



Bedard Excavation

32 Hemlock Dr  
South Paris, ME 04281

# Estimate

Date	Estimate #
9/29/2025	1623

Name / Address
Town of Bowdoinham 13 School Street Bowdoinham, Maine 04008

Project

Description	Qty	Rate	Total
- Provide and install 9 additional light poles and fixtures on existing concrete bases.		34,680.00	34,680.00
		<b>Total</b>	\$34,680.00

# OSQ Series

OSQ® LED Area/Flood Luminaire featuring Patented NanoComfort® Technology – Version C

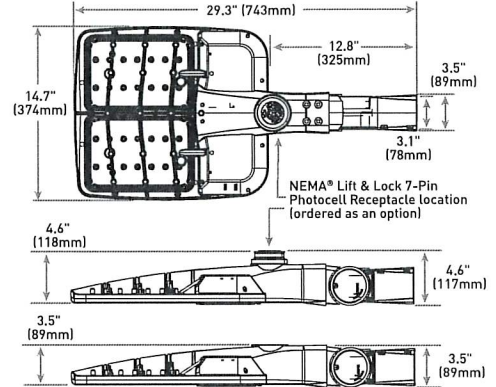
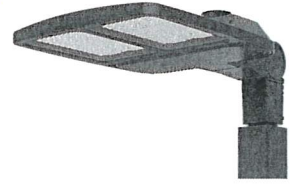
Rev. Date: V11 10/04/2024

## Product Description

The OSQ® Area/Flood Luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. Medium is suitable upgrade for HID applications up to 400 Watts. Large is suitable upgrade for HID applications up to 1000 Watts. Extra Large is suitable upgrade for HID applications up to multiple 1000 Watts.

**Applications:** Parking lots, walkways, campuses, car dealerships, office complexes, pickleball courts, high-mast and internal roadways

## OSQM - AA Mount



## Performance Summary

Utilizes Patented NanoComfort® Technology

Utilizes Cree TrueWhite® Technology on 5000K Luminaires

Assembled in the USA by Cree Lighting from US and imported parts

**Initial Delivered Lumens:** 4,000 - 85,000

**Efficacy:** Up to 171 LPW

**CRI:** Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)

**CCT:** 3000K, 4000K, 5000K, 5700K

**Limited Warranty\*:** 10 years for luminaire; 10 years for Colorfast DeltaGuard® finish; 5 years for BML sensor; up to 5 years for Synapse® accessories; 1 year for luminaire accessories

\* See <https://www.creelighting.com/resources/warranties/> for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

Luminaire	Weight
OSQM	19.3 lbs. (8.8kg)

## Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:

Example: **Mount:** OSQ-ML-C-AA-BK + **Luminaire:** OSQM-C-4L-30K7-2M-UL-NM-BK

Note: For OSQL, OSQX and additional mounts, refer to drawings on page 27.

Mount (Luminaire must be ordered separately)*			
OSQ-			
<b>Medium/Large Mounts</b>	<b>Extra Large Mounts</b>	<b>Color Options:</b>	<b>SV Silver BZ Bronze BK Black WH White</b>
OSQ-ML-C-AA Adjustable Arm	OSQ-X-C-AA Adjustable Arm		
OSQ-ML-C-DA Direct Arm	OSQ-X-C-DA Direct Arm		
OSQ-ML-C-TM Trunnion Mount			

\* Reference fixture mounting drill pattern, EPA, and pole configuration suitability data beginning on page 13.

