Town of Kittery
Planning Board Meeting
August 24, 2023

ITEM 5 – 35 Badgers Island West, Final Site Plan Review – Shoreland Development Plan
Action: approve/deny final plan, postpone action, or continue review: Owner Steve Wilson and agent John Chagnon with Ambit Engineering/ Haley Ward request approval to expand a legally non-conforming office building to provide 10 residential units on a legally conforming lot located on real property with the address of 35 Badgers Island West, Tax Map 1, Lot 34, in the Mixed-Use Badgers Island Zone (MU-BI), Shoreland Overlay Zone (OZ-SL-250'), Resource Protection Overlay Zone (OZ-RP) and the Commercial Fisheries/Maritime Use (OZ-CFMU).

PROJECT TRACKING

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan	October 27, 2022, February 9, 2023	Accepted on 2/9/23
NO	Site Visit	November 14, 2022	Held
YES	Preliminary Site Plan Review Completeness/Acceptance	Accepted 4/27/2023	Complete
YES	Public Hearing	Held and closed May 25, 2023	Complete
YES	Preliminary Site Plan Review Approval	Approved July 13, 2023	Complete
YES	Final Site Plan Review Approval	Application submitted August 3, 2023	Pending
YES	Shoreland Development Plan Review Plan Approval		Pending
Applicant: Plan Review Notes reflect comments and recommendations regarding applicability of Town Land Use Development Code, and standard planning and development practices. Only the PB makes final decisions on code compliance and approves, approves with conditions or denies final plans. Prior to the signing of the approved Plan any **Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS.** As per Section 16.4.4.13 - Grading/Construction Final Plan Required. - Grading or construction of roads, grading of land or lots, or construction of buildings is prohibited until the original copy of the approved final plan endorsed has been duly recorded in the York County registry of deeds when applicable.			

Project Summary

35 Badgers Island West is currently developed with a 3-story, 22,245-square-foot commercial building with appurtenant paved parking facilities which are accessed from Badgers Island West via two separate driveways. The applicant proposes to construct additions to the existing building and convert use of the property from commercial to residential for the purpose of constructing 10 condominium units. The Planning Board approved the Preliminary Site Plan for this project during the July 13, 2023 meeting after holding a public hearing on May 25, 2023.

Submission Requirements – Final Site Plans

Per 16.7.2 (A.8), this proposal is subject to Site Plan Review instead of Subdivision Review since it entails conversion of an existing nonresidential building into three or more dwelling units. Submittal of a final plan application within 6 months of preliminary approval is required per 16.7.10. Final plan submission requirements are enumerated in 16.7.10 (D.3) and (D.4). These include: (4)(a) a municipal impact analysis; (4)(d) a maintenance plan and agreement for applicable project elements; and (4)(e) itemized cost estimates for site and utility work. Requirments (d) and (e) are typically reviewed by staff as part of the pre-construction and financial

guarantee establishment process. Requirement (a) is not customarily enforced. Review of this project by staff from all Town departments and payment by the applicant of public safety and sewer impact fees during the building permit process would minimize and mitigate for impacts on municipal services from this development. The Board may, therefore, **defer** submission of these requirements per customary procedures administered by staff. All other submission requirements appear to be met.

Staff recommend determining the Final Site Plan Application for this project to be complete.

Development Standards

This application contains detailed site information including shoreland, utility and grading plans, a planting plan prepared by a landscape architectural firm, lighting photometric plan and fixture details, a turning template plan, and a revised stormwater (drainage) analysis. A parking plan shows parking underneath the two proposed additions. Drainage plans were updated since the preliminary plan for this project was approved by the board. These plans are under review by the Town's engineering peer consultant as of the writing of this memo.

Under §16.4.24 (D)(1)(a)-(h) dimensional requirements for the Mixed-use. Badgers Island (MU-BI) zone:

(a) Minimum land area per dwelling unit: 3,000 square feet.

[1] For each of the first two dwelling units and thereafter: 6,000 square feet.

Net developable land area = 54,883 square feet

Calculation: (2 units x 3,000 sf = 6,000 sf) + (8 units x 6,000 sf = 48,000 sf) = 54,000 sf.

Result: Complies. Net land area supports development of 10 units.

(b) Minimum lot size: 6,000 square feet.

(c) Minimum street frontage: 50 feet.

(d) Minimum front yard: five feet.

(e) Minimum rear and side yards: 10 feet.

All the above requirements appear to be met.

(f) Maximum building height: 40 feet (from average grade to average roof height – peak to eave – on pitched roofs).

New construction complies. Existing building is legally non-conforming.

(g) Minimum setback from:

[1] Water body and wetland water-dependent uses: zero feet.

[2] All other uses (including buildings and parking): 75 feet unless modified, according to the terms of Subsection **E** of this section.

Complies as revised.

(h) Minimum open space on the site: 40%. (Note: The Planning Board may reduce the required open space to 30% where it is clearly demonstrated that no practicable alternative exists to accommodate a water-dependent use.)

The devegetation table shows that 40.7% of the lot as proposed will be developed which leaves 59.3% as open space. Complies.

§16.4.24 (D)(4) – **Parking**: 1.5 parking stalls per unit (1.5 X 10 units = 15 stalls required)

Complies: 22 stalls proposed

§16.5.25 – Sprinkler System must be installed in all areas of new and existing building construction

Chapter 16.7 General Development (Site Plan) Requirements

§16.7.11 Performance standards and approval criteria – *see draft Findings, attached*

Impact Fees (Note to Applicant):

In accordance with Title 13 and Appendix A of Kittery Town Code, payment of impact fees is required for this project to mitigate for impacts to public facilities and services anticipated to result from this development. The current **sewer impact fee** is $3,000 per unit, to be paid during the building permit process. A separate sewer connection fee will also be assessed by the Town. A **public safety impact fee** of $5 per $1,000 value of construction in excess of $100,000 will also be assessed during the building permit process.

Recommmendation

Pending confirmation from the Town's engineering peer review consultant, this proposal substantially complies with applicable standards, as evidenced by the plans and supporting information provided by the applicant, the above staff notes, and the draft Findings of Fact. Staff recommends **approving** this final plan with conditions or **continuing review** if additional information is needed from the applicant, staff, or peer review consultants. The Planning Board may choose to decide on this application during a separate meeting.

The board may also **condition approval** upon confirmation by staff or the chair that any outstanding issues raised by the Town's engineering peer review consultant are addressed by the applicant prior to signing the final plans for recording.

Suggested Motion

Move to approve or continue review

Move to approve/ continue review of the final plan application from owner/applicant owner B.I.W. Group, LLC and agent John Chagnon with Ambit Engineering for approval to expand and convert an existing office building to 10 residential units on real property with the address of 35 Badgers Island West, Tax Map 44, Lot 71, in the Mixed-Use Badgers Island Zone (MU-BI), Shoreland Overlay Zone (OZ-SL-250'), Resource Protection Overlay Zone (OZ-RP) and the Commercial Fisheries/Maritime Use Zone (OZ-CFMU).

KITTERY PLANNING BOARD **M 1 L 34**
FINDINGS OF FACT - **Unapproved**
For 35 Badgers Island West
Final Site Plan and Shoreland Development Plan

Note: This approval by the Planning Board constitutes an agreement between the Town and the Developer incorporating the Development plan and supporting documentation, the Findings of Fact, and all waivers and/or conditions approved and required by the Planning Board.

WHEREAS: Owner Steve Wilson of B.I.W. Group, LLC and agent John Chagnon with Ambit Engineering/ Haley Ward request approval to expand a legally non-conforming office building to provide 10 residential units on a legally conforming lot located on real property with the address of 35 Badgers Island West, Tax Map 1, Lot 34, in the Mixed-Use Badgers Island Zone (MU-BI), Shoreland Overlay Zone (OZ-SL-250'), Resource Protection Overlay Zone (OZ-RP) and the Commercial Fisheries/Maritime Use (OZ-CFMU).

Hereinafter the "Development".

Pursuant to the Plan Review meetings conducted by the Planning Board as duly noted in the Plan Review Notes dated 08/24/2023;

Sketch Plan Review	Accepted	2/9/23
Site Visit	Held	11/14/22
Public Hearing	Held	5/25/23
Final Plan Approval	Pending	X/XX/23

and pursuant to the Project Application and Plan and other documents considered to be a part of the approval by the Planning Board in this finding consist of the following and as noted in the Plan Review Notes dated 8/24/2023 (Hereinafter the "Plan").

1. Cover Letter and Application including Soil Map, Site photographs, vicinity map, Drainage Analysis dated 7/26/23, Ambit Engineering, submitted via the Town's permit portal August 3, 2023
2. Amended Site Plans submitted from Ambit Engineering August 3, 2023, including:
   Sheets C1-C5 Existing Conditions, Shoreland Development, Utilities, Grading, and Demolition
   Sheet L1 Landscaping
   Sheet T1 Turning Template Plan
   Sheets D1-D4 Project Details
3. Architectural renderings (16 sheets), Winter Holben, dated 8/3/23

NOW THEREFORE, based on the entire record before the Planning Board as and pursuant to the applicable standards in the Land Use and Development Code, the Planning Board makes the following factual findings as required by Section **§16.7.11 and §16.9.3-F and as recorded below:**

FINDINGS OF FACT

Action by the Board shall be based upon findings of fact which certify or waive compliance with all the required standards of this title, and which certify that the development satisfies the following **Performance standards and approval criteria:**

A. Water supply

Standard:
The development shall be provided with a system of water supply that provides each use with an adequate supply of water.

Finding: Town and Kittery Water District staff indicated that sufficient public water facilities are available to serve water for the proposed residential uses and fire suppression needs. The applicant must demonstrate compliance with applicable plumbing and fire codes prior to Town issuance of building or plumbing permits for this project.
Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

B. Sewage Disposal

Standard: *Connection to public sewer is required. Sewer mains, service lines, and related improvements must be installed at the developer's expense.*

Finding: The applicant proposes to utilize existing connections to Town sewer facilities located in Badgers Island West. Town Sewer Department staff indicated that sufficient public sewer facilities are available to serve the proposed residential uses. The applicant must pay sewer connection fees prior to Town issuance of Certificate(s) of Occupancy for the proposed use in accordance with §13.1.1.
Conclusion: This standard appears to be met.

Vote of _in favor _ against_ abstaining

C. Stormwater and surface drainage

Standard: *The proposed development will provide for adequate stormwater management*

Finding: The proposed development necessitated a stormwater management system which was reviewed by the Town's peer review engineering firm and found to be satisfactory.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

D. Post-construction stormwater management

Standard: *All stormwater facilities required for the proposed development must be property maintained. Town approval of a post-construction stormwater management plan is required prior to Town issuance of a building permit for the proposed project. Annual reporting of inspection and maintenance activities by the property owner is required.*

Finding: The applicant submitted a post-construction stormwater management plan which was reviewed by the Town's peer review engineering firm and found to be satisfactory

Conclusion: This approval criterion appears to be met.

E. Vehicular Traffic

Standard: *The proposed development will not have an unnecessary adverse impact on traffic flow or safety.*

Finding: The proposed development will replace an office building with 10 residences. Traffic flows should be reduced from previous conditions. Off-street parking plans exceed requirements.

Conclusion: Unnecessary adverse impacts on traffic flow or safety are not anticipated from this project. This criterion appears to be met.

Vote of _in favor _against_ abstaining

F. Parking and loading

Standard: *The proposed development will comply with applicable parking and driveway standards.*

Finding: The applicant proposes to provide 20 parking stalls enclosed within the building additions plus 2 stalls near the northeast corner of the property, exceeding the 15 parking stalls that are required. These parking facilities and drive aisles comply with minimum standards and are not anticipated to adversely impact traffic safety.
Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

G. Utilities

Standard: *The size, type, and location of utilities must be designed and installed in accordance with accepted engineering practices and installed underground where feasible.*

Finding: The plans for this project were reviewed by staff from Kittery's Sewer and Public Works Departments, Kittery Water District, and CMA Consulting Engineers. No concerns were expressed related to design of utilities for this development.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

H. Exterior Lighting

Standard: *Exterior lighting must minimize brightness and glare and shall meet industry standards.*

Finding: The applicant proposes to install wall sconces on the building exterior which meet applicable standards for brightness and efficiency and are not anticipated to produce excessive brightness or glare.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

I. Prevention of Erosion.

Standard: *The proposed development will comply with applicable standards for erosion and sedimentation control during and after construction.*

Finding: The applicant proposes to reduce impervious surfaces, install landscaping in Shoreland areas, and capture stormwater runoff generated from the subject property and from nearby paved areas via newly constructed stormwater facilities. The Contractor shall follow MDEP best management practices for erosion and sediment control (silt fencing, silt sacks, etc.), and CMA Engineers will be notified to observe application during construction. An inspection and maintenance plan specifying adherence to stormwater BMPs was provided and post-construction stormwater maintenance, reporting, and inspection is required. By adhering to current standards and procedures, this project is anticipated to improve the quality of stormwater runoff generated from this property and its vicinity.
Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

J. Water Quality and Wastewater Pollution.

Finding: No discharges to groundwater are proposed, existing public sewer facilities are adequate to serve the proposed development, and proposed stormwater facilities are anticipated to improve the quality of stormwater runoff generated to surface waters from this property and nearby areas.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining
K. Air Pollution.
Standard: *No objectionable odor, dust, or smoke shall be emitted by the proposed use.*
Finding: The applicant proposes to enlarge an enlarged office building to residential uses and constructing residential additions. Air quality impacts are anticipated to be minimal and consistent with other residential uses. **Conclusion:** This standard appears to be met.
Vote of _in favor _against_ abstaining
***L.* Noise Abatement**
Standard: *Objectionable or excessive noise impacts shall be minimized or controlled.*
Finding: Noise during construction shall be limited to Town construction hours. Noise after project completion is anticipated to be consistent with other residential uses and should not have objectionable or excessive impacts on nearby areas. **Conclusion:** This standard appears to be met.
Vote of _in favor _against_ abstaining
M. Radiation.
Standard: *No dangerous radiation shall impact neighboring properties or public areas.*
Finding: No significant impacts from radiation are anticipated from the proposed development. **Conclusion:** This standard appears to be met.
Vote of _in favor _against_ abstaining
N. Utilization of the site.
Standard: *The proposed development shall reflect the natural capabilities of the site to support development and include appropriate measures for protecting environmentally sensitive resources.*
Finding: The applicant proposes to remove building and impervious surfaces from the RPOD setback area, located proposed additions in upland portions of the site and outside of the RPOD setback, install landscaping near the river shoreline, and construct stormwater facilities which should improve water quality from existing conditions. **Conclusion:** This standard appears to be met.
Vote of _in favor _against_abstaining
O. Storage of Materials.
Standard: *Trash receptacles or safety hazards shall be screened by fencing or landscaping.*
Finding: The applicant stated that trash receptacles will be stored within the building. No outdoor storage of equipment or machinery that is incompatible with residential uses is proposed. **Conclusion:** This standard appears to be met.

Vote of _in favor _against_ abstaining

P. Developer Financially and Technically Capable.

Standard: *Developer is financially and technically capable to construct and maintain this project in accordance with the applicable standards.*

Finding: The plans for this project were prepared by a reputable professional and Town staff find no evidence that the applicant lacks the resources to complete and maintain the project in accordance with applicable standards. Further, the developer will provide a financial guarantee in the form of an escrow payment to the Town or a letter of credit from a reputable financial institution for the cost of all site improvements to ensure the project can be completed without potential cost to the Town. An inspection escrow in an amount suitable to cover the costs of on-site inspection by the Peer Review Engineer is also required to ensure the proposed development is constructed according to the approved plan.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining

Chapter16. 9 MARITIME AND SHORELAND RELATED DEEVELOPMENT

16.9.3.F. Findings of Fact

(2) An application will be approved or approved with conditions if the reviewing authority makes a positive finding based on the information presented. It must be demonstrated the proposed use will:

(a). Maintain safe and healthful conditions;

Finding: The proposed development as represented in the plans and application does not appear to have an adverse impact on public health and safety.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(b) Not result in water pollution, erosion or sedimentation to surface waters;

Finding: The proposed development as represented in the plans and application will not result in water pollution and best practices for erosion and sedimentation will be observed.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(c) Adequately provide for the disposal of all wastewater;

Finding: The development will be connected to public sewer.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(d) Not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;

Finding: The proposed development as represented in the plans and application does not appear to

have an adverse impact on aquatic or terrestrial wildlife.

Conclusion: The requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(e) Conserve shore cover and visual, as well as actual, points of access to inland and coastal waters;

Finding: The applicant proposes to install landscaping in shoreland areas to improve natural functions on the site. No formal public access to the shoreline exists or is proposed. Views of the shoreline from the street will be diminished but views of the water from abutting properties will not be diminished due to adherence to minimum setbacks from the shoreline.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(f) Protect archaeological and historic resources;

Finding: There does not appear to be any archaeological nor historic resources impacted.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(g) Not adversely affect existing commercial fishing or maritime activities in a commercial fisheries/maritime activities district;

Finding: No commercial fishing or maritime uses currently occupy the site.

Conclusion: This requirement is not applicable.

Vote: ___ in favor ___ against ___ abstaining

(h) Avoid problems associated with floodplain development and use;

Finding: The proposed development is located landward of the minimum shoreland setback and residential floors of proposed new construction are elevated to comply with floodplain regulations.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(i) Is in conformance with the provisions of this code;

Finding: As summarized above and in the staff memo provided with these findings, the proposed project is in conformance with the provisions of Title 16.

Conclusion: This requirement appears to be met.

Vote: ___ in favor ___ against ___ abstaining

(j) Be recorded with the York County Registry of Deeds.

Finding: A plan suitable for recording will be submitted by the Applicant since this application is both a subdivision and a shoreland development plan.

Conclusion: As stated in the Notices to Applicant contained herein, a Shoreland Development Plan must be recorded with the York County Registry of Deeds prior to the issuance of a building permit.

Vote: ___ in favor ___ against ___ abstaining

NOW THEREFORE the Kittery Planning Board adopts each of the foregoing Findings of Fact and based on these Findings determines the proposed Development will have no significant detrimental impact, and the Kittery Planning Board hereby grants final approval for the Development at the above referenced property, including any waivers granted or conditions as noted.

Conditions of Approval (to be included as notes on the final plan in addition to the existing notes):

1. No changes, erasures, modifications or revisions may be made to any Planning Board approved final plan. (Title 16.10.9.1.2)
2. Applicant/contractor will follow Maine DEP *Best Management Practices* for all work associated with site and building construction to ensure adequate erosion control and slope stabilization.
3. Prior to the commencement of grading and/or construction within a building envelope, as shown on the Plan, the owner and/or developer must stake all corners of the envelope. These markers must remain in place until the Code Enforcement Officer determines construction is completed and there is no danger of damage to areas that are, per Planning Board approval, to remain undisturbed.
4. All Notices to Applicant contained in the Findings of Fact (dated: 08/24/2023).

Conditions of Approval (Not to be included as notes on the final plan):

5. Incorporate any plan revisions on the final plan as recommended by Staff, Planning Board, or Peer Review Engineer, and submit for Staff review prior to presentation of final plan for endorsement.
6. The Home/ Condominium Owners Association (HOA) document must be reviewed and found satisfactory by the Town Attorney prior to the final plan being signed by the Chair.
7. Provide the additional documents and/or responses to all CMA comments prior to presentation of final plan.

Notices to Applicant: (not to be included on the final plan)

1. Prior to the release of the signed plans, the applicant must pay all outstanding fees associated with review, including, but not limited to, Town Attorney fees, peer review, newspaper advertisements and abutter notification.
2. State law requires all subdivision and shoreland development plans, and any plans receiving waivers or variances, be recorded at the York County Registry of Deeds within 90 days of the final approval.
3. Three (3) paper copies of the final plan and any and all related state/federal permits or legal documents that may be required, must be submitted to the Town Planning Department. Date of Planning Board approval shall be included on the final plan in the Signature Block.

4. The owner and/or developer, in an amount and form acceptable to the Town Manager, must file with the municipal treasurer an instrument to cover the cost of all infrastructure and right-of-way improvements and site erosion and stormwater stabilization, including inspection fees for same.
5. This approval by the Town Planning Board constitutes an agreement between the Town and the Developer, incorporating the Plan and supporting documentation, the Findings of Fact, and any Conditions of Approval.

The Planning Board authorizes the Planning Board Chair, or Vice Chair, to sign the Final Plan and the Findings of Fact upon confirmation of compliance with any conditions of approval.

Vote of _in favor _against_ abstaining

APPROVED BY THE KITTERY PLANNING BOARD ON August 24, 2023

Dutch Dunkelberger, Planning Board Chair

Appeal:
Per Title 16.6.2.A - An aggrieved party with legal standing may appeal a final decision of the Planning Board to the York County Superior Court in accordance with Maine Rules of Civil Procedures Section 80B, within forty-five (45) days from the date the decision by the Planning Board was rendered.

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3, Portsmouth, NH 03801
Phone (603) 430-9282 Fax 436-2315

3 August 2023

Dutch Dunkelberger, Chair
Kittery Planning Board
Town of Kittery
200 Rogers Road, Kittery, ME 03904

Re: Final Site Plan Application; Conversion to Residential
Tax Map 1, Lot 32, 35 Badgers Island West

Dear Dutch and Planning Board Members:

On behalf of BIW Inc. we hereby submitted for **Final Site Plan Approval** for the 35 Badgers Island West project and ask that we be placed on the Agenda for the **Planning Board meeting on August 24, 2023**. The Planning Board granted Preliminary Site Plan approval for the project on July 13, 2023.

The plan set contains a professionally prepared Landscape Plan showing the proposed buffer plantings. The plantings have considered the need for salt tolerant vegetation, as well as wildlife habitat. The planting plan is robust, in recognition of the site's proximity to a protected resource. The plan shows that the wetland buffer impact is reduced by 1,909 square feet, a removal of almost the entire existing impervious intrusion into the buffer. There is a proposed a minor increase of 62 square feet for a steppingstone path, which in total represents a 97% decrease in impervious surface in the buffer, from existing. The project also proposes a reduction in the overall site impervious surface area, going from 49.1 % to 40.7 %. Included in the site development plan is the elimination of untreated surface parking lots.

The plan set contains the following:

- Cover Sheet – This plan shows the design team, site location, and Legend.
- Existing Conditions Plan C1 – This plan shows the current improvements on the property (including the recently completed revetment) and the site boundary lines.
- Shoreland Development Plan C2 – This plan shows the location of the proposed building additions, walkways, and driveway entrances. The plan highlights the existing landscaping (trees) that will be retained. The plan contains the De-vegetated Coverage Table and details the changes to de-vegetated surfaces in the buffer zone.
- Landscape Plan L1 – This plan shows the proposed site landscaping and proposed patios.
- Utility Plan C3 – This plan shows the utilities required to service the proposed development.

- Grading Plan C4 – This plan shows the proposed site grading and the location of the proposed drainage pipes. The current town drainage pipe intrusion has been relocated on the lot so the flow can continue.
- Demolition Plan C5 – This plan shows the proposed demolition taking place on the property, including the building conformance removal.
- Turning Template Plan T1 – This plan shows that a fire truck will be able to safely travel on Badgers Island West given the proposed minor reduction in the roadway width for the addition of a proposed sidewalk.
- Detail Sheets D1 to D4 – These plans show the construction details for the project.

Also included in the submission are Architectural Plans that show Elevations, Floor Plans, Roof Plan, Context Imaging, and Building Massing.

The usual supplemental application material is also included.

We look forward to the Planning Board review of this submission and our in-person presentation at the Planning Board meeting on August 24, 2023. Thank you for your time and attention to this proposal.

Please contact me if you have any questions or concerns regarding this application.

Sincerely,

John R. Chagnon, PE
Ambit Engineering – Haley Ward
CC: Project Team

P:\NH\5010135-Hampshire_Development\3050.72A-Badgers Island W.(35)-JRC\3050.72A Hampshire Development\2022 Site Permitting\Applications\Town of Kittery\Planning Board Letter - Final 8-3-23.docx

18 August, 2022

To Whom It May Concern

RE: Client Representation for a proposed Amended Site Plan for BIW Group, LLC at 35 Badgers Island West, Kittery, Maine

This letter is to inform the Town of Kittery, and other parties in accordance with approval procedures that Ambit Engineering is authorized to represent the above-mentioned property as our agent in the approval process. This includes signatory powers on any and all applications.

Please feel free to call me if there is any question regarding this authorization.

Sincerely,

Shayne Forsley
BIW Group, LLC

Authorized Representative
41 Industrial Drive, Unit 20
Exeter, NH
03833

NANCY E HAMMOND, REGISTER OF DEEDS
E-RECORDED **Bk 18503 PG 331**
Instr # 2020067498
12/28/2020 01:37:44 PM
Pages 3 YORK CO

Maine R.E. Transfer Tax Paid

QUITCLAIM DEED WITH COVENANT

DLN: 1002040126646

GP Technology Solutions, LLC, a Delaware limited liability company with a mailing address of PO Box 9001, Kittery, ME 03904 (the "Grantor"), FOR CONSIDERATION PAID, grants to **B.I.W. Group, LLC**, a Maine limited liability company with a mailing address of 41 Industrial Drive, Unit 20, Exeter, NH 03833 (the "Grantee"), certain real property, together with any improvements thereon, located in the Town of Kittery, County of York, and State of Maine, more particularly described on **Exhibit A** attached hereto and made a part hereof.

Meaning and intending to convey the same premises conveyed to Grantor by Quitclaim Deed from GreenPages, Inc. dated November 19, 2020, and recorded in the York County Registry of Deeds in Book 18460, Page 790.

IN WITNESS WHEREOF, GP Technology Solutions, LLC has caused this instrument to be executed by Ronald Dupler, its duly-authorized Manager, thereunto duly authorized, as of this 22 day of December, 2020.

GP Technology Solutions, LLC

Witness

By:
Ronald Dupler
Its duly-authorized Manager

Commonwealth of Massachusetts
County of Middlesex

On this 22nd day of December, 2020 before me, the undersigned Notary Public, personally appeared Ronald Dupler and proved to me through satisfactory evidence of identification, which was personal knowledge of the undersigned, to be the person who signed the preceding document in my presence, and acknowledged to me that he signed it voluntarily for its stated purpose, that it was his free act and deed in his capacity as Manager of GP Technology Solutions, LLC, and that it was the free act and deed of said LLC.

Notary Public

Ashley Dotchin
Print Name
My Commission expires: 12/6/24

ASHLEY DOTCHIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
December 06, 2024

Exhibit A

Land with all improvements thereon, situated in the Town of Kittery, County of York, State of Maine, bounded and described as follows:

Four certain lots or parcels of land, situated on the Northerly side of Badgers Island in said Kittery, being more particularly described as Lots No. 14, 15, 16 and 17 on a certain plan of land, Badgers Island, Maine, dated April 1936, John W. Durgin, C.E., which plan is recorded in the York County Registry of Deeds, Plan Book 22, Page 31, subject however, to the existing rights of and public use of Veta Messaro and Ella E. Messaro to lay and maintain an overflow pipe across said Lot 14 as more particularly described in the deed from Annie E. Horner dated April, 1955 and recorded in the York County Registry of Deeds in Book 1301, Page 275.

Subject to and together with the benefit of the terms and provisions of a Boundary Line Agreement by and between Terry Gagner and William Seaward dated April 5, 1988 and recorded in the said Registry of Deeds in Book 4676, Page 184.

Excepting from the above described premises the land conveyed to the Town of Kittery by virtue of a Release Deed granted by GreenPages, Inc. et al , dated September 13, 1995 and recorded in the York County Registry of Deeds in Book 7561, Page 300.

Subject to the restrictions that installation of groundwater extraction wells is prohibited except with the consent of the State of Maine Department of Environmental Protection, or any successor agency. Nothing herein shall obligate the Grantee herein, or its successors and assigns, to obtain the consent of any party other than the Maine Department of Environmental Protection or its successor agency, including without limitations the Grantor herein or its successors or assigns, in order to undertake any of the activities specific to this paragraph.

Also, all right, title and interest in and to any filled lands between the lots described above and the Piscataqua River and in and to the shore and flats between the lots described above and the Piscataqua River.

Meaning and intending to describe the same premises in a Warranty Deed granted by William W. Seaward, Jr. dated October 17, 1994 and recorded in the York County Registry of Deeds in Book 7224, Page 202.

Also another certain lot or parcel of land, together with the buildings thereon, situated on the westerly side of Badgers Island, in the Town of Kittery, County of York, State of Maine, said lot being bounded and described as follows:

Beginning at a capped rebar set in the ground in the northerly sideline of a road called Badgers Island, West, at the southwesterly corner of the land herein conveyed as land of Charles Patten and thence running by said Patten land N 24 degrees 18' 14" E one hundred sixty-seven and twenty-three hundredths (167.23') feet to capped rebar set as the sideline of said road; thence turning and running by said road the following course; thence by said road southeasterly along a curve to the right having a radius of eight (80.00') feet and an arc length of fourteen and forty-four hundredths (14.44') feet to an iron pipe found; thence by said road S 42 degrees 55' 17" E one hundred ninety and thirty-six hundredths (190.36') feet to a

capped rebar set; thence by said road southerly along a curve to the right having a radius of twenty-five (25.00') feet and as arc length of sixty-two and eighty-three hundredths (62.83') feet to a capped rebar set; N78 degrees 55' 26" W one hundred ninety and thirty-six hundredths (190.36') feet to the point of beginning.

Meaning and intending to describe the same premises in a Warranty Deed granted by Lil's GreenDream, Inc. dated January 31, 2003 and recorded in the York County Registry of Deeds in Book 12483, Page 210.

The above-described properties are conveyed subject to all easements, covenants, restrictions, and agreements of record to the extent applicable and in effect.

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this twenty-second day of February 2022.

Shenna Bellows

Shenna Bellows

Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
B.I.W. GROUP, LLC	Registered Agent		20215185DC	GOOD STANDING
Home Office Address (of foreign entity)	**Other Mailing Address**			

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

USGS Map

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

JOB NUMBER: 3050.72A
SCALE: 1" = 1000'
SUBMITTED: 08-18-2022

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Vicinity Map

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

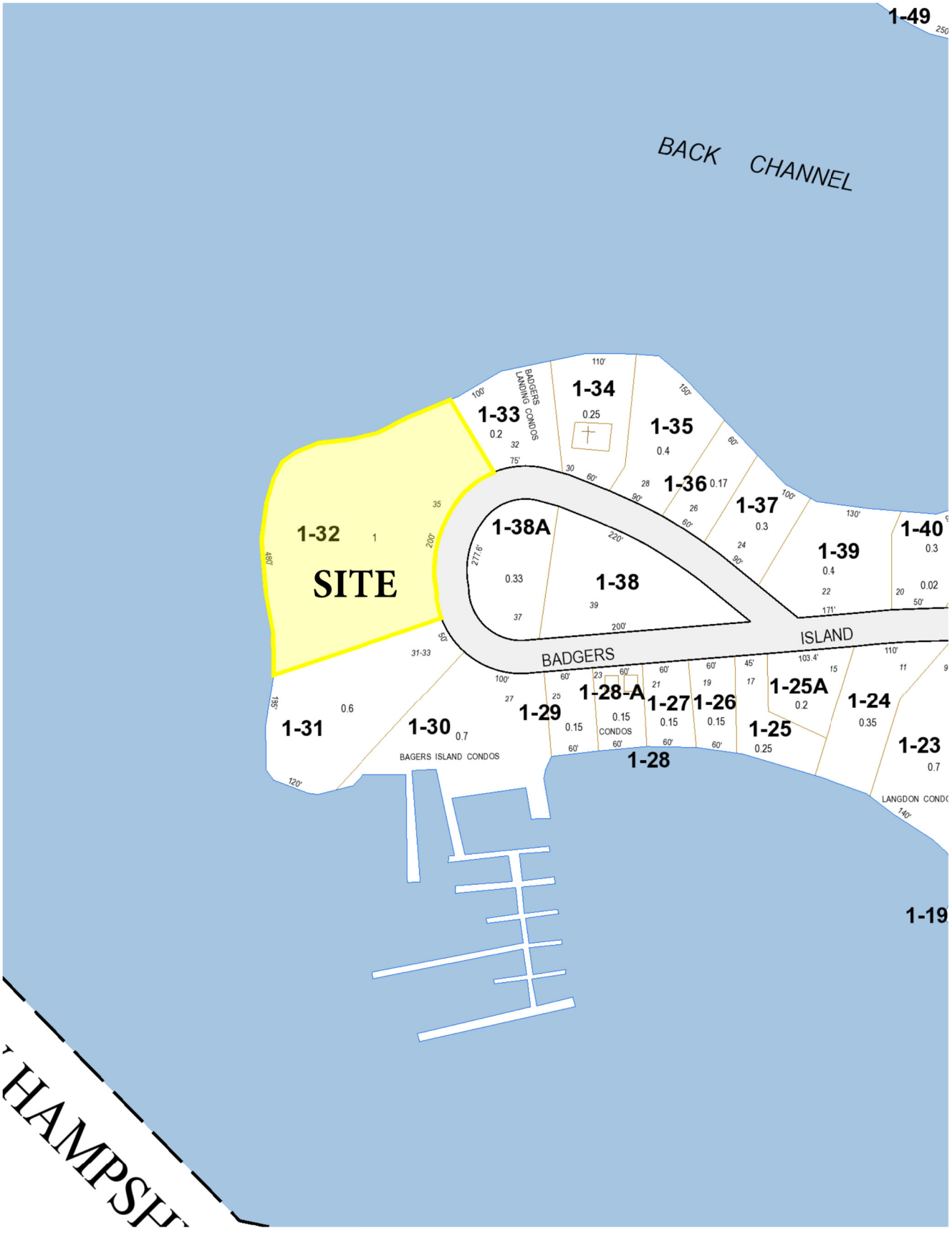
JOB NUMBER: 3050.72A
SCALE: 1" = 200'
SUBMITTED: 08-18-2022

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Tax Map

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

JOB NUMBER: 3050.72A
NTS
SUBMITTED: 08-18-2022



Site Photograph #1 August 2021

Site Photograph #2 August 2021

Site Photograph #3 August 2021

Site Photograph #4 August 2021

Site Photograph #5 August 2021

Site Photograph #6 August 2021

Site Photograph #7 August 2021

Site Photograph #7 August 2021

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for York County, Maine

June 15, 2022

Custom Soil Resource Report
Soil Map

Map Scale: 1:886 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 20, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UH	Urban land-Hooksan complex, 0 to 8 percent slopes	1.4	58.2%
W	Water bodies	1.0	41.8%
Totals for Area of Interest		**2.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

York County, Maine

UH—Urban land-Hooksan complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2x1l1
Elevation: 0 to 50 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, coastal: 50 percent
Hooksan and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Coastal

Setting

Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Frequency of flooding: Rare
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Hooksan

Setting

Landform: Dunes
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, base slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Sandy eolian deposits

Typical profile

C1 - 0 to 20 inches: sand
C2 - 20 to 30 inches: sand
C3 - 30 to 64 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (14.17 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R149BY002MA - Coastal Dunes
Hydric soil rating: No

W—Water bodies

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Hills

DRAINAGE ANALYSIS

SITE DEVELOPMENT

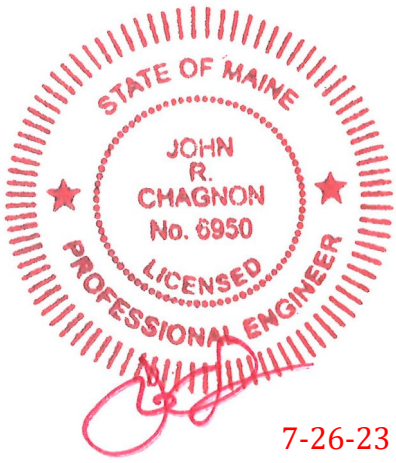
35 BADGERS ISLAND WEST
KITTERY, ME

PREPARED FOR
HAMPSHIRE DEVELOPMENT

19 JANUARY 2023
AMENDED: 26 JULY 2023

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 603.436.2315
E-mail: jchagnon@haleyward.com
(Ambit Job Number 5010135.3050.72A)



7-26-23

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REPORT

APPENDIX

EXECUTIVE SUMMARY

This drainage analysis examines the pre-development (existing) and post-development (proposed) stormwater drainage patterns for the Site Redevelopment at the property known as 35 Badgers Island West in Kittery, ME. The site is shown on the Town of Kittery Assessor's Tax Map 1 as Lot 32. The total size of the study area of on-site and adjacent flows is 104,634± square-feet (2.402 acres) and the drainage area including off-site flows (piped) is 147,126± square-feet (3.378 acres).

