MCKENZIE
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Professional Civil Engineering • Professional Land Surveying • Land Planning

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April 24, 2023

Pembroke Planning Board
Town Hall
100 Center Street
Pembroke, MA 02359

Attention: Matthew Heins, Planning Board Assistant

RE: Response to Merrill Engineers and Land Surveyors
Review Letter dated April 7, 2023
Site Plan Review
330 Old Oak Street
Pembroke, Massachusetts
Assessors Map G15-3
Applicant: 330 Old Oak Street, LLC

Dear Matthew and Board Members:

This letter is in response to questions and comments in a review from Deborah W. Keller, P.E. of Merrill Engineer and Land Surveyors ("Merrill"), dated April 7, 2023, for the above-referenced project.

Enclosed herewith are the following:

- Plan set entitled "Site Re-Development Plan (Assessor's Parcel G15-2), 330 Old Oak Street, Pembroke, Massachusetts", prepared by McKenzie Engineering Group, Inc., dated March 1, 2023, with a revision date of April 24, 2023.
- Post-Development Best Management Practice Operation and Maintenance Plan & Long-Term Pollution Prevention Plan, prepared by McKenzie Engineering Group, Inc., dated April 24, 2023.
- Photometric Plan of the proposed building, prepared by Holdbrook Associated, dated April 21, 2023.
- Architectural Floor Plan and Exterior Elevations, prepared by Dean Associates.
- Lighting Fixture Cut Sheets
- Aerial photos of Existing Lighting

- A signed illicit Compliant Statement

Responses by MEG correspond to the outline of the review letter and are in *red italics.* In response to specific items in the referenced review letter, we submit the following:

ZONING BYLAWS

Section IV. Use and Dimensional Regulations

D.D. . Landscaping: 40% of any required yard area shall be landscaped or left in a natural state. Along with any lot line abutting a residential use or district, there shall be planted a dense natural hedge greater than six ft in height.

Although the property is not directly abutting a residential use or zone, there is a residential dwelling located diagonally across the street at 343 Old Oak Street. Since the northern driveway is to be removed, is there an opportunity to provide some buffer screening along the frontage? Also, there is an existing 24" tree near the existing driveway to be removed, is this tree to remain?

The existing 24-inch tree is to remain. Landscaping consists of loam, seed, and low shrubs along the face of the building.

Section V. Special Provisions, Standards and Procedures

1. Signs: No new signage is proposed or shown on the site plans. The existing signage is to remain.

The existing sign will be replaced later with a sign permit.

7F. Procedure: The approved site plans shall be recorded with the Plymouth County Registry of Deeds within 30 days of the expiration of the appeal period. Proper recording information should be provided on the plans meeting recording requirements.

The plans have been revised to include the Registry Square and the plan conformance statement.

RULES AND REGULATIONS GOVERNING SITE PLAN APPROVAL

Summary of Requested Waivers

The following waivers have been requested:

- 4.7 Landscape Plan
- 4.21 Photometric Plan
- 4.22 Traffic Impact Study
- 5.1 Site Landscaping
- 5.2 Site Lighting.
- 5.3 Drainage

Additional recommended waiver:

- 4.15 / 6.0 Development Impact Statement

We recommend all waivers that are granted by the Planning Board be specified on the cover sheet of the approved Site Plans.

The cover sheet has been revised to include the requested waivers.

Section IV. Site Plan Content

4.5 The Planning Board signature block and approval statements can be provided on the Cover Sheet only. Please add the registry recording information on all sheets.

The Plans have been revised accordingly.

4.6 Information and location of the benchmark(s) used for this project have not been presented on the plans as required. This information should be added.

The benchmark has been added to the Existing Conditions Plan.

4.7 Although a waiver has been requested to not provide a Landscape Plan. We recommend further detail, or a Preliminary Landscape Plan be provided to better understand the landscape area being proposed around the building. The Planning Board should consider if they would like the plan stamped by the Landscape Architect.

Sheet C-3 has been revised to include a plant list and locations of the proposed plants.

4.11 There are 6 parking spaces to support the use. We recommend one (1) accessible parking space be provided. No overhead doors are proposed.

The Plans have been revised to provide one accessible parking space.

4.15 A waiver has been requested for the submittal of a Development Impact Statement. The Planning Board should determine if it is acceptable.

No Response is Required.

4.19 A Soil Erosion and Sediment Control Plan and details are provided.

The existing septic system shall be removed and replaced with a new septic system in the front yard. The new septic system will require approval from the Board of Health.

The new septic system will be designed and submitted to the Pembroke Board of Health for approval.

4.20 The existing site signage is to remain. No new signage is proposed.

The existing sign will be replaced later with a sign permit.

4.21 A waiver has been requested for the submittal of a Traffic Impact Study. The Planning Board should determine if it is acceptable.

The proposed storage unit will generate fewer daily trips than the existing two-family apartment.

Section V. Requirements

5.1 A landscape area is being provided around the proposed building as indicated on the Site Layout Plan, C-3. We recommend further landscaping details be provided.

Sheet C-3 has been revised to include a plant list and locations of the proposed plants.

5.2 The project proposes wall mount lighting. The Site Plan does not show the wall mount lighting locations. This should be added to the Site Plan.

Sheet C-3 and the Architectural Exterior Elevations Plan have been revised to include the proposed wall-mount lighting locations. Fixture cut sheets are attached.

5.3 A waiver has been requested for Stormwater Management Design Calculations, due to the limited increase in impervious area. We offer the following comments regarding the site drainage:

- The site is supported by an existing stormwater system consisting of a closed drainage system discharging to a detention basin along the northerly property line as shown on the plans. The proposed project indicates a small increase in impervious surface of approximately 390 s.f.
- We recommend consideration of a roof dry well system to capture some of the roof runoff from the proposed building that may not be directed to the existing drainage system.

  Three (3) Cultec C-100HD roof leaching drywells with a surcharge pipe and splash block have been added to recharge the roof runoff.

It is general practice to design sites to comply with Massachusetts DEP Stormwater Management Regulations. The following section describes the 10 Standards for compliance with Stormwater Management Regulations and the status of the submittal relative to each standard.

Standard 1 – Untreated Stormwater
No new untreated stormwater is proposed. The proposed driveway improvements will be directed towards the existing site drainage system.

No Response is Required.

Standard 2 – Post Development Peak Discharge Rates
It is represented that the minimal increase in impervious surface will not impact the post- runoff rates. We recommend that the applicant consider recharging roof runoff from the proposed building to eliminate any potential increase in runoff.

Three (3) Cultec C-100HD roof leaching drywells with a surcharge pipe and splash block have been added to recharge the roof runoff.

Standard 3 – Recharge to Groundwater
Incorporating a roof recharge system would meet the groundwater recharge requirement.

Three (3) Cultec C-100HD roof leaching drywells with a surcharge pipe and splash block have been added to recharge the roof runoff.

Standard 4 – 80% Total Suspended Solids (TSS) Removal
The site can be considered a redevelopment project and the existing drainage system must meet this standard to the extent practicable. The increase in roof runoff can be addressed through a roof dry well chamber.

Three (3) Cultec C-100HD roof leaching drywells with a surcharge pipe and splash block have been added to recharge the roof runoff.

Standard 5 – Higher Potential Pollutant Loads
This project is not considered a source of higher pollutant loads. This standard is not applicable.

No Response is Required.

Standard 6 – Protection of Critical Areas
Based on information presented on MassGIS and the Town of Pembroke GIS web page, the project site is not in a Critical Area.

No Response is Required.

Standard 7 – Redevelopment Projects
This project could be considered a redevelopment project.

No Response is Required.

Standard 8 – Erosion/Sediment Control
An Erosion Control Plan including details has been provided. This standard has been met.

No Response is Required.

Standard 9 – Operation and Maintenance Plan

Construction Phase Operations and Maintenance Plan
An Erosion Control Plan including details has been provided.

No Response is Required.

Long Term Operations and Maintenance Plan
We recommend an Operation and Maintenance Plan be provided and include the maintenance of the existing closed drainage system and detention basin.

A Long term Operations and Maintenace Plan is attached.

Standard 10 – Illicit Discharges
An "Illicit Discharge Compliance Statement" should be provided.

An Illicit Discharge Compliance Statement is attached.

Section VI. Development Impact Statement

A waiver has been requested for the submittal of a Development Impact Statement. The Planning Board should determine if it is acceptable.

No Response is Required.

We believe that the revisions to the plans and supporting documents, as noted above, adequately address the comments from Merrill.

Please contact me if you have any questions or require additional information.

Very truly yours,

MCKENZIE ENGINEERING GROUP, INC.

Susan B. Spratt, P.E.

Project Manager

cc: 330 Old Oak Street, LLC
Merrill

POST-DEVELOPMENT BEST MANAGEMENT PRACTICE
OPERATION AND MAINTENANCE PLAN & LONG-TERM POLLUTION PREVENTION PLAN

for

330 Old Oak Street

In

Pembroke, Massachusetts
(Assessor's parcel G15-3)

Submitted to:

TOWN OF PEMBROKE

Prepared for:

330 Old Oak Street, LLC
289 St. George Street
Duxbury, Massachusetts 02332

Prepared by:

MCKENZIE ENGINEERING GROUP

Professional Civil Engineering • Project Management • Land Planning
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April 24, 2023

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Post-Development Best Management Practice
Operation and Maintenance Plan &
Long-Term Pollution Prevention Plan

Post-Development Best Management Practices (BMPs) Operation and Maintenance Plan

Responsible Party/Property Owner/Developer contact information:
Property Owner: 330 Old Oak Street, LLC
289 St, George Street
Duxbury, MA 02332

Developer Contact Information:
330 Old Oak Street, LLC
289 St, George Street
Duxbury, MA 02332
Phone: (781) 934-7700

Best Management Practices (BMPs) of the Commonwealth of Massachusetts Department of Environmental Protection's (DEP's) Stormwater Management Policy (SMP) have been implemented and utilized for the project. The following information provided is to be used as a guideline for monitoring and maintaining the performance of the drainage facilities and to ensure that the quality of water runoff meets the standards set forth by the SMP. The structural Best Management Practices (BMPs) shall be inspected during rainfall conditions during the first year of operation to verify functionality.

