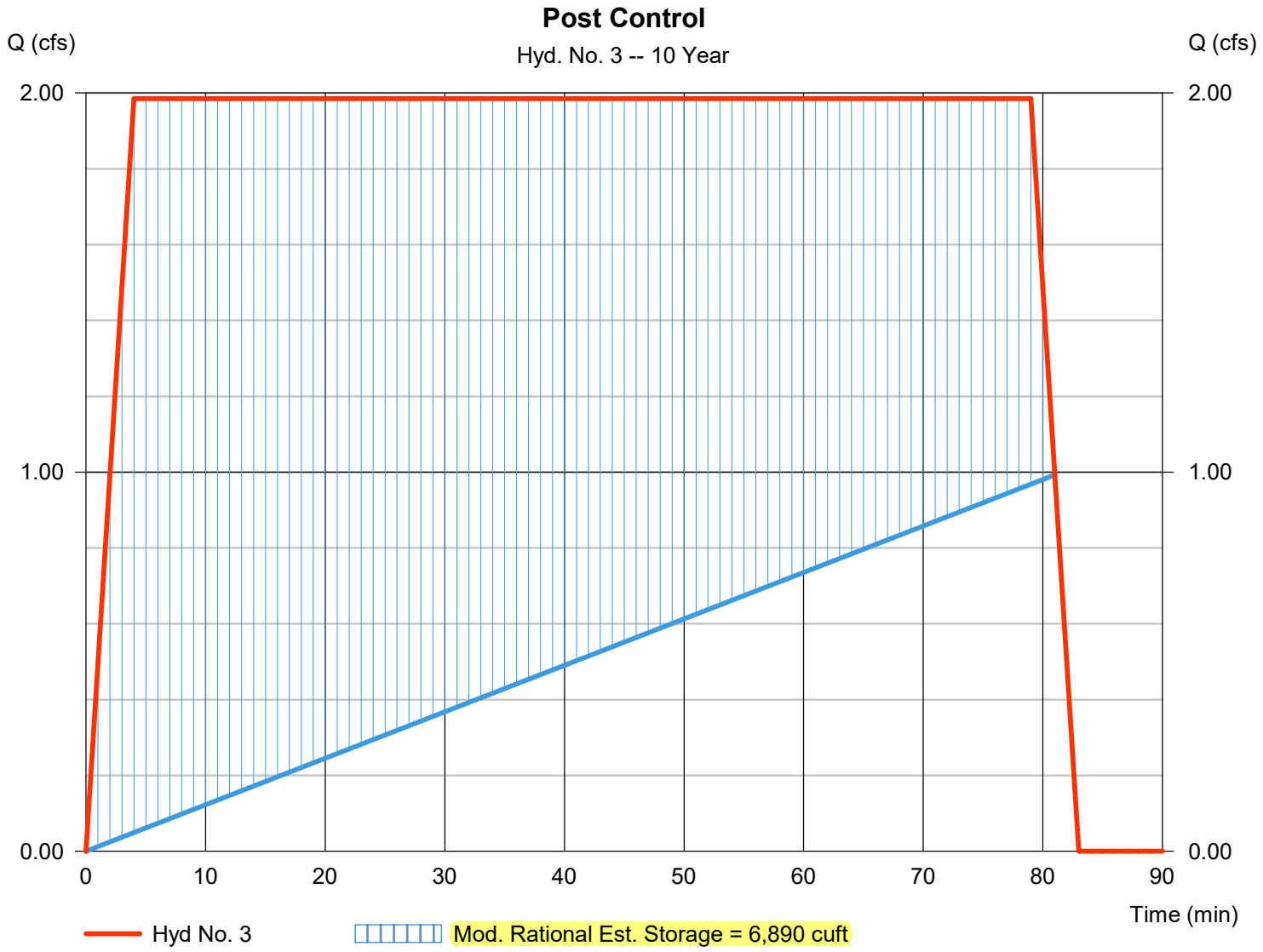
Hydrograph Report

Hyd. No. 3

Post Control

Hydrograph type	= Mod. Rational	Peak discharge	= 1.985 cfs
Storm frequency	= 10 yrs	Time to peak	= 4 min
Time interval	= 1 min	Hyd. volume	= 9,410 cuft
Drainage area	= 1.860 ac	Runoff coeff.	= 0.5*
Intensity	= 2.135 in/hr	Tc by User	= 4.00 min
IDF Curve	= Grandy.IDF	Storm duration	= 19.8 x Tc
Target Q	=1.000 cfs	Est. Req'd Storage	=6,890 cuft

* Composite (Area/C) = [(0.870 x 0.95) + (0.990 x 0.10)] / 1.860



Appendix B

Soil Data

- Web Soil Survey
- Soil Report by Protocol Sampling Service, Inc.

Hydrologic Soil Group—Currituck County, North Carolina
(DT Grandy)

Map Scale: 1:2,320 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 22, Sep 8, 2022

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

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CnA	Conetoe loamy sand, 0 to 3 percent slopes	A	14.9	65.2%
Ds	Dragston loamy fine sand	A/D	1.2	5.3%
Pt	Portsmouth fine sandy loam	B/D	6.8	29.5%
Totals for Area of Interest			**22.9**	**100.0%**

Description

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

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

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

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

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

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

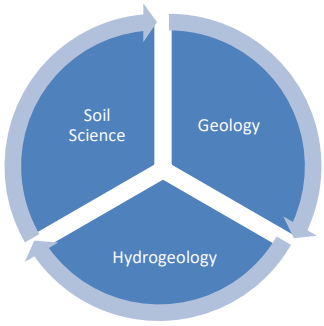
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Protocol Sampling Service, Inc.
"Experts in Environmental Compliance"

4114 Laurel Ridge Drive
Raleigh, North Carolina 27612

(919) 210-6547

Protocolsampling@yahoo.com
Environmentalservicesnc.com

June 26, 2023

Ms. Kim Hamby, P.E.
Principal/Senior Project Manager
TIMMONS GROUP |
1805 West City Drive, Unit E
Elizabeth City, North Carolina 27909

Re: **Storm Water Management Soil Investigation**
Dollar Tree
NC Highway 168
Grandy, Currituck County, North Carolina 27958
Protocol Project #23-78

Dear Ms. Hamby:

The following Soil Investigation is submitted to assist in a site assessment for the proposed storm water management improvements along NC Highway 168, Grandy, Currituck County, North Carolina.

SITE HISTORY AND PHYSICAL CHARACTERISTICS

The tract is currently undeveloped farmland and is surrounded by farmland and commercial development along NC Highway 168 in Grandy, North Carolina. Protocol Sampling Service, Inc. of Raleigh, North Carolina was hired to perform an investigation to identify the depth to seasonal high-water table, if any restrictive layers are present, subsurface permeability and the depth to a permeable layer for the installation of a storm water BMP. Surface elevations range from around 11.0 to approximately 12.0 feet msl from west to east across the study area.

SOIL INVESTIGATION

The field survey was conducted on Friday June 23, 2023. One (1) soil boring was advanced to 72 inches below land surface (bls) with a hand auger in the center of the proposed infiltration basin. Soil color was determined with a Munsell Soil Color Chart. The presence of fill or other disturbances, the depth to the seasonal high-water table, soil structure and consistence were noted. The boring was also checked for reduced colors, an anaerobic smell or obvious soil wetness.

FINDINGS - Soil

- The subject property contains soil belonging to the Conetoe series. This series belongs to the Hapludult subgroup that has a Arenic epipedon from surface to 2-inches.

- The soil was found to have an apparent depth to seasonal high-water table of 50-inches bls. The static water level was not found to a depth of 72-inches bls.

- A restrictive horizon was encountered from 19 to 28-inches bls where a loamy sand permeable layer was encountered. The permeable layer extends to at least 72-inches bls.

FINDINGS – SOIL PERMEABILITY

- Soil conductivity is estimated to be at least 0.50 inches/hour in the loamy sand found beneath the Bt horizon at a depth of 28-inches bls.

The findings presented herein are based on the site conditions observed during performance of the field survey on June 23, 2023.

Please call me at (919) 210-6547 if you have any questions or need further assistance.

David E. Meyer, N.C.L.S.S.
Soil Scientist/President

A 0 – 10 inches; dark brown (7.5YR 3/3) loamy fine sand; granular; friable.

E 10 – 19 inches; yellowish brown (10YR 5/4) loamy sand; granular; friable.

Bt 19 – 28 inches; brownish yellow (10YR 6/8) sandy clay loam; subangular blocky; friable.

BC 28 – 50 inches; brownish yellow (10YR 6/8) and very pale brown (10YR 7/4) loamy sand; subangular blocky; friable.

C1 50 – 60 inches; brownish yellow (10YR 6/8) fine sand with strong brown (7.5YR 5/6) concentrations and gray (10YR 6/1) depletions; single grained; loose

C2 60 – 72 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose

Soil Series: **Conetoe**
Landscape: Coastal Plain
Landform: terrace
Parent Material: Marine sediments
Drainage Class: well drained
Particle Size Class: sandy
Temperature Regime: thermic
Subgroup Classification: Arenic Hapludult
Examination Method: auger boring
Date: June 23, 2023
Weather: Sunny, 78
Investigators: David Meyer
Shwt: 50”
Measured water table depth: >72”

Appendix C

Precipitation Data

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NOAA Atlas 14, Volume 2, Version 3
Location name: Grandy, North Carolina, USA*
Latitude: 36.2455°, Longitude: -75.888°
Elevation: 14 ft**
* source: ESRI Maps
** source: USGS

DEPTH

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.444 (0.403-0.490)	0.518 (0.471-0.570)	0.587 (0.534-0.645)	0.673 (0.609-0.739)	0.758 (0.683-0.831)	0.834 (0.750-0.915)	0.904 (0.809-0.992)	0.972 (0.865-1.07)	1.06 (0.930-1.16)	1.14 (0.993-1.25)
10-min	0.709 (0.644-0.782)	0.828 (0.753-0.912)	0.940 (0.855-1.03)	1.08 (0.975-1.18)	1.21 (1.09-1.32)	1.33 (1.19-1.46)	1.44 (1.28-1.58)	1.54 (1.37-1.69)	1.67 (1.47-1.83)	1.79 (1.56-1.97)
15-min	0.886 (0.805-0.978)	1.04 (0.947-1.15)	1.19 (1.08-1.31)	1.36 (1.23-1.50)	1.53 (1.38-1.68)	1.68 (1.51-1.84)	1.82 (1.62-1.99)	1.94 (1.73-2.13)	2.10 (1.85-2.31)	2.24 (1.96-2.47)
30-min	1.22 (1.10-1.34)	1.44 (1.31-1.58)	1.69 (1.54-1.86)	1.97 (1.79-2.17)	2.27 (2.04-2.49)	2.53 (2.28-2.78)	2.78 (2.49-3.05)	3.03 (2.69-3.32)	3.34 (2.95-3.67)	3.63 (3.18-4.00)
60-min	1.52 (1.38-1.67)	1.80 (1.64-1.99)	2.16 (1.97-2.38)	2.57 (2.33-2.82)	3.02 (2.72-3.31)	3.43 (3.09-3.77)	3.83 (3.43-4.20)	4.24 (3.78-4.66)	4.80 (4.23-5.27)	5.30 (4.64-5.84)
2-hr	1.76 (1.59-1.96)	2.11 (1.90-2.33)	2.58 (2.33-2.85)	3.11 (2.80-3.43)	3.74 (3.35-4.12)	4.33 (3.86-4.76)	4.90 (4.36-5.40)	5.52 (4.88-6.08)	6.36 (5.56-7.00)	7.13 (6.19-7.86)
3-hr	1.89 (1.70-2.12)	2.26 (2.04-2.52)	2.78 (2.51-3.09)	3.38 (3.04-3.76)	4.10 (3.67-4.55)	4.80 (4.26-5.30)	5.50 (4.86-6.07)	6.26 (5.49-6.90)	7.31 (6.34-8.06)	8.31 (7.14-9.17)
6-hr	2.26 (2.04-2.52)	2.70 (2.44-3.01)	3.32 (2.99-3.70)	4.03 (3.62-4.49)	4.92 (4.39-5.45)	5.77 (5.13-6.38)	6.64 (5.85-7.32)	7.58 (6.63-8.36)	8.89 (7.69-9.81)	10.2 (8.68-11.2)
12-hr	2.67 (2.40-3.00)	3.19 (2.86-3.57)	3.93 (3.53-4.40)	4.80 (4.30-5.37)	5.90 (5.24-6.57)	6.98 (6.15-7.75)	8.08 (7.06-8.96)	9.31 (8.05-10.3)	11.0 (9.39-12.2)	12.7 (10.7-14.1)
24-hr	3.16 (2.91-3.45)	3.85 (3.54-4.20)	4.97 (4.57-5.42)	5.91 (5.42-6.44)	7.30 (6.65-7.94)	8.50 (7.67-9.23)	9.81 (8.77-10.6)	11.3 (9.96-12.2)	13.4 (11.7-14.6)	15.3 (13.1-16.7)
2-day	3.66 (3.36-4.01)	4.43 (4.07-4.85)	5.69 (5.22-6.22)	6.77 (6.19-7.38)	8.39 (7.61-9.13)	9.80 (8.80-10.6)	11.4 (10.1-12.4)	13.1 (11.5-14.3)	15.7 (13.5-17.2)	18.0 (15.2-19.8)
3-day	3.90 (3.60-4.25)	4.72 (4.36-5.15)	6.03 (5.56-6.57)	7.14 (6.55-7.76)	8.77 (7.99-9.52)	10.2 (9.18-11.0)	11.7 (10.5-12.7)	13.4 (11.8-14.6)	15.9 (13.8-17.4)	18.2 (15.6-20.0)
4-day	4.14 (3.83-4.50)	5.01 (4.64-5.45)	6.38 (5.89-6.92)	7.50 (6.91-8.14)	9.15 (8.36-9.92)	10.5 (9.57-11.4)	12.0 (10.8-13.0)	13.7 (12.1-14.8)	16.1 (14.1-17.6)	18.4 (15.9-20.2)
7-day	4.82 (4.48-5.23)	5.82 (5.40-6.31)	7.30 (6.77-7.91)	8.53 (7.88-9.23)	10.3 (9.46-11.1)	11.8 (10.7-12.7)	13.4 (12.1-14.4)	15.1 (13.5-16.3)	17.5 (15.4-19.1)	19.6 (17.0-21.4)
10-day	5.42 (5.07-5.83)	6.50 (6.07-6.98)	8.05 (7.51-8.65)	9.33 (8.68-10.0)	11.2 (10.3-12.0)	12.7 (11.7-13.6)	14.3 (13.0-15.4)	16.1 (14.5-17.3)	18.5 (16.5-20.1)	20.6 (18.1-22.4)
20-day	7.36 (6.91-7.85)	8.76 (8.24-9.35)	10.6 (10.0-11.4)	12.2 (11.4-13.0)	14.4 (13.4-15.4)	16.2 (15.0-17.3)	18.1 (16.6-19.3)	20.1 (18.3-21.5)	22.9 (20.6-24.7)	25.2 (22.3-27.3)
30-day	9.06 (8.54-9.62)	10.8 (10.1-11.4)	12.9 (12.2-13.8)	14.7 (13.8-15.6)	17.1 (16.0-18.2)	19.0 (17.7-20.2)	21.0 (19.4-22.4)	23.0 (21.1-24.6)	25.8 (23.5-27.7)	28.0 (25.2-30.2)
45-day	11.2 (10.6-11.9)	13.3 (12.5-14.1)	15.9 (15.0-16.9)	18.0 (16.9-19.2)	21.0 (19.7-22.4)	23.5 (21.9-25.0)	26.1 (24.1-27.7)	28.7 (26.4-30.7)	32.4 (29.4-34.8)	35.4 (31.8-38.1)
60-day	13.5 (12.7-14.2)	15.9 (15.0-16.8)	18.8 (17.7-19.9)	21.1 (19.9-22.3)	24.3 (22.8-25.7)	26.8 (25.1-28.3)	29.3 (27.3-31.1)	31.9 (29.5-33.9)	35.4 (32.4-37.8)	38.1 (34.6-40.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

NOAA Atlas 14, Volume 2, Version 3
Location name: Grandy, North Carolina, USA*
Latitude: 36.2455°, Longitude: -75.888°
Elevation: 14 ft**
* source: ESRI Maps
** source: USGS

INTENSITY

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	5.33 (4.84-5.88)	6.22 (5.65-6.84)	7.04 (6.41-7.74)	8.08 (7.31-8.87)	9.10 (8.20-9.97)	10.0 (9.00-11.0)	10.8 (9.71-11.9)	11.7 (10.4-12.8)	12.7 (11.2-13.9)	13.6 (11.9-15.0)
10-min	4.25 (3.86-4.69)	4.97 (4.52-5.47)	5.64 (5.13-6.20)	6.46 (5.85-7.09)	7.25 (6.53-7.95)	7.97 (7.16-8.74)	8.62 (7.71-9.46)	9.25 (8.23-10.1)	10.0 (8.83-11.0)	10.7 (9.38-11.8)
15-min	3.54 (3.22-3.91)	4.16 (3.79-4.58)	4.76 (4.33-5.23)	5.44 (4.93-5.98)	6.12 (5.52-6.72)	6.73 (6.05-7.38)	7.26 (6.50-7.97)	7.78 (6.92-8.53)	8.40 (7.41-9.23)	8.98 (7.86-9.88)
30-min	2.43 (2.21-2.68)	2.88 (2.62-3.17)	3.38 (3.07-3.71)	3.94 (3.57-4.33)	4.54 (4.09-4.97)	5.07 (4.55-5.56)	5.56 (4.98-6.10)	6.05 (5.39-6.64)	6.68 (5.90-7.34)	7.27 (6.36-8.00)
60-min	1.52 (1.38-1.67)	1.80 (1.64-1.99)	2.16 (1.97-2.38)	2.57 (2.33-2.82)	3.02 (2.72-3.31)	3.43 (3.09-3.77)	3.83 (3.43-4.20)	4.24 (3.78-4.66)	4.80 (4.23-5.27)	5.30 (4.64-5.84)
2-hr	0.881 (0.795-0.978)	1.05 (0.952-1.17)	1.29 (1.16-1.43)	1.56 (1.40-1.72)	1.87 (1.68-2.06)	2.16 (1.93-2.38)	2.45 (2.18-2.70)	2.76 (2.44-3.04)	3.18 (2.78-3.50)	3.57 (3.10-3.93)
3-hr	0.630 (0.567-0.704)	0.753 (0.680-0.840)	0.925 (0.835-1.03)	1.12 (1.01-1.25)	1.37 (1.22-1.51)	1.60 (1.42-1.77)	1.83 (1.62-2.02)	2.08 (1.83-2.30)	2.43 (2.11-2.68)	2.77 (2.38-3.05)
6-hr	0.377 (0.340-0.421)	0.450 (0.406-0.502)	0.553 (0.499-0.617)	0.673 (0.605-0.749)	0.820 (0.733-0.910)	0.963 (0.856-1.06)	1.11 (0.977-1.22)	1.27 (1.11-1.40)	1.48 (1.28-1.64)	1.70 (1.45-1.87)
12-hr	0.221 (0.199-0.248)	0.264 (0.237-0.296)	0.326 (0.292-0.365)	0.398 (0.356-0.445)	0.489 (0.434-0.545)	0.579 (0.510-0.643)	0.670 (0.586-0.743)	0.772 (0.668-0.855)	0.914 (0.779-1.01)	1.05 (0.886-1.17)
24-hr	0.131 (0.121-0.143)	0.160 (0.147-0.175)	0.207 (0.190-0.225)	0.246 (0.225-0.268)	0.304 (0.276-0.330)	0.354 (0.319-0.384)	0.408 (0.365-0.443)	0.469 (0.415-0.509)	0.559 (0.486-0.610)	0.635 (0.544-0.696)
2-day	0.076 (0.070-0.083)	0.092 (0.084-0.101)	0.118 (0.108-0.129)	0.141 (0.128-0.153)	0.174 (0.158-0.190)	0.204 (0.183-0.221)	0.236 (0.210-0.257)	0.273 (0.239-0.297)	0.327 (0.281-0.359)	0.375 (0.317-0.412)
3-day	0.054 (0.049-0.059)	0.065 (0.060-0.071)	0.083 (0.077-0.091)	0.099 (0.090-0.107)	0.121 (0.110-0.132)	0.141 (0.127-0.153)	0.162 (0.145-0.176)	0.185 (0.164-0.202)	0.221 (0.192-0.242)	0.252 (0.216-0.278)
4-day	0.043 (0.039-0.046)	0.052 (0.048-0.056)	0.066 (0.061-0.072)	0.078 (0.072-0.084)	0.095 (0.087-0.103)	0.109 (0.099-0.118)	0.125 (0.112-0.135)	0.142 (0.126-0.154)	0.167 (0.147-0.183)	0.191 (0.165-0.210)
7-day	0.028 (0.026-0.031)	0.034 (0.032-0.037)	0.043 (0.040-0.047)	0.050 (0.046-0.054)	0.061 (0.056-0.066)	0.070 (0.063-0.075)	0.079 (0.071-0.085)	0.089 (0.080-0.097)	0.104 (0.091-0.113)	0.116 (0.101-0.127)
10-day	0.022 (0.021-0.024)	0.027 (0.025-0.029)	0.033 (0.031-0.036)	0.038 (0.036-0.041)	0.046 (0.043-0.049)	0.052 (0.048-0.056)	0.059 (0.054-0.064)	0.066 (0.060-0.072)	0.077 (0.068-0.083)	0.085 (0.075-0.093)
20-day	0.015 (0.014-0.016)	0.018 (0.017-0.019)	0.022 (0.020-0.023)	0.025 (0.023-0.027)	0.030 (0.027-0.032)	0.033 (0.031-0.036)	0.037 (0.034-0.040)	0.041 (0.038-0.044)	0.047 (0.042-0.051)	0.052 (0.046-0.056)
30-day	0.012 (0.011-0.013)	0.014 (0.014-0.015)	0.017 (0.016-0.019)	0.020 (0.019-0.021)	0.023 (0.022-0.025)	0.026 (0.024-0.028)	0.029 (0.026-0.031)	0.031 (0.029-0.034)	0.035 (0.032-0.038)	0.038 (0.034-0.041)
45-day	0.010 (0.009-0.011)	0.012 (0.011-0.013)	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.019 (0.018-0.020)	0.021 (0.020-0.023)	0.024 (0.022-0.025)	0.026 (0.024-0.028)	0.030 (0.027-0.032)	0.032 (0.029-0.035)
60-day	0.009 (0.008-0.009)	0.011 (0.010-0.011)	0.013 (0.012-0.013)	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.018 (0.017-0.019)	0.020 (0.018-0.021)	0.022 (0.020-0.023)	0.024 (0.022-0.026)	0.026 (0.024-0.028)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Appendix D