For the modelling process, this report utilized extreme precipitation values from the Northeast Regional Climate Center of Cornell University for the 2, 10, and 25-Year storm events.

The development will provide for building additions and associated utilities. The development has the potential to increase stormwater runoff to adjacent properties and should be designed in a manner to prevent that occurrence. The site contains an existing building and parking lot. The parking will be removed and replaced with the proposed structures, leading to a net decrease in contributing impervious area. The net decrease, as well as adhering to construction BMPs will offset the stormwater impact caused by the construction of the redevelopment.

INTRODUCTION / PROJECT DESCRIPTION

This drainage report is designed to assist the owner, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the Town of Kittery, ME Assessor's Tax Map 1 as Lot 32. Bounding the site to the east is the cul-de-sac of Badger's Island West. Bounding the site to the west is the Piscataqua River. Bounding the site to the north is a condominium. Bounding the site to the south is a private business. A vicinity map is included in the Appendix to this report.

The proposed project includes two building additions, associated parking and utilities. This report uses the design to calculate the future impervious coverage of the proposed lot, as required by the Town.

This report includes information about the existing site and the proposed site necessary to analyze stormwater runoff and to design any required mitigation. The report includes impervious surface analyses and the associated operations and maintenance manual. The report will provide a narrative of the stormwater runoff. Proposed stormwater management and treatment structures and methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

SITE SPECIFIC INFORMATION

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 2301710008D (effective date July 3, 1986), the proposed development is located in Zone C and is determined to be inside of the 0.2% annual chance floodplain. A copy of the FIRM map is included in the Appendix.

PRE AND POST-DEVELOPMENT DRAINAGE

In the pre-development condition, the site has been analyzed as three subcatchment basins (E1, E2, and E2a) based on localized topography and discharge location. Subcatchment E1 contains the north half of the property and flows toward the west boundary of Badgers Island (Discharge Point 1 or DP1). Subcatchment E2 contains the south half of the property and flows toward DP1. Subcatchment E2a contains area east of the property and flows in closed pipes toward DP1 through a drainage network located in Subcatchment E2. Proposed subcatchments P1, P2, and P2a occupy the same approximate space as subcatchments E1, E2, and E2a respectively and flow to the same discharge point. Subcatchment P2a is slightly larger than E2a (due to the proposed sidewalk) and is run through a modified drainage network. The subcatchments were analyzed for peak discharges using HydroCAD.

Table 1: Impervious Surfaces Analysis

Structure	Pre-Construction Impervious (S.F.)	Post-Construction Impervious (S.F.)
Main Structure	5,922	13,760
Decks/Stairs	0	77
Pavement/Cobbles	12,289	2,133
Gravel	2,277	0
Retaining Walls	86	114
Concrete Pads/Steps/Sidewalk	957	478
Patios/Walkways	0	300
Revetment/Riprap	5,392	5,392
Curbing	0	90
Total	26,923	22,344
Lot Size	54,883	54,883
% Devegetated Area	49.1%	40.7%

Table 2: Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	2-Year Runoff (CFS)	10-Year Runoff (CFS)	25-Year Runoff (CFS)
E1	71,648	6.9	92	6.23	10.13	13.15
E2	36,164	5.0	93	3.43	5.51	7.11
E2a	39,314	6.7	96	3.75	5.83	7.44
P1	65,504	7.2	91	5.48	9.03	11.79
P2	30,379	5.0	90	2.63	4.40	5.77
P2a	51,243	6.7	96	4.89	7.59	9.70

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. The Drainage patterns are shown on the attached Subcatchment Plans.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (CFS)		Q10 (CFS)		Q25 (CFS)		
Design Point	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Description**
DP1	13.22	12.81	21.18	20.73	27.35	26.88	Piscataqua River

In the developed condition, the site will see a net reduction in impervious surfaces. As a result, discharge point DP1 will experience a net decrease in peak discharge for all design storms in the proposed condition.

OFFSITE INFRASTRUCTURE CAPACITY

There is an overall reduction in off-site flow due to the reduction in impervious surfaces proposed by the project. Any Town infrastructure utilized by the project, in particular drainage networks, will not see a change in peak flows from the existing conditions, as the receiving infrastructure is upstream of the proposed development. Drainage Manhole (DMH) #1657 will be replaced by an 8’ manhole for additional pipe penetrations. As a result, there is no anticipated negative impact to Town infrastructure.

EROSION AND SEDIMENT CONTROL PRACTICES

The erosion potential for this site as it exists is moderate due to the construction proposed in areas that are erodible when exposed. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform to "The Maine Stormwater Management Design Manual." Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Silt Soxx (or approved alternative) located at the toe of disturbed slopes
- Stabilized construction entrance at access point to the site
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by permanent seeding, landscaping, and compacting/surfacing the access drives with pavement.

CONCLUSION

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. With the reduction in impervious surfaces the post-development quality of the site runoff will be sufficiently increased to mitigate any issues caused by the proposed construction. Erosion and sediment control practices will be implemented for both the temporary condition during construction and for final stabilization after construction. Therefore, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

REFERENCES

1. Town of Kittery, ME. Land Use Development Code, Amended January 24, 2022.
2. Maine Department of Environmental Protection, *Maine Stormwater Management Design Manual (Volumes I-III)*, March 2016.
3. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.0* copyright 2013.

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

Existing Subcatchments Plan

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

JOB NUMBER: 5010135.3050.72A
SCALE: 1" = 100'
SUBMITTED: 08-03-2023

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

Proposed Subcatchments Plan

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

JOB NUMBER: 5010135.3050.72A
SCALE: 1" = 100'
SUBMITTED: 07-26-2023

APPENDIX A

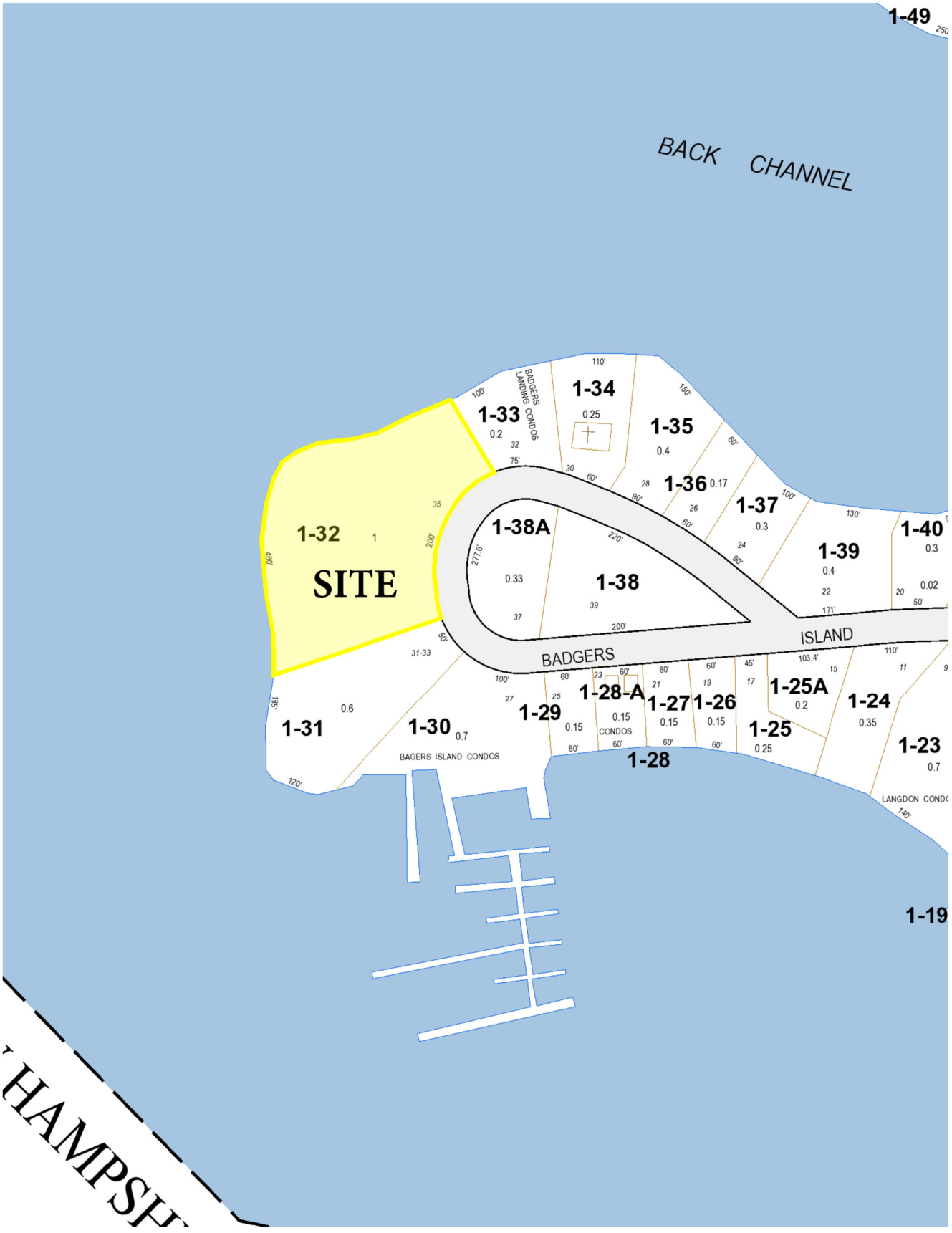
VICINITY (TAX) MAP

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Tax Map

B.I.W. GROUP, LLC
35 BADGERS ISLAND WEST
KITTERY, MAINE

JOB NUMBER: 3050.72A
NTS
SUBMITTED: 08-18-2022



APPENDIX B

FEMA FIRM MAP

APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
KITTERY, MAINE
YORK COUNTY

PANEL 8 OF 10

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230171 0008 D

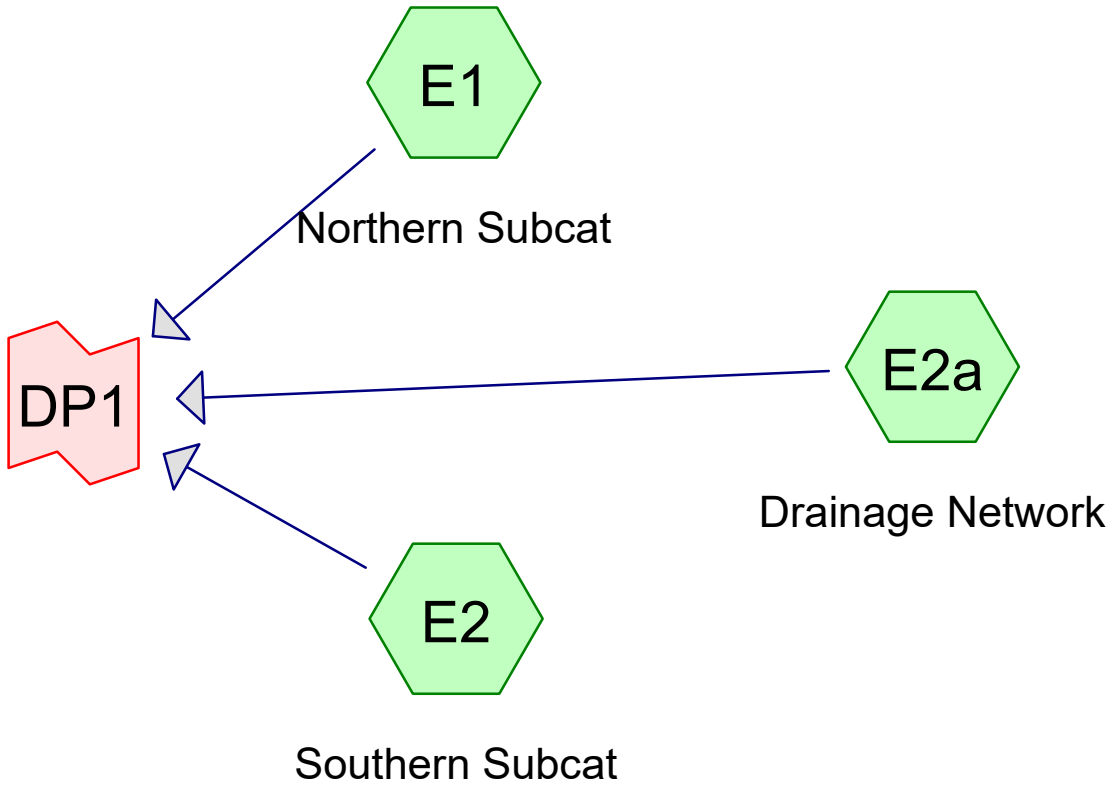
MAP REVISED:
JULY 3, 1986

Federal Emergency Management Agency

APPENDIX C

HYDROCAD DRAINAGE

ANALYSIS CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Existing Conditions 2023-01-18 David T
Prepared by Ambit Engineering, Printed 2023-01-19

Project Notes

Defined 5 rainfall events from output (39) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.20	2
2	10-yr	Type II 24-hr		Default	24.00	1	4.86	2
3	25-yr	Type II 24-hr		Default	24.00	1	6.16	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.676	80	>75% Grass cover, Good, HSG D (E1, E2, E2a)
0.156	96	Gravel surface, HSG D (E1, E2)
1.160	98	Paved parking, HSG D (E1, E2, E2a)
0.166	98	Roofs, HSG D (E1, E2, E2a)
0.097	98	Water Surface, 0% imp, HSG D (E1)
0.924	98	Water Surface, HSG D (E1, E2)
0.199	77	Woods, Good, HSG D (E1)
3.378	**93**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
3.378	HSG D	E1, E2, E2a
0.000	Other	
3.378		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.676	0.000	0.676	>75% Grass cover, Good	E1, E2, E2a
0.000	0.000	0.000	0.156	0.000	0.156	Gravel surface	E1, E2
0.000	0.000	0.000	1.160	0.000	1.160	Paved parking	E1, E2, E2a
0.000	0.000	0.000	0.166	0.000	0.166	Roofs	E1, E2, E2a
0.000	0.000	0.000	0.924	0.000	0.924	Water Surface	E1, E2
0.000	0.000	0.000	0.097	0.000	0.097	Water Surface, 0% imp	E1
0.000	0.000	0.000	0.199	0.000	0.199	Woods, Good	E1
0.000	**0.000**	**0.000**	**3.378**	**0.000**	**3.378**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Northern Subcat Runoff Area=71,648 sf 55.59% Impervious Runoff Depth>2.20"
Flow Length=585' Slope=0.0374 '/' Tc=6.9 min CN=92 Runoff=6.23 cfs 0.302 af

Subcatchment E2: Southern Subcat Runoff Area=36,164 sf 64.89% Impervious Runoff Depth>2.29"
Tc=5.0 min CN=93 Runoff=3.43 cfs 0.159 af

Subcatchment E2a: Drainage Network Runoff Area=39,314 sf 88.35% Impervious Runoff Depth>2.57"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=3.75 cfs 0.193 af

Link DP1: below 1,000.00 cfs Inflow=13.22 cfs 0.654 af
Primary=13.22 cfs 0.654 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 0.654 af Average Runoff Depth = 2.32"
33.37% Pervious = 1.127 ac 66.63% Impervious = 2.250 ac

Summary for Subcatchment E1: Northern Subcat

Runoff = 6.23 cfs @ 11.98 hrs, Volume= 0.302 af, Depth> 2.20"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
15,046	80	>75% Grass cover, Good, HSG D
3,894	96	Gravel surface, HSG D
1,192	98	Paved parking, HSG D
8,075	98	Paved parking, HSG D
2,924	98	Roofs, HSG D
8,671	77	Woods, Good, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
71,648	92	Weighted Average
31,817		44.41% Pervious Area
39,831		55.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	585	0.0374	1.41		**Lag/CN Method,**

Summary for Subcatchment E2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.43 cfs @ 11.95 hrs, Volume= 0.159 af, Depth> 2.29"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
9,817	80	>75% Grass cover, Good, HSG D
2,880	96	Gravel surface, HSG D
7,292	98	Paved parking, HSG D
3,568	98	Roofs, HSG D
12,607	98	Water Surface, HSG D
36,164	93	Weighted Average
12,697		35.11% Pervious Area
23,467		64.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2a: Drainage Network

Runoff = 3.75 cfs @ 11.97 hrs, Volume= 0.193 af, Depth> 2.57"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
4,581	80	>75% Grass cover, Good, HSG D
33,992	98	Paved parking, HSG D
741	98	Roofs, HSG D
39,314	96	Weighted Average
4,581		11.65% Pervious Area
34,733		88.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Link DP1:

Inflow Area = 3.378 ac, 66.63% Impervious, Inflow Depth > 2.32" for 2-yr event
Inflow = 13.22 cfs @ 11.97 hrs, Volume= 0.654 af
Primary = 13.22 cfs @ 11.97 hrs, Volume= 0.654 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Northern Subcat Runoff Area=71,648 sf 55.59% Impervious Runoff Depth>3.71"
Flow Length=585' Slope=0.0374 '/' Tc=6.9 min CN=92 Runoff=10.13 cfs 0.508 af

Subcatchment E2: Southern Subcat Runoff Area=36,164 sf 64.89% Impervious Runoff Depth>3.80"
Tc=5.0 min CN=93 Runoff=5.51 cfs 0.263 af

Subcatchment E2a: Drainage Network Runoff Area=39,314 sf 88.35% Impervious Runoff Depth>4.08"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=5.83 cfs 0.307 af

Link DP1: below 1,000.00 cfs Inflow=21.18 cfs 1.078 af
Primary=21.18 cfs 1.078 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 1.078 af Average Runoff Depth = 3.83"
33.37% Pervious = 1.127 ac 66.63% Impervious = 2.250 ac

Summary for Subcatchment E1: Northern Subcat

Runoff = 10.13 cfs @ 11.98 hrs, Volume= 0.508 af, Depth> 3.71"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
15,046	80	>75% Grass cover, Good, HSG D
3,894	96	Gravel surface, HSG D
1,192	98	Paved parking, HSG D
8,075	98	Paved parking, HSG D
2,924	98	Roofs, HSG D
8,671	77	Woods, Good, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
71,648	92	Weighted Average
31,817		44.41% Pervious Area
39,831		55.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	585	0.0374	1.41		**Lag/CN Method,**

Summary for Subcatchment E2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.51 cfs @ 11.95 hrs, Volume= 0.263 af, Depth> 3.80"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
9,817	80	>75% Grass cover, Good, HSG D
2,880	96	Gravel surface, HSG D
7,292	98	Paved parking, HSG D
3,568	98	Roofs, HSG D
12,607	98	Water Surface, HSG D
36,164	93	Weighted Average
12,697		35.11% Pervious Area
23,467		64.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2a: Drainage Network

Runoff = 5.83 cfs @ 11.97 hrs, Volume= 0.307 af, Depth> 4.08"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
4,581	80	>75% Grass cover, Good, HSG D
33,992	98	Paved parking, HSG D
741	98	Roofs, HSG D
39,314	96	Weighted Average
4,581		11.65% Pervious Area
34,733		88.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Link DP1:

Inflow Area = 3.378 ac, 66.63% Impervious, Inflow Depth > 3.83" for 10-yr event
Inflow = 21.18 cfs @ 11.97 hrs, Volume= 1.078 af
Primary = 21.18 cfs @ 11.97 hrs, Volume= 1.078 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Northern Subcat Runoff Area=71,648 sf 55.59% Impervious Runoff Depth>4.89"
Flow Length=585' Slope=0.0374 '/' Tc=6.9 min CN=92 Runoff=13.15 cfs 0.671 af

Subcatchment E2: Southern Subcat Runoff Area=36,164 sf 64.89% Impervious Runoff Depth>4.99"
Tc=5.0 min CN=93 Runoff=7.11 cfs 0.345 af

Subcatchment E2a: Drainage Network Runoff Area=39,314 sf 88.35% Impervious Runoff Depth>5.27"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=7.44 cfs 0.396 af

Link DP1: below 1,000.00 cfs Inflow=27.35 cfs 1.412 af
Primary=27.35 cfs 1.412 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 1.412 af Average Runoff Depth = 5.02"
33.37% Pervious = 1.127 ac 66.63% Impervious = 2.250 ac

Summary for Subcatchment E1: Northern Subcat

Runoff = 13.15 cfs @ 11.98 hrs, Volume= 0.671 af, Depth> 4.89"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

Area (sf)	CN	Description
15,046	80	>75% Grass cover, Good, HSG D
3,894	96	Gravel surface, HSG D
1,192	98	Paved parking, HSG D
8,075	98	Paved parking, HSG D
2,924	98	Roofs, HSG D
8,671	77	Woods, Good, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
71,648	92	Weighted Average
31,817		44.41% Pervious Area
39,831		55.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	585	0.0374	1.41		**Lag/CN Method,**

Summary for Subcatchment E2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 7.11 cfs @ 11.95 hrs, Volume= 0.345 af, Depth> 4.99"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

Area (sf)	CN	Description
9,817	80	>75% Grass cover, Good, HSG D
2,880	96	Gravel surface, HSG D
7,292	98	Paved parking, HSG D
3,568	98	Roofs, HSG D
12,607	98	Water Surface, HSG D
36,164	93	Weighted Average
12,697		35.11% Pervious Area
23,467		64.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2a: Drainage Network

Runoff = 7.44 cfs @ 11.97 hrs, Volume= 0.396 af, Depth> 5.27"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

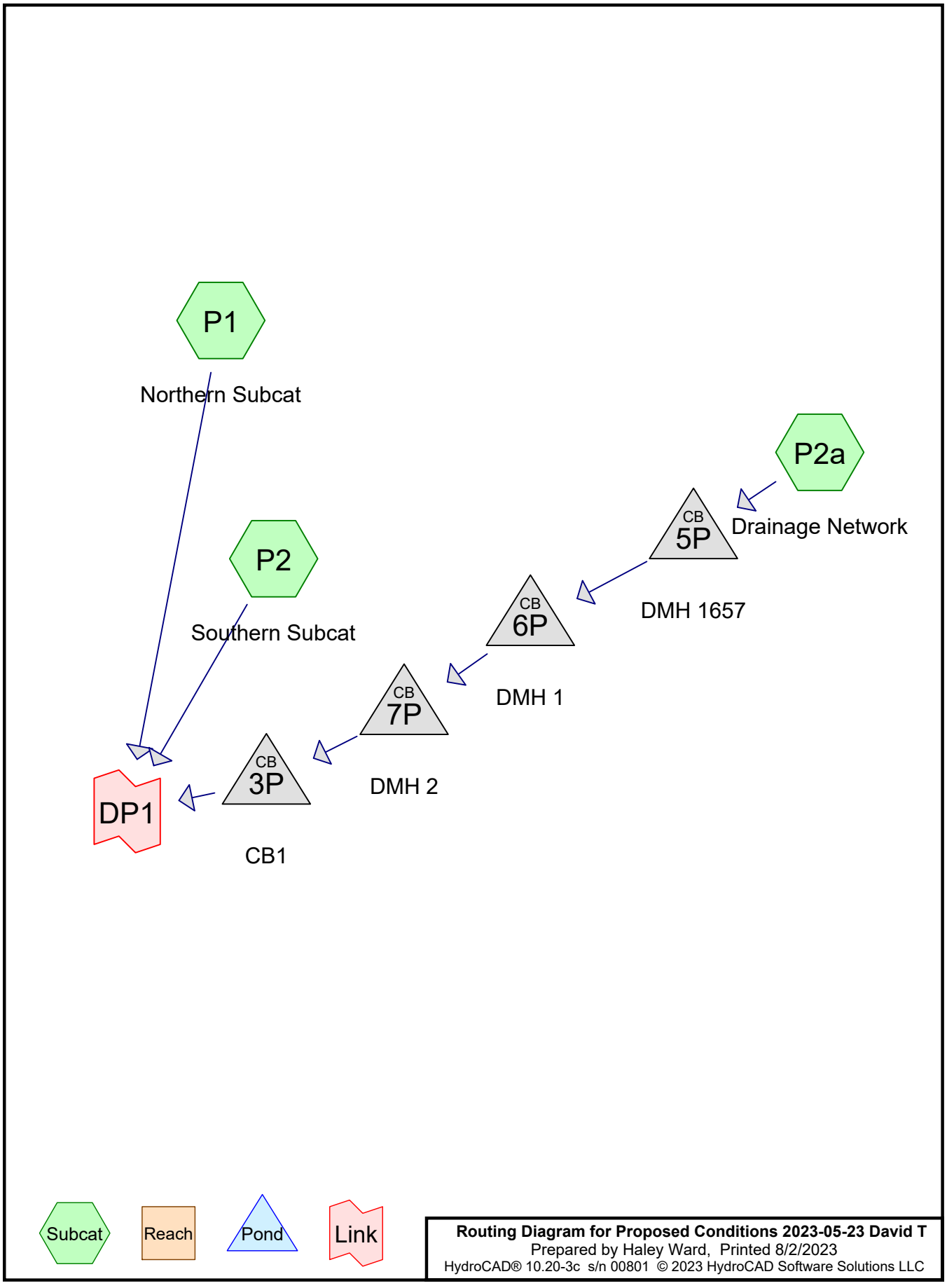
Area (sf)	CN	Description
4,581	80	>75% Grass cover, Good, HSG D
33,992	98	Paved parking, HSG D
741	98	Roofs, HSG D
39,314	96	Weighted Average
4,581		11.65% Pervious Area
34,733		88.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Link DP1:

Inflow Area = 3.378 ac, 66.63% Impervious, Inflow Depth > 5.02" for 25-yr event
Inflow = 27.35 cfs @ 11.97 hrs, Volume= 1.412 af
Primary = 27.35 cfs @ 11.97 hrs, Volume= 1.412 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Routing Diagram for Proposed Conditions 2023-05-23 David T
Prepared by Haley Ward, Printed 8/2/2023

Project Notes

Defined 5 rainfall events from output (39) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.20	2
2	10-yr	Type II 24-hr		Default	24.00	1	4.86	2
3	25-yr	Type II 24-hr		Default	24.00	1	6.16	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.984	80	>75% Grass cover, Good, HSG D (P1, P2, P2a)
0.109	96	Gravel surface, HSG D (P1, P2)
0.925	98	Paved parking, HSG D (P1, P2a)
0.335	98	Roofs, HSG D (P1, P2, P2a)
0.097	98	Water Surface, 0% imp, HSG D (P1)
0.924	98	Water Surface, HSG D (P1, P2)
0.004	77	Woods, Good, HSG D (P1)
3.378	**93**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
3.378	HSG D	P1, P2, P2a
0.000	Other	
3.378		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.984	0.000	0.984	>75% Grass cover, Good	P1, P2, P2a
0.000	0.000	0.000	0.109	0.000	0.109	Gravel surface	P1, P2
0.000	0.000	0.000	0.925	0.000	0.925	Paved parking	P1, P2a
0.000	0.000	0.000	0.335	0.000	0.335	Roofs	P1, P2, P2a
0.000	0.000	0.000	0.924	0.000	0.924	Water Surface	P1, P2
0.000	0.000	0.000	0.097	0.000	0.097	Water Surface, 0% imp	P1
0.000	0.000	0.000	0.004	0.000	0.004	Woods, Good	P1
0.000	**0.000**	**0.000**	**3.378**	**0.000**	**3.378**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	3P	7.63	7.53	25.1	0.0040	0.013	0.0	24.0	0.0	
2	5P	12.37	10.91	30.0	0.0487	0.013	0.0	18.0	0.0	
3	6P	10.81	10.07	22.0	0.0336	0.013	0.0	18.0	0.0	
4	7P	9.97	7.63	90.0	0.0260	0.013	0.0	18.0	0.0	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Northern Subcat Runoff Area=65,505 sf 51.78% Impervious Runoff Depth=2.26"
Flow Length=585' Slope=0.0374 '/' Tc=7.2 min CN=91 Runoff=5.48 cfs 0.283 af

Subcatchment P2: Southern Subcat Runoff Area=30,379 sf 54.47% Impervious Runoff Depth=2.17"
Tc=5.0 min CN=90 Runoff=2.63 cfs 0.126 af

Subcatchment P2a: Drainage Network Runoff Area=51,243 sf 87.19% Impervious Runoff Depth=2.75"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=4.89 cfs 0.270 af

Pond 3P: CB1 Peak Elev=8.80' Inflow=4.89 cfs 0.270 af
24.0" Round Culvert n=0.013 L=25.1' S=0.0040 '/' Outflow=4.89 cfs 0.270 af

Pond 5P: DMH 1657 Peak Elev=13.46' Inflow=4.89 cfs 0.270 af
18.0" Round Culvert n=0.013 L=30.0' S=0.0487 '/' Outflow=4.89 cfs 0.270 af

Pond 6P: DMH 1 Peak Elev=11.90' Inflow=4.89 cfs 0.270 af
18.0" Round Culvert n=0.013 L=22.0' S=0.0336 '/' Outflow=4.89 cfs 0.270 af

Pond 7P: DMH 2 Peak Elev=11.06' Inflow=4.89 cfs 0.270 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0260 '/' Outflow=4.89 cfs 0.270 af

Link DP1: below 1,000.00 cfs Inflow=12.81 cfs 0.679 af
Primary=12.81 cfs 0.679 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 0.679 af Average Runoff Depth = 2.41"
35.33% Pervious = 1.193 ac 64.67% Impervious = 2.184 ac

Summary for Subcatchment P1: Northern Subcat

Runoff = 5.48 cfs @ 11.98 hrs, Volume= 0.283 af, Depth= 2.26"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
3,570	96	Gravel surface, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
173	77	Woods, Good, HSG D
2,771	98	Roofs, HSG D
23,639	80	>75% Grass cover, Good, HSG D
3,506	98	Paved parking, HSG D
65,505	91	Weighted Average
31,588		48.22% Pervious Area
33,917		51.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	585	0.0374	1.35		**Lag/CN Method,**

Summary for Subcatchment P2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.63 cfs @ 11.95 hrs, Volume= 0.126 af, Depth= 2.17"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
1,183	96	Gravel surface, HSG D
12,607	98	Water Surface, HSG D
3,939	98	Roofs, HSG D
12,650	80	>75% Grass cover, Good, HSG D
30,379	90	Weighted Average
13,833		45.53% Pervious Area
16,546		54.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a: Drainage Network