BMPs included in the design consist of the use of:

- Paved areas maintenance
- Deep sump catch basins with hooded outlets
- Storm Drain Piping
- Subsurface roof infiltration chambers
- Outlet protection
- Detention basin
- Snow removal

Maintenance:

1. **Paved Areas** –Sweepers shall sweep paved areas periodically during dry weather to remove excess sediments and to reduce the amount of sediments that the drainage system shall have to remove from the runoff. The sweeping shall be conducted primarily between March 15th and November 15th. Special attention should be made to sweeping paved surfaces in March and April before spring rains wash residual sand into the drainage system.

   The frequency of sweeping shall average:

   - Monthly if by a high-efficiency vacuum sweeper
   - Bi-weekly if by a regenerative air sweeper

- Weekly if by a mechanical sweeper

Salt used for de-icing on the parking lot during winter months shall be limited as much as possible as this will reduce the need for removal and treatment. Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling may be applied as part of the routine winter maintenance activities.

Cost: The property owner should consult local sweeping contractors for detailed cost estimates.

2. **Catch Basins -** Catch basin grates shall be checked quarterly and following heavy rainfalls to verify that the inlet openings are not clogged by debris. Debris shall be removed from the grates and disposed of properly. Deep sump catch basins shall be inspected and cleaned bi-annually of all accumulated sediments. Catch basins with hoods shall be inspected annually to check for oil build-up and outlet obstructions. Material shall be removed from catch basins and disposed of in accordance with all applicable regulations.

   Cost: Estimated $50 - $100 per cleaning as needed. The property owner should consult local vacuum cleaning contractors for detailed cost estimates.

3. **Storm Drain Piping** – Storm drain piping shall be inspected, cleaned and repaired as required. Debris shall be removed by jet cleaning the pipes as warranted by inspection and disposed of properly. Material shall be disposed of in accordance with all applicable local, state, and federal regulations.

   Cost: Estimated $50 - $100 per cleaning as needed. The property owner should consult local vacuum cleaning contractors for detailed cost estimates.

4. **Subsurface Roof Infiltration Chamber System (new 4,000 SF building only)** – Proper maintenance of the subsurface roof infiltration system is essential to the long-term effectiveness of the infiltration function. The subsurface infiltration system shall have inspection ports and additional inspections should be scheduled during the first few months to ensure proper stabilization and function. Thereafter, they shall be checked semiannually and following heavy rainfalls, defined as a 1-year storm event exceeding 2.5 inches of rainfall within a twenty-four-hour period. Water levels in the chambers shall be checked to verify proper drainage. Ponding water in a chamber indicates failure from the bottom. If water remains within the chambers after 48-hours following a storm event, steps to restore the infiltration function shall be taken, as directed by a qualified stormwater management professional. To rectify the problem, accumulated sediment must be removed from the bottom of the chamber. The stone aggregate and filter fabric must be removed and replaced, and the underlying soil layer must be scarified to encourage proper infiltration. Material removed from the system shall be disposed of in accordance with all applicable local, state, and federal regulations.

   Cost: The property owner should consult local landscape contractors for a detailed cost estimate.

5. **Outlet Protection** - All outfall protection structures shall be inspected quarterly and following major storm events defined as a storm event exceeding one inch of rainfall within a twenty-four-hour period to check for signs of erosion. Any necessary repairs shall be performed promptly and cleaned to remove accumulated sediment as necessary. Material removed shall be disposed of in accordance with all applicable local, state, and federal regulations.

6. **Detention Basin -** The detention basin and inlet shall be checked for debris accumulation twice per year. Trash, leaves, branches, etc. shall be removed from the facility. Silt, sand and sediment, if significant accumulation occurs, shall be removed by rubber-tired excavator annually. Material removed from the basin shall be disposed of in accordance with all applicable local, state, and federal regulations. The detention basin shall be kept free of woody vegetation by mowing at least twice per year. Reseeding, weed control, and invasive species removal may need to be performed periodically to maintain healthy vegetation and maintain the pollutant removal efficiency of the facilities. In the case that water remains for greater than 24 hours after a storm event, an inspection is warranted and necessary maintenance or repairs to the outlet control structure or bottom of the basin may be necessary. Any slope erosion within the facility shall be stabilized and repaired as soon as practical.

   Cost: $500-$1000 per cleaning if excavator is necessary to remove sediment. The Owner should consult local landscape contractors for a detailed cost estimate.

7. **Pesticides, Herbicides, and Fertilizers -** Pesticides and herbicides shall be used sparingly. Fertilizers should be restricted to the use of organic fertilizers only.

   All structural BMP's as identified on the site plans will be owned and maintained by the homeowner's association of the development and shall run with the title of the property.

   Cost: Included in the routine landscaping maintenance schedule. The Owner should consult local landscaping contractors for details.

8. **Snow Removal -** Snow accumulations removed from driveway and parking areas should be placed in upland areas only, where sand and other debris will remain after snowmelt for later removal. Excess snow should be removed from the site and properly disposed of in an approved snow disposal facility. Care must be exercised not to deposit snow in the following areas: in the rain gardens, bioswales, and where sand and debris can get into the watercourse.

   Cost: The owner should consult local snow removal contractors for a detailed cost estimate.

Maintenance Responsibilities: (new 4,000 SF building only)

All post construction maintenance activities will be documented and kept on file in the form of an Evaluation Checklist, see attached form.

All structural BMPs as identified on the site plans will be owned and maintained by the developer or property owner. All post construction maintenance activities shall run with the title of the property.

Long-Term Pollution Prevention Plan

Good Housekeeping:

To develop and implement an operation and maintenance program with the goal of preventing or reducing pollutant runoff by keeping potential pollutants from coming into contact with stormwater or being transported off site without treatment, the following efforts will be made:

- Property Management awareness and training on how to incorporate pollution prevention techniques into maintenance operations.
- Follow appropriate best management practices (BMPs) by proper maintenance and inspection procedures.

Storage and Disposal of Household Waste and Toxics:

This management measure involves educating the general public on the management considerations for hazardous materials. Failure to properly store hazardous materials dramatically increases the probability that they will end up in local waterways. Many people have hazardous chemicals stored throughout their homes, especially in garages and storage sheds. Practices such as covering hazardous materials or even storing them properly, can have dramatic impacts. Property owners are encouraged to support the household hazardous product collection events sponsored by the Town of Pembroke.

MADEP has prepared several materials for homeowners on how to properly use and dispose of household hazardous materials:

http://www.mass.gov/dep/recycle/reduce/househol.htm

For consumer questions on household hazardous waste call the following number:

DEP Household Hazardous Waste Hotline 800-343-3420

The following is a list of management considerations for hazardous materials as outlined by the EPA:

- Ensuring sufficient aisle space to provide access for inspections and to improve the ease of material transport;
- Storing materials well away from high-traffic areas to reduce the likelihood of accidents that might cause spills or damage to drums, bags, or containers.
- Stacking containers in accordance with the manufacturers' directions to avoid damaging the container or the product itself;
- Storing containers on pallets or equivalent structures. This facilitates inspection for leaks and prevents the containers from coming into contact with wet floors, which can cause corrosion. This consideration also reduces the incidence of damage by pests.

The following is a list of commonly used hazardous materials used in the household:

Batteries – automotive and rechargeable
.....nickel cadmium batteries
.....(no alkaline batteries)
Gasoline
Oil-based paints
Fluorescent light bulbs and lamps
Pool chemicals
Propane tanks
Lawn chemicals,
fertilizers and weed killers
Disinfectant
Drain clog dissolvers
Driveway sealer
Flea dips, sprays and collars
Houseplant insecticides
Metal polishes
Mothballs
Motor oil and filters
Muriatic acid (concrete cleaner)
Nail polishes and nail polish

Turpentine
Bug sprays
Antifreeze
Paint thinners, strippers, varnishes and stains
Arts and crafts chemicals
Charcoal lighter fluid
removers
Oven cleaner
Household pest and rat poisons
Rug and upholstery cleaners
Shoe polish
Windshield wiper fluid

Vehicle Washing:

This management measure involves educating the general public on the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor car washing has the potential to result in high loads of nutrients, metals, and hydrocarbons during dry weather conditions in many watersheds, as the detergent-rich water used to wash the grime off our cars flows down the street and into the storm drain. The following management practices will be encouraged:

- Washing cars on gravel, grass, or other permeable surfaces.
- Blocking off the storm drain during car washing and redirecting wash water onto grass or landscaping to provide filtration.
- Using hoses with nozzles that automatically turn off when left unattended.
- Using only biodegradable soaps.
- Minimize the amounts of soap and water used. Wash cars less frequently.
- Promote use of commercial car wash services.

Landscape Maintenance:

This management measure seeks to control the storm water impacts of landscaping and lawn care practices through education and outreach on methods that reduce nutrient loadings and the amount of storm water runoff generated from lawns. Nutrient loads generated by fertilizer use on suburban lawns can be significant, and recent research has shown that lawns produce more surface runoff than previously thought.

Using proper landscaping techniques can effectively increase the value of a property while benefiting the environment. These practices can benefit the environment by reducing water use; decreasing energy use (because less water pumping and treatment is required); minimizing runoff of storm and irrigation water that transports soils, fertilizers, and pesticides; and creating additional habitat for plants and wildlife. The following lawn and landscaping management practices will be encouraged:

- Mow lawns at the highest recommended height.
- Minimize lawn size and maintain existing native vegetation.
- Raise public awareness for promoting water efficient maintenance practices by informing users of water efficient irrigation techniques and other innovative approaches to water conservation.

- Abide by water restrictions and other conservation measures implemented by the Town of Pembroke.
- Water only when necessary.

Integrated Pest Management (IPM):

This management measure seeks to limit the adverse impacts of insecticides and herbicides by providing information on alternative pest control techniques other than chemicals or explaining how to determine the correct dosages needed to manage pests.