Quad Map

S:\109\59040 - Dollar Tree - 6640 Caratoke Hwy Lot 1 - Grandy, NC\DWG\Sheet\Exhibit\59040 - Quad Map.dwg | Plotted on 7/25/2023 7:38 PM | by Kim Hamby

USGS QUAD MAP EXHIBIT

CAMDEN POINT, NC

2022

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

THIS DRAWING PREPARED AT THE
ELIZABETH CITY OFFICE
1805 West City Drive, Unit E | Elizabeth City, NC 27909
TEL 252.621.5030 FAX 252.562.6974 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

POPLAR BRANCH TNSP	*CURRITUCK COUNTY*
Date:07/25/2023	*Scale:1"=3000'*
Sheet 1 of 1	*J.N.:59040*
Drawn by:KH	*Checked by:KH*

TIMMONS GROUP

Appendix E

FEMA Firmette

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

National Flood Hazard Layer FIRMette

FEMA

75°53'11"W 36°14'44"N

75°52'33"W 36°14'15"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/26/2023 at 11:15 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Report of Inspection / Test
Annual NFPA 25

2023-06-08
Property
Dollar Tree - Grandy
6640 Caratoke Hwy
Grandy NC 27939

Print Date: 2023-06-15

Conducted by: Edward Chase

Coastal Fire Protection
VA 2701034169 / NC 23749
921 Corporate Lane
Chesapeake VA 23320
757-488-8471
david@coastalfire.net

Report of Inspection / Test for Asset - Hydrant 6640

Fire Hydrant Information

Hydrant ID	L CH 17
Description	2005 M&H 5 1/4
Location	6420 Caratoke Hwy.
Static Hydrant ID	L CAS 01
Static Hydrant Description	2001 M&H 5 1/4
Static Hydrant Location	6454 Caratoke Hwy. (side entrance to Sonic)

QUESTIONS

Is the hydrant free from cracks or leaks at outlets and on the top?	☑ Yes ☐ No ☐ NA	Are pumper and nozzle caps tight?	☑ Yes ☐ No ☐ NA
Is the hydrant properly painted and is the paint in good condition?	☑ Yes ☐ No ☐ NA	Does the operating nut turn with no difficulty?	☑ Yes ☐ No ☐ NA
Did the hydrant flow until clear (minimum of 1 minute)?	☑ Yes ☐ No ☐ NA	Are all dry barrels which require pumping identified?	☑ Yes ☐ No ☐ NA
Does the hydrant completely shut off?	☑ Yes ☐ No ☐ NA	Is there no ice or water in the barrel?	☑ Yes ☐ No ☐ NA
Are hydrant caps, stems, outlets, and threads lubricated and in good condition?	☑ Yes ☐ No ☐ NA	Is the Operating nut not worn, twisted or broken?	☑ Yes ☐ No ☐ NA
Is the Road box and shutoff valve visible and accessible?	☑ Yes ☐ No ☐ NA	Have dry barrels drained in at least 1 hour?	☑ Yes ☐ No ☐ NA
Have control valves been operated through complete range??	☑ Yes ☐ No ☐ NA		

Hydrant Flow Test

Static Pressure	54	Residual Pressure	40
Pitot Pressure	34	Orifice Size	2.5
Orifice Coefficient	0.90	Flow	978

Static Hydrant

Static Pressure	54	Residual Pressure	48

Report of Inspection / Test
Annual NFPA 25

2023-06-08
Property
Dollar Tree - Grandy
6640 Caratoke Hwy
Grandy NC 27939

Print Date: 2023-06-15

Conducted by: Edward Chase

Coastal Fire Protection
VA 2701034169 / NC 23749
921 Corporate Lane
Chesapeake VA 23320
757-488-8471
david@coastalfire.net

Final Hydrant Flow Test

Flow at 20 psi residual pressure:	2496	Total Flow	978

Report of Inspection / Test
Annual NFPA 25

2023-06-08
Property
Dollar Tree - Grandy
6640 Caratoke Hwy
Grandy NC 27939

Print Date: 2023-06-15

Conducted by: Edward Chase

Coastal Fire Protection
VA 2701034169 / NC 23749
921 Corporate Lane
Chesapeake VA 23320
757-488-8471
david@coastalfire.net

Deficiencies - Hydrant 6640

None

Report of Inspection / Test
Annual NFPA 25

2023-06-08
Property
Dollar Tree - Grandy
6640 Caratoke Hwy
Grandy NC 27939

Print Date: 2023-06-15

Conducted by: Edward Chase

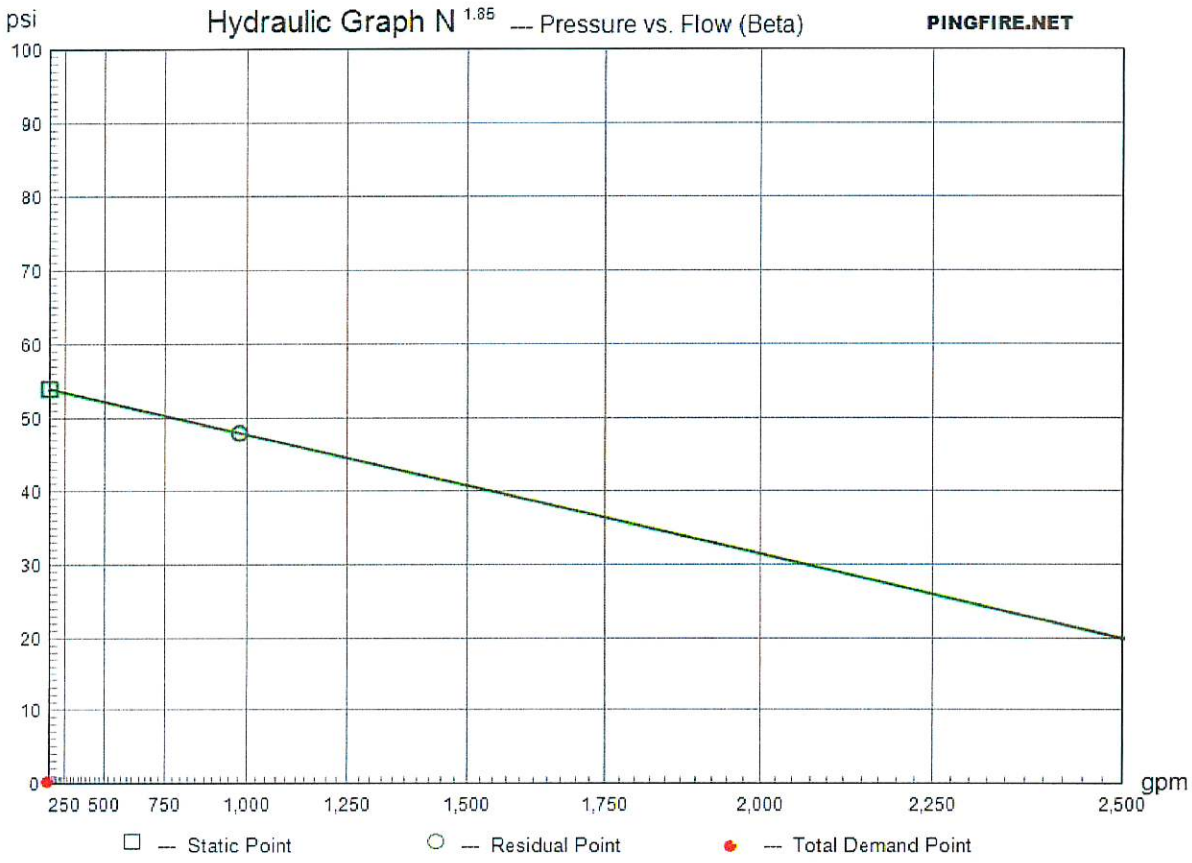
Coastal Fire Protection
VA 2701034169 / NC 23749
921 Corporate Lane
Chesapeake VA 23320
757-488-8471
david@coastalfire.net

Inspector Signature

I state that the information on this form is correct at the time and place of my inspection, and all equipment tested at this time was left in operational condition upon completion of this inspection except as noted.

Inspector Name	Signature	Date Completed
Edward Chase		2023-06-08

The World's First Web-Based Hydraulic Graph N^1.85 for Water Supply and Demand Information



Project Location: 6420 Caratoke Hwy. Grandy, NC 27939

Flow Test: Hydrant Elev.= 1.0 ft., Static Pressure= 54 psi, Residual Pressure= 48 psi, Flow= 978 gpm

Tester and/or Witness By: Edward Chase (11:25am) Phone: 757-488-8471 Date: 6/8/23

System Demand Data: Pressure = psi, Flow= gpm, Hose Stream= gpm

Designer: Phone: A.H.J.

Note:

This information is provided to the requestor for evaluation purposes only, without warranty of any kind, including but not limited to any expressed or implied warranty arising by contract, statute or law. In no event regardless of cause, shall Coastal Fire Protection be liable for any direct, indirect, special, punitive or consequential damages of any kind whether such damages arise under contract, tort, strict liability or in

Max. P on pressure axis= 100 psi; Max. Q on flow rate axis: 2500 gpm; AutoUpdate Update Reset

Send comments or bug reports to: support@pingfire.net

Keywords: PingFIRE, .Net, NFPA 13, Flow Test, Fire Sprinkler Piping System, Hydraulic Graph N1.85, Web-Based

STATE OF NORTH CAROLINA

ROUTE US 168 PROJECT Dollar Tree - Grandy COUNTY OF Currituck

DEPARTMENT OF TRANSPORTATION

-AND-

Cedar Run Capital, LLC, Barnes Boykin, Member

2405-F Nash Street NW

Wilson, NC 27896

RIGHT OF WAY ENCROACHMENT AGREEMENT FOR NON-UTILITY ENCROACHMENTS ON PRIMARY AND SECONDARY HIGHWAYS

THIS AGREEMENT, made and entered into this the _____ day of _____ , 20 _____ , by and between the Department of Transportation, party of the first part; and Cedar Run Capital, LLC party of the second part,

W I T N E S S E T H

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) NC Hwy 168 , located approximately 550' north of the intersection of NC 168 and SR 1131, on the west side of the highway

with the construction and/or erection of: concrete sidewalk along lot frontage, extension of an existing pipe stub out from a curb inlet at the north end of the road frontage, replacement of a curb inlet frame and grate with a DI frame and grate in the proposed driveway apron, and replacement of a DI frame and grate with a storm manhole ring and cover

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction and maintenance operations.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

R/W (161A) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161A) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: _____
DIVISION ENGINEER

ATTEST OR WITNESS:

_____

_____

_____

Cedar Run Capital, LLC

_____

Barnes Boykin, Member

Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the State Utilities Manager. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.

FIRE & RESCUE

ISO Fire Flow Worksheet

Needed Fire Flow Work Sheet (ISO formulas)

NFF = (Ci)(Oi)(Xi+Pi)
C=18F(Ai)^0.5

Address:	**Caratoke Hwy**		
Project Name:	**Dollar Tree Grandy**	Occupancy Type:	**Commercial**
Construction Type:	**Ordinary**	Number of Stories:	**1**

STEP 1 Take the area, which is 100% sq. ft. of the first floor plus the following percentage of the total area of the other floors.

First Floor Area in Sq. Ft	10062	Sq. Ft. @ 100%
Additional Floors		
Enter total area in sq. ft for all other floors	0	
Total Area Entire Building	10062	

STEP 2

F = Coefficient related to the class of construction as determined by using the construction type found in SBCCI

Construction Type	Class	F Value
Frame	1	1.5
Joist Masonry	2	1
Non-combustible	3	0.8
Heavy Timber	4	0.8
Modified fire resistance	5	0.6
Fire resistive	6	0.6

Construction Class	3	
Square Root of the Area x F x 18	1500	= C Value

ISO Fire Flow Worksheet

Needed Fire Flow Work Sheet (ISO formulas)

STEP 3	Multiply result of rounded off GPM by the Occupancy Factor (Oi)	**Occupancy Factor**
	Noncombustible (C-1) = No active fuel loads such as storage of asbestos, clay, glass, marble, stone, or metal products.	**0.75**
	Limited - Combustible (C-2) = Limited fuel loads such as airports, apartments, art studios, auto repair, auto showroom, aviaries, banks, barber shops, beauty shops, churches, clubs, cold storage warehouses, day care center, educational occupancies, gas stations, green houses, health clubs, hospitals, jails, libraries, medical labs, motels, museums, nursing homes, offices, radio stations, recreation centers, and rooming houses.	**0.85**
	Combustible (C-3) = Moderate fuel loads such as auto part stores, auto repair training center, bakery, bookstores, bowling centers, casinos, commercial laundries, contractor equipment storage, dry cleaners with no flammable fluids, leather processing, municipal storage buildings, nursery sales stores, pavilions, pet shops, photographic supplies, printers, restaurants, shoe repair, supermarkets, theaters, vacant buildings, and most wholesale & retail sales ocuppancies.	**1.0**
	Free-Burning (C-4) = Active fuel loads such as aircraft hangers, cabinet making, combustible metals, dry cleaners using flammable fluids, feed stores, furniture stores, kennels, lumber, packaging and crating, paper products manufacturing, petroleum bulk distribution centers, tire manufacturers, tire recapping or retreading, wax products, and wood working shops.	**1.15**
	Rapid-Burning (C-5) = Contents that burn with great intensity, spontaneously ignite, have flammable or explosive vapors, or large quantities of dust such as ammunition, feed mills, fireworks, flammable compressed gases, flammable liquids, flour mills, highly flammable solids, matches, mattress factories, nitrocellulose-based products, rag storage, upholstery shops, & waste paper storage.	**1.25**
	Occupancy Class Selected (1 thru 5) 3	
	GPM x Oi 1500	

ISO Fire Flow Worksheet

Needed Fire Flow Work Sheet (ISO formulas)

STEP 4 Now consider the exposure factor (Xi) - (Separation between buildings)

Distance (feet to the exposed building)	Xi	>3 stories
0-10	0.22	0.47
11-30	0.18	0.43
31-60	0.13	0.38
61-100	0.09	0.34

Distance, in feet, to the exposed building	90
Xi (from table)	0.09

Multiply GPM from step 4 by (1+Xi)

Total From Step 4	1635

STEP 5 **Approved Fire Sprinkler System? (Y or N)** N

Take fire flow from step 5 and multiply by sprinkler credit of 0.25

Sprinkler credit	0

Now subtract sprinkler credit from fire flow in step 4

NEEDED FIRE FLOW	**1750 GPM**

Major Stormwater Plan Form SW-002

Review Process

Contact Information

Currituck County
Planning and Community Development
153 Courthouse Road, Suite 110
Currituck, NC 27929

Phone: 252.232.3055
Fax: 252.232.3026

Website: http://www.co.currituck.nc.us/planning-community-development.cfm

Currituck County
Engineering Department
153 Courthouse Road, Suite 302
Currituck, NC 27929

Phone: 252.232.6035

General

Major stormwater plan approval is required for:

- Major subdivisions.
- Major site plans - development or expansion on a nonresidential, multi-family, or mixed use lot by 5,000 square feet or more of impervious coverage or resulting in 10% or more total impervious coverage.

Step 1: Application Submittal

The applicant must submit a complete application packet consisting of the following:

- Completed Currituck County Minor Stormwater Plan Form SW-002 (unless submitting a major subdivision or major site plan).
- Completed Rational Method Form SW-003 or NRCS Method Form SW-004.
- Stormwater management plan drawn to scale. The plan shall include the items listed in the major stormwater plan design standards checklist.
- Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable.
- NCDENR permit applications, if applicable.
- Number of Copies Submitted:
  - 3 Copies of required plans
  - 3 Hard copies of ALL documents
  - 1 PDF digital copy (ex. Compact Disk – e-mail not acceptable) of all plans AND documents.

On receiving an application, staff shall determine whether the application is complete or incomplete. A complete application contains all the information and materials listed above, and is in sufficient detail to evaluate and determine whether it complies with appropriate review standards. An application for major stormwater plan must be submitted and approved prior altering an existing drainage system, performing any land disturbing activity or, before construction documents are approved.

Step 2: Staff Review and Action

Once an application is determined complete staff shall approve, approve subject to conditions or disapprove the application.

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Major Stormwater Plan
Form SW-002

Contact Information

APPLICANT:
Name: Cedar Run Capital, LLC
Address: 2405-F Nash St. NW
Wilson, NC 27896
Telephone: 252-230-0632
E-Mail Address: barnesboykin@yahoo.com

PROPERTY OWNER:
Name: Jason Roadcap
Address: 631 Fernwood Farms Road
Chesapeake, VA 23320
Telephone: _____
E-Mail Address: _____

Property Information

Physical Street Address: 6640 Caratoke Hwy., Currituck, NC 27939
Parcel Identification Number(s): 0094000122E0000
FEMA Flood Zone Designation: Zone X

Request

Project Description: Dollar Tree - Grandy
Total land disturbance activity: 93,574 sf
Calculated volume of BMPs: 4310 sf
Maximum lot coverage: 39191 sf
Proposed lot coverage: 39191 sf

TYPE OF REQUEST

- ☐ Major subdivision (10-year, 24-hour rate)
- ☒ Major site plan (5-year, 24-hour rate)

METHOD USED TO CALCULATE PEAK DISCHARGE

- ☐ Rational Method
- ☐ NRCS Method (TR-55 and TR-20)
- ☒ Simple volume calculation for small sites (less than 10 acres)
- ☐ Alternative stormwater runoff storage analysis
- ☐ Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for purposes of determining compliance. All information submitted and required as part of this process shall become public record.

Property Owner(s)/Applicant _____ Date 7/24/23

The table below depicts the design standards of the major stormwater plan application. Please make sure to include all applicable listed items to ensure all appropriate standards are reviewed.

Major Stormwater Plan

Design Standards Checklist

Date Received: _____

Project Name: Dollar Tree - Grandy

Applicant/Property Owner: Cedar Run Capital, LLC

Minor Stormwater Plan Design Standards Checklist		
General		
1	Property owner name and address.	✔
2	Site address and parcel identification number.	✔
3	North arrow and scale to be 1" = 100' or larger.	✔
Site Features		
4	Scaled drawing showing existing and proposed site features: Property lines with dimensions, acreage, streets, easements, structures (dimensions and square footage), fences, bulkheads, septic area (active and repair), utilities, vehicular use areas, driveways, and sidewalks.	✔
5	Approximate location of all designated Areas of Environmental Concern (AEC) or other such areas which are environmentally sensitive on the property, such as Maritime Forest, CAMA, 404, or 401 wetlands as defined by the appropriate agency.	N/A
6	Existing and proposed ground elevations shown in one foot intervals. All elevation changes within the past six months shall be shown on the plan.	✔
8	Limits of all proposed fill, including the toe of fill slope and purpose of fill.	✔
9	Square footage of all existing and proposed impervious areas (structures, sidewalks, walkways, vehicular use areas regardless of surface material), including a description of surface materials.	✔
10	Existing and proposed drainage patterns, including direction of flow.	✔
11	Location, capacity, design plans (detention, retention, infiltration), and design discharge of existing and proposed stormwater management features.	✔
12	Elevation of the seasonal high water level as determined by a licensed soil scientist.	✔
13	Plant selection.	✔
Permits and Other Documentation		
14	NCDENR stormwater permit application (if 10,000sf or more of built upon area).	✔
15	NCDENR erosion and sedimentation control permit application (if one acre or more of land disturbance).	✔
16	NCDENR coastal area management act permit application, if applicable.	N/A
17	Stormwater management narrative with supporting calculations.	✔
18	Rational Method Form SW-003 or NRCS Method Form SW-004	N/A
19	Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable	✔
20	Design spreadsheets for all BMPs (*Appendix F – Currituck County Stormwater Manual*).	✔
21	Detailed maintenance plan for all proposed BMPs.	✔

Certificate		
22	The major stormwater plan shall contain the following certificate: I, _____, owner/agent hereby certify the information included on this and attached pages is true and correct to the best of my knowledge. On the plan entitled _____, stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements. Date:_____ Owner/Agent:_____	✔

Major Stormwater Plan Submittal Checklist

Staff will use the following checklist to determine the completeness of your application. Please make sure all of the listed items are included. Staff shall not process an application for further review until it is determined to be complete.