Runoff = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af, Depth= 2.75"
Routed to Pond 5P : DMH 1657

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.20"

Area (sf)	CN	Description
7,903	98	Roofs, HSG D
6,564	80	>75% Grass cover, Good, HSG D
36,776	98	Paved parking, HSG D
51,243	96	Weighted Average
6,564		12.81% Pervious Area
44,679		87.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Pond 3P: CB1

[79] Warning: Submerged Pond 7P Primary device # 1 OUTLET by 1.15'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 2.75" for 2-yr event
Inflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Outflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Routed to Link DP1 :

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 8.80' @ 11.97 hrs
Flood Elev= 9.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.63'	**24.0" Round Culvert** L= 25.1' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.63' / 7.53' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=4.76 cfs @ 11.97 hrs HW=8.78' (Free Discharge)
1=Culvert (Barrel Controls 4.76 cfs @ 3.67 fps)

Summary for Pond 5P: DMH 1657

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 2.75" for 2-yr event
Inflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Outflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Routed to Pond 6P : DMH 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.46' @ 11.97 hrs
Flood Elev= 17.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.37'	**18.0" Round Culvert** L= 30.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.37' / 10.91' S= 0.0487 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.76 cfs @ 11.97 hrs HW=13.44' (Free Discharge)
1=Culvert (Inlet Controls 4.76 cfs @ 3.52 fps)

Summary for Pond 6P: DMH 1

[79] Warning: Submerged Pond 5P Primary device # 1 OUTLET by 0.97'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 2.75" for 2-yr event
Inflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Outflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Routed to Pond 7P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.90' @ 11.97 hrs
Flood Elev= 14.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	10.81'	**18.0" Round Culvert** L= 22.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.81' / 10.07' S= 0.0336 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.76 cfs @ 11.97 hrs HW=11.88' (Free Discharge)
1=Culvert (Inlet Controls 4.76 cfs @ 3.52 fps)

Summary for Pond 7P: DMH 2

[79] Warning: Submerged Pond 6P Primary device # 1 INLET by 0.23'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 2.75" for 2-yr event
Inflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Outflow = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 11.97 hrs, Volume= 0.270 af
Routed to Pond 3P : CB1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.06' @ 11.97 hrs
Flood Elev= 13.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.97'	**18.0" Round Culvert** L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.97' / 7.63' S= 0.0260 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=4.76 cfs @ 11.97 hrs HW=11.04' (Free Discharge)
1=Culvert (Inlet Controls 4.76 cfs @ 3.52 fps)

Summary for Link DP1:

Inflow Area = 3.378 ac, 64.67% Impervious, Inflow Depth = 2.41" for 2-yr event
Inflow = 12.81 cfs @ 11.97 hrs, Volume= 0.679 af
Primary = 12.81 cfs @ 11.97 hrs, Volume= 0.679 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Northern Subcat Runoff Area=65,505 sf 51.78% Impervious Runoff Depth=3.85"
Flow Length=585' Slope=0.0374 '/' Tc=7.2 min CN=91 Runoff=9.03 cfs 0.482 af

Subcatchment P2: Southern Subcat Runoff Area=30,379 sf 54.47% Impervious Runoff Depth=3.74"
Tc=5.0 min CN=90 Runoff=4.40 cfs 0.217 af

Subcatchment P2a: Drainage Network Runoff Area=51,243 sf 87.19% Impervious Runoff Depth=4.39"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=7.59 cfs 0.431 af

Pond 3P: CB1 Peak Elev=9.14' Inflow=7.59 cfs 0.431 af
24.0" Round Culvert n=0.013 L=25.1' S=0.0040 '/' Outflow=7.59 cfs 0.431 af

Pond 5P: DMH 1657 Peak Elev=13.91' Inflow=7.59 cfs 0.431 af
18.0" Round Culvert n=0.013 L=30.0' S=0.0487 '/' Outflow=7.59 cfs 0.431 af

Pond 6P: DMH 1 Peak Elev=12.35' Inflow=7.59 cfs 0.431 af
18.0" Round Culvert n=0.013 L=22.0' S=0.0336 '/' Outflow=7.59 cfs 0.431 af

Pond 7P: DMH 2 Peak Elev=11.51' Inflow=7.59 cfs 0.431 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0260 '/' Outflow=7.59 cfs 0.431 af

Link DP1: below 1,000.00 cfs Inflow=20.73 cfs 1.130 af
Primary=20.73 cfs 1.130 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 1.130 af Average Runoff Depth = 4.02"
35.33% Pervious = 1.193 ac 64.67% Impervious = 2.184 ac

Summary for Subcatchment P1: Northern Subcat

Runoff = 9.03 cfs @ 11.98 hrs, Volume= 0.482 af, Depth= 3.85"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
3,570	96	Gravel surface, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
173	77	Woods, Good, HSG D
2,771	98	Roofs, HSG D
23,639	80	>75% Grass cover, Good, HSG D
3,506	98	Paved parking, HSG D
65,505	91	Weighted Average
31,588		48.22% Pervious Area
33,917		51.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	585	0.0374	1.35		**Lag/CN Method,**

Summary for Subcatchment P2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.40 cfs @ 11.95 hrs, Volume= 0.217 af, Depth= 3.74"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
1,183	96	Gravel surface, HSG D
12,607	98	Water Surface, HSG D
3,939	98	Roofs, HSG D
12,650	80	>75% Grass cover, Good, HSG D
30,379	90	Weighted Average
13,833		45.53% Pervious Area
16,546		54.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a: Drainage Network

Runoff = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af, Depth= 4.39"
Routed to Pond 5P : DMH 1657

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.86"

Area (sf)	CN	Description
7,903	98	Roofs, HSG D
6,564	80	>75% Grass cover, Good, HSG D
36,776	98	Paved parking, HSG D
51,243	96	Weighted Average
6,564		12.81% Pervious Area
44,679		87.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Pond 3P: CB1

[79] Warning: Submerged Pond 7P Primary device # 1 OUTLET by 1.49'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 4.39" for 10-yr event
Inflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Outflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min
Primary = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Routed to Link DP1 :

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.14' @ 11.97 hrs
Flood Elev= 9.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.63'	**24.0" Round Culvert** L= 25.1' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.63' / 7.53' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=7.39 cfs @ 11.97 hrs HW=9.11' (Free Discharge)
1=Culvert (Barrel Controls 7.39 cfs @ 4.12 fps)

Summary for Pond 5P: DMH 1657

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 4.39" for 10-yr event
Inflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Outflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min
Primary = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Routed to Pond 6P : DMH 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.91' @ 11.97 hrs
Flood Elev= 17.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.37'	**18.0" Round Culvert** L= 30.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.37' / 10.91' S= 0.0487 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=7.38 cfs @ 11.97 hrs HW=13.87' (Free Discharge)
1=Culvert (Inlet Controls 7.38 cfs @ 4.17 fps)

Summary for Pond 6P: DMH 1

[79] Warning: Submerged Pond 5P Primary device # 1 OUTLET by 1.41'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 4.39" for 10-yr event
Inflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Outflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min
Primary = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Routed to Pond 7P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.35' @ 11.97 hrs
Flood Elev= 14.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	10.81'	**18.0" Round Culvert** L= 22.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.81' / 10.07' S= 0.0336 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=7.38 cfs @ 11.97 hrs HW=12.31' (Free Discharge)
1=Culvert (Inlet Controls 7.38 cfs @ 4.18 fps)

Summary for Pond 7P: DMH 2

[79] Warning: Submerged Pond 6P Primary device # 1 INLET by 0.67'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 4.39" for 10-yr event
Inflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Outflow = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min
Primary = 7.59 cfs @ 11.97 hrs, Volume= 0.431 af
Routed to Pond 3P : CB1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.51' @ 11.97 hrs
Flood Elev= 13.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.97'	**18.0" Round Culvert** L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.97' / 7.63' S= 0.0260 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=7.38 cfs @ 11.97 hrs HW=11.47' (Free Discharge)
1=Culvert (Inlet Controls 7.38 cfs @ 4.18 fps)

Summary for Link DP1:

Inflow Area = 3.378 ac, 64.67% Impervious, Inflow Depth = 4.02" for 10-yr event
Inflow = 20.73 cfs @ 11.97 hrs, Volume= 1.130 af
Primary = 20.73 cfs @ 11.97 hrs, Volume= 1.130 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Northern Subcat Runoff Area=65,505 sf 51.78% Impervious Runoff Depth=5.11"
Flow Length=585' Slope=0.0374 '/' Tc=7.2 min CN=91 Runoff=11.79 cfs 0.641 af

Subcatchment P2: Southern Subcat Runoff Area=30,379 sf 54.47% Impervious Runoff Depth=5.00"
Tc=5.0 min CN=90 Runoff=5.77 cfs 0.291 af

Subcatchment P2a: Drainage Network Runoff Area=51,243 sf 87.19% Impervious Runoff Depth=5.69"
Flow Length=411' Slope=0.0155 '/' Tc=6.7 min CN=96 Runoff=9.70 cfs 0.557 af

Pond 3P: CB1 Peak Elev=9.38' Inflow=9.70 cfs 0.557 af
24.0" Round Culvert n=0.013 L=25.1' S=0.0040 '/' Outflow=9.70 cfs 0.557 af

Pond 5P: DMH 1657 Peak Elev=14.41' Inflow=9.70 cfs 0.557 af
18.0" Round Culvert n=0.013 L=30.0' S=0.0487 '/' Outflow=9.70 cfs 0.557 af

Pond 6P: DMH 1 Peak Elev=12.85' Inflow=9.70 cfs 0.557 af
18.0" Round Culvert n=0.013 L=22.0' S=0.0336 '/' Outflow=9.70 cfs 0.557 af

Pond 7P: DMH 2 Peak Elev=12.01' Inflow=9.70 cfs 0.557 af
18.0" Round Culvert n=0.013 L=90.0' S=0.0260 '/' Outflow=9.70 cfs 0.557 af

Link DP1: below 1,000.00 cfs Inflow=26.88 cfs 1.489 af
Primary=26.88 cfs 1.489 af Secondary=0.00 cfs 0.000 af

Total Runoff Area = 3.378 ac Runoff Volume = 1.489 af Average Runoff Depth = 5.29"
35.33% Pervious = 1.193 ac 64.67% Impervious = 2.184 ac

Summary for Subcatchment P1: Northern Subcat

Runoff = 11.79 cfs @ 11.98 hrs, Volume= 0.641 af, Depth= 5.11"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

Area (sf)	CN	Description
3,570	96	Gravel surface, HSG D
27,640	98	Water Surface, HSG D
4,206	98	Water Surface, 0% imp, HSG D
173	77	Woods, Good, HSG D
2,771	98	Roofs, HSG D
23,639	80	>75% Grass cover, Good, HSG D
3,506	98	Paved parking, HSG D
65,505	91	Weighted Average
31,588		48.22% Pervious Area
33,917		51.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	585	0.0374	1.35		**Lag/CN Method,**

Summary for Subcatchment P2: Southern Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.77 cfs @ 11.95 hrs, Volume= 0.291 af, Depth= 5.00"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

Area (sf)	CN	Description
1,183	96	Gravel surface, HSG D
12,607	98	Water Surface, HSG D
3,939	98	Roofs, HSG D
12,650	80	>75% Grass cover, Good, HSG D
30,379	90	Weighted Average
13,833		45.53% Pervious Area
16,546		54.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a: Drainage Network

Runoff = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af, Depth= 5.69"
Routed to Pond 5P : DMH 1657

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.16"

Area (sf)	CN	Description
7,903	98	Roofs, HSG D
6,564	80	>75% Grass cover, Good, HSG D
36,776	98	Paved parking, HSG D
51,243	96	Weighted Average
6,564		12.81% Pervious Area
44,679		87.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	411	0.0155	1.03		**Lag/CN Method,**

Summary for Pond 3P: CB1

[79] Warning: Submerged Pond 7P Primary device # 1 OUTLET by 1.73'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 5.69" for 25-yr event
Inflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Outflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Routed to Link DP1 :

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.38' @ 11.97 hrs
Flood Elev= 9.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.63'	**24.0" Round Culvert** L= 25.1' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.63' / 7.53' S= 0.0040 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=9.44 cfs @ 11.97 hrs HW=9.35' (Free Discharge)
1=Culvert (Barrel Controls 9.44 cfs @ 4.40 fps)

Summary for Pond 5P: DMH 1657

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 5.69" for 25-yr event
Inflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Outflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Routed to Pond 6P : DMH 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.41' @ 11.97 hrs
Flood Elev= 17.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.37'	**18.0" Round Culvert** L= 30.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 12.37' / 10.91' S= 0.0487 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.44 cfs @ 11.97 hrs HW=14.35' (Free Discharge)
1=Culvert (Inlet Controls 9.44 cfs @ 5.34 fps)

Summary for Pond 6P: DMH 1

[79] Warning: Submerged Pond 5P Primary device # 1 INLET by 0.43'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 5.69" for 25-yr event
Inflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Outflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Routed to Pond 7P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.85' @ 11.97 hrs
Flood Elev= 14.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	10.81'	**18.0" Round Culvert** L= 22.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.81' / 10.07' S= 0.0336 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.44 cfs @ 11.97 hrs HW=12.79' (Free Discharge)
1=Culvert (Inlet Controls 9.44 cfs @ 5.34 fps)

Summary for Pond 7P: DMH 2

[79] Warning: Submerged Pond 6P Primary device # 1 INLET by 1.15'

Inflow Area = 1.176 ac, 87.19% Impervious, Inflow Depth = 5.69" for 25-yr event
Inflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Outflow = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 11.97 hrs, Volume= 0.557 af
Routed to Pond 3P : CB1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.01' @ 11.97 hrs
Flood Elev= 13.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.97'	**18.0" Round Culvert** L= 90.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.97' / 7.63' S= 0.0260 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Primary OutFlow Max=9.44 cfs @ 11.97 hrs HW=11.95' (Free Discharge)
1=Culvert (Inlet Controls 9.44 cfs @ 5.34 fps)

Summary for Link DP1:

Inflow Area = 3.378 ac, 64.67% Impervious, Inflow Depth = 5.29" for 25-yr event
Inflow = 26.88 cfs @ 11.97 hrs, Volume= 1.489 af
Primary = 26.88 cfs @ 11.97 hrs, Volume= 1.489 af, Atten= 0%, Lag= 0.0 min
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow below 1,000.00 cfs, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

APPENDIX D

INSPECTION & LONG TERM MAINTENANCE PLAN

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

INSPECTION & LONG-TERM MAINTENANCE PLAN
FOR
SITE DEVELOPMENT

35 BADGERS ISLAND WEST
KITTERY, ME

Introduction

The intent of this plan is to provide Hampshire Development (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the proposed closed drainage network and associated drainage structures (collectively referred to as the "Stormwater Management System"). The contact information for the owner shall be kept current, and if there is a change of ownership of the property this plan must be transferred to the new owner.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly and will help in maintaining a high quality of stormwater runoff to minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually by July 1st to the Kittery Code Enforcement Officer.

Inspection & Maintenance Checklist/Log

The following pages contain the Stormwater Management System Inspection & Maintenance Requirements and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

Stormwater Management System Components

The Stormwater Management System is designed to mitigate the quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMPs

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to:

- Temporary and Permanent mulching
- Temporary and Permanent grass cover
- Trees
- Shrubs and ground covers
- Miscellaneous landscape plantings
- Dust control
- Tree protection
- Topsoiling
- Sediment barriers
- Stabilized construction entrance
- Catch basin basket

Structural BMPs

Structural BMPs are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to:

- Storm Drains with Deep Sumps

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Grassed areas (until established):** After each rain event of 0.5" or more during a 24-hour period, inspect grassed areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and make adjustments to the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection.

3. **Storm Drains and Trench Drains:** Monitor accumulation of debris in catch basins and trench drains monthly or after significant rain events. Remove sediments when they accumulate within the outlet pipe. During construction, maintain inlet protection until all roadways and parking areas have been stabilized. Prior to the end of construction, inspect the drains and basins for accumulations and remove and clean by jet-vacuuming.
4. **Roof Drains:** Monitor roof drains for damage or clogging twice yearly. Check any outlets for erosion.
5. **Permeable Pavers (if constructed):** Ensure that sediments do not enter and plug pavement. Remove sediments, trash, and debris, as necessary. Repair porous installations as necessary to maintain functionality. Vacuum at least twice annually.

Pollution Prevention

The following pollution prevention activities shall be undertaken to minimize potential impacts on stormwater runoff quality. The Contractor is responsible for all activities during construction. The Owner is responsible thereafter.

Spill Procedures

Any discharge of waste oil or other pollutant shall be reported immediately to the Maine Department of Environmental Protection (Maine DEP). The Contractor/Owner will be responsible for any incident of groundwater contamination resulting from the improper discharge of pollutants to the stormwater system, and may be required by Maine DEP to remediate incidents that may impact groundwater quality. If the property ownership is transferred, the new owner will be informed of the legal responsibilities associated with operation of the stormwater system, as indicated above.

Sanitary Facilities

Sanitary facilities shall be provided during all phases of construction.

Material Storage

No on site trash facility is provided until homes are constructed. The contractors are required to remove trash from the site. Hazardous material storage is prohibited.

Material Disposal

All waste material, trash, sediment, and debris shall be removed from the site and disposed of in accordance with applicable local, state, and federal guidelines and regulations. Removed sediments shall be if necessary dewatered prior to disposal.

Invasive Species

Monitor the Stormwater Management System for signs of invasive species growth. If caught early, their eradication is much easier. The most likely places where invasions start is in wetter, disturbed soils or detention ponds. Species such as phragmites and purple loose-strife are common invaders in these wetter areas. If they are found, the owner shall refer to the Invasive Plants List created by the Maine Department of Agriculture, Conservation & Forestry or contact a wetlands scientist with experience in invasive species control to implement a plan of action for eradication. Measures that do not require the application of chemical herbicides should be the first line of defense.

Figure 1: Lythrum salicaria, Purple Loosestrife. Photo by Liz West.

Figure 2: Phragmites australis. Photo by Le Loup Gris

Maine Advisory List of Invasive Plants - 2019 revision

Common Name	Scientific Name	Ranking
American water lotus	*Nelumbo lutea*	Severely invasive
Amur honeysuckle*	*Lonicera maackii*	Severely invasive
Asiatic bittersweet*	*Celastrus orbiculatus*	Severely invasive
Bella honeysuckle*	*Lonicera x bella*	Severely invasive
Black locust*	*Robinia pseudoacacia*	Severely invasive
Black swallowwort	*Cynanchum louiseae*	Severely invasive
Bohemian knotweed	*Fallopia x bohemica*	Severely invasive
Brazilian waterweed**	*Egeria densa*	Severely invasive
Canada thistle	*Cirsium arvense*	Severely invasive
Chinese yam	*Dioscorea polystachya*	Severely invasive
Chocolate vine; five-leaf akebia	*Akebia quinata*	Severely invasive
Common buckthorn	*Rhamnus cathartica*	Severely invasive
Common reed	*Phragmites australis*	Severely invasive
Curly pondweed**	*Potamogeton crispus*	Severely invasive
Eurasian milfoil**	*Myriophyllum spicatum*	Severely invasive
European alder	*Alnus glutinosa*	Severely invasive
European frog's bit**	*Hydrocharis morsus-ranae*	Severely invasive
False indigo*	*Amorpha fruticosa*	Severely invasive
Fanwort**	*Cabomba caroliniana*	Severely invasive
Flowering rush	*Butomus umbellatus*	Severely invasive
Garlic mustard*	*Alliaria petiolata*	Severely invasive
Giant knotweed	*Fallopia sachalinensis*	Severely invasive
Glossy buckthorn*	*Frangula alnus*	Severely invasive
Goutweed*	*Aegopodium podagraria*	Severely invasive
Hydrilla**	*Hydrilla verticillata*	Severely invasive
Inflated bladderwort	*Utricularia inflata*	Severely invasive
Japanese barberry*	*Berberis thunbergii*	Severely invasive
Japanese honeysuckle*	*Lonicera japonica*	Severely invasive
Japanese knotweed*	*Fallopia japonica*	Severely invasive
Japanese stilt grass*	*Microstegium vimineum*	Severely invasive
Morrow's honeysuckle*	*Lonicera morrowii*	Severely invasive
Ornamental jewelweed*	*Impatiens glandulifera*	Severely invasive
Pale swallowwort	*Cynanchum rossicum*	Severely invasive
Parrot feather**	*Myriophyllum aquaticum*	Severely invasive
Porcelainberry*	*Ampelopsis glandulosa*	Severely invasive
Reed canary grass	*Phalaris arundinacea*	Severely invasive
Slender-leaved naiad**	*Najas minor*	Severely invasive
Starry stonewort	*Nitellopsis obtusa*	Severely invasive
Starwort	*Callitriche stagnalis*	Severely invasive
Tall pepperwort	*Lepidium latifolium*	Severely invasive
Tartarian honeysuckle*	*Lonicera tatarica*	Severely invasive
Tree of heaven*	*Ailanthus altissima*	Severely invasive
Variable milfoil**	*Myriophyllum heterophyllum*	Severely invasive
Water chestnut**	*Trapa natans*	Severely invasive
Water lettuce	*Pistia stratiotes*	Severely invasive

**Plant regulated by the Do Not Sell list, Horticulture Program, DACF*

***Aquatic plant regulated by Maine DEP*

Maine Advisory List of Invasive Plants - 2019 revision

Common Name	Scientific Name	Ranking
Water soldier	*Stratiotes aloides*	Severely invasive
Wavyleaf basketgrass	*Oplismenus hirtellus ssp. undulatifolius*	Severely invasive
White cottonwood*	*Populus alba*	Severely invasive
Wineberry	*Rubus phoenicolasias*	Severely invasive
Winged euonymous*	*Euonymus alatus*	Severely invasive
Yellow floating heart**	*Nymphoides peltata*	Severely invasive
Yellow iris*	*Iris pseudacorus*	Severely invasive
Amur cork tree*	*Phellodendron amurense*	Very invasive
Amur maple*	*Acer ginnala*	Very invasive
Autumn olive*	*Elaeagnus umbellata*	Very invasive
Black jetbead	*Rhodotypos scandens*	Very invasive
Border privet	*Ligustrum obtusifolium*	Very invasive
California privet	*Ligustrum ovalifolium*	Very invasive
Callery ("Bradford") pear	*Pyrus calleryana*	Very invasive
Common barberry*	*Berberis vulgaris*	Very invasive
Creeping buttercup	*Ranunculus repens*	Very invasive
Dame's rocket*	*Hesperis matronalis*	Very invasive
English water grass	*Glyceria maxima*	Very invasive
European blackberry	*Rubus fruticosus*	Very invasive
Giant hogweed	*Heracleum mantegazzianum*	Very invasive
Hairy willow-herb	*Epilobium hirsutum*	Very invasive
Hardy kiwi	*Actinidia arguta*	Very invasive
Japanese hops	*Humulus japonicus*	Very invasive
Kudzu	*Pueraria lobata*	Very invasive
Leafy spurge	*Euphorbia esula*	Very invasive
Lesser celandine	*Ficaria verna*	Very invasive
Linden arrowwood	*Viburnum dilatatum*	Very invasive
Mile-a-minute vine*	*Persicaria perfoliata*	Very invasive
Multiflora rose*	*Rosa multiflora*	Very invasive
Narrowleaf bittercress	*Cardamine impatiens*	Very invasive
Norway maple*	*Acer platanoides*	Very invasive
Oriental photinia	*Photinia villosa*	Very invasive
Privet*	*Ligustrum vulgare*	Very invasive
Purple loosestrife*	*Lythrum salicaria*	Very invasive
Rugosa rose	*Rosa rugosa*	Very invasive
Water forget-me-not	*Myosotis scorpioides*	Very invasive
Wintercreeper	*Euonymus fortunei*	Very invasive
Yam-leaved virgin's bower	*Clematis terniflora*	Very invasive
Bicolor lespedeza, two-colored bush-clover	*Lespedeza bicolor*	Invasive, habitat-specific threats
Brown knapweed	*Centaurea jacea*	Invasive, habitat-specific threats
Chinese bindweed*	*Fallopia baldschuanica*	Invasive, habitat-specific threats
Chinese bush-clover	*Lespedeza cuneata*	Invasive, habitat-specific threats
Coltsfoot	*Tussilago farfara*	Invasive, habitat-specific threats

**Plant regulated by the Do Not Sell list, Horticulture Program, DACF*

***Aquatic plant regulated by Maine DEP*

Maine Advisory List of Invasive Plants - 2019 revision

Common Name	Scientific Name	Ranking
Dalmation toadflax	*Linaria dalmatica*	Invasive, habitat-specific threats
February daphne; paradise plant	*Daphne mezereum*	Invasive, habitat-specific threats
Fine-leaved sheep fescue	*Festuca filiformis*	Invasive, habitat-specific threats
Gray willow	*Salix cinerea*	Invasive, habitat-specific threats
Japanese tree lilac	*Syringa reticulata*	Invasive, habitat-specific threats
Mudmat	*Glossostigma cleistanthum*	Invasive, habitat-specific threats
One-rowed watercress	*Nasturtium microphyllum*	Invasive, habitat-specific threats
Oriental lady's thumb smartweed	*Persicaria longiseta*	Invasive, habitat-specific threats
Russian olive	*Elaeagnus angustifolia*	Invasive, habitat-specific threats
Siberian elm	*Ulmus pumila*	Invasive, habitat-specific threats
Siebold viburnum	*Viburnum sieboldii*	Invasive, habitat-specific threats
Spotted knapweed	*Centaurea stoebe*	Invasive, habitat-specific threats
Watercress	*Nasturtium officinale*	Invasive, habitat-specific threats
Wood blue grass	*Poa nemoralis*	Invasive, habitat-specific threats
Woodland angelica	*Angelica sylvestris*	Invasive, habitat-specific threats
Bittersweet or climbing nightshade	*Solanum dulcamara*	Potential to be invasive, monitor
Bull thistle	*Cirsium vulgare*	Potential to be invasive, monitor
Common mugwort*	*Artemisia vulgaris*	Potential to be invasive, monitor
Common valerian	*Valeriana officinalis*	Potential to be invasive, monitor
Creeping jenny	*Lysimachia nummularia*	Potential to be invasive, monitor
Cypress spurge*	*Euphorbia cyparissias*	Potential to be invasive, monitor
Princess tree*	*Paulownia tomentosa*	Potential to be invasive, monitor
Small carpgrass	*Arthraxon hispidus*	Potential to be invasive, monitor
Sycamore maple	*Acer pseudoplatanus*	Potential to be invasive, monitor
Western lupine	*Lupinus polyphyllus*	Potential to be invasive, monitor
Wild parsnip	*Pastinaca sativa*	Potential to be invasive, monitor
Yellow hornpoppy	*Glaucium flavum*	Potential to be invasive, monitor

Also evaluated in 2018; not meeting criteria for inclusion as invasive:

Common Name	Scientific Name	Outcome
Canada bluegrass, flat-stemmed bluegrass	*Poa compressa*	Not invasive at this time
Wild thyme	*Thymus pulegioides*	Not invasive at this time
European spindle-tree	*Euonymus europaeus*	Insufficient data to evaluate
False spiraea	*Sorbaria sorbifolia*	Insufficient data to evaluate
Fly honeysuckle	*Lonicera xylosteum*	Insufficient data to evaluate
Great watercress, great yellow-cress	*Rorippa amphibia*	Insufficient data to evaluate
Japanese fuki	*Petasites japonicus*	Insufficient data to evaluate
Wall lettuce	*Mycelis muralis*	Insufficient data to evaluate

**Plant regulated by the Do Not Sell list, Horticulture Program, DACF*

***Aquatic plant regulated by Maine DEP*

CATCH BASIN BASKET CONSTRUCTION MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Check for damage to basket -Remove sediment from basket	Within 24 hours of rainfall, Daily during extended rainfall	*-Repair basket as necessary to prevent particles from reaching drainage system, or to prevent flooding.* *-Empty basket after every storm, or if clogged.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

CLOSED DRAINAGE STRUCTURE LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Outlet Control Structures *-Drain Manholes* *-Catch Basins and Trench Drains*	Every other Month	*Check for erosion or short-circuiting* *Check for sediment accumulation* *Check for floatable contaminants*
-Drainage Pipes *-Roof Drains*	1 time per 2 years	*Check for sediment accumulation/clogging, or soiled runoff.* *Check for erosion at outlets.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

PERMEABLE PAVER LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Inspect surface for the occurrence of sediment, trash, debris, or structural damage. *-Check for surface ponding*	Frequently in first few months following construction, Bi-annually after	*-Ensure that sediments do not enter and plug surface. Remove sediments, trash, and debris, as necessary.* *-Repair porous installations as necessary to maintain functionality.* *-Vacuum surface at least twice annually.* *-Prevent vehicles with muddy wheels from accessing permeable surface.*
-No winter sanding permitted *-Minimize application of salt*	Continuous practice	

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

STABILIZED CONSTRUCTION ENTRANCE CONSTRUCTION MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
ENTRANCE SURFACE *-Check for sediment accumulation/clogging of stone* *-Check Vegetative filter strips*	After heavy rains, as necessary	*-Top dress pad with new stone.* *-Replace stone completely if completely clogged.* *-Maintain vigorous stand of vegetation.*
WASHING FACILITIES (if applicable) *-Monitor Sediment Accumulation*	As often as necessary	*-Remove Sediments from traps.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

APPENDIX E

TABLES, CHARTS, ETC.