The presence of pesticides in stormwater runoff has a direct impact on the health of aquatic organisms and can present a threat to humans through contamination of drinking water supplies. The pesticides of greatest concern are insecticides, such as diazinon and chloropyrifos, which even at very low levels can be harmful to aquatic life. The major source of pesticides to urban steams is home application of products designed to kill insects and weeds in the lawn and garden. The following IPM practices will be encouraged:

- Lawn care and landscaping management programs including appropriate pesticide use management as part of program.
- Raise public awareness by referring homeowners to "A Homeowner's Guide to Environmentally Sound Lawncare, Maintaining a Healthy Lawn the IPM Way", Massachusetts Department of Food and Agriculture, Pesticide Bureau or link **http://www.mass.gov/dep/water/resources/nonpoint.htm#megaman>**

Pet Waste Management:

Pet waste management involves using a combination of pet waste collection programs, pet awareness and education, to alert residents to the proper disposal techniques for pet droppings. The following management practices will be encouraged:

- Raise awareness of homeowners that are also pet owners that they are encouraged to pick up after their pets and dispose of the waste either in the trash, including on their own lawns and walking trails.
- Provide signage along walking trails.

Proper Management of Deicing Chemicals and Snow:

Roadways shall be maintained by the Developer/Property Owners. The following deicing chemicals and snow storage practices will be encouraged:

- Select effective snow disposal sites adjacent to or on pervious surfaces in upland areas away from water resources and wells. At these locations, the snow meltwater can filter in to the soil, leaving behind sand and debris, which can be removed in the springtime.
- No roadway deicing materials shall be stockpiled on site unless all storage areas are protected from exposure to rain, snow, snowmelt and runoff.
- Avoid dumping snow into any waterbody, including wetlands, cranberry bogs, detention/infiltration basins, and grassed swales/channels.
- Avoid disposing of snow on top of storm drain catch basins.

Project Location: 330 Old Oak Street Assessor's parcel G15-3, Pembroke, MA

Stormwater Management – Post Construction Phase

Best Management Practices – Inspection Schedule and Evaluation Checklist

Long Term Practices

Best Management Practice	Inspection Frequency (1)	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check (1)	Cleaning/Repair Needed: ☐yes ☐no (List Items)	Date of Cleaning/ Repair	Performed by
Street Sweeping Maintenance	4-times annually - specifically in Spring and Fall			1. Sediment build-up 2. Trash and debris 3. Minor Spills (vehicular)			
Deep Sump and Hooded Catch basin	After heavy rainfall events (minimum quarterly)			1. Sediment level exceeds 8" 2. Trash and debris 3. Floatable oils or hydrocarbons 4. Grate or outlet blockages			
Subsurface Infiltration Chambers	After heavy rainfall events (minimum semi-annually)			1. Sediment build-up 2. Standing Water greater than 48 hours			
Outlet Protection	Quarterly			1. Sediment build-up 2. Trash and debris 3. Displacement of rip rap 4. Excess vegetation			
Detention Basin	After heavy rainfall events (once per year) Mowing (twice per year) Trash & debris (twice per year) Remove sediment from the basin (as necessary & once every 10 years)			1. Sediment build-up 2. Trash and debris 3. Mowing 4. Outlet blockages			

(1) Refer to the Massachusetts Stormwater Management, Volume Two: Stormwater Technical Handbook (February 2008) for recommendations regarding frequency for inspection and maintenance of specific BMP's.

Notes (Include deviations from: Con Com Order of Conditions, PB Approval, Construction Sequence and Approved Plan):

1.

Stormwater Control Manager _____ Stamp:

Spill Containment and Management Plan

Initial Notification

In the event of a spill, the facility manager will be notified immediately.

Facility Managers (name) _____

_____

Facility Manager (phone) _____

Assessment - Initial Containment

The supervisor will assess the incident and initiate containment control measures with the appropriate spill containment equipment included in the spill kit kept on-site. The supervisor will first contact the Fire Department and then notify the Police Department, Department of Public Works, Board of Health and Conservation Commission. The fire department is ultimately responsible for matters of public health and safety and should be notified immediately.

Contact:	Phone Number:
Fire Department:	911
Police Department:	911
Department of Public Works:	(781) 293 5620
Board of Health Phone:	(781) 293 2718
Conservation Commission Phone:	(781) 293 4674

Further Notification

Based on the assessment from the Fire Chief, additional notification to a cleanup contractor may be made. The Massachusetts Department of Environmental Protection (DEP) and the EPA may be notified depending upon the nature and severity of the spill. The Fire Chief will be responsible for determining the level of cleanup and notification required. The attached list of emergency phone numbers shall be posted in the facility office and readily accessible to all employees.

HAZARDOUS WASTE / OIL SPILL REPORT

Date____/_____/_____ Time_____ AM / PM

Exact location (Transformer #)_____

Type of equipment_____Make_____Size_____

S / N_____Weather Conditions_____

On or near water ☐ Yes If yes, name of body of water_____
☐ No

Type of chemical / oil spilled_____

Amount of chemical / oil spilled_____

Cause of spill_____

_____

_____

Measures taken to contain or clean up spill_____

_____

_____

Amount of chemical / oil recovered_____Method_____

Material collected as a result of clean up

_____drums containing_____

_____drums containing_____

_____drums containing_____

Location and method of debris disposal_____

_____

Name and address of any person, firm, or corporation suffering damages_____

_____

Procedures, method, and precautions instituted to prevent a similar occurrence from recurring____

_____

Spill reported to General Office by_____Time_____AM / PM

Spill reported to DEP / National Response Center by_____

DEP Date____/_____/_____ Time_____ AM / PM Inspector_____

NRC Date____/_____/_____ Time_____ AM / PM Inspector_____

Additional comments_____

_____

_____

EMERGENCY RESPONSE EQUIPMENT
INVENTORY

The following equipment and materials shall be maintained at all times and stored in a secure area for long-term emergency response need.

--	SORBENT PADS	1 BALE
--	SAND BAGS (empty)	5
--	SPEEDI-DRI ABSORBENT	1 – 40LB BAGS
--	SQUARE END SHOVELS	1
--	PRY BAR	1

EMERGENCY NOTIFICATION PHONE NUMBERS

1. FACILITY MANAGER
   NAME: _____ BEEPER: _____
   PHONE: _____ CELL PHONE: _____

   ALTERNATE:
   NAME: _____ BEEPER: N/A _____
   PHONE: _____ CEL PHONE: _____

2. FIRE DEPARTMENT
   EMERGENCY: 911
   BUSINESS: (781) 293 2300

   POLICE DEPARTMENT
   EMERGENCY: 911
   BUSINESS: (781) 293 6363

   DEPARTMENT OF PUBLIC WORKS
   BUSINESS: (781) 293 5620

3. MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
   EMERGENCY: (617) 556-1133
   SOUTHEAST REGION - LAKEVILLE OFFICE: (508) 946-2700

4. NATIONAL RESPONSE CENTER
   PHONE: (800) 424-8802

   ALTERNATE: U.S. ENVIRONMENTAL PROTECTION AGENCY
   EMERGENCY: (617) 223-7265
   BUSINESS: (617) 860-4300

5. DEPARTMENT OF PUBLIC WORKS
   CONTACT: Director of Public Works, Eugene Fulmine, Jr.
   PHONE: (781) 293 5620

   CONSERVATION COMMISSION
   CONTACT: Conservation Agent, Robert Clarke
   PHONE: (781) 293 4674

   BOARD OF HEALTH
   CONTACT: Health Agent, Lisa Cullity
   PHONE: (781) 293 2718

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Contact Information:
For general information on our other products and services, please contact our offices within the United States at (800)428-5832, (203)775-4416 ext. 202, or e-mail us at custservice@cultec.com.

For technical support, please call (203)775-4416 ext. 203 or e-mail tech@cultec.com.

Visit www.cultec.com/downloads.html for Product Downloads and CAD details.

Doc ID: CULG008 05-17
May 2017

These instructions are for single-layer traffic applications only. For multi-layer applications, contact CULTEC.
All illustrations and photos shown herein are examples of typical situations. Be sure to follow the engineer's drawings.
Actual designs may vary.

This manual contains guidelines recommended by CULTEC, Inc. and may be used in conjunction with, but not to supersede, local regulations or regulatory authorities. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Introduction

The CULTEC Subsurface Stormwater Management System is a high-density polyethylene (HDPE) chamber system arranged in parallel rows surrounded by washed stone. The CULTEC chambers create arch-shaped voids within the washed stone to provide stormwater detention, retention, infiltration, and reclamation. Filter fabric is placed between the native soil and stone interface to prevent the intrusion of fines into the system. In order to minimize the amount of sediment which may enter the CULTEC system, a sediment collection device (stormwater pretreatment device) is recommended upstream from the CULTEC chamber system. Examples of pretreatment devices include, but are not limited to, an appropriately sized catch basin with sump, pretreatment catchment device, oil grit separator, or baffled distribution box. Manufactured pretreatment devices may also be used in accordance with CULTEC chambers. Installation, operation, and maintenance of these devices shall be in accordance with manufacturer's recommendations. Almost all of the sediment entering the stormwater management system will be collected within the pretreatment device.

Best Management Practices allow for the maintenance of the preliminary collection systems prior to feeding the CULTEC chambers. The pretreatment structures shall be inspected for any debris that will restrict inlet flow rates. Outfall structures, if any, such as outlet control must also be inspected for any obstructions that would restrict outlet flow rates. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Operation and Maintenance Requirements

I. Operation

CULTEC stormwater management systems shall be operated to receive only stormwater run-off in accordance with applicable local regulations. CULTEC subsurface stormwater management chambers operate at peak performance when installed in series with pretreatment. Pretreatment of suspended solids is superior to treatment of solids once they have been introduced into the system. The use of pretreatment is adequate as long as the structure is maintained and the site remains stable with finished impervious surfaces such as parking lots, walkways, and pervious areas are properly maintained. If there is to be an unstable condition, such as improvements to buildings or parking areas, all proper silt control measures shall be implemented according to local regulations.

