



ZONING DIVISION
 200 S. Hamilton Road
 Gahanna, Ohio 43230
 614-342-4025
 zoning@gahanna.gov
 www.gahanna.gov

RECEIVED
 MAR 07 2021

BY:

DESIGN REVIEW/CERTIFICATE OF APPROPRIATENESS

Project/Property Address or Location: 310 & 306 Granville Street		Project Name/Business Name CML Gahanna Branch	
Parcel ID No.(s): 025-000300-00 & 025-000328	Zoning Designation: SO & CC	Total Acreage: 1.680 & 3.749	
Please check all that apply:			
SITE PLAN <input checked="" type="checkbox"/>	LANDSCAPING <input checked="" type="checkbox"/>	BUILDING DESIGN <input checked="" type="checkbox"/>	DEMOLITION <input type="checkbox"/> <small>only applicable to Code Chapter 1150 City of Gahanna</small>
OTHER <input type="checkbox"/>			
Project Description: The proposed project is a 36,000 sf, two story branch library. It will be construction type IIB and fully sprinklered. The library will have a collection of browsing space, meeting rooms, smaller study rooms, a homework help center, a quiet lounge and staff spaces.			
APPLICANT Name -do <u>not</u> use a business name: Wendy Tressler Jasper delegated by Lauren Hagan		Applicant Address: 96 S Grant Ave, Columbus OH 43215	
Applicant E-mail: wtressler@columbuslibrary.org		Applicant Phone No.: 614.323.7421	
BUSINESS Name (if applicable): Columbus Metropolitan Library			
ADDITIONAL CONTACTS Please List Primary Contact for Correspondence (please list all applicable contacts)			
Name(s): Tracy Perry Mike Suriano		Contact Information (phone no./email): Tperry@nbbj.com Msuriano@nbbj.com	
PROPERTY OWNER Name: (if different from Applicant) Columbus Metropolitan Library Board of Trustees		Property Owner Contact Information (phone no./email): Wendy Tressler (see above)	

APPLICANT SIGNATURE BELOW CONFIRMS THE SUBMISSION REQUIREMENTS HAVE BEEN COMPLETED (see page 2 & 3)

I certify that the information on this application is complete and accurate to the best of my knowledge, and that the project as described, if approved, will be completed in accordance with the conditions and terms of that approval.

Applicant/Primary Contact Signature:

Date: 2/18/21

INTERNAL USE

Zoning File No. DR-0662021

RECEIVED: KKW
 DATE: 3-5-21

PAID: 100.00
 DATE: 3-5-21

DESIGN REVIEW/CERTIFICATE OF APPROPRIATENESS APPLICATION-SUBMISSION REQUIREMENTS

TO BE COMPLETED/SUBMITTED BY APPLICANT:	
1.	Review Gahanna Code Section 1197 (visit www.municode.com)
2.	Materials List (see page 3) – does not apply to demolition applicants
3.	Authorization Consent Form Complete & Notarized (see page 4)
4.	Application & all supporting documents submitted in digital format
5.	Application & all supporting documents submitted in hardcopy format
6.	Application fee paid (in accordance with the Building & Zoning Fee Schedule)
7.	Color rendering(s) of the project in plan/perspective/or elevation
8.	One copy 24"x36" or 11"x17" prints of the plans
Building Construction, Exterior Remodeling, and Additions (Including Parking Lots and Landscaping)	
1.	SITE PLAN that includes the following: (include: scale, north arrow, & address) if applicable
-	All property & street pavement lines
-	Property size
-	Proposed ingress/egress to the site, including onsite parking area(s), parking stalls, adjacent streets
-	Location of all existing and proposed buildings on the site
-	Location of all existing & proposed exterior lighting standards
-	Breakdown of parking spaces required & spaces provided (see Gahanna Code Section 1163)
-	Provide lot coverage breakdown of building & paved surface areas
2.	LANDSCAPE PLAN (including plant list)
-	Existing landscaping that will be retained & proposed landscaping shall be differentiated & shown on the plan. The type, size, number, & spacing of all plantings & other landscape features must be illustrated
-	Designation of required buffer screens (if any)
-	Interior landscaping breakdown for paved surface (see Gahanna Code Section 1163)
3.	ELEVATIONS from all sides
-	Fenestration, doorways, & all other projecting & receding elements of the building exterior
4.	LIGHTING STANDARD DRAWING that includes the following: (exterior only)
-	All sizing specifications
-	Information on lighting intensity (no. of watts, iso foot candle diagram)
-	Materials, colors, & manufacturer's cut sheet
5.	OPTIONAL REQUIREMENTS AT THE DISCRETION OF PLANNING COMMISSION:
-	Scale model
-	Section profiles
-	Perspective drawing
Demolition or Removal of Existing Structures Requirements	
1.	ONE OR MORE OF THE FOLLOWING CONDITIONS MUST EXIST:
-	That the building contains no features of special architecture or is not a historical building or culturally significant or is not consistent in design & style with other structures within the district
-	That there exists no viable economic use for the building in its current state or as it might be restored or that there is not a feasible and prudent alternative to demolition and that the approval of the demolition is necessary for the preservation and enjoyment of substantial property rights
-	That the applicant has a definite plan for redevelopment of the site which meets the standards of this Code and the proposed redevelopment will not materially affect adversely the health or safety of persons residing or working in the district where the demolition will occur and will not be materially detrimental to the public welfare or injurious to property or improvements in such neighborhood

MATERIAL LIST

NOT REQUIRED FOR DEMOLITION APPLICANTS

Item	Manufacturer Name	Color Name	Color Number
Awnings	Steel Plate at drive up	Black	NA
Brick	Belden and Sioux City <small>+</small>	<small>Glazed white (white), Ebony Smooth (dark), Blend of Niagara rust and Oyster ls.</small> <small>+</small>	NA
Gutters and Downspouts	Interior Downspouts	NA	NA
Lighting	See cutsheets in package		
Roofing	TPO Membrane	White	NA
Siding	Centria Formawall <small>+</small>	White	
Stucco	NA		
Trim	NA		
Windows	YKK AP YES 45 TU Front Set Series	<small>Black (West), Clr Anodized (Center), Med. Bronze (East)</small>	
Other (please specify)			
Other (please specify)			

Please Note:

The Public Hearing will not occur until the City Of Gahanna Staff reviews the Application for Code Consistency. Applications that are not consistent with the code will not be scheduled for hearing.

AUTHORIZATION CONSENT FORM

(must sign in the presence of a notary)

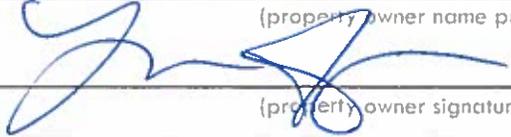
If you are filling out more than one application for the same project & address, you may submit a copy of this form with additional applications.

PROPERTY OWNER

IF THE PROPERTY OWNER IS THE APPLICANT, SKIP TO NEXT SECTION

As the property owner/authorized owner's representative of the subject property listed on this application, hereby authorize the applicant/representative to act in all matters pertaining to the processing and approval of this application, including modifying the project. I agree to be bound by all terms and agreements made by the applicant/representative.

Lauren Hagan on behalf of CML BOT


 (property owner name printed)

 (property owner signature)

2/18/2021

 (date)

Subscribed and sworn to before me on this 18th day of February, 2021.

State of Ohio County of Franklin

Notary Public Signature: 



LEON E. MOSES
Notary Public
In and For the State of Ohio
My Commission Expires
October 28, 2024

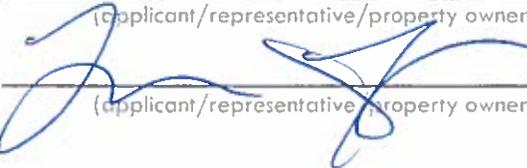
Applicant/Property Owner/Representative

AGREEMENT TO COMPLY AS APPROVED As the applicant/representative/owner of the subject property listed on this application, I hereby agree that the project will be completed as approved with any conditions and terms of the approval, and any proposed changes to the approval shall be submitted for review and approval to City staff.

AUTHORIZATION TO VISIT THE PROPERTY I hereby authorize City representatives to visit, photograph and post notice (if applicable) on the subject property as described.

APPLICATION SUBMISSION CERTIFICATION I hereby certify that the information on this application is complete and accurate to the best of my knowledge.

Lauren Hagan on behalf of CML BOT


 (applicant/representative/property owner name printed)

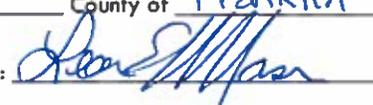
 (applicant/representative/property owner signature)

2/18/2021

 (date)

Subscribed and sworn to before me on this 18th day of February, 2021.

State of Ohio County of Franklin

Notary Public Signature: 



LEON E. MOSES
Notary Public
In and For the State of Ohio
My Commission Expires
October 28, 2024

COLUMBUS
METROPOLITAN LIBRARY
GAHANNA BRANCH DESIGN

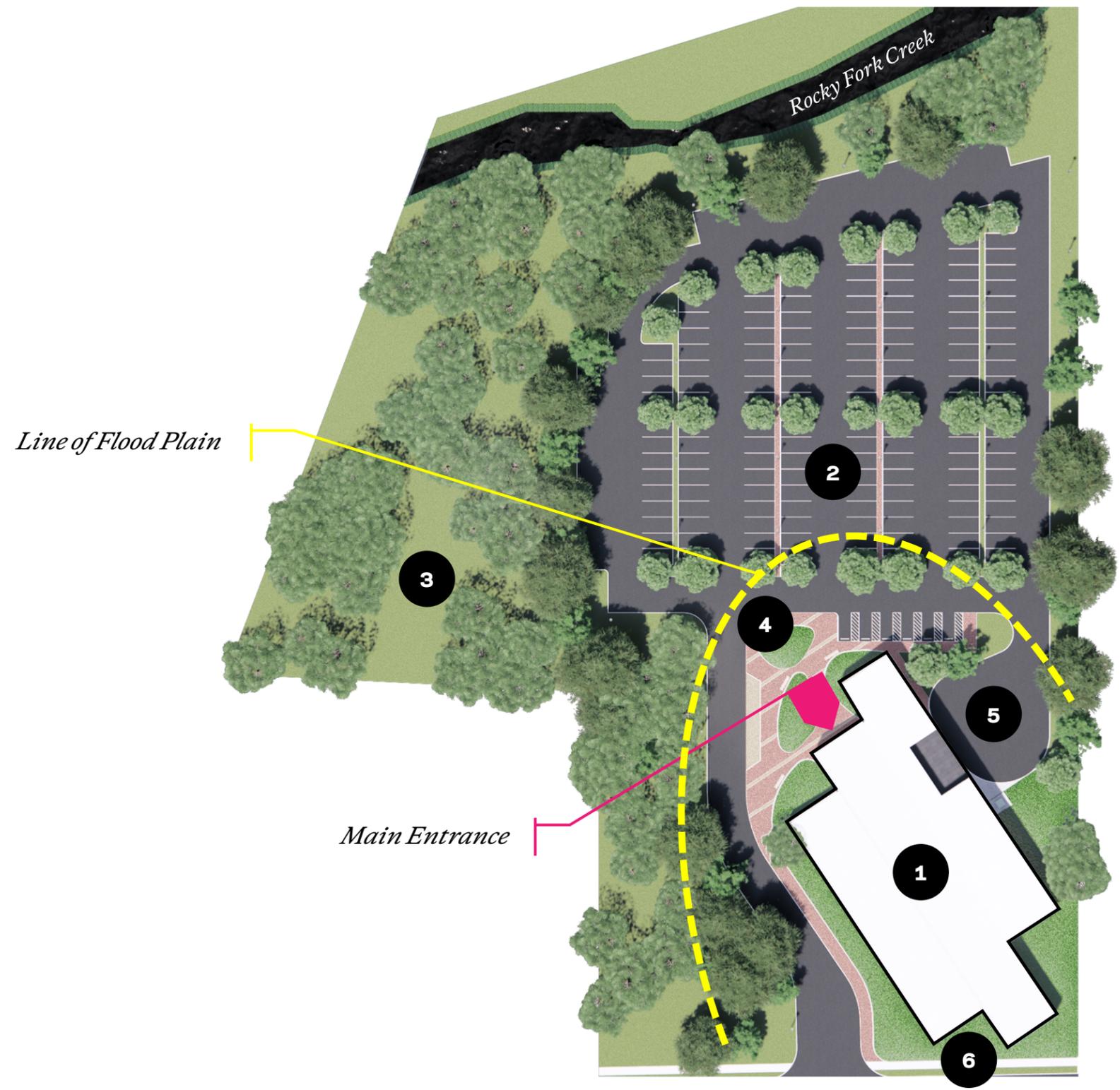
PLANNING COMMISSION SUBMISSION

SITE DESIGN



SITE PLAN

- 1 *Library*
- 2 *Surface Parking*
- 3 *Detention Basin*
- 4 *Plaza*
- 5 *Pick-Up Window*
- 6 *Viewing Garden*



LUMINAIRE SCHEDULE						
Symbol	Label	Catalog Number	Lamp	Lumens	LLF	Watts
SA	GLEON-AF-02-LED-E1-5WQ-8030			10471	1.00	113
SB	GLEON-AF-02-LED-E1-SL4-8030-HSS			8056	1.00	113
SC	GLEON-AF-02-LED-E1-SL2-8030			9741	1.00	113
SD	AR-21012-W30	1 LED COB 3000K 0.4247,0.3936 3130K Ra84		1708	1.00	28.2
SG	XTOR2B-V	EATON LED 3000K		1996	1.00	18.2
C	LDSQ4B10D010 EUM4B10Z09040 4LBSQ1LI	HIGH LUMEN LED 4000 K ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING IAG LUMEN STANDARDS IN GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET		882	1.00	10.05
T	VIAWET- TMGHLO-LED-80-120.00V 500-40-4FT	LED'S White c/w Driver @		2067	1.00	22.47

STATISTICS					
Description	Avg	Max	Min	Max/Min	Avg/Min
Book Drop Drive	1.6 fc	6.4 fc	0.2 fc	32.0:1	8.0:1
Drive	2.2 fc	4.9 fc	0.1 fc	49.0:1	22.0:1
Egress Path	2.0 fc	4.4 fc	0.4 fc	11.0:1	5.0:1
Egress Path	1.3 fc	3.5 fc	0.1 fc	35.0:1	13.0:1
Parking Lot	1.2 fc	5.5 fc	0.1 fc	55.0:1	12.0:1
Plaza	2.4 fc	11.1 fc	0.2 fc	55.5:1	12.0:1
Property Line	0.0 fc	0.4 fc	0.0 fc	N/A	N/A



Snap Shot #1
Scale 1" = 30'



Columbus Metropolitan Library
Gahanna Branch
Site Lighting Photometric Calculation

Designer	APZ
Date	April 15, 2021
Scale	NTS
Drawing No.	LTG-1.0

CONSTRUCTION MANAGER:
TURNER CONSTRUCTION COMPANY
262 HANOVER ST
COLUMBUS, OH 614-984-3000

CIVIL ENGINEER:
KABIL ASSOCIATES, INC
5800 SHARONWOODS BLVD
COLUMBUS, OH 614-899-6707

LANDSCAPE ARCHITECT:
NBBJ
250 SOUTH HIGH STREET, STE 300
COLUMBUS, OH 614-899-224-7145

STRUCTURAL ENGINEER:
KORDA / NEMETH ENGINEERING, INC
1650 WATERMARK DR, STE 200
COLUMBUS, OH 43215 614-487-1650

MECHANICAL/ELECTRICAL:
KORDA / NEMETH ENGINEERING, INC
1650 WATERMARK DR, STE 200
COLUMBUS, OH 43215 614-487-1650

PLUMBING:
DYNAMIX ENGINEERING
855 GRANDVIEW AVE 3RD FLOOR
COLUMBUS, OH 43215



CML GAHANNA
CIVIL
ENGINEERING

FINAL
DEVELOPMENT
PLAN

4/30/2021

REVISIONS		
MARK	DATE	DESCRIPTION
2	5/21/2021	ADDENDUM 2

SCALE	PROJECT ARCHITECT
As Indicated	nbbj

PROJECT NUMBER	102327.30
----------------	-----------

SHEET NAME
SITE MASTER DRAINAGE & UTILITY PLAN

SHEET NUMBER
C400

Engineers Architects
200 Shaw Wood Blvd
Columbus, OH 43221
Phone: (614) 896-6707
Fax: (614) 899-7500

M
CIVIL ENGINEER: SHASHI P. SAVALA, P.E.
SITE DESIGN: FORSITH M. FUNK, PE

NO.	REVISION	DATE

The Information Contained Herein Is Not Public But Belongs To Kabil Associates, Inc. Who Has Provided It Solely For An Expressly Restricted Purpose. All Information Shall Be Deemed By Their Act Of Receiving The Same To Have Agreed To Make No Duplication Or Other Disclosure Or Use, Without The Written Consent Of Kabil Associates, Inc. Expressly Authorized In Writing By Kabil Associates, Inc.