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.755 degrees West
Latitude	43.082 degrees North
Elevation	0 feet
Date/Time	Mon, 25 Jul 2022 15:42:48 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.65	2.92	**1yr**	2.35	2.81	3.22	3.94	4.54	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.48	3.20	3.57	**2yr**	2.84	3.43	3.93	4.67	5.32	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.06	4.57	**5yr**	3.59	4.40	5.03	5.93	6.69	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.73	2.23	2.89	3.74	4.86	5.52	**10yr**	4.30	5.31	6.07	7.09	7.96	**10yr**
25yr	0.48	0.76	0.97	1.34	1.77	2.34	**25yr**	1.53	2.14	2.78	3.63	4.73	6.16	7.09	**25yr**	5.45	6.81	7.79	9.00	10.03	**25yr**
50yr	0.54	0.86	1.10	1.54	2.07	2.76	**50yr**	1.79	2.53	3.29	4.32	5.65	7.37	8.57	**50yr**	6.52	8.24	9.40	10.79	11.95	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.90	5.15	6.76	8.83	10.36	**100yr**	7.81	9.96	11.35	12.93	14.24	**100yr**
200yr	0.67	1.10	1.43	2.05	2.82	3.83	**200yr**	2.44	3.51	4.61	6.12	8.07	10.58	12.52	**200yr**	9.36	12.04	13.72	15.50	16.97	**200yr**
500yr	0.80	1.31	1.71	2.48	3.48	4.76	**500yr**	3.00	4.38	5.76	7.70	10.20	13.44	16.10	**500yr**	11.90	15.48	17.62	19.72	21.43	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.93	1.33	1.68	2.23	2.47	**1yr**	1.98	2.38	2.86	3.19	3.89	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.82	4.54	5.08	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.78	4.17	**5yr**	3.34	4.01	4.71	5.52	6.22	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.36	4.84	**10yr**	3.86	4.65	5.42	6.39	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.71	5.86	**25yr**	4.17	5.63	6.61	7.75	8.64	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.34	3.07	3.92	5.32	6.75	**50yr**	4.71	6.50	7.67	8.99	9.97	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.41	4.34	5.98	7.79	**100yr**	5.30	7.49	8.89	10.43	11.50	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.78	4.78	6.71	8.97	**200yr**	5.93	8.63	10.30	12.13	13.29	**200yr**
500yr	0.68	1.01	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.31	5.43	7.80	10.82	**500yr**	6.90	10.41	12.52	14.82	16.09	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.98	3.16	**1yr**	2.63	3.04	3.57	4.37	5.03	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.70	**2yr**	3.02	3.56	4.09	4.84	5.62	**2yr**
5yr	0.40	0.62	0.76	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.54	3.25	4.33	4.96	**5yr**	3.84	4.77	5.37	6.37	7.15	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.96	5.33	6.21	**10yr**	4.72	5.97	6.83	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.51	2.96	4.07	5.16	7.76	8.35	**25yr**	6.87	8.03	9.17	10.34	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.00	6.33	9.71	10.48	**50yr**	8.60	10.08	11.48	12.73	13.97	**50yr**
100yr	0.79	1.19	1.50	2.16	2.96	3.81	**100yr**	2.56	3.73	4.38	6.16	7.78	12.15	13.14	**100yr**	10.75	12.64	14.37	15.71	17.10	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.55	5.34	7.59	9.56	15.24	16.50	**200yr**	13.49	15.86	18.02	19.37	20.93	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.04	**500yr**	3.92	5.90	6.94	10.03	12.60	20.59	22.29	**500yr**	18.23	21.44	24.31	25.55	27.36	**500yr**

Powered by ACIS Northeast Regional Climate Center

RESIDENTIAL CONVERSION

35 BADGERS ISLAND WEST
KITTERY, MAINE

AMENDED SITE PLAN
PRELIMINARY PLAN APPLICATION

OWNER & APPLICANT:
B.I.W. GROUP, LLC
41 INDUSTRIAL DRIVE, UNIT 20
EXETER, N.H. 03833

CIVIL ENGINEER & LAND SURVEYOR:
AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801–7114
TEL: (603) 430–9282
FAX: (603) 436–2315

ARCHITECT:
WINTER HOLBEN
7 WALLINGFORD SQ. UNIT 209–9
KITTERY, ME 03904
TEL: (207) 994–3104

LANDSCAPE ARCHITECT:
WOODBURN & COMPANY LANDSCAPE ARCHITECTURE
103 KENT PLACE
NEWMARKET, N.H. 03857
TEL: (603) 659–5949

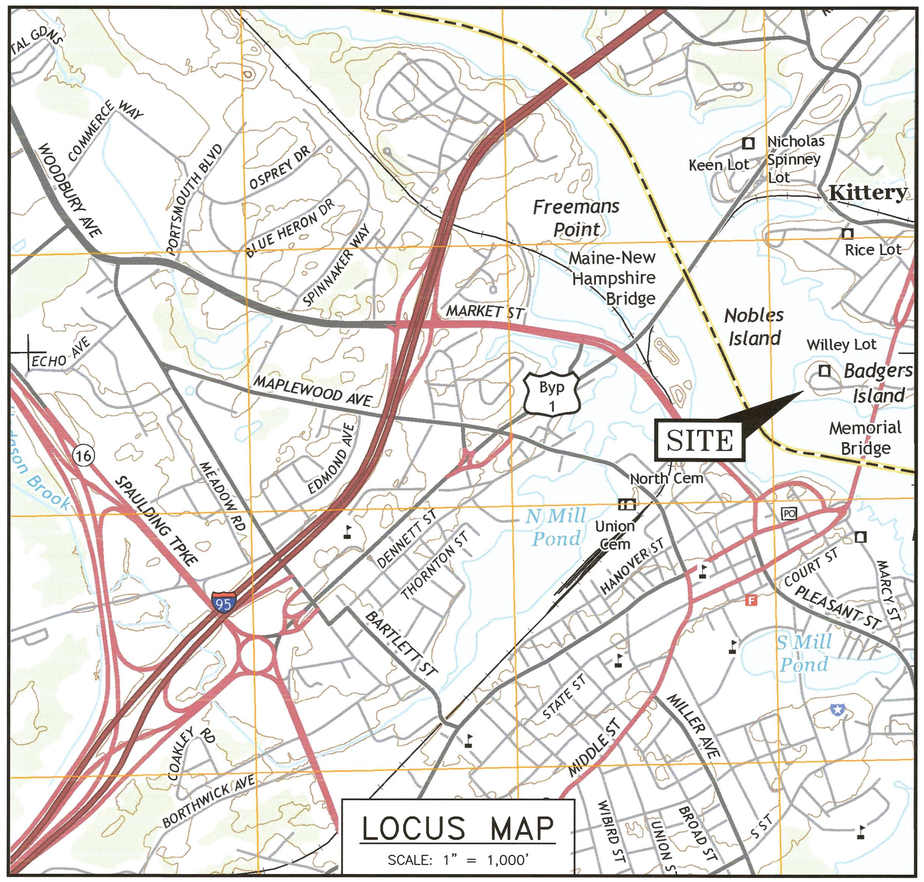
INDEX OF SHEETS

OWNER:

_____ _____
SIGNATURE DATE

APPROVED BY THE KITTERY PLANNING BOARD

_____ _____
CHAIRMAN DATE



LOCUS MAP
SCALE: 1" = 1,000'

LEGEND:

N/F		NOW OR FORMERLY
RP		RECORD OF PROBATE
YCRD		YORK COUNTY REGISTRY OF DEEDS
11/21		MAP 11 / LOT 21
		BOUNDARY
		BUILDING SETBACK
	MHW	MEAN HIGH WATER LINE
	MSL	MEAN SEA LEVEL
	MLW	MEAN LOW WATER
	MLLW	MEAN LOWER LOW WATER
	HAT	MAINE DEP HIGHEST ANNUAL TIDE LINE

EXISTING	PROPOSED	
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC/WIRES
S	S	SEWER LINE
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
	RD	ROOF DRAIN/LINE
100	16	CONTOUR
97x3	20X5	SPOT ELEVATION
		IRON ROD/PIPE FOUND/SET
		EDGE OF PAVEMENT
		WOODS / TREE LINE
		UTILITY POLE (w/ GUY)
G W E		METER (GAS, WATER, ELECTRIC)
TYP.		TYPICAL
LSA		LANDSCAPED AREA
WGV		WATER GATE VALVE
		SIGNS
CPP		CORRUGATED PLASTIC PIPE
PVC		POLYVINYL CHLORIDE PIPE
		CATCH BASIN
		SEWER MANHOLE
		DRAIN MANHOLE
EL.		ELEVATION
FF		FINISHED FLOOR
INV.		INVERT
TBM		TEMPORARY BENCHMARK
HP		HEAT PUMP
AC		AIR CONDITIONER
	9	PARKING SPACE COUNT

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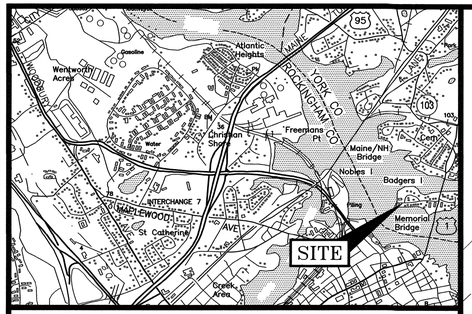
AMENDED SITE PLAN
TAX MAP 1, LOT 32
RESIDENTIAL CONVERSION
35 BADGERS ISLAND WEST
KITTERY, MAINE

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

PLAN SET SUBMITTAL DATE: 3 AUGUST 2023



LOCATION MAP SCALE 1"=2,000'

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
YCRD	YORK COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY
	BUILDING SETBACK
MHW	MEAN HIGH WATER LINE
MSL	MEAN SEA LEVEL
MLW	MEAN LOW WATER
MLLW	MEAN LOWER LOW WATER
HAT	MAINE DEP HIGHEST ANNUAL TIDE LINE
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC/WIRES
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
100	CONTOUR
97x3	SPOT ELEVATION
○	IRON ROD/PIPE FOUND
●	IRON ROD SET
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
∅ ∅	UTILITY POLE (w/ GUY)
GWE	METER (GAS, WATER, ELECTRIC)
TYP.	TYPICAL
LSA	LANDSCAPED AREA
WGV	WATER GATE VALVE
	SIGNS
CPP	CORRUGATED PLASTIC PIPE
PVC	POLYVINYL CHLORIDE PIPE
	CATCH BASIN
S	SEWER MANHOLE
D	DRAIN MANHOLE

LEGEND (CONTINUED)

EL.	ELEVATION
FF	FINISHED FLOOR
INV.	INVERT
TBM	TEMPORARY BENCHMARK
HP	HEAT PUMP
AC	AIR CONDITIONER

PLAN REFERENCES:

1) BADGERS LANDING CONDOMINIUM STANDARD BOUNDARY SURVEY & CONDOMINIUM SITE PLAN FOR PROPERTY AT 32 BADGERS ISLAND WEST, KITTERY, YORK COUNTY, MAINE CLIENT ISLAND PROPERTIES, LLC PREPARED BY EASTERLY SURVEY, INC. DATED SEPTEMBER 17, 2002, FINAL REVISION DATE SEPTEMBER 30, 2002. Y.C.R.D. PLAN BOOK 581, PAGE 1.

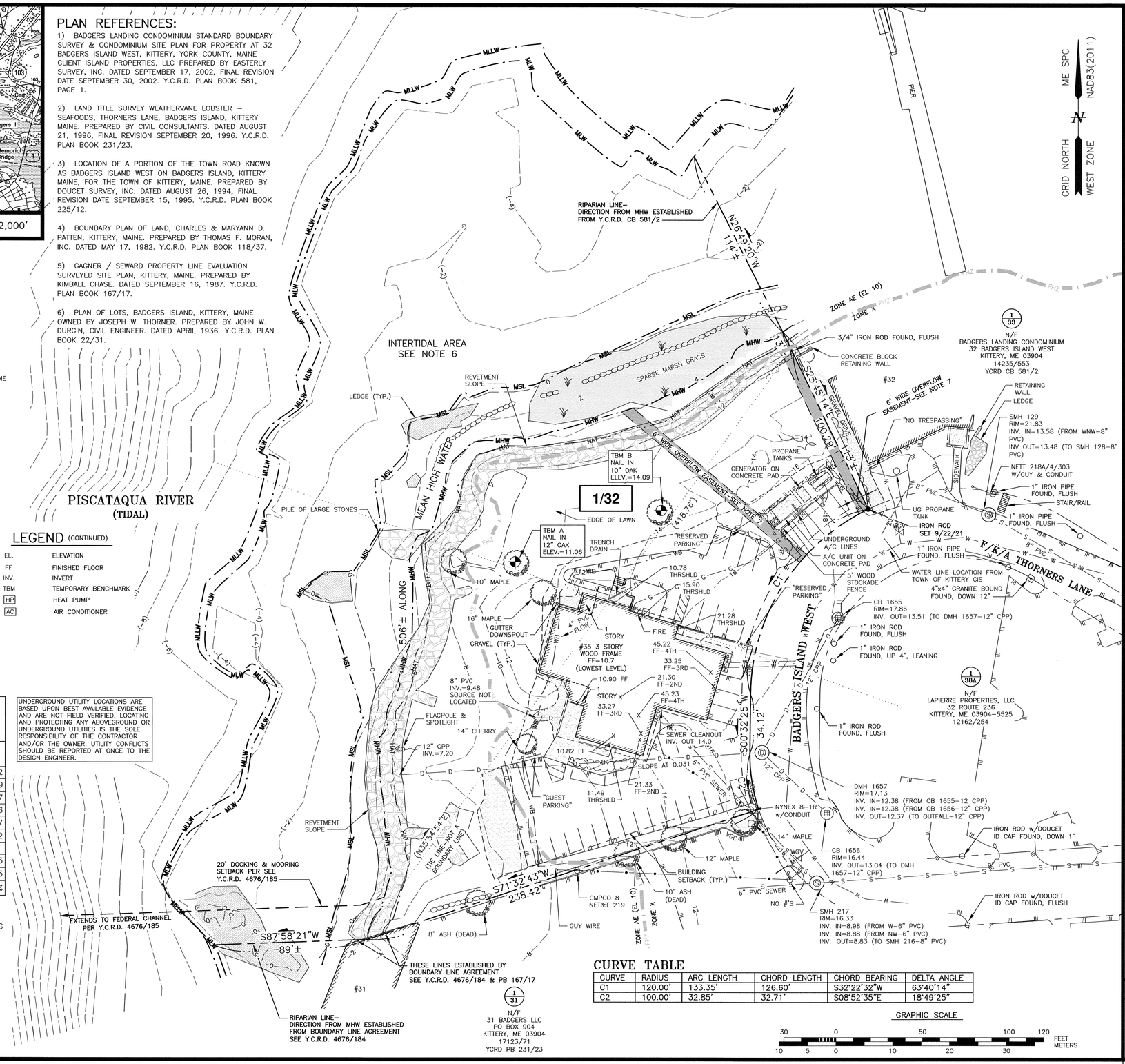
2) LAND TITLE SURVEY WEATHERVANE LOBSTER – SEAFOODS, THORNERS LANE, BADGERS ISLAND, KITTERY MAINE. PREPARED BY CIVIL CONSULTANTS. DATED AUGUST 21, 1996, FINAL REVISION SEPTEMBER 20, 1996. Y.C.R.D. PLAN BOOK 231/23.

3) LOCATION OF A PORTION OF THE TOWN ROAD KNOWN AS BADGERS ISLAND WEST ON BADGERS ISLAND, KITTERY MAINE, FOR THE TOWN OF KITTERY, MAINE. PREPARED BY DOUCET SURVEY, INC. DATED AUGUST 26, 1994, FINAL REVISION DATE SEPTEMBER 15, 1995. Y.C.R.D. PLAN BOOK 225/12.

4) BOUNDARY PLAN OF LAND, CHARLES & MARYANN D. PATTEN, KITTERY, MAINE. PREPARED BY THOMAS F. MORAN, INC. DATED MAY 17, 1982. Y.C.R.D. PLAN BOOK 118/37.

5) GAGNER / SEWARD PROPERTY LINE EVALUATION SURVEYED SITE PLAN, KITTERY, MAINE. PREPARED BY KIMBALL CHASE. DATED SEPTEMBER 16, 1987. Y.C.R.D. PLAN BOOK 167/17.

6) PLAN OF LOTS, BADGERS ISLAND, KITTERY, MAINE OWNED BY JOSEPH W. THORNER. PREPARED BY JOHN W. DURGIN, CIVIL ENGINEER. DATED APRIL 1936. Y.C.R.D. PLAN BOOK 22/31.



UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

DEVEGETATED COVERAGE CALCULATION (TO HAT LINE)

STRUCTURE	EXISTING (S.F.)
MAIN STRUCTURE	5,922
PAVEMENT	12,289
GRAVEL AREAS	2,277
RETAINING WALLS	86
CONCRETE PADS/STEPS	957
REVETMENT	5392
TOTAL	26,923
LOT SIZE	54,883
% LOT COVERAGE	49.1%

PURSUANT TO CHAPTER 90 PARTS 1 AND 2 OF THE SURVEY STANDARDS OF PRACTICE AS ADOPTED BY THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, THE FOLLOWING EXCEPTIONS TO PART 2 ARE NOTED;

A) NO SURVEY REPORT HAS BEEN PREPARED.
B) NO LAND DESCRIPTION HAS BEEN PREPARED.
C) MONUMENTS HAVE NOT BEEN SET.

THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CHAPTER 90 STANDARDS OF PRACTICE, EFFECTIVE DATE APRIL 1, 2001 EXCEPT AS NOTED ON THIS PLAN.

JOHN R. CHAGNON, PLS #2276 — DATE 8.3.23

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	120.00'	133.35'	126.60'	S32°22'32"W	63°40'14"
C2	100.00'	32.85'	32.71'	S08°52'35"E	18°49'25"

GRAPHIC SCALE
30 0 50 100 120 FEET
10 5 0 10 20 30 METERS

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) PARCEL IS SHOWN ON THE TOWN OF KITTERY ASSESSOR'S MAP 1 AS LOT 32.

2) OWNER OF RECORD:
B.I.W. GROUP, LLC
41 INDUSTRIAL DRIVE, UNIT 20
EXETER, NH 03833
18503/331 (FIRST PARCEL)
PLAN BOOK 22/31 (LOTS 14, 15, 16, & 17)

3) A PORTION OF THE PARCEL IS IN A SPECIAL FLOOD HAZARD AREA, ZONE AE (EL 10), AS SHOWN ON PRELIMINARY FIRM PANEL 23031C0709G. REVISED PRELIMINARY 4/14/2017.

4) EXISTING LOT AREA:
58,985± S.F. (TO MEAN HIGH WATER)
1.3541± ACRES (TO MEAN HIGH WATER)

5) PARCEL IS LOCATED IN THE MIXED USE – BADGERS ISLAND (MU–BI) ZONING DISTRICT AND IS SUBJECT TO THE RESOURCE PROTECTION (OZ–RP) AND SHORELAND–WATER BODY / WETLAND PROTECTION AREA (OZ–SL–250') OVERLAY DISTRICTS.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:		6,000 SF
FRONTAGE:		50 FEET
SETBACKS:	FRONT	5 FEET
	SIDE	10 FEET
	REAR	10 FEET
MAXIMUM BUILDING HEIGHT:		40 FEET
MINIMUM OPEN SPACE:		40%

4) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON ASSESSOR'S MAP 1 LOT 32 IN THE TOWN OF KITTERY.

5) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS. MHW, MSL, MLW, AND MLLW BASED ON NOAA STATION 8419870–SEAVEY ISLAND, PORTSMOUTH HARBOR, ME.

6) AREA BETWEEN MEAN HIGH WATER AND MEAN LOW WATER ARE SUBJECT TO THE RIGHTS OF THE PUBLIC.

7) PARCEL IS SUBJECT TO A 6' WIDE EASEMENT FOR "LAYING AND MAINTAINING AN OVERFLOW PIPE FROM A CEPTIC (sic) TANK ON THE CONVEYED LOT UNDER THE ROADWAY". BENEFITING LOTS 1, 2, 3, 4, AND 5 ON PLAN REFERENCE 6 (NOW ASSESSOR'S MAP 1 LOTS 38 & 38A). SAID EASEMENT WAS GRANTED AS BEING ON LOT 14 BUT ALONG THE COMMON LOT LINE OF 14 & 15 OR COMMON LINE OF 13 & 14, SEE Y.C.R.D. 1301/275. IT IS NOT CLEAR IN WHICH LOCATION THE PIPE WAS CONSTRUCTED.

8) HIGHEST ANNUAL TIDE LINE SHOWN AT ELEVATION 5.8 PER LOCATION SEAVEY ISLAND IN MAINE DEP HIGHEST ANNUAL TIDE (HAT) LEVELS FOR YEAR 2018.

SITE DEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, MAINE

NO.	DESCRIPTION	DATE
5	EXISTING SEWER	8/03/23
4	LOT 1–EXISTING CONDITIONS	6/20/23
3	LEGEND	5/18/23
2	ADD PRELIMINARY FEMA FHZ LINES	2/24/23
1	ISSUED FOR APPROVAL	1/19/23

REVISIONS

STATE OF MAINE — JOHN R. CHAGNON NO. 2276 — PROFESSIONAL LAND SURVEYOR
8.3.23

SCALE 1"=30' AUGUST 2021

EXISTING CONDITIONS PLAN — **C1**

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

P:\NH\50\10135-Hampshire_Development\3050.72A Badgers Island W\35)-IRC\3050.72A Hampshire Development\2023 Site Permitting\Plans & Specs\Site\3050_72A Site NEW 2022.dwg, 8/3/2023 8:29:52 AM

DEVEGETATED COVERAGE CALCULATION
(TO HAT LINE)

STRUCTURE	PRE–CONSTRUCTION (S.F.) *	POST–CONSTRUCTION (S.F.)
MAIN STRUCTURE	5,922	13,760
DECKS/STAIRS	0	77
PAVEMENT/COBBLES	12,289	2,133
GRAVEL	2,277	0
RETAINING WALLS	86	114
CONCRETE PADS/STEPS/SIDEWALK	957	478
PATIOS/WALKWAYS	0	300
REVETMENT/RIPRAP	5,392	5,392
CURBING	0	95
TOTAL	26,923	22,349
LOT SIZE	54,883	54,883
% DEVEGETATED AREA	49.1%	40.7%

* FROM RECENT APPROVAL. OPEN SPACE: 60%

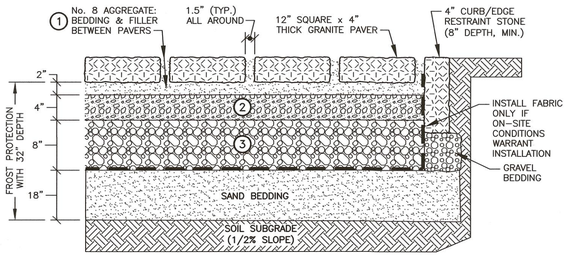
1,971 S.F. SUBTRACTED FROM WETLAND BUFFER

62 S.F. ADDED TO WETLAND BUFFER

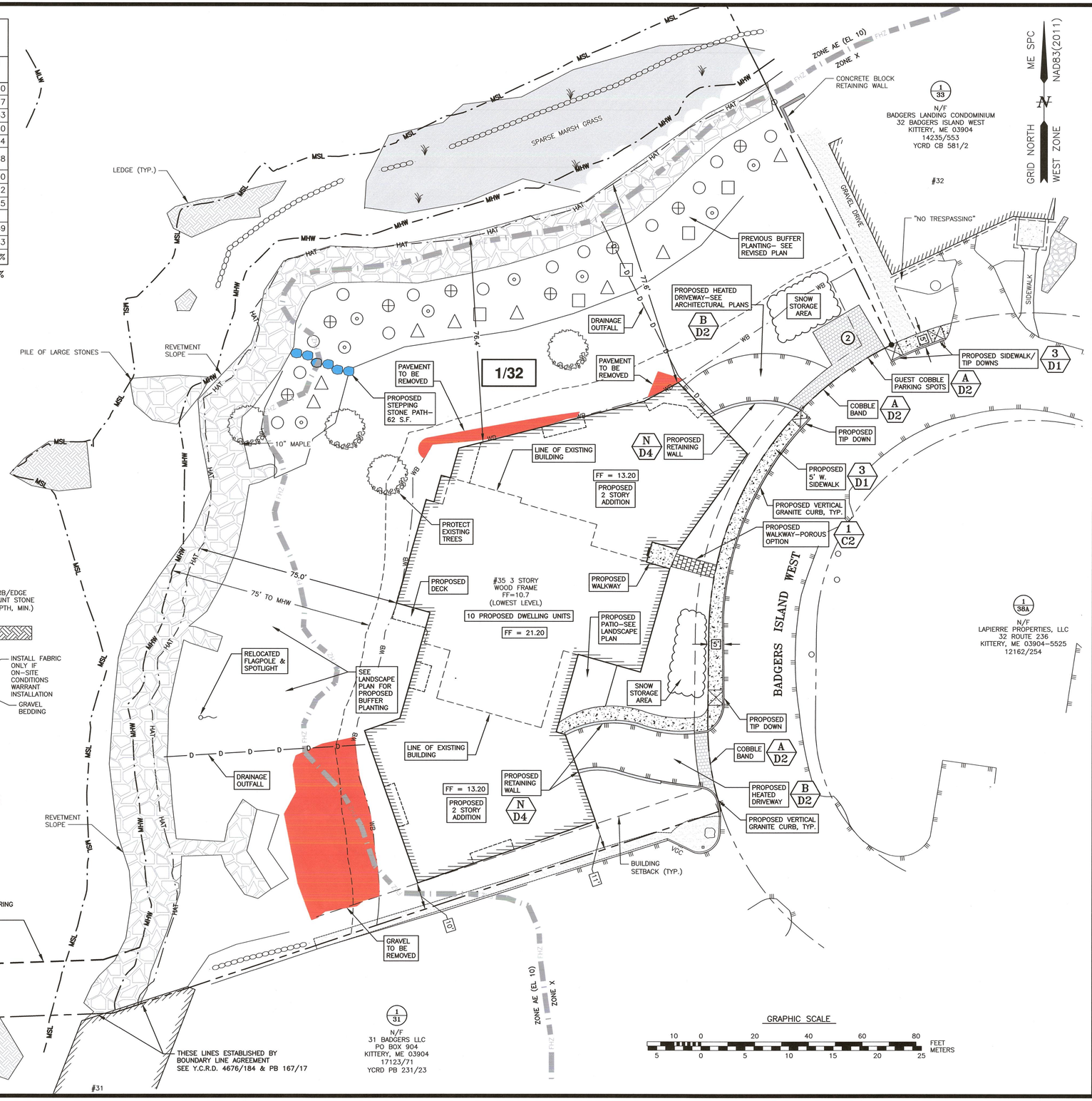
ASTM D 448 GRADATION TABLE

① ASTM No. 8 BEDDING & JOINT FILLER		② ASTM No. 57 STONE OPEN GRADED BASE		③ ASTM No. 2 STONE SUBBASE	
SIEVE SIZE	PASSING BY WEIGHT (%)	SIEVE SIZE	PASSING BY WEIGHT (%)	SIEVE SIZE	PASSING BY WEIGHT (%)
1/2" (12.5mm)	100	1.5" (37.5mm)	100	3" (75mm)	100
3/8" (9.5mm)	85–100	1" (25mm)	95–100	2.5" (63mm)	90–100
No. 4 (4.75mm)	10–30	1/2" (12.5mm)	25–60	2" (50mm)	35–70
No. 8 (2.36mm)	0–10	No. 4 (4.75mm)	0–10	1.5" 37.5mm)	0–15
No. 16 (1.16mm)	0–5	No. 8 (2.36mm)	0–5	3/4" (19mm)	0–5

NOTES:
1) PAVING SYSTEM BASE DESIGN IS SIMILAR TO BASE REQUIRED FOR THE UNI ECO–STONE PAVER. INSTALLATION SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PLACEMENT OF BASE MATERIALS.
2) ALL STONE SHALL BE ANGULAR, WITH 90% FRACTURED FACES. STONE SHALL BE WASHED WITH LESS THAN 1% PASSING THE 200 SIEVE.
3) CONTRACTOR SHALL SUBMIT SIEVE ANALYSIS FOR EACH COURSE MATERIAL TO PROJECT ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.



1/C2 POROUS PATIO/WALKWAY DETAIL
NTS



GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

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NOTES:

1) PARCEL IS SHOWN ON THE TOWN OF KITTERY ASSESSOR'S MAP 1 AS LOT 32.

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4) EXISTING LOT AREA:
58,985± S.F. (TO MEAN HIGH WATER)
1.3541± ACRES (TO MEAN HIGH WATER)
(PARCEL AREA TO HAT LINE 54,883 S.F.)

5) PARCEL IS LOCATED IN THE MIXED USE – BADGERS ISLAND (MU–BI) ZONING DISTRICT AND IS SUBJECT TO THE RESOURCE PROTECTION (OZ–RP) AND SHORELAND–WATER BODY / WETLAND PROTECTION AREA (OZ–SL–250') AND COMMERCIAL FISHERIES MARITIME USES (OZ–CFMU) OVERLAY DISTRICTS.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:		6,000 SF
FRONTAGE:		50 FEET
SETBACKS:	FRONT	5 FEET
	SIDE	10 FEET
	REAR	10 FEET
MAXIMUM BUILDING HEIGHT:		40 FEET
MINIMUM OPEN SPACE:	40%	

4) THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED BUILDING EXPANSION AND RESIDENTIAL CONVERSION ON ASSESSOR'S MAP 1 LOT 32 IN THE TOWN OF KITTERY.

5) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS. MHW, MSL, MLW, AND MLLW BASED ON NOAA STATION 8419870–SEAVEY ISLAND, PORTSMOUTH HARBOR, ME.

6) AREA BETWEEN MEAN HIGH WATER AND MEAN LOW WATER ARE SUBJECT TO THE RIGHTS OF THE PUBLIC.

7) HIGHEST ANNUAL TIDE LINE SHOWN AT ELEVATION 5.8 PER LOCATION SEAVEY ISLAND IN MAINE DEP HIGHEST ANNUAL TIDE (HAT) LEVELS FOR YEAR 2018.

8) TRASH COLLECTION WILL BE INTERIOR WITH SCHEDULED PICK UP.

SITE DEVELOPMENT 35 BADGERS ISLAND WEST KITTERY, MAINE

NO.	DESCRIPTION	DATE
1	BUILDING, CURBING, LAYOUT	8/3/23
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

STATE OF MAINE
JOHN R. CHAGNON
No. 2276
PROFESSIONAL LAND SURVEYOR
8.3.23

SCALE 1"=20' AUGUST 2022

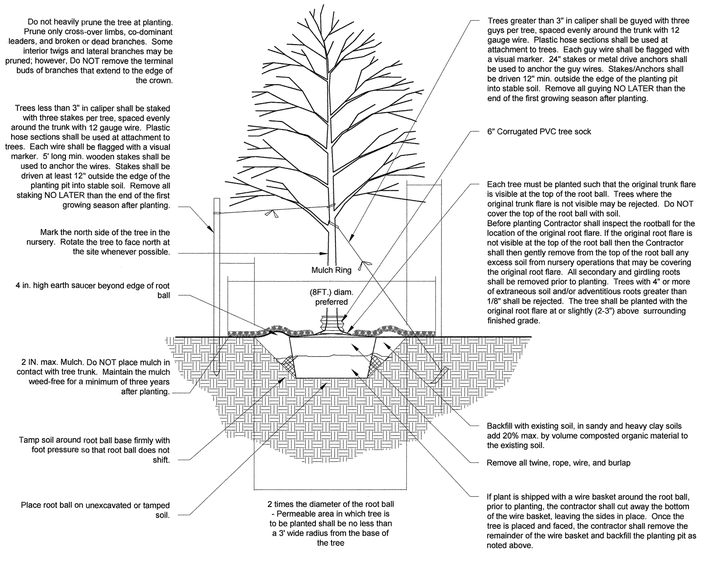
SHORELAND DEVELOPMENT PLAN C2

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

P:\NH\50101\35-Hampshire_Development\3050.72A-Badgers Island W.(35)\JRC\3050.72A Hampshire Development\2022 Site Permitting\Plans & Specs\Site\3050_72A Site NEW 2022.dwg, 8/2/2023 11:05:05 AM

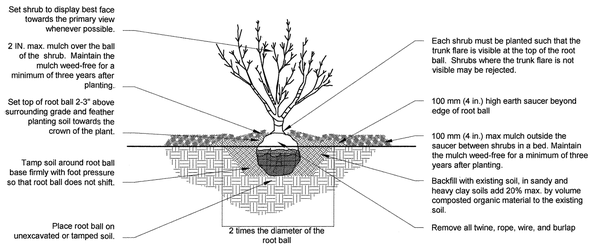
Landscape Notes

1. Design is based on drawings by Ambit Engineering dated 2023-06-27. Drawings may require adjustment due to actual field conditions.
2. This plan is FOR REVIEW purposes ONLY, NOT for Construction. Construction Documents will be provided upon request.
3. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
4. Erosion Control shall be in place prior to construction.
5. Erosion Control shall comply with State and Local Erosion & Sedimentation Control Practices
6. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
7. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
8. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line or at the distance in feet from the trunk equal to the diameter of the tree caliper in inches, whichever is greater, and shall be expanded to include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
9. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
10. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 811 or 888-DIG-SAFE (1-888-344-7233.)
11. The Contractor shall procure any required permits prior to construction.
12. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall amend all soils to be used for lawns and plant beds per testing results' recommendations and review with Landscape Architect. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
13. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a Contractor is aware of a potential issue and does not bring it to the attention of the Landscape Architect or Owner's Representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
14. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
15. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
16. All plants shall be legibly tagged with proper botanical name.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with the following:
    a. Outside hose attachments spaced a maximum of 150 feet apart, and
    b. An underground irrigation system, or
    c. A temporary irrigation system designed for a two-year period of plant establishment.
21. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
22. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, watering of plants, including seeding and weeding. Plants shall be appropriately watered prior to, during, and after planting. It is the Contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
23. All disturbed areas will be dressed with 6" of loam and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
24. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ¼" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
25. Drip strip shall extend to 6" min. beyond roof overhang and shall be edged with 3/16" thick metal edger.
26. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
27. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 8' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Shrubs and ornamental plantings adjacent to vehicular travel way shall not exceed three feet in height where sightlines would be blocked. If pruning is necessary to maintain the required maximum height, plants shall be pruned to a natural form and shall not be sheared.
28. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
29. The Landscape Contractor shall guarantee all lawns and plant materials for a period of not fewer than two years. Dead, dying, or diseased planting shall be removed and replaced within the growing season.
30. Landscape Architect is not responsible for the means and methods of the Contractor.