II. Inspection and Maintenance Options

A. The CULTEC system may be equipped with an inspection port located on the inlet row. The inspection port is a circular cast box placed in a rectangular concrete collar. When the lid is removed, a 6-inch (150 mm) pipe with a screw-in plug will be exposed. Remove the plug. This will provide access to the CULTEC Chamber row below. From the surface, through this access, the sediment may be measured at this location. A stadia rod may be used to measure the depth of sediment if any in this row. If the depth of sediment is in excess of 3 inches (76 mm), then this row should be cleaned with high pressure water through a culvert cleaning nozzle. This would be carried out through an upstream manhole or through the CULTEC StormFilter Unit (or other pretreatment device). CCTV inspection of this row can be deployed through this access port to deter mine if any sediment has accumulated in the inlet row.

B. If the CULTEC bed is not equipped with an inspection port, then access to the inlet row will be through an upstream manhole or the CULTEC StormFilter.

1. Manhole Access
This inspection should only be carried out by persons trained in confined space entry and sewer inspection services. After the manhole cover has been removed a gas detector must be lowered into the manhole to ensure that there are not high concentrations of toxic gases present. The inspector should be lowered into the manhole with the proper safety equipment as per OSHA requirements. The inspector may be able to observe sediment from this location. If this is not possible, the inspector will need to deploy a CCTV robot to permit viewing of the sediment.

2. StormFilter Access
Remove the manhole cover to allow access to the unit. Typically a 30-inch (750 mm) pipe is used as a riser from the StormFilter to the surface. As in the case with manhole access, this access point requires a technician trained in confined space entry with proper gas detection equipment. This individual must be equipped with the proper safety equipment for entry into the StormFilter. The technician will be lowered onto the StormFilter unit. The hatch on the unit must be removed. Inside the unit are two filters which may be removed according to StormFilter maintenance guidelines. Once these filters are removed the inspector can enter the StormFilter unit to launch the CCTV camera robot.

C. The inlet row of the CULTEC system is placed on a polyethylene liner to prevent scouring of the washed stone beneath this row. This also facilitates the flushing of this row with high pressure water through a culvert cleaning nozzle. The nozzle is deployed through a manhole or the StormFilter and extended to the end of the row. The water is turned on and the inlet row is back-flushed into the manhole or StormFilter. This water is to be removed from the manhole or StormFilter using a vacuum truck.

III. Maintenance Guidelines

The following guidelines shall be adhered to for the operation and maintenance of the CULTEC stormwater management system:

A. The owner shall keep a maintenance log which shall include details of any events which would have an effect on the system's operational capacity.

B. The operation and maintenance procedure shall be reviewed periodically and changed to meet site conditions.

C. Maintenance of the stormwater management system shall be performed by qualified workers and shall follow applicable occupational health and safety requirements.

D. Debris removed from the stormwater management system shall be disposed of in accordance with applicable laws and regulations.

IV. Suggested Maintenance Schedules

A. Minor Maintenance
The following suggested schedule shall be followed for routine maintenance during the regular operation of the stormwater system:

Frequency	Action
Monthly in first year	Check inlets and outlets for clogging and remove any debris, as required.
Spring and Fall	Check inlets and outlets for clogging and remove any debris, as required.
One year after commissioning and every third year following	Check inlets and outlets for clogging and remove any debris, as required.

B. Major Maintenance
The following suggested maintenance schedule shall be followed to maintain the performance of the CULTEC stormwater management chambers. Additional work may be necessary due to insufficient performance and other issues that might be found during the inspection of the stormwater management chambers. (See table on next page)

	Frequency	Action
Inlets and Outlets	Every 3 years	• Obtain documentation that the inlets, outlets and vents have been cleaned and will function as intended.
	Spring and Fall	• Check inlet and outlets for clogging and remove any debris as required.
CULTEC Stormwater Chambers	2 years after commissioning	• Inspect the interior of the stormwater management chambers through inspection port for deficiencies using CCTV or comparable technique. • Obtain documentation that the stormwater management chambers and feed connectors will function as anticipated.
	9 years after commissioning every 9 years following	• Clean stormwater management chambers and feed connectors of any debris. • Inspect the interior of the stormwater management structures for deficiencies using CCTV or comparable technique. • Obtain documentation that the stormwater management chambers and feed connectors have been cleaned and will function as intended.
	45 years after commissioning	• Clean stormwater management chambers and feed connectors of any debris. • Determine the remaining life expectancy of the stormwater management chambers and recommended schedule and actions to rehabilitate the stormwater management chambers as required. • Inspect the interior of the stormwater management chambers for deficiencies using CCTV or comparable technique. • Replace or restore the stormwater management chambers in accordance with the schedule determined at the 45-year inspection. • Attain the appropriate approvals as required. • Establish a new operation and maintenance schedule.
Surrounding Site	Monthly in 1st year	• Check for depressions in areas over and surrounding the stormwater management system.
	Spring and Fall	• Check for depressions in areas over and surrounding the stormwater management system.
	Yearly	• Confirm that no unauthorized modifications have been performed to the site.

For additional information concerning the maintenance of CULTEC Subsurface Stormwater Management Chambers, please contact CULTEC, Inc. at 1-800-428-5832.

WQMP
Operation & Maintenance (O&M) Plan

Project Name:_____

Prepared for:

Project Name: _____

Address:_____

City, State Zip:_____

Prepared on:

Date:_____

This O&M Plan describes the designated responsible party for implementation of this WQMP, including: operation and maintenance of all the structural BMP(s), conducting the training/educational program and duties, and any other necessary activities. The O&M Plan includes detailed inspection and maintenance requirements for all structural BMPs, including copies of any maintenance contract agreements, manufacturer's maintenance requirements, permits, etc.

8.1.1 Project Information

Project name	
Address	
City, State Zip	
Site size	
List of structural BMPs, number of each	
Other notes	

8.1.2 Responsible Party

The responsible party for implementation of this WQMP is:

Name of Person or HOA Property Manager	
Address	
City, State Zip	
Phone number	
24-Hour Emergency Contact number	
Email	

8.1.3 Record Keeping

Parties responsible for the O&M plan shall retain records for at least 5 years.

All training and educational activities and BMP operation and maintenance shall be documented to verify compliance with this O&M Plan. A sample Training Log and Inspection and Maintenance Log are included in this document.

8.1.4 Electronic Data Submittal

This document along with the Site Plan and Attachments shall be provided in PDF format. AutoCAD files and/or GIS coordinates of BMPs shall also be submitted to the City.

Appendix ____

BMP SITE PLAN

Site plan is preferred on minimum 11” by 17” colored sheets, as long as legible.

BMP OPERATION & MAINTENANCE LOG

Project Name: _____

Today's Date: _____

Name of Person Performing Activity (Printed): _____

Signature: _____

BMP Name (As Shown in O&M Plan)	Brief Description of Implementation, Maintenance, and Inspection Activity Performed

Minor Maintenance

Frequency		Action
Monthly in first year		Check inlets and outlets for clogging and remove any debris, as required.
		Notes
□ Month 1	Date:	
□ Month 2	Date:	
□ Month 3	Date:	
□ Month 4	Date	
□ Month 5	Date:	
□ Month 6	Date:	
□ Month 7	Date:	
□ Month 8	Date:	
□ Month 9	Date:	
□ Month 10	Date:	
□ Month 11	Date:	
□ Month 12	Date:	
Spring and Fall		Check inlets and outlets for clogging and remove any debris, as required.
		Notes
□ Spring	Date:	
□ Fall	Date:	
□ Spring	Date:	
□ Fall	Date:	
□ Spring	Date:	
□ Fall	Date:	
□ Spring	Date:	
□ Fall	Date:	
□ Spring	Date:	
□ Fall	Date:	
□ Spring	Date:	
□ Fall	Date:	
One year after commissioning and every third year following		Check inlets and outlets for clogging and remove any debris, as required.
		Notes
□ Year 1	Date:	
□ Year 4	Date:	
□ Year 7	Date:	
□ Year 10	Date:	
□ Year 13	Date:	
□ Year 16	Date:	
□ Year 19	Date:	
□ Year 22	Date:	

Major Maintenance

	Frequency		Action
Inlets and Outlets	**Every 3 years**		Obtain documentation that the inlets, outlets and vents have been cleaned and will function as intended.
			Notes
	□ Year 1	Date:	
	□ Year 4	Date:	
	□ Year 7	Date:	
	□ Year 10	Date:	
	□ Year 13	Date:	
	□ Year 16	Date:	
	□ Year 19	Date:	
	□ Year 22	Date:	
	Spring and Fall		Check inlet and outlets for clogging and remove any debris, as required.
			Notes
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
CULTEC Stormwater Chambers	**2 years after commissioning**		□ Inspect the interior of the stormwater management chambers through inspection port for deficiencies using CCTV or comparable technique. □ Obtain documentation that the stormwater management chambers and feed connectors will function as anticipated.
			Notes
	□ Year 2	Date:	

Major Maintenance

	Frequency		Action
CULTEC Stormwater Chambers	**9 years after commissioning every 9 years following**		□ Clean stormwater management chambers and feed connectors of any debris. □ Inspect the interior of the stormwater management structures for deficiencies using CCTV or comparable technique. □ Obtain documentation that the stormwater management chambers and feed connectors have been cleaned and will function as intended.
			Notes
	□ Year 9	Date:	
	□ Year 18	Date:	
	□ Year 27	Date:	
	□ Year 36	Date:	
	45 years after commissioning		□ Clean stormwater management chambers and feed connectors of any debris. □ Determine the remaining life expectancy of the stormwater management chambers and recommended schedule and actions to rehabilitate the stormwater management chambers as required. □ Inspect the interior of the stormwater management chambers for deficiencies using CCTV or comparable technique. □ Replace or restore the stormwater management chambers in accordance with the schedule determined at the 45-year inspection. □ Attain the appropriate approvals as required. □ Establish a new operation and maintenance schedule.
			Notes
	□ Year 45	Date:	