Luminaire (Mount must be ordered separately)												
OSQ	C	Series	Lumen Package*	CCT/ CRI	Optic	Voltage	Mounting	Finish	Controls*	Options		
OSQ	M Medium L Large X Extra Large	C	<b>Medium</b>	30K7 3000K, 70 CRI	<b>Asymmetric</b> 2M Type II Mid 2B**	4B** Type IV Mid w/Factory-Installed Backlight Shield	UL Universal 120-277V UH Universal 327-480V	NM No Mount - Must specify mount from table above - Mount ships separately	BK Black BZ Bronze SV Silver WH White	BML Bluetooth® Technology Enabled Multi-Level Sensor - Utilizes a multifunction sensor - Refer to <b>BML spec sheet</b> for details - 20-40° sensor lens installed on luminaire; 8-20° sensor lens and aisle shroud included - Intended for downlight applications at 0° tilt - Not available with NS, NS2, Q or X controls or Synapse TL7-HVG accessory	20KV	20KV/10kA Surge Suppression - Replaces standard 10kV/5kA surge protection - Not available with NS/NS2 options
			6L 6000K, 70 CRI	4B** Type II Mid w/ Factory-Installed Backlight Shield	UH Universal 327-480V						F Fuse - Compatible with 120V, 277V or 347V (phase to neutral) - Consult factory if fusing is required for 208V, 240V or 480V (phase to phase)	
			9L 9000K, 90 CRI	50K9 5000K, 90 CRI	4B** Type III Mid 3M	AF Automotive Frontline Optic™	4L 40L, 75L or 85L lumen packages		NS Network Sensor, 20-40° Mounting Height NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS for use only with OSQL & OSQX - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) and either N or R option - XA-SENSREM Hand-held Remote Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG	N	External utility label per ANSI C136.15-2020 - 7-pin receptacle per ANSI C136.41 - Available only with OSQM & OSQL luminaires - Intended for downlight applications with maximum 45° tilt - Factory connected 0-10V dim leads - Requires photocell or shorting cap by others	
			11L 11,000 Lumens	57K7 5700K, 70 CRI	3M Type III Mid 3M	AF Automotive Frontline Optic™	4L 40L, 75L and 85L lumen packages		NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG	R	Utility Label and NEMA* Lift & Lock 7-Pin Photocell Receptacle - Intended for downlight applications with maximum 45° tilt - Factory connected 0-10V dim leads - Requires photocell or shorting cap by others - Refer to page 2 for compatible Synapse control offerings	
			16L 16,000 Lumens	57K7 5700K, 70 CRI	3M Type III Mid w/ Factory-Installed Backlight Shield	AF Automotive Frontline Optic™	4L 40L, 75L and 85L lumen packages		NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG	RL	Rotate Left - LED and optic are rotated to the left - Refer to RR/RL configuration diagram on page 27 for optic directionality - Not for use with symmetric optics	
			22L 22,000 Lumens	57K7 5700K, 70 CRI	3M Type III Mid w/ Factory-Installed Backlight Shield	AF Automotive Frontline Optic™	4L 40L, 75L and 85L lumen packages		NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG	RR	Rotate Right - LED and optic are rotated to the right - Refer to RR/RL configuration diagram on page 27 for optic directionality - Not for use with symmetric optics	
			30L 30,000 Lumens	57K7 5700K, 70 CRI	3M Type III Mid w/ Factory-Installed Backlight Shield	AF Automotive Frontline Optic™	4L 40L, 75L and 85L lumen packages		NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG			
			40L 40,000 Lumens	57K7 5700K, 70 CRI	3M Type III Mid w/ Factory-Installed Backlight Shield	AF Automotive Frontline Optic™	4L 40L, 75L and 85L lumen packages		NS2 Network Sensor, 10-30° Mounting Height - Utilizes a multifunction sensor - Refer to PML/NS spec sheet for details - Intended for downlight applications at 0° tilt - NS2 for use only with OSQM & OSQL - Not for use with BML, Q or X controls - Requires TL7-HVG Synapse Control Accessory (see page 2) required only for changing sensitivity or time delay settings. Dimming changes handled through the TL7-HVG			
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**Product Specifications**

**CREE LIGHTING NANOCOMFORT® TECHNOLOGY**

Cree Lighting's NanoComfort® Technology ends the trade-offs in outdoor lighting by providing superior glare reduction and visual comfort in high-efficiency illumination delivered precisely where it is needed. The basic building block of NanoComfort® Technology is a compact 4x4 array of LEDs. Each of the 16 LEDs in a module is in contact with its own acrylic polymer lens to capture and precisely direct light. With NanoComfort® Technology, the acrylic optics are cut and sculpted into facets that relieve the glare and harshness while improving visual comfort – all while retaining superb efficacy and control.

**CREE TRUEWHITE® TECHNOLOGY**

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

**CONSTRUCTION & MATERIALS**

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weatheright LED driver compartment and high-performance heat sink
- Acrylic optic w/clear tempered glass lens
- Some versions are provided with full circuit board, but not fully populated with LEDs or optics to scale back lumen package
- Convenient interlocking mounting method on direct arm. Mounting adaptor is rugged die cast aluminum and mounts to 3" (76mm) or larger square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers. Refer to page 14 for fixture mounting drill patterns
- Adjustable arm mount adapters are rugged die cast aluminum
- OSQ-ML-C-AA mounts to a horizontal or vertical 2" (51mm) IP, 2.375" (60mm) O.D. tenon and can be adjusted 180° in 2.5° increments
- OSQ-X-C-AA mounts to a horizontal or vertical 2" (51mm) IP, 2.375-2.50" (60-64mm) O.D. steel tenon and can be adjusted 180° in 5.0° increments. **NOTE: Tenon length must be a minimum of 3.75" (95mm), and tenon must be steel**
- Trunnion mount is constructed of A500 and A1011 steel and is adjustable from 0-180° in 15° degree increments. Trunnion mount secures to surface with (1) 3/4" bolt or (2) 1/2" or 3/8" bolts
- Luminaires include 15" (381mm) 18/5 cord exiting the luminaire
- Designed for uplight and downlight applications. Uplight orientation not suitable for use with N or R options
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available

Weight			
Mount	Housing Size		
	Medium	Large	Extra Large
Direct Arm	19.7 lbs. (8.9kg)	28.8 lbs. (13.1kg)	45.8 lbs. (20.8kg)
Adjustable Arm	19.3 lbs. (8.8kg)	28.4 lbs. (12.9kg)	48.6 lbs. (22.0kg)
Trunnion	23.2 lbs. (10.5kg)	32.3 lbs. (14.7kg)	N/A

For BML sensor add 0.1 lbs. (45g), and for NEMA receptacle, add 0.3 lbs. (136g).