Tree Planting Detail

Scale: NTS



Shrub Planting Detail

Scale: NTS

Plant List

TREES

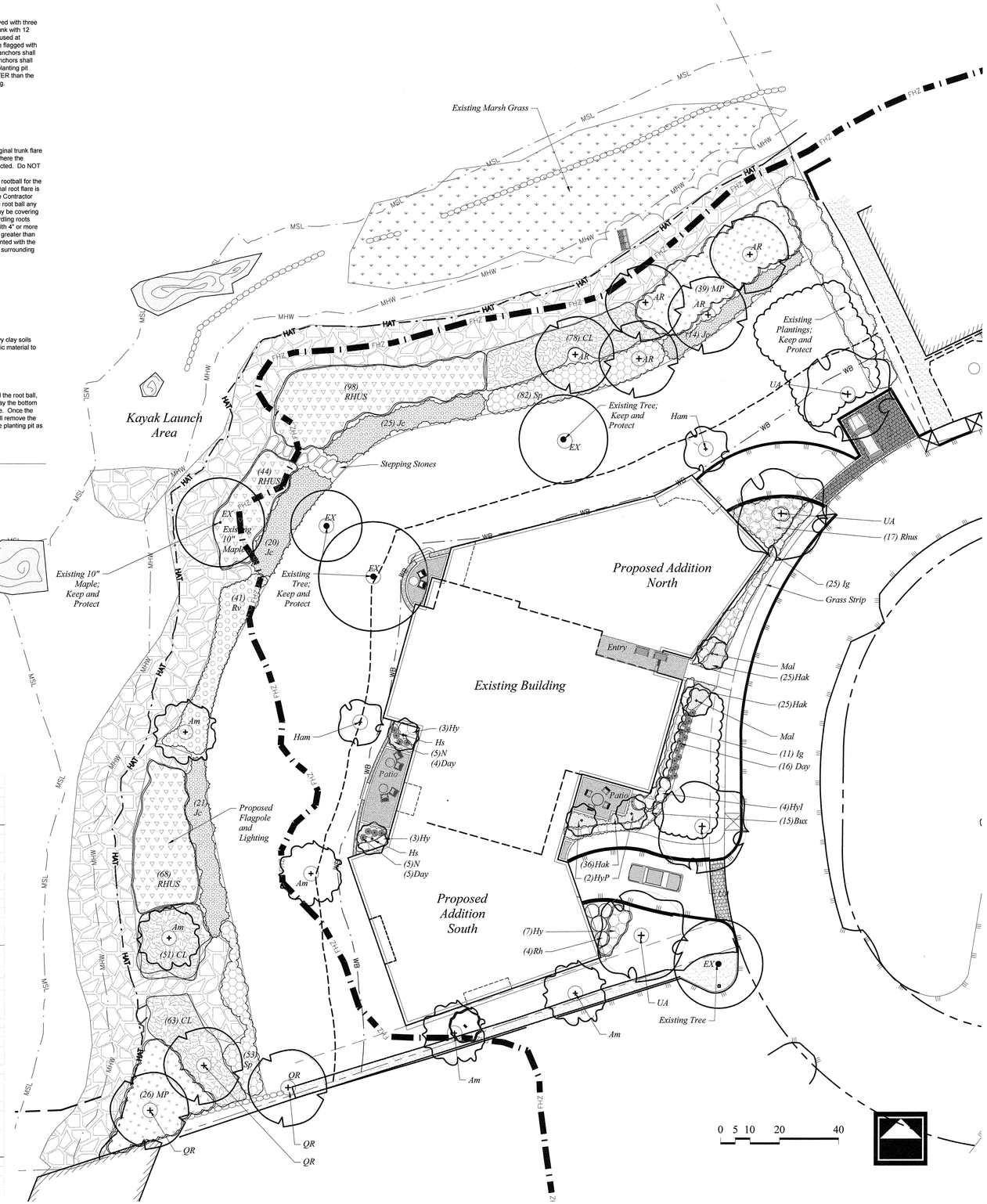
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	*Amelanchier grandiflora 'Autumn Brilliance'*	Autumn Brilliance Serviceberry	5	8-10' ht	BB multistemmed
Ar	*Acer rubrum 'October Glory'*	October Glory Red Maple	5	3" cal.	BB
Ex	*Existing tree to remain*	*Existing tree to remain*			
Ham	*Hamamelis x 'Arnold Promis'*	Arnold Promise Witch Hazel	2	7-8' ht.	BB multistemmed
Mal	*Malus 'Tina'*	Tina Crabapple	2	2.5" cal.	BB
QR	*Quercus rubra*	Northern Red Oak	3	3" cal	BB
UA	*Ulmus americana 'Princeton'*	Princeton Elm	4	3" cal	BB

SHRUBS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
CL	*Clethra alnifolia 'Hummingbird'*	Hummingbird Clethra	192	3 gal	
Bux	*Buxus 'Green Gem'*	Green Gem Boxwood	15	5 gal	2-2.5'ht.
Hs	*Hibiscus syriacus 'Blue Satin'*	Blue Satin Rose of Sharon	2	5-6 HT.	BB treeform
HY	*Hydrangea macrophylla 'All Summer Beauty'*	All Summer Beauty Hydrangea (Blue	13	3 gal	
HYI	*Hydrangea a. 'Incrediball'*	Incrediball Hydrangea	4	5 gal	
HyP	*Hydrangea paniculata 'Limelight'*	Limelight Hydrangea	2	10 gal	treeform
IG	*Ilex glabra 'Shamrock'*	Shamrock Inkberry	36	5 gal	
JC	*Juniperus communis*	Common Juniper	80	3 gal	
MP	*Myrica pennsylvanica*	Bayberry	65	5 gal	
RH	*Rhododendron chionoides*	Chioniodes Rhododendron	4	5 gal	
RHUS	*Rhus aromatica 'Grow Low'*	Grow Low Sumac	227	3 gal	
ROS	*Rosa 'Blush Knockout'*	Blush Knockout Rose	7	3 gal	
ROS	*Rosa 'Apricot Drift'*	Apricot Drift Rose	7	3 gal	
SP	*Spirea latifolia "Pink Mountain'*	Pink Mountain Spirea	135	3 gal	

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
DAY	*Daylily mix*	Mixed Daylilies	25	1 gal	
HAL	*Hakonecloa aurea*		86	1 gal	
N	*Nepeta 'Junior Walker'*	Junior Walker Catmint	10	1 gal	



woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

35 Badger's Island West

LANDSCAPE PLAN

for Hampshire Development Corporation

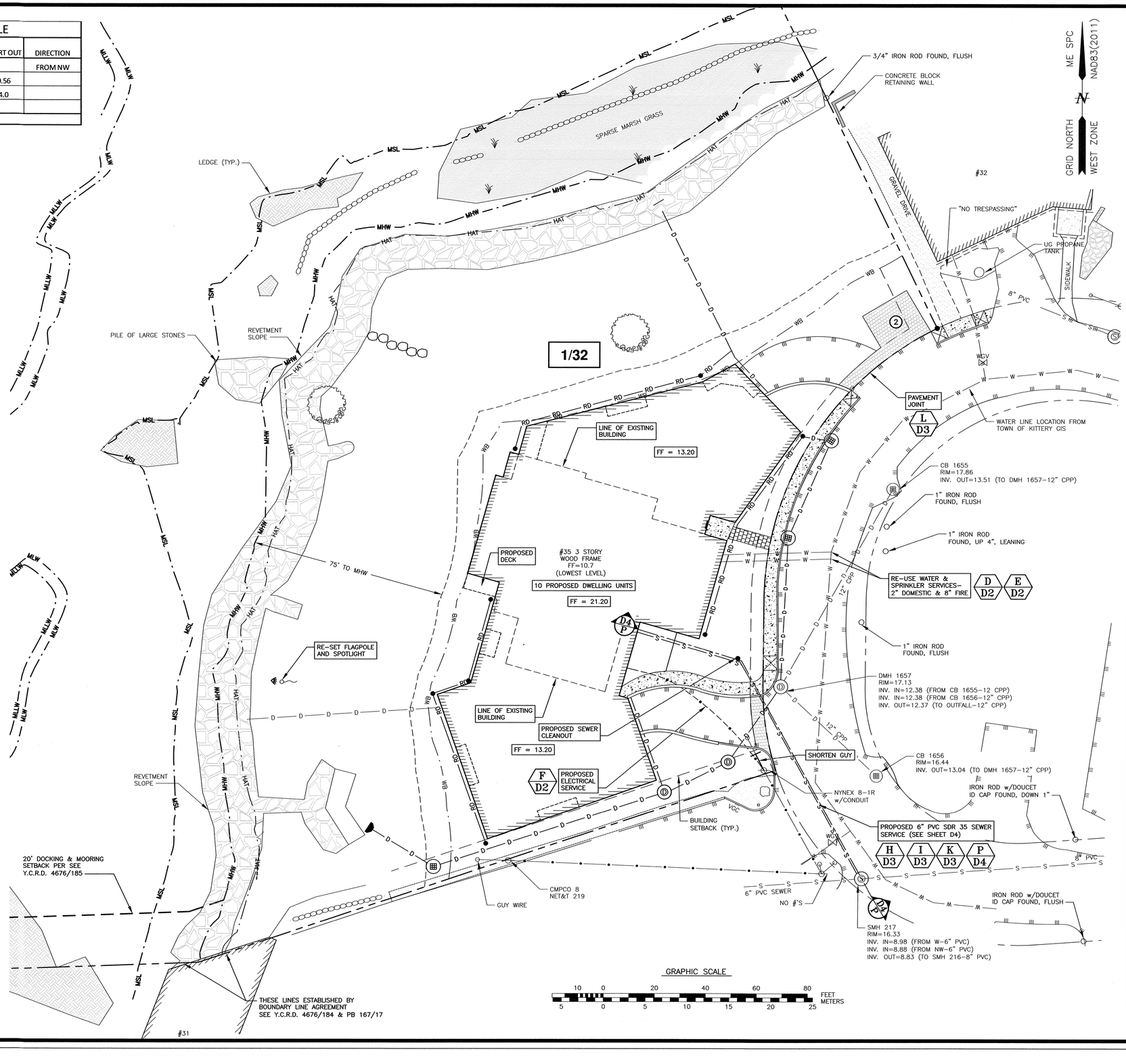
35 Badger's Island West, Kittery, Maine

Drawn By: WSA
Checked By: RW
Scale: 1"=20'-0"
Date: 2023-05-25 for PB submission
Revisions: 2023-06-29 ISSUED SUBMISSION
2023-08-03 RESUBMIT

L-1

Sheet 1 of 1

SEWER STRUCTURE SCHEDULE						
STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
SMH 217	EX	16.33	6" PVC	8.80		FROM NW
DROP	PROP	N/A	6" PVC	13.56	10.56	
BLDG.	PROP	N/A	4" PVC		14.0	



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200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE ''MAINE EROSION AND SEDIMENT CONTROL BMP's'' PUBLISHED BY THE MAINE D.E.P. IN 2016.

4) CONTRACTOR SHALL FIELD VERIFY THE DEPTH OF EXISTING UTILITIES AND COORDINATE WITH THE ENGINEER PRIOR TO CONSTRUCTION OF THE PROPOSED UTILITIES.

5) ALL UTILITIES SHOWN ARE TO REMAIN UNLESS NOTED OTHERWISE.

6) COORDINATE UTILITY CONNECTIONS AND INSTALLATIONS WITH RESPECTIVE UTILITY COMPANIES AND SERVICE PROVIDERS.

7) CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICES TO ADJACENT PROPERTIES DURING CONSTRUCTION. PROVIDE PROPER NOTIFICATION OF ANY SERVICE INTERRUPTIONS.

8) ALL WATER, SEWER, AND ROADWAY WORK TO BE COMPLETED TO KITTERY WATER DISTRICT AND TOWN OF KITTERY STANDARDS. WORK IN BADGER'S ISLAND WEST SUBJECT TO TOWN MORATORIUM.

SITE DEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, MAINE

NO.	DESCRIPTION	DATE
1	BUILDING, LAYOUT, SEWER	8/3/23
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

STATE OF MAINE
JOHN R. CHAGNON
No. 9950
LICENSED PROFESSIONAL ENGINEER

8.3.23

SCALE 1"=20' AUGUST 2022

UTILITY PLAN C3

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

P:\NH\5010135-Hampshire_Development\3050.72A-Badgers Island W.(35)-JRC\3050.72A Hampshire Development\2022 Site Permitting\Plans & Specs\Site\3050_72A Site NEW 2022.dwg, 8/3/2023 11:49:09 AM

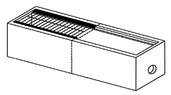
DRAINAGE STRUCTURE SCHEDULE

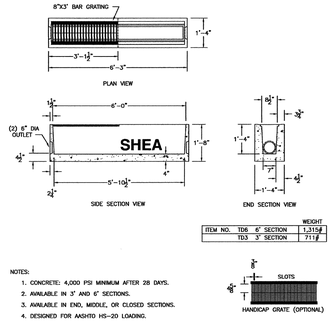
STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
DMH 1657	PROP	17.13	18" CPP	12.38	12.37	SW
			12" CPP	12.38		
			12" HDPE	12.48		
TD 1	PROP	13.1	6" PVC	11.77	11.57	SE
TD 2	PROP	13.1	6" PVC	11.77	11.57	NW
DMH 1	PROP	16.0	18" HDPE	10.91	10.81	SW
DMH 2	PROP	14.0	18" HDPE	10.07	9.97	SW
DMH 2	PROP	13.0	6" PVC	10.89		
CB 1	PROP	9.9	18" HDPE	7.63	7.53	NW
CB 2	PROP	16.8	12" HDPE		13.63	S
CB 2	PROP	16.8	6" PVC	14.63		W
CB 3	PROP	18.3	12" HDPE	12.79	12.69	S

PIPE SCHEDULE

PIPE #	PIPE SIZE	LENGTH	SLOPE
P1	18"	30'	0.049
P2	18"	22'	0.034
P3	18"	90'	0.026
P4	18"	25'	0.028
P5	6"	16'	0.014
P6	12"	64'	0.007
P7	12"	8'	0.004
P8	12"	36'	0.023
P9	12"	53'	0.004
P10	6"	14'	0.014
P11	6"	22'	0.040

*ALL PIPE TO BE HDPE/PVC
**P5 AND P10 ARE STRIP DRAINS





NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. AVAILABLE IN 3' AND 6' SECTIONS.
3. AVAILABLE IN END, MIDDLE, OR CLOSED SECTIONS.
4. DESIGNED FOR AASHTO HS-20 LOADING.

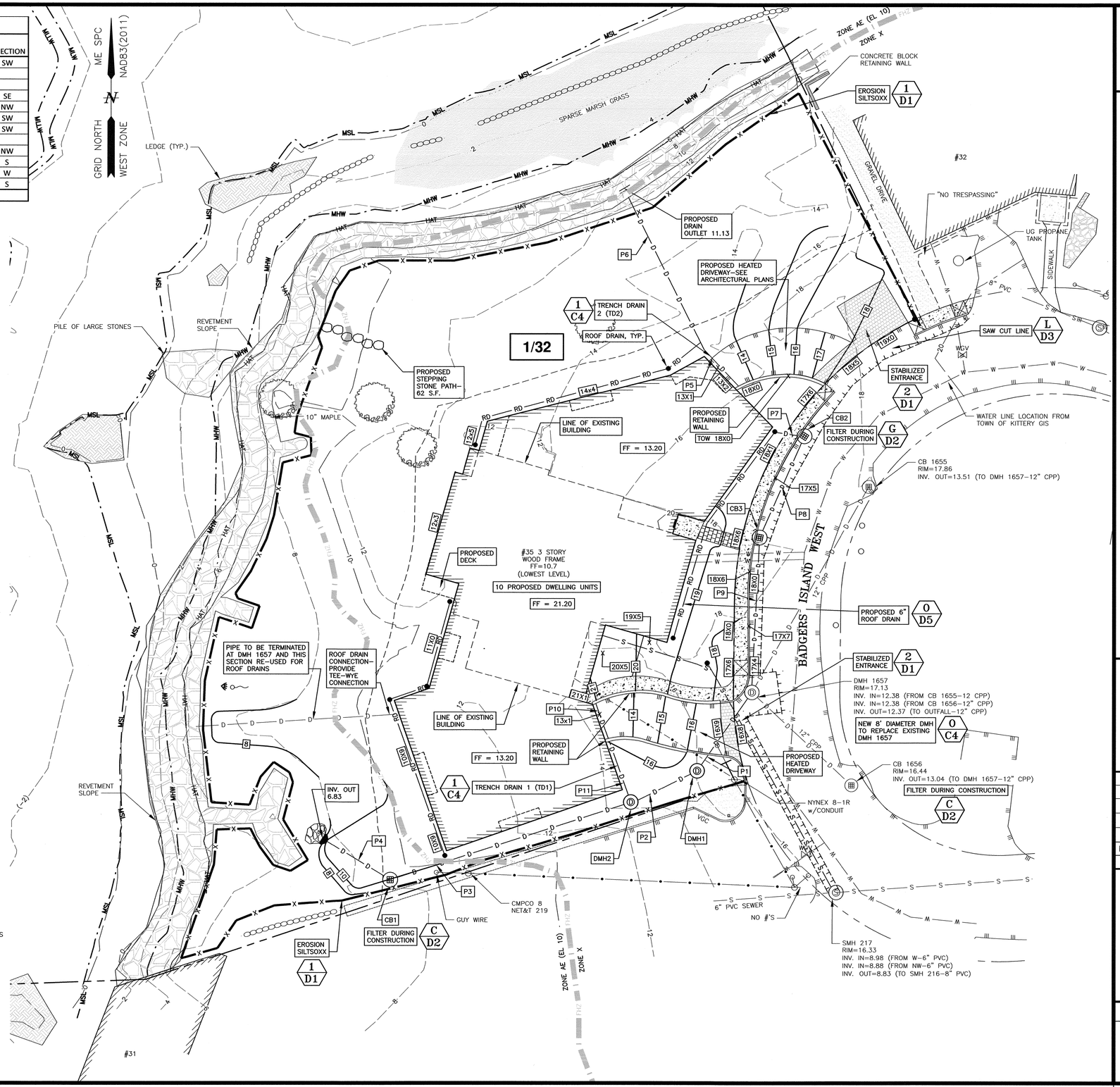
SHEA PRODUCT ID: TD3/TD6
TRENCH DRAIN 8"X16"
WEIGHT (LBS): 711#/1,315#

1/C4 STRIP DRAIN NTS

GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

JOHN R. CHAGNON, LLS 8.3.23 DATE



AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1–888–DIG–SAFE (1–888–344–7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE ''MAINE EROSION AND SEDIMENT CONTROL BMP's'' PUBLISHED BY THE MAINE D.E.P. IN 2016.

4) TOTAL PROJECT DISTURBED AREA 41,535 S.F.

5) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

SITE DEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, MAINE

NO.	DESCRIPTION	DATE
1	BUILDING, LAYOUT, SAWCUTS	8/3/23
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

STATE OF MAINE JOHN R. CHAGNON No. 2276 PROFESSIONAL LAND SURVEYOR

STATE OF MAINE JOHN R. CHAGNON No. 6950 LICENSED PROFESSIONAL ENGINEER

8.3.23

SCALE 1"=20' AUGUST 2022

GRADING PLAN

C4

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

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DEMOLITION NOTES:

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF–SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF–SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE–USE.

I) ALL WORK WITHIN THE TOWN OF KITTERY RIGHT OF WAY SHALL BE COORDINATED WITH THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS (DPW).

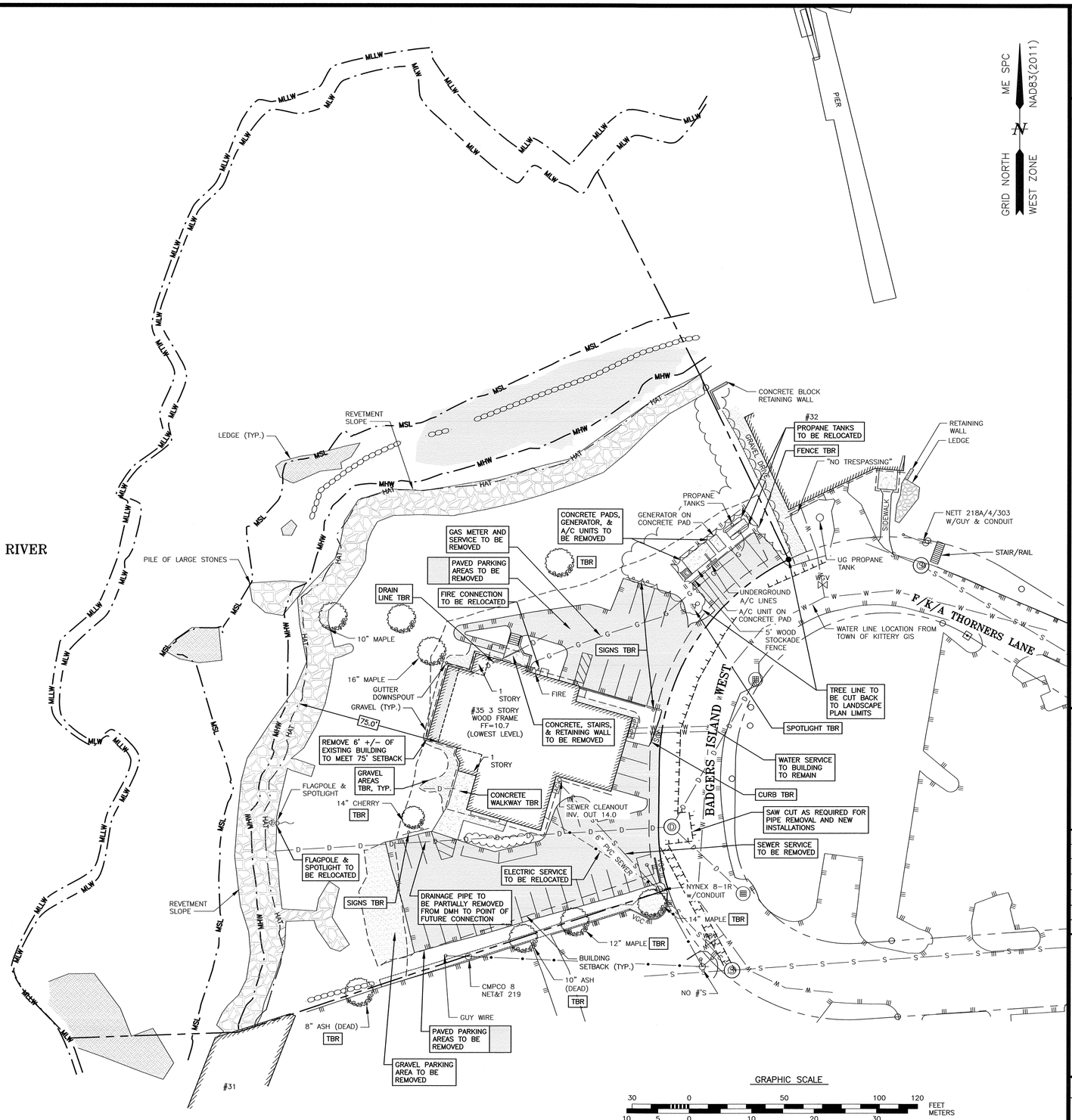
J) REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF–SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

K) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR TO REPLACE THEM.

L) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

M) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

N) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH MEDEP REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



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200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

A) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1–888–DIG–SAFE (1–888–344–7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

B) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

C) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP's" PUBLISHED BY THE MAINE D.E.P. IN 2014.

SITE DEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, MAINE

NO.	DESCRIPTION	DATE
1	SAWCUT LINES, TREE LINES	8/3/23
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

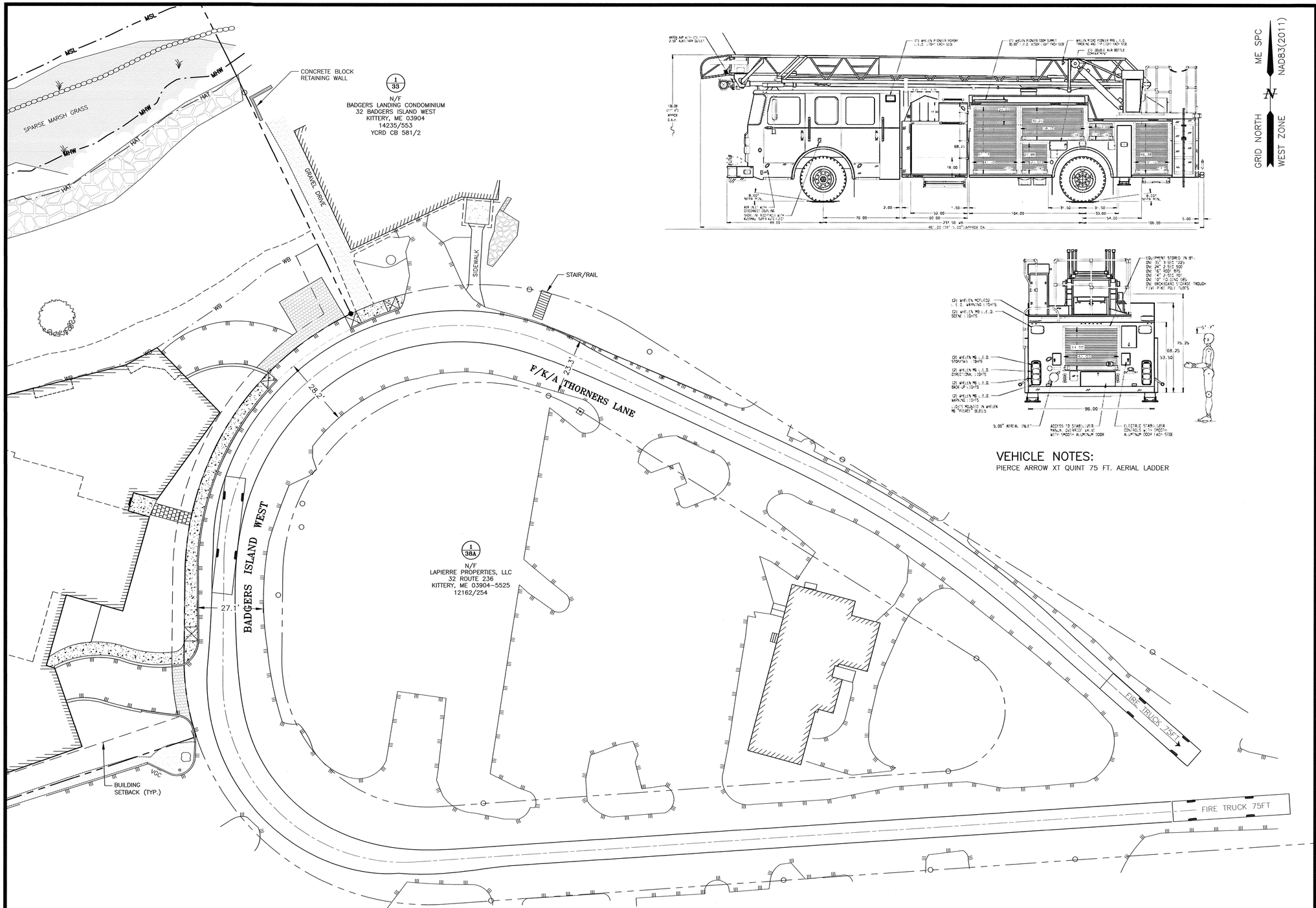
STATE OF MAINE
JOHN R. CHAGNON
No. 9350
LICENSED
PROFESSIONAL ENGINEER
8.3.23

SCALE 1"=30' AUGUST 2021

DEMOLITION PLAN C5

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

P:\NH\50\0135-Hampshire_Development\3050.72A-Badgers Island W.(35)-JRC\3050.72A Hampshire Development\2022 Site Permitting\Plans & Specs\Site\3050_72A Site NEW 2022.dwg 8/3/2023 12:58:41 PM



VEHICLE NOTES:

PIERCE ARROW XT QUINT 75 FT. AERIAL LADDER

GRID NORTH — ME SPC WEST ZONE NAD83(2011)

AMBIT ENGINEERING, INC.
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200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

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SITE DEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, MAINE

NO.	DESCRIPTION	DATE
1	ADD TRUCK DETAIL	8/3/23
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

STATE OF MAINE
JOHN R. CHRISTON
No. 2278
PROFESSIONAL LAND SURVEYOR
8.3.23

SCALE 1"=20' AUGUST 2022

TURNING TEMPLATE PLAN — **T1**

FB 423 PG 1 3050.72 TAX MAP 1 LOT 32

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

INSTALL PERIMETER CONTROLS, i.e., SILT FENCING OR SILTSOXX AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAY BALES IS NOT ALLOWED.

CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.

PERFORM CLEARING & GRUBBING

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED.

REMOVE PAVEMENT AS NEEDED.

BULLDOZE TOPSOIL INTO STOCKPILES, AND CIRCLE WITH SILT FENCING OR SILTSOXX. IF EROSION IS EXCESSIVE, THEN COVER WITH MULCH.

ROUGH GRADE SITE. IN LANDSCAPED AREAS OUT OF THE WAY OF SUBSEQUENT CONSTRUCTION ACTIVITY, INSTALL TOPSOIL, MULCH, SEED AND FERTILIZE. STABILIZE PER DETAILS.

CONSTRUCT FOUNDATIONS.

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES TO THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING FRAMES.

FINISH GRADE SITE, DRIVEWAY & PARKING SUBBASE GRAVEL IN TWO, COMPACTED LIFTS. PROVIDE TEMPORARY EROSION PROTECTION TO DITCHES AND SWALES IN THE FORM OF MULCHING, JUTE MESH OR DITCH DAMS. CONSTRUCT BINDER COURSE.

BUILDING EXTERIOR WORK & LIGHT FIXTURES.

AFTER BUILDING IS COMPLETED FINISH ALL REMAINING LANDSCAPED WORK.

CONSTRUCT ASPHALT WEARING COURSE.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO "MAINE EROSION AND SEDIMENT CONTROL BMP's" PUBLISHED BY THE MAINE D.E.P. IN 2016.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
- A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR,
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

DUST CONTROL: IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM OF 0.5" OR GREATER. ALL DAMAGED SILT FENCES SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

AVOID THE USE OF FUTURE OPEN SPACES (LOAM AND SEED AREAS) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ACCESS DRIVES AND PARKING AREAS.

TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS. CONSTRUCT SILT FENCE AROUND TOPSOIL STOCKPILE.

AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. STUMPS SHALL BE DISPOSED BY GRINDING OR FILL IN AN APPROVED FACILITY.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DISTURBED AREAS SHALL BE SEEDED WITHIN 72 HOURS FOLLOWING FINISHED GRADING.

AT NO TIME SHALL ANY DISTURBED AREA REMAIN UNSTABILIZED FOR LONGER THAN 72 HOURS. ALL AREAS WHERE CONSTRUCTION IS NOT COMPLETE WITHIN THIRTY DAYS OF THE INITIAL DISTURBANCE SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE.

FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER.

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE:

GENERAL COVER	PROPORTION	SEEDING RATE
CREEPING RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	

SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)

CREEPING RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFOIL	16%	

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL SEED LAWS.

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:
PERENNIAL RYE: 0.7 LBS/1,000 S.F.
MULCH: 1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THEN TEN (10) DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2 1/2 TO 3 INCHES HIGH. ALL BARE AND DEAD SPOTS WHICH BECOME APPARENT SHALL BE PROPERLY PREPARED, LIMED AND FERTILIZED, AND RESEEDED BY THE CONTRACTOR AT HIS EXPENSE AS MANY TIMES AS NECESSARY TO SECURE GOOD GROWTH. THE ENTIRE AREA SHALL BE MAINTAINED, WATERED AND CUT UNTIL ACCEPTANCE OF THE LAWN BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS DEVELOPING.

TO BE ACCEPTABLE, SEEDED AREAS SHALL CONSIST OF A UNIFORM STAND OF AT LEAST 90 PERCENT ESTABLISHED PERMANENT GRASS SPECIES, WITH UNIFORM COUNT OF AT LEAST 100 PLANTS PER SQUARE FOOT.

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.

THE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

THE SILT FENCE BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

SILT FENCING SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE REMOVAL SHALL BE PERMANENTLY SEEDED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL.

INSPECTION AND MAINTENANCE PLAN

INTRODUCTION

THE INTENT OF THIS IS TO PROVIDE HAMPSHIRE DEVELOPMENT A LIST OF PROCEDURES THAT DOCUMENT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF THE STORMWATER MANAGEMENT SYSTEM FOR THIS DEVELOPMENT. SPECIFICALLY, THE PROPOSED CONSTRUCTION DRAINAGE AND ASSOCIATED STRUCTURES ON THE PROJECT SITE (COLLECTIVELY REFERRED TO AS THE "STORMWATER MANAGEMENT SYSTEM")

THE FOLLOWING INSPECTION AND MAINTENANCE PROGRAM IS NECESSARY TO KEEP THE STORMWATER MANAGEMENT SYSTEM FUNCTIONING PROPERLY. THESE MEASURES WILL ALSO HELP MINIMIZE POTENTIAL ENVIRONMENTAL IMPACTS. BY FOLLOWING THE ENCLOSED PROCEDURES, THE OWNER WILL BE ABLE TO MAINTAIN THE FUNCTIONAL DESIGN OF THE STORMWATER MANAGEMENT SYSTEM AND MAXIMIZED ITS ABILITY TO REMOVE SEDIMENT AND OTHER CONTAMINANTS FROM THE SITE GENERATED STORMWATER RUNOFF.

STORMWATER MANAGEMENT SYSTEM COMPONENTS

THE STORMWATER MANAGEMENT SYSTEM IS DESIGNED TO MITIGATE BOTH THE QUANTITY AND QUALITY OF SITE-GENERATED RUNOFF. AS THE RESULT, THE DESIGN INCLUDES THE FOLLOWING ELEMENTS:

NON-STRUCTURAL BMP'S

NON-STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) INCLUDE TEMPORARY AND PERMANENT MEASURES THAT TYPICALLY REQUIRE LESS LABOR AND CAPITAL INPUTS AND ARE INTENDED TO PROVIDE PROTECTION AGAINST EROSION OF SOILS. EXAMPLES OF NON-STRUCTURAL BMP'S ON THIS PROJECT INCLUDE BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT MULCHING, TEMPORARY AND PERMANENT GRASS COVER, TREES, SHRUBS AND GROUND COVERS, MISCELLANEOUS LANDSCAPE PLANTINGS, DUST CONTROL, TREE PROTECTION, TOPSOILING, SEDIMENT BARRIERS, AND DURING CONSTRUCTION, STABILIZED CONSTRUCTION ENTRANCES AND CATCH BASIN BASKETS. IN THIS SITE TOTAL IMPERVIOUS AREA IS REDUCED.

STRUCTURAL BMP'S

STRUCTURAL BMP'S REQUIRE MORE SPECIALIZED PERSONNEL TO INSTALL. EXAMPLES ON THE PROJECT INCLUDE BUT ARE NOT LIMITED TO: STORM DRAINS, THE FILTRATION BASIN, THE JELLYFISH FILTER, AND ASSOCIATED OUTLET CONTROL STRUCTURES.