Major Maintenance

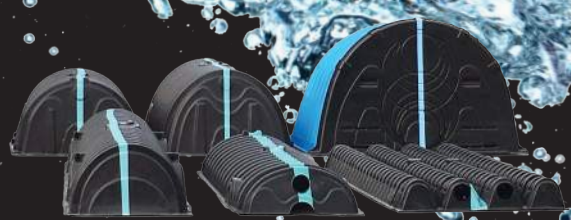
	Frequency		Action
Surrounding Site	**Monthly in 1st year**		□ Check for depressions in areas over and surrounding the stormwater management system.
			Notes
	□ Month 1	Date:	
	□ Month 2	Date:	
	□ Month 3	Date:	
	□ Month 4	Date:	
	□ Month 5	Date:	
	□ Month 6	Date:	
	□ Month 7	Date:	
	□ Month 8	Date:	
	□ Month 9	Date:	
	□ Month 10	Date:	
	□ Month 11	Date:	
	□ Month 12	Date:	
	Spring and Fall		□ Check for depressions in areas over and surrounding the stormwater management system.
			Notes
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	□ Spring	Date:	
	□ Fall	Date:	
	Yearly		□ Confirm that no unauthorized modifications have been performed to the site.
			Notes
	□ Year 1	Date:	
	□ Year 2	Date:	
	□ Year 3	Date:	
	□ Year 4	Date:	
	□ Year 5	Date:	
	□ Year 6	Date:	
	□ Year 7	Date:	

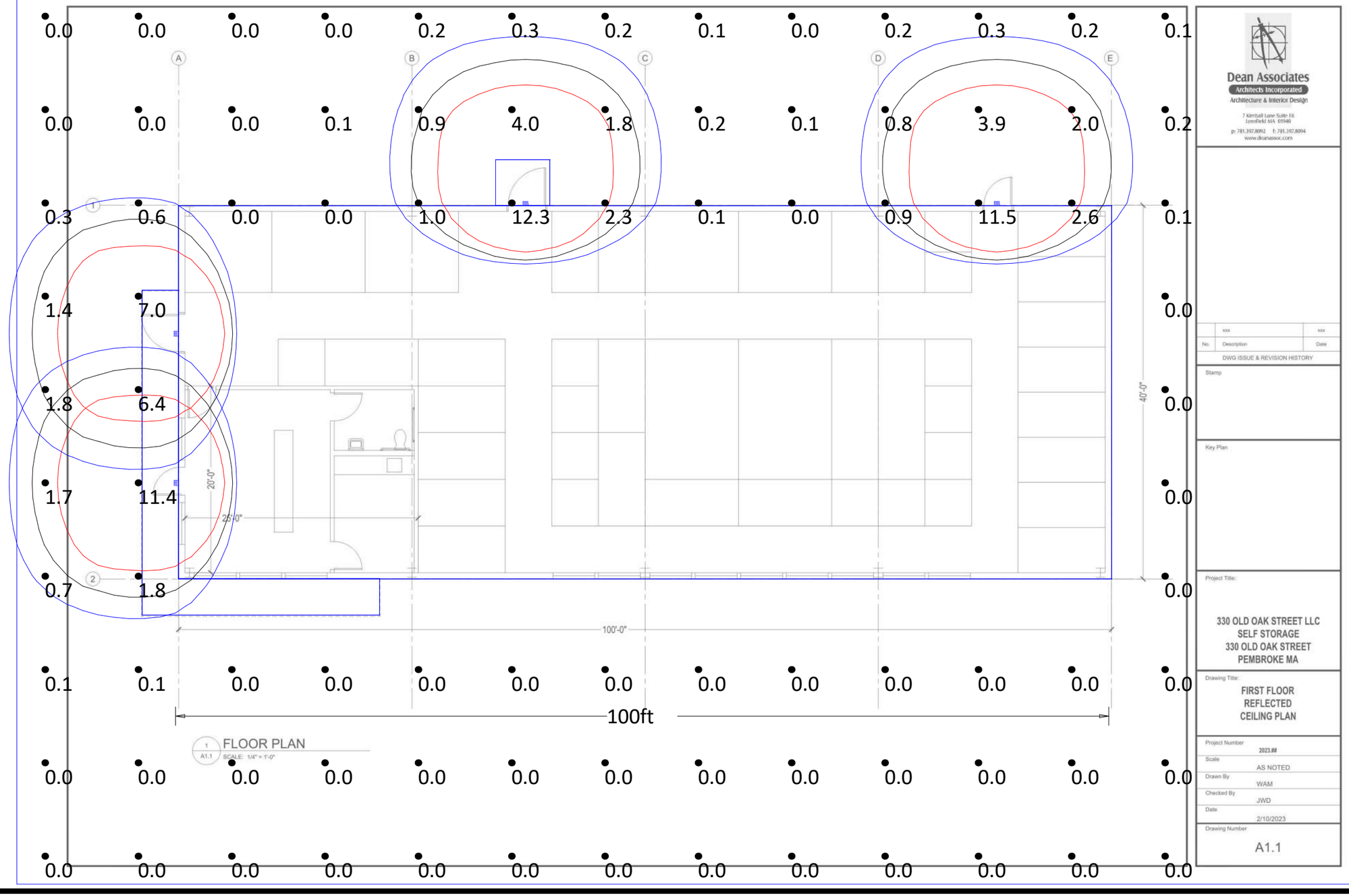
CULTEC®

The Founder of Plastic Chamber Technology

www.cultec.com | 1(800) 4-CULTEC |

878 Federal Road | P.O. Box 280 | Brookfield , CT 06804 USA





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www.deanassoc.com

No.	Description	Date
	xxx	xxx

DWG ISSUE & REVISION HISTORY

Stamp

Key Plan

Project Title:

330 OLD OAK STREET LLC
SELF STORAGE
330 OLD OAK STREET
PEMBROKE MA

Drawing Title:

FIRST FLOOR
REFLECTED
CEILING PLAN

Project Number	2023.##
Scale	AS NOTED
Drawn By	WAM
Checked By	JWD
Date	2/10/2023
Drawing Number	A1.1

Not to Scale

HOLBROOK-ASSOCIATED

Prepared By:
Holbrook-Associated
35 Reservoir Park Drive
Rockland, MA 02370

Job Name:
Pembroke Storage
Pembroke, MA

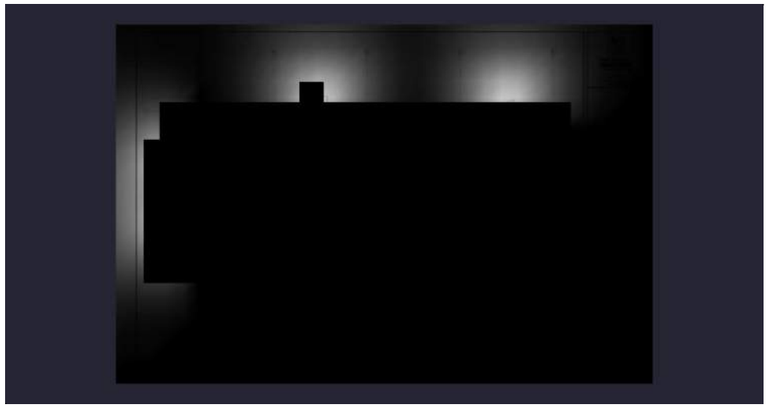
Scale: as noted	Project ID: 209975
Date:4/21/2023	Rep: SD
Filename: Pembroke Storage.AGI	
Drawn By:JHainey	

Filename: C:\Users\jholbrook\Documents\AGI32 - Designs\2023 Designs\Steve DeBoer\Pembroke Storage\Pembroke Storage.AGI

Calculation Summary											
Label	**CalcType**	**Units**	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**	**Description**	**PtSpcLr**	**PtSpcTb**	**Meter Type**
Site	Illuminance	Fc	0.89	12.3	0.0	N.A.	N.A.	Readings Taken @ 0'-0" AFG	10	10	Horizontal

Luminaire Schedule			All quotes/orders generated from this layout must be forwarded to the Local Rep Agency				
Symbol	**Qty**	**Tag**	**Label**	**Arrangement**	**LLF**	**Description**	**BUG Rating**
	4	S	SLIM12Y	Single	1.000	SLIM12Y	B1-U0-G0

Expanded Luminaire Location Summary						
LumNo	**Tag**	**X**	**Y**	**MH**	**Orient**	**Tilt**
1	S	17	59	9	180	0
2	S	54.5	73	9	90	0
3	S	105	73	9	90	0
4	S	17	43	9	180	0
Total Quantity: 4						



Render Image - Top View

NOTES:
* The light loss factor (LLF) is a product of many variables, only lamp lumen depreciation (LLD) has been applied to the calculated results unless otherwise noted. The LLD is the result (quotient) of mean lumens / initial lumens per lamp manufacturers' specifications.

* Illumination values shown (in footcandles) are the predicted results for planes of calculation either horizontal, vertical or inclined as designated in the calculation summary. Meter orientation is normal to the plane of calculation.

* The calculated results of this lighting simulation represent an anticipated prediction of system performance. Actual measured results may vary from the anticipated performance and are subject to means and methods which are beyond the control of Holbrook-Associated.

* Mounting height determination is job site specific, our lighting simulations assume a mounting height (insertion point of the luminaire symbol) to be taken at the top of the symbol for ceiling mounted luminaires and at the bottom of the symbol for all other luminaire mounting configurations.

* It is the Owner's responsibility to confirm the suitability of the existing or proposed poles and bases to support the proposed fixtures, based on the weight and EPA of the proposed fixtures and the owner's site soil conditions and wind zone. It is recommended that a professional engineer licensed to practice in the state the site is located be engaged to assist in this determination.

* The landscape material shown hereon is conceptual, and is not intended to be an accurate representation of any particular plant, shrub, bush, or tree, as these materials are living objects, and subject to constant change. The conceptual objects shown are for illustrative purposes only. The actual illumination values measured in the field will vary.

* Photometric model elements such as buildings, rooms, plants, furnishings or any architectural details which impact the dispersion of light must be detailed by the customer documents for inclusion in the Holbrook-Associated lighting design model. Holbrook-Associated is not responsible for any inaccuracies caused by incomplete information on the part of the customer, and reserves the right to use best judgement when translating customer requests into photometric studies.