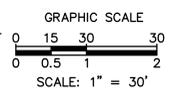
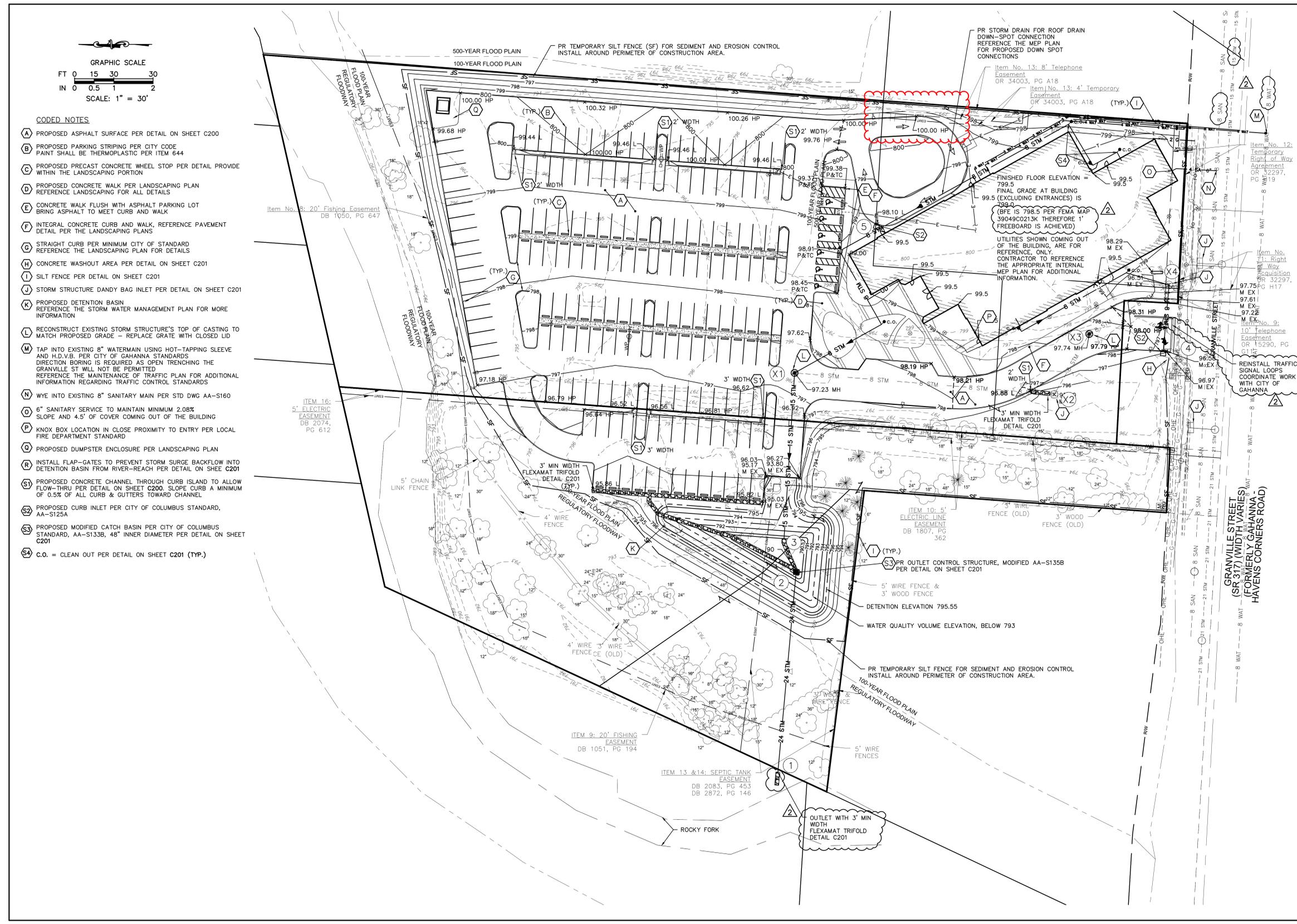
SITE IMPROVEMENTS FOR THE COLUMBUS PUBLIC LIBRARY GAHANNA BRANCH AT 310 GRANVILLE ST., COLUMBUS, OH 43230

SITE MASTER DRAINAGE & UTILITY PLAN

Drawn By : JMF
Checked By : SPB
Date : 5/21/2021

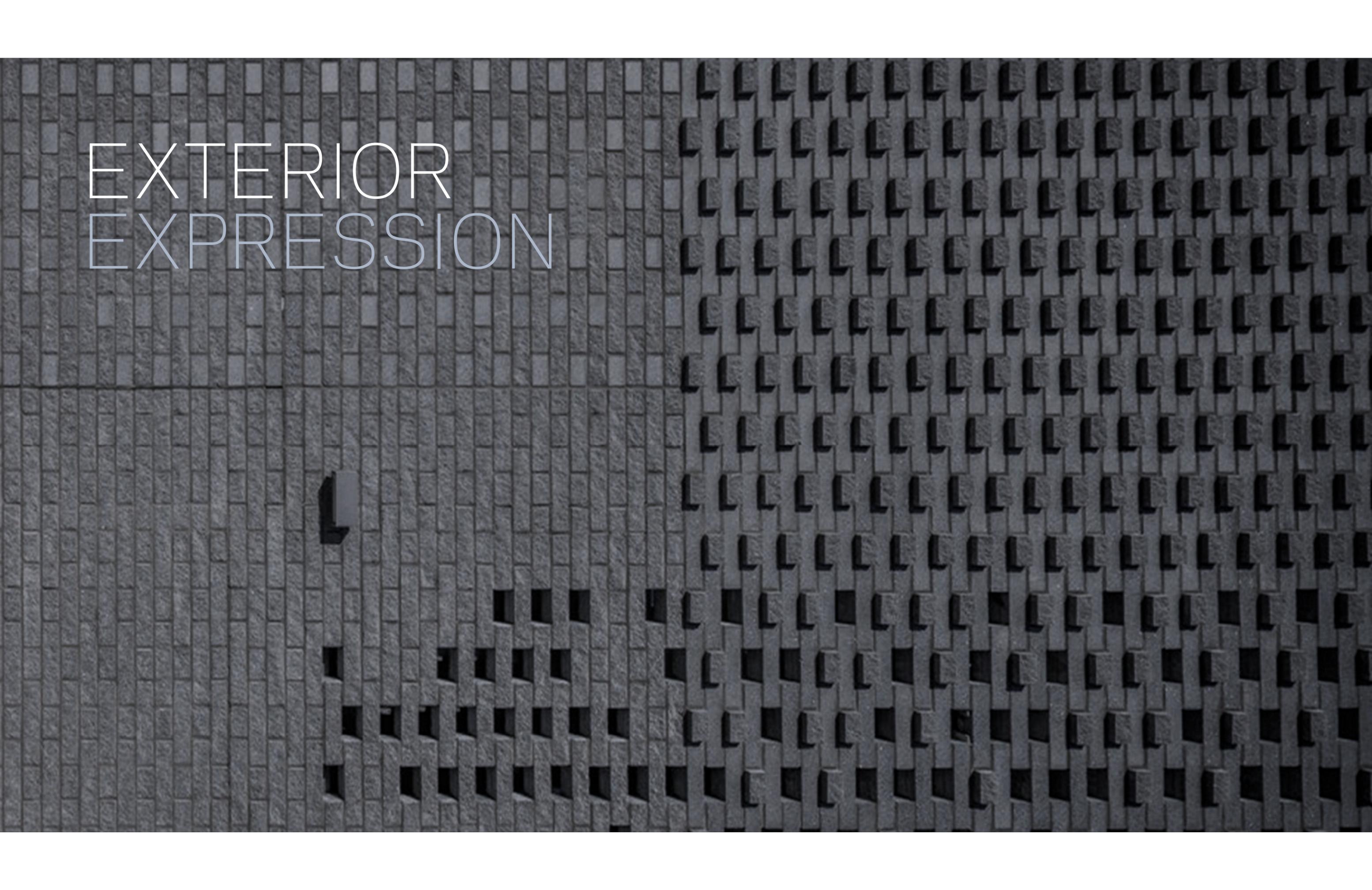
Scale: As Noted
Project No: (Kabil) 10772
Phase of Design: Permit Set

Sheet No.
C400
(10 of 15)



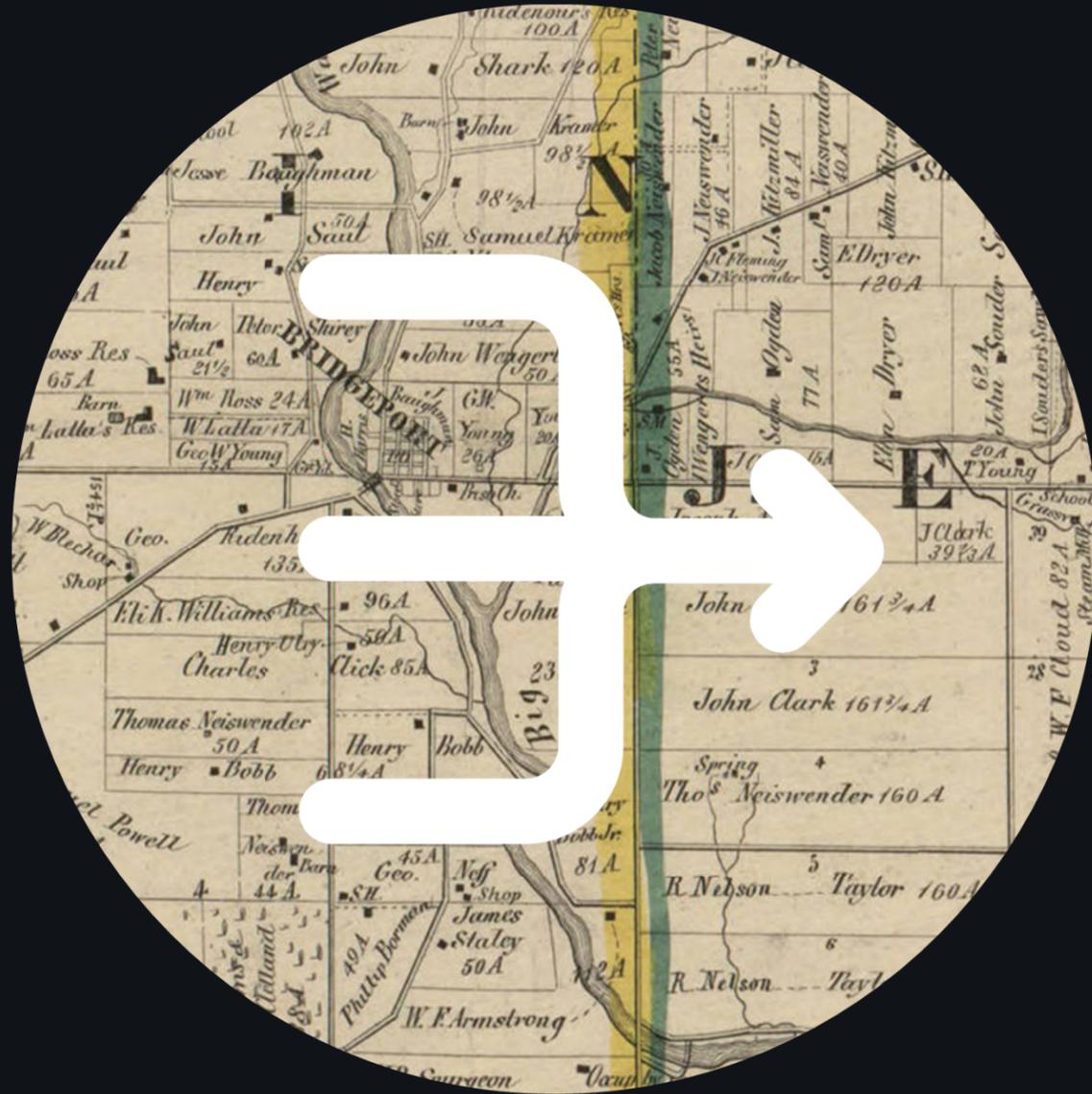
- CODED NOTES**
- (A) PROPOSED ASPHALT SURFACE PER DETAIL ON SHEET C200
 - (B) PROPOSED PARKING STRIPING PER CITY CODE. PAINT SHALL BE THERMOPLASTIC PER ITEM 644
 - (C) PROPOSED PRECAST CONCRETE WHEEL STOP PER DETAIL PROVIDE WITHIN THE LANDSCAPING PORTION
 - (D) PROPOSED CONCRETE WALK PER LANDSCAPING PLAN. REFERENCE LANDSCAPING FOR ALL DETAILS
 - (E) CONCRETE WALK FLUSH WITH ASPHALT PARKING LOT BRING ASPHALT TO MEET CURB AND WALK
 - (F) INTEGRAL CONCRETE CURB AND WALK, REFERENCE PAVEMENT DETAIL PER THE LANDSCAPING PLANS
 - (G) STRAIGHT CURB PER MINIMUM CITY OF STANDARD. REFERENCE THE LANDSCAPING PLAN FOR DETAILS
 - (H) CONCRETE WASHOUT AREA PER DETAIL ON SHEET C201
 - (I) SILT FENCE PER DETAIL ON SHEET C201
 - (J) STORM STRUCTURE DANDY BAG INLET PER DETAIL ON SHEET C201
 - (K) PROPOSED DETENTION BASIN. REFERENCE THE STORM WATER MANAGEMENT PLAN FOR MORE INFORMATION
 - (L) RECONSTRUCT EXISTING STORM STRUCTURE'S TOP OF CASTING TO MATCH PROPOSED GRADE - REPLACE GRATE WITH CLOSED LID
 - (M) TAP INTO EXISTING 8" WATERMAIN USING HOT-TAPPING SLEEVE AND H.D.V.B. PER CITY OF GAHANNA STANDARDS. DIRECTION BORING IS REQUIRED AS OPEN TRENCHING THE GRANVILLE ST WILL NOT BE PERMITTED. REFERENCE THE MAINTENANCE OF TRAFFIC PLAN FOR ADDITIONAL INFORMATION REGARDING TRAFFIC CONTROL STANDARDS
 - (N) WYE INTO EXISTING 8" SANITARY MAIN PER STD DWG AA-S160
 - (O) 6" SANITARY SERVICE TO MAINTAIN MINIMUM 2.08% SLOPE AND 4.5" OF COVER COMING OUT OF THE BUILDING
 - (P) KNOX BOX LOCATION IN CLOSE PROXIMITY TO ENTRY PER LOCAL FIRE DEPARTMENT STANDARD
 - (Q) PROPOSED DUMPSTER ENCLOSURE PER LANDSCAPING PLAN
 - (R) INSTALL FLAP-GATES TO PREVENT STORM SURGE BACKFLOW INTO DETENTION BASIN FROM RIVER-REACH PER DETAIL ON SHEE C201
 - (S1) PROPOSED CONCRETE CHANNEL THROUGH CURB ISLAND TO ALLOW FLOW-THRU PER DETAIL ON SHEET C200. SLOPE CURB A MINIMUM OF 0.5% OF ALL CURB & GUTTERS TOWARD CHANNEL
 - (S2) PROPOSED CURB INLET PER CITY OF COLUMBUS STANDARD, AA-S125A
 - (S3) PROPOSED MODIFIED CATCH BASIN PER CITY OF COLUMBUS STANDARD, AA-S133B, 48" INNER DIAMETER PER DETAIL ON SHEET C201
 - (S4) C.O. = CLEAN OUT PER DETAIL ON SHEET C201 (TYP.)