- Includes QR code on the inside of the driver cover which provides access to: Online installation instructions, Luminaire information (Part number, Serial number, Build date, and Warranty end date), and Warranty claim submission form
- Duplicate 1" and 2" QR code labels are included. 1" labels can be affixed inside pole bases, next to fixtures, on site plans, or in maintenance records. 2" labels can be scanned from the ground when placed at an appropriate height

**ELECTRICAL SYSTEM**

- **Input Voltage:** 120-277V, 277-480V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- **Integrat 10kV/5kA surge suppression protection standard; 20kV/10kA surge suppression protection optional**
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Dims to 10%. Controls by others
- 0-10V dimming per ANSI C137.1-2019 (8-Volt or 9-Volt per power level/options selected)
- Refer to [Dimming spec sheet](#) for details
- **Maximum 10V Source Current:** 1.8mA
- **Operating Temperature Range:** -40°C - +40°C (-40°F - +104°F)

**REGULATORY & VOLUNTARY QUALIFICATIONS**

- cULus Listed (UL1598)
- Suitable for wet locations
- Meets NEMA C82.77 standards
- Drivers and LEDs are UL certified in accordance with UL8750
- Meets requirements of IP66 per IEC 60529 when ordered without N or R options
- Certified to ANSI C136.31-2018, 3G bridge and overpass vibration standards
- ANSI C136.2 10kV/5kA (standard) and 20kV/10kA (optional) surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Lens meets IK07 requirements per IEC 60068-2
- Assembled in the USA by Cree Lighting from US and imported parts
- Some configurations meet requirements of BAA and/or BABA. Consult factory when needed for a project: [www.creelighting.com/BAA-BABA](http://www.creelighting.com/BAA-BABA)
- RoHS compliant. Consult factory for additional details
- DarkSky Approved when ordered with 30K CCT and direct arm mount only. Please refer to <https://darksky.org/what-we-do/darksky-approved/products-companies/#/~/search/keywords=cree> for most current information
- DLC and DLC Premium qualified SKUs available. Exceptions apply when 2B, 3B, 4B & AB optics are selected. Please refer to <https://apl.designlights.org/solid-state-lighting> for most current information
- DLC Luna qualified when ordered with 4L-40L lumen packages with direct arm mount and 30K7 CCT. Please refer to <https://apl.designlights.org/solid-state-lighting> for most current information
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

**Product Specifications**

**SYNAPSE® SIMPLYSNAP INTELLIGENT CONTROL**

The Synapse SimplySNAP platform is a highly intuitive connected lighting solution featuring zone dimming, motion sensing, and daylight harvesting with utility-grade power monitoring and support of up to 1000 nodes per gateway. The system features a reliable and robust self-healing mesh network with a browser-based interface that runs on smartphones, tablets, and PCs. The Twist-Lock Lighting Controller (TL7-HVG) and Site Controller (SS450-002) take the OSQ Series to a new performance plateau, providing extreme energy productivity, code compliance and a better light experience.

Synapse Wireless Control Accessories	
<b>Twist-Lock Lighting Controller</b> TL7-HVG - Suitable for 120-480V (UL, UE and UH) voltages - Requires NEMA/ANSI C136.41 7-Pin Dimming Receptacle - Not for use with BML or Q options - Provides On/Off switching, dimming, power metering, digital sensor input, and status monitoring of luminaire - Refer to <a href="#">TL7-HVG spec sheet</a> for details <b>SimplySNAP Central Base Station</b> CBSSW-450-002 - Includes On-Site Controller (SS450-002) and 5-button switch - Indoor and Outdoor rated - Refer to <a href="#">CBSSW-450-002 spec sheet</a> for details	<b>Synapse Wireless Sensor</b> WSN-DPM - Motion and light sensor - Control multiple zones - Refer to <a href="#">WSN-DPM spec sheet</a> for details <b>SimplySNAP On-Site Controller</b> SS450-002 - Verizon® LTE-enabled - Designed for indoor applications - Refer to <a href="#">SS450-002 spec sheet</a> for details <b>Building Management System (BMS) Gateway</b> BMS-GW-002 - Required for BACnet integration - Refer to <a href="#">BMS-GW-002 spec sheet</a> for details <b>Outdoor Antennas</b> (Optional, for increased range, 8dB gain) KIT-ANT420SM - Kit includes antenna, 20' cable and bracket KIT-ANT360 - Kit includes antenna, 30' cable and bracket KIT-ANT600 - Kit includes antenna, 50' cable and bracket - Refer to <a href="#">Outdoor antenna spec sheet</a> for details

Electrical Data*								
Lumen Package	System Watts 120-480V	Utility Label Wattage	Total Current (A)					
			120V	208V	240V	277V	347V	480V
4L**	26	30	0.21	0.12	0.11	0.09	N/A	N/A
6L	37	40	0.31	0.18	0.15	0.13	0.11	0.08
9L	55	60	0.46	0.27	0.23	0.20	0.16	0.12
11L	68	70	0.57	0.33	0.28	0.25	0.20	0.14
16L	97	100	0.81	0.47	0.40	0.35	0.28	0.20
22L	131	130	1.09	0.63	0.55	0.47	0.38	0.27
30L	175	180	1.46	0.84	0.73	0.63	0.50	0.36
40L	236	240	1.96	1.13	0.98	0.85	0.68	0.49
50L	297	N/A	2.48	1.43	1.24	1.07	0.86	0.62
65L	384	N/A	3.20	1.85	1.60	1.39	1.11	0.80
75L	447	N/A	3.73	2.15	1.86	1.61	1.29	0.93
85L	520	N/A	4.34	2.50	2.17	1.88	1.50	0.93

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V, 277-480V or 347-480V +/- 10%.

\*\* Available with UL voltage only.

OSQ-C Series Ambient Adjusted Lumen Maintenance <sup>1</sup>						
Ambient	Initial LMF	25K hr Reported <sup>2</sup> LMF	50K hr Reported <sup>2</sup> LMF	75K hr Reported <sup>2</sup> LMF	100K hr Reported <sup>2</sup> LMF	
5°C (41°F)	1.02	0.99	0.93	0.88	0.83	
10°C (50°F)	1.02	0.98	0.93	0.87	0.82	
15°C (59°F)	1.01	0.98	0.92	0.87	0.82	
20°C (68°F)	1.01	0.97	0.92	0.86	0.81	
25°C (77°F)	1.00	0.97	0.91	0.86	0.81	

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions.