* RAB Lighting Inc. luminaire and product designs are protected under U.S. and International intellectual property laws. Patents issued or pending apply.

HOLBROOK-ASSOCIATED

Prepared By:
Holbrook-Associated
35 Reservoir Park Drive
Rockland, MA 02370

Job Name:
Pembroke Storage
Pembroke, MA

Scale: as noted	Project ID: 209975
Date:4/21/2023	Rep: SD
Filename: Pembroke Storage.AGI	
Drawn By:JHainey	

Filename: C:\Users\jholbrook\Documents\AGI32 - Designs\2023 Designs\Steve DeBoer\Pembroke Storage\Pembroke Storage.AGI

SLIM12Y

12, 18 and 26 Watt SLIM wall packs are ultra efficient and deliver impressive light distribution with a compact low-profile design that's super easy to install as a downlight or uplight.

Color: Bronze

Weight: 4.1 lbs

Project:	**Type:**
Prepared By:	**Date:**

Driver Info

Type	Constant Current
120V	0.13A
208V	0.08A
240V	0.07A
277V	0.06A
Input Watts	15W

LED Info

Watts	12W
Color Temp	3000K (Warm)
Color Accuracy	72 CRI
L70 Lifespan	100,000 Hours
Lumens	2,006 lm
Efficacy	133.7

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

IP Rating:

Ingress protection rating of IP66 for dust and water

ADA Compliant:

SLIM™ is ADA Compliant

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Dark Sky Conformance:

Dark Sky Approved in 3000K. Conforms to (allows for conformance to) the IDA's fully shielding requirement, emitting no light above 90 degrees (with the exclusion of incidental light reflecting from fixture housing, mounts, and pole).

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: P0000171L

Electrical

Driver:

Constant Current, Class 2, 120-277V, 50-60Hz, 120V: 0.13A, 208V: 0.08A, 240V: 0.07A, 277V: 0.06A

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

5.19% at 120V, 8.55% at 277V

Power Factor:

99.4% at 120V, 94% at 277V

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Technical Specifications (continued)

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:

Equivalent to 70W Metal Halide

Construction

Cold Weather Starting:

The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Housing:

Precision die-cast aluminum housing

Mounting:

Heavy-duty mounting bracket with hinged housing for easy installation

Recommended Mounting Height:

Up to 8 ft

Lens:

Tempered glass lens

Reflector:

Specular thermoplastic

Gaskets:

High-temperature silicone

Finish:

Formulated for high durability and long-lasting color

Green Technology:

Mercury and UV free. RoHS-compliant components.

Other

Patents:

The design of the SLIM™ is protected by patents in U.S. Pat D681,864, and pending patents in Canada, China, Taiwan and Mexico.

HID Replacement Range:

Replaces 70W Metal Halide

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

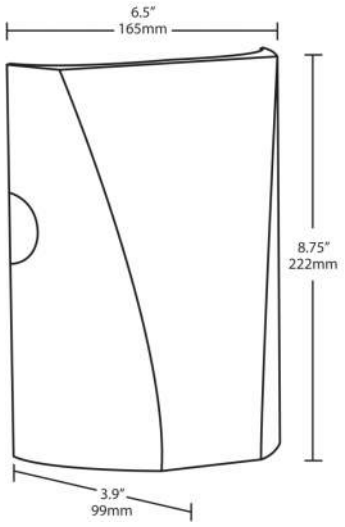
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:

B1 U0 G0

Dimensions

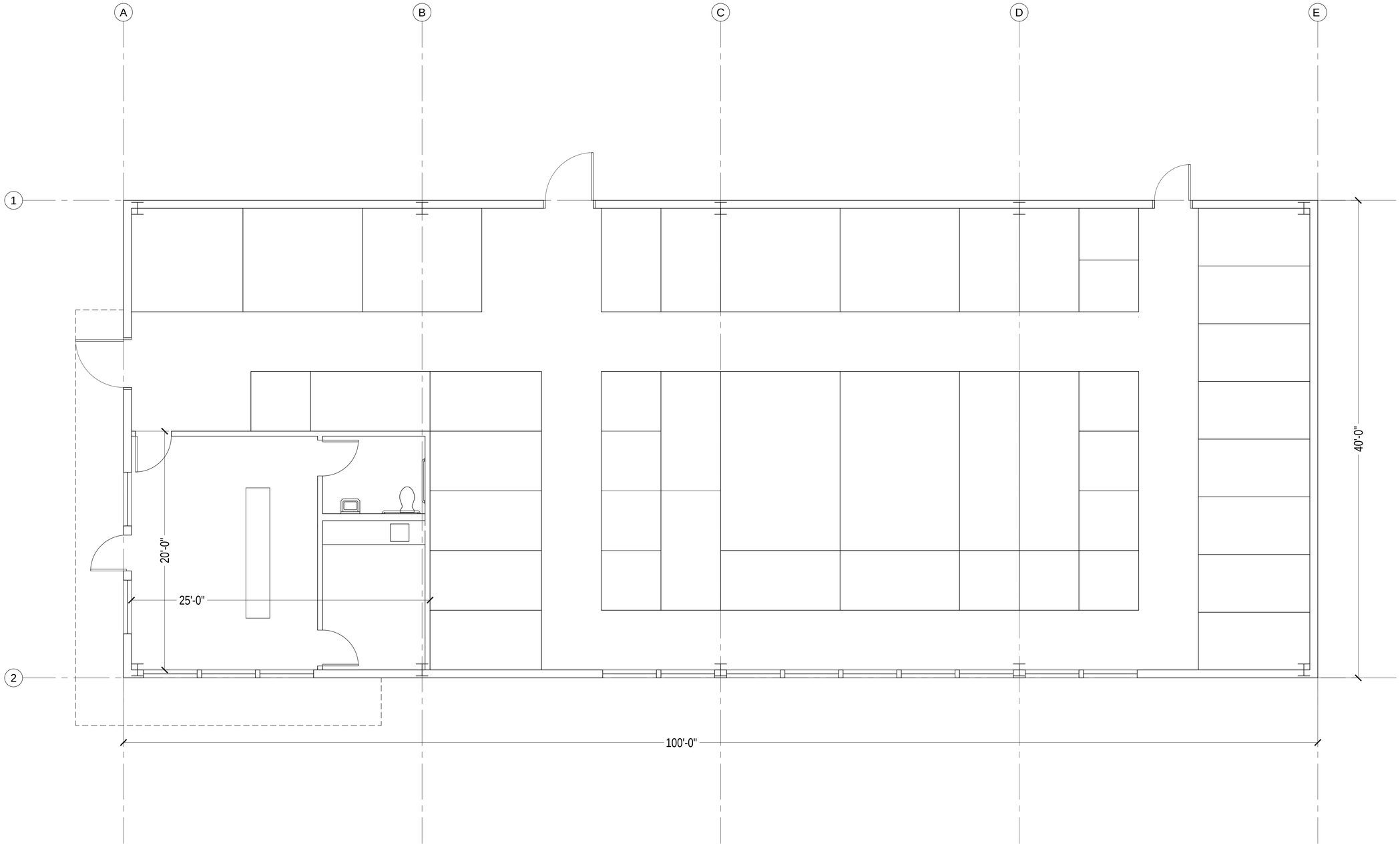


Features

- Full cutoff, fully shielded LED wall pack
- Can be used as a downlight or uplight
- Contractor friendly features for easy installation
- 100,000-hour LED Life
- 5-Year, No-Compromise Warranty

Ordering Matrix

Family	Wattage	Color Temp	Finish	Driver	Options
SLIM	12	Y			
	12 = 12W **18 =** 18W **26 =** 26W	**Blank =** 5000K Cool **N =** 4000K Neutral **Y =** 3000K Warm	**Blank =** Bronze **W =** White	**Blank =** 120-277V, 0-10V Dimming **/D10 =** 120-277V, 0-10V Dimming	**Blank =** No Option **/PC =** 120V Button **/PC2 =** 277V Button **/LC =** Lightcloud® Controller



1 A1.1 FLOOR PLAN

SCALE: 1/4" = 1'-0"

Dean Associates
Architects Incorporated
Architecture & Interior Design

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Lynnfield MA 01940

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www.deanassoc.com

No.	Description	Date
	xxx	xxx

DWG ISSUE & REVISION HISTORY

Stamp

Key Plan

Project Title:

330 OLD OAK STREET LLC
SELF STORAGE
330 OLD OAK STREET
PEMBROKE MA

Drawing Title:

FIRST FLOOR
REFLECTED
CEILING PLAN

Project Number: **2023.##**

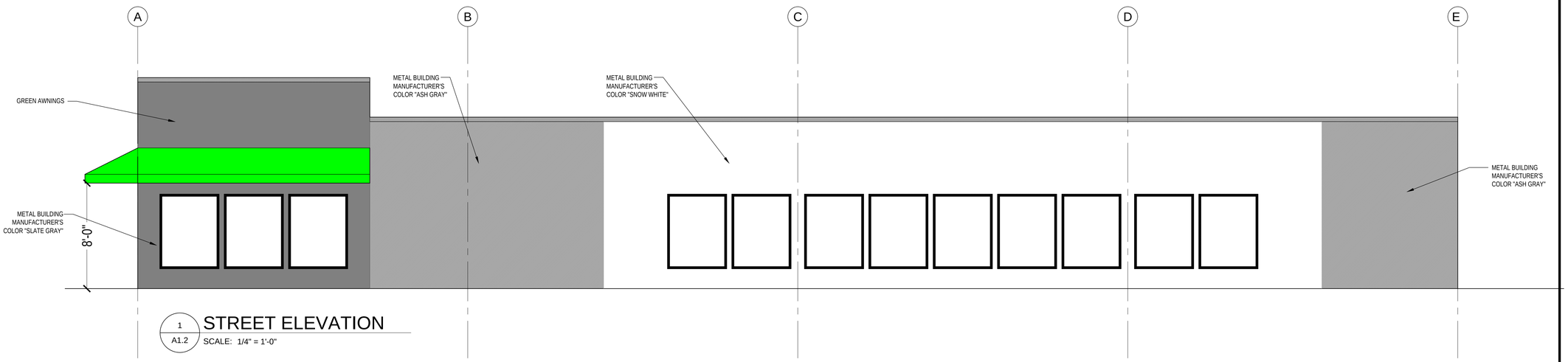
Scale: AS NOTED

Drawn By: WAM

Checked By: JWD

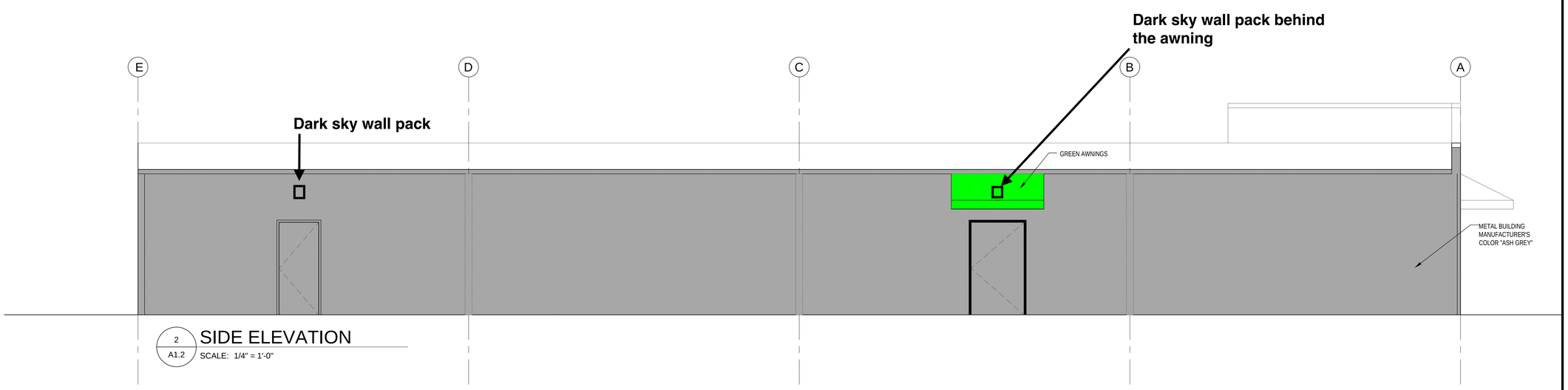
Date: 2/10/2023

Drawing Number: A1.1



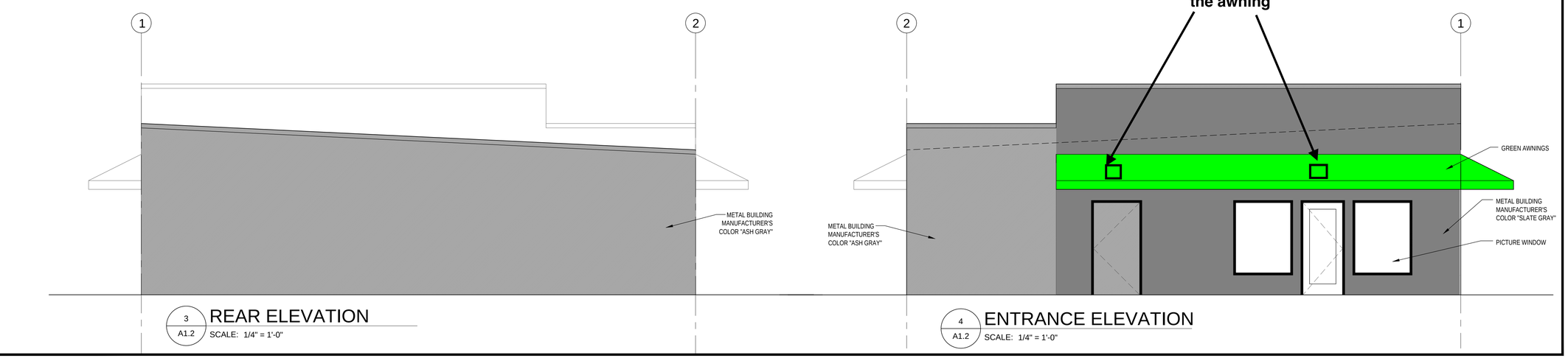
1 / A1.2 STREET ELEVATION

SCALE: 1/4" = 1'-0"



2 / A1.2 SIDE ELEVATION

SCALE: 1/4" = 1'-0"



3 / A1.2 REAR ELEVATION

SCALE: 1/4" = 1'-0"

4 / A1.2 ENTRANCE ELEVATION

SCALE: 1/4" = 1'-0"

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Architects Incorporated
Architecture & Interior Design

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Lynnfield MA 01940

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www.deanassoc.com

	xxx	xxx
No.	Description	Date

DWG ISSUE & REVISION HISTORY

Stamp

Key Plan

Project Title:

330 OLD OAK STREET LLC
SELF STORAGE
330 OLD OAK STREET
PEMBROKE MA

Drawing Title:

EXTERIOR ELEVATIONS

Project Number: **2023.##**

Scale: AS NOTED

Drawn By: WAM

Checked By: JWD

Date: 2/10/2023

Drawing Number: A1.2

R Series

10″ Angle Shades

UL LISTED FOR WET LOCATIONS

RAS10-ABR
Shade Only.
Shown with optional
RGN15-ABR Goose Neck

RAS10-WH
Shade Only.
Shown with optional
RGN15-WH Goose Neck

RAS10-SB
Shade Only.
Shown with optional
RGN15-SB Goose Neck

RAS10-GA
Shade Only.
Shown with optional
RGN15-GA Goose Neck

Galvanized finishes may be inconsistant

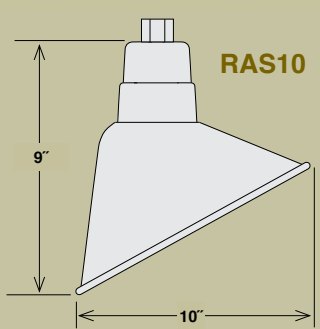
RAS10-SG
Shade Only.
Shown with optional
RGN15-SG Goose Neck
and RWG10-SG Wire Guard

RAS10-SR
Shade Only.
Shown with optional
RGN15-SR Goose Neck

EASY TO ORDER:

1. Choose a Shade
2. Choose a Goose Neck
3. Wire Guard Optional

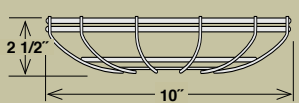
Angle Shades



RAS10

ITEM #	WIDTH	LAMPS	WIRE	FINISH
RAS10-ABR	10″	Med. 200W A21	100″	Architectural Bronze
RAS10-GA	10″	Med. 200W A21	100″	Galvanized
RAS10-SB	10″	Med. 200W A21	100″	Satin Black
RAS10-SG	10″	Med. 200W A21	100″	Satin Green
RAS10-SR	10″	Med. 200W A21	100″	Satin Red
RAS10-WH	10″	Med. 200W A21	100″	White

Wire Guards

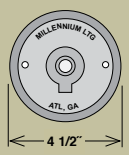


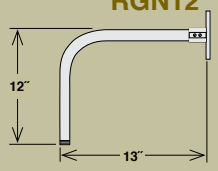
RWG10

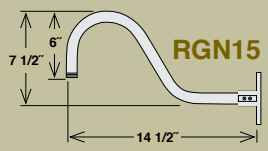
ITEM #	WIDTH	FINISH
RWG10-ABR	10″	Architectural Bronze
RWG10-GA	10″	Galvanized
RWG10-SB	10″	Satin Black
RWG10-SG	10″	Satin Green
RWG10-SR	10″	Satin Red
RWG10-WH	10″	White

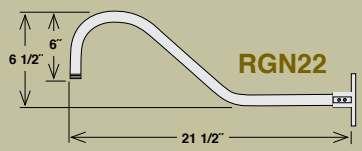
Goose Necks (Actual Photos Shown on Page 58)

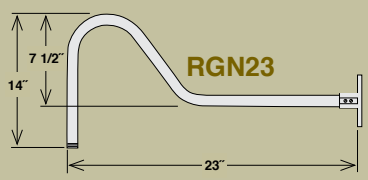
Back Plate included with goose neck

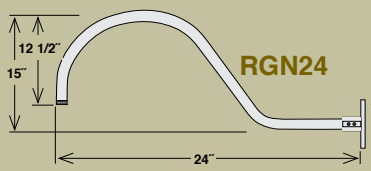


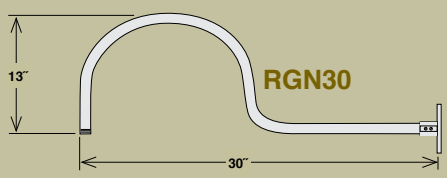


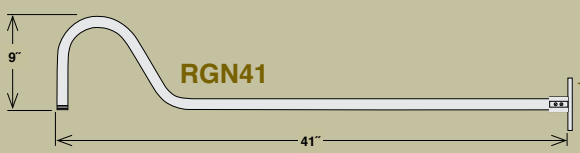












ITEM #	ID	LENGTH	FINISH
RGN12-ABR	3/4″	13″	Architectural Bronze
RGN12-GA	3/4″	13″	Galvanized
RGN12-SB	3/4″	13″	Satin Black
RGN12-SG	3/4″	13″	Satin Green
RGN12-SR	3/4″	13″	Satin Red
RGN12-WH	3/4″	13″	White
RGN15-ABR	3/4″	14 1/2″	Architectural Bronze
RGN15-GA	3/4″	14 1/2″	Galvanized
RGN15-SB	3/4″	14 1/2″	Satin Black
RGN15-SG	3/4″	14 1/2″	Satin Green
RGN15-SR	3/4″	14 1/2″	Satin Red
RGN15-WH	3/4″	14 1/2″	White
RGN22-ABR	3/4″	21 1/2″	Architectural Bronze
RGN22-GA	3/4″	21 1/2″	Galvanized
RGN22-SB	3/4″	21 1/2″	Satin Black
RGN22-SG	3/4″	21 1/2″	Satin Green
RGN22-SR	3/4″	21 1/2″	Satin Red
RGN22-WH	3/4″	21 1/2″	White
RGN23-ABR	3/4″	23″	Architectural Bronze
RGN23-GA	3/4″	23″	Galvanized
RGN23-SB	3/4″	23″	Satin Black
RGN23-SG	3/4″	23″	Satin Green
RGN23-SR	3/4″	23″	Satin Red
RGN23-WH	3/4″	23″	White
RGN24-ABR	3/4″	24″	Architectural Bronze
RGN24-GA	3/4″	24″	Galvanized
RGN24-SB	3/4″	24″	Satin Black
RGN24-SG	3/4″	24″	Satin Green
RGN24-SR	3/4″	24″	Satin Red
RGN24-WH	3/4″	24″	White
RGN30-ABR	3/4″	30″	Architectural Bronze
RGN30-GA	3/4″	30″	Galvanized
RGN30-SB	3/4″	30″	Satin Black
RGN30-SG	3/4″	30″	Satin Green
RGN30-SR	3/4″	30″	Satin Red
RGN30-WH	3/4″	30″	White
RGN41-ABR	3/4″	41″	Architectural Bronze
RGN41-GA	3/4″	41″	Galvanized
RGN41-SB	3/4″	41″	Satin Black
RGN41-SG	3/4″	41″	Satin Green
RGN41-SR	3/4″	41″	Satin Red
RGN41-WH	3/4″	41″	White