FILE PLOT DATE: 5/21/2021
SAVED FILE PATH: K:\2018\18772 CML GAHANNA BRANCH (NBBJ)\06 CIVIL & SURVEY\01 WORKING DRAWINGS\02 PLAN SETS\C400 SITE DRAINAGE PLAN.DWG



EXTERIOR
EXPRESSION

In a name...



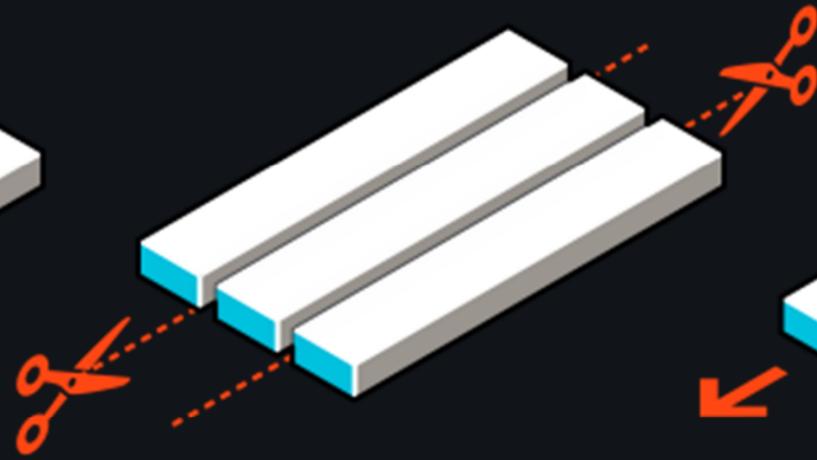
Gahanna is an *Algonquian* word that means ***“three into one.”***

Here, Alum Creek, Blacklick Creek, and Big Walnut Creek converge.



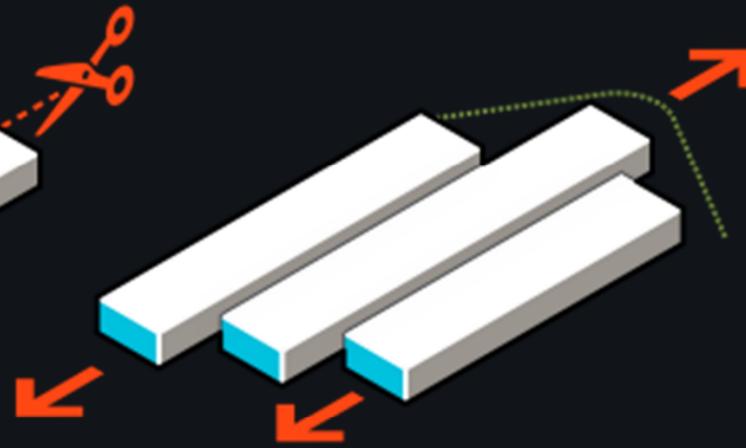
1

Begin with an unaltered library program volume.



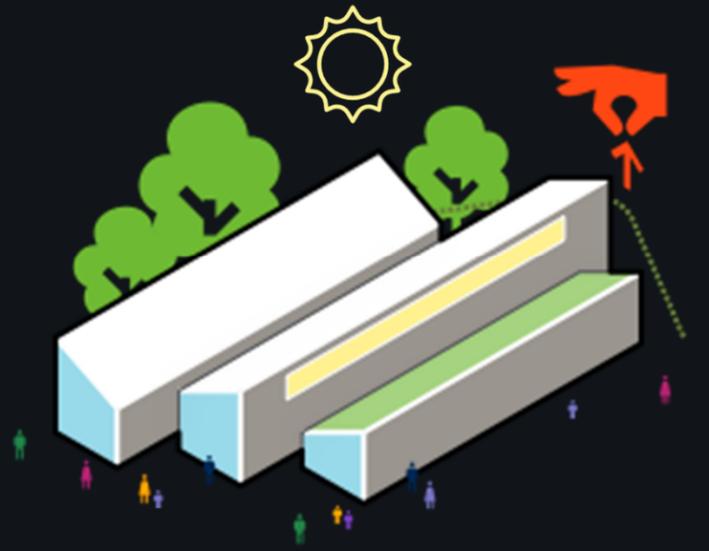
2

Building form is split to establish 3 zones of Utility, Community, and Youth Spaces.



3

Bars slide and shear to adjust to the unique site conditions and grade.



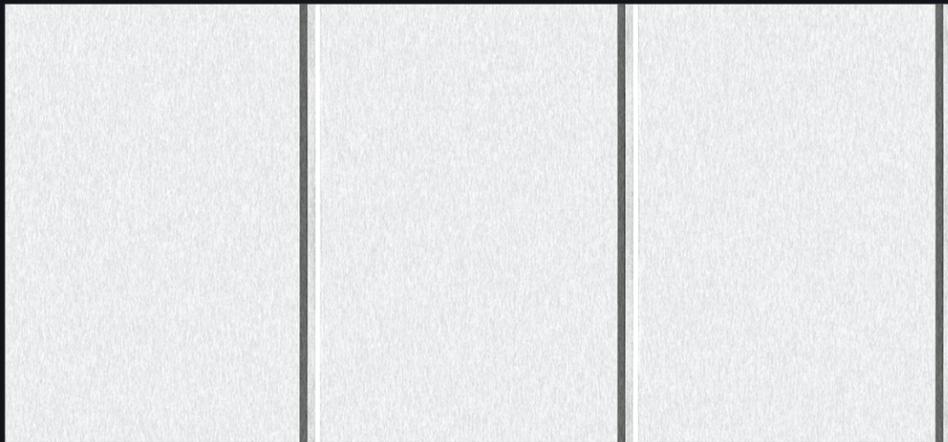
4

Roof edges are lifted to create opportunities for natural light and additional volume.

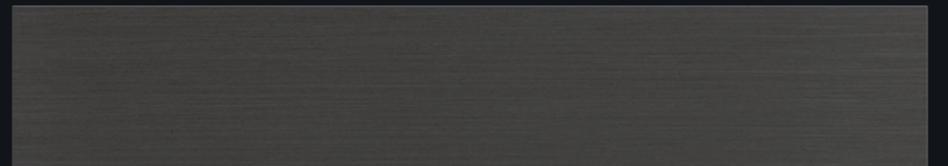
West Bar / Active + Youth



Middle Bar / Entry + Stacks



East Bar / Staff + Meeting







WEST SIDE EXTERIOR



VIEW FROM GRANVILLE ST.



CONSTRUCTION MANAGER:
TURNER CONSTRUCTION COMPANY
262 HANOVER ST
COLUMBUS, OH 614-984-3000

CIVIL ENGINEER:
KABIL ASSOCIATES, INC
5900 SHARONWOODS BLVD
COLUMBUS, OH 614-899-6707

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MECHANICAL/ELECTRICAL:
KORDA NEMETH ENGINEERING, INC
1650 WATERMARK DR. STE 200
COLUMBUS, OH 43215 614-487-1650

PLUMBING:
DYNAMIX ENGINEERING
855 GRANDVIEW AVE 3RD FLOOR
COLUMBUS, OH 43215

LIGHTING DESIGN:
TEC STUDIO, INC
7510 SLATE RIDGE BLVD
COLUMBUS, OH 43068

NOT FOR
CONSTRUCTION

GAHANNA
BRANCH LIBRARY

30% CD'S

2/16/2021

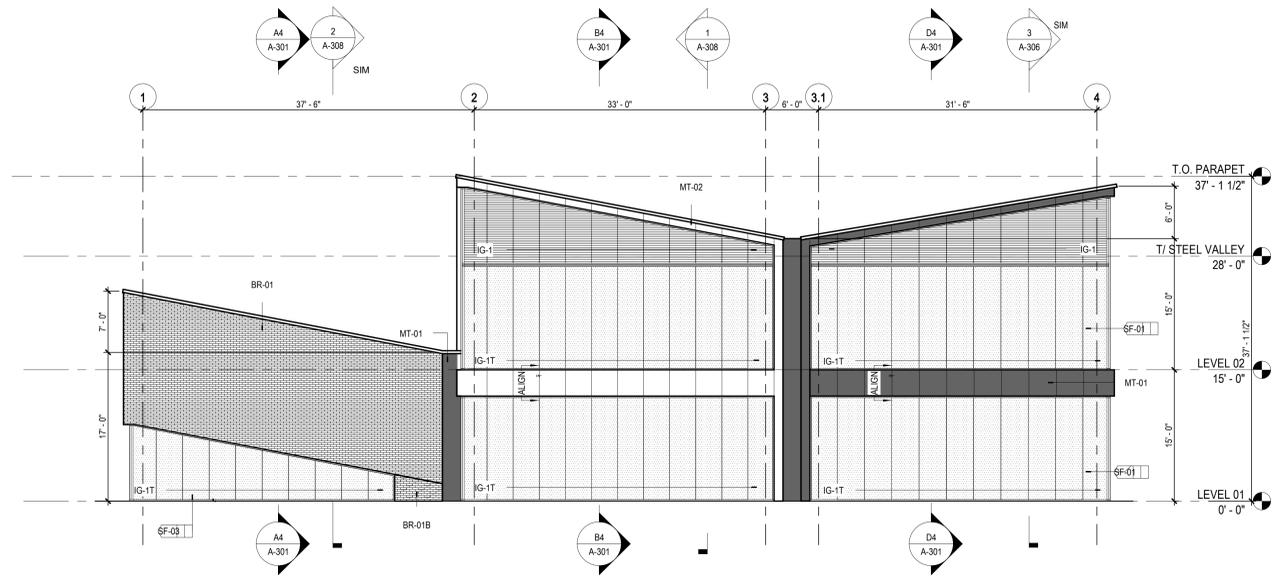
REVISIONS

MARK	DATE	DESCRIPTION
1	02/16/2021	30% CD'S

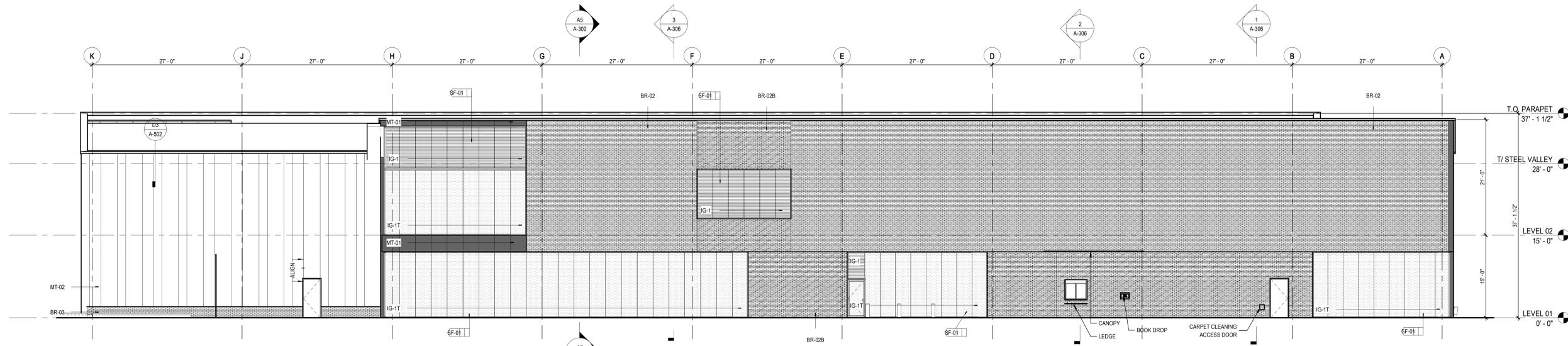
SCALE	PROJECT ARCHITECT
As indicated	Designer
PROJECT NUMBER	102327

EXTERIOR
ELEVATIONS

SHEET NUMBER
A-202



C5 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



A5 EAST ELEVATION
SCALE: 1/8" = 1'-0"

EXTERIOR MATERIALS

- METAL FINISHES:**
MT-01 (BLACK) = ALL ALUM. FRAMING, LOUVERS, EXHAUST VENTS, HM DR & FRAME FINISH, RAILINGS, MTL. COPING & FLASHING, U.N.O.
MT-02 (REGAL WHITE GOLD) = ALL ALUM. FRAMING, LOUVERS, EXHAUST VENTS, HM DR & FRAME FINISH, RAILINGS, MTL. COPING & FLASHING, U.N.O.
- STOREFRONT FINISHES:**
SF-01 (BLACK ANODIZED) = THERMALLY BROKEN STOREFRONT SYSTEM
SF-02 (CLEAR ANODIZED) = THERMALLY BROKEN STOREFRONT SYSTEM
SF-03 (MEDIUM BRONZE) = THERMALLY BROKEN STOREFRONT SYSTEM
- INSULATED GLAZING:**
IG-1 = INSULATED GLAZING
IG-1T = INSULATED GLAZING, TEMPERED
- BRICK FINISHES:**
BR-01 = BLEND OF GENERAL SHALE NIAGRA MIST (50%) AND OYSTER BAY (50%), MODULAR SIZING
BR-01B = ALT. PATTERN, SAME BRICK
BR-02 = GLEN GERY SIOUX CITY EBONITE, SMOOTH, NORMAN SIZING
BR-02B = ALT. PATTERN, SAME BRICK
BR-03 = BLENDON BRICK STARK WHITE GLAZE BRICK

APPENDIX

The background of the page is a photograph of a modern interior space. It features a wall of vertical glass panels in a teal or seafoam green color. A curved glass railing with a metal handrail is visible on the right side, suggesting a staircase or a mezzanine level. The lighting is soft and even, highlighting the texture and color of the glass.

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

Catalog #		Type
Project		SA, SB, SC
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction

Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics

Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical

LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting

STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the

arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. **QUICK MOUNT ARM:** Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish

Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty

Five-year warranty.



GLEON GALLEON LED

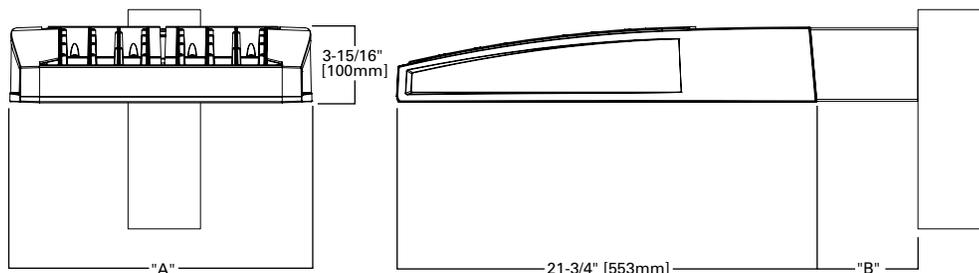
1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE



WaveLinx

DIMENSIONS

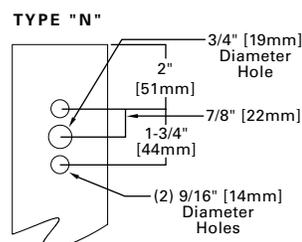


DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length ¹	Weight with Arm (lbs.)	EPA with Arm ² (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. 2. EPA calculated with optional arm length.