<sup>2</sup> In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

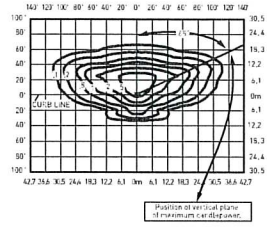
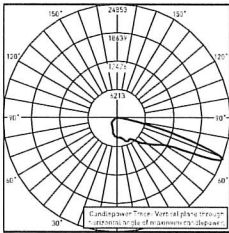
**Accessories**

Field-Installed	
<b>External Backlight Shield</b> OSQ-M-C-BLSF (Medium) OSQ-L-C-BLSF (Large) OSQ-X-C-BLSF (Extra Large) - Not for use with rotated optics - Provides 1 mounting height backlight cutoff - 18 ga. steel construction w/black finish <b>Bird Spikes</b> OSQ-M-C-BRDSPK (Medium) OSQ-L-C-BRDSPK (Large) OSQ-X-C-BRDSPK (Extra Large) - Includes bird spikes (three rows for M/L; four rows for X) and screws to attach to housing	<b>Shorting Cap</b> XA-XLSLHRT <b>Hand-Held Remote</b> XA-SENSREM - Required only for changing sensitivity or time delay with the NS or NS2 options, a minimum of one hand-held remote is required

**Photometry**

All published luminaire photometric testing performed to IES LM-79 standards. To obtain an IES file specific to your project consult: <https://creelighting.com/products/outdoor/area/osq-series>

**2M W/OSQ-\*\*-C-BLSF**



RESTL Test Report#: PL17978-001B  
OSQ-L-C-40L-30K7-2M-UL-xx-xx-xx w/  
OSQ-L-C-BLSF  
Initial Delivered Lumens: 21,978

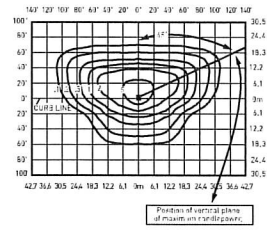
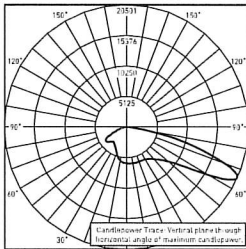
OSQ-L-C-40L-30K7-2M-UL w/OSQ-L-C-BLSF  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 21,000  
Initial FC at grade

**Type II Mid Distribution w/OSQ-\*\*-C-BLSF (field-installed)**

Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20
4L	2,100	B0 U0 G1	2,180	B0 U0 G1	1,610	B0 U0 G1	2,180	B0 U0 G1
6L	3,140	B1 U0 G1	3,270	B1 U0 G1	2,420	B1 U0 G1	3,270	B1 U0 G1
9L	4,720	B1 U0 G1	4,910	B1 U0 G1	3,630	B1 U0 G1	4,910	B1 U0 G1
11L	5,750	B1 U0 G1	6,000	B1 U0 G1	4,450	B1 U0 G1	6,000	B1 U0 G1
16L	8,400	B1 U0 G2	8,725	B1 U0 G2	6,475	B1 U0 G2	8,725	B1 U0 G2
22L	11,550	B2 U0 G2	12,000	B2 U0 G2	8,900	B1 U0 G2	12,000	B2 U0 G2
30L	15,700	B2 U0 G3	16,400	B2 U0 G3	12,100	B2 U0 G2	16,400	B2 U0 G3
40L	21,000	B3 U0 G3	21,800	B3 U0 G3	16,100	B2 U0 G3	21,800	B3 U0 G3
50L	26,200	B3 U0 G4	27,300	B3 U0 G4	20,200	B3 U0 G3	27,300	B3 U0 G4
65L	34,000	B3 U0 G4	35,500	B3 U0 G4	26,200	B3 U0 G4	35,500	B3 U0 G4
75L	39,300	B3 U0 G4	40,900	B3 U0 G4	30,300	B3 U0 G4	40,900	B3 U0 G4
85L	44,500	B3 U0 G5	46,400	B4 U0 G4	34,300	B3 U0 G5	46,400	B3 U0 G5