INSPECTION AND MAINTENANCE REQUIREMENTS

THE FOLLOWING SUMMARIZES THE INSPECTION AND MAINTENANCE REQUIREMENTS FOR THE VARIOUS BMP'S THAT MAY BE FOUND ON THIS PROJECT:

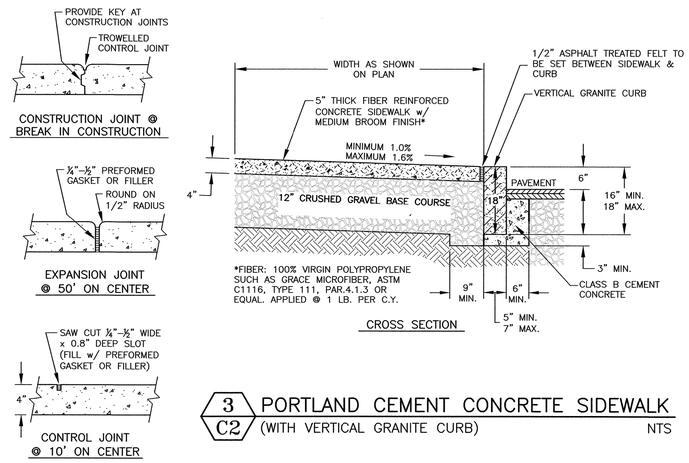
1. GRASSED AREAS: AFTER EACH RAIN EVEN OF 0.5" OR MORE DURING A 24 HOUR PERIOD, INSPECT GRASSED AREAS FOR SIGNS OF DISTURBANCE, SUCH AS EROSION. IF DAMAGED AREAS ARE DISCOVERED, IMMEDIATELY REPAIR THE DAMAGE. REPAIRS MAY INCLUDE ADDING NEW TOPSOIL, LIME, SEED, FERTILIZER AND MULCH.

2. PLANTINGS: PLANTING AND LANDSCAPING (TREES, SHRUBS) SHALL BE MONITORED BI-MONTHLY DURING THE FIRST YEAR TO INSURE VIABILITY AND VIGOROUS GROWTH. REPLACE DEAD OR DYING VEGETATION WITH NEW STOCK AND MAKE ADJUSTMENTS TO THE CONDITIONS THAT CAUSED THE DEAD OR DYING VEGETATION. DURING DRYER TIMES OF THE YEAR, PROVIDED WEEKLY WATERING OR IRRIGATION DURING THE ESTABLISHMENT PERIOD OF THE FIRST YEAR. MAKE NECESSARY ADJUSTMENTS TO ENSURE LONG-TERM HEALTH OF VEGETATED COVER, I.E. PROVIDE MORE PERMANENT MULCH OR COMPOST OR OTHER MEANS OF PROTECTION.

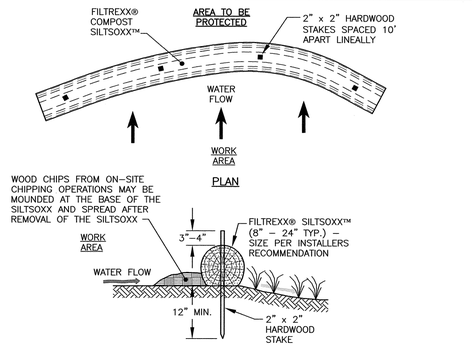
3. INVASIVE SPECIES
MONITOR STORMWATER MANAGEMENT SYSTEM FOR SIGNS OF INVASIVE SPECIES GROWTH. IF CAUGHT EARLIER ENOUGH, THEIR ERADICATION IS MUCH EASIER. THE MOST LIKELY PLACES WHERE INVASIONS START ARE IN WETTER, DISTURBED SOILS OR DETENTION PONDS. SPECIES SUCH AS PHRAGMITES AND PURPLE LOOSE-STRIFE ARE COMMON INVADERS IN THESE WETTER AREAS. IF THEY ARE FOUND THEN THE OWNER SHALL CONTACT A WETLAND SCIENTIST WITH EXPERIENCE IN INVASIVE SPECIES CONTROL TO IMPLEMENT A PLAN OF ACTION TO ERADICATE THE INVADERS. MEASURES THAT DO NOT REQUIRE THE APPLICATION OF CHEMICAL HERBICIDES SHOULD BE THE FIRST LINE OF DEFENSE.

4. JELLYFISH FILTER: REFERENCE SHEET D4 FOR COMPLETE MAINTENANCE DETAILS. FILTER SHOULD BE INSPECTED QUARTERLY FOR THE FIRST YEAR AND YEARLY THEREAFTER AS WELL AS AFTER MAJOR STORM EVENTS, AT MINIMUM. SEDIMENT DEPTHS GREATER THAN 12 INCHES SHOULD BE REMOVED, AS WELL AS FLOATABLES, TRASH AND DEBRIS, AND OIL. THE DECK MUST BE CLEANED AND FREE FROM SEDIMENT DURING INSPECTIONS. FILTER CARTRIDGES SHOULD BE RINSED EVERY 12 MONTHS. FILTER CARTRIDGES SHOULD BE REPLACED AT A MAXIMUM OF 5 YEARS, OR IF THEY FAIL TO RESTORE ADEQUATE HYDRAULIC CAPACITY.

5. DOWNSPOUT FILTERS: REFERENCE SHEET D5 FOR MAINTENANCE SCHEDULE.

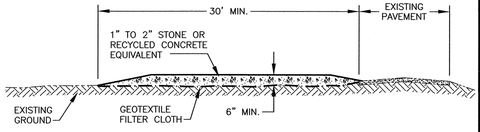


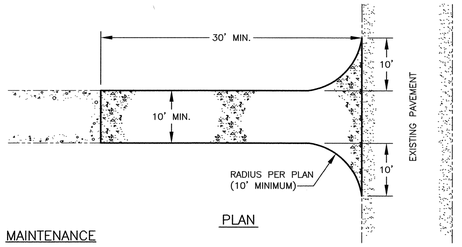
3 C2 PORTLAND CEMENT CONCRETE SIDEWALK (WITH VERTICAL GRANITE CURB) NTS



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

1 C4 FILTREXX® SILTSOXX™ FILTRATION SYSTEM (AS NEEDED) NTS





MAINTENANCE

1) MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE GRAVEL AND THE EFFECTIVENESS OF THE GRAVEL PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOP DRESSED WITH NEW STONE. COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
2) IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS

1) STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 2 TO 4 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2) THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 30 FEET FOR A SINGLE RESIDENTIAL LOT.
3) THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4) THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5) GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7) THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8) WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

2 C4 STABILIZED CONSTRUCTION ENTRANCE SUBSTITUTE FODS IF DESIRED NTS

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
WWW.HALEYWARD.COM
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

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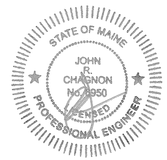
3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S" PUBLISHED BY THE MAINE D.E.P. IN 2016.

SITE REDEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, ME

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/29/23

REVISIONS



6.29.23

SCALE: AS SHOWN DECEMBER 2022

EROSION CONTROL NOTES AND DETAILS

D1

FB 423 PG 1

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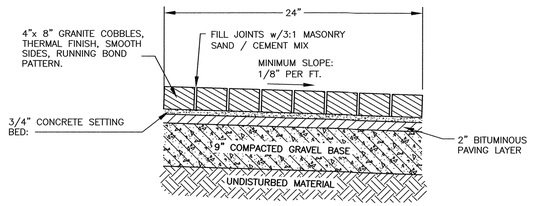
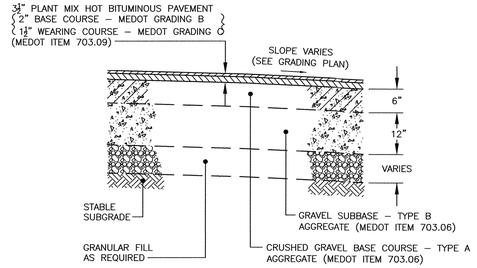


A / C2 COBBLE BAND

NTS

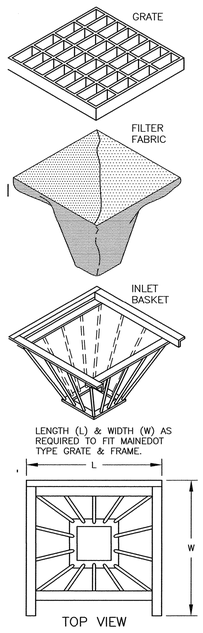


NOTE:
1) AGGREGATE BASE AND SUBBASE COURSES SHALL CONFORM TO SECTIONS 304 AND 703 OF MAINE DOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, APRIL 1995.

2) PLANT MIX HOT BITUMINOUS PAVEMENT SHALL CONFORM TO SECTIONS 401, 403, 702 AND 703 OF MAINE DOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, APRIL 1995.

B / C2 TYPICAL PAVEMENT CROSS–SECTION

NTS



1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.

3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- –RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- –MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

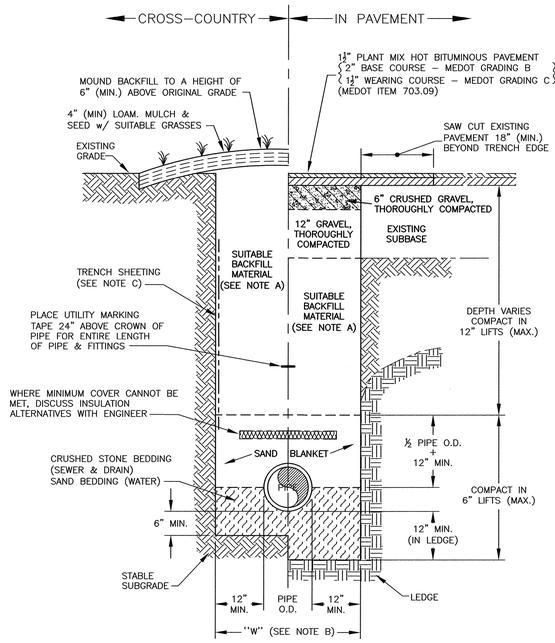
4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.–1 FROM ASTM 54491–85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)

5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

C / C4 CATCH BASIN INLET BASKET

NTS



TRENCH NOTES:

A) TRENCH BACKFILL:
– IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.

– IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..

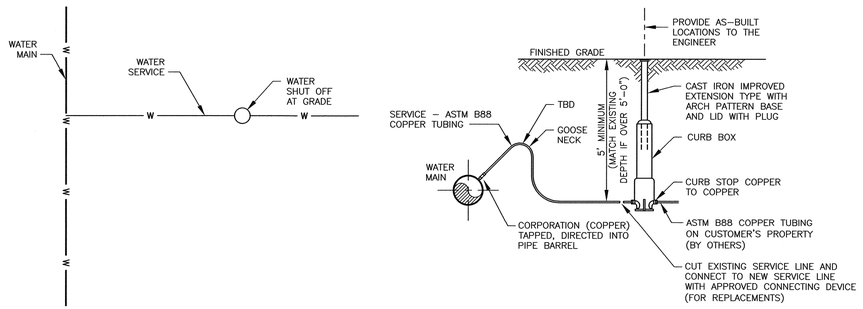
C) TRENCH SHEETING:
IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
- 6' MINIMUM FOR SEWER
- 3' MINIMUM FOR STORMWATER DRAINS
- 5' MINIMUM FOR WATER MAINS

E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

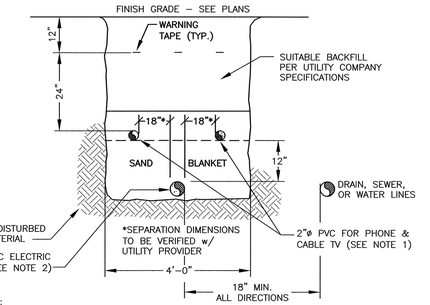
D / C3 TYPICAL PIPE TRENCH

NTS



E / C3 TYPICAL WATER SERVICE CONNECTION

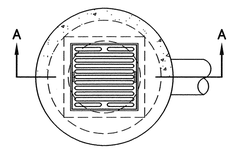
NTS



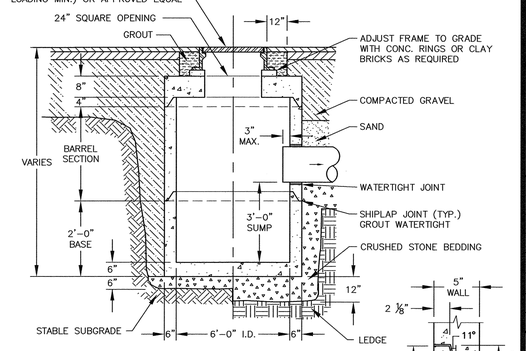
NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCH. 40 FOR THE REMAINDER.
2) NORMAL CONDUIT SIZES FOR CMP ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT
5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.

F / C3 UTILITY TRENCH
ELECTRIC/PHONE/CABLE

NTS



PLAN



SECTION A – A

NOTES:
1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS & SHALL BE PLACED IN THE CENTER THIRD OF WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

DETAIL OF SHIPLAP JOINT

G / C4 REINFORCED CONCRETE CATCH BASIN

NTS

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WWW.HALEYWARD.COM
200 Griffin Road, Unit 3
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SITE REDEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, ME

NO.	DESCRIPTION	DATE
	REVISIONS	
0	ISSUED FOR COMMENT	6/29/23

STATE OF MAINE
JOHN R. CHAGNON
NO. 9850
LICENSED
PROFESSIONAL ENGINEER

6.29.23

SCALE: AS SHOWN
DECEMBER 2022

DETAILS

D2

FB 423 PG 1

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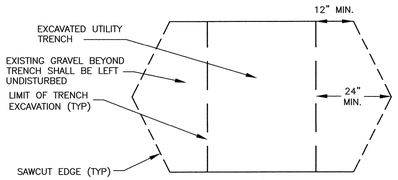
P:\NHS\2019\19-Hampshire_Development\3050.72A-Badgers Island W\3D\JRC\3050.72A-Hampshire Development\2022 Site Permitting\Plans & Specs\Dwg\3050_72A Details 2022.dwg, 6/13/2023 10:45:43 PM



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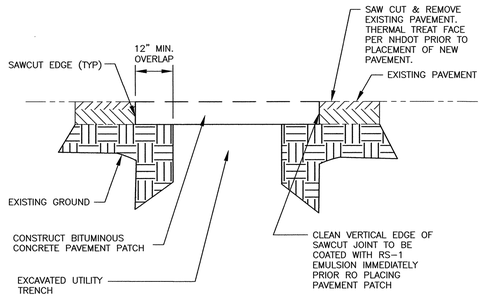


SECTION

NOTES

1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVEPAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY, DIAMOND PATCHES SHALL MEET NH DOT REQUIREMENTS.

H / C3 TRENCH PATCH — NTS

SERVICE CONNECTION NOTES:

1) SEE NOTES FOR SERVICE CONNECTION REQUIREMENTS.

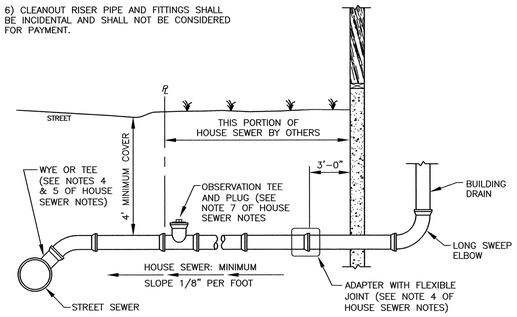
2) SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.

3) CLEANOUTS SHALL BE INSTALLED AT EACH SERVICE CONNECTION.

4) REBAR SHALL BE PLACED AT SIDE OF CLEANOUT.

5) CLEANOUT SHALL BE USED TO PLUG AND TEST ALL NEW LATERALS WITH MINIMAL INTERRUPTION TO OPERATION OF HOMEOWNER SANITARY SYSTEM.

6) CLEANOUT RISER PIPE AND FITTINGS SHALL BE INCIDENTAL AND SHALL NOT BE CONSIDERED FOR PAYMENT.



I / C3 TYPICAL SEWER SERVICE CONNECTION — NTS

HOUSE SEWER NOTES

1) MINIMUM PIPE SIZE FOR HOUSE SERVICE SHALL BE FOUR INCHES.

2) PIPE AND JOINT MATERIALS:

A. PLASTIC SEWER PIPE

1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 To T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITE WALL)	8" THROUGH 15"

*PVC: POLYVINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

2. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON BELL AND SPIGOT TYPE.

ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680. POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).

JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.

B. DUCTILE IRON PIPE, FITTINGS AND JOINTS.

1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:

A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.

A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND LINED MOLDS FOR WATER OR OTHER LIQUIDS.

2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:

A21.11 RUBBER GASKET JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8th INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

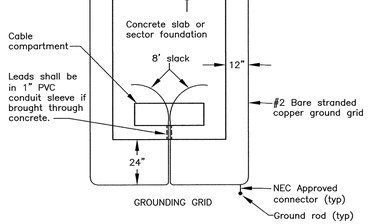
6) TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

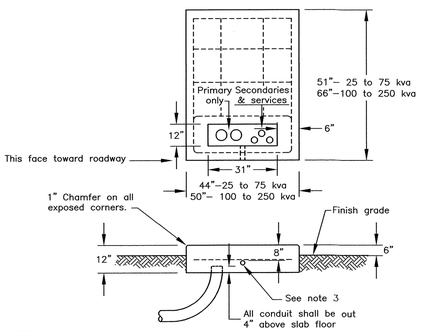
A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.

C. DRY FLUORESCENE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUNDWATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWN STREAM MANHOLE.

LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

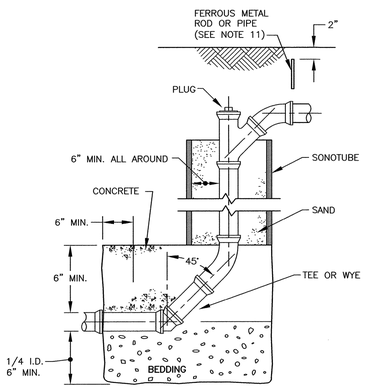




NOTES

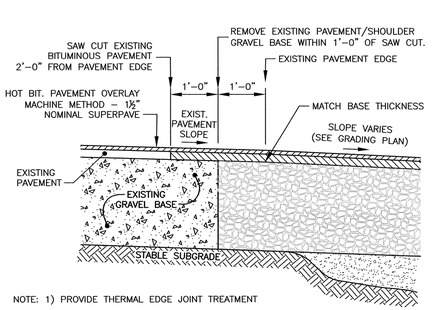
1. See sheet "Requirements for Padmounted Transformer Slab Details".
2. All reinforcing to be #6 bars.
3. 1" PVC conduit sleeve for ground grid leads.
4. The ground grid shall be supplied and installed by the customer and is to be buried at least 12" below grade. Eight feet of extra wire for each ground grid leg shall be left exposed in the cable compartment to allow for the connection to the transfomer. the two 8' ground rods may be either galvanized steel or copperweld and they shall be connected to the grid with NEC approved connectors.

J / C3 TRANSFORMER PAD — CMP - IF NEEDED — NTS



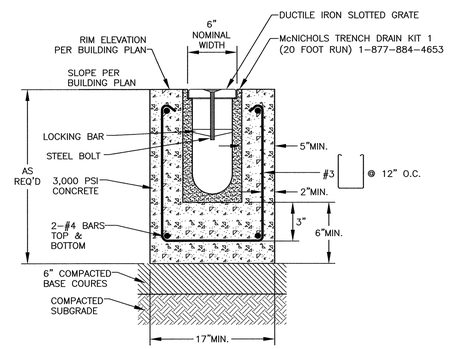
NO BACKFILLING BEFORE CONCRETE HAS TAKEN INITIAL SET (7 HRS. MIN.). BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

K / C3 SEWER DROP — NTS



NOTE: 1) PROVIDE THERMAL EDGE JOINT TREATMENT

L / C3 PAVEMENT JOINT DETAIL — NTS



M / C6 EVAPORATION TRENCH DETAIL — NTS

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282
WWW.HALEYWARD.COM

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP's" PUBLISHED BY THE MAINE D.E.P. IN 2016.

SITE REDEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, ME

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/29/23

REVISIONS

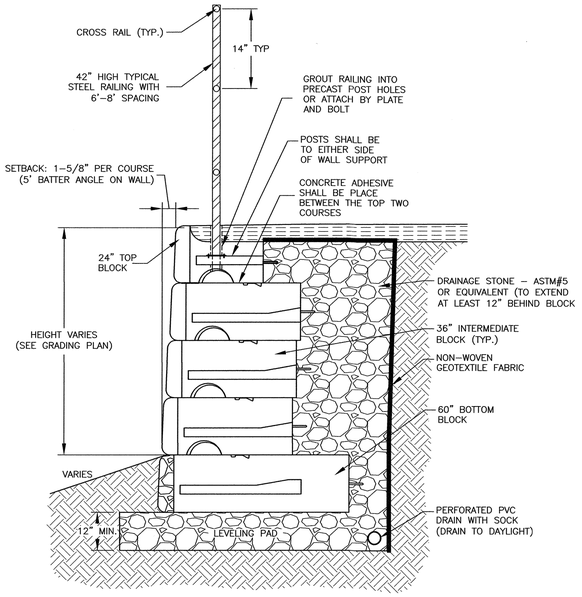
STATE OF MAINE
JOHN R. CHAGNON
NO. 10950
LICENSED
PROFESSIONAL ENGINEER
6.29.23

SCALE: AS SHOWN — DECEMBER 2022

DETAILS — D3

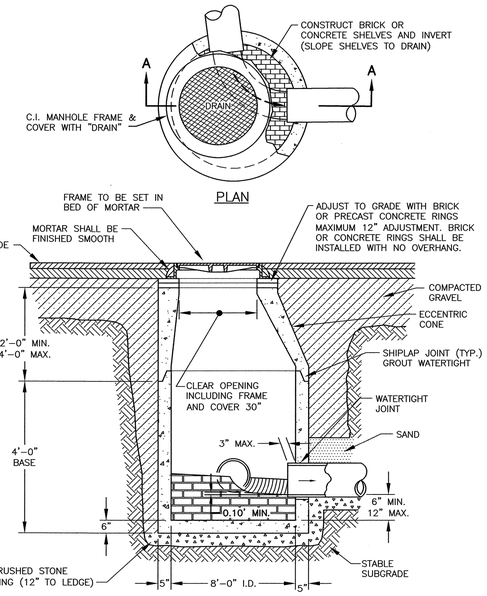
FB 423 PG 1

3050.72



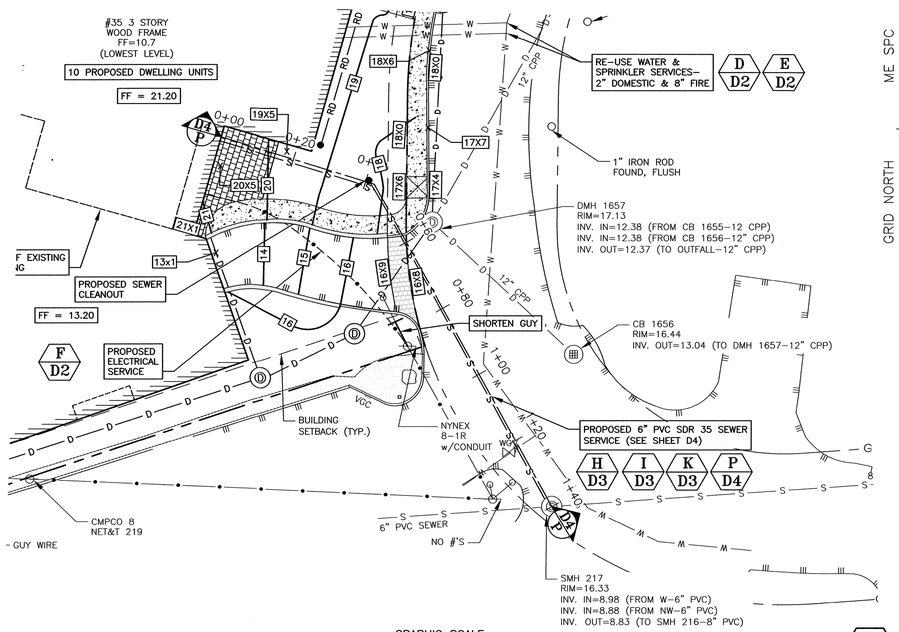
NOTE:
1) WHEN RAIL POST IS PLACE IN OR ON TOP OF THE TOP BLOCK, EACH TOP BLOCK SHOULD BE ADHERED TO THE BLOCK BENEATH IT. (PL PREMIUM IS THE RECOMMENDED CONCRETE ADHESIVE)
2) PE STAMPED SHOP DRAWINGS TO BE PROVIDED PRIOR TO CONSTRUCTION.

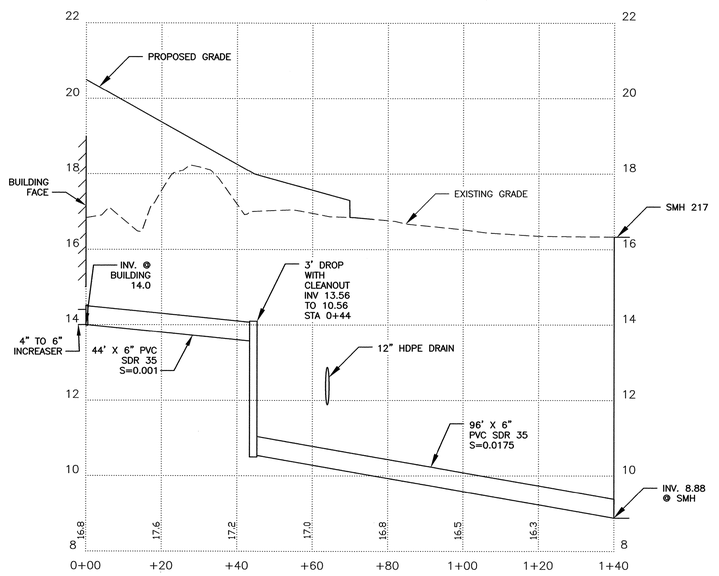
N / C2 BLOCK GRAVITY WALL WITH STEEL RAILING
NTS



NOTES:
1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT..
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5. STRUCTURE TO BE DESIGNED FOR H20 LOADING.

O / C4 DRAIN MANHOLE DETAIL
NTS





P / C3 SEWER PLAN AND PROFILE

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.
WWW.HALEYWARD.COM
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

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SITE REDEVELOPMENT
35 BADGERS ISLAND WEST
KITTERY, ME

NO.	DESCRIPTION	DATE
0	ISSUED FOR APPROVAL	8/3/23

REVISIONS

STATE OF MAINE
JOHN R. CHAGNON
No. 8950
LICENSED PROFESSIONAL ENGINEER
8.3.23

SCALE: AS SHOWN
DECEMBER 2022

DETAILS

D4

FB 423 PG 1

3050.72

RESIDENTIAL CONVERSION

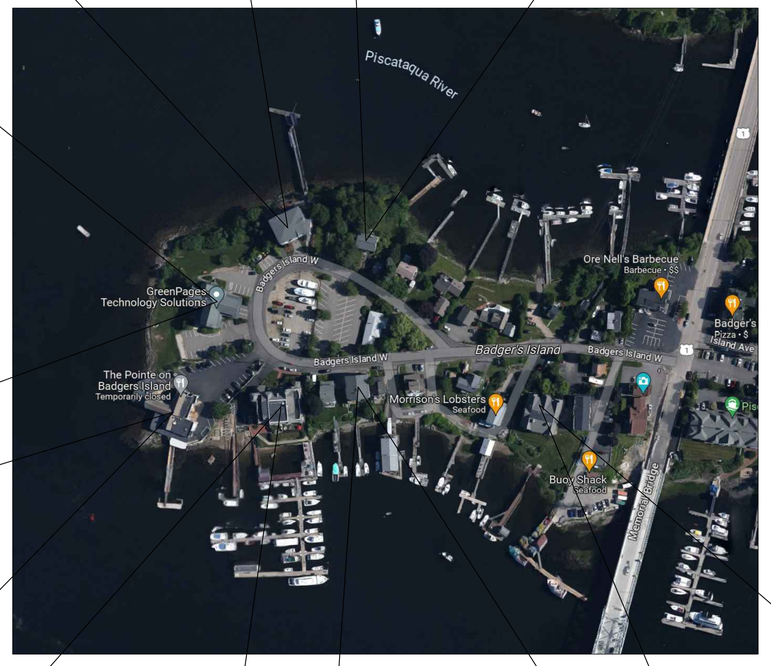
35 BADGERS ISLAND WEST
KITTERY, MAINE 03904

SITE CONTEXT:

35 BADGERS ISLAND WEST - PROJECT SITE

32 BADGERS ISLAND WEST

28 BADGERS ISLAND WEST



31 BADGERS ISLAND WEST

27 BADGERS ISLAND WEST

23 BADGERS ISLAND WEST

9 BADGERS ISLAND WEST

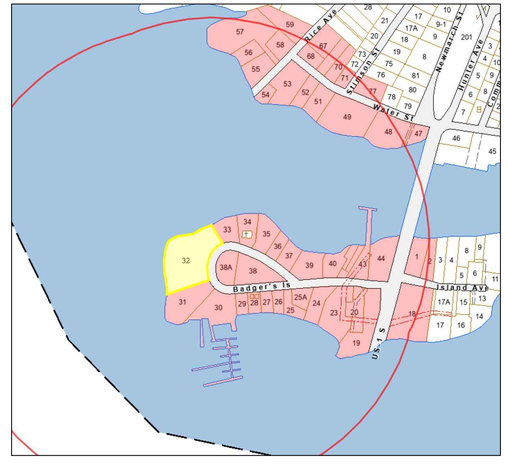
PROJECT DESCRIPTION:

RENOVATION AND ADDITIONS TO A FORMER OFFICE BUILDING TO CONVERT THE SITE INTO NEW CONDOMINIUM UNITS. WORK WILL INCLUDE:

- CREATION OF TWO SEPARATE ENCLOSED PARKING AREAS FOR THE BUILDING RESIDENTS.
- RENOVATION OF THE EXISTING BUILDING, INCLUDING ROOF MODIFICATIONS, TO CONSTRUCT SIX CONDOMINIUM UNITS WITHIN THIS AREA.
- CONSTRUCTION OF BUILDING ADDITIONS TO THE NORTH AND SOUTH OF THE EXISTING STRUCTURE FOR FOUR CONDOMINIUM UNITS (TWO IN EACH ADDITION).
- DEVELOPMENT OF AN ENTRY BETWEEN THE SOUTH ADDITION AND EXISTING BUILDING FOR A NEW ELEVATOR AND STAIR TO SERVE THAT ADDITION.

DRAWING INDEX:

SITE ABUTTERS WITHIN 1000' OF SITE



7 WALLINGFORD SQUARE
UNIT 2099
KITTERY, ME 03904
207.994.3104
WINTER HOLBEN

MAP OF BADGERS ISLAND

MAP SHOWS THE FERNALD AND PETTIGREW SHIPYARD (1850) - CURRENT SITE OCCUPIES A PORTION OF THIS AREA.

PORTSMOUTH NAVAL SHIPYARD

(BADGERS ISLAND BUILT SHIPS FOR THE NAVY BETWEEN 1776-1799)

NAVAL YARD - EARLY 1900s.