DRILLING PATTERN

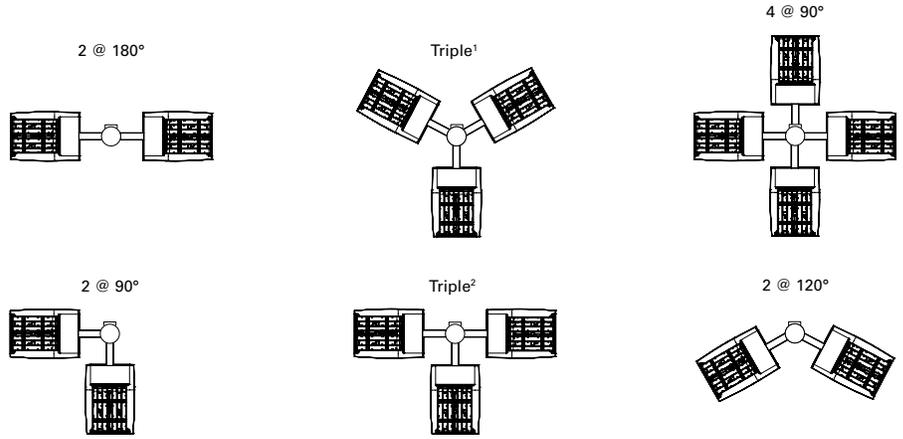


CERTIFICATION DATA
3G Vibration Rated
DesignLights Consortium® Qualified*
IP66 Rated
ISO 9001
LM79 / LM80 Compliant
UL/cUL Wet Location Listed

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V, 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

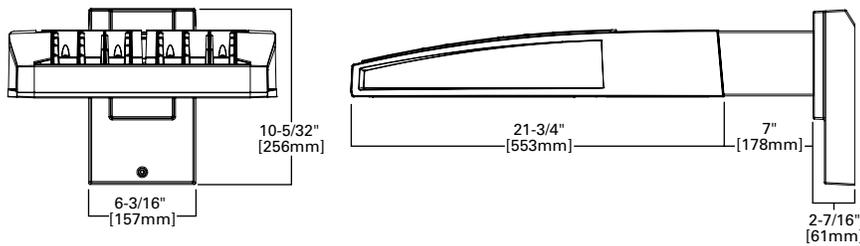
ARM MOUNTING REQUIREMENTS

Configuration	90° Apart	120° Apart
GLEON-AF-01	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-02	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-03	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-04	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-05	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AF-06	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AF-07	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AF-08	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AF-09	16" Extended Arm (Required)	16" Extended Arm (Required)
GLEON-AF-10	16" Extended Arm (Required)	16" Extended Arm (Required)

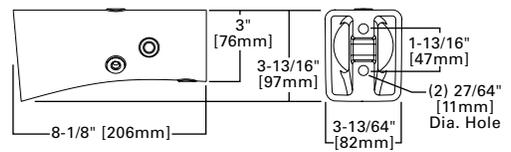


NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. 2 Round poles are 3 @ 90°.

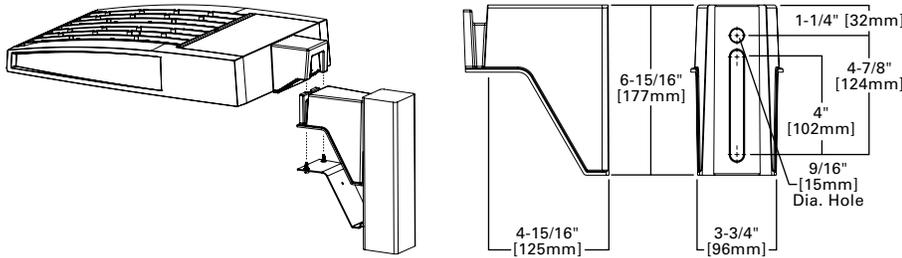
STANDARD WALL MOUNT



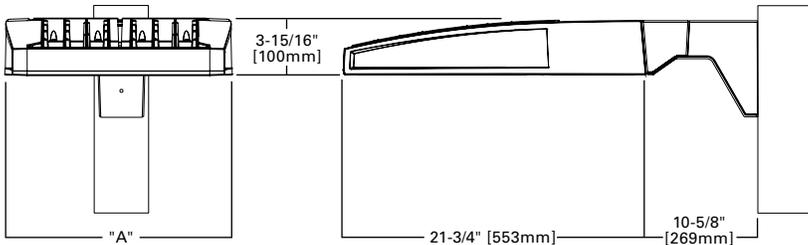
MAST ARM MOUNT



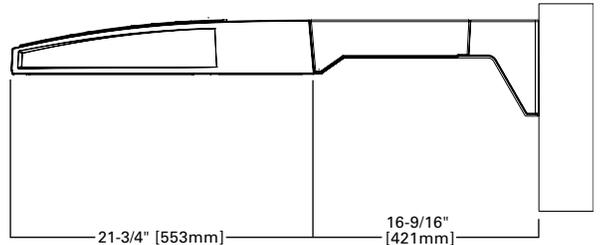
QUICK MOUNT ARM (INCLUDES FIXTURE ADAPTER)



QM Quick Mount Arm (Standard)



QMEA Quick Mount Arm (Extended)

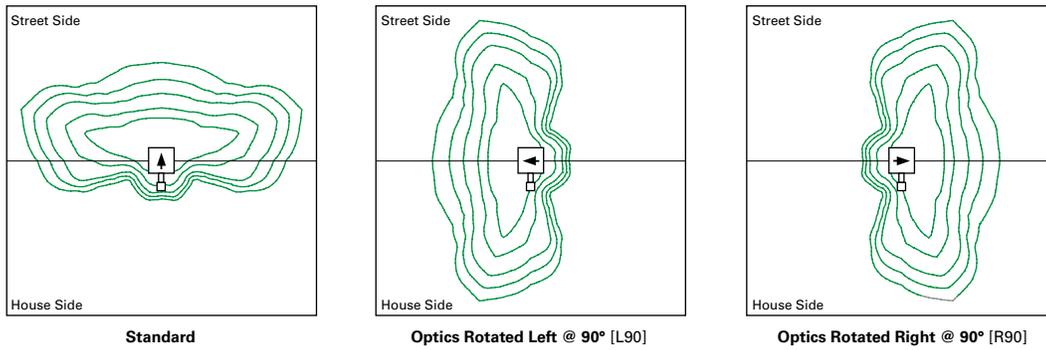


QUICK MOUNT ARM DATA

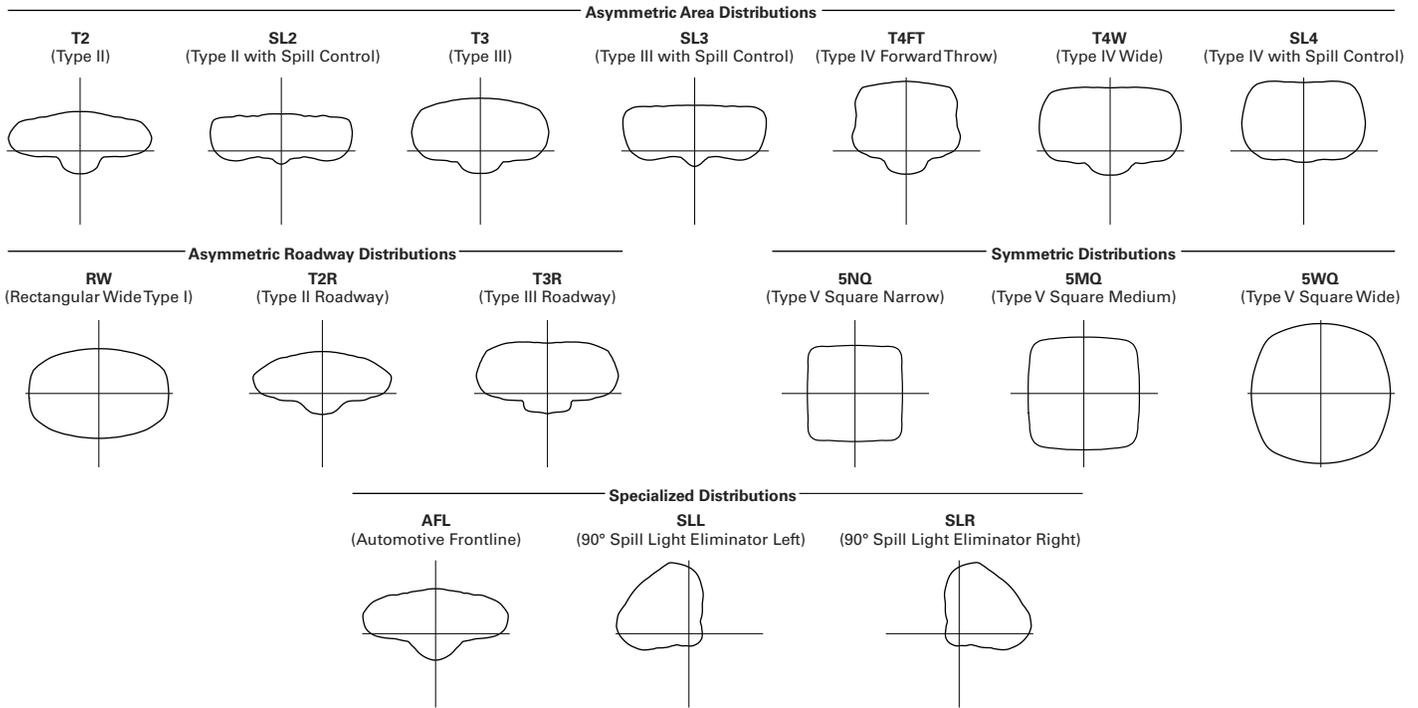
Number of Light Squares ^{1,2}	"A" Width	Weight with QM Arm (lbs.)	Weight with QMEA Arm (lbs.)	EPA (Sq. Ft.)
1-4	15-1/2" (394mm)	35 (15.91 kgs.)	38 (17.27 kgs.)	1.11
5-6 ³	21-5/8" (549mm)	46 (20.91 kgs.)	49 (22.27 kgs.)	
7-8	27-5/8" (702mm)	56 (25.45 kgs.)	N/A	

NOTES: 1 QM option available with 1-8 light square configurations. 2 QMEA option available with 1-6 light square configurations. 3 QMEA arm to be used when mounting two fixtures at 90° on a single pole.

OPTIC ORIENTATION



OPTICAL DISTRIBUTIONS

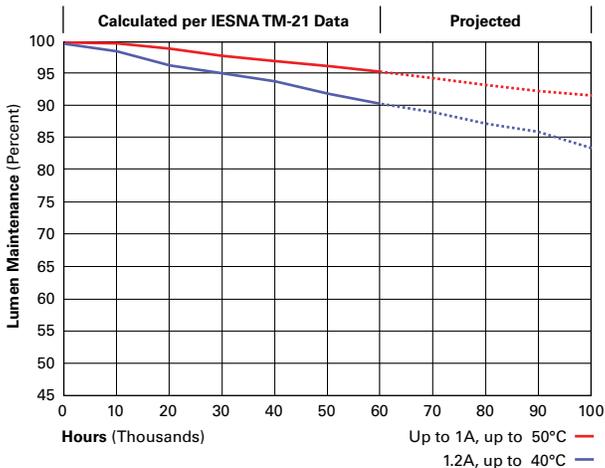


LUMEN MAINTENANCE

Drive Current	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Projected L70 (Hours)
Up to 1A	Up to 50°C	> 95%	416,000
1.2A	Up to 40°C	> 90%	205,000

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97



NOMINAL POWER LUMENS (1.2A)

Number of Light Squares	1	2	3	4	5	6	7	8	9	10	
Nominal Power (Watts)	67	129	191	258	320	382	448	511	575	640	
Input Current @ 120V (A)	0.58	1.16	1.78	2.31	2.94	3.56	4.09	4.71	5.34	5.87	
Input Current @ 208V (A)	0.33	0.63	0.93	1.27	1.57	1.87	2.22	2.52	2.8	3.14	
Input Current @ 240V (A)	0.29	0.55	0.80	1.10	1.35	1.61	1.93	2.18	2.41	2.71	
Input Current @ 277V (A)	0.25	0.48	0.70	0.96	1.18	1.39	1.69	1.90	2.09	2.36	
Input Current @ 347V (A)	0.20	0.39	0.57	0.78	0.96	1.15	1.36	1.54	1.72	1.92	
Input Current @ 480V (A)	0.15	0.30	0.43	0.60	0.73	0.85	1.03	1.16	1.28	1.45	
Optics											
T2	4000K/5000K Lumens	6,863	13,412	20,011	26,441	32,761	39,205	46,364	52,534	58,601	64,880
	3000K Lumens	6,489	12,681	18,919	25,000	30,974	37,066	43,836	49,668	55,405	61,341
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	7,285	14,238	21,246	28,072	34,780	41,621	49,221	55,770	62,212	68,878
	3000K Lumens	6,888	13,462	20,087	26,541	32,884	39,351	46,537	52,729	58,819	65,122
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3	4000K/5000K Lumens	6,995	13,670	20,397	26,951	33,391	39,959	47,256	53,544	59,728	66,130
	3000K Lumens	6,613	12,924	19,284	25,480	31,570	37,780	44,679	50,624	56,471	62,524
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	7,150	13,973	20,850	27,549	34,134	40,846	48,307	54,734	61,056	67,598
	3000K Lumens	6,761	13,212	19,713	26,046	32,272	38,619	45,673	51,750	57,726	63,911
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4FT	4000K/5000K Lumens	7,036	13,748	20,515	27,107	33,586	40,191	47,530	53,854	60,074	66,512
	3000K Lumens	6,652	12,999	19,397	25,629	31,754	37,999	44,938	50,917	56,797	62,885
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4W	4000K/5000K Lumens	6,945	13,571	20,249	26,756	33,152	39,671	46,917	53,160	59,298	65,653
	3000K Lumens	6,566	12,831	19,146	25,297	31,344	37,508	44,358	50,260	56,064	62,072
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	6,851	13,388	19,977	26,396	32,704	39,137	46,283	52,444	58,498	64,768
	3000K Lumens	6,477	12,658	18,888	24,957	30,920	37,003	43,759	49,584	55,308	61,235
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	6,994	13,668	20,394	26,947	33,388	39,953	47,249	53,537	59,720	66,119
	3000K Lumens	6,612	12,922	19,281	25,477	31,567	37,774	44,673	50,618	56,463	62,514
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL4	4000K/5000K Lumens	6,645	12,986	19,378	25,603	31,723	37,962	44,893	50,868	56,743	62,824
	3000K Lumens	6,282	12,279	18,321	24,207	29,993	35,892	42,445	48,094	53,648	59,398
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	7,214	14,097	21,036	27,795	34,437	41,210	48,734	55,220	61,597	68,199
	3000K Lumens	6,820	13,329	19,888	26,279	32,558	38,962	46,077	52,208	58,237	64,479
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
5MQ	4000K/5000K Lumens	7,347	14,356	21,423	28,306	35,071	41,969	49,632	56,237	62,730	69,454
	3000K Lumens	6,947	13,573	20,254	26,762	33,158	39,680	46,925	53,170	59,309	65,667
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
5WQ	4000K/5000K Lumens	7,366	14,396	21,480	28,381	35,164	42,080	49,765	56,386	62,898	69,639
	3000K Lumens	6,964	13,610	20,308	26,833	33,247	39,786	47,050	53,311	59,468	65,842
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	6,147	12,010	17,921	23,679	29,339	35,109	41,521	47,046	52,478	58,102
	3000K Lumens	5,811	11,355	16,944	22,388	27,739	33,194	39,256	44,479	49,617	54,933
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	7,149	13,970	20,846	27,543	34,126	40,837	48,295	54,722	61,042	67,582
	3000K Lumens	6,760	13,208	19,709	26,041	32,264	38,610	45,661	51,738	57,713	63,897
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
AFL	4000K/5000K Lumens	7,175	14,021	20,921	27,643	34,249	40,986	48,470	54,920	61,262	67,828
	3000K Lumens	6,784	13,256	19,780	26,136	32,381	38,750	45,827	51,925	57,922	64,129
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (1A)