Major Stormwater Plan Form SW-002

Submittal Checklist

Date Received: _____

Project Name: Dollar Tree - Grandy

Applicant/Property Owner: Cedar Run Capital, LLC

Major Stormwater Plan Form SW-002 Submittal Checklist		
1	Completed Major Stormwater Plan Form SW-002	✔
2	Completed Rational Method Form SW-003 or NRCS Method Form SW-004	N/A
3	Stormwater plan	✔
4	NCDENR permit applications, if applicable	✔
5	3 copies of plans	✔
6	3 hard copies of ALL documents	✔
7	**1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)**	✔

Comments

_____

_____

_____

Check if this project is ARPA-funded ☐

FINANCIAL RESPONSIBILITY/OWNERSHIP FORM
SEDIMENTATION POLLUTION CONTROL ACT

No person may initiate any land-disturbing activity on one or more acres as covered by the Act, including any activity under a common plan of development of this size as covered by the NCG01 permit, before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environmental Quality. Submit the completed form to the appropriate Regional Office. (Please type or print and, if the question is not applicable or the e-mail address or phone number is unavailable, place N/A in the blank.)

Part A.

1. Project Name Dollar Tree - Grandy

   **If this project involves American Rescue Plan Act (ARPA) funds, list the Project Name below under which you applied for funding through the Division of Water Infrastructure (DWI).*

2. Location of land-disturbing activity: County Currituck City or Township Grandy
   Highway/Street Caratoke Highway Latitude(decimal degrees) 36.242953 Longitude(decimal degrees) -75.879396

3. Approximate date land-disturbing activity will commence: October 2023

4. Purpose of development (residential, commercial, industrial, institutional, etc.): commercial

5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): 2.15

6. Amount of fee enclosed: $300.00. The application fee of $100.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: 8.10-acre application fee is $900). Checks should be addressed to NCDEQ.

7. Has an erosion and sediment control plan been filed? Yes ☒ Enclosed ☒ No ☐

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:
   Name Selden Taylor E-mail Address staylor@stockstaylor.com
   Phone: Office # 252.975.5811 Mobile # 252.714.1108

9. Landowner(s) of Record (attach accompanied page to list additional owners):

Jason Roadcap		
Name	Phone: Office #	Mobile #
631 Fernwood Farms Road	631 Fernwood Farms Road	
Current Mailing Address	Current Street Address	
Chesapeake, VA 23320	Chesapeake, VA 23320	
City State Zip	City State Zip	

10. Deed Book No. 1364 Page No. 597 Provide a copy of the most current deed.

Part B.

1. Company(ies) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on accompanied page.) *If the company is a sole proprietorship or if the landowner(s) is an individual(s), the name(s) of the owner(s) may be listed as the financially responsible party(ies).*

Cedar Run Capital, LLC	barnesboykin@yahoo.com
Company Name	E-mail Address
2405-F Nash St. NW	2405-F Nash St. NW
Current Mailing Address	Current Street Address
Wilson NC 27896	Wilson NC 27896
City State Zip	City State Zip
Phone: Office # 252-230-0632	Mobile #

Note: If the Financially Responsible Party is not the owner of the land to be disturbed, include with this form the landowner's signed and dated written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land disturbing activity.

2. (a) If the Financially Responsible Party is a domestic company registered on the NC Secretary of State business registry, give name and street address of the Registered Agent:

Charles A Thomas	cthomas7280@yahoo.com
Name of Registered Agent	E-mail Address
2405-F Nash St. NW	2405-F Nash St. NW
Current Mailing Address	Current Street Address
Wilson NC 27896	Wilson NC 27896
City State Zip	City State Zip
Phone: Office # 252-399-1964	Mobile #
Name of Individual to Contact (if Registered Agent is a company)	

(b) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina agent who is registered on the NC Secretary of State business registry:

Name of Registered Agent	E-mail Address
Current Mailing Address	Current Street Address
City State Zip	City State Zip
Phone: Office #	Mobile #
Name of Individual to Contact (if Registered Agent is a company)	

(c) If the Financially Responsible Party is engaging in business under an assumed name, give name under which the company is Doing Business As. If the Financially Responsible Party is an individual, General Partnership, or other company not registered and doing business under an assumed name, **attach a copy of the Certificate of Assumed Name.**

_____
Company DBA Name

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath. (This form must be signed by the Financially Responsible Person if an individual(s) or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Party). I agree to provide corrected information should there be any change in the information provided herein.

Barnes Boykin	Member
Type or print name	Title or Authority
Signature	Date

I, _____, a Notary Public of the County of _____

State of North Carolina, hereby certify that _____appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him/her.

Witness my hand and notarial seal, this _____day of _____, 20_____

_____
Notary

Seal

My commission expires_____

D-Series Size 1
LED Area Luminaire

Catalog Number

Notes

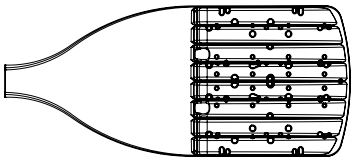
Type

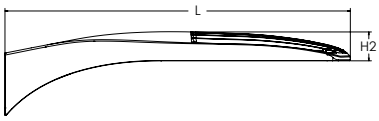
Hit the Tab key or mouse over the page to see all interactive elements.

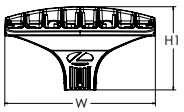
d-series

Specifications

EPA:	0.69 ft² (0.06 m²)
Length:	32.71" (83.1 cm)
Width:	14.26" (36.2 cm)
Height H1:	7.88" (20.0 cm)
Height H2:	2.73" (6.9 cm)
Weight:	34 lbs (15.4 kg)







Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series

DSX1 LED

LEDs

Forward optics

P1	P6
P2	P7
P3	P8
P4	P9
P5	

Rotated optics

P10 [1]	P12 [1]
P11 [1]	P13 [1]

Color temperature [2]

(this section 70CRI only)

30K	3000K
40K	4000K
50K	5000K

(this section 80CRI only, extended lead times apply)

27K	2700K
30K	3000K
35K	3500K
40K	4000K
50K	5000K

Color Rendering Index [2]

70CRI	70CRI
70CRI	70CRI
70CRI	70CRI
80CRI	80CRI
80CRI	80CRI
80CRI	80CRI
80CRI	80CRI

Distribution

AFR	Automotive front row
T1S	Type I short
T2M	Type II medium
T3M	Type III medium
T3LG	Type III low glare [3]
T4M	Type IV medium
T4LG	Type IV low glare [3]
TFTM	Forward throw medium
T5M	Type V medium
T5LG	Type V low glare
T5W	Type V wide
BLC3	Type III backlight control [3]
BLC4	Type IV backlight control [3]
LCCO	Left corner cutoff [3]
RCCO	Right corner cutoff [3]

Voltage

MVOLT	(120V-277V) [4]
HVOLT	(347V-480V) [5,6]
XVOLT	(277V - 480V) [7,8]

Mounting

Shipped included

SPA	Square pole mounting (#8 drilling)
RPA	Round pole mounting (#8 drilling)
SPA5	Square pole mounting #5 drilling [9]
RPA5	Round pole mounting #5 drilling [9]
SPA8N	Square narrow pole mounting #8 drilling
WBA	Wall bracket [10]
MA	Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options

Shipped installed

NLTAIR2 PIRHN	nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc. [11,12,20,21]
PIR	High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc [13,20,21]
PER	NEMA twist-lock receptacle only (controls ordered separate) [14]
PER5	Five-pin receptacle only (controls ordered separate) [14,21]
PER7	Seven-pin receptacle only (controls ordered separate) [14,21]
FAO	Field adjustable output [15,21]
BL30	Bi-level switched dimming, 30% [16,21]
BL50	Bi-level switched dimming, 50% [16,21]
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) [17]
DS	Dual switching [18,19,21]

Other options

Shipped installed

SPD20KV	20KV surge protection
HS	Houseside shield (black finish standard) [22]
L90	Left rotated optics [1]
R90	Right rotated optics [1]
CCE	Coastal Construction [23]
HA	50°C ambient operation [24]

Shipped separately

EGSR	External Glare Shield (reversible, field install required, matches housing finish)
BSDB	Bird Spikes (field install required)

Finish *(required)*

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white

Ordering Information

Accessories

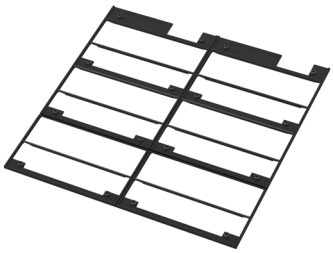
Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK	Shorting cap [25]
DSX1HS P#	House-side shield (enter package number 1-13 in place of #)
DSXRPA (FINISH)	Round pole adapter (#8 drilling, specify finish)
DSXSPA5 (FINISH)	Square pole adapter #5 drilling (specify finish)
DSXRPA5 (FINISH)	Round pole adapter #5 drilling (specify finish)
DSX1EGSR (FINISH)	External glare shield (specify finish)
DSX1BSDB (FINISH)	Bird spike deterrent bracket (specify finish)

NOTES
1 Rotated optics available with packages P10, P11, P12 and P13. Must be combined with option L90 or R90.
2 30K, 40K, and 50K available in 70CRI and 80CRI. 27K and 35K only available with 80CRI. Contact Technical Support for other possible combinations.
3 T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with option HS.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
6 HVOLT not available with package P1 and P10 when combined with option NLTAIR2 PIRHN or option PIR.
7 XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
8 XVOLT not available in packages P1 or P10.
9 SPA5 and RPA5 for use with #5 drilling only (Not for use with #8 drilling).
10 WBA cannot be combined with Type 5 distributions plus photocell (PER).
11 NLTAIR2 and PIRHN must be ordered together. For more information on nLight AIR2 visit this link
12 NLTAIR2 PIRHN not available with other controls including PIR, PER, PER5, PER7, FAO, BL30, BL50, DMG and DS. NLTAIR2 PIRHN not available with P1 and P10 using HVOLT. NLTAIR2 PIRHN not available with P1 and P10 using XVOLT.
13 PIR not available with NLTAIR2 PIRHN, PER, PER5, PER7, FAO BL30, BL50, DMG and DS. PIR not available with P1 and P10 using HVOLT. PIR not available with P1 and P10 using XVOLT.
14 PER/PER5/PER7 not available with NLTAIR2 PIRHN, PIR, BL30, BL50, FAO, DMG and DS. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
15 FAO not available with other dimming control options NLTAIR2 PIRHN, PIR, PER5, PER7, BL30, BL50, DMG and DS.
16 BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, FAO, DMG and DS.
17 DMG not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DS.
18 DS not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DMG.
19 DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads using (2) drivers. DS only available with packages P8, P9, P10, P11, P12 and P13.
20 Reference Motion Sensor Default Settings table on page 4 to see functionality.
21 Reference Controls Options table on page 4.
22 HS not available with T3LG, T4LG, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
23 CCE option not available with option BS and EGS. Contact Technical Support for availability.
24 Option HA not available with performance packages P4, P5, P7, P8, P9 and P13.
25 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.

Shield Accessories

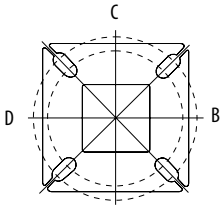
External Glare Shield (EGS)

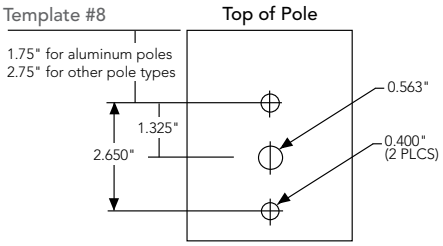


House Side Shield (HS)

Drilling

HANDHOLE ORIENTATION





Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
		Minimum Acceptable Outside Pole Dimension					
SPA	#8	3.5"	3.5"	3.5"	3.5"		3.5"
RPA	#8	3"	3"	3"	3"	3"	3"
SPA5	#5	3"	3"	3"	3"		3"
RPA5	#5	3"	3"	3"	3"	3"	3"
SPA8N	#8	3"	3"	3"	3"		3"

DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX1 with SPA	0.69	1.38	1.23	1.54	---	1.58
DSX1 with SPA5, SPA8N	0.70	1.40	1.30	1.66	---	1.68
DSX1 with RPA, RPA5	0.70	1.40	1.30	1.66	1.60	1.68
DSX1 with MA	0.83	1.66	1.50	2.09	2.09	2.09

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's homepage.

Isofootcandle plots for the DSX1 LED P9 40K 70CRI. Distances are in units of mounting height (25').

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°C**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.95
50,000	0.90
100,000	0.81

FAO Dimming Settings

FAO Position	% Wattage	% Lumen Output
8	100%	100%
7	93%	95%
6	80%	85%
5	66%	73%
4	54%	61%
3	41%	49%
2	29%	36%
1	15%	20%

*Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use maximum published values by package listed on specification sheet (input watts and lumens by optic type).

Electrical Load

	Performance Package	LED Count	Drive Current (mA)	Wattage	Current (A) 120V	208V	240V	277V	347V	480V
Forward Optics (Non-Rotated)	P1	30	530	51	0.42	0.24	0.21	0.18	0.15	0.11
	P2	30	700	68	0.56	0.33	0.28	0.24	0.20	0.14
	P3	30	1050	104	0.85	0.49	0.43	0.37	0.29	0.21
	P4	30	1250	125	1.03	0.60	0.52	0.45	0.36	0.26
	P5	30	1400	142	1.15	0.66	0.58	0.50	0.40	0.29
	P6	40	1250	167	1.38	0.79	0.69	0.60	0.48	0.34
	P7	40	1400	188	1.54	0.89	0.77	0.67	0.53	0.38
	P8	60	1100	216	1.80	1.04	0.90	0.78	0.62	0.45
	P9	60	1400	279	2.31	1.33	1.15	1.00	0.80	0.58
Rotated Optics (Requires L90 or R90)	P10	60	530	101	0.84	0.49	0.42	0.37	0.29	0.21
	P11	60	700	135	1.12	0.65	0.56	0.49	0.39	0.28
	P12	60	1050	206	1.72	0.99	0.86	0.74	0.59	0.43
	P13	60	1400	279	2.30	1.33	1.15	1.00	0.79	0.57

LED Color Temperature / Color Rendering Multipliers

	70 CRI		80CRI		90CRI	
	Lumen Multiplier	Availability	Lumen Multiplier	Availability	Lumen Multiplier	Availability
5000K	102%	Standard	92%	Extended lead-time	71%	(see note)
4000K	100%	Standard	92%	Extended lead-time	67%	(see note)
3500K	100%	(see note)	90%	Extended lead-time	63%	(see note)
3000K	96%	Standard	87%	Extended lead-time	61%	(see note)
2700K	94%	(see note)	85%	Extended lead-time	57%	(see note)

Note: Some LED types are available as per special request. Contact Technical Support for more information.

Motion Sensor Default Settings

Option	Unoccupied Dimmed Level	High Level (when occupied)	Phototcell Operation	Dwell Time	Ramp-up Time	Dimming Fade Rate
PIR	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min
NLTAIR2 PIRHN	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS (not available on DSX0)	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V leads.
PIR	Motion sensor with integral photocell. Sensor suitable for 8' to 40' mounting height.	Luminaires dim when no occupancy is detected.	Acuity Controls rSBG	Cannot be used with other controls options that need the 0-10V leads.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSBG	nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app. Cannot be used with other controls options that need the 0-10V leads.
BL30 or BL50	Integrated bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output	BLC device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (30% or 50%) control by a secondary circuit	BLC UVOLT1	BLC device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V

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 configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	51W	30	530	T1S	7,776	1	0	2	153	8,104	1	0	2	159	8,262	1	0	2	162
				T2M	7,203	1	0	3	142	7,507	2	0	3	147	7,653	2	0	3	150
				T3M	7,287	1	0	3	143	7,594	1	0	3	149	7,742	1	0	3	152
				T3LG	6,509	1	0	1	128	6,783	1	0	1	133	6,916	1	0	1	136
				T4M	7,395	1	0	3	145	7,707	1	0	3	151	7,857	1	0	3	154
				T4LG	6,726	1	0	1	132	7,010	1	0	1	138	7,146	1	0	1	140
				TFTM	7,446	1	0	3	146	7,760	1	0	3	152	7,912	1	0	3	155
				T5M	7,609	3	0	2	149	7,930	3	0	2	156	8,084	3	0	2	159
				T5W	7,732	3	0	2	152	8,058	4	0	2	158	8,215	4	0	2	161
				T5LG	7,631	3	0	1	150	7,953	3	0	1	156	8,108	3	0	1	159
				BLC3	5,300	0	0	2	104	5,524	0	0	2	109	5,631	0	0	2	111
				BLC4	5,474	0	0	3	108	5,705	0	0	3	112	5,816	0	0	3	114
				RCCO	5,348	0	0	2	105	5,573	0	0	2	109	5,682	0	0	2	112
				LCCO	5,348	0	0	2	105	5,573	0	0	2	109	5,682	0	0	2	112
				AFR	7,776	1	0	2	153	8,104	1	0	2	159	8,262	1	0	2	162
P2	68W	30	700	T1S	9,997	1	0	2	147	10,418	1	0	2	154	10,621	1	0	2	157
				T2M	9,260	2	0	3	137	9,651	2	0	3	142	9,839	2	0	3	145
				T3M	9,368	2	0	3	138	9,763	2	0	3	144	9,953	2	0	3	147
				T3LG	8,368	1	0	2	123	8,721	1	0	2	129	8,891	1	0	2	131
				T4M	9,507	2	0	3	140	9,909	2	0	3	146	10,102	2	0	3	149
				T4LG	8,647	1	0	2	128	9,012	1	0	2	133	9,187	1	0	2	136
				TFTM	9,573	2	0	3	141	9,977	2	0	3	147	10,172	2	0	3	150
				T5M	9,782	4	0	2	144	10,195	4	0	2	150	10,393	4	0	2	153
				T5W	9,940	4	0	2	147	10,360	4	0	2	153	10,562	4	0	2	156
				T5LG	9,810	3	0	1	145	10,224	3	0	1	151	10,423	3	0	1	154
				BLC3	6,814	0	0	2	101	7,101	0	0	2	105	7,240	0	0	2	107
				BLC4	7,038	0	0	3	104	7,334	0	0	3	108	7,477	0	0	3	110
				RCCO	6,875	1	0	2	101	7,165	1	0	2	106	7,305	1	0	2	108
				LCCO	6,875	1	0	2	101	7,165	1	0	2	106	7,305	1	0	2	108
				AFR	9,997	1	0	2	147	10,418	1	0	2	154	10,621	1	0	2	157
P3	102W	30	1050	T1S	14,093	2	0	2	138	14,687	2	0	2	144	14,973	2	0	2	147
				T2M	13,055	2	0	3	128	13,605	2	0	3	133	13,871	2	0	3	136
				T3M	13,206	2	0	4	129	13,763	2	0	4	135	14,031	2	0	4	137
				T3LG	11,797	2	0	2	115	12,294	2	0	2	120	12,534	2	0	2	123
				T4M	13,403	2	0	4	131	13,968	2	0	4	137	14,241	2	0	4	139
				T4LG	12,190	2	0	2	119	12,704	2	0	2	124	12,952	2	0	2	127
				TFTM	13,496	2	0	4	132	14,065	2	0	4	138	14,339	2	0	4	140
				T5M	13,790	4	0	2	135	14,371	4	0	2	141	14,652	4	0	2	143
				T5W	14,013	4	0	3	137	14,605	4	0	3	143	14,889	4	0	3	146
				T5LG	13,830	3	0	2	135	14,413	3	0	2	141	14,694	3	0	2	144
				BLC3	9,606	0	0	2	94	10,011	0	0	2	98	10,206	0	0	2	100
				BLC4	9,921	0	0	3	97	10,340	0	0	3	101	10,541	0	0	3	103
				RCCO	9,692	1	0	2	95	10,101	1	0	2	99	10,298	1	0	2	101
				LCCO	9,692	1	0	2	95	10,101	1	0	2	99	10,298	1	0	2	101
				AFR	14,093	2	0	2	138	14,687	2	0	2	144	14,973	2	0	2	147