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

**3M**



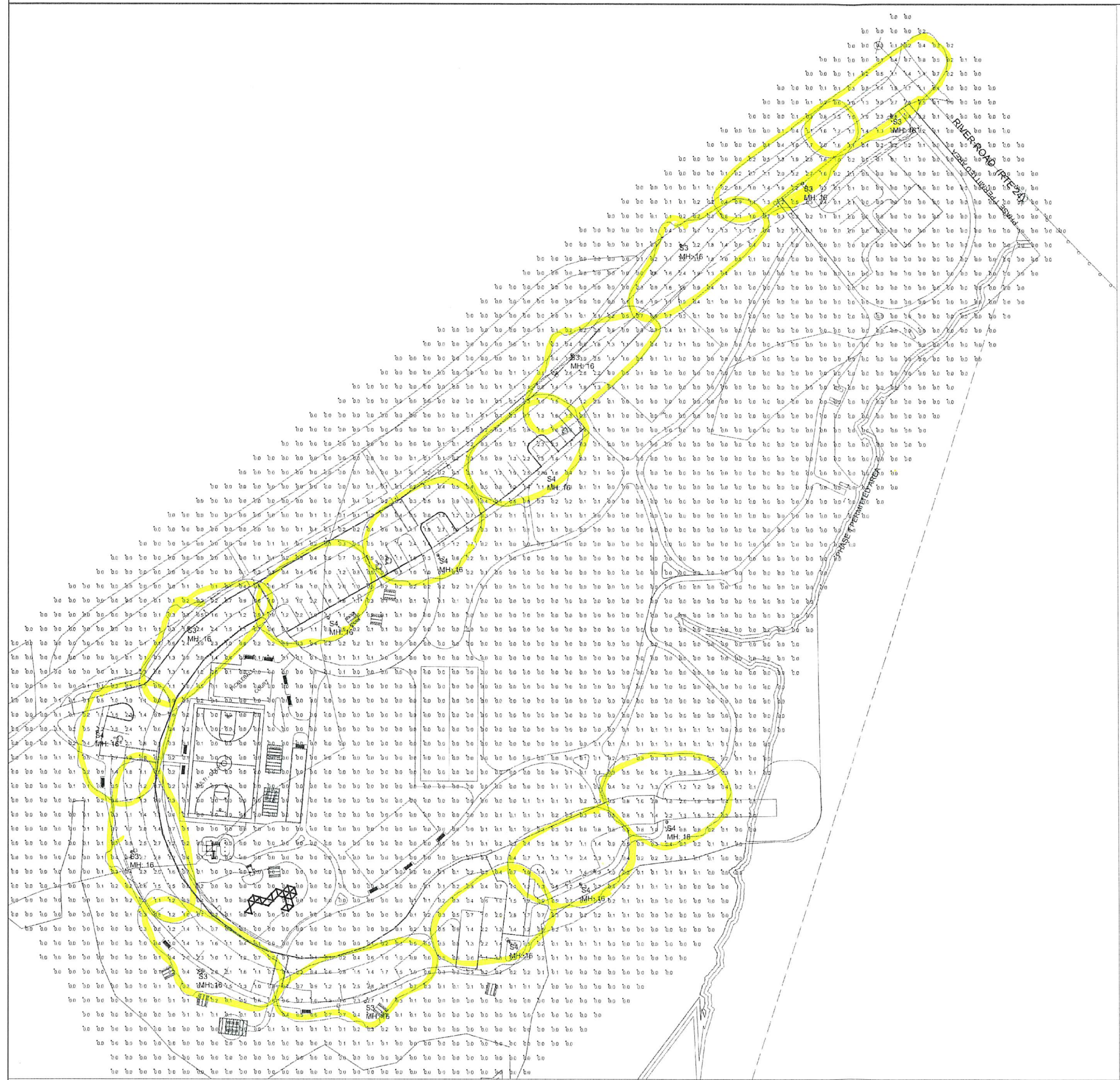
RESTL Test Report #: PL17882-001A  
Configured  
OSQ-L-C-xxL-30K7-3M-UL-xx-xx-xx  
Initial Delivered Lumens: 27,400

OSQ-L-C-30L-30K7-3M-UL  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 27,400  
Initial FC at grade

**Type III Mid Distribution**

Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20	Initial Delivered Lumens*	BUG Ratings** Per TM-15-20
4L	3,650	B1 U0 G1	3,800	B1 U0 G1	2,810	B1 U0 G1	3,800	B1 U0 G1
6L	5,475	B1 U0 G1	5,700	B1 U0 G1	4,220	B1 U0 G1	5,700	B1 U0 G1
9L	8,225	B2 U0 G2	8,550	B2 U0 G2	6,325	B1 U0 G1	8,550	B2 U0 G2
11L	10,025	B2 U0 G2	10,450	B2 U0 G2	7,750	B2 U0 G2	10,450	B2 U0 G2
16L	14,650	B3 U0 G3	15,200	B3 U0 G3	11,275	B2 U0 G2	15,200	B3 U0 G3
22L	20,100	B3 U0 G3	20,900	B3 U0 G3	15,500	B3 U0 G3	20,900	B3 U0 G3
30L	27,400	B3 U0 G4	28,500	B3 U0 G4	21,100	B3 U0 G3	28,500	B3 U0 G4
40L	36,500	B4 U0 G4	38,000	B4 U0 G4	28,100	B3 U0 G4	38,000	B4 U0 G4
50L	45,600	B4 U0 G5	47,500	B4 U0 G5	35,200	B3 U0 G4	47,500	B4 U0 G5
65L	59,300	B4 U0 G5	61,800	B4 U0 G5	45,700	B4 U0 G5	61,800	B4 U0 G5
75L	68,400	B4 U0 G5	71,300	B5 U0 G5	52,800	B4 U0 G5	71,300	B5 U0 G5
85L	77,600	B5 U0 G5	80,800	B5 U0 G5	59,800	B4 U0 G5	80,800	B5 U0 G5

\* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



- NOTES:
- 1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
  - 2) CALCULATIONS MAY OR MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
  - 3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
  - 4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
  - 5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
  - 6) THIS LAYOUT DRAWINGS MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
  - 7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

Calculation Summary					
Label	Avg	Max	Min	Avg/Min	Max/Min
SITE	0.24	4.3	0.0	N.A.	N.A.