Number of Light Squares	1	2	3	4	5	6	7	8	9	10	
Nominal Power (Watts)	59	113	166	225	279	333	391	445	501	558	
Input Current @ 120V (A)	0.51	1.02	1.53	2.03	2.55	3.06	3.56	4.08	4.60	5.07	
Input Current @ 208V (A)	0.29	0.56	0.82	1.11	1.37	1.64	1.93	2.19	2.46	2.75	
Input Current @ 240V (A)	0.26	0.48	0.71	0.96	1.19	0.41	1.67	1.89	2.12	2.39	
Input Current @ 277V (A)	0.23	0.42	0.61	0.83	1.03	1.23	1.45	1.65	1.84	2.09	
Input Current @ 347V (A)	0.17	0.32	0.50	0.64	0.82	1.00	1.14	1.32	1.50	1.68	
Input Current @ 480V (A)	0.14	0.24	0.37	0.48	0.61	0.75	0.91	0.99	1.12	1.28	
Optics											
T2	4000K/5000K Lumens	6,256	12,225	18,242	24,104	29,865	35,739	42,265	47,888	53,420	59,144
	3000K Lumens	5,915	11,559	17,248	22,789	28,236	33,790	39,960	45,277	50,506	55,919
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	6,642	12,979	19,366	25,589	31,705	37,941	44,870	50,840	56,711	62,789
	3000K Lumens	6,280	12,271	18,311	24,193	29,976	35,872	42,423	48,068	53,619	59,365
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3	4000K/5000K Lumens	6,377	12,461	18,593	24,568	30,439	36,426	43,077	48,810	54,447	60,282
	3000K Lumens	6,029	11,781	17,580	23,229	28,781	34,441	40,731	46,150	51,480	56,997
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	6,518	12,739	19,006	25,113	31,116	37,235	44,036	49,895	55,658	61,622
	3000K Lumens	6,029	11,781	17,579	23,229	28,779	34,440	40,729	46,148	51,478	56,995
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4FT	4000K/5000K Lumens	6,414	12,533	18,702	24,710	30,616	36,637	43,328	49,093	54,763	60,631
	3000K Lumens	6,064	11,849	17,681	23,363	28,946	34,638	40,966	46,417	51,776	57,325
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4W	4000K/5000K Lumens	6,331	12,372	18,459	24,391	30,221	36,163	42,769	48,459	54,056	59,849
	3000K Lumens	5,986	11,697	17,452	23,061	28,572	34,192	40,436	45,817	51,108	56,585
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	6,245	12,205	18,212	24,062	29,813	35,677	42,192	47,807	53,326	59,042
	3000K Lumens	5,904	11,539	17,218	22,750	28,187	33,732	39,891	45,199	50,418	55,822
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	6,376	12,460	18,591	24,564	30,436	36,421	43,072	48,803	54,439	60,273
	3000K Lumens	6,028	11,780	17,578	23,224	28,776	34,435	40,723	46,141	51,471	56,986
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL4	4000K/5000K Lumens	6,058	11,838	17,664	23,340	28,918	34,605	40,924	46,370	51,727	57,269
	3000K Lumens	5,727	11,193	16,701	22,067	27,341	32,718	38,692	43,841	48,906	54,146
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	6,577	12,851	19,176	25,336	31,392	37,566	44,426	50,337	56,151	62,170
	3000K Lumens	6,218	12,151	18,131	23,955	29,680	35,517	42,003	47,592	53,089	58,779
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
5MQ	4000K/5000K Lumens	6,697	13,088	19,528	25,803	31,970	38,258	45,243	51,264	57,185	63,313
	3000K Lumens	6,332	12,374	18,463	24,395	30,227	36,171	42,776	48,468	54,066	59,861
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
5WQ	4000K/5000K Lumens	6,715	13,122	19,580	25,871	32,055	38,360	45,365	51,401	57,337	63,482
	3000K Lumens	6,348	12,406	18,513	24,461	30,307	36,268	42,891	48,599	54,210	60,021
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	5,604	10,949	16,337	21,586	26,745	32,004	37,850	42,886	47,838	52,965
	3000K Lumens	5,298	10,351	15,446	20,409	25,287	30,258	35,786	40,547	45,229	50,077
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	6,517	12,735	19,002	25,107	31,109	37,227	44,025	49,883	55,644	61,607
	3000K Lumens	6,162	12,040	17,965	23,738	29,413	35,197	41,623	47,163	52,609	58,247
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
AFL	4000K/5000K Lumens	6,541	12,781	19,072	25,199	31,221	37,362	44,185	50,065	55,846	61,831
	3000K Lumens	6,184	12,084	18,032	23,825	29,519	35,325	41,775	47,334	52,801	58,459
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (800MA)

Number of Light Squares	1	2	3	4	5	6	7	8	9	10	
Nominal Power (Watts)	44	85	124	171	210	249	295	334	374	419	
Input Current @ 120V (A)	0.39	0.77	1.13	1.54	1.90	2.26	2.67	3.03	3.39	3.80	
Input Current @ 208V (A)	0.22	0.44	0.62	0.88	1.06	1.24	1.50	1.68	1.87	2.12	
Input Current @ 240V (A)	0.19	0.38	0.54	0.76	0.92	1.08	1.30	1.46	1.62	1.84	
Input Current @ 277V (A)	0.17	0.36	0.47	0.72	0.83	0.95	1.19	1.31	1.42	1.67	
Input Current @ 347V (A)	0.15	0.24	0.38	0.49	0.63	0.77	0.87	1.01	1.15	1.52	
Input Current @ 480V (A)	0.11	0.18	0.29	0.37	0.48	0.59	0.66	0.77	0.88	0.96	
Optics											
T2	4000K/5000K Lumens	5,054	9,878	14,739	19,475	24,129	28,875	34,148	38,691	43,159	47,785
	3000K Lumens	4,779	9,338	13,935	18,412	22,813	27,301	32,286	36,581	40,805	45,179
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	5,366	10,486	15,647	20,675	25,616	30,654	36,252	41,076	45,819	50,730
	3000K Lumens	5,074	9,914	14,794	19,548	24,218	28,982	34,276	38,835	43,320	47,964
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
T3	4000K/5000K Lumens	5,153	10,068	15,022	19,849	24,593	29,430	34,805	39,436	43,990	48,705
	3000K Lumens	4,872	9,519	14,203	18,766	23,251	27,825	32,907	37,285	41,591	46,048
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	5,266	10,292	15,356	20,290	25,140	30,084	35,578	40,312	44,968	49,786
	3000K Lumens	4,979	9,731	14,518	19,184	23,769	28,443	33,638	38,114	42,516	47,071
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4FT	4000K/5000K Lumens	5,182	10,126	15,109	19,964	24,736	29,600	35,006	39,664	44,245	48,987
	3000K Lumens	4,899	9,574	14,285	18,876	23,387	27,986	33,097	37,501	41,832	46,315
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	4000K/5000K Lumens	5,115	9,995	14,914	19,706	24,417	29,218	34,554	39,152	43,674	48,354
	3000K Lumens	4,836	9,450	14,100	18,631	23,085	27,624	32,670	37,017	41,292	45,717
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	5,046	9,860	14,713	19,441	24,087	28,825	34,089	38,625	43,085	47,702
	3000K Lumens	4,771	9,322	13,911	18,381	22,774	27,253	32,229	36,518	40,735	45,101
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	5,152	10,067	15,020	19,846	24,591	29,426	34,800	39,431	43,984	48,698
	3000K Lumens	4,871	9,518	14,200	18,764	23,249	27,822	32,902	37,280	41,585	46,042
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL4	4000K/5000K Lumens	4,894	9,565	14,271	18,857	23,364	27,959	33,065	37,465	41,792	46,270
	3000K Lumens	4,627	9,043	13,492	17,829	22,090	26,434	31,261	35,422	39,513	43,746
	BUG Rating	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	5,313	10,383	15,493	20,470	25,363	30,351	35,893	40,669	45,367	50,229
	3000K Lumens	5,024	9,817	14,647	19,354	23,980	28,696	33,936	38,452	42,893	47,490
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3
5MQ	4000K/5000K Lumens	5,411	10,574	15,778	20,848	25,830	30,911	36,554	41,418	46,202	51,154
	3000K Lumens	5,117	9,997	14,917	19,710	24,421	29,225	34,561	39,160	43,682	48,364
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
5WQ	4000K/5000K Lumens	5,426	10,603	15,820	20,903	25,899	30,992	36,652	41,529	46,325	51,290
	3000K Lumens	5,130	10,025	14,958	19,763	24,486	29,302	34,654	39,263	43,799	48,493
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	4,528	8,846	13,199	17,440	21,609	25,858	30,580	34,649	38,651	42,792
	3000K Lumens	4,281	8,364	12,480	16,489	20,430	24,448	28,912	32,759	36,543	40,459
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	5,265	10,289	15,353	20,285	25,134	30,077	35,569	40,303	44,958	49,775
	3000K Lumens	4,978	9,727	14,516	19,179	23,763	28,437	33,629	38,105	42,506	47,060
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
AFL	4000K/5000K Lumens	5,285	10,327	15,409	20,360	25,225	30,186	35,699	40,450	45,120	49,956
	3000K Lumens	4,996	9,763	14,569	19,249	23,849	28,540	33,752	38,244	42,659	47,232
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (600MA)

Number of Light Squares	1	2	3	4	5	6	7	8	9	10	
Nominal Power (Watts)	34	66	96	129	162	193	226	257	290	323	
Input Current @ 120V (A)	0.30	0.58	0.86	1.16	1.44	1.73	2.03	2.33	2.59	2.89	
Input Current @ 208V (A)	0.17	0.34	0.49	0.65	0.84	0.99	1.14	1.30	1.48	1.63	
Input Current @ 240V (A)	0.15	0.30	0.43	0.56	0.74	0.87	1.00	1.13	1.30	1.43	
Input Current @ 277V (A)	0.14	0.28	0.41	0.52	0.69	0.81	0.93	1.04	1.22	1.33	
Input Current @ 347V (A)	0.11	0.19	0.30	0.39	0.49	0.60	0.69	0.77	0.90	0.99	
Input Current @ 480V (A)	0.08	0.15	0.24	0.30	0.38	0.48	0.53	0.59	0.71	0.77	
Optics											
T2	4000K/5000K Lumens	4,121	8,055	12,019	15,881	19,676	23,547	27,847	31,552	35,196	38,967
	3000K Lumens	3,896	7,615	11,363	15,015	18,604	22,263	26,328	29,831	33,276	36,842
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T2R	4000K/5000K Lumens	4,376	8,552	12,760	16,860	20,890	24,998	29,563	33,497	37,365	41,369
	3000K Lumens	4,138	8,085	12,064	15,941	19,751	23,635	27,951	31,670	35,328	39,113
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
T3	4000K/5000K Lumens	4,201	8,210	12,251	16,187	20,055	23,999	28,383	32,159	35,873	39,718
	3000K Lumens	3,973	7,763	11,583	15,304	18,961	22,691	26,835	30,406	33,916	37,552
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
T3R	4000K/5000K Lumens	4,294	8,393	12,523	16,546	20,501	24,532	29,014	32,875	36,671	40,600
	3000K Lumens	4,060	7,936	11,840	15,644	19,383	23,195	27,432	31,082	34,671	38,386
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
T4FT	4000K/5000K Lumens	4,226	8,257	12,321	16,280	20,172	24,139	28,547	32,346	36,082	39,948
	3000K Lumens	3,996	7,807	11,649	15,392	19,071	22,822	26,990	30,582	34,114	37,770
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	4000K/5000K Lumens	4,171	8,151	12,162	16,071	19,912	23,827	28,178	31,928	35,615	39,432
	3000K Lumens	3,943	7,706	11,498	15,194	18,825	22,527	26,642	30,187	33,673	37,281
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL2	4000K/5000K Lumens	4,114	8,041	11,998	15,854	19,643	23,506	27,799	31,498	35,135	38,901
	3000K Lumens	3,890	7,603	11,344	14,989	18,572	22,224	26,282	29,780	33,219	36,779
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
SL3	4000K/5000K Lumens	4,200	8,209	12,249	16,184	20,053	23,996	28,379	32,154	35,869	39,712
	3000K Lumens	3,972	7,762	11,580	15,302	18,960	22,688	26,831	30,400	33,913	37,546
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
SL4	4000K/5000K Lumens	3,992	7,799	11,638	15,378	19,053	22,801	26,964	30,552	34,081	37,733
	3000K Lumens	3,774	7,374	11,003	14,539	18,015	21,557	25,493	28,886	32,222	35,674
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	4,333	8,467	12,634	16,694	20,683	24,751	29,271	33,166	36,996	40,961
	3000K Lumens	4,097	8,005	11,945	15,784	19,555	23,401	27,674	31,357	34,978	38,727
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
5MQ	4000K/5000K Lumens	4,413	8,622	12,867	17,000	21,064	25,207	29,810	33,777	37,677	41,715
	3000K Lumens	4,173	8,152	12,165	16,073	19,915	23,832	28,185	31,934	35,623	39,440
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
5WQ	4000K/5000K Lumens	4,424	8,646	12,900	17,046	21,120	25,274	29,890	33,866	37,778	41,826
	3000K Lumens	4,182	8,175	12,197	16,117	19,968	23,896	28,260	32,018	35,717	39,545
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
SLL/SLR	4000K/5000K Lumens	3,692	7,214	10,763	14,222	17,621	21,086	24,937	28,256	31,519	34,897
	3000K Lumens	3,491	6,820	10,176	13,447	16,660	19,937	23,577	26,715	29,800	32,994
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	4,293	8,390	12,520	16,542	20,496	24,527	29,007	32,866	36,662	40,591
	3000K Lumens	4,059	7,932	11,837	15,640	19,378	23,189	27,425	31,074	34,662	38,377
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
AFL	4000K/5000K Lumens	4,310	8,421	12,566	16,602	20,571	24,616	29,112	32,986	36,795	40,738
	3000K Lumens	4,074	7,962	11,881	15,697	19,448	23,273	27,525	31,187	34,788	38,516
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

* Nominal data for 70 CRI.

CONTROL OPTIONS

0-10V (DIM)

This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (P, R and PER7)

Optional button-type photocontrol (P) and photocontrol receptacles (R and PER7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

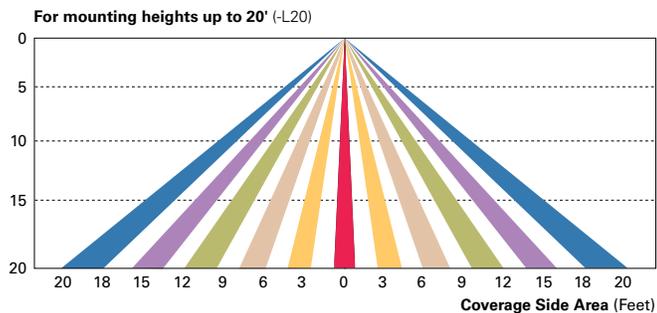
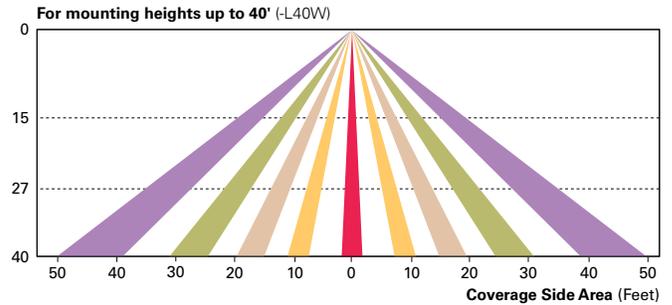
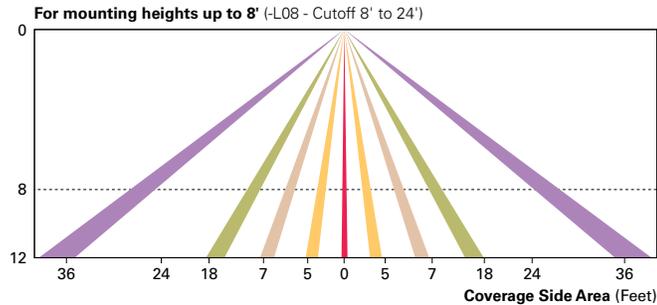
After Hours Dim (AHD)

This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (MS/DIM-LXX, MS/X-LXX and MS-LXX)

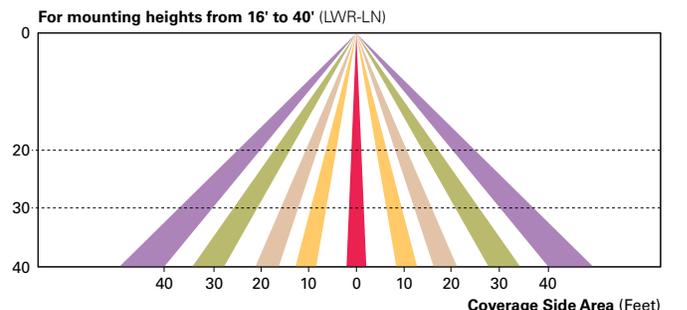
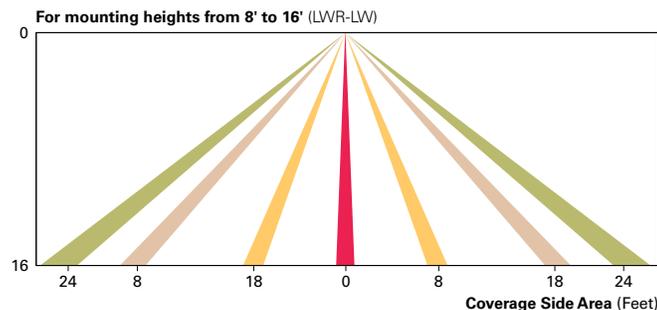
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for "dusk-to-dawn" control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters. A variety of sensor lens are available to optimize the coverage. pattern for mounting heights from 8'-40'.



LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)

The Eaton's LumaWatt Pro powered by Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting.



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A)

The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomical or time schedules based on a 7 day week.

LumenSafe Integrated Network Security Camera (LD)

Eaton brings ease of camera deployment to a whole new level. No additional wiring is needed beyond providing line power to the luminaire. A variety of networking options allows security integrators to design the optimal solution for active surveillance. As the ideal solution to meet the needs for active surveillance, the LumenSafe integrated network camera is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. This IP camera is optimally designed for deployment in the video management system or security software platform of choice.

Synapse (DIM10)

SimplySNAP integrated wireless controls system by Synapse. Includes factory installed DIM10 Synapse control module and MS/DC motion sensor; requires additional Synapse system components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

ORDERING INFORMATION

Sample Number: GLEON-AF-04-LED-E1-T3-GM-QM

Product Family ^{1,2}	Light Engine	Number of Light Squares ³	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	AF=1A Drive Current	01=1 02=2 03=3 04=4 05=5 ⁴ 06=6 07=7 ⁵ 08=8 ⁵ 09=9 ⁶ 10=10 ⁶	LED=Solid State Light Emitting Diodes	E1=120-277V 347=347V ⁷ 480=480V ^{2,8}	T2=Type II T2R=Type II Roadway T3=Type III T3R=Type III Roadway T4FT=Type IV Forward Throw T4W=Type IV Wide 5N0=Type V Narrow 5MQ=Type V Square Medium 5WQ=Type V Square Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I AFL=Automotive Frontline	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White	[Blank]=Arm for Round or Square Pole EA=Extended Arm ⁹ MA=Mast Arm Adapter ¹⁰ WM=Wall Mount QM=Quick Mount Arm (Standard Length) ¹¹ QMEA=Quick Mount Arm (Extended Length) ¹²
Options (Add as Suffix)						Accessories (Order Separately)	
7027=70 CRI 2700K ¹³ 7030=70 CRI 3000K ¹³ 8030=80 CRI 3000K ¹³ 7050=70 CRI 5000K ¹³ 7060=70 CRI 6000K ¹³ 600=Drive Current Set to Nominal 600mA ¹⁵ 800=Drive Current Set to Nominal 800mA ¹⁵ 1200=Drive Current Set to Nominal 1200mA ^{15,16} F=Single Fuse (120, 277 or 347V. Specify Voltage) FF=Double Fuse (208, 240 or 480V. Specify Voltage) 2L=Two Circuits ^{17,18} DIM=External 0-10V Dimming Leads ^{19,20} DIM10=Synapse Integrated Control Module ^{14,19} AHD145=After Hours Dim, 5 Hours ²² AHD245=After Hours Dim, 6 Hours ²² AHD255=After Hours Dim, 7 Hours ²² AHD355=After Hours Dim, 8 Hours ²² HA=50°C High Ambient ²³ L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right MT=Installed Mesh Top TH=Tool-less Door Hardware HSS=Installed House Side Shield ²⁸ CE=CE Marking ²⁹ LCF=Light Square Trim Painted to Match Housing ²⁷						P=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) ²¹ PER7=NEMA 7-PIN Photocontrol Receptacle ²¹ R=NEMA Photocontrol Receptacle ²¹ MS-L08=Motion Sensor for ON/OFF Operation, Maximum 8' Mounting Height ²⁴ MS-L20=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height ²⁴ MS-L40W=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height ²⁴ MS/DIM-L08= Motion Sensor for Dimming Operation, Maximum 8' Mounting Height ²⁴ MS/DIM-L20= Motion Sensor for Dimming Operation, 9' - 20' Mounting Height ²⁴ MS/DIM-L40W=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height ²⁴ MS/X-L08=Bi-Level Motion Sensor, Maximum 8' Mounting Height ^{24,25} MS/X-L20=Bi-Level Motion Sensor, 9' - 20' Mounting Height ^{24,25} MS/X-L40W=Bi-Level Motion Sensor, 21' - 40' Mounting Height ^{24,25} LWR-LW=LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height ²⁶ LWR-LN=LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height ²⁶ ZW=WaveLinX-enabled 4-PIN Twistlock Receptacle ^{19,33} ZW-SWPD4XX=Wavelinx Wireless Sensor, 7' - 15' Mounting Height ^{19,33,34} ZW-SWPD5XX=Wavelinx Wireless Sensor, 15' - 40' Mounting Height ^{19,33,34}	
7027=70 CRI 2700K ¹³ 7030=70 CRI 3000K ¹³ 8030=80 CRI 3000K ¹³ 7050=70 CRI 5000K ¹³ 7060=70 CRI 6000K ¹³ 600=Drive Current Set to Nominal 600mA ¹⁵ 800=Drive Current Set to Nominal 800mA ¹⁵ 1200=Drive Current Set to Nominal 1200mA ^{15,16} F=Single Fuse (120, 277 or 347V. Specify Voltage) FF=Double Fuse (208, 240 or 480V. Specify Voltage) 2L=Two Circuits ^{17,18} DIM=External 0-10V Dimming Leads ^{19,20} DIM10=Synapse Integrated Control Module ^{14,19} AHD145=After Hours Dim, 5 Hours ²² AHD245=After Hours Dim, 6 Hours ²² AHD255=After Hours Dim, 7 Hours ²² AHD355=After Hours Dim, 8 Hours ²² HA=50°C High Ambient ²³ L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right MT=Installed Mesh Top TH=Tool-less Door Hardware HSS=Installed House Side Shield ²⁸ CE=CE Marking ²⁹ LCF=Light Square Trim Painted to Match Housing ²⁷						OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V OA/RA1027=NEMA Photocontrol - 480V OA/RA1201=NEMA Photocontrol - 347V OA/RA1013=Photocontrol Shorting Cap OA/RA1014=120V Photocontrol MA1252=10kV Surge Module Replacement MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon MA1037-XX=2 @ 180° Tenon Adapter for 2-3/8" O.D. Tenon MA1197-XX=3 @ 120° Tenon Adapter for 2-3/8" O.D. Tenon MA1188-XX=4 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1189-XX=2 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1190-XX=3 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1191-XX=2 @ 120° Tenon Adapter for 2-3/8" O.D. Tenon MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon MA1039-XX=2 @ 180° Tenon Adapter for 3-1/2" O.D. Tenon MA1192-XX=3 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon MA1193-XX=4 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1194-XX=2 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1195-XX=3 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon FSIR-100=Wireless Configuration Tool for Occupancy Sensor ²⁴ GLEON-MT1=Field Installed Mesh Top for 1-4 Light Squares GLEON-MT2=Field Installed Mesh Top for 5-6 Light Squares GLEON-MT3=Field Installed Mesh Top for 7-8 Light Squares GLEON-MT4=Field Installed Mesh Top for 9-10 Light Squares GLEON-QM=Quick Mount Arm Kit ¹¹ GLEON-QMEA=Quick Mount Extended Arm Kit ¹² LS/HSS=Field Installed House Side Shield ^{28,30} WOLC-7P-10A=WaveLinX Outdoor Control Module ^{19,31} SWPD4-XX=Wavelinx Wireless Sensor, 7' - 15' Mounting Height ^{19,32,33,34} SWPD5-XX=Wavelinx Wireless Sensor, 15' - 40' Mounting Height ^{19,32,33,34}	

NOTES:
 1 Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. 2 DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. 3 Standard 4000K CCT and minimum 70 CRI. 4 Not compatible with MS/4-LXX or MS/1-LXX sensors. 5 Not compatible with extended quick mount arm (QMEA). 6 Not compatible with standard quick mount arm (QM) or extended quick mount arm (QMEA). 7 Requires the use of an internal step down transformer when combined with sensor options. Not available with sensor at 1200mA. Not available in combination with the HA high ambient and sensor options at 1A. 8 Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). 9 May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table. 10 Factory installed. 11 Maximum 8 light squares. 12 Maximum 6 light squares. 13 Extended lead times apply. Use dedicated IES files for 2700K, 3000K, 5000K and 6000K when performing layouts. 14 Available in 800mA only. 15 1 Amp standard. Use dedicated IES files for 600mA, 800mA and 1200mA when performing layouts. 16 Not available with HA option. 17 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in AF-02 through AF-04 requires a larger housing, normally used for AF-05 or AF-06. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table. 18 Not available with LumaWatt Pro wireless sensors. 19 Cannot be used with other control options. 20 Low voltage control lead brought out 18" outside fixture. 21 Not available if any "MS" sensor is selected. Motion sensor has an integral photocell. 22 Requires the use of P photocontrol or the PER7 or R photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information. 23 50°C lumen maintenance data applies to 600mA, 800mA and 1A drive currents. 24 The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information. 25 Replace X with number of Light Squares operating in low output mode. 26 LumaWatt Pro wireless sensors are factory installed only requiring network components LWP-EM-1, LWP-GW-1 and LWP-PoE8 in appropriate quantities. See www.eaton.com/lighting for LumaWatt Pro application information. 27 Not available with house side shield (HSS). 28 Only for use with SL2, SL3, SL4 and AFL distributions. The Light Square trim plate is painted black when the HSS option is selected. 29 CE is not available with the LWR, MS, MS/X, MS/DIM, P, R or PER7 options. Available in 120-277V only. 30 One required for each Light Square. 31 Requires PER7. 32 Requires ZW. 33 WAC Gateway required to enable field-configurability; Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed. 34 Replace XX with sensor color (WH, BZ, or BK).

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology* 	D=Dome Camera, Standard H=Dome Camera, Hi-Res Z=Dome Camera, Remote PTZ	C=Cellular, Customer Installed SIM Card A=Cellular, Factory Installed AT&T SIM Card V=Cellular, Factory Installed Verizon SIM Card S=Cellular, Factory Installed Sprint SIM Card W=Wi-Fi Networking w/ Omni-Directional Antenna E=Ethernet Networking

*Consult LumenSafe system pages for additional details and compatibility.

UAR-21012

Arizona 1 Light Column

TYPE SD



28w LED
1826 Lumens

IP65
Suitable for wet locations

IK08
Impact Resistant [Vandal Resistant]

Weight 51.3 lbs

Construction

Aluminum

Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket

Provided with special injection molded “fit for purpose” long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

B1 - U3 - G0

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

High Impact Acrylic Lens

Manufactured with Ultra High Impact, Naturally UV Stabilized Injection Molded Acrylic.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Streamlined lighting column. Clean-lined, smooth round decorative ambient lighting column with opal lateral diffuser.

Complementing the Arizona family of outdoor floodlight columns and wall mounted sconces, is the Arizona 1. The Arizona 1 is a 6” diameter column and incorporates precision optics that provides a type V distribution housed within a ultra high impact clear acrylic lens. This modern aesthetic design can be specified with different wattages if necessary to provide the perfect lighting solution and can be used to light areas, such as campuses, parks, recreational areas and public spaces.

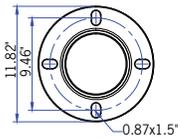
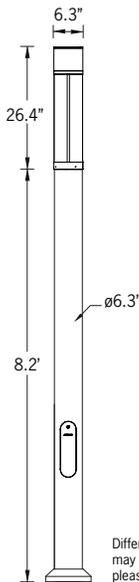
This luminaire is provided with an integral driver housed within a waterproof electrical compartment secured inside the pole. The luminaire is pre-wired with power cord to the handhole to simplify installation. The Arizona is available with two different LED packages, namely COB (See UAR-20973) which is available with a very wide type V distribution and the HP LED version (see UAR-20974) for Type II, III & IV light distributions. Color temperature 2700K, 3000K, 3500K and 4000K, LED CRI >80 and life time 50,000 Hours.

Reduced wattages can be provided to provide Title 24 compliance .

For non standard fixture variations, as well as specific perforated reflector requirements and decorative house side shields, please contact the factory.

This product is provided complete with anchor bolts and laser cut steel bolt template.

For alternate root mount installation, please specify.



Mounting Detail

Different heights may be specified, please contact factory

Additional Options (Consult Factory For Pricing)



A20691 Root Mount Kit

Arizona Product Family



UAR-20973 [Ø8.8"]



UAR-20991 [Ø8.8"]



UAR-20992 [Ø8.8"]



UAR-21041 [Ø6.3"]



UAR-21051 [Ø8.8"]



UAR-21012

Arizona 1 Light Column

PROJECT	<input type="text"/>	DATE	<input type="text"/>
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QUANTITY	<input type="text"/>	TYPE	<input type="text"/>	NOTE	<input type="text"/>
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ORDERING EXAMPLE || UAR - 21012 - 28w LED - W30 - 02 - 120/277v

UAR-21012	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	LAMP	LED COLOR	FINISH COLOR	VOLTAGE
	28w LED 1826 Lumens	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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ADDITIONAL OPTIONS

- DIM - 0-10v Dimming
- NAT - Natatorium Rated
- GFCI - GFCI Box
- HSS - House Side Shield
- A20691 - Root Mount Kit
- HGT - Custom Height (Specify)

UMI-50371

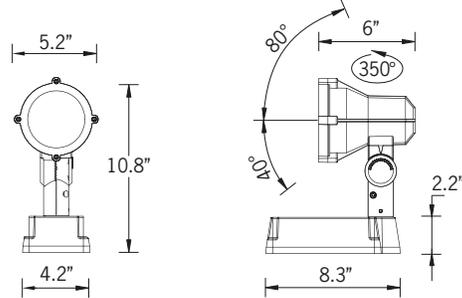
Mic 1 Small Floodlight

TYPE SF

LIGMAN
LIGHTING USA



13w LED 1025 Lumens
IP65 • Suitable For Wet Locations
IK07 • Impact Resistant
Weight 5 lbs



Mounting Detail

Mic Product Family



UMI-50381

UMI-50384

UMI-50391



UMI-50411

UMI-50421

UMI-50431



UMI-50441

UMI-50451

UMI-50461



UMI-21051

Construction

Aluminum

Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

B4 - U4 - G5

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Adjustable fixed-base spotlight family. Popular identity, available in four casting sizes and various mounting, shielding and control options.

A small medium and large range of floodlights designed to use high power LEDs. This luminaire has specialized optics that have been designed by Ligman, in conjunction with internationally recognized optic designers to provide excellent light control, beam distribution and intensities by focusing each optic around the small LEDs to provide perfect focus and distribution.

This luminaire can be provided with a variety of anti-glare and light control attachments. The aim and lock feature provides a sturdy mechanism that allows for precise fixture aiming and locking into position.

The waterproof driver box is situated at the bottom of the luminaire and has all the necessary gasketing to ensure a water tight compartment for drivers and wiring. This fixture is provided with a specially designed internal waterproof gland for incoming power.

The fixture is suitable for mounting on walls, concrete surfaces and is also available with a ground spike. These floodlights are designed to illuminate plants, architectural details and sign boards.