NAVAL YARD - 1814

USS RANGER

USS RANGER IN 1778 - BUILT BY JAMES HACKETT ON BADGERS ISLAND IN 1777

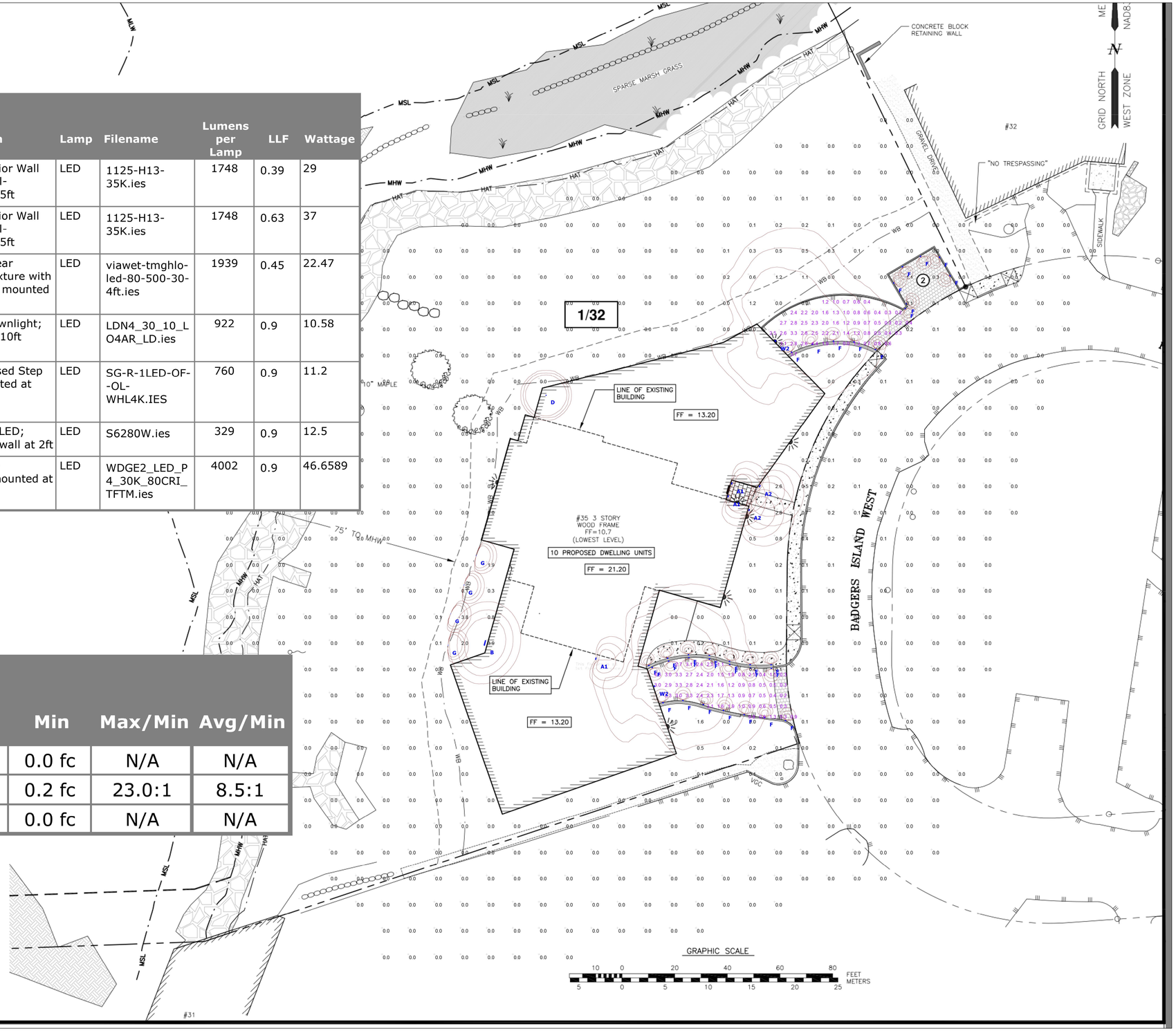
DRAWING OF THE USS RANGER

Schedule

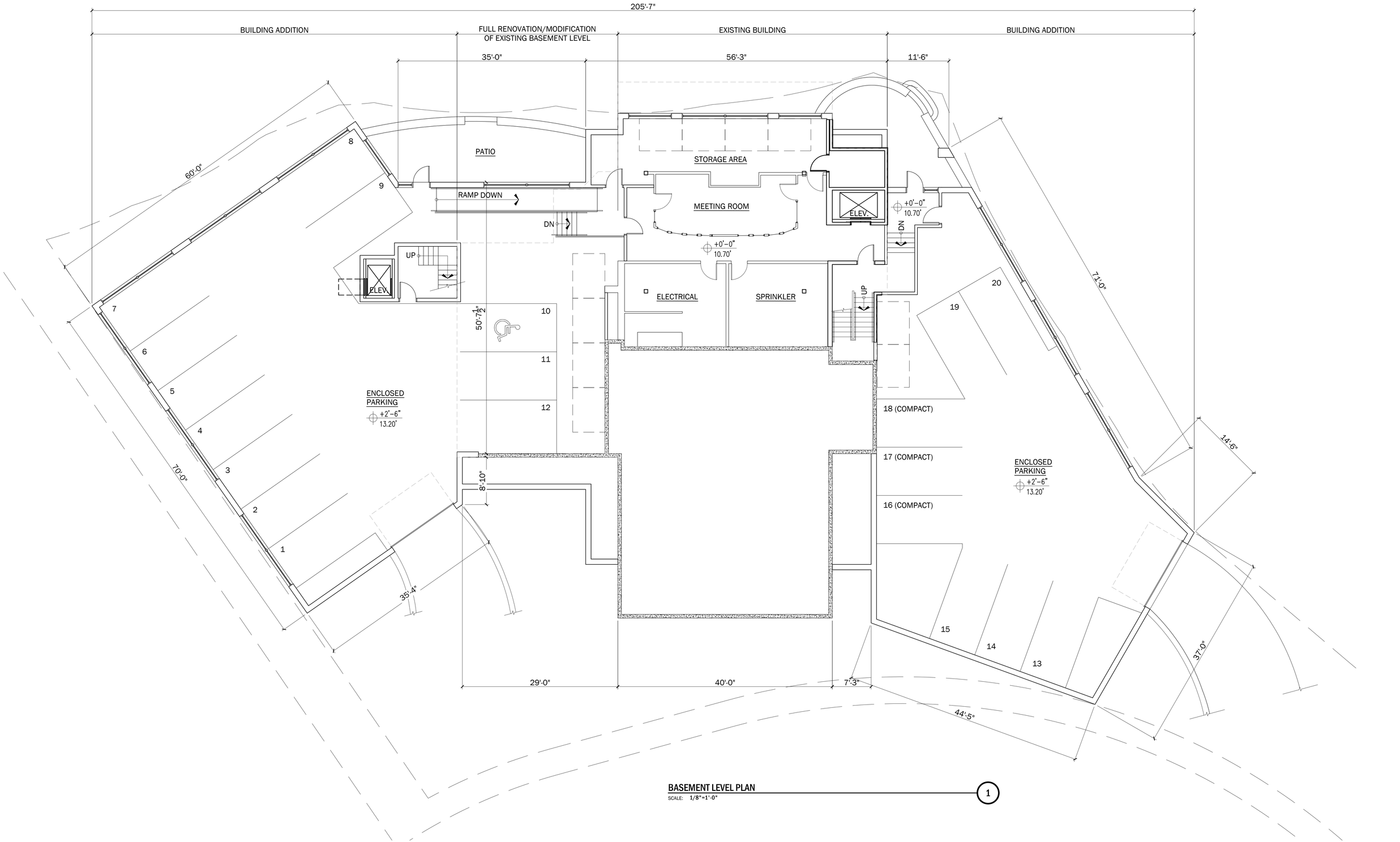
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Wattage
	A1	3	Alva	TEX-JR 30 XXX 3000	Tex Jr Exterior Wall Sconce; wall-mounted at 5ft	LED	1125-H13-35K.ies	1748	0.39	29
	A2	2	Alva	TEX-JR 60 XXX 3000	Tex Jr Exterior Wall Sconce; wall-mounted at 5ft	LED	1125-H13-35K.ies	1748	0.63	37
	B	1	LumenWerx	VIAWET-D-TMG-HLO-SW-80-500-30-2FT-UNV-EC	Via Wet Linear Recessed Fixture with emergency; mounted at 10ft	LED	viawet-tmghlo-led-80-500-30-4ft.ies	1939	0.45	22.47
	D	1	Lithonia Lighting	LDN4 30/10 LO4AR LD MVOLT EZ1	4IN LDN Downlight; mounted at 10ft	LED	LDN4_30_10_LO4AR_LD.ies	922	0.9	10.58
	F	33	Intrigue Lighting	SGH XXX LED SG-R 1LED OF OLP 3K ANOD TRH UNV XXX	Saga Recessed Step Light; mounted at 1.5ft	LED	SG-R-1LED-OF--OL-WHL4K.IES	760	0.9	11.2
	G	4	Simes S.p.A.	S6280W LEDW XXX UNV XX D10	Skill Round LED; mounted in wall at 2ft	LED	S6280W.ies	329	0.9	12.5
	W2	2	Lithonia Lighting	WDGE2 LED P4 30K 80CRI TFTM	WDGE2 LED Wallpack; mounted at 12ft	LED	WDGE2_LED_P4_30K_80CRI_TFTM.ies	4002	0.9	46.6589

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Driveway 1	+	1.5 fc	4.4 fc	0.0 fc	N/A	N/A
Driveway 2	+	1.7 fc	4.6 fc	0.2 fc	23.0:1	8.5:1
Ground	+	0.1 fc	3.9 fc	0.0 fc	N/A	N/A



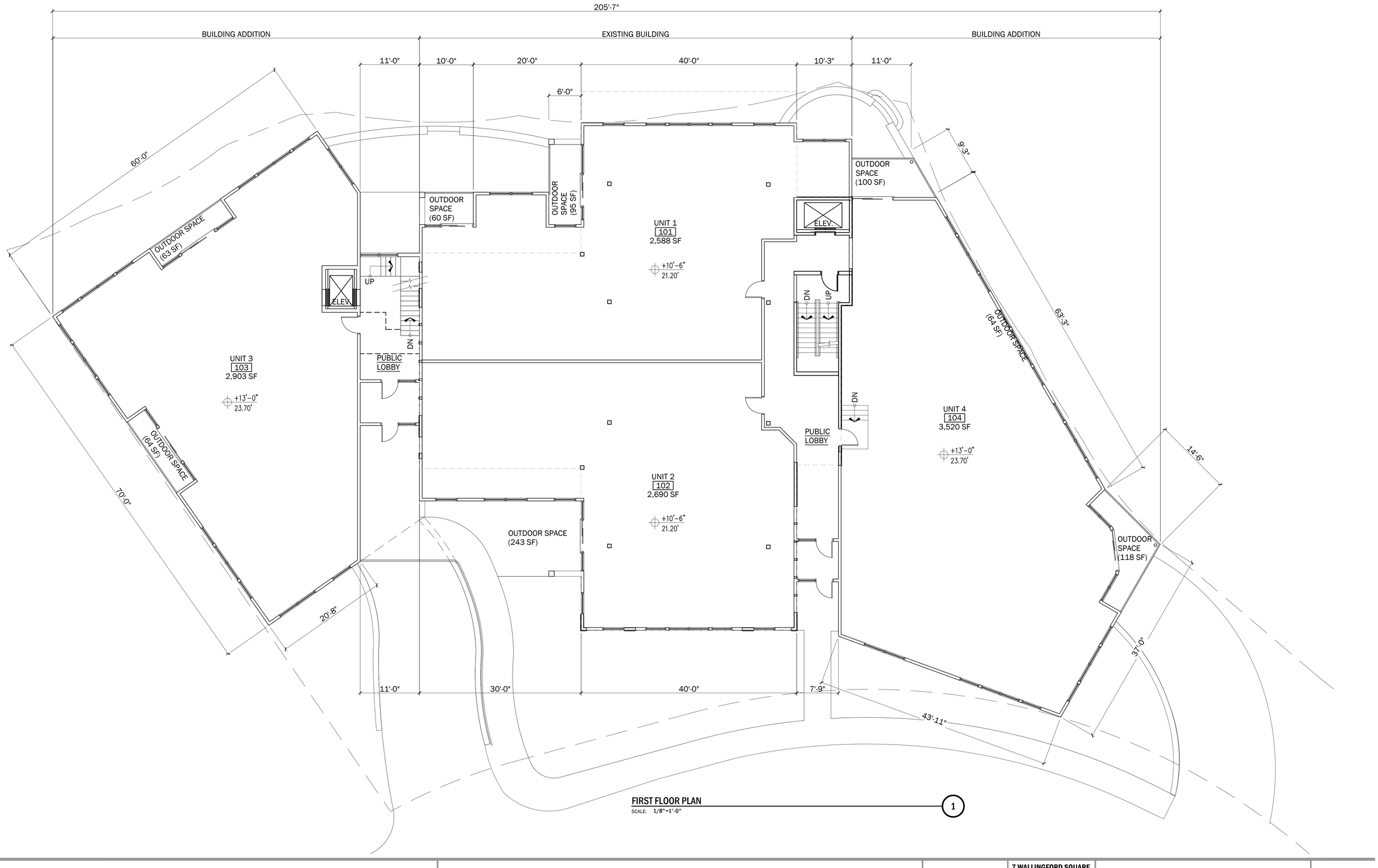
7 WALLINGFORD SQUARE
UNIT 2099
KITTERY, ME 03904
207.994.3104
WINTER HOLBEN



BASEMENT LEVEL PLAN (1)

SCALE: 1/8"=1'-0"

7 WALLINGFORD SQUARE
UNIT 2099
KITTERY, ME 03904
207.994.3104
WINTER HOLBEN



FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

1

7 WALLINGFORD SQUARE
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KITTERY, ME 03904
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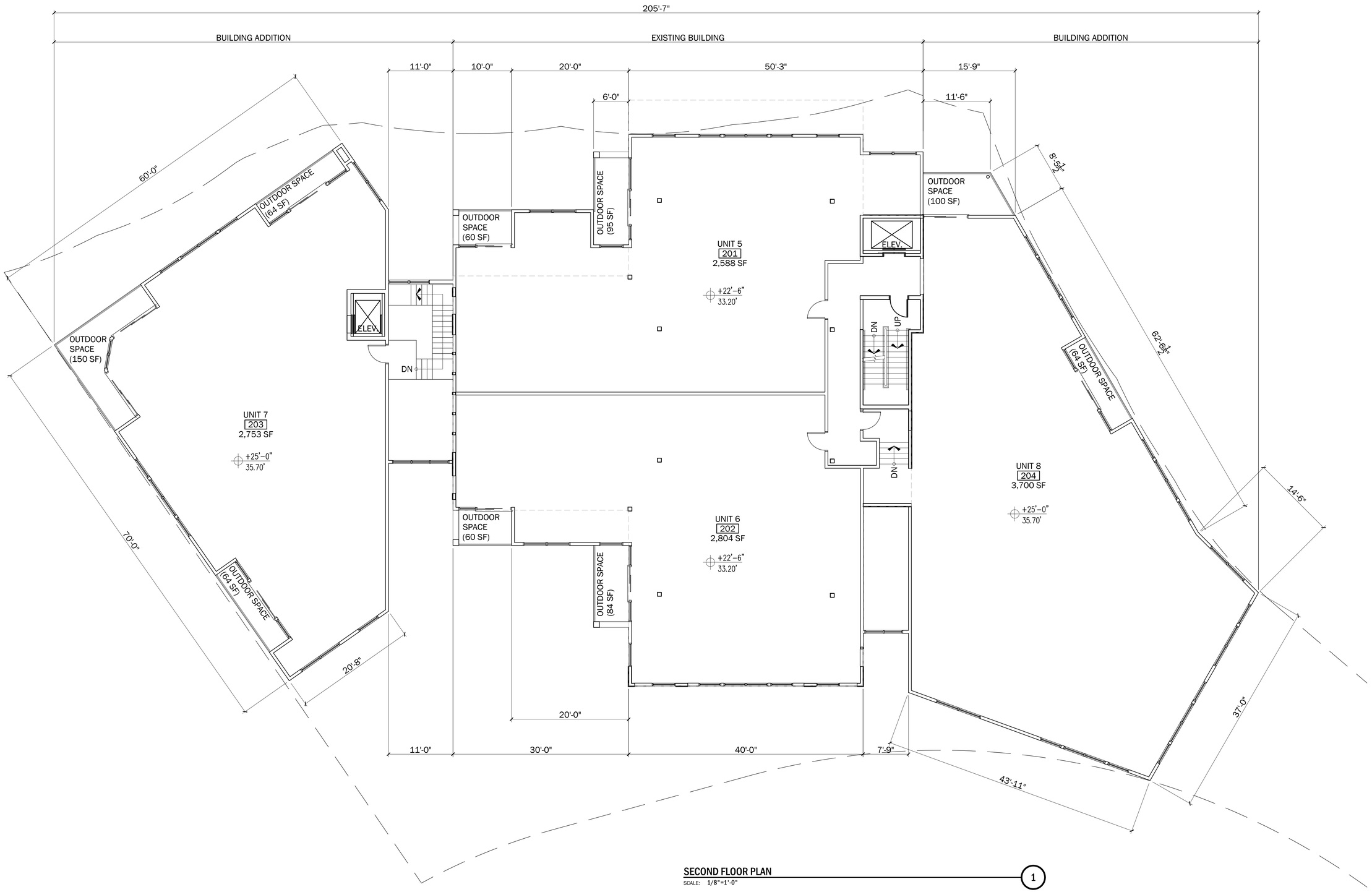
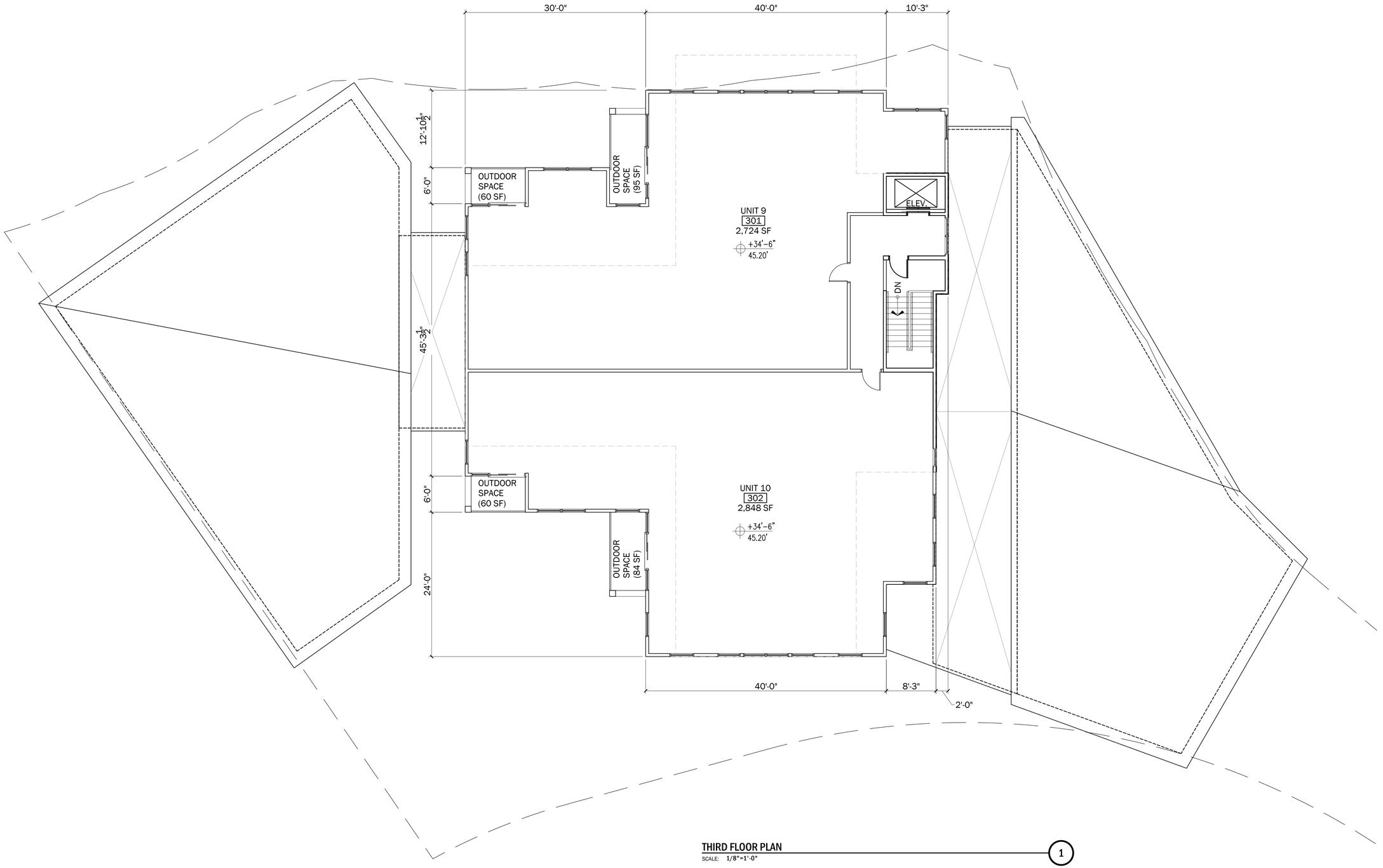
WINTER HOLBEN



SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"

1



THIRD FLOOR PLAN 1

SCALE: 1/8"=1'-0"

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KITTERY, ME 03904
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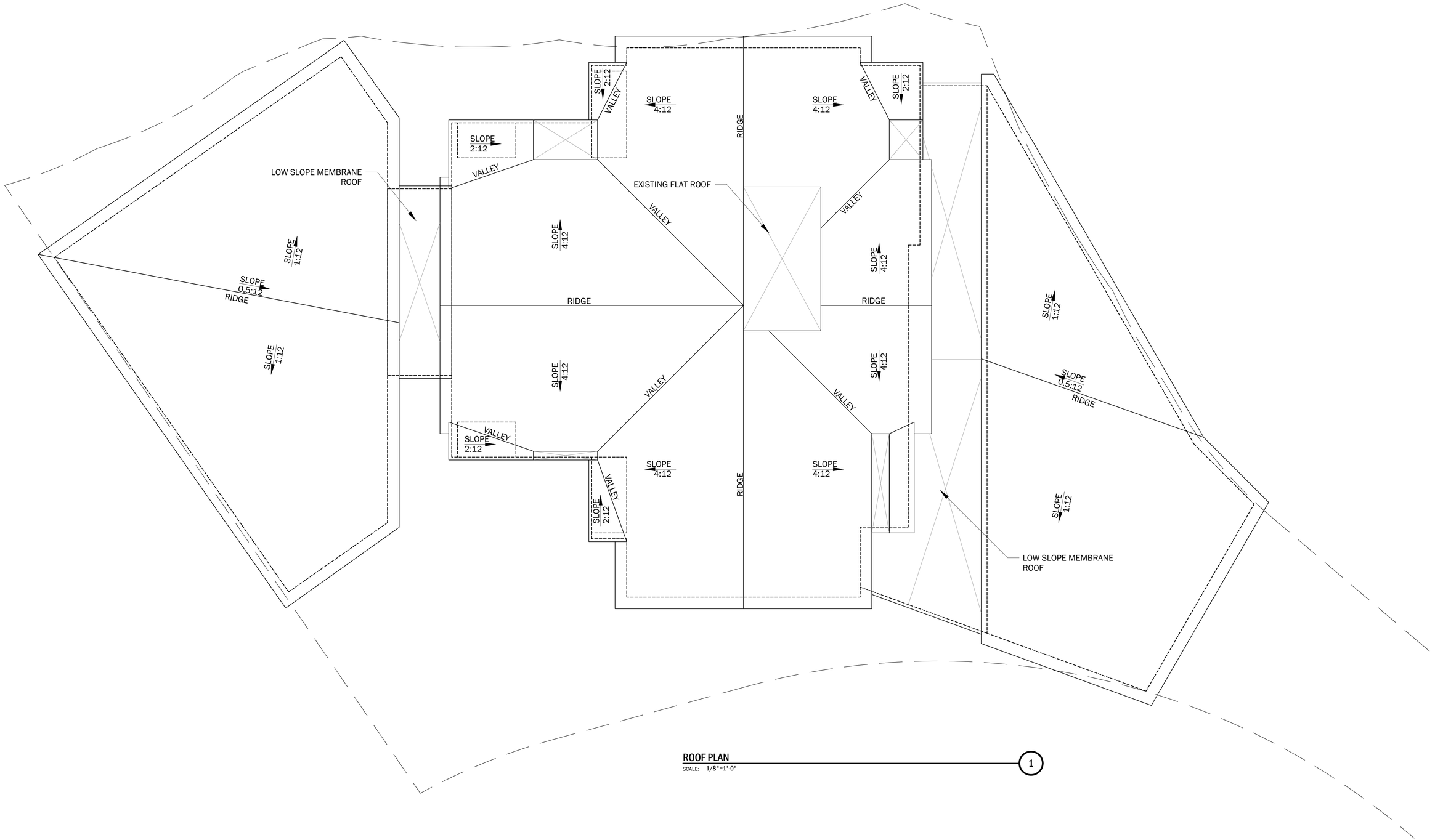
WINTER HOLBEN



ROOF PLAN
SCALE: 1/8"=1'-0"

1

EAST EXTERIOR ELEVATION 1

SCALE: 1/8"=1'-0"

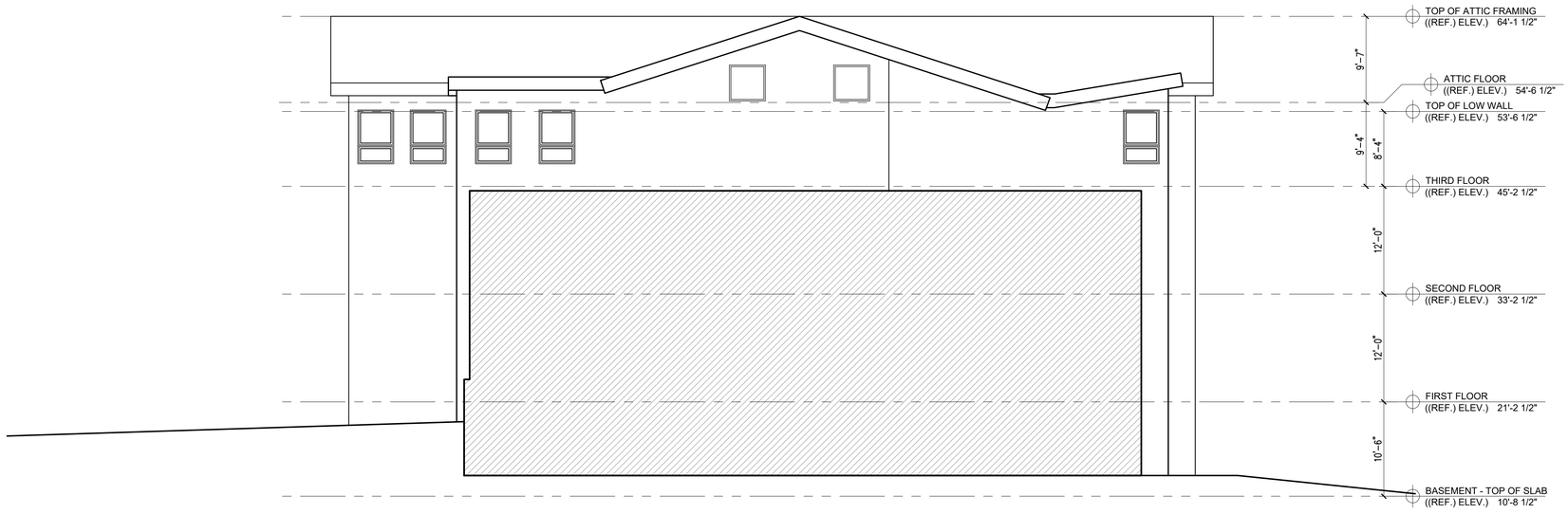
SOUTH EXTERIOR ELEVATION 2

SCALE: 1/8"=1'-0"

EAST EXTERIOR ELEVATION

SCALE: 1/8"=1'-0"

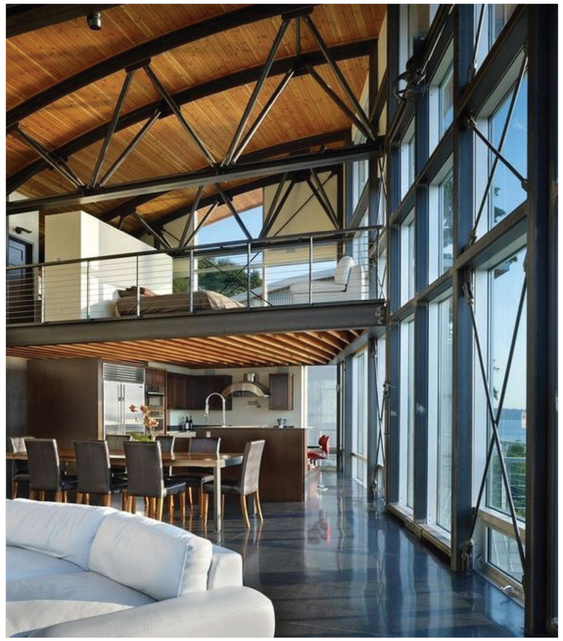
3



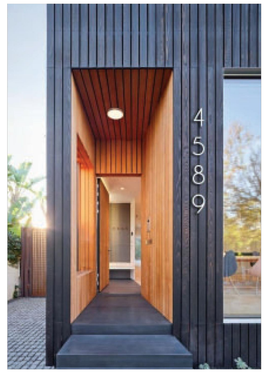
NORTH EXTERIOR ELEVATION

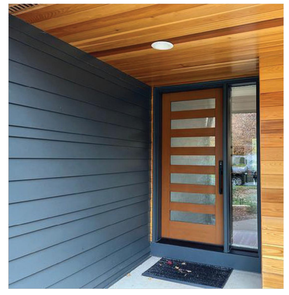
SCALE: 1/8"=1'-0"

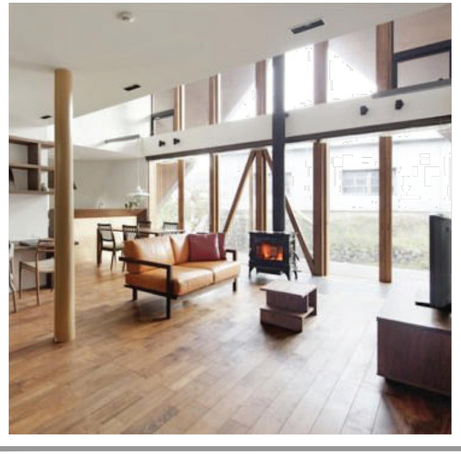
4




1741


4589



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EAST EXTERIOR ELEVATION 1
SCALE: N.T.S.

WEST EXTERIOR ELEVATION 2
SCALE: N.T.S.

STREET VIEW LOOKING WEST
SCALE: N.T.S.

1

STREET VIEW LOOKING NORTHWEST
SCALE: N.T.S.

1

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KITTERY, ME 03904
207.994.3104

RIVER VIEW LOOKING SOUTH EAST
SCALE: N.T.S.

1

7 WALLINGFORD SQUARE
UNIT 2099
KITTERY, ME 03904
207.994.3104

RIVER VIEW LOOKING NORTHEAST
SCALE: N.T.S.

1

7 WALLINGFORD SQUARE
UNIT 2099
KITTERY, ME 03904
207.994.3104

WINTER HOLBEN
architecture + design

MEMORANDUM

Date:	August 3, 2023
To:	Planning Board
Subject:	Project Narrative – 35 Badgers Island West
CC to:	

The application for the property at 35 Badgers shows the owner's (B.I.W. Group, LLC) intention to redevelop the existing structure through renovations and additions to change a former office building into a multi-unit residential structure.

The existing structure will be renovated to remove the footprint out of the shoreline setback. Additionally, the upper level will be expanded to match the lower levels' footprint and a 4:12 pitch roof will replace the majority of the existing roof structure by maintaining the current ridge height and raising the bearing height at the relocated exterior walls. Two secondary structure additions will be constructed on the north and south side of the existing to provide parking (below the grade level) and additional living units above. Both additions will be below 40' in height and are designed to complement the main building's geometry.

In general, the design ties into with the shipbuilding history of the site with the primary 3-story structure and then gets more expressive with the secondary 2-story wing additions. The additions pull from the natural form of the blue heron poised for flight that creates a subtle balance to the overall building form. Currently, innovative siding options that layer material in an oversized shingle are being explored to create the appearance of a feathered wing.

Basic Zoning Information

Site Address:		35 Badgers Island West, Kittery, Maine
Zone:		MU-BI (mixed use – Badgers Island)
Overlay Districts:		OZ-SL – Shoreland Overlay OZ-RP – Resource Protection Overlay OZ-CFMU – commercial fisheries/Maritime Activities Overlay (not applicable for this project)
Permitted Uses:		Dwelling, Multi-Family Note: this use is allowable in the OZ-SL so long as the structure is outside of the 75' setback from the water.
Dimensional Requirements:	Min. land area:	3,000 sf per dwelling unit for the first 2 units, then 6,000 sf per dwelling unit (see note 1).
	Min. lot:	6,000 sf.
	Min. frontage:	50'
	Front yard:	5'
	Side yard:	10'
	Max ht.:	40'
	Setback from water:	75'
	Min. open space:	40%

Required Parking:	1.5 space per dwelling unit minimum – per 16.4.24(4), special parking standards.

Kittery Design Handbook Information (architecture)

Façade Design (ref. LUDC 16.12 – see note 2) - Essentially, the front of the building should look like the front. Main entry door(s) should be clearly defined. Distinguishing features/architectural elements are recommended at points of entry.

Blank walls in an MU district – no façade may extend for more than 50' horizontally without incorporating an architectural feature such as pilaster, windows, cornices, porches, offsets, etc.

Building Materials (ref. LUDC 16.12 – see note 2) – Encouraged/acceptable materials include brick, clapboards, shakes, stone, and vertical boards. Modern materials that mimic/reflect the traditional materials are also acceptable. Metal, EIFS, and exposed concrete are materials that are discouraged with stucco, adobe, sheet metal, concrete block, concrete, plywood, and particle board prohibited in MU districts.

Roof in an MU district – The roof pitch for the prominent structure must have a minimum pitch of 4:12 with the acceptable forms to include: gamble, gambrel, and hip. Flat, shed, and applied mansards are not an acceptable roof form. The roof material should be either asphalt or a low reflectance metal material. Any equipment mounted on the roof should be screened from the public view.