Luminaire Schedule (note fixture catalogue numbers are not complete)					
Type	Qty	Lum. Lumens	LLF	Lum. Watts	Description
S4	7	5703	0.900	57	URB-XXXX-21-24L-55-3K7-4W-U
S3	8	5744	0.900	57	URB-XXXX-21-24L-55-3K7-3-U

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

Prepared For:  
 Applicant:  
**TOWN OF BOWDOINHAM**  
 8 RIVER ROAD  
 Bowdoinham, Maine 04074  
 Tel. (207) 666-5631

Prepared By:  
**MITCHELL & ASSOCIATES**  
 Landscape Architects  
 The Staples School, 70 Center Street  
 Portland, Maine 04101  
 Tel: (207) 774-4427

**ACORN ENGINEERING INC.**  
 PO BOX 3372, Portland, Maine 04104  
 Tel: (207) 775-2655

**Site Plan Phase II**  
**Redevelopment of Waterfront Property**  
 8 River Road Bowdoinham, Maine

Date:  
 APRIL 12, 2021


Issued For:  
 PERMIT LEVEL

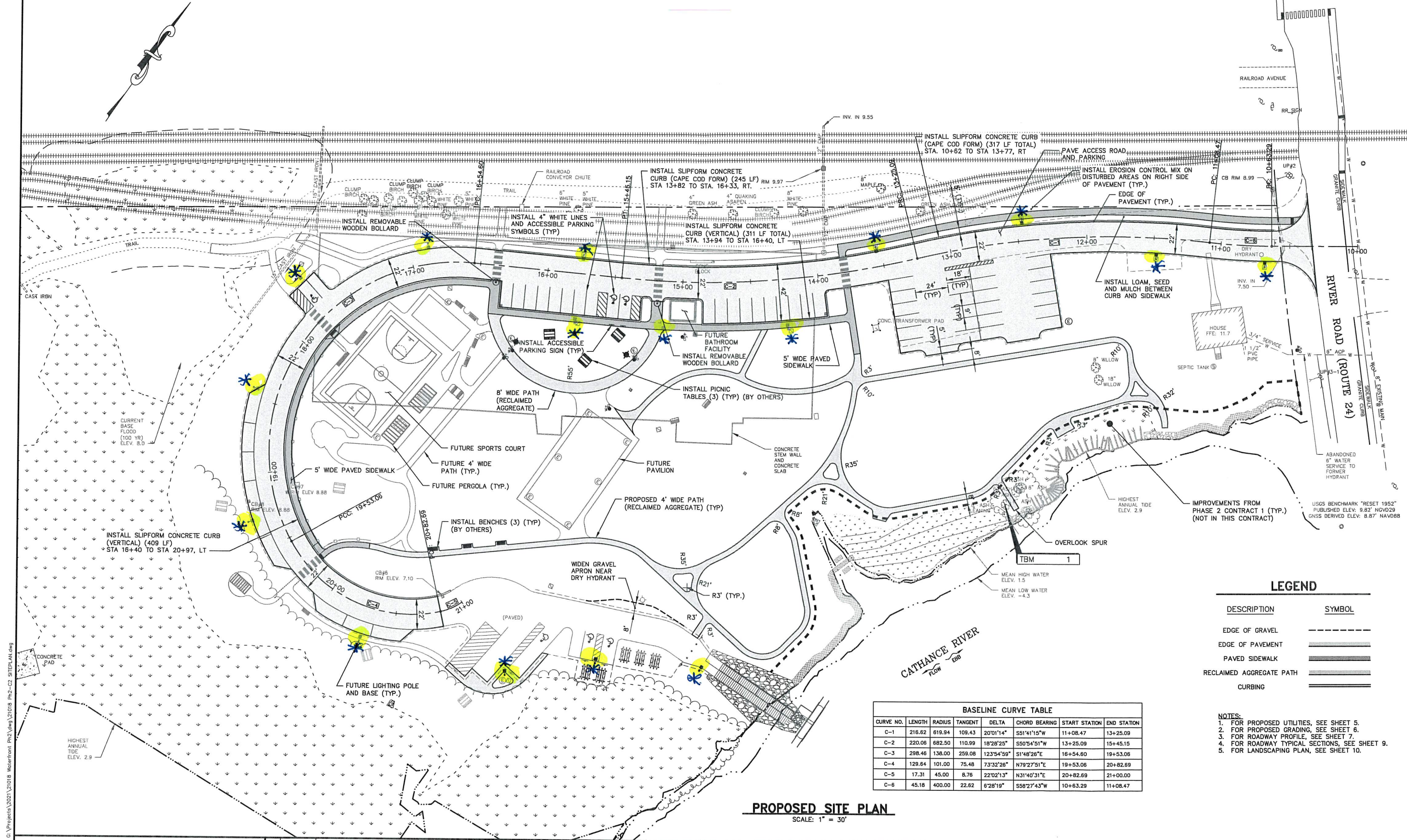
Revisions:  
 ▲ REVISION 1 05.27.21

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Title:  
 PHOTOMETRIC PLAN

Scale: AS NOTED

North:  Sheet No.: **L7**



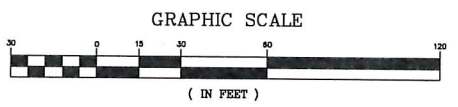
**PROPOSED SITE PLAN**  
SCALE: 1" = 30'