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 configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P4	124W	30	1250	T1S	16,416	2	0	3	132	17,109	2	0	3	138	17,442	2	0	3	141
				T2M	15,207	3	0	4	123	15,849	3	0	4	128	16,158	3	0	4	130
				T3M	15,383	2	0	4	124	16,032	2	0	4	129	16,345	2	0	4	132
				T3LG	13,742	2	0	2	111	14,321	2	0	2	116	14,600	2	0	2	118
				T4M	15,613	2	0	4	126	16,272	2	0	4	131	16,589	2	0	4	134
				T4LG	14,200	2	0	2	115	14,799	2	0	2	119	15,087	2	0	2	122
				TFTM	15,721	2	0	4	127	16,384	2	0	4	132	16,703	2	0	4	135
				T5M	16,063	4	0	2	130	16,741	4	0	2	135	17,067	4	0	2	138
				T5W	16,324	5	0	3	132	17,013	5	0	3	137	17,344	5	0	3	140
				T5LG	16,110	3	0	2	130	16,790	4	0	2	135	17,117	4	0	2	138
				BLC3	11,190	0	0	3	90	11,662	0	0	3	94	11,889	0	0	3	96
				BLC4	11,557	0	0	3	93	12,044	0	0	3	97	12,279	0	0	4	99
				RCCO	11,291	1	0	3	91	11,767	1	0	3	95	11,996	1	0	3	97
				LCCO	11,291	1	0	3	91	11,767	1	0	3	95	11,996	1	0	3	97
				AFR	16,416	2	0	3	132	17,109	2	0	3	138	17,442	2	0	3	141
P5	138W	30	1400	T1S	18,052	2	0	3	131	18,814	2	0	3	136	19,180	2	0	3	139
				T2M	16,723	3	0	4	121	17,428	3	0	4	126	17,768	3	0	4	129
				T3M	16,917	3	0	4	122	17,630	3	0	4	128	17,974	3	0	4	130
				T3LG	15,111	2	0	2	109	15,749	2	0	2	114	16,055	2	0	2	116
				T4M	17,169	3	0	5	124	17,893	3	0	5	130	18,242	3	0	5	132
				T4LG	15,615	2	0	2	113	16,274	2	0	2	118	16,591	2	0	2	120
				TFTM	17,288	2	0	4	125	18,017	2	0	5	130	18,368	3	0	5	133
				T5M	17,664	5	0	3	128	18,410	5	0	3	133	18,768	5	0	3	136
				T5W	17,951	5	0	3	130	18,708	5	0	3	135	19,073	5	0	3	138
				T5LG	17,716	4	0	2	128	18,463	4	0	2	134	18,823	4	0	2	136
				BLC3	12,305	0	0	3	89	12,824	0	0	3	93	13,074	0	0	3	95
				BLC4	12,709	0	0	4	92	13,245	0	0	4	96	13,503	0	0	4	98
				RCCO	12,416	1	0	3	90	12,940	1	0	3	94	13,192	1	0	3	95
				LCCO	12,416	1	0	3	90	12,940	1	0	3	94	13,192	1	0	3	95
				AFR	18,052	2	0	3	131	18,814	2	0	3	136	19,180	2	0	3	139
P6	165W	40	1250	T1S	21,031	2	0	3	127	21,918	2	0	3	133	22,345	2	0	3	135
				T2M	19,482	3	0	4	118	20,303	3	0	4	123	20,699	3	0	4	125
				T3M	19,708	3	0	5	119	20,539	3	0	5	124	20,939	3	0	5	127
				T3LG	17,604	2	0	2	107	18,347	2	0	2	111	18,704	2	0	2	113
				T4M	20,001	3	0	5	121	20,845	3	0	5	126	21,251	3	0	5	129
				T4LG	18,191	2	0	2	110	18,959	2	0	2	115	19,328	2	0	2	117
				TFTM	20,140	3	0	5	122	20,989	3	0	5	127	21,398	3	0	5	129
				T5M	20,579	5	0	3	125	21,447	5	0	3	130	21,865	5	0	3	132
				T5W	20,912	5	0	3	127	21,795	5	0	3	132	22,219	5	0	3	134
				T5LG	20,638	4	0	2	125	21,509	4	0	2	130	21,928	4	0	2	133
				BLC3	14,335	0	0	3	87	14,940	0	0	3	90	15,231	0	0	3	92
				BLC4	14,805	0	0	4	90	15,430	0	0	4	93	15,731	0	0	4	95
				RCCO	14,464	1	0	3	88	15,074	1	0	3	91	15,368	1	0	3	93
				LCCO	14,464	1	0	3	88	15,074	1	0	3	91	15,368	1	0	3	93
				AFR	21,031	2	0	3	127	21,918	2	0	3	133	22,345	2	0	3	135

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 configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P7	184W	40	1400	T1S	22,741	2	0	3	123	23,700	2	0	3	129	24,162	3	0	3	131
				T2M	21,066	3	0	4	114	21,955	3	0	4	119	22,383	3	0	4	121
				T3M	21,311	3	0	5	116	22,210	3	0	5	120	22,642	3	0	5	123
				T3LG	19,036	2	0	2	103	19,839	2	0	3	108	20,226	2	0	3	110
				T4M	21,628	3	0	5	117	22,541	3	0	5	122	22,980	3	0	5	125
				T4LG	19,671	2	0	2	107	20,501	2	0	3	111	20,900	2	0	3	113
				TFTM	21,778	3	0	5	118	22,697	3	0	5	123	23,139	3	0	5	125
				T5M	22,252	5	0	3	121	23,191	5	0	3	126	23,643	5	0	3	128
				T5W	22,613	5	0	3	123	23,567	5	0	4	128	24,027	5	0	4	130
				T5LG	22,317	4	0	2	121	23,258	4	0	2	126	23,712	4	0	2	129
				BLC3	15,501	0	0	3	84	16,155	0	0	4	88	16,470	0	0	4	89
				BLC4	16,010	0	0	4	87	16,685	0	0	4	90	17,010	0	0	4	92
				RCCO	15,641	1	0	3	85	16,301	1	0	3	89	16,619	1	0	3	90
				LCCO	15,641	1	0	3	85	16,301	1	0	3	89	16,619	1	0	3	90
				AFR	22,741	2	0	3	123	23,700	2	0	3	129	24,162	3	0	3	131
P8	216W	60	1100	T1S	28,701	3	0	3	133	29,912	3	0	4	139	30,495	3	0	4	141
				T2M	26,587	3	0	5	123	27,709	3	0	5	128	28,249	3	0	5	131
				T3M	26,895	3	0	5	125	28,030	3	0	5	130	28,576	3	0	5	132
				T3LG	24,025	3	0	3	111	25,038	3	0	3	116	25,526	3	0	3	118
				T4M	27,296	3	0	5	127	28,448	3	0	5	132	29,002	3	0	5	134
				T4LG	24,826	3	0	3	115	25,873	3	0	3	120	26,378	3	0	3	122
				TFTM	27,485	3	0	5	127	28,645	3	0	5	133	29,203	3	0	5	135
				T5M	28,084	5	0	4	130	29,269	5	0	4	136	29,839	5	0	4	138
				T5W	28,539	5	0	4	132	29,743	5	0	4	138	30,323	5	0	4	141
				T5LG	28,165	4	0	2	131	29,354	4	0	2	136	29,926	4	0	2	139
				BLC3	19,563	0	0	4	91	20,388	0	0	4	94	20,786	0	0	4	96
				BLC4	20,205	0	0	5	94	21,057	0	0	5	98	21,468	0	0	5	99
				RCCO	19,740	1	0	4	91	20,572	1	0	4	95	20,973	1	0	4	97
				LCCO	19,740	1	0	4	91	20,572	1	0	4	95	20,973	1	0	4	97
				AFR	28,701	3	0	3	133	29,912	3	0	4	139	30,495	3	0	4	141
P9	277W	60	1400	T1S	34,819	3	0	4	126	36,288	3	0	4	131	36,996	3	0	4	134
				T2M	32,255	3	0	5	116	33,616	3	0	5	121	34,271	3	0	5	124
				T3M	32,629	3	0	5	118	34,006	3	0	5	123	34,668	3	0	5	125
				T3LG	29,146	3	0	3	105	30,376	3	0	4	110	30,968	3	0	4	112
				T4M	33,116	3	0	5	120	34,513	3	0	5	125	35,185	3	0	5	127
				T4LG	30,119	3	0	3	109	31,389	3	0	4	113	32,001	3	0	4	116
				TFTM	33,345	3	0	5	120	34,751	3	0	5	125	35,429	3	0	5	128
				T5M	34,071	5	0	4	123	35,509	5	0	4	128	36,201	5	0	4	131
				T5W	34,624	5	0	4	125	36,084	5	0	4	130	36,788	5	0	4	133
				T5LG	34,170	5	0	3	123	35,612	5	0	3	129	36,306	5	0	3	131
				BLC3	23,734	0	0	4	86	24,735	0	0	4	89	25,217	0	0	4	91
				BLC4	24,513	0	0	5	88	25,547	0	0	5	92	26,045	0	0	5	94
				RCCO	23,948	1	0	4	86	24,958	1	0	4	90	25,445	1	0	4	92
				LCCO	23,948	1	0	4	86	24,958	1	0	4	90	25,445	1	0	4	92
				AFR	34,819	3	0	4	126	36,288	3	0	4	131	36,996	3	0	4	134

Performance Data

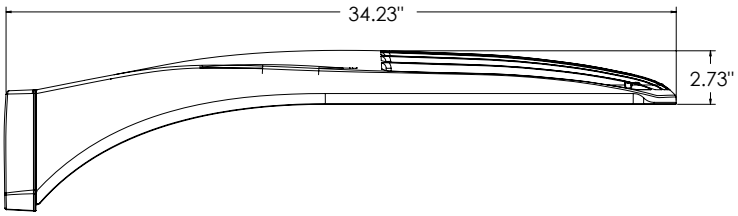
Lumen Output

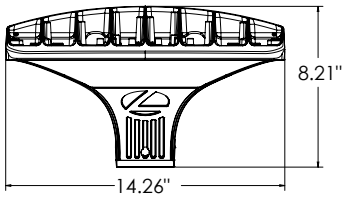
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

Rotated Optics

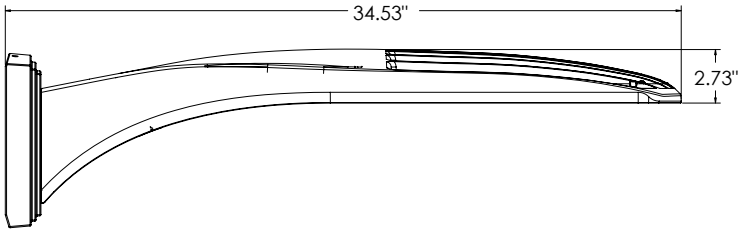
Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P10	101W	60	530	T1S	15,164	3	0	3	150	15,803	3	0	3	156	16,112	3	0	3	159
				T2M	14,047	4	0	4	139	14,640	4	0	4	145	14,925	4	0	4	147
				T3M	14,208	4	0	4	140	14,807	4	0	4	146	15,096	4	0	4	149
				T3LG	12,693	3	0	3	125	13,229	3	0	3	131	13,487	3	0	3	133
				T4M	14,420	4	0	4	142	15,028	4	0	4	148	15,321	4	0	4	151
				T4LG	13,115	3	0	3	129	13,668	3	0	3	135	13,934	3	0	3	138
				TFTM	14,522	4	0	4	143	15,134	4	0	4	149	15,429	4	0	4	152
				T5M	14,836	4	0	2	146	15,462	4	0	2	153	15,763	4	0	2	156
				T5W	15,076	4	0	3	149	15,712	5	0	3	155	16,019	5	0	3	158
				T5LG	14,879	3	0	2	147	15,507	3	0	2	153	15,809	3	0	2	156
				BLC3	10,335	3	0	3	102	10,771	4	0	4	106	10,981	4	0	4	108
				BLC4	10,674	4	0	4	105	11,124	4	0	4	110	11,341	4	0	4	112
				RCCO	10,429	1	0	2	103	10,869	1	0	2	107	11,080	1	0	2	109
				LCCO	10,429	1	0	2	103	10,869	1	0	2	107	11,080	1	0	2	109
				AFR	15,164	3	0	3	150	15,803	3	0	3	156	16,112	3	0	3	159
P11	135W	60	700	T1S	19,437	4	0	4	144	20,257	4	0	4	150	20,651	4	0	4	153
				T2M	18,005	4	0	4	133	18,765	4	0	4	139	19,131	4	0	4	142
				T3M	18,211	4	0	4	135	18,980	4	0	4	141	19,350	4	0	4	143
				T3LG	16,270	3	0	3	121	16,957	3	0	3	126	17,287	4	0	4	128
				T4M	18,483	4	0	4	137	19,263	5	0	5	143	19,638	5	0	5	146
				T4LG	16,810	3	0	3	125	17,519	3	0	3	130	17,861	3	0	3	132
				TFTM	18,614	4	0	4	138	19,399	4	0	4	144	19,777	5	0	5	147
				T5M	19,017	5	0	3	141	19,819	5	0	3	147	20,205	5	0	3	150
				T5W	19,325	5	0	3	143	20,140	5	0	3	149	20,533	5	0	3	152
				T5LG	19,072	4	0	2	141	19,876	4	0	2	147	20,264	4	0	2	150
				BLC3	13,247	4	0	4	98	13,806	4	0	4	102	14,075	4	0	4	104
				BLC4	13,682	4	0	4	101	14,259	4	0	4	106	14,537	4	0	4	108
				RCCO	13,367	1	0	3	99	13,931	1	0	3	103	14,203	1	0	3	105
				LCCO	13,367	1	0	3	99	13,931	1	0	3	103	14,203	1	0	3	105
				AFR	19,437	4	0	4	144	20,257	4	0	4	150	20,651	4	0	4	153
P12	206W	60	1050	T1S	27,457	4	0	4	133	28,616	4	0	4	139	29,174	4	0	4	142
				T2M	25,436	5	0	5	124	26,509	5	0	5	129	27,025	5	0	5	131
				T3M	25,727	5	0	5	125	26,812	5	0	5	130	27,335	5	0	5	133
				T3LG	22,984	4	0	4	112	23,954	4	0	4	116	24,421	4	0	4	119
				T4M	26,110	5	0	5	127	27,212	5	0	5	132	27,742	5	0	5	135
				T4LG	23,747	4	0	4	115	24,749	4	0	4	120	25,231	4	0	4	123
				TFTM	26,295	5	0	5	128	27,404	5	0	5	133	27,938	5	0	5	136
				T5M	26,864	5	0	4	130	27,997	5	0	4	136	28,543	5	0	4	139
				T5W	27,299	5	0	4	133	28,451	5	0	4	138	29,006	5	0	4	141
				T5LG	26,942	4	0	2	131	28,078	4	0	2	136	28,626	4	0	2	139
				BLC3	18,714	4	0	4	91	19,504	4	0	4	95	19,884	4	0	4	97
				BLC4	19,327	5	0	5	94	20,143	5	0	5	98	20,535	5	0	5	100
				RCCO	18,883	1	0	4	92	19,680	1	0	4	96	20,064	1	0	4	97
				LCCO	18,883	1	0	4	92	19,680	1	0	4	96	20,064	1	0	4	97
				AFR	27,457	4	0	4	133	28,616	4	0	4	139	29,174	4	0	4	142
P13	276W	60	1400	T1S	34,436	5	0	5	125	35,889	5	0	5	130	36,588	5	0	5	133
				T2M	31,900	5	0	5	116	33,246	5	0	5	121	33,894	5	0	5	123
				T3M	32,265	5	0	5	117	33,626	5	0	5	122	34,282	5	0	5	124
				T3LG	28,826	4	0	4	105	30,042	4	0	4	109	30,628	4	0	4	111
				T4M	32,746	5	0	5	119	34,128	5	0	5	124	34,793	5	0	5	126
				T4LG	29,782	4	0	4	108	31,039	4	0	4	113	31,644	5	0	4	115
				TFTM	32,978	5	0	5	120	34,369	5	0	5	125	35,039	5	0	5	127
				T5M	33,692	5	0	4	122	35,113	5	0	4	127	35,797	5	0	4	130
				T5W	34,238	5	0	4	124	35,682	5	0	4	129	36,378	5	0	4	132
				T5LG	33,789	5	0	3	122	35,215	5	0	3	128	35,901	5	0	3	130
				BLC3	23,471	5	0	5	85	24,461	5	0	5	89	24,937	5	0	5	90
				BLC4	24,240	5	0	5	88	25,262	5	0	5	92	25,755	5	0	5	93
				RCCO	23,683	1	0	4	86	24,682	1	0	4	89	25,163	1	0	4	91
				LCCO	23,683	1	0	4	86	24,682	1	0	4	89	25,163	1	0	4	91
				AFR	34,436	5	0	5	125	35,889	5	0	5	130	36,588	5	0	5	133

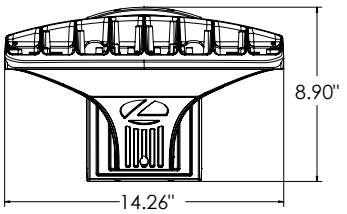
Dimensions



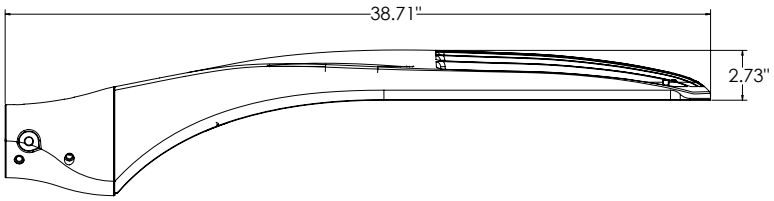


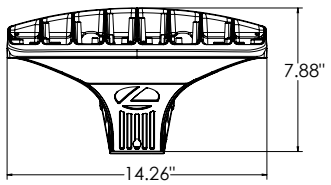
DSX1 with RPA, RPA5, SPA5, SPA8N mount
Weight: 36 lbs





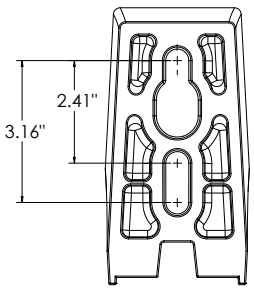
DSX1 with WBA mount
Weight: 38 lbs



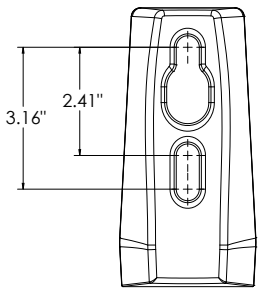


DSX1 with MA mount
Weight: 39 lbs

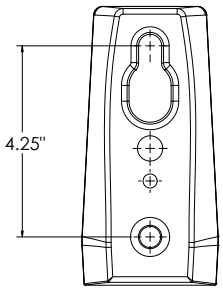
SPA (STANDARD ARM)



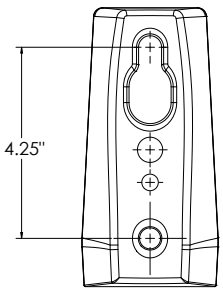
RPA



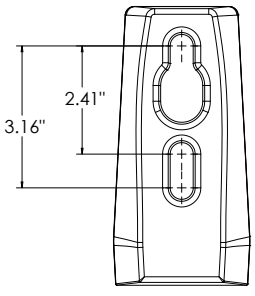
SPA5



RPA5



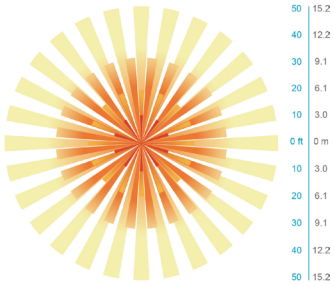
SPA8N



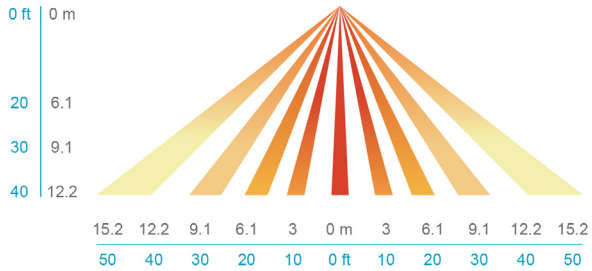
nLight Control - Sensor Coverage and Settings

nLight Sensor Coverage Pattern

NLTAIR2 PIRHN



Top



Side

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing driver compartment is completely sealed against moisture and environmental contaminants (IP66). Vibration rated per ANSI C136.31 for 3G for SPA and MA. 1.5G for mountings RPA, RPA5, SPA5 and SPA8N. Low EPA (0.69 ft^2) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

Coastal Construction (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

OPTICS

Precision-molded proprietary silicone lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. 80CRI configurations are also available. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L81/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS

The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensor with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 40 feet. Control option BL features a bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output.

nLIGHT AIR CONTROLS

The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION

Integral mounting arm allows for fast mounting using Lithonia standard #8 drilling and accommodates pole drilling's from 2.41 to 3.12" on center. The standard "SPA" option for square poles and the "RPA" option for round poles use the #8 drilling. For #5 pole drillings, use SPA5 or RPA5. Additional mountings are available including a wall bracket (WBA) and mast arm (MA) option that allows luminaire attachment to a 2 3/8" horizontal mast arm.

LISTINGS

UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP66 rated. Rated for -40ºC minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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.