Additional Options (Consult Factory For Pricing)



A50131
Anti Glare Visor

A51531
Anti Glare Hood

A50141
Ground Spike

CRL
Concentric Ring
Louvre



LSL
Linear Spread
Lens



UMI-50371

Mic 1 Small Floodlight

PROJECT		DATE	
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QUANTITY		TYPE		NOTE	
-----------------	--	-------------	--	-------------	--

ORDERING EXAMPLE || UMI - 50371 - 13w - M - W30 - 02 - 120/277v - Options

UMI-50371					
LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE	
13w LED 1025 Lumens	N - Narrow 16° M - Medium 27° W - Wide 43°	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify	

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ADDITIONAL OPTIONS

- | | | |
|------------------------------|----------------------------|---------------------------------|
| A50131 - Anti Glare Visor | LSL - Linear Spread Louvre | TS - Tree Strap |
| A51531 - Anti Glare Hood | HEX - Hexcell Louvre | NAT - Natatorium Rated |
| A50141 - Ground Spike | F - Frosted Lens | AMB - Turtle Friendly Amber LED |
| CRL - Concentric Ring Louvre | DIM - 0-10v Dimming | |

* Anti Glare Hood and Anti Glare Visor can't be combined, choose one



DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaires provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for façade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

SPECIFICATION FEATURES

Construction

Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and medium design. The small housing is available in 12W, 18W and 26W. The medium housing is available in the 38W model. Patented secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three half-inch, NPT threaded conduit entry points. The universal back box supports both the small and medium forms and mounts to standard 3-1/2" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 5" wide pole for site lighting application. Not recommended for car wash applications.

Optical

Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Available in seven lumen packages; 5000K, 4000K and 3000K CCT.

Electrical

LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 12W, 18W, 26W and 38W series operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C models available. Crosstour luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Three half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized

Catalog #		Type
Project		TYPE SG
Comments		Date
Prepared by		

electrical wiring compartment.

Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz or 347V 60Hz models.

Finish

Crosstour is protected with a Super durable TGIC carbon bronze or summit white polyester powder coat paint. Super durable TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life.

Warranty

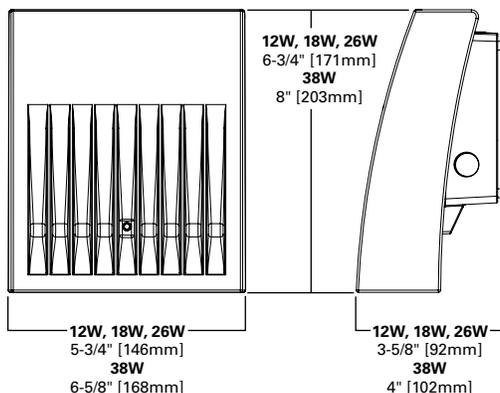
Five-year warranty.



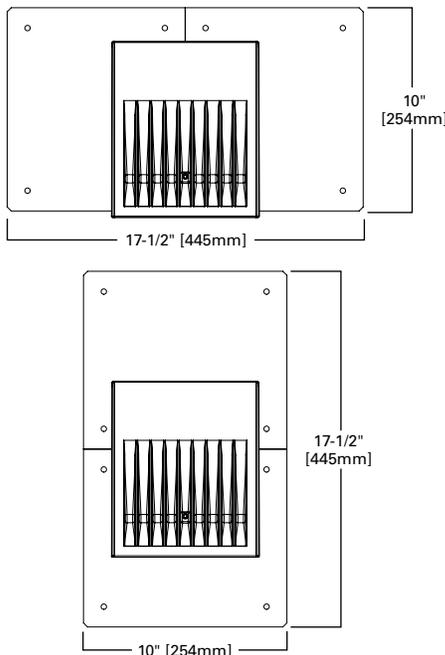
XTOR CROSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING

DIMENSIONS



ESCUTCHEON PLATES



CERTIFICATION DATA

UL/cUL Wet Location Listed
LM79 / LM80 Compliant
ROHS Compliant
ADA Compliant
NOM Compliant Models
IP66 Ingressed Protection Rated
Title 24 Compliant
DesignLights Consortium® Qualified*

TECHNICAL DATA

40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA

Effective Projected Area (Sq. Ft.):
XTOR1B, XTOR2B, XTOR3B=0.34
XTOR4B=0.45

SHIPPING DATA:

Approximate Net Weight:
3.7 – 5.25 lbs. [1.7 – 2.4 kgs.]

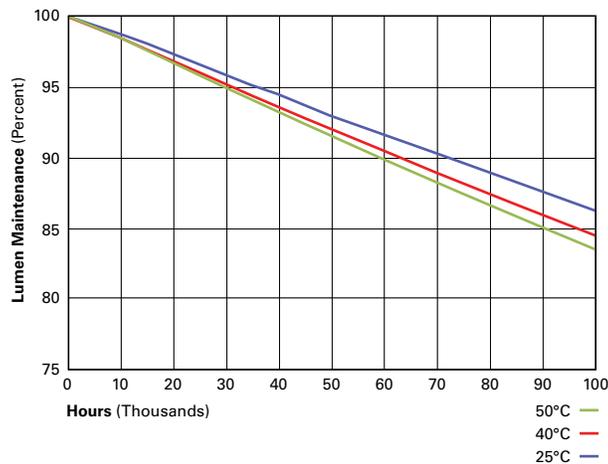
POWER AND LUMENS BY FIXTURE MODEL

LED Information	XTOR1B	XTOR1B-W	XTOR1B-Y	XTOR2B	XTOR2B-W	XTOR2B-Y	XTOR3B	XTOR3B-W	XTOR3B-Y	XTOR4B	XTOR4B-W	XTOR4B-Y
Delivered Lumens (Wall Mount)	1,418	1,396	1,327	2,135	2,103	1,997	2,751	2,710	2,575	4,269	4,205	3,995
Delivered Lumens (With Flood Accessory Kit) ¹	1,005	990	940	1,495	1,472	1,399	2,099	2,068	1,965	3,168	3,121	2,965
B.U.G. Rating ²	B1-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0								
CCT (Kelvin)	5,000	4,000	3,000	5,000	4,000	3,000	5,000	4,000	3,000	5,000	4,000	3,000
CRI (Color Rendering Index)	70	70	70	70	70	70	70	70	70	70	70	70
Power Consumption (Watts)	12W	12W	12W	18W	18W	18W	26W	26W	26W	38W	38W	38W

NOTES: 1 Includes shield and visor. 2 B.U.G. Rating does not apply to floodlighting.

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
XTOR1B Model		
25°C	> 90%	255,000
40°C	> 89%	234,000
50°C	> 88%	215,000
XTOR2B Model		
25°C	> 89%	240,000
40°C	> 88%	212,000
50°C	> 87%	196,000
XTOR3B Model		
25°C	> 89%	240,000
40°C	> 88%	212,000
50°C	> 87%	196,000
XTOR4B Model		
25°C	> 89%	222,000
40°C	> 87%	198,000
50°C	> 87%	184,000



CURRENT DRAW

Voltage	Model Series			
	XTOR1B	XTOR2B	XTOR3B	XTOR4B
120V	0.103A	0.15A	0.22A	0.34A
208V	0.060A	0.09A	0.13A	0.17A
240V	0.053A	0.08A	0.11A	0.17A
277V	0.048A	0.07A	0.10A	0.15A
347V	0.039A	0.06A	0.082A	0.12A

ORDERING INFORMATION

Sample Number: XTOR2B-W-WT-PC1

Series ¹	LED Kelvin Color	Housing Color	Options (Add as Suffix)	Accessories (Order Separately)
XTOR1B =Small Door, 12W XTOR2B =Small Door, 18W XTOR3B =Small Door, 26W XTOR4B =Medium Door, 38W	[Blank] =Bright White (Standard), 5000K W =Neutral White, 4000K Y =Warm White, 3000K	[Blank] =Carbon Bronze (Standard) WT =Summit White BK =Black BZ =Bronze AP =Grey GM =Graphite Metallic DP =Dark Platinum	PC1 =Photocontrol 120V ² PC2 =Photocontrol 208-277V ^{2,3} 347V =347V ⁴ HA =50°C High Ambient ⁴	WG/XTOR =Wire Guard ⁵ XTORFLD-KNC =Knuckle Floodlight Kit ⁶ XTORFLD-TRN =Trunnion Floodlight Kit ⁶ XTORFLD-KNC-WT =Knuckle Floodlight Kit, Summit White ⁶ XTORFLD-TRN-WT =Trunnion Floodlight Kit, Summit White ⁶ EWP/XTOR =Escutcheon Wall Plate, Carbon Bronze EWP/XTOR-WT =Escutcheon Wall Plate, Summit White

NOTES:

1. DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
2. Photocontrols are factory installed.
3. Order PC2 for 347V models.
4. Thru-branch wiring not available with HA option or with 347V. XTOR3B not available with HA and 347V or 120V combination.
5. Wire guard for wall/surface mount. Not for use with floodlight kit accessory.
6. Floodlight kit accessory supplied with knuckle (KNC) or trunnion (TRN) base, small and large top visors and small and large impact shields.

STOCK ORDERING INFORMATION

12W Series	18W Series	26W Series	38W Series
XTOR1B =12W, 5000K, Carbon Bronze	XTOR2B =18W, 5000K, Carbon Bronze	XTOR3B =26W, 5000K, Carbon Bronze	XTOR4B =38W, 5000K, Carbon Bronze
XTOR1B-WT =12W, 5000K, Summit White	XTOR2B-W =18W, 4000K, Carbon Bronze	XTOR3B-W =26W, 4000K, Carbon Bronze	XTOR4B-W =38W, 4000K, Carbon Bronze
XTOR1B-PC1 =12W, 5000K, 120V PC, Carbon Bronze	XTOR2B-WT =18W, 5000K, Summit White	XTOR3B-WT =26W, 5000K, Summit White	XTOR4B-WT =38W, 5000K, Summit White
XTOR1B-W =12W, 4000K, Carbon Bronze	XTOR2B-PC1 =18W, 5000K, 120V PC, Carbon Bronze	XTOR3B-PC1 =26W, 5000K, 120V PC, Carbon Bronze	XTOR4B-PC1 =38W, 5000K, 120V PC, Carbon Bronze
	XTOR2B-W-PC1 =18W, 4000K, 120V PC, Carbon Bronze	XTOR3B-W-PC1 =26W, 4000K, 120V PC, Carbon Bronze	XTOR4B-W-PC1 =38W, 4000K, 120V PC, Carbon Bronze
	XTOR2B-347V =18W, 5000K, Carbon Bronze, 347V	XTOR3B-347V =26W, 5000K, Carbon Bronze, 347V	XTOR4B-347V =38W, 5000K, Carbon Bronze, 347V
	XTOR2B-WT-PC1 =18W, 5000K, 120V PC, Summit White	XTOR3B-PC2 =26W, 5000K, 208-277V PC, Carbon Bronze	

SECTION 329300- PLANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plants.
2. Landscape edgings.
3. Planting soils.
4. Planting accessories including, but not limited to, the following:
 - a. Structural planting cells.
 - b. Tree stabilization.

1.2 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
- G. Finish Grade: Elevation of finished surface of planting soil.
- H. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

- I. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or anti-desiccant.
- J. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- K. Planting Area: Areas to be planted.
- L. Planting Soil: Manufactured topsoil.
- M. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- N. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- O. Specimen Tree: Complying with the requirements of this Section and of superior quality, as judged by the Architect, including form, fullness, size, health, and growing/handling history; see PLANT MATERIAL in PART 2.
- P. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated, including soils.
 - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
 - 2. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to the Project.
 - 3. Plant Material Location Data: Quantities and sizes of each plant material type at each nursery or other place of growth, and address, phone number, and contact person, including email address, for each nursery or other place of growth.
 - 4. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to the Project. Take photographs with a neutral background where possible and from an angle depicting true size, form, and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

- a. Submit at least 14 days prior to submittal of plant material location data; submit three color photographs each of representative plants of each type of plant material.
 5. Plant accessories.
 - B. Samples for Verification: For each of the following:
 1. Planting Soil, each source: 5 lb packaged.
 2. Mulch: 1-quart volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
 3. Geogrid and geotextile related to structural planting cells: 12 inches by 12 inches.
 4. Proprietary Root-Ball-Stabilization Device: One unit.
 - C. Qualification Data: For qualified landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
 - D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
 1. Manufacturer's certified analysis of standard products.
 2. Analysis of other materials by a recognized testing laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
 - E. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
 - F. Material Test Reports: For planting soil; include Soil Analysis described under QUALITY ASSURANCE below.
 - G. Warranty: Sample of special warranty.
 - H. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before start of required maintenance periods.
- 1.5 QUALITY ASSURANCE
- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.
 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 2. Experience: Five years' experience in landscape installation in addition to requirements in Section 014000 "Quality Requirements."
 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

4. Personnel Certifications: Installer's field supervisor shall have certification in all of the following categories from the Professional Landcare Network:
 - a. Landscape Industry Certified Technician - Exterior.
 - b. Landscape Industry Certified Horticultural Technician.
 5. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent or university laboratory, recognized by the State Department of Agriculture in the State in which the project is located, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes.
 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- D. Plant Material Observation and Tagging: Architect may observe, photograph, and tag (with irremovable tags) plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
1. Notify Architect of planting material delivery seven days in advance of delivery to site.
- E. Tree Stabilization Mock-Ups:
1. Prepare one mock-up of tree stabilization system.
 2. Construct mock-up using specified materials.
 3. Accepted mock-up shall be project standard by which Work will be judged.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- B. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Accompany each delivery of bulk materials with appropriate certificates.
- C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- D. Handle planting stock by root ball.
- E. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F (16 to 18 deg C) until planting.
- F. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 2. Do not remove container-grown stock from containers before time of planting.
 3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.
 4. Do not store plant materials on paved surfaces.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to requirements indicated:
1. Notify Owner no fewer than two days in advance of proposed interruption of each service or utility.
 2. Do not proceed with interruption of services or utilities without Owner's written
- C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
1. Spring Planting: May 1 through June 30.
 2. Fall Planting: September 1 through October 5.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be

obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.8 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
 - b. Structural failures including plantings falling or blowing over.
 - c. Faulty performance of tree stabilization.
 - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
2. Warranty Periods: From date of Substantial Completion
 - a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
 - b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
 - c. Annuals: Three months.
3. Delays: Delays in completion of planting operations which extend the planting into more than one planting season shall extend the Warranty Period correspondingly.
4. Include the following remedial actions as a minimum:
 - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
 - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 - 1) Replace plants with plants of the same species, size, and quality as specified.
 - c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.
 - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated

when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.
 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
 3. Branching: Structurally strong, able to stand upright without stakes or guys on a windless day; exceptionally heavy, symmetrical, tightly knit, so trained or favored in development and appearance as to be superior in form, number of branches, compactness and symmetry.
 4. Vigor: Sound, healthy and vigorous, well branched and densely foliated when in leaf.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.
- E. Matched Specimens: If formal arrangements or consecutive order of plants is shown on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.
- F. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

2.2 FERTILIZERS

- A. Fertilizer: Provide in conformance with Section 329113 - Soil Preparation.

2.3 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
1. Type: Shredded hardwood.
 2. Size Range: 3 inches maximum, 1/2 inch minimum.
 3. Color: Natural.

2.4 PLANTING SOILS

- A. Planting Soil: Provide in conformance with Section 329113 - Soil Preparation.

2.5 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

2.6 LANDSCAPE EDGINGS

- A. Aluminum Edging: Standard-profile extruded-aluminum edging, ASTM B 221 (ASTM B 221M), Alloy 6063-T6, fabricated in standard lengths with interlocking sections with loops stamped from face of sections to receive stakes.
1. : Subject to compliance with requirements, provide CLEANLINE XL by.
 2. Edging Size: 3/16 inch thick by 5-1/2 inches deep.
 3. Finish: Black.

2.7 TREE STABILIZATION MATERIALS

- A. Root-Ball Stabilization Materials:
1. Proprietary Root-Ball Stabilization Devices: Proprietary below-grade stabilization systems to secure each new planting by root ball that do not encircle the trunk; sized per manufacturer's written recommendations unless otherwise indicated.
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Foresight Products, LLC; Duckbill Rootball System, Model 88 RBK; include strap with hand ratchet; exclude Duckbill Anchors.
 - b. Deadmen: Provide concrete deadmen with internal steel reinforcing and stainless steel anchors for strap attachment; sizes, configurations, and locations as indicated on the Drawings; anchor quantity and locations suitable for the tree stabilization device.