BASELINE CURVE TABLE							
CURVE NO.	LENGTH	RADIUS	TANGENT	DELTA	CHORD BEARING	START STATION	END STATION
C-1	216.62	619.94	109.43	20°01'14"	S51°41'15"W	11+08.47	13+25.09
C-2	220.06	682.50	110.99	18°28'25"	S50°54'51"W	13+25.09	15+45.15
C-3	298.46	138.00	259.08	123°54'59"	S1°48'26"E	16+54.60	19+53.06
C-4	129.64	101.00	75.48	7°33'26"	N79°27'51"E	19+53.06	20+82.69
C-5	17.31	45.00	8.76	22°02'13"	N31°40'31"E	20+82.69	21+00.00
C-6	45.18	400.00	22.62	6°28'19"	S56°27'43"W	10+63.29	11+08.47

LEGEND	
DESCRIPTION	SYMBOL
EDGE OF GRAVEL	--- ---
EDGE OF PAVEMENT	====
PAVED SIDEWALK	=====
RECLAIMED AGGREGATE PATH	=====
CURBING	=====

- NOTES:**
1. FOR PROPOSED UTILITIES, SEE SHEET 5.
  2. FOR PROPOSED GRADING, SEE SHEET 6.
  3. FOR ROADWAY PROFILE, SEE SHEET 7.
  4. FOR ROADWAY TYPICAL SECTIONS, SEE SHEET 9.
  5. FOR LANDSCAPING PLAN, SEE SHEET 10.

G:\Projects\2021\21018 Waterfront\_Ph2\Fig\21018\_Ph2-C2\_SITEPLAN.dwg 03/13/25 3:59pm



REV	DATE	STATUS	BY	CHKD	APPD
1	5/13/2025	ACCESS RD LOCATION, PARKING, LIGHTS	JET	RLP	RLP
0	8/1/2024	ISSUED FOR BIDDING	JET	JRP	RLP

DESIGNED BY: JRP/RLP  
DRAWN BY: JET  
CHECKED BY: JRP  
APPROVED BY: RLP  
DATE: 8/1/2024

**Pine Tree Engineering**  
53 Front Street  
Bath, Maine 04530  
Tel: (207) 443-1508  
Fax: (207) 442-7029  
Civil/Environmental Engineering • Surveying

CLIENT  
**TOWN OF BOWDOINHAM**  
13 SCHOOL STREET  
BOWDOINHAM, MAINE 04008

PROJECT  
**WATERFRONT PARK IMPROVEMENTS  
PHASE 2 - CONTRACT NO. 2  
SITE IMPROVEMENTS**

TITLE  
**PROPOSED SITE PLAN**

SCALE AS SHOWN  
PROJECT NO. 21018  
DRAWING NO. 21018 Ph2-C2 SITEPLAN  
SHT. 4 of 11 REV. 1

Town Meeting 2027



# 132nd MAINE LEGISLATURE

## FIRST SPECIAL SESSION-2025

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Legislative Document

No. 1934

H.P. 1295

House of Representatives, May 6, 2025

### An Act to Promote Responsible Outdoor Lighting

---

Reference to the Committee on State and Local Government suggested and ordered printed.

*Robert B. Hunt*

ROBERT B. HUNT  
Clerk

Presented by Representative OSHER of Orono.  
Cosponsored by Senator GUERIN of Penobscot and  
Representatives: CAMPBELL of Orrington, JULIA of Waterville, RIELLY of Westbrook,  
WOODSOME of Waterboro, Senators: BALDACCI of Penobscot, BENNETT of Oxford,  
GROHOSKI of Hancock, TIPPING of Penobscot.

1 Be it enacted by the People of the State of Maine as follows:

2 Sec. 1. 5 MRSA c. 21 is enacted to read:

3 CHAPTER 21

4 RESPONSIBLE OUTDOOR LIGHTING

5 §481. Responsible outdoor lighting

6 1. Definitions. As used in this chapter, unless the context otherwise indicates, the  
7 following terms have the following meanings:

8 A. "ANSI/IES lighting standard" means a standard developed by the Illuminating  
9 Engineering Society and adopted by the American National Standards Institute or  
10 successor organizations to describe adequate outdoor lighting that does not  
11 unnecessarily brighten the night sky when used for particular purposes or in particular  
12 settings, including, but not limited to, the following standards:

13 (1) RP-6: outdoor sports and recreational areas;

14 (2) RP-7: outdoor industrial areas;

15 (3) RP-8: roadway and parking facilities;

16 (4) RP-40: port terminals; and

17 (5) RP-43: outdoor pedestrian areas.

18 B. "Correlated color temperature" means the measured color appearance of light  
19 emitted by a light source, described using a nominal value stated in kelvins.

20 C. "Fully shielded luminaire" means a luminaire that is shielded in such a manner that  
21 no light is emitted, either directly or indirectly, at or above a horizontal plane running  
22 through the lowest light-emitting part of the luminaire.

23 D. "Light level" means the maintained luminance or illuminance value.

24 E. "Light trespass" means artificial lighting illuminating across property lines at night  
25 without permission. Unless specified otherwise, light trespass limits are measured at  
26 any location along a property line both horizontally at the ground plane facing upward  
27 and vertically at 1.5 meters above the ground plane with the light meter aimed toward  
28 the light source in question.

29 F. "Lumen" means a unit of measure of the luminous flux of a light source.

30 G. "Luminaire" means a complete lighting unit, including the light source, housing,  
31 optics, electronics and other necessary components for the purpose of providing  
32 illumination.

33 H. "Lux" means the metric system unit of measure for illuminance, the total luminous  
34 flux incident at a point on a surface.