D-Series Size 2
LED Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 1.06 ft² (0.10 m²)

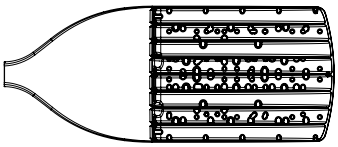
Length: 40.59" (103.1 cm)

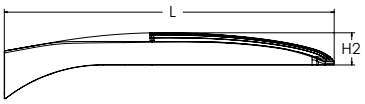
Width: 16.76" (42.6 cm)

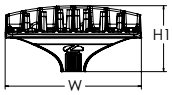
Height H1: 8.11" (20.6 cm)

Height H2: 3.96" (10.1 cm)

Weight: 46 lbs (20.9 kg)







Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of up to 80% vs. 1000W HID and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX2 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX2 LED

Series	LEDs	Color temperature[2]	Color Rendering Index[2]	Distribution	Voltage	Mounting
DSX2 LED	**Forward optics** P1 P5 P2 P6 P3 P7 P4 P8 **Rotated optics** P10[1] P13[1] P11[1] P14[1] P12[1]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare[3] T4M Type IV medium T4LG Type IV low glare[3] TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control[3] BLC4 Type IV backlight control[3] LCCO Left corner cutoff[3] RCCO Right corner cutoff[3]	MVOLT (120V-277V)[4] HVOLT (347V-480V)[5,6] XVOLT (277V - 480V)[7,8]	**Shipped included** SPA Square pole mounting (#8 drilling) RPA Round pole mounting (#8 drilling) SPA5 Square pole mounting #5 drilling[9] RPA5 Round pole mounting #5 drilling[9] SPA8N Square narrow pole mounting #8 drilling WBA Wall bracket[10] MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options		Other options	Finish *(required)*
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient senso, 8-40' mounting height, ambient sensor enabled at 2fc.[11,12,20,21] PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc[13,20,21] PER NEMA twist-lock receptacle only (controls ordered separate)[14] PER5 Five-pin receptacle only (controls ordered separate)[14,21] PER7 Seven-pin receptacle only (controls ordered separate)[14,21] FAO Field adjustable output[15,21] BL30 Bi-level switched dimming, 30%[16,21] BL50 Bi-level switched dimming, 50%[16,21] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17] DS Dual switching[18,19,21]		**Shipped installed** SPD20KV 20KV surge protection HS Houseside shield (black finish standard)[22] L90 Left rotated optics[1] R90 Right rotated optics[1] CCE Coastal Construction[23] HA 50°C ambient operation[24] **Shipped separately** EGSR External Glare Shield (reversible, field install required, matches housing finish) BSDB Bird Spikes (field install required)	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

Ordering Information

Accessories

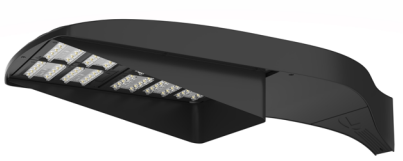
Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [25]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [25]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [25]
DSHORT SBK	Shorting cap [25]
DSX2HS P#	House-side shield (enter package number 1-13 in place of #)
DSXRPA (FINISH)	Round pole adapter (#8 drilling, specify finish)
DSXSPA5 (FINISH)	Square pole adapter #5 drilling (specify finish)
DSXRPA5 (FINISH)	Round pole adapter #5 drilling (specify finish)
DSX1EGSR (FINISH)	External glare shield (specify finish)
DSX2BSDB (FINISH)	Bird spike deterrent bracket (specify finish)

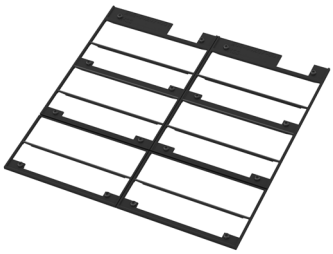
NOTES

1 Rotated optics available with packages P10, P11, P12, P13 and P14. Must be combined with option L90 or R90.
2 30K, 40K, and 50K available in 70CRI and 80CRI. 27K and 35K only available with 80CRI. Contact Technical Support for other possible combinations.
3 T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with option HS.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
6 HVOLT not available with package P10 when combined with option NLTAIR2 PIRHN or option PIR.
7 XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
8 XVOLT not available in package P10.
9 SPA5 and RPA5 for use with #5 drilling only (Not for use with #8 drilling).
10 WBA cannot be combined with Type 5 distributions plus photocell (PER).
11 NLTAIR2 and PIRHN must be ordered together. For more information on nLight AIR2 visit this link
12 NLTAIR2 PIRHN not available with other controls including PIR, PER, PER5, PER7, FAO, BL30, BL50, DMG and DS. NLTAIR2 PIRHN not available with P10 using HVOLT. NLTAIR2 PIRHN not available with P10 using XVOLT.
13 PIR not available with NLTAIR2 PIRHN, PER, PER5, PER7, FAO BL30, BL50, DMG and DS. PIR not available with P10 using HVOLT. PIR not available with P10 using XVOLT.
14 14) PER/PER5/PER7 not available with NLTAIR2 PIRHN, PIR, BL30, BL50, FAO, DMG and DS. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
15 FAO not available with other dimming control options NLTAIR2 PIRHN, PIR, PER5, PER7, BL30, BL50, DMG and DS.
16 BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, FAO, DMG and DS.
17 DMG not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DS.
18 DS not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DMG.
19 DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads on P1, P2, P3, P4, P5 (2 drivers). Note: Provides 60/40 operation using (2) different sets of leads on P6, P7, P8, P9, P10, P11, P12, P13, P14 (3 drivers).
20 Reference Motion Sensor Default Settings table on page 4 to see functionality.
21 Reference Controls Options table on page 4.
22 HS not available with T3LG, T4LG, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
23 CCE option not available with option BS and EGS. Contact Technical Support for availability.
24 Option HA not available with performance packages P5, P6, P7, P8, P13 and P14.
25 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.

Shield Accessories



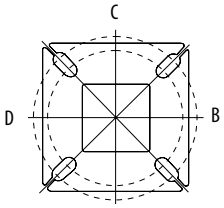
External Glare Shield (EGS)



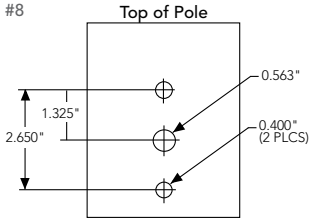
House Side Shield (HS)

Drilling

HANDHOLE ORIENTATION



Template #8



Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
		Minimum Acceptable Outside Pole Dimension					
SPA	#8	3.5"	3.5"	3.5"	3.5"		3.5"
RPA	#8	3"	3"	3"	3"	3"	3"
SPA5	#5	3"	3"	3"	3"		3"
RPA5	#5	3"	3"	3"	3"	3"	3"
SPA8N	#8	3"	3"	3"	3"		3"

DSX2 Area Luminaire - EPA

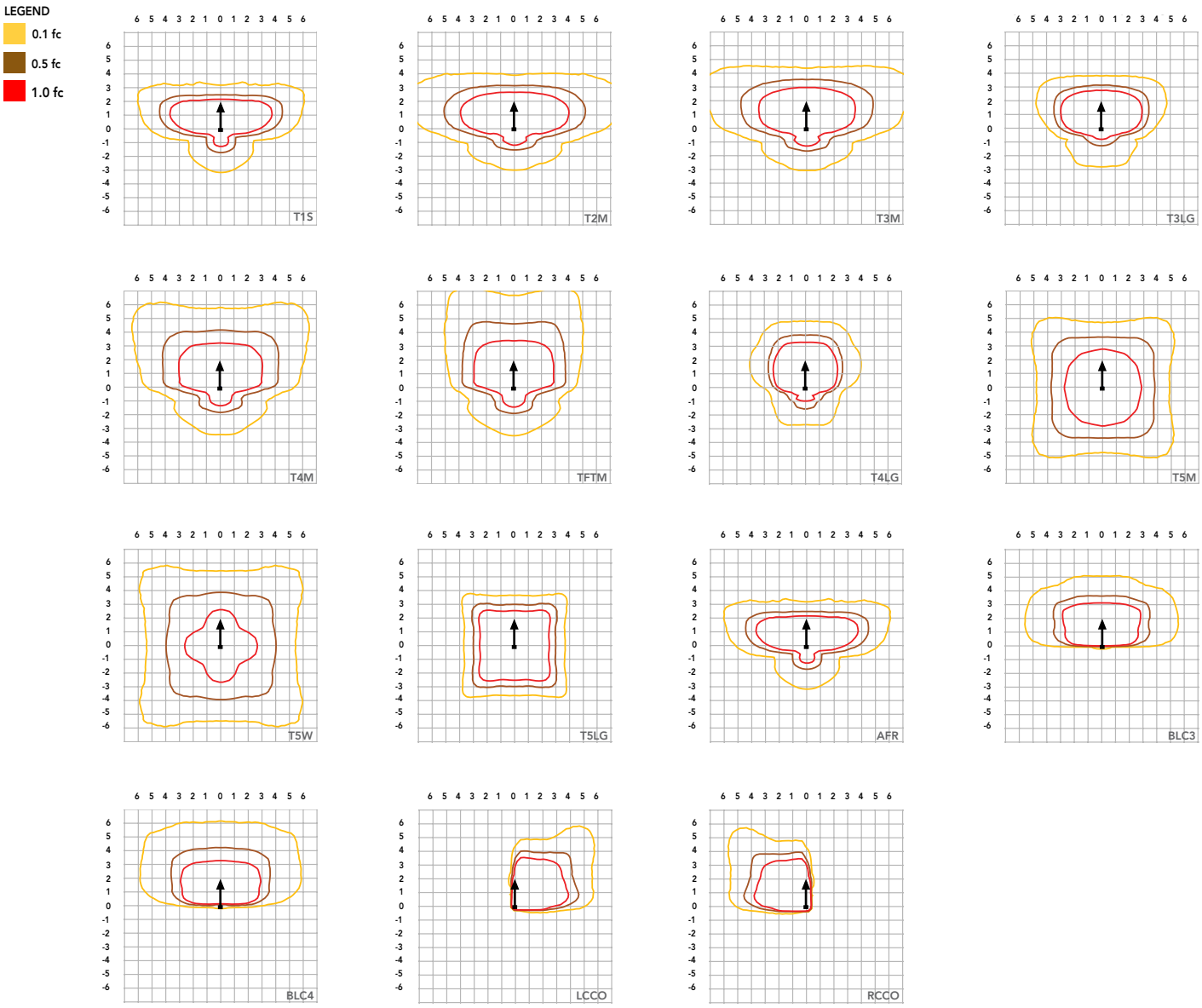
*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX2 with SPA	1.06	2.12	1.84	2.32	---	2.33
DSX2 with SPA5, SPA8N	1.07	2.14	1.90	2.43	---	2.44
DSX2 with RPA, RPA5	1.07	2.14	1.90	2.43	2.31	2.44
DSX2 with MA	1.20	2.40	2.12	3.00	2.92	3.00

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's homepage.

Isofootcandle plots for the DSX2 LED P8 40K 70CRI. Distances are in units of mounting height (40').



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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.03
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.95
50,000	0.90
100,000	0.82

FAO Dimming Settings

FAO Position	% Wattage	% Lumen Output
8	100%	100%
7	93%	95%
6	80%	85%
5	66%	73%
4	54%	61%
3	41%	49%
2	29%	36%
1	15%	20%

*Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use published values for each package based on input watts and lumens by optic type.

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current (mA)	Wattage	120V	208V	240V	277V	347V	480V
Forward Optics (Non-Rotated)	P1	80	530	135	1.12	0.65	0.56	0.49	0.39	0.28
	P2	80	700	181	1.49	0.86	0.75	0.65	0.52	0.37
	P3	80	850	222	1.83	1.05	0.91	0.79	0.63	0.46
	P4	80	1050	277	2.27	1.31	1.14	0.98	0.79	0.57
	P5	80	1250	333	2.72	1.57	1.36	1.18	0.94	0.68
	P6	100	1050	345	2.85	1.64	1.42	1.23	0.98	0.71
	P7	100	1250	414	3.41	1.97	1.70	1.48	1.18	0.85
	P8	100	1400	466	3.85	2.22	1.93	1.67	1.33	0.96
Rotated Optics (Requires L90 or R90)	P10	90	530	152	1.27	0.73	0.63	0.55	0.44	0.32
	P11	90	700	203	1.69	0.97	0.84	0.73	0.58	0.42
	P12	90	850	249	2.06	1.19	1.03	0.89	0.71	0.52
	P13	90	1200	358	2.95	1.70	1.47	1.28	1.02	0.74
	P14	90	1400	421	3.46	2.00	1.73	1.50	1.20	0.87

LED Color Temperature / Color Rendering Multipliers

	70 CRI		80CRI		90CRI	
	Lumen Multiplier	Availability	Lumen Multiplier	Availability	Lumen Multiplier	Availability
5000K	102%	Standard	92%	Extended lead-time	71%	(see note)
4000K	100%	Standard	92%	Extended lead-time	67%	(see note)
3500K	100%	(see note)	90%	Extended lead-time	63%	(see note)
3000K	96%	Standard	87%	Extended lead-time	61%	(see note)
2700K	94%	(see note)	85%	Extended lead-time	57%	(see note)

Note: Some LED types are available as per special request. Contact Technical Support for more information.

Motion Sensor Default Settings

Option	Unoccupied Dimmed Level	High Level (when occupied)	Photocell Operation	Dwell Time	Ramp-up Time	Dimming Fade Rate
PIR	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min
PIRHN	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS (not available on DSX0)	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V leads.
PIR	Motion sensor with integral photocell. Sensor suitable for 8' to 40' mounting height.	Luminaires dim when no occupancy is detected.	Acuity Controls rSBG	Cannot be used with other controls options that need the 0-10V leads.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSBG	nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app. Cannot be used with other controls options that need the 0-10V leads.
BL30 or BL50	Integrated bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output	BLC device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (30% or 50%) control by a secondary circuit	BLC UVOLT1	BLC device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V

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 configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	135W	80	530	T1S	19,946	2	0	3	148	20,787	2	0	3	155	21,192	2	0	3	158
				T2M	18,477	3	0	4	137	19,256	3	0	4	143	19,632	3	0	4	146
				T3M	18,691	3	0	5	139	19,480	3	0	5	145	19,859	3	0	5	148
				T3LG	16,696	2	0	2	124	17,400	2	0	2	129	17,740	2	0	2	132
				T4M	18,970	3	0	5	141	19,770	3	0	5	147	20,155	3	0	5	150
				T4LG	17,253	2	0	2	128	17,981	2	0	2	134	18,331	2	0	2	136
				TFTM	19,101	3	0	5	142	19,907	3	0	5	148	20,295	3	0	5	151
				T5M	19,517	5	0	3	145	20,341	5	0	3	151	20,737	5	0	3	154
				T5W	19,834	5	0	3	147	20,670	5	0	3	154	21,073	5	0	3	157
				T5LG	19,574	4	0	2	146	20,400	4	0	2	152	20,797	4	0	2	155
				BLC3	13,595	0	0	3	101	14,169	0	0	3	105	14,445	0	0	3	107
				BLC4	14,042	0	0	4	104	14,634	0	0	4	109	14,919	0	0	4	111
				RCCO	13,718	1	0	3	102	14,297	1	0	3	106	14,576	1	0	3	108
				LCCO	13,718	1	0	3	102	14,297	1	0	3	106	14,576	1	0	3	108
				AFR	19,946	2	0	3	148	20,787	2	0	3	155	21,192	2	0	3	158
P2	179W	80	700	T1S	25,520	3	0	3	142	26,597	3	0	3	148	27,116	3	0	3	151
				T2M	23,641	3	0	5	132	24,638	3	0	5	137	25,118	3	0	5	140
				T3M	23,915	3	0	5	133	24,924	3	0	5	139	25,410	3	0	5	142
				T3LG	21,363	3	0	3	119	22,264	3	0	3	124	22,698	3	0	3	127
				T4M	24,272	3	0	5	135	25,296	3	0	5	141	25,789	3	0	5	144
				T4LG	22,075	3	0	3	123	23,006	3	0	3	128	23,455	3	0	3	131
				TFTM	24,440	3	0	5	136	25,471	3	0	5	142	25,967	3	0	5	145
				T5M	24,972	5	0	3	139	26,026	5	0	3	145	26,533	5	0	4	148
				T5W	25,377	5	0	4	142	26,448	5	0	4	148	26,963	5	0	4	150
				T5LG	25,045	4	0	2	140	26,101	4	0	2	146	26,610	4	0	2	148
				BLC3	17,395	0	0	4	97	18,129	0	0	4	101	18,482	0	0	4	103
				BLC4	17,966	0	0	4	100	18,724	0	0	5	104	19,089	0	0	5	107
				RCCO	17,552	1	0	4	98	18,293	1	0	4	102	18,649	1	0	4	104
				LCCO	17,552	1	0	4	98	18,293	1	0	4	102	18,649	1	0	4	104
				AFR	25,520	3	0	3	142	26,597	3	0	3	148	27,116	3	0	3	151
P3	219W	80	850	T1S	30,127	3	0	4	137	31,398	3	0	4	143	32,010	3	0	4	146
				T2M	27,908	3	0	5	127	29,085	3	0	5	133	29,652	3	0	5	135
				T3M	28,232	3	0	5	129	29,423	3	0	5	134	29,996	3	0	5	137
				T3LG	25,218	3	0	3	115	26,282	3	0	3	120	26,794	3	0	3	122
				T4M	28,652	3	0	5	131	29,861	3	0	5	136	30,443	3	0	5	139
				T4LG	26,059	3	0	3	119	27,159	3	0	3	124	27,688	3	0	3	126
				TFTM	28,851	3	0	5	132	30,068	3	0	5	137	30,654	3	0	5	140
				T5M	29,479	5	0	4	134	30,723	5	0	4	140	31,322	5	0	4	143
				T5W	29,957	5	0	4	137	31,221	5	0	4	142	31,830	5	0	4	145
				T5LG	29,565	4	0	2	135	30,812	5	0	2	140	31,413	5	0	2	143
				BLC3	20,535	0	0	4	94	21,401	0	0	4	98	21,818	0	0	4	99
				BLC4	21,209	0	0	5	97	22,104	0	0	5	101	22,534	0	0	5	103
				RCCO	20,720	1	0	4	94	21,594	1	0	4	98	22,015	1	0	4	100
				LCCO	20,720	1	0	4	94	21,594	1	0	4	98	22,015	1	0	4	100
				AFR	30,127	3	0	4	137	31,398	3	0	4	143	32,010	3	0	4	146
P4	273W	80	1050	T1S	35,879	3	0	4	132	37,392	3	0	4	137	38,121	3	0	4	140
				T2M	33,236	3	0	5	122	34,638	3	0	5	127	35,313	3	0	5	130
				T3M	33,622	3	0	5	123	35,040	3	0	5	129	35,723	3	0	5	131
				T3LG	30,033	3	0	4	110	31,300	3	0	4	115	31,910	3	0	4	117
				T4M	34,123	3	0	5	125	35,562	3	0	5	130	36,255	3	0	5	133
				T4LG	31,035	3	0	4	114	32,344	3	0	4	119	32,974	3	0	4	121
				TFTM	34,359	3	0	5	126	35,808	3	0	5	131	36,506	3	0	5	134
				T5M	35,108	5	0	4	129	36,589	5	0	4	134	37,302	5	0	4	137
				T5W	35,677	5	0	4	131	37,182	5	0	5	136	37,907	5	0	5	139
				T5LG	35,209	5	0	3	129	36,695	5	0	3	135	37,410	5	0	3	137
				BLC3	24,456	0	0	4	90	25,487	0	0	4	93	25,984	0	0	5	95
				BLC4	25,258	0	0	5	93	26,324	0	0	5	97	26,837	0	0	5	98
				RCCO	24,676	1	0	4	91	25,717	1	0	4	94	26,218	1	0	4	96
				LCCO	24,676	1	0	4	91	25,717	1	0	4	94	26,218	1	0	4	96
				AFR	35,879	3	0	4	132	37,392	3	0	4	137	38,121	3	0	4	140

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 configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P5	327W	80	1250	T1S	41,149	3	0	4	126	42,885	3	0	4	131	43,721	3	0	4	134
				T2M	38,118	4	0	5	117	39,727	4	0	5	122	40,501	4	0	5	124
				T3M	38,561	3	0	5	118	40,187	3	0	5	123	40,971	3	0	5	125
				T3LG	34,445	3	0	4	105	35,898	3	0	4	110	36,598	3	0	4	112
				T4M	39,135	3	0	5	120	40,786	3	0	5	125	41,581	3	0	5	127
				T4LG	35,594	3	0	4	109	37,095	3	0	4	114	37,818	3	0	4	116
				TFTM	39,406	3	0	5	121	41,069	3	0	5	126	41,869	3	0	5	128
				T5M	40,265	5	0	4	123	41,964	5	0	4	128	42,782	5	0	5	131
				T5W	40,918	5	0	5	125	42,644	5	0	5	131	43,475	5	0	5	133
				T5LG	40,382	5	0	3	124	42,085	5	0	3	129	42,906	5	0	3	131
				BLC3	28,048	0	0	5	86	29,231	0	0	5	90	29,801	0	0	5	91
				BLC4	28,969	0	0	5	89	30,191	0	0	5	92	30,779	0	0	5	94
				RCCO	28,301	2	0	5	87	29,495	2	0	5	90	30,070	2	0	5	92
				LCCO	28,301	2	0	5	87	29,495	2	0	5	90	30,070	2	0	5	92
				AFR	41,149	3	0	4	126	42,885	3	0	4	131	43,721	3	0	4	134
P6	342W	100	1050	T1S	45,968	3	0	4	135	47,907	3	0	5	140	48,841	3	0	5	143
				T2M	42,582	4	0	5	125	44,379	4	0	5	130	45,244	4	0	5	132
				T3M	43,076	4	0	5	126	44,894	4	0	5	131	45,769	4	0	5	134
				T3LG	38,479	3	0	4	113	40,102	3	0	4	117	40,884	3	0	4	120
				T4M	43,719	4	0	5	128	45,563	4	0	5	133	46,451	4	0	5	136
				T4LG	39,762	3	0	4	116	41,439	3	0	4	121	42,247	3	0	4	124
				TFTM	44,021	3	0	5	129	45,878	4	0	5	134	46,772	4	0	5	137
				T5M	44,980	5	0	5	132	46,878	5	0	5	137	47,792	5	0	5	140
				T5W	45,710	5	0	5	134	47,638	5	0	5	139	48,566	5	0	5	142
				T5LG	45,111	5	0	3	132	47,014	5	0	3	138	47,930	5	0	3	140
				BLC3	31,333	0	0	5	92	32,655	0	0	5	96	33,291	0	0	5	97
				BLC4	32,361	0	0	5	95	33,726	0	0	5	99	34,384	0	0	5	101
				RCCO	31,615	2	0	5	93	32,949	2	0	5	96	33,591	2	0	5	98
				LCCO	31,615	2	0	5	93	32,949	2	0	5	96	33,591	2	0	5	98
				AFR	45,968	3	0	4	135	47,907	3	0	5	140	48,841	3	0	5	143
P7	409W	100	1250	T1S	52,692	3	0	5	129	54,915	3	0	5	134	55,986	3	0	5	137
				T2M	48,811	4	0	5	119	50,871	4	0	5	124	51,862	4	0	5	127
				T3M	49,378	4	0	5	121	51,461	4	0	5	126	52,464	4	0	5	128
				T3LG	44,107	3	0	4	108	45,968	3	0	4	112	46,864	3	0	5	115
				T4M	50,114	4	0	5	122	52,228	4	0	5	128	53,246	4	0	5	130
				T4LG	45,579	3	0	4	111	47,501	3	0	4	116	48,427	3	0	4	118
				TFTM	50,460	4	0	5	123	52,589	4	0	5	129	53,614	4	0	5	131
				T5M	51,560	5	0	5	126	53,735	5	0	5	131	54,783	5	0	5	134
				T5W	52,396	5	0	5	128	54,607	5	0	5	133	55,671	5	0	5	136
				T5LG	51,710	5	0	4	126	53,891	5	0	4	132	54,941	5	0	4	134
				BLC3	35,916	1	0	5	88	37,431	1	0	5	91	38,161	1	0	5	93
				BLC4	37,095	0	0	5	91	38,660	0	0	5	94	39,413	0	0	5	96
				RCCO	36,240	2	0	5	89	37,769	2	0	5	92	38,505	2	0	5	94
				LCCO	36,240	2	0	5	89	37,769	2	0	5	92	38,505	2	0	5	94
				AFR	52,692	3	0	5	129	54,915	3	0	5	134	55,986	3	0	5	137
P8	462W	100	1400	T1S	57,662	3	0	5	125	60,094	4	0	5	130	61,266	4	0	5	132
				T2M	53,415	4	0	5	116	55,668	4	0	5	120	56,753	4	0	5	123
				T3M	54,034	4	0	5	117	56,314	4	0	5	122	57,412	4	0	5	124
				T3LG	48,267	3	0	5	104	50,304	3	0	5	109	51,284	4	0	5	111
				T4M	54,840	4	0	5	119	57,154	4	0	5	124	58,268	4	0	5	126
				T4LG	49,877	3	0	5	108	51,981	3	0	5	112	52,994	3	0	5	115
				TFTM	55,219	4	0	5	119	57,549	4	0	5	124	58,671	4	0	5	127
				T5M	56,423	5	0	5	122	58,803	5	0	5	127	59,949	5	0	5	130
				T5W	57,338	5	0	5	124	59,757	5	0	5	129	60,921	5	0	5	132
				T5LG	56,586	5	0	4	122	58,974	5	0	4	128	60,123	5	0	4	130
				BLC3	39,303	1	0	5	85	40,962	1	0	5	89	41,760	1	0	5	90
				BLC4	40,593	0	0	5	88	42,306	0	0	5	91	43,130	0	0	5	93
				RCCO	39,658	2	0	5	86	41,331	2	0	5	89	42,137	2	0	5	91
				LCCO	39,658	2	0	5	86	41,331	2	0	5	89	42,137	2	0	5	91
				AFR	57,662	3	0	5	125	60,094	4	0	5	130	61,266	4	0	5	132