- 1) Concrete: Comply with Section 033000, Cast-In-Place Concrete, 3,000 psi compressive strength minimum, ACI 318 Exposure Class F2, air entrained, 0.45 maximum water/cement ratio.

B. Guying Materials:

1. Basis of Design: ArborTie Green; by DeepRoot, Deep Root Partners, LP -.
2. Tensile Strength: 900 pounds.
3. Width: As recommended by manufacturer.
4. Color: Green.
5. Screws to Attach to Wood Stakes: Stainless steel.

- C. Stakes: Sound hardwood, nominal 2-1/2 inches x 2-1/2 inches in cross sectional dimension by 8 feet long, with one end pointed.

2.8 MISCELLANEOUS PRODUCTS & FABRICATIONS

- A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- B. Burlap: Non-synthetic, biodegradable.
- C. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb of vesicular-arbuscular mycorrhizal fungi and 95 million spores per lb of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

2.9 SOURCE QUALITY CONTROL

A. Advanced Tree Procurement:

1. Within 30 days of award of Contract, notify Architect in writing of the availability or lack thereof of the specified plant material.
2. Procure trees and arrange for contract growing as required to ensure that plant material is available in the quantities and sizes specified, and of the quality specified, at time of installation.
3. Verify plant branching requirements with Architect prior to contract growing.
4. Landscape Architect will review advanced procured trees prior to initial purchase and at end of the first growing season.
5. Prior to delivery of advanced procured plant material to site, coordinate and schedule a final review of the plant material at the place of growth.
6. Review and acceptance of the advance-procured plant material at the place of growth does not cancel the right of the Architect to reject plant material at the site, if damage or unacceptable conditions are found that were not detected at the place of growth.
7. Plant Material Observation and Tagging: As described in QUALITY ASSURANCE above.

3.1 EXAMINATION

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 - 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Lay out plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.
- E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
 - 1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- F. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

3.3 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Coordinate excavation with other work, including paving, as appropriate to the sequence of work.
 - 1. Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 - 2. Excavate a minimum of three times as wide as ball diameter for stock.
 - 3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
 - 4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
 - 5. Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
 - 6. Maintain supervision of excavations during working hours.
 - 7. Keep excavations covered or otherwise protected.
 - 8. If drain tile is shown on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- C. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.4 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Protection of Plants Prior to Installation:
 - 1. Protect plant root balls from sun or drying winds.
 - 2. Keep root balls of plants that cannot be planted immediately upon delivery in the shade, well-protected and well-watered.
- C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
 - 1. Coordinate tree stabilization installation prior to backfilling.
 - 2. Carefully remove root ball from container without damaging root ball or plant.
 - a. Remove canned stock carefully after cans have been cut on two sides with accepted cutter.
 - b. Do not use spade to cut containers.

3. Root Ball Scarification:
 - a. After removing plant from container, scarify side of root ball to prevent root-bound condition.
 - b. Loosen root ball soil surface to depth of 1/8-inch to 1/4-inch without damaging roots or breaking root ball.
 4. Cutting Circling Roots:
 - a. If circling roots are encountered at root ball sides, notify the Landscape Architect for field review by the Arborist.
 - b. Upon the Arborist's acceptance, cut roots on 4 sides of root ball 90 degrees
 - c. Use a 4-inch wide sharp straight blade.
 - d. Cut roots by pushing spade or knife down sides of root ball 90 degrees to root ball surface and 2 inches into root ball.
 - e. Keep spade or knife sharp to cut roots cleanly.
 5. After placing some backfill around root ball to stabilize plant, carefully cut remove, and dispose of burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any,
 6. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 7. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Balled and Potted and Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Backfill: Planting soil.
 2. Carefully remove root ball from container without damaging root ball or plant.
 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 4. Continue backfilling process. Water again after placing and tamping final layer of soil.
- E. Backfill Mix Settlement:
1. After backfill mix has been placed, settle mix by watering evenly.
 2. Fill settled backfill mix areas with additional backfill mix as required to bring it even with top of root ball.
 3. Continue filling settled areas and drenching with water until settlement stops.
- F. Settled Plant Adjustment: Raise plant root balls which settle so that top of root balls are at the specified elevation relative to adjacent finished grade.
- G. Organic Fertilizer for Trees and Shrubs:
1. After backfill settlement and plant adjustment work, uniformly spread organic fertilizer over the surface of the root ball and backfill mix at the rate of 1/2 pound for each inch of tree caliper and at the rate of 1/2 pound for each shrub.

2. After application, uniformly sprinkle surface of plant pits and root balls with 2 inches of water.

- H. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.5 TREE, SHRUB, AND VINE PRUNING

- A. Sterilized pruning equipment prior to pruning and maintain sterilization throughout pruning.
- B. Remove only dead, dying, or broken branches. Do not prune for shape.
- C. Prune, thin, and shape trees, shrubs, and vines as directed by Architect.
- D. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- E. Do not apply pruning paint to wounds.

3.6 TREE STABILIZATION

- A. Root-Ball Stabilization: Install below-grade stabilization system to secure each new planting by the root ball unless otherwise indicated.
 1. Proprietary Root-Ball Stabilization Device: Install root-ball stabilization system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions. Place concrete deadmen and connect stabilization straps.
- B. Tree Protection:
 1. Immediately after planting, stake, guy and protect trees.
 2. Orientation: Install stakes on the prevailing wind side of trees.
 3. Staking: Comply with details on drawings.
 4. Do not wrap tree trunks.
 5. Stake and guy tree trunks using specified materials and in accordance with details shown on Landscape drawings.

3.7 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.

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- D. For rooted cutting plants supplied in flats, plant each in a manner that will minimally disturb the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.8 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees: Around trunks, apply organic mulch ring of 1 inch average thickness over root ball and 2 inch thickness beyond the root ball. Do not place mulch within 3 inches of trunks or one inch of stems.
- B. Organic Mulch in Planting Areas: Apply 2-inch (50-mm) average thickness of organic mulch extending 12 inches (300 mm) beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches (75 mm) of trunks or one inch of stems.

3.9 EDGING INSTALLATION

- A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 30 inches apart, driven below top elevation of edging.
- B. Aluminum Edging: Install aluminum edging where indicated according to manufacturer's written instructions. Anchor with aluminum stakes spaced approximately 36 inches apart, driven below top elevation of edging.
- C. Shovel-Cut Edging: Separate mulched areas from turf areas curbs, and paving with a 45-degree, 4- to 6-inch- (100- to 150-mm-) deep, shovel-cut edge as indicated on Drawings.

3.10 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- D. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with University's operations and others in proximity to the Work. Notify University before each application is performed.
- E. Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, and ground-cover areas in accordance with manufacturer's written recommendations. Do not apply to seeded areas.
- F. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

3.11 REPAIR AND REPLACEMENT

- A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.
 - 1. Submit details of proposed pruning and repairs.
 - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.
 - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 - 1. Provide new trees of same size as those being replaced for each tree of 6 inches or smaller in caliper size.
 - 2. Species of Replacement Trees: Same species being replaced unless otherwise directed by the Architect.

3.12 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.13 MAINTENANCE SERVICE

- A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
 - 1. Maintenance Period: 12 months from date of Substantial Completion.
- B. Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
- C. Continuing Maintenance Proposal: From Installer to University, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

3.14 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

Tree Size	Stake Size	Stake Quantity Per Tree
Over 2-1/2-inch caliper up to 4-inch caliper:	10 feet long × 3 inches diameter	2

END OF SECTION 329300

QUESTIONS?



Thank You.

nbbj

City of Gahanna
Planning and Development
200 S Hamilton Rd
Gahanna, Ohio 43230

RE: Design Review Comments for 310 Granville St

June 4, 2021

Dear Reviewer,

Thank you for reviewing our submission. Here are our responses to your comments:

Fire

1. *Comment:* The new library meets the intent of the code for a fire lane as all portions of the building are within 150 feet of a private or public road.
 - *Response:* The building will be equipped with an approved automatic sprinkler system in accordance with 903.1.1 and therefore qualify for an exception to this requirement.

Parks

2. *Comment:* Species selection looks good. All ginkgo trees should be male to eliminate messy/foul-smelling fruit production. Planting specs look good. Deer guards should be considered to help protect the young trees from antler rubs.
 - *Response:* All ginkgo trees proposed are male species. Deer guards will be considered to protect young trees.
3. *Comment:*
 - a) *Comment:* I see that the trees are supposed to be 4" at planting. That large size does concern me a bit due to risk of transplant shock. If trees are planted over 3", there should be a plan to water them heavily during their first year in the ground.
 - *Response:* We agree this could be an issue without proper maintenance. We require the landscape contractor to contract with the owner for maintenance for a 12 month period after the date of substantial completion. We have found success with requiring them to care for the plants or provide replaces rather than the owner. See attached specification section 329300-3.13-A in the attached resubmittal.
 - ii) *Comment:* I would like to see a substitution for barberry due to its invasive tendencies in disturbed areas
 - *Response:* We have substituted the barberry with Virginia Sweetspire per the updated on the landscape schedule and breakdown (page 14 of the pdf).

Community Development

1. *Comment:* Chapter 1163.06(a) provides for illumination levels at the property line. 1.0 foot candles is permitted unless adjacent to residential which permits .5 foot candles.

Please revise the photometric plan to depict light levels at the property line. 5/7/21 - Response to comments indicates a revised photometric plan was submitted. The photometric plan staff sees is dated 2/24/21. Please clarify..

- *Response:* We apologize, I think the wrong plan was resubmitted. See the attached updated photometric dated 4/15/21.
2. *Comment:* Chapter 1163.08 provides for parking area landscaping requirements. Please revise the landscape plan to indicate the size of the parking area (spaces and drive aisles). The amount of landscaping and tree plantings are based on the size of the parking area.
 - *Response:* See attached revised sheet L012. Dimensions have been added and a chart to show amount of interior parking landscape areas and tree count.
 3. *Comment:* Chapter 914 requires trees to be planted based on the amount of impervious surface. Preserved trees can count towards this planting requirement. Please review Chapter 914 and modify the landscape plan to clearly demonstrate compliance. 5/7/21 - Chapter 914 applies to all areas of impervious (parking, sidewalks, building, etc), not just the parking area. Planting requirements for Chapter 914 are a standalone planting requirement, plantings to meet other code requirements may not be applied to meet the requirements of Chapter 914. The amount of tree inches to be planted are as follows = new impervious - old impervious= 1 tree inch per 1,000 square feet of new impervious. Preserved trees can be used to satisfy the new planting requirement. Please revise sheet 1L012 to clearly indicate preserved trees or planted trees to meet this requirement.
 - *Response:* Thank you for clarifying. We have updated the tree legend to show the different calipers of tree based on the symbol on the plan and adjusted the tables to clearly show the required trees for both zoning section 11663.08 and 914. Based on impervious area, we need 84" of trees. Without counting the trees, we are preserving for the interior parking lot trees, we have 215" total caliper. We did not subtract the existing impervious area square foot because we have limited documentation of all the parking areas to provide an accurate number.

Building

1. The building and site will be required to comply with the Ohio Building Code - which will be reviewed when the documents are submitted for plan review/building permits.
 - *Response:* This project will be submitted for permit after approval from planning commission to confirm compliance.

Please feel free to call or email me if any questions arise from these revisions.

Sincerely,



nbbj

Mike Suriano
msuriano@nbbj.com



June 23, 2021

Public Library of Columbus & Franklin, County
96 S Grant Ave
Columbus, OH 43215

RE: Project 310 Granville St Design Review Comments

Dear Public Library of Columbus & Franklin, County:

The following comments were generated from the review of the submitted plans and documents for the referenced project.

Fire District

1. A. The new library meets the intent of the code for a fire lane as all portions of the building are within 150 feet of a private or public road.

Parks (Informational Comment)

2. Species selection looks good. All ginkgo trees should be male to eliminate messy/foul-smelling fruit production.

Planting specs look good. Deer guards should be considered to help protect the young trees from antler rubs.

3. I see that the trees are supposed to be 4" at planting. That large size does concern me a bit due to risk of transplant shock. If trees are planted over 3", there should be a plan to water them heavily during their first year in the ground. I would like to see a substitution for barberry due to its invasive tendencies in disturbed areas

Engineering

4. No comment.

Building

5. The building and site will be required to comply with the Ohio Building Code - which will be reviewed when the documents are submitted for plan review/building permits.

If you have any comments or questions, please contact me at kelly.wicker@gahanna.gov or (614) 342-4025.

Sincerely,

Kelly Wicker
Administrative Assistant

STAFF REPORT

Request Summary

Request for Final Development Plan (FDP), Design Review (DR), and Variance approval to permit the redevelopment of the Gahanna Branch of the Columbus Metropolitan Library. The library property is expanding from its current footprint with the acquisition of the adjacent parcel to the west. In total, the property is approximately 5.5 acres. The additional property will have a minimal amount of parking and a retention area. Its primary function is as open space. The larger parcel, where the library is currently located, is zoned Suburban Office (SO). A library is a permitted use. The new property is zoned Community Commercial (CC). Parking and retention for the library is a permitted use.

Two variances are necessary to permit the requested site layout. SO zoning requires a 60' front yard setback (Granville St). The applicant is requesting a 5' setback. A significant amount of the property is within the floodway. Parking and structures must be located outside of this area. The floodway restricts the ability to develop the property without the need for variances.

A second variance is requested to forego the requirement of providing a 15' landscaped buffer between the residential property to the north. This variance is being requested as this part of the property is located adjacent to a creek and is in a natural and undisturbed state. This area would have to be severely impacted to meet the strict requirements of the code.

Land Use Plan

The property is designated Mixed Use District on the Future Land Use Map. Recommendations of Mixed Use include front yard setbacks of between 0-20'. The requested front yard variance is in line with the recommendations of the land use plan. The plan also recommends building orientation towards the street and parking to the sides and rear of the building. The site plan does an exemplary job of meeting the recommended development character of the Mixed Use land use and the character guidelines of the land use plan.

Final Development Plan

Planning Commission shall approve an FDP application if the following four conditions are met:

- A. The proposed development meets the applicable development standards of this Zoning Ordinance.
- B. The proposed development is in accord with appropriate plans for the area.
- C. The proposed development would not have undesirable effects on the surrounding area.
- D. The proposed development would be in keeping with the existing land use character and physical development potential of the area.

Design Review

General review criteria for Design Review applications include the following:

- Are stylistically compatible with other new, renovated, and existing structures in the applicable Design Review District in order to maintain design continuity and provide protection of existing design environment.

- Contribute to the improvement and upgrading of the architectural and design character of the Design Review District.
- Contribute to the continuing economic and community vitality of the Design Review District
- Maintain, protect and enhance the physical surroundings of the Design Review District.

Variance

Two variances have been requested.

1. Chapter 1167.15 – Building Lines Established
 - a. Reduce front yard setback from 60' to 5'
2. Chapter 1167.20(b)(1) – Property Perimeter Requirements
 - a. To not provide a 15' buffer with screening along the north property line

Planning Commission shall not grant a variance unless it finds that all the following conditions apply:

- a) There are special circumstances or conditions applying to the land, building or use referred to in the application.
- b) The granting of the variance is necessary for the preservation and enjoyment of substantial property rights.
- c) The granting of the application will not materially affect adversely the health or safety of persons residing or working in the neighborhood of the proposed use and will not be materially detrimental to the public welfare or injurious to property or improvements in such neighborhood.

Recommendation

Staff recommends approval of the applications as submitted. The requested use is the same as the existing use. Compatibility is not a concern as the library has coexisted with the neighboring properties for years without issue. The additional property allows for flexibility in how the site is laid out. The new layout improves pedestrian and vehicular traffic movement. The site has a significant amount of green space with only 32% lot coverage. The design of the building sets a new standard for excellence in the Granville/Creekside District Corridor.

Location/Zoning Map



Respectfully Submitted By:
Michael Blackford, AICP
Director of Planning