Description:

RZ's LED adjustable wall packs provide die-casting aluminum alloy heat sink. Adjustable direction can be available from 0-90 degree, so forward throw illumination can be precisely aimed. This is an ideal commercial outdoor fixture for buildings, and easily replace to any wall packs light, no matter full cut-off wall packs or semi cut-off wall packs.

Optional:

- Up to 140lm/W.
- Easy installation.
- Wet location rated IP65.
- ETL/cETL/DLC Premium listed.
- Durable die-casting aluminum housing.
- UV-resistant polycarbonate refractor lens.
- Type II distribution optics standard/Other optics available by request.
- 0-10V dimming, 1-10V dimming drivers, DIP switch, photocell available.

IP65

5 Years Warranty

Applications:

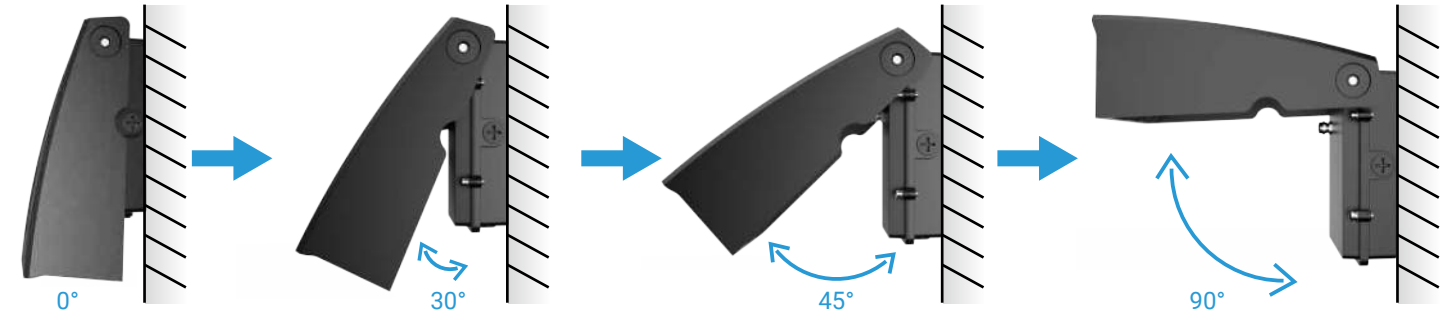
Building facade, commercial, industrial, retail, hospitality buildings that demand long service life and low maintenance. All application where could be applied to full cut-off wall pack light and semi cut-off wall pack light.

Parameters:

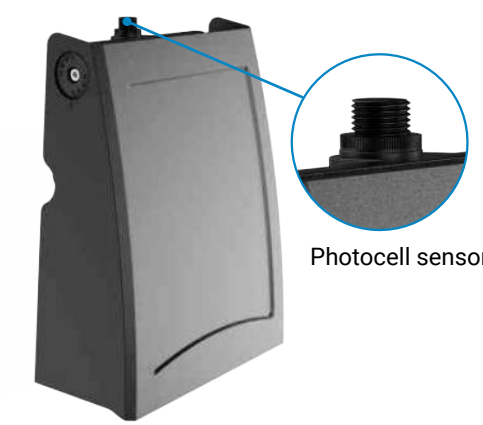
Model No.	WP10-20L	WP10-40L	WP10-60L	WP10-80L	WP10-100L	WP10-120L
Input Power	20W	40W	60W	80W	100W	120W
Lumen	2800lm	5600lm	8400lm	11200lm	14000lm	16800lm
Efficacy	140LM/W (±10%)					
Lighting Distribution	Type II					
Input Voltage	120-277VAC/120-347VAC					
CCT	4000K/5000K/5700K					
CRI	Ra>70					
Adjustable Angle	0-90°					
THD	<20%					
Surge Protection	L-N: 2KV L/N-PE: 4KV					
Additional Function	0-10V dimming/1-10V dimming/Photocell/DIP switch					
Certification	ETL/cETL/DLC Premium					
IP Rating	IP65					
IK Rating	IK08					
Product Finishing	Black/Bronze/Customized (Optional)					
Housing Material	Die-cast Aluminium					
Lens	Polycarbonate Lens					
Life Time	L70 @ 50,000hrs					
Operating Temp	86°F to 113°F (-30°C to +45°C)					
Storage Temp	104°F to 158°F (-40°C to +70°C)					
Installation	Junction Box					
Warranty	5 Years					

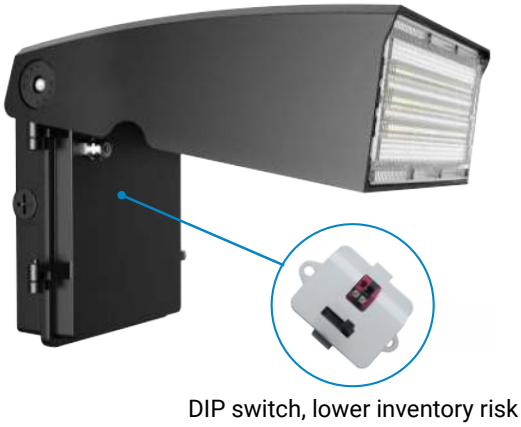
Features:

Adjustable direction can be available from 0-90 degree

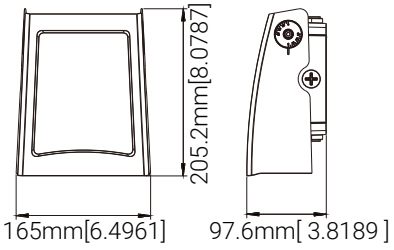


Features:

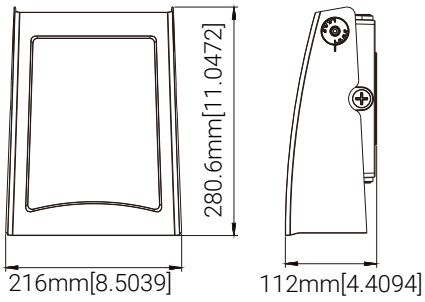




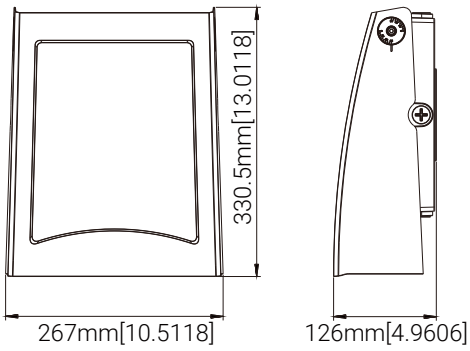
Product Dimensions:



20W/40W



60W/80W



100W/120W

Packing:

Model	Pouduct Dimension (mm&inch)	Product Weight (Kgs)		Carton Size(mm&inch)	Qty/ CTN	20GP	40HQ
		N.W/pc	G.W/pc				
WP10-20L	L205*W165*H98mm 8.07"*6.50"*3.86"	1.4	2	L420*W395*H260mm 10.24" X 7.87" X10.24"	6	3894PCS	9456PCS
WP10-40L		1.4	2		6		
WP10-60L	L281*W216*H112mm 11.06"*8.50"*4.41"	2	2.5	L330*W260*H150mm 12.99"*10.24"*5.91"	1	2176PCS	5283PCS
WP10-80L		2.3	2.8		1		
WP10-100L	L331*W267*H126mm 13.03"*10.51"*4.96"	3.1	3.6	L380*W300*H180mm 14.96"*11.81"*7.09"	1	1364PCS	3313PCS
WP10-120L		3.2	3.7		1		

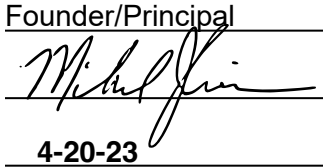
Illicit Discharge Compliance Statement

I, Michael Juliano, hereby notify the Pembroke Planning Board that I have not witnessed, nor am aware of any existing illicit discharges at the site known as 330 Old Oak Street, Parcel G15-3 in Pembroke, Massachusetts. I also hereby certify that the re-development of said property as illustrated on the final plans entitled "Site Re-Development Plan, Assessor's parcel G15-3, 330 Old Oak Street, Pembroke, Massachusetts," prepared by McKenzie Engineering Group. Inc. dated March 1, 2023 and as revised and approved by the Pembroke Planning Board and maintenance thereof in accordance with the "Construction Phase Operations and Maintenance Plan" and "Long-Term Operations and Maintenance Plan" prepared by McKenzie Engineering Group, Inc. dated April 24, 2023 and as revised and approved by the Pembroke Planning Board will not create any new illicit discharges. There is no warranty implied regarding future illicit discharges that may occur as a result of improper construction or maintenance of the stormwater management system or unforeseen accidents.

Name: Michael Juliano.

Company: JEI Ventures

Title: Founder/Principal

Signature: 

Date: **4-20-23**