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 configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Rotated Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P10	152W	90	530	T1S	22,798	4	0	4	150	23,760	4	0	4	156	24,223	4	0	4	159
				T2M	21,119	5	0	5	139	22,010	5	0	5	145	22,439	5	0	5	148
				T3M	21,361	5	0	5	141	22,262	5	0	5	147	22,696	5	0	5	149
				T3LG	19,084	4	0	4	126	19,889	4	0	4	131	20,277	4	0	4	133
				T4M	21,679	5	0	5	143	22,594	5	0	5	149	23,034	5	0	5	152
				T4LG	19,717	4	0	4	130	20,549	4	0	4	135	20,950	4	0	4	138
				TFTM	21,833	5	0	5	144	22,754	5	0	5	150	23,197	5	0	5	153
				T5M	22,305	5	0	3	147	23,246	5	0	3	153	23,699	5	0	3	156
				T5W	22,667	5	0	3	149	23,623	5	0	4	155	24,084	5	0	4	158
				T5LG	22,370	4	0	2	147	23,314	4	0	2	153	23,768	4	0	2	156
				BLC3	15,539	4	0	4	102	16,194	4	0	4	107	16,510	4	0	4	109
				BLC4	16,048	4	0	4	106	16,725	4	0	4	110	17,051	4	0	4	112
				RCCO	15,679	1	0	3	103	16,340	1	0	3	108	16,659	1	0	3	110
				LCCO	15,679	1	0	3	103	16,340	1	0	3	108	16,659	1	0	3	110
				AFR	22,798	4	0	4	150	23,760	4	0	4	156	24,223	4	0	4	159
P11	203W	90	700	T1S	29,222	4	0	4	144	30,455	4	0	4	150	31,048	4	0	4	153
				T2M	27,070	5	0	5	134	28,212	5	0	5	139	28,762	5	0	5	142
				T3M	27,380	5	0	5	135	28,535	5	0	5	141	29,091	5	0	5	144
				T3LG	24,462	4	0	4	121	25,493	4	0	4	126	25,990	4	0	4	128
				T4M	27,788	5	0	5	137	28,960	5	0	5	143	29,525	5	0	5	146
				T4LG	25,273	4	0	4	125	26,339	4	0	4	130	26,853	4	0	4	133
				TFTM	27,985	5	0	5	138	29,165	5	0	5	144	29,734	5	0	5	147
				T5M	28,591	5	0	4	141	29,797	5	0	4	147	30,377	5	0	4	150
				T5W	29,054	5	0	4	143	30,280	5	0	4	149	30,870	5	0	4	152
				T5LG	28,673	4	0	2	142	29,883	4	0	2	148	30,465	5	0	2	150
				BLC3	19,917	4	0	4	98	20,757	4	0	4	102	21,162	4	0	4	104
				BLC4	20,570	5	0	5	102	21,437	5	0	5	106	21,855	5	0	5	108
				RCCO	20,097	1	0	4	99	20,945	1	0	4	103	21,353	1	0	4	105
				LCCO	20,097	1	0	4	99	20,945	1	0	4	103	21,353	1	0	4	105
				AFR	29,222	4	0	4	144	30,455	4	0	4	150	31,048	4	0	4	153
P12	248W	90	850	T1S	34,526	5	0	5	139	35,983	5	0	5	145	36,684	5	0	5	148
				T2M	31,984	5	0	5	129	33,333	5	0	5	135	33,983	5	0	5	137
				T3M	32,350	5	0	5	131	33,715	5	0	5	136	34,372	5	0	5	139
				T3LG	28,902	4	0	4	117	30,121	4	0	4	122	30,708	4	0	4	124
				T4M	32,832	5	0	5	133	34,217	5	0	5	138	34,884	5	0	5	141
				T4LG	29,861	4	0	4	121	31,120	4	0	4	126	31,727	5	0	4	128
				TFTM	33,064	5	0	5	134	34,459	5	0	5	139	35,131	5	0	5	142
				T5M	33,780	5	0	4	136	35,205	5	0	4	142	35,891	5	0	4	145
				T5W	34,327	5	0	4	139	35,776	5	0	4	145	36,473	5	0	4	147
				T5LG	33,878	5	0	3	137	35,307	5	0	3	143	35,995	5	0	3	145
				BLC3	23,532	5	0	5	95	24,525	5	0	5	99	25,003	5	0	5	101
				BLC4	24,303	5	0	5	98	25,328	5	0	5	102	25,822	5	0	5	104
				RCCO	23,745	1	0	4	96	24,747	1	0	4	100	25,229	1	0	4	102
				LCCO	23,745	1	0	4	96	24,747	1	0	4	100	25,229	1	0	4	102
				AFR	34,526	5	0	5	139	35,983	5	0	5	145	36,684	5	0	5	148

Performance Data

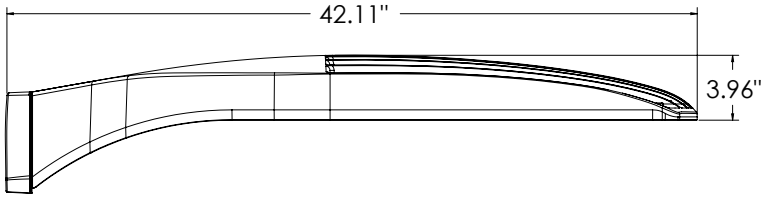
Lumen Output

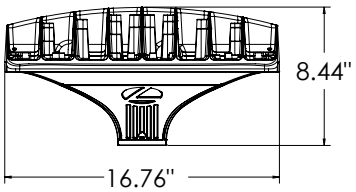
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Rotated Optics

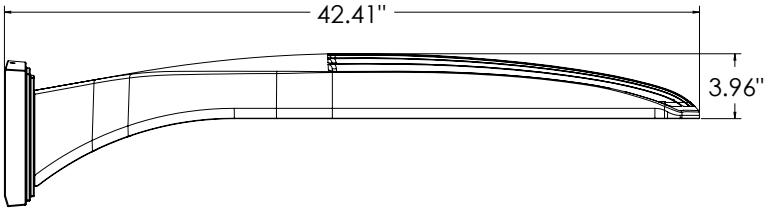
Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P13	354W	90	1200	T1S	45,748	5	0	5	129	47,678	5	0	5	135	48,608	5	0	5	137
				T2M	42,380	5	0	5	120	44,168	5	0	5	125	45,029	5	0	5	127
				T3M	42,865	5	0	5	121	44,673	5	0	5	126	45,544	5	0	5	129
				T3LG	38,296	5	0	5	108	39,911	5	0	5	113	40,689	5	0	5	115
				T4M	43,503	5	0	5	123	45,339	5	0	5	128	46,222	5	0	5	131
				T4LG	39,566	5	0	5	112	41,235	5	0	5	117	42,039	5	0	5	119
				TFTM	43,811	5	0	5	124	45,659	5	0	5	129	46,549	5	0	5	132
				T5M	44,760	5	0	5	126	46,648	5	0	5	132	47,557	5	0	5	134
				T5W	45,485	5	0	5	129	47,404	5	0	5	134	48,328	5	0	5	137
				T5LG	44,889	5	0	3	127	46,783	5	0	3	132	47,695	5	0	3	135
				BLC3	31,181	5	0	5	88	32,496	5	0	5	92	33,130	5	0	5	94
				BLC4	32,202	5	0	5	91	33,561	5	0	5	95	34,215	5	0	5	97
				RCCO	31,463	2	0	5	89	32,790	2	0	5	93	33,429	2	0	5	94
				LCCO	31,463	2	0	5	89	32,790	2	0	5	93	33,429	2	0	5	94
				AFR	45,748	5	0	5	129	47,678	5	0	5	135	48,608	5	0	5	137
P14	415W	90	1400	T1S	51,272	5	0	5	123	53,435	5	0	5	129	54,476	5	0	5	131
				T2M	47,497	5	0	5	114	49,500	5	0	5	119	50,465	5	0	5	121
				T3M	48,040	5	0	5	116	50,067	5	0	5	121	51,043	5	0	5	123
				T3LG	42,919	5	0	5	103	44,730	5	0	5	108	45,602	5	0	5	110
				T4M	48,756	5	0	5	117	50,813	5	0	5	122	51,803	5	0	5	125
				T4LG	44,343	5	0	5	107	46,214	5	0	5	111	47,115	5	0	5	113
				TFTM	49,101	5	0	5	118	51,172	5	0	5	123	52,169	5	0	5	126
				T5M	50,164	5	0	5	121	52,280	5	0	5	126	53,299	5	0	5	128
				T5W	50,977	5	0	5	123	53,127	5	0	5	128	54,163	5	0	5	130
				T5LG	50,309	5	0	4	121	52,432	5	0	4	126	53,453	5	0	4	129
				BLC3	34,945	5	0	5	84	36,420	5	0	5	88	37,130	5	0	5	89
				BLC4	36,090	5	0	5	87	37,613	5	0	5	91	38,346	5	0	5	92
				RCCO	35,261	2	0	5	85	36,749	2	0	5	88	37,465	2	0	5	90
				LCCO	35,261	2	0	5	85	36,749	2	0	5	88	37,465	2	0	5	90
				AFR	51,272	5	0	5	123	53,435	5	0	5	129	54,476	5	0	5	131

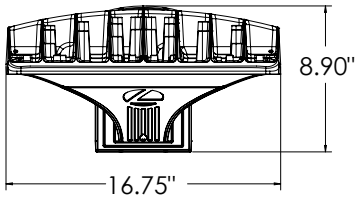
Dimensions



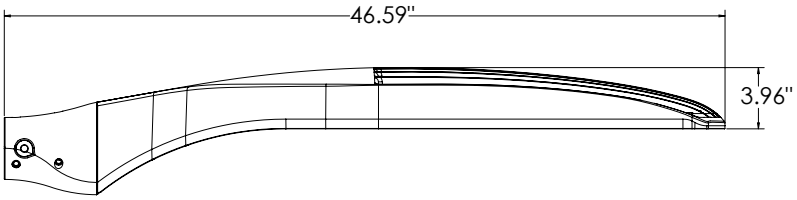


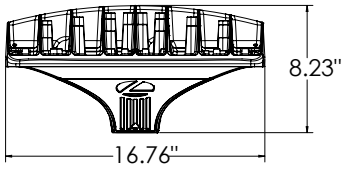
DSX2 with RPA, RPA5, SPA5, SPA8N mount
Weight: 48 lbs





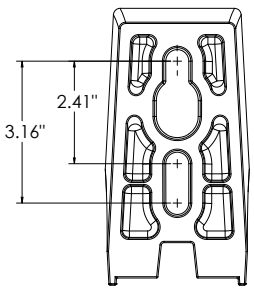
DSX2 with WBA mount
Weight: 50 lbs



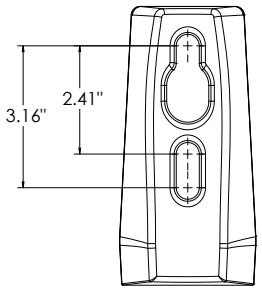


DSX2 with MA mount
Weight: 50 lbs

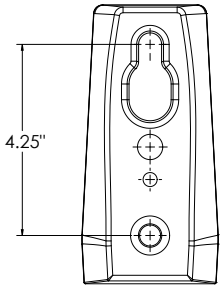
SPA (STANDARD ARM)



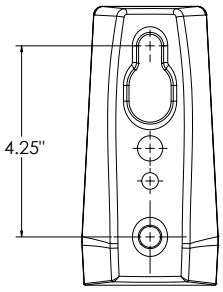
RPA



SPA5



RPA5



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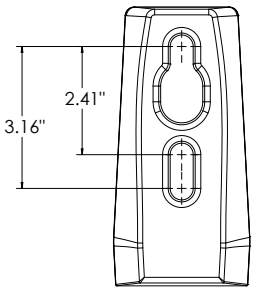
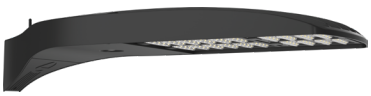
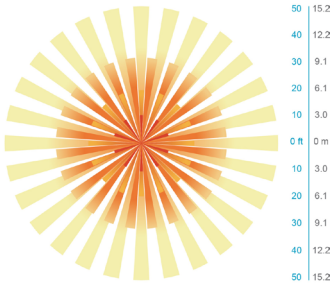


nLight Control - Sensor Coverage and Settings

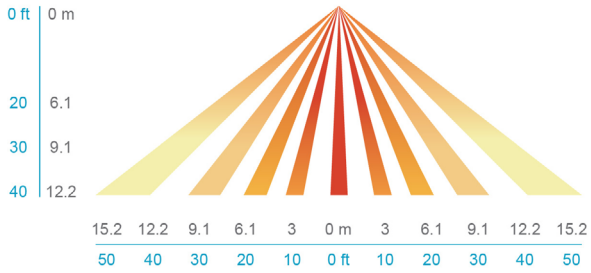
nLight Sensor Coverage Pattern

NLTAIR2 PIRHN





Top



Side

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Area Size 2 reflects the embedded high performance LED technology. It is ideal for applications like car dealerships and large parking lots adjacent to malls, transit stations, grocery stores, home centers, and other big-box retailers.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing driver compartment is completely sealed against moisture and environmental contaminants (IP66). Vibration rated per ANSI C136.31 for 1.5G. Low EPA (1.06 ft^2) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

Coastal Construction (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

OPTICS

Precision-molded proprietary silicone lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K, or 5000 K (70 CRI) configurations. 80CRI configurations are also available. The D-Series Size 2 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L82/100,000 hrs at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily-serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Integral mounting arm allows for fast mounting using Lithonia standard #8 drilling and accommodates pole drilling's from 2.41 to 3.12" on center. The standard "SPA" option for square poles and the "RPA" option for round poles use the #8 drilling. For #5 pole drillings, use SPA5 or RPA5. Additional mountings are available including a wall bracket (WBA) and mast arm (MA) option that allows luminaire attachment to a 2 3/8" horizontal mast arm.

STANDARD CONTROLS

The DSX2 LED area luminaire has a number of control options. DSX Size 2, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensor with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 40 feet. Control option BL features a bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output.

nLIGHT AIR CONTROLS

The DSX2 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

LISTINGS

UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP66 rated. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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.

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

Anchor Base Poles

RTA

ROUND TAPERED ALUMINUM
FLORIDA RATINGS

FEATURES & SPECIFICATIONS

INTENDED USE — Round tapered aluminum general purpose pole for up to 30 foot mounting heights.

CONSTRUCTION —

Pole Shaft: Spun-tapered seamless 6063 alloy aluminum tubing, heat-treated to produce a T6 temper. The shaft is cone-tapered to the butt diameter.

Pole Top: Options include tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. A removable cast aluminum top cap with set screws is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with open top (PT) option. The top cap resists intrusion of moisture and environmental contaminants.

Handhole: A nominal 3" x 5" or 4" x 6" reinforced flush-covered handhole is centered 18" above the base. Standard and extra handholes come with cover and attachment hardware.

Bolt Caps/Base Cover: Pole base plate utilizes cast aluminum A365 bolt caps to cover anchor bolt and nut assembly. 1 piece, spun aluminum base cover available as an option.

Anchor Base: Cast from A356 alloy aluminum, the anchor base is heat-treated to a T6 condition. The anchor base telescopes the pole shaft and is circumferentially welded at both the top and the bottom.

Anchor Bolts: Top portion of anchor bolt is galvanized per ASTM A-153. Made of steel rod having a minimum yield strength of 55,000 psi.

HARDWARE — All structural and non-structural fasteners are stainless-steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets 5A and 5B classifications of ASTM D3359. Standard powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural Colors and Special Finishes are available by quote and include, but are not limited to RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

GROUNDING — Provision located inside handhole rim. Grounding hardware is not included (provided by others).

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

RTA-FLA Round Tapered Aluminum Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** RTA 25 6E DM19 BA

RTA					
Series	**Nominal fixture mounting height**	**Nominal shaft base size/wall thickness**	**Mounting[1]**	**Options**	**Finish[11]**
RTA	20'-50' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) (See technical information table for complete ordering information.)	5C 5" (.125") 5G 5" (.188") 6E 6" (.156") 6G 6" (.188") 7E 7" (.156") 8E 8" (.156") 8G 8" (.188") 8J 8" (.250") 10G 0" (.188") 10J 10" (.250") (See technical information table for complete ordering information.)	Tenon mounting PT Open top T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS)[2] T35 4" O.D. (3-1/2" NPS)[2,3] Drill mounting[4] DM19 1 at 90° DM28 2 at 180° DM28PL 2 at 180° with one side plugged DM29 2 at 90° DM32 2 at 120° DM39 3 at 90° DM49 4 at 90° CSX/DSX/AERIS™/OMERO™/HLA/KAX Drill mounting[4] DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM32AS 3 at 120° DM39AS 3 at 90° DM49AS 4 at 90° AERIS™ Suspend drill mounting[4,5] DMxxAST_ 1 at 90° OMERO™ Suspend drill mounting[4,5] DMxxMRT_ 1 at 90°	L/AB Less anchor bolts (Include when anchor bolts are not needed) VD Vibration damper TP Tamper proof HAxy Horizontal arm bracket (1 fixture)[6,7] FDLxy Festoon outlet less electrical[6,8] CPL12/xy 1/2" I.D. coupling[6] CPL34/xy 3/4" I.D. coupling[6] CPL1/xy 1" I.D. coupling[6] NPL12/xy 1/2" O.D. threaded nipple[6] NPL34/xy 3/4" O.D. threaded nipple[6] NPL1/xy 1" O.D. threaded nipple[6] EHHxy Extra handhole[6,9] BAA Buy America(n) Act Compliant[10] FBC Full base cover (spun aluminum)	Super durable paint colors DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white Brushed finish BA Brushed aluminum Class 1 architectural anodized ABL Black ADB Dark bronze ANA Natural Architectural colors (powder finish) Duranodic Anodize, Paint over Duranodic Anodize, RAL Colors, Custom Colors and Extended Warranty Finishes available.

NOTES:

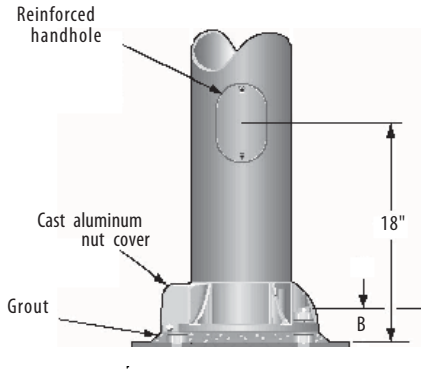
1. PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
2. N/A with 4C, 5C, 5E and 5G because pole top is too small.
3. N/A with 6E, 6G and 7E because pole top is too small.
4. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
5. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
6. Specify location and orientation when ordering option.
   For "x": specify the height in feet above base of pole.
   Example: 5ft = 5 and 20ft = 20
   For "y": specify orientation from handhole (A,B,C,D)Refer to the Handhole Orientation diagram below.
   Example: 1/2" coupling at 5' 8 ", orientation C = CPL12/5-8C
7. Horizontal arm is 18" x 2-3/8" O.D. standard.
8. FDL does not come with additional covering. Festoons must be a minimum of 3ft (36in) from the base in any orientation. Distance between any festoon and/or handhole must be at least 1ft and 6in (18in) apart in any orientation.
9. Combination of tenon-top and drill mount includes extra handhole. Extra Handholes must be a minimum of 3ft (36in) from the base in any orientation. Distance between any festoon and/or handhole must be at least 1ft and 6in (18in) apart in any orientation.
10. Use when mill certifications are required. Some configurations may be excluded, consult factory.
11. Finish must be specified. Additional colors available; see Architectural Colors brochure linked here (Form No. 794.3).