35 I. "Nadir" means a downward vertical vector directly beneath a luminaire, opposite to  
36 zenith.

- 1 J. "Nighttime hours" means the time between 10:00 p.m. and sunrise or 7:00 a.m.,  
2 whichever comes earlier, except that for facilities, offices, activities and events with  
3 operating hours later than 10:00 p.m., nighttime hours begin one hour after the end of  
4 the operating hours.
- 5 K. "Nonessential lighting" means public outdoor lighting that does not improve the  
6 physical safety of motor vehicles or pedestrians, including, but not limited to,  
7 landscape lighting, illuminated signage or advertising during nighttime hours, facade  
8 lighting, vacant sports field lighting, decorative lighting and seasonal lighting.
- 9 L. "Outdoor sports lighting" means public outdoor lighting for illumination of sporting  
10 events or activities, including, but not limited to, downhill skiing areas, playing fields  
11 for team sports and similar outdoor recreational facilities.
- 12 M. "Public entity" means an agency as defined in section 43 and any political  
13 subdivision or public instrumentality of the State.
- 14 N. "Public improvement" means any improvement or replacement of facilities or  
15 equipment undertaken by, on behalf of or pursuant to a contract or grant agreement  
16 with a public entity.
- 17 O. "Public outdoor lighting" means any public improvement that includes the  
18 installation or replacement of luminaires for the purpose of providing outdoor  
19 illumination.
- 20 P. "Seasonal lighting" means public outdoor lighting that is portable, temporary,  
21 decorative and used in connection with festivals, celebrations, holidays and traditions.  
22 "Seasonal lighting" includes, but is not limited to, string lighting, icicle lighting and  
23 lighted inflatables, none of which are intended for general illumination.
- 24 2. Requirements. Beginning October 1, 2026, public outdoor lighting that is installed  
25 or replaced must comply with the requirements of this subsection as follows:
- 26 A. Public outdoor lighting, with the exception of outdoor sports lighting, may not  
27 exceed 125% of the light level recommended by the applicable ANSI/IES lighting  
28 standard or a more stringent standard specified by rule adopted pursuant to subsection  
29 4 or an ordinance authorized by subsection 5;
- 30 B. Light trespass to a federally designated or state-designated wilderness, natural area,  
31 habitat or reserve may not measure greater than 0.1 lux;
- 32 C. Luminaires emitting more than 1,000 lumens must be fully shielded luminaires and  
33 may not emit more than 5% of their total lumen output above 80 degrees from the  
34 luminaries' nadir;
- 35 D. Nonessential lighting must be extinguished during nighttime hours;
- 36 E. The maximum allowable correlated color temperature of outdoor luminaires is 3,000  
37 kelvins, except for outdoor sports lighting; and
- 38 F. Outdoor sports lighting must meet the following standards in addition to the  
39 standards in paragraphs B to D:
- 40 (1) Eighty-five percent of the lumens generated must be confined to within 10  
41 meters of the playing field or the spectator track or bleacher area, whichever is  
42 greater;

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(2) Lighting applications for sports in which the height of a ball in play would, in the normal course of playing the sport, exceed the height of the sports lighting poles must have a maximum of 8% of their total lumen output above 80 degrees from the lighting's nadir;

(3) Luminaires must use the lowest possible correlated color temperature necessary for the sport, class of play and viewing audience, except that the correlated color temperature may not exceed 5,700 kelvins; and

(4) Outdoor sports lighting must comply with paragraphs A and E except during the seasons and times of day when the activities for which the lighting is designed are taking place or maintenance to support those activities is being conducted.

**3. Exemptions.** This chapter does not apply to public outdoor lighting to the extent that:

A. Regulations or orders of the United States Department of Transportation, Federal Aviation Administration require lighting that exceeds or otherwise fails to comply with the standards in subsection 2;

B. Rules adopted pursuant to subsection 4 by the Department of Public Safety require lighting necessary to protect public safety or security that does not comply with the requirements of subsection 2;

C. Law enforcement officers and authorized first responders use public outdoor lighting during emergency procedures that does not comply with subsection 2;

D. Rules adopted pursuant to subsection 4 by the Department of Transportation permit temporary lighting to ensure safety and efficiency in completion of road construction and repair, as long as such lighting deviates from the standards in subsection 2 to the minimum extent necessary;

E. Luminaires replicating historical character and lighting effect are protected pursuant to a law governing historical registration; and

F. Seasonal lighting complies with subsection 2, paragraphs B and D.

**4. Rulemaking.** The Department of Administrative and Financial Services may adopt rules governing the implementation of this chapter. The Department of Public Safety may adopt rules establishing exemptions as described in subsection 3, paragraph B. The Department of Transportation may adopt rules governing temporary lighting necessary to ensure safety and efficiency in completion of road construction and repair as described in subsection 3, paragraph D. Any department proposing rules that affect municipalities shall confer with the Maine Office of Community Affairs before proposing those rules. All rules adopted pursuant to this subsection are major substantive rules as defined in chapter 375, subchapter 2-A.

**Sec. 2. Local ordinances required.** By December 31, 2028, each municipality in the State is required to adopt a local ordinance to promote compliance with this chapter and to extend its standards as appropriate beyond public improvements governed by this chapter. No later than September 30, 2026, the Maine Office of Community Affairs shall develop and share with municipalities a model ordinance for these purposes.

This section may not be construed to prohibit a municipality from adopting lighting ordinances stricter than those adopted by the State pursuant to this chapter.