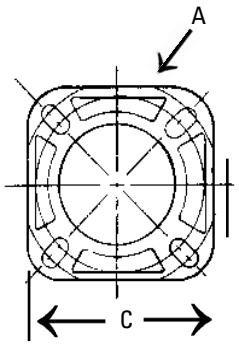
RTA-FLA Round Tapered Aluminum Poles

TECHNICAL INFORMATION — EPA (FT^2) WITH 1.3 GUST — EPA (FT^2) WITH 3-SECOND GUST PER AASHTO 2013											
Catalog Number	Nominal mount ht. (ft)*	Pole Shaft Size (in x ft)	Wall Thick (in)	EPA (ft^2)						Bolt Size (in. x in. x in.)	Approximate ship weight (lbs.)
				1.3 gust*		Max 3 sec. gust**					
				100 mph	Max. weight	130 mph	Max. weight (lbs)	150 mph	Max. weight (lbs)		
RTA 20 5C	20	5 x 3 x 19.8"	0.125	1.60	100	1.20	100	0.0	0	.75 x 18 x 3	62
RTA 20 5G	20	5 x 3 x 19.8"	0.188	3.80	100	3.10	100	2.0	100	.75 x 18 x 3	72
RTA 20 6G	20	6 x 4 x 19.8"	0.188	7.22	214	6.10	100	4.3	100	.75 x 30 x 3	107
RTA 20 7E	20	7 x 4 x 19.8"	0.156	9.00	256	7.50	100	5.3	100	1 x 36 x 4	103
RTA 25 6E	25	6 x 4 x 24.8"	0.156	2.60	114	1.80	200	1.0	200	.75 x 30 x 3	106
RTA 25 7E	25	7 x 4 x 24.8"	0.156	5.40	162	4.10	200	2.8	200	1 x 36 x 4	120
RTA 25 8E	25	8 x 4.5 x 24.8"	0.156	8.50	220	6.80	200	4.8	200	1 x 36 x 4	130
RTA 25 8G	25	8 x 4.5 x 24.8"	0.188	10.90	261	8.80	200	6.2	200	1 x 36 x 4	153
RTA 30 7E	30	7 x 4 x 29.8"	0.156	2.70	111	1.70	200	0.8	200	1 x 36 x 4	135
RTA 30 8E	30	8 x 4.5 x 29.8"	0.156	5.30	151	4.00	200	2.6	200	1 x 36 x 4	150
RTA 30 8G	30	8 x 4.5 x 29.8"	0.188	7.30	9	5.60	200	3.7	200	1 x 36 x 4	175
RTA 30 10G	30	10 x 6 x 29.8"	0.188	14.30	377	11.40	225	7.7	225	1 x 40 x 4	235
RTA 35 8E	35	8 x 4.5 x 34.8"	0.156	2.90	119	1.80	225	0.8	225	1 x 36 x 4	185
RTA 35 8G	35	8 x 4.5 x 34.8"	0.188	4.50	141	3.20	225	1.9	225	1 x 36 x 4	220
RTA 35 8J	35	8 x 4.5 x 34.8"	0.250	7.50	183	5.70	225	3.8	225	1 x 36 x 4	251
RTA 35 10G	35	10 x 6 x 34'8"	0.188	10.40	295	7.90	225	5.1	225	1 x 40 x 4	268
RTA 39 8G	39	8 x 4.5 x 38.8"	0.188	2.70	122	1.60	225	0.6	225	1 x 36 x 4	250
RTA 39 8J	39	8 x 4.5 x 38.8"	0.250	5.40	158	3.80	225	2.3	225	1 x 36 x 4	280
RTA 39 10G	39	10 x 6 x 38.8"	0.188	7.80	253	6.00	225	3.6	225	1 x 40 x 4	295
RTA 39 10J	39	10 x 6 x 38.8"	0.250	11.90	300	9.60	225	6.2	225	1.25 x 48 x 5	373
RTA 50 10J	50	10 x 6 x 49.8"	0.250	6.50	300	4.000	225	1.8	225	1.25 x 48 x 6	395

NOTE: *EPA values are based ASCE 7-93 wind map. For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.
NOTE: **AASHTO 2013 criteria is the most conservative existing EPA calculation. For poles not showing EPA values under AASHTO 2013, EPA values may exist under commercial criteria (see table below).

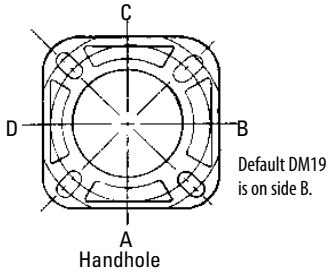
BASE DETAIL





POLE DATA						
Shaft base size	Bolt circle A	Bolt projection B	Base square C	Anchor bolt description	Warehouse Anchor description	Template number
5"	7.5"–9.5"	3.25"	9.25"	ABRTA-5	AB18-0	PJ50032
6"	9"–10"	3.50""	10"	ABRTA-6	AB30-0	PJ50033
7"	9.875"–11.25	4.125"	10.5"	ABRTA-7	AB36-0	PJ50034
8"	11"–12"	4.25"	11.5"	ABRTA-8	AB36-0	PJ50035
10" G	14" - 15"	4.50"	14.5"	ABRTA-10G	n/a	PJ50036
10" J	14"–15"	5"	14.5"	ABRTA-10J	n/a	PJ50063

HANDHOLE ORIENTATION



IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

CAUTION: These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

WDGE1 LED
Architectural Wall Sconce

Catalog Number

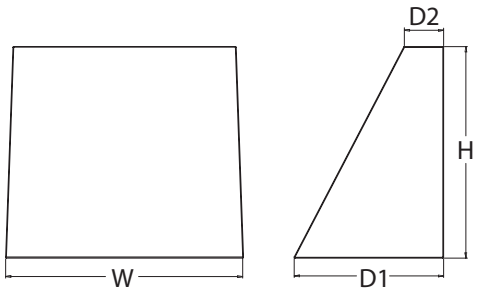
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: (without options) 9 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1	27K 2700K	80CRI	VF Visual comfort forward throw	MVOLT	**Shipped included**
	P2	30K 3000K	90CRI	VW Visual comfort wide	347[2]	SRM Surface mounting bracket
		35K 3500K				ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5]
		40K 4000K				**Shipped separately**
		50K[1] 5000K				AWS 3/8inch Architectural wall spacer
						PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options	
E4WH[3]	Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)
PE[4]	Photocell, Button Type
DS	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
DMG	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.
BAA	Buy America(n) Act Compliant

Finish			
DDBXD	Dark bronze	DDBTXD	Textured dark bronze
DBLXD	Black	DBLBXD	Textured black
DNAXD	Natural aluminum	DNATXD	Textured natural aluminum
DWHXD	White	DWHGXD	Textured white
DSSXD	Sandstone	DSSTXD	Textured sandstone

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE1PBBW DDBXD U	WDGE1 surface-mounted back box (specify finish)

NOTES
1. 50K not available in 90CRI.
2. 347V not available with E4WH, DS or PE.
3. E4WH not available with PE or DS.
4. PE not available with DS.
5. Not qualified for DLC. Not available with E4WH.

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. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI)					30K (3000K, 80 CRI)					35K (3500K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	10W	VF	1,120	112	0	0	0	1,161	116	0	0	0	1,194	119	0	0	0	1,227	123	0	0	0	1,235	123	0	0	0
		VW	1,122	112	0	0	0	1,163	116	0	0	0	1,196	120	0	0	0	1,229	123	0	0	0	1,237	124	0	0	0
P2	15W	VF	1,806	120	1	0	0	1,872	125	1	0	0	1,925	128	1	0	0	1,978	132	1	0	0	1,992	133	1	0	0
		VW	1,809	120	1	0	0	1,876	125	1	0	0	1,929	128	1	0	0	1,982	132	1	0	0	1,996	133	1	0	0

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	10W	0.082	0.049	0.043	0.038	--
	13W	--	--	--	--	0.046
P2	15W	0.132	0.081	0.072	0.064	--
	18W	--	--	--	--	0.056

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

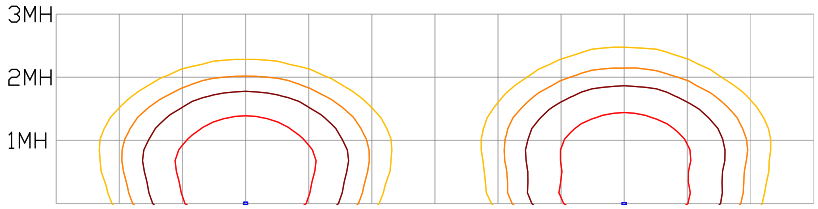
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

- 0.25 fc
- 0.5 fc
- 1.0 fc
- 3.0 fc

MH = 8ft
Grid = 8ft x 8ft



WDGE1 LED P2 40K 80CRI VW

WDGE1 LED P2 40K 80CRI VF

Emergency Egress Options

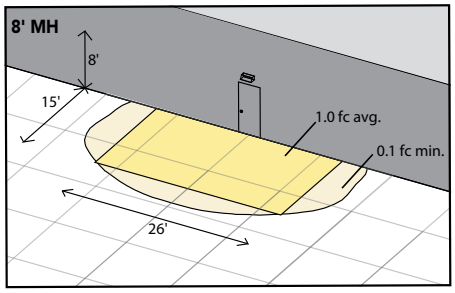
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E4WH and VF distribution.

Grid = 10ft x 10ft

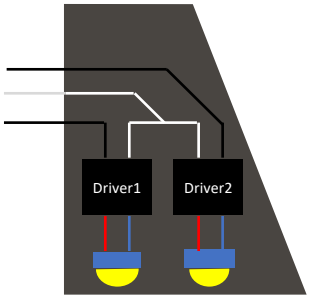


WDGE1 LED xx 40K 80CRI VF MVOLT E4WH

Dual Switching (DS) Option

The dual switching option offers operational redundancy that certain codes require. With this option the luminaire comes integrated with two drivers and two light engines. These work completely independent to each other so that a failure of any individual component does not cause the whole luminaire to go dark. This option is typically used with a back generator or inverter providing emergency power.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



Mounting, Options & Accessories

E4WH – 4W Emergency Battery Backup

D = 5.5"

H = 8"

W = 9"

PBBW – Surface-Mounted Back Box
Use when there is no junction box available.

D = 1.75"

H = 8"

W = 9"

AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

FEATURES & SPECIFICATIONS

INTENDED USE
Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION
The single-piece die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP66 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Well crafted reflector optics allow the light engine to be recessed within the luminaire, providing visual comfort, superior distribution, uniformity, and spacing in wall-mount applications. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

INSTALLATION
A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 2700K and 3000K color temperature only and SRM mounting only.

BUY AMERICAN ACT
Product with the BAA option 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/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

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.

WDGE3 LED

Architectural Wall Sconce

Catalog Number

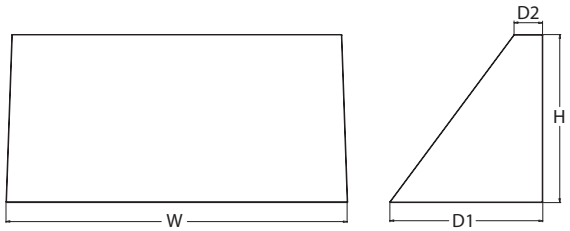
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 8"
Depth (D2): 1.5"
Height: 9"
Width: 18"
Weight: (without options) 19.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE3 has been designed to deliver up to 12,000 lumens through a precision refractive lens with wide distribution, perfect for augmenting the lighting from pole mounted luminaires.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE3 LED P3 40K 70CRI R3 MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting	
WDGE3 LED	P1 P2 P3 P4	30K 3000K 40K 4000K 50K 5000K	70CRI 80CRI	R2 Type 2 R3 Type 3 R4 Type 4 RFT Forward Throw	MVOLT 347[1] 480[1]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[4]	**Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options

E15WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (15W, 5°C min)
E20WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)
PE[2]	Photocell, Button Type
DMG[3]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.
SPD10KV	10kV Surge pack
BAA	Buy America(n) Act Compliant

Standalone Sensors/Controls

PIR	Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
PIRH	Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching
PIR1FC3V	Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
PIRH1FC3V	Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls

NLTAIR2 PIR	nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.
NLTAIR2 PIRH	nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.

See page 4 for out of box functionality

Finish

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DSSXD	Sandstone
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white
DSSTXD	Textured sandstone

Accessories

Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE3PBBW DDBXD U	WDGE3 surface-mounted back box (specify finish)

NOTES

1. 347V and 480V not available with E15WH and E20WC.
2. PE not available in 480V and with sensors/controls.
3. DMG option not available with sensors/controls.
4. Not qualified for DLC. Not available with emergency battery backup or sensors/controls

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. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	52W	R2	7,037	136	1	0	1	7,649	148	2	0	1	7,649	148	2	0	1
		R3	6,922	134	1	0	2	7,524	145	1	0	2	7,524	145	1	0	2
		R4	7,133	138	1	0	2	7,753	150	1	0	2	7,753	150	1	0	2
		RFT	6,985	135	1	0	2	7,592	147	1	0	2	7,592	147	1	0	2
P2	59W	R2	7,968	135	2	0	1	8,661	147	2	0	1	8,661	147	2	0	1
		R3	7,838	133	1	0	2	8,519	144	1	0	2	8,519	144	1	0	2
		R4	8,077	137	1	0	2	8,779	149	1	0	2	8,779	149	1	0	2
		RFT	7,909	134	1	0	2	8,597	146	2	0	2	8,597	146	2	0	2
P3	71W	R2	9,404	132	2	0	1	10,221	143	2	0	1	10,221	143	2	0	1
		R3	9,250	130	2	0	2	10,054	141	2	0	2	10,054	141	2	0	2
		R4	9,532	134	2	0	2	10,361	145	2	0	2	10,361	145	2	0	2
		RFT	9,334	131	2	0	2	10,146	142	2	0	2	10,146	142	2	0	2
P4	88W	R2	11,380	129	2	0	1	12,369	140	2	0	1	12,369	140	2	0	1
		R3	11,194	127	2	0	2	12,167	138	2	0	2	12,167	138	2	0	2
		R4	11,535	131	2	0	2	12,538	142	2	0	2	12,538	142	2	0	2
		RFT	11,295	128	2	0	2	12,277	139	2	0	2	12,277	139	2	0	2

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	52W	0.437	0.246	0.213	0.186	0.150	0.110
P2	59W	0.498	0.287	0.251	0.220	0.175	0.126
P3	71W	0.598	0.344	0.300	0.262	0.210	0.152
P4	88W	0.727	0.424	0.373	0.333	0.260	0.190

Lumen Output in Emergency Mode (4000K, 70 CRI)

Option	Dist. Type	Lumens
E15WH	R2	3,185
	R3	3,133
	R4	3,229
	RFT	3,162
E20WC	R2	3,669
	R3	3,609
	R4	3,719
	RFT	3,642

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.891
40K	0.906
50K	0.906

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.05
10°C	50°F	1.03
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.98	>0.97	>0.92

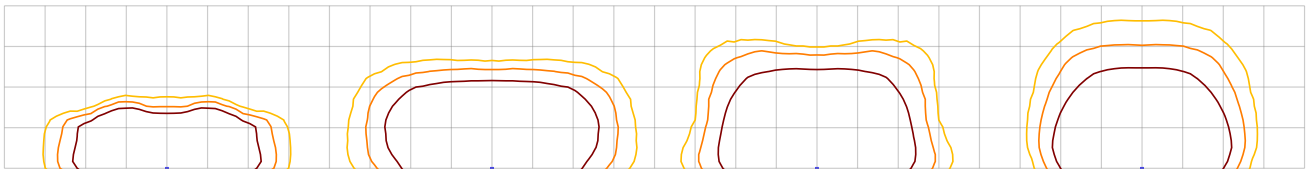
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

- 0.25 fc
- 0.5 fc
- 1.0 fc

MH = 15ft
Grid = 15ft x 15ft



WDGE3 LED P3 40K 70CRI R2 | WDGE3 LED P3 40K 70CRI R3 | WDGE3 LED P3 40K 70CRI R4 | WDGE3 LED P3 40K 70CRI RFT

Emergency Egress Options

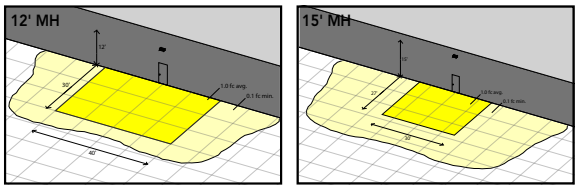
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain, minimum of 60% of the light output at the end of 90minutes.

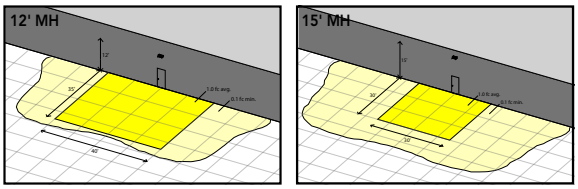
Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The examples below show illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E15WH or E20WC and R4 distribution.

Grid = 10ft x 10ft



WDGE3 LED xx 40K 70CRI R4 MVOLT E15WH



WDGE3 LED xx 40K 70CRI R4 MVOLT E20WC

Control / Sensor Options

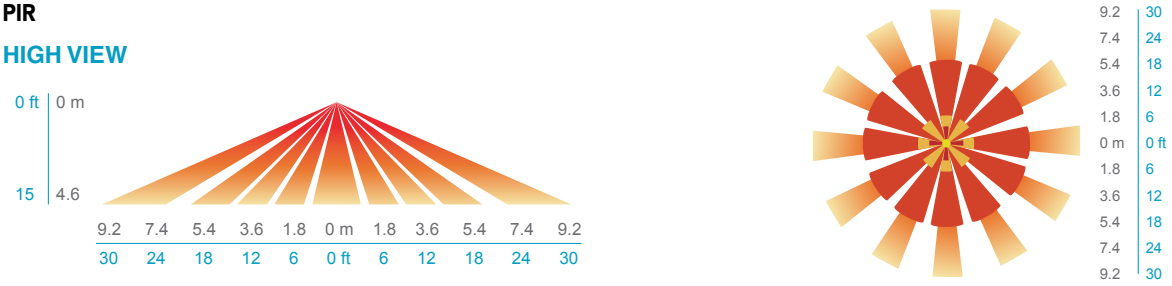
Motion/Ambient Sensor (PIR_, PIRH_)

Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

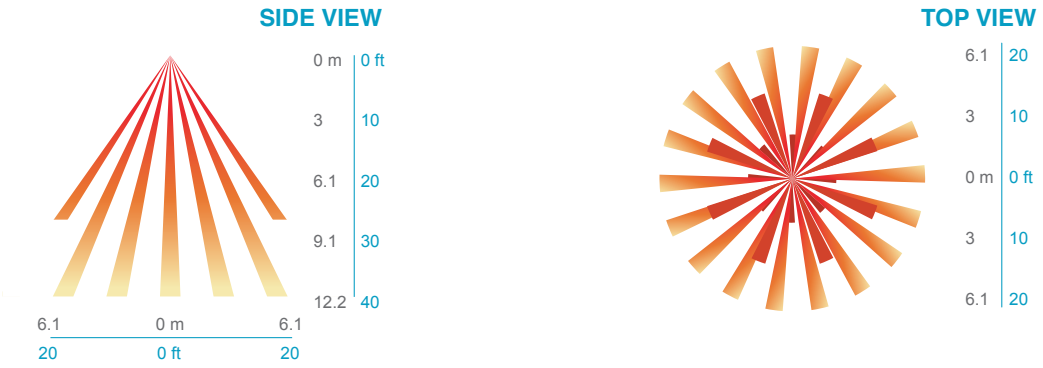
Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

PIR



PIRH



Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR1FC3V, PIRH1FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 1fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
NLTAIR2 PIR, NLTAIR2 PIRH (out of box)	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	7.5 min	5 min	Motion - 3 sec Photocell - 45 sec

Mounting, Options & Accessories

NLTAIR2 PIR – nLight AIR Motion/Ambient Sensor

D = 8"

H = 11"

W = 18"

PBBW – Surface-Mounted Back Box
Use when there is no junction box available.

D = 1.75"

H = 9"

W = 18"

AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

FEATURES & SPECIFICATIONS

INTENDED USE
Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION
The single-piece die-cast aluminum housing to optimize thermal transfer from the light engine and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Individually formed acrylic lenses are engineered for superior application efficiency which maximizes the light in the areas where it is most needed. Light engines are available in 3000 K, 4000 K or 5000 K configurations. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

INSTALLATION
A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Light engines are IP66 rated; luminaire is IP65 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature and SRM mounting only.

BUY AMERICAN ACT
Product with the BAA option 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/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

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.

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION
Driveway Permit No.	Date of Application	**STREET AND DRIVEWAY ACCESS PERMIT APPLICATION**
County: Currituck		
Development Name: Dollar Tree		

LOCATION OF PROPERTY:

Route/Road: NC Hwy 168

Exact Distance 535 ☐ Miles ☒ Feet N ☒ S ☐ E ☐ W ☒

From the Intersection of Route No. NC Hwy 168 and Route No. SR 1131 Toward north

Property Will Be Used For: ☐ Residential /Subdivision ☒ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☐ Other

Property: ☒ is ☐ is not within Currituck County City Zoning Area.

AGREEMENT

- I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location.
- I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation.
- I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT.
- I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans.
- I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary.
- I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction.
- I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways".
- I agree to pay a $50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied.
- I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel.
- I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer.
- I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction.
- I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction.
- I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system.
- The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point.
- I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees.
- **I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.**

SIGNATURES OF APPLICANT

PROPERTY OWNER (APPLICANT)			WITNESS	
COMPANY	Cedar Run Capital, LLC, Barnes Boykin, Member		NAME	
SIGNATURE			SIGNATURE	
ADDRESS	2405-F Nash St. NW		ADDRESS	
	Wilson, NC 27896	Phone No. 252.230.0632		

AUTHORIZED AGENT			WITNESS	
COMPANY			NAME	
SIGNATURE			SIGNATURE	
ADDRESS			ADDRESS	
		Phone No.		

APPROVALS

APPLICATION RECEIVED BY DISTRICT ENGINEER

SIGNATURE **DATE**

APPLICATION APPROVED BY LOCAL GOVERNMENTAL AUTHORITY (when required)

SIGNATURE **TITLE** **DATE**

APPLICATION APPROVED BY NCDOT

SIGNATURE **TITLE** **DATE**

INSPECTION BY NCDOT

SIGNATURE **TITLE** **DATE**

COMMENTS:

ALBEMARLE REGIONAL HEALTH SERVICES

395629

Applicant:
STOCK & TAYLOR CONSTRUCTION
PO BOX 2147
WASHINGTON, NC 27889

Owner:
ROADCAP, JASON R
631 FERNWOOD FARMS ROAD
CHESAPEAKE, VA 23320

Site Location:
6440 CARATOKE HIGHWAY
GRANDY, NC 27939

GPD: 200	**LTAR:** 0.500	**Classification:** PS Shallow Placement

If unsuitable, the site may be reclassified to provisionally suitable with the following modification(s):

* Shallow Placement - Type II System

To obtain an Authorization to Construct:

* Submit a plat or scale drawing of the lot, showing location and dimensions of all property lines, proposed structures and driveways
* Pay permit fee of $225
* Site plan showing both, initial and repair septic areas. Also, a pump will be needed if building slab isn't high enough for gravity flow to high sitting septic tank

Comments:

**Fill building pad higher than finished septic tank grade (12" minimum above existing grade)
**100% repair area will need to be shown also

EHS: _____
Carver, Kevin

Date: 06/08/2023

THIS APPROVAL WILL BECOME VOID AFTER 12 MONTHS AND A NEW APPLICATION WILL BE NECESSARY.

DEMLR USE ONLY		
Date Received	Fee Paid	Permit Number
Applicable Rules: ☐ Coastal SW – 1995 ☐ Coastal SW – 2008 ☐ Ph II - Post Construction *(select all that apply)* ☐ Non-Coastal SW- HQW/ORW Waters ☐ Universal Stormwater Management Plan ☐ Other WQ Mgmt Plan: _____		

State of North Carolina
Department of Environment and Natural Resources
Division of Energy, Mineral and Land Resources

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

This form may be photocopied for use as an original

I. GENERAL INFORMATION

1. Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):

   Dollar Tree - Grandy

2. Location of Project (street address):

   6640 Caratoke Hwy

   City:Grandy County:Currituck Zip:27939

3. Directions to project (from nearest major intersection):

   From the intersection of NC 158 (Shortcut Road) and US 168 (Caratoke Highway), travel south on Caratoke Hwy. for 11.6 miles. The site will be on the right (west) side of the road adjacent to the Sonic, just before the signalized intersection at Caratoke Hwy and Poplar Branch Road (SR 1131)

4. Latitude:36° 14′ 34.63″ N Longitude:75° 52′ 45.83″ W of the main entrance to the project.

II. PERMIT INFORMATION:

1. a. Specify whether project is (check one): ☒New ☐Modification ☐ Renewal w/ Modification†

   †*Renewals with modifications also requires SWU-102 – Renewal Application Form*

   b. If this application is being submitted as the result of a **modification** to an existing permit, list the existing permit number _____ , its issue date (if known)_____, and the status of construction: ☐Not Started ☐Partially Completed* ☐ Completed* **provide a designer's certification*

2. Specify the type of project (check one):
   ☐Low Density ☒High Density ☐Drains to an Offsite Stormwater System ☐Other

3. If this application is being submitted as the result of a **previously returned application** or a **letter from DEMLR requesting a state stormwater management permit application**, list the stormwater project number, if assigned, _____ and the previous name of the project, if different than currently proposed, _____.

4. a. Additional Project Requirements (check applicable blanks; information on required state permits can be obtained by contacting the Customer Service Center at 1-877-623-6748):

   ☐CAMA Major ☒Sedimentation/Erosion Control: 1.85??? ac of Disturbed Area

   ☐NPDES Industrial Stormwater ☐404/401 Permit: Proposed Impacts _____

   b. If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit:_____

5. Is the project located within 5 miles of a public airport? ☒No ☐Yes

   If yes, see S.L. 2012-200, Part VI: http://portal.ncdenr.org/web/lr/rules-and-regulations

III. CONTACT INFORMATION

1. a. Print Applicant / Signing Official's name and title (specifically the developer, property owner, lessee, designated government official, individual, etc. who owns the project):

Applicant/Organization: Cedar Run Capital, LLC

Signing Official & Title: Barnes Boykin, Member

b. Contact information for person listed in item 1a above:

Street Address: 2405-F Nash St. NW

City: Wilson State: NC Zip: 27896

Mailing Address (*if applicable*): same as street address

City: State: Zip:

Phone: (252) 230.0632 Fax: ( )

Email:

c. Please check the appropriate box. The applicant listed above is:

☐ The property owner (Skip to Contact Information, item 3a)
☐ Lessee* (Attach a copy of the lease agreement and complete Contact Information, item 2a and 2b below)
☒ Purchaser* (Attach a copy of the pending sales agreement and complete Contact Information, item 2a and 2b below)
☐ Developer* (Complete Contact Information, item 2a and 2b below.)

2. a. Print Property Owner's name and title below, if you are the lessee, purchaser or developer. (This is the person who owns the property that the project is located on):

Property Owner/Organization: Jason Roadcap

Signing Official & Title: Jason Roadcap, Owner

b. Contact information for person listed in item 2a above:

Street Address: 631 Fernwood Farms Road

City: Chesapeake State: VA Zip: 23320

Mailing Address (*if applicable*):

City: State: Zip:

Phone: ( ) Fax: ( )

Email:

3. a. (Optional) Print the name and title of another contact such as the project's construction supervisor or other person who can answer questions about the project:

Other Contact Person/Organization:

Signing Official & Title:

b. Contact information for person listed in item 3a above:

Mailing Address:

City: State: Zip:

Phone: ( ) Fax: ( )

Email:

4. Local jurisdiction for building permits: Currituck County

Point of Contact: Kevin Kemp Phone #: (252) 232.3055

IV. PROJECT INFORMATION

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.

   Runoff from impervious surfaces will be routed to an infiltration basin for treatment.

2. a. **If claiming vested rights**, identify the supporting documents provided and the date they were approved:
   - ☐ Approval of a Site Specific Development Plan or PUD — Approval Date: _____
   - ☐ Valid Building Permit — Issued Date: _____
   - ☐ Other: _____ — Date: _____

   b. **If claiming vested rights**, identify the regulation(s) the project has been designed in accordance with:
   - ☐ Coastal SW – 1995
   - ☐ Ph II – Post Construction

3. Stormwater runoff from this project drains to the Pasquotank River basin.

4. Total Property Area: 1.85 acres

5. Total Coastal Wetlands Area: 0 acres

6. Total Surface Water Area: 0 acres

7. Total Property Area (4) – Total Coastal Wetlands Area (5) – Total Surface Water Area (6) = Total Project Area+: 1.85 acres

   + *Total project area shall be calculated to exclude the following: the normal pool of impounded structures, the area between the banks of streams and rivers, the area below the Normal High Water (NHW) line or Mean High Water (MHW) line, and coastal wetlands landward from the NHW (or MHW) line. The resultant project area is used to calculate overall percent built upon area (BUA). Non-coastal wetlands landward of the NHW (or MHW) line may be included in the total project area.*

8. Project percent of impervious area: (Total Impervious Area / Total Project Area) X 100 = _____ %

9. How many drainage areas does the project have? 1 *(For high density, count 1 for each proposed engineered stormwater BMP. For low density and other projects, use 1 for the whole property area)*

10. Complete the following information for each drainage area identified in Project Information item 9. If there are more than four drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below.

Basin Information	Drainage Area 1	Drainage Area __	Drainage Area __	Drainage Area __
Receiving Stream Name	Douwdy's Bay			
Stream Class *	SC			
Stream Index Number *	30-5-15			
Total Drainage Area (sf)	80940			
On-site Drainage Area (sf)	80940			
Off-site Drainage Area (sf)				
Proposed Impervious Area** (sf)				
% Impervious Area** (total)				

Impervious** Surface Area	Drainage Area 1	Drainage Area __	Drainage Area __	Drainage Area __
On-site Buildings/Lots (sf)				
On-site Streets (sf)				
On-site Parking (sf)				
On-site Sidewalks (sf)				
Other on-site (sf)				
Future (sf)				
Off-site (sf)				
Existing BUA*** (sf)				
Total (sf):				

* *Stream Class and Index Number can be determined at: http://portal.ncdenr.org/web/wq/ps/csu/classifications*

** *Impervious area is defined as the built upon area including, but not limited to, buildings, roads, parking areas, sidewalks, gravel areas, etc.*

*** *Report only that amount of existing BUA that will remain after development. Do not report any existing BUA that is to be removed and which will be replaced by new BUA.*

11. How was the off-site impervious area listed above determined? Provide documentation. By Design

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Projects in Union County: *Contact DEMLR Central Office staff to check if the project is located within a Threatened & Endangered Species watershed that may be subject to more stringent stormwater requirements as per 15A NCAC 02B .0600.*

V. SUPPLEMENT AND O&M FORMS

The applicable state stormwater management permit supplement and operation and maintenance (O&M) forms must be submitted for each BMP specified for this project. The latest versions of the forms can be downloaded from http://portal.ncdenr.org/web/wq/ws/su/bmp-manual.

VI. SUBMITTAL REQUIREMENTS

Only complete application packages will be accepted and reviewed by the Division of Energy, Mineral and Land Resources (DEMLR). A complete package includes all of the items listed below. A detailed application instruction sheet and BMP checklists are available from http://portal.ncdenr.org/web/wq/ws/su/statesw/forms_docs**. The complete application package should be submitted to the appropriate DEMLR Office.** (The appropriate office may be found by locating project on the interactive online map at http://portal.ncdenr.org/web/wq/ws/su/maps.)

Please **indicate that the following required information have been provided by initialing** in the space provided for each item. All original documents MUST be signed and initialed in **blue ink**. **Download the latest versions for each submitted application package** from http://portal.ncdenr.org/web/wq/ws/su/statesw/forms_docs.

Initials

1. *Original and one copy* of the Stormwater Management Permit Application Form. _____
2. *Original and one copy* of the signed and notarized Deed Restrictions & Protective Covenants Form. *(if required as per Part VII below)* _____
3. *Original* of the applicable Supplement Form(s) (sealed, signed and dated) **and** O&M agreement(s) for each BMP. _____
4. Permit application processing fee of $505 *payable to NCDENR.* (For an Express review, refer to http://www.envhelp.org/pages/onestopexpress.html for information on the Express program and the associated fees. Contact the appropriate regional office Express Permit Coordinator for additional information and to schedule the required application meeting.) _____
5. A detailed narrative (one to two pages) describing the stormwater treatment/management for _____
6. A USGS map identifying the site location. If the receiving stream is reported as class SA or the receiving stream drains to class SA waters within ½ mile of the site boundary, include the ½ mile radius on the map. _____
7. Sealed, signed and dated calculations (one copy). _____
8. Two sets of plans folded to 8.5" x 14" (sealed, signed, & dated), including: _____
   a. Development/Project name.
   b. Engineer and firm.
   c. Location map with named streets and NCSR numbers.
   d. Legend.
   e. North arrow.
   f. Scale.
   g. Revision number and dates.
   h. Identify all surface waters on the plans by delineating the normal pool elevation of impounded structures, the banks of streams and rivers, the MHW or NHW line of tidal waters, and any coastal wetlands landward of the MHW or NHW lines.
      - Delineate the vegetated buffer landward from the normal pool elevation of impounded structures, the banks of streams or rivers, and the MHW (or NHW) of tidal waters.
   i. Dimensioned property/project boundary with bearings & distances.
   j. Site Layout with all BUA identified and dimensioned.
   k. Existing contours, proposed contours, spot elevations, finished floor elevations.
   l. Details of roads, drainage features, collection systems, and stormwater control measures.
   m. Wetlands delineated, or a note on the plans that none exist. (Must be delineated by a qualified person. Provide documentation of qualifications and identify the person who made the determination on the plans.
   n. Existing drainage (including off-site), drainage easements, pipe sizes, runoff calculations.
   o. Drainage areas delineated (included in the main set of plans, not as a separate document).

p. Vegetated buffers (where required).

9. Copy of any applicable soils report with the associated SHWT elevations (Please identify elevations in addition to depths) as well as a map of the boring locations with the existing elevations and boring logs. Include an 8.5"x11" copy of the NRCS County Soils map with the project area clearly delineated. For projects with infiltration BMPs, the report should also include the soil type, expected infiltration rate, and the method of determining the infiltration rate. (**Infiltration Devices submitted to WiRO:** S*chedule a site visit for DEMLR to verify the SHWT prior to submittal, (910) 796-7378.)* _____
10. A copy of the most current property deed. Deed book: _____ Page No: _____ _____
11. For corporations and limited liability corporations (LLC): Provide documentation from the NC Secretary of State or other official documentation, which supports the titles and positions held by the persons listed in Contact Information, item 1a, 2a, and/or 3a per 15A NCAC 2H.1003(e). The corporation or LLC must be listed as an active corporation in good standing with the NC Secretary of State, otherwise the application will be returned. http://www.secretary.state.nc.us/Corporations/CSearch.aspx _____

VII. DEED RESTRICTIONS AND PROTECTIVE COVENANTS

For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. If lot sizes vary significantly or the proposed BUA allocations vary, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded from http://portal.ncdenr.org/web/lr/state-stormwater-forms_docs. Download the latest versions for each submittal.

In the instances where the applicant is different than the property owner, it is the responsibility of the property owner to sign the deed restrictions and protective covenants form while the applicant is responsible for ensuring that the deed restrictions are recorded.

By the notarized signature(s) below, the permit holder(s) certify that the recorded property restrictions and protective covenants for this project, if required, shall include all the items required in the permit and listed on the forms available on the website, that the covenants will be binding on all parties and persons claiming under them, that they will run with the land, that the required covenants cannot be changed or deleted without concurrence from the NC DEMLR, and that they will be recorded prior to the sale of any lot.

VIII. CONSULTANT INFORMATION AND AUTHORIZATION

Applicant: Complete this section if you wish to designate authority to another individual and/or firm (such as a consulting engineer and/or firm) so that they may provide information on your behalf for this project (such as addressing requests for additional information).

Consulting Engineer: Kimberly Hamby

Consulting Firm: Timmons Group

Mailing Address: 1805 W City Drive, Unit E

City: Elizabeth City State: NC Zip: 27909

Phone: (252) 621-5029 Fax: (252) 562-6974

Email: kim.hamby@timmons.com

IX. PROPERTY OWNER AUTHORIZATION *(if Contact Information, item 2 has been filled out, complete this section)*

I, *(print or type name of person listed in Contact Information, item 2a)* Jason Roadcap, certify that I own the property identified in this permit application, and thus give permission to *(print or type name of person listed in Contact Information, item 1a)* Barnes Boykin with *(print or type name of organization listed in Contact Information, item 1a)* Cedar Run Capital, LLC to develop the project as currently proposed. A copy of the lease agreement or pending property sales contract has been provided with the submittal, which indicates the party responsible for the operation and maintenance of the stormwater system.

As the legal property owner I acknowledge, understand, and agree by my signature below, that if my designated agent (entity listed in Contact Information, item 1) dissolves their company and/or cancels or defaults on their lease agreement, or pending sale, responsibility for compliance with the DEMLR Stormwater permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify DEMLR immediately and submit a completed Name/Ownership Change Form within 30 days; otherwise I will be operating a stormwater treatment facility without a valid permit. I understand that the operation of a stormwater treatment facility without a valid permit is a violation of NC General Statue 143-215.1 and may result in appropriate enforcement action including the assessment of civil penalties of up to $25,000 per day, pursuant to NCGS 143-215.6.

Signature:_____ Date:_____

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this ___ day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, _____

SEAL

My commission expires_____

X. APPLICANT'S CERTIFICATION

I, *(print or type name of person listed in Contact Information, item 1a)* Barnes Boykin, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans, that the required deed restrictions and protective covenants will be recorded, and that the proposed project complies with the requirements of the applicable stormwater rules under 15A NCAC 2H .1000 and any other applicable state stormwater requirements.

Signature:_____ Date:_____

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this ___ day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal, _____

SEAL

My commission expires_____

Operation & Maintenance Agreement

Project Name:	**Dollar Tree**
Project Location:	**6640 Caratoke Hwy., Currituck, NC 27939**

Cover Page

Maintenance records shall be kept on the following SCM(s). This maintenance record shall be kept in a log in a known set location. Any deficient SCM elements noted in the inspection will be corrected, repaired, or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the pollutant removal efficiency of the SCM(s).

The SCM(s) on this project include (check all that apply & corresponding O&M sheets will be added automatically):

Infiltration Basin	Quantity:	1	Location(s):	On site
Infiltration Trench	Quantity:		Location(s):	
Bioretention Cell	Quantity:		Location(s):	
Wet Pond	Quantity:		Location(s):	
Stormwater Wetland	Quantity:		Location(s):	
Permeable Pavement	Quantity:		Location(s):	
Sand Filter	Quantity:		Location(s):	
Rainwater Harvesting	Quantity:		Location(s):	
Green Roof	Quantity:		Location(s):	
Level Spreader - Filter Strip	Quantity:		Location(s):	
Proprietary System	Quantity:		Location(s):	
Treatment Swale	Quantity:		Location(s):	
Dry Pond	Quantity:		Location(s):	
Disconnected Impervious Surface	Present:	No	Location(s):	
User Defined SCM	Present:	No	Location(s):	
Low Density	Present:	No	Type:	

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed for each SCM above, and attached O&M tables. I agree to notify NCDEQ of any problems with the system or prior to any changes to the system or responsible party.

Responsible Party:	**Barnes Boykin**
Title & Organization:	**Cedar Run Capital, LLC, Member**
Street address:	**2405-F Nash St. NW**
City, state, zip:	**Wilson, NC 27896**
Phone number(s):	**252-230-0632**
Email:	**barnesboykin@yahoo.com**

Signature: _____ Date: _____

I, _____, a Notary Public for the State of _____

County of _____, do hereby certify that _____

personally appeared before me this _____ day of _____ and

acknowledge the due execution of the Operations and Maintenance Agreement .

Witness my hand and official seal, _____.

Seal

My commission expires _____

Infiltration Basin Maintenance Requirements

Important operation and maintenance procedures:

- The drainage area will be carefully managed to reduce the sediment load to the infiltration basin.
- No portion of the infiltration basin will be fertilized after the initial fertilization that is required to establish
- the vegetation. Lime may be allowed if vegetation is planted on the surface of the infiltration basin and a soil test shows that it is needed.
- The vegetation in and around the basin will be maintained at a height of four to six inches.

After the infiltration basin is established, it will be inspected **quarterly and within 24 hours after every storm event greater than 1.0 inches (or 1.5 inches if in a Coastal County)**. Records of operation and maintenance shall be kept in a known set location and shall be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

SCM element:	Potential problem:	How to remediate the problem:
The entire infiltration basin	Trash/debris is present.	Remove the trash/debris.
The grass filter strip or other pretreatment area	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, plant ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Sediment has accumulated to a depth of greater than three inches.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
The flow diversion structure (if applicable)	The structure is clogged.	Unclog the conveyance and dispose of any sediment in a location where it will not cause impacts to streams or the SCM.
	The structure is damaged.	Make any necessary repairs or replace if damage is too much for repair.
The inlet device	The inlet pipe is clogged (if applicable).	Unclog the pipe and dispose of any sediment in a location where it will not cause impacts to streams or the SCM.
	The inlet pipe is cracked or otherwise damaged (if applicable).	Repair or replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future erosion problems.
	Stone verge is clogged or covered in sediment (if applicable).	Remove sediment and clogged stone and replace with clean stone.
The basin	More than four inches of sediment has accumulated.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Erosion of the basin surface has occurred or riprap is displaced.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Water is standing more than three days after a storm event.	Replace the top few inches of soil to see if this corrects the standing water problem. If not, consult an appropriate professional for a more extensive repair.

Infiltration Basin Maintenance Requirements (continued)		
SCM element:	**Potential problem:**	**How to remediate the problem:**
The embankment	Shrubs or trees are growing on the embankment.	Remove shrubs and trees immediately.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make needed repairs immediately.
The outlet device	Clogging has occurred.	Clean out the outlet device and dispose of sediment in a location where it will not cause impacts to streams or the SCM.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Repair the damage and improve the flow dissipation structure.
	Discharges from the infiltration basin are causing erosion or sedimentation in the receiving water.	Contact the local NCDEQ Regional Office.

TIMMONS GROUP

1805 West City Drive
Unit E
Elizabeth City, NC 27909

P 252.621.5030
F 252.562.6974
www.timmons.com

TRANSMITTAL

TO: Donna Voliva, Currituck County Planning

FROM: Kim Hamby, PE

DATE: July 27, 2023

RE: Dollar Tree - Grandy

Donna,

Attached please find two copies of each of the following:

- Three copies of the Major Site Plan application
- Three copies of the Major Stormwater Management Form SW-002 and associated drainage narrative with calculations.
- Three copies of the septic related email from ARHS with soil scientist draft report
- Three copies of the preliminary applications for the following permits:
  - Erosion Control
  - Stormwater
  - Driveway Permit
- Three copies of the site plan design plans.
- Three copies of the site lighting plans and cut sheets.
- Three copies of the architectural elevations.
- A disk containing pdfs of each of the items listed above.

Please let me know if you have any questions or need any additional information.

Thank you,

Kimberly D. Hamby