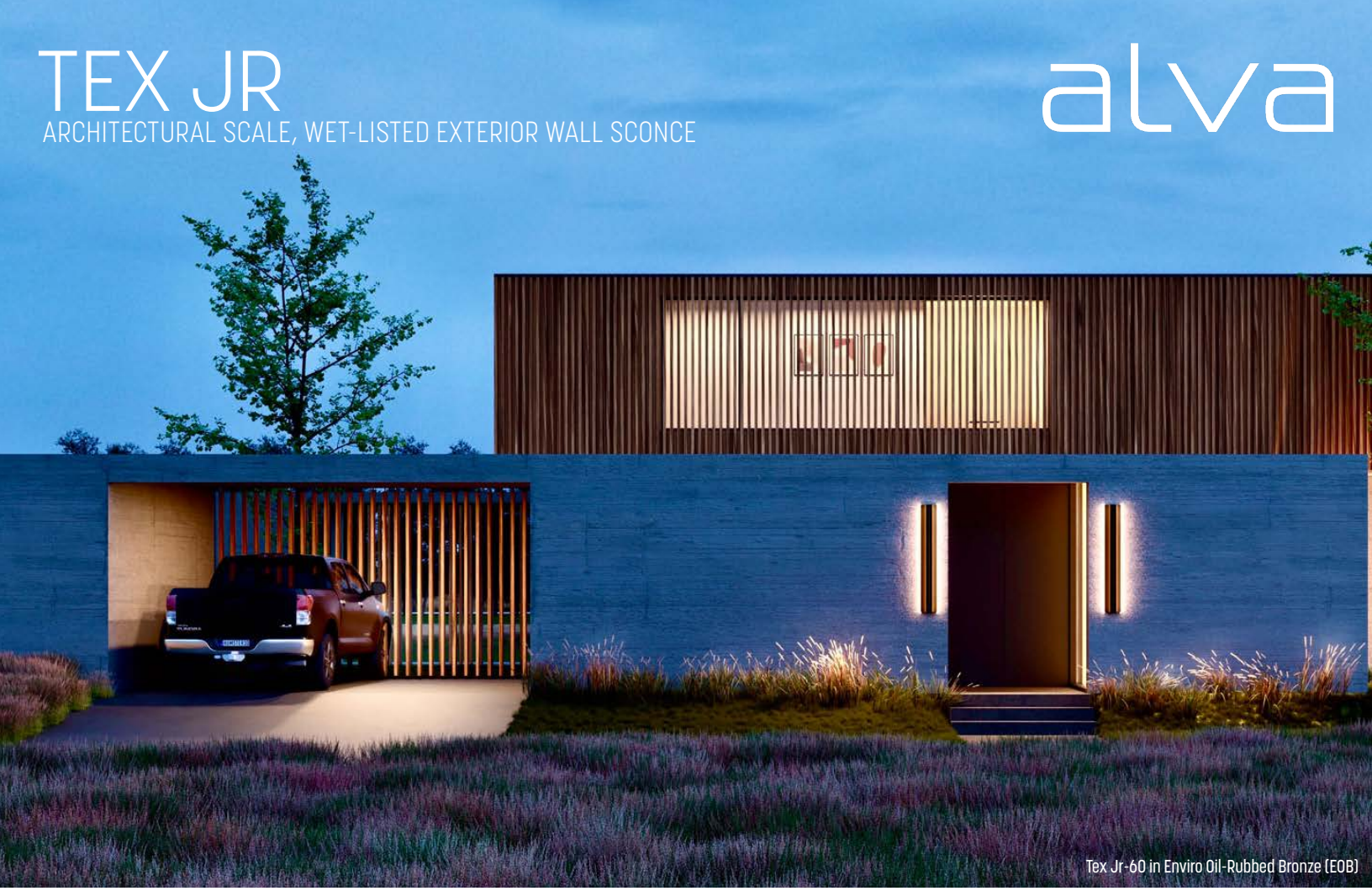
(note 1) – Current site is listed at 58,985 sf +/-, per the minimum land requirement, this area is capable of supporting 10 dwelling units.

(note 2) – The referenced Land Use Development Code section 16.12 cannot be located in the current Kittery Land Use Code (stops at 16.10).

TEX JR

ARCHITECTURAL SCALE, WET-LISTED EXTERIOR WALL SCONCE

alva



Tex Jr-60 in Enviro Oil-Rubbed Bronze (EOB)

Tex Jr-60 in Enviro Oil-Rubbed Bronze (EOB)

ADA COMPLIANT | TITLE 24 | 10YR WARRANTY | ETL LISTED

APPLICATIONS	Direct/Indirect grazing luminaire for exterior/interior use: flanking doors, on columns, on building facades, between windows, corridors, and elevator lobbies
SIZES	• 30" H x 9" W x 4"D, 18 lbs • 60" H x 9" W x 4"D, 36 lbs
MOUNTING	• J-Box 3.0 or 4.0 at center or end of fixture • Steel mounting system with mounting plate and cover with rubber gaskets between the junction box and mounting plate • Can be mounted vertically or horizontally
SPECIFICATIONS	• High efficiency, fully integrated propietary LED module • IP66 Rated • 120-277V input • 100,000+ hours rated life time • 10 Year Limited Warranty (excludes shade) • Title 24 Compliant • ADA Compliant
LAMPING	• 3000K, 3500K • 30" - 760 delivered lumens • 60" - 1221 delivered lumens • 0-10V Dimming (100-10%)
CONSTRUCTION	Fixture shell (shade): Heavy gauge aluminum with industrial powder coat finish and high impact acrylic

SPECIFICATIONS SUBJECT TO CHANGE

TEX JR

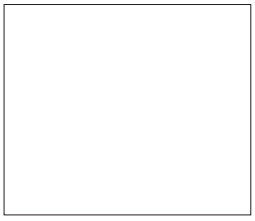
ARCHITECTURAL SCALE, WET-LISTED EXTERIOR WALL SCONCE

alva

METAL POWDER COAT FINISH OPTIONS

ESN - Enviro Satin Nickel

EOB - Enviro Oil-Rubbed Bronze



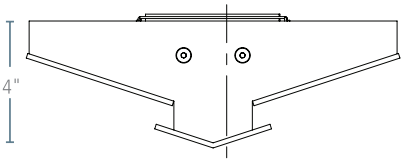
WHT - White

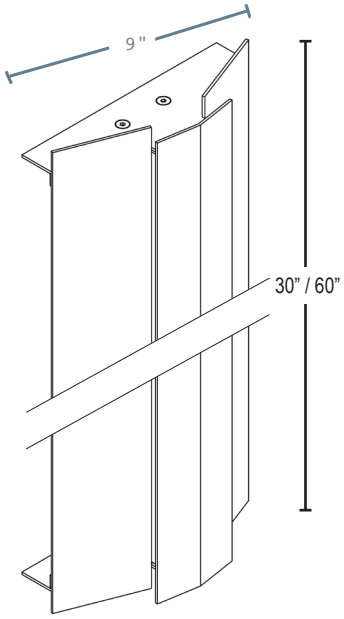
BLK - Black

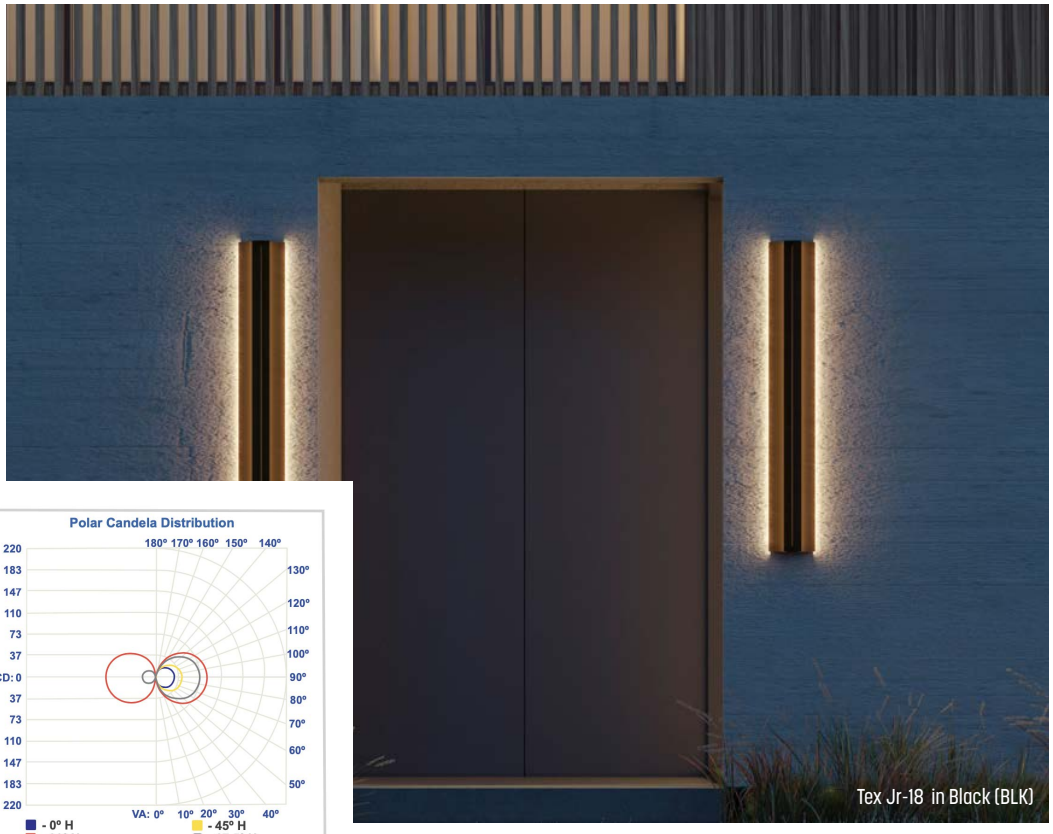
GR - Graphite

DB - Dark Bronze

Tex Jr-60 in Enviro Oil Rubbed Bronze (EOB)







Tex Jr-18 in Black (BLK)

ORDER CODE:

TEX-JR			
MODEL	LENGTH	METAL TRIM	CCT

LENGTH

30 30″
60 60″

METAL TRIM

POWDER COAT FINISH OPTIONS

ESN Enviro Satin Nickel
EOB Enviro Oil-Rubbed Bronze
DB Dark Bronze
GR Graphite
WHT White
BLK Black

CCT

3000 3000K
3500 3500K
4000 4000K

Fixture Type: _____

Model Number: _____

Project Name: _____

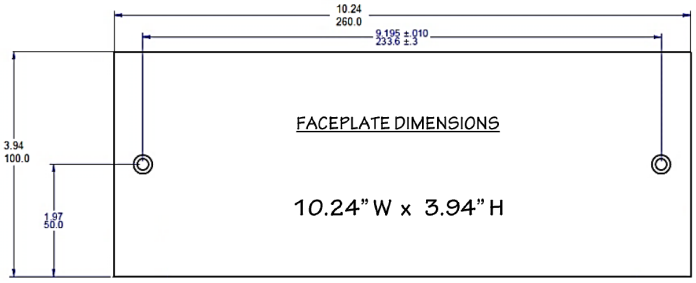
SAGA

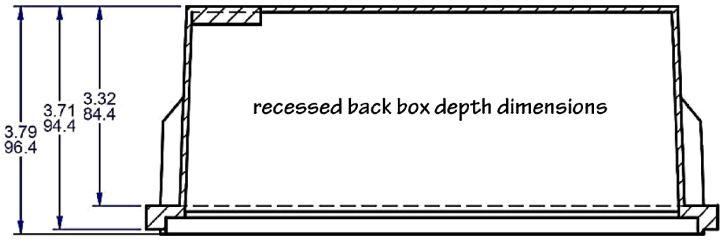
Recessed LED Step Light

Horizontal Directional Louver
HDL

Angled Cutoff
AC

Open Face
OF





General: The Saga recessed step light is designed for low-level wall or step lighting for use in wet locations (indoor/outdoor).

Housing: Cast aluminum, low-copper content, die cast housing. Knockouts provided on (4) sides; housing painted gloss white. Exterior edge around housing perimeter secures gasket.

Frame: Cast aluminum, painted, and secured to housing with stainless steel hardware. Three (3) face frame styles available: Angled Cutoff (-AC), Horizontal Directional Louver (-HDL), and Open Face (-OF).

Diffuser: Available in frosted glass or translucent polycarbonate (0.10" minimum thickness). Lens retained in face plate and sealed with RTV silicone adhesive.
Angled Cutoff (AC) frame has secondary inner lens.

LED Board: Single 7.28" linear LED module generating 14 watts (@700mA). Operating temperature: -40°C to +60°C.

LED Driver: 120v/277v LED driver; output voltage 15V-30V; output current 0.4A-0.7A; supports Leading Edge/Trailing Edge dimming. Operating ambient temperature range: -20°C to +50°C

Color Temperatures: available in 3000K and 4000K.

Finish: Textured polyester powder coat finish on faceplate. Recessed housing and reflector gloss white finish. Standard colors include: black, bronze, grey, white, silver, verde green . For custom colors, consult factory.

Gasketing: Rectangular silicone gasket included and secured around back box housing perimeter.

Mounting: Four options available: poured concrete (-CON), existing frame construction (-EC), masonry/mortar (-MOR), and new construction (-NC).

Hardware: External stainless steel hardware is standard. Tamper Resistant Hardware (-TRH) option available.

Listings: UL Listed 1598 for Wet Locations
Suitable for mounting within 4' of ground
ADA compliant

A.D.A. COMPLIANCE

c UL us LISTED

MADE in WISCONSIN From U.S. and Foreign Parts

content of specification sheet is subject to change.

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P 877 965 0005
intrigueled.com

Fixture Type: _____

Model Number: _____

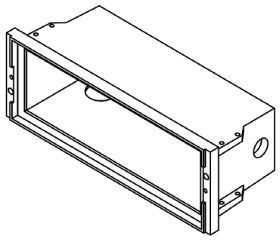
Project Name: _____

intrigue lighting LED

HOUSING	MOUNTING	LED	SERIES	LED	FACE FRAME	LENS	LED COLOR	OPTIONS	VOLTAGE	FINISH
SGH	- _____ -	LED	SG-R	- 1LED	- _____	- _____	- _____	- _____	- UNV	- _____

Model Number Detail

Housing
- □ **SGH** — SAGA Recessed LED Step Light housing / backbox with mounting hardware



Mounting
- □ **CON** — Poured Concrete (new installation only)
- □ **EC** [1] — Existing Construction
- □ **MOR** [1] — Mortar/Masonry (new installation only)
- □ **NC** [1] — New Construction (excludes CON or MOR installations)

[1] *requires Trim Ring Accessory (SGTR); see below for ordering details*

LED
- □ **LED** — Wired for LED module

Series
- □ **SG-R** — SAGA Recessed LED Step Light

LED
- □ **1LED** — 14.2-watt LED Module

Face Frame
- □ **AC** — Angled Cutoff
- □ **HDL** — Horizontal Directional Louver
- □ **OF** — Open Face

Lens
- □ **OLG** — Glass - Opal Lens
- □ **OLP** — Polycarbonate - Opal Lens

LED Color (K)
- □ **3K** — 3000K
- □ **4K** — 4000K

Options
- □ **ANOD** — Anodized Finish (pre-paint process)
- □ **TRH** — Tamper Resistant Hardware

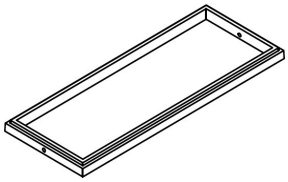
Voltage
- □ **UNV** — Universal (120v-277v) (50/60Hz); dimmable

Finish
- □ **BLK** — Black
- □ **BRZ** — Bronze
- □ **GRY** — Grey
- □ **SIL** — Silver
- □ **VGN** — Verde Green
- □ **WHT** — White
- □ **CC** — Custom Color | consult factory

	3000K	4000K
CRI	70	70
Luminous Flux (lumens)	1,810	1,900
Power (watts) [1]	14.2	14.2
Efficacy (lumens/watt)	127	134

[1] *Power draw may be affected by installation with a dimmer*

Trim Ring Accessory



□ **SGTR** Trim Ring Kit
(with finish to match face frame selection)

A.D.A. COMPLIANCE

c UL us LISTED

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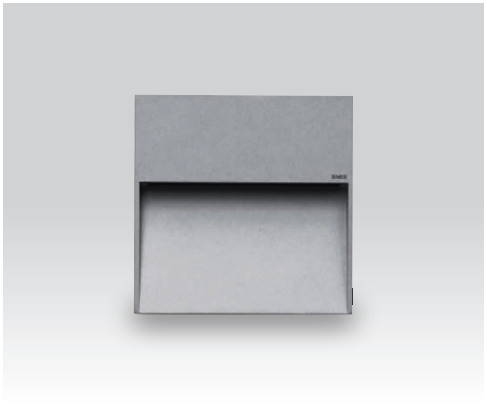

Skill is a unique LED luminaire, assuring high lighting performance and total absence of glare. The most modern electronic technology is contained in the thickness of only 3 cm and provides an excellent quality of light while saving energy.

Luminaire characteristics:	**Power input:** 4.7W to 18.3W (system wattage) **Lumens:** 141lm to 785lm (for 3000K, 90CRI) **Luminaire efficacy:** Up to 43lm/W
Source:	LED Module (LM-80 tested) 2700K: 90CRI, 3000K: 90CRI, 4000K: 80CRI.
Lumen maintenance:	80% of initial lumens at 70 000 hours(L80)(LM-79)
Optics:	Accent light.
Material:	Body: Die-cast aluminum Diffuser: Toughened glass.
Mounting:	See mounting options on page 4.
Electrical:	High efficiency electronic power supply, rated at 50 000 hours, 120-277V. See remote LED Driver options on page 3.
Dimming	0-10V down to 10% (120-277V), see page 3 for available remote options.
Finish:	White, aluminum gray or anthracite gray painted finish, following a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bonderite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.
Weight:	Miniskill vertical: 0.95lb (0.43kg) Miniskill square: 1.1lb (0.5kg) Miniskill round: 0.99lb (0.45kg) Skill square: 2.93lb (1.33kg) Skill square large: 6.53lb (2.96kg) Skill round: 2.67lb (1.21kg) Skill rectangular: 2.79lb (1.26kg)
Warranty:	5 year limited warranty.
Ratings:	IP65, IK08
Certification:	cULus listed for wet location

ORDERING INFO

_____ - ____ - ____ - ____
FIXTURE

RESET

MODEL

- ☐ **S6230 -** Miniskill vertical
- ☐ **S6250 -** Miniskill square
- ☐ **S6270 -** Miniskill round
- ☐ **S6260 -** Skill square
- ☐ **S6255 -** Skill square large [1]
- ☐ **S6280 -** Skill round
- ☐ **S6240 -** Skill rectangular

LED

- ☐ **H -** 2700K, 90CRI
- ☐ **W -** 3000K, 90CRI
- ☐ **N -** 4000K, 80CRI

MOUNTING [2]

- ☐ **DF -** Surface mounted with direct feed
- ☐ **JB -** Surface mounted junction box
- ☐ **FM -** Recessed mounted flush with surface
- ☐ **J2 -** Surface mounted single gang box
- ☐ **FW -** Surface mounted with fixture whip

VOLTAGE

- ☐ **UNV -** 120-277V
- ☐ **REM -** Remote

FINISH

- ☐ **01 -** White
- ☐ **14 -** Aluminum
- ☐ **24 -** Anthracite gray

DIMMING

- ☐ **D10 -** 0-10V [3] [4]

[1] Available with surface mounted junction box and 120-277V (**JB-UNV**) or flush mount and remote (**FM-REM**).
[2] See previous page 4-5 for model availability.
[3] Available with **6250**, **6260**, **6270**, **6280**, **6255** models.
[4] Available with 120-277V (**UNV**) voltage.

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REMOTE POWER SUPPLY OPTIONS
(TO BE ORDERED SEPARATELY)

							Miniskill S6230 / 50 / 70	**Skill** S6260 / 80	**Skill Rectangular** S6240
							5.2W*	**11W***	**12W***
Watts	**Voltage**	**Rated**	**Dimming protocol**	**Dimming range**	**Dimension**	**Max distance****	**Min-Max Units**		
☐	**4444-0024-020-120-ND**						1-3	1	1
20	120V	Indoor	None	None	6" x 4" x 3" (152 x 102 x 76mm)	30ft(9m)			
☐	**4448-0024-060-UNV-ND**						1-11	1-5	1-5
60	120-277V	Indoor	None	None	10" x 8" x 4" (254 x 203 x 102mm)	30ft(9m)			
☐	**4549-0024-075-UNV-D10**						1-14	1-6	1-6
75	120-277V	Outdoor	0-10V	Down to ±10%	8" x 1" x 2" (203 x 25 x 51mm)	30ft(9m)			
☐	**4545-0024-075-UNV-ND**						1-14	1-6	1-6
75	120-277V	Outdoor	None	None	11" x 3" x 2" (279 x 76 x 51mm)	30ft(9m)			
☐	**4551-0024-080-120-LTE**						1-15 Dim 6-15	1-7 Dim 3-7	1-6 Dim 3-6
80	120V	Outdoor	Leading and trailing edge (ELV and TRIAC)	Down to ±15%	14" X 5" X 2" (356 X 127 X 51mm)	30ft(9m)			
☐	**4448-0024-150-UNV-D10**						1-28	1-13	1-12
150	120-277V	Indoor	0-10V	Down to ±10%	10" x 8" x 4" (254 x 203 x 102mm)	25ft (7.5m)			
☐	**4546-0024-200-2C-UNV-ND**						1-38	1-18	1-16
200	120-277V	Outdoor	None	None	12" X 5" X 2" (305 X 127 X 51mm)	30ft (9m) Per channel			

* Wattage requirement for one (1) fixture (Remote fixture only).
** Contact factory for longer remote distance.

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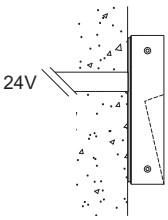
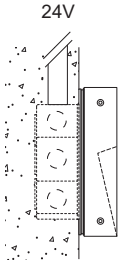
MOUNTING OPTIONS

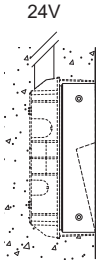
Miniskill
(S6250 - S6270)



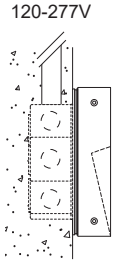
DF-REM - Direct feed with remote power supply.
Connections made inside fixture
Max 2x18AWG
Installed directly to surface.



JB-REM - 4" junction box with remote power supply.
Mounting adapter plate for junction box installation.
Min 1½" (38mm) deep

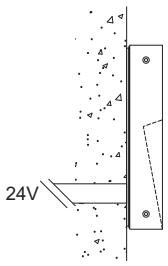


FM-REM - Recessed mounted flush with surface. Remote power supply.
Cast in concrete application, supplied with back box **S6256** - **S6278**
Min 2⅞" (73mm) deep

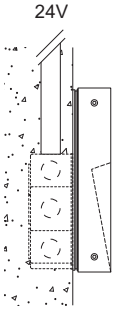


JB-UNV - 4" junction box with integral power supply.
Mounting adapter plate for junction box installation.
Min 1½" (38mm) deep

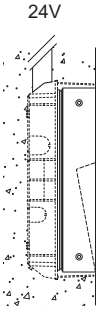
Skill
(S6240 - S6260 - S6280)



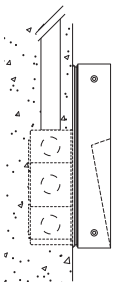
DF-REM - Direct feed with remote power supply.
Connections made inside fixture (14-18AWG only).Max Ø3/8" power cable. Installed directly to surface.



JB-REM - 4" junction box with remote power supply.
Mounting adapter plate for junction box installation.
Min 1½" (38mm) deep

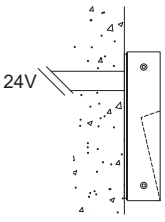


FM-REM - Recessed mounted flush with surface. Remote power supply.
Cast in concrete application, supplied with back box **S6247** - **S6268** - **S6288**.
Min 2⅞" (73mm) deep

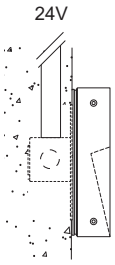


JB-UNV - 4" junction box with integral power supply.
Mounting adapter plate for junction box installation.
Min 1½" (38mm) deep

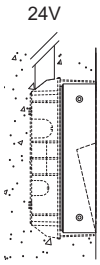
Miniskill Vertical
(S6230)



FW-REM - Fixture whip to remote power supply.
Installed directly to surface with recessed pipe, exposed cable or electrical conduit.

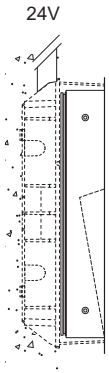


J2-REM - 2" junction box with remote power supply.
Mounting adapter plate for junction box installation.
Min 1⅞" (48mm) deep

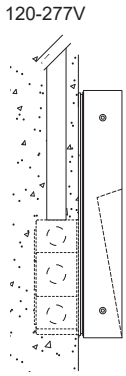


FM-REM - Recessed mounted flush with surface. Remote power supply.
Cast in concrete application, supplied with back box **S6239.**
Min 2⅞" (73mm) deep

Skill Square Large
(S6255)



FM-REM - Recessed mounted flush with surface. Remote power supply.
Cast in concrete application, supplied with back box **S6257.**
Min 2⅞" (73mm) deep



JB-UNV - 4" junction box with integral power supply.
Mounting adapter plate for junction box installation.
Min 1½" (38mm) deep

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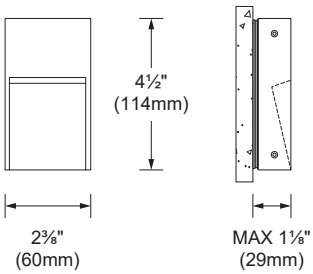
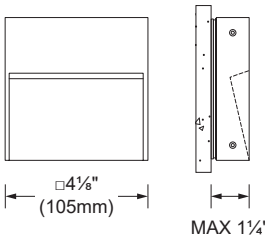
DIMENSIONS

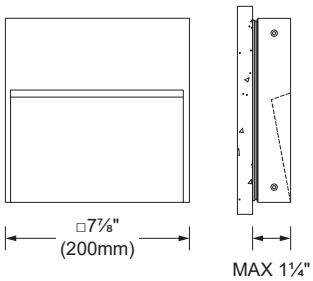
Miniskill vertical
S6230



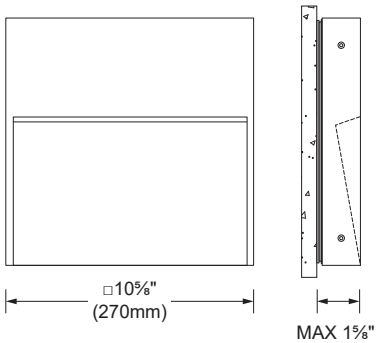
Miniskill Square
S6250



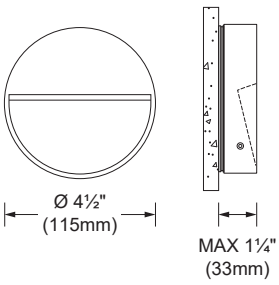
Skill Square
S6260



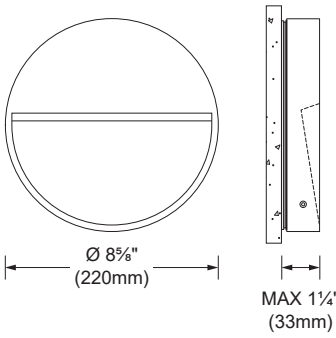
Skill Square Large
S6255



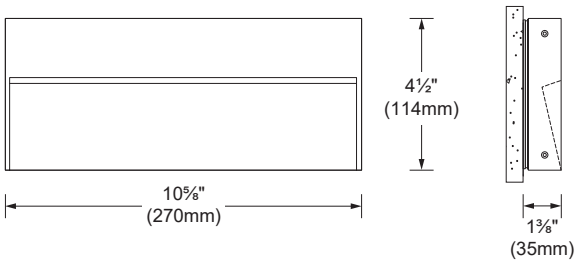
Miniskill Round
S6270



Skill Round
S6280



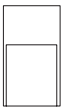
Skill Rectangular
S6240



PHOTOMETRIC DATA

Visit sistemalux.com for complete photometric data.

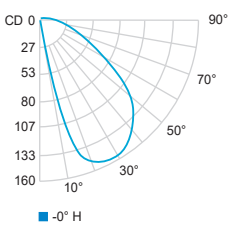
Mini Skill Vertical

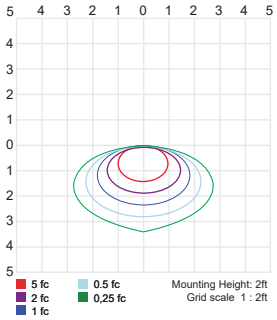


CCT (K)	CRI	LOAD (W)*	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	4.7W	Accent light	141	30	159	S6230W

* For products that uses a remote led driver, total system wattage will varies according to the efficacy of the remote led driver selected. For this reason, the load and efficacy values given in the table above refers to the led source only and does not include the led driver consumption.

Accent light (3000K, 90CRI)

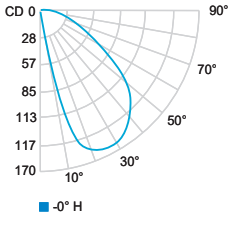


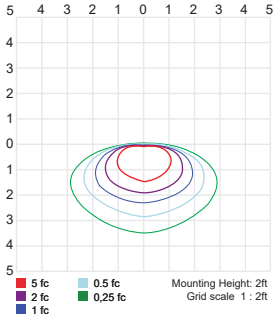


Miniskill Square

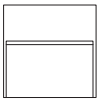
CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	5W	Accent light	169	34	160	S6250W

Accent light (3000K, 90CRI)



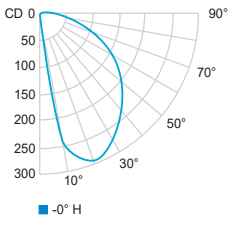


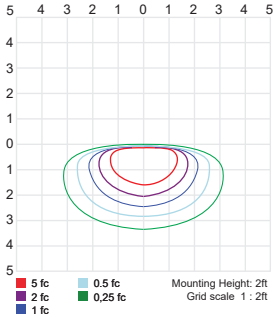
Skill Square



CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	10.1W	Accent light	382	38	320	S6260W

Accent light (3000K, 90CRI)





CCT options	2700K	3000K	4000K
CRI options	90CRI	90CRI	80CRI
Multiplier	**0.94**	**1**	**1.02**

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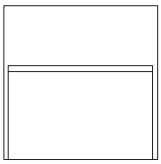
PHOTOMETRIC DATA

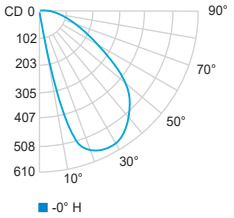
Visit sistemalux.com for complete photometric data.

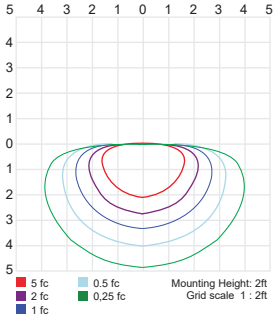
Skill Square Large



CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	18.3W	Accent light	785	43	600	S6255W

Accent light (3000K, 90CRI)

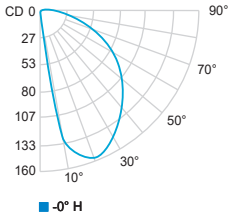


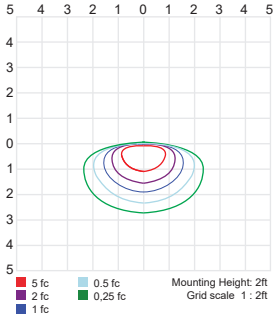


Miniskill Round

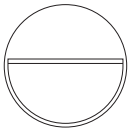
CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	5W	Accent light	169	34	151	S6270W

Accent light (3000K, 90CRI)



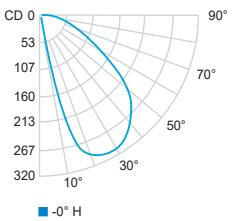


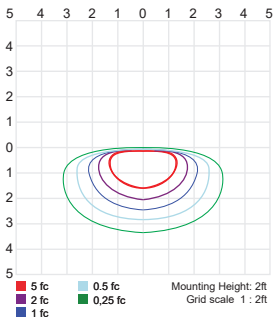
Skill Round



CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	10.1W	Accent light	382	36	317	S6280W

Accent light (3000K, 90CRI)





CCT options	2700K	3000K	4000K
CRI options	90CRI	90CRI	80CRI
Multiplier	**0.94**	**1**	**1.02**

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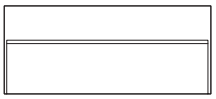
PHOTOMETRIC DATA

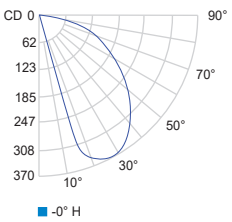
Visit sistemalux.com for complete photometric data.

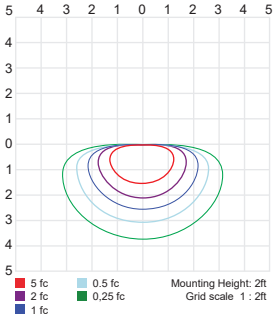
Skill Rectangular



CCT (K)	CRI	LOAD (W)	OPTIC	LUMENS (lm)	EFFICACY (lm / W)	MAX CANDELA (cd)	MODEL
3000K	90	13.1W	Accent light	421	32	363	S6240W

Accent light (3000K, 90CRI)





CCT options	2700K	3000K	4000K
CRI options	90CRI	90CRI	80CRI
Multiplier	**0.94**	**1**	**1.02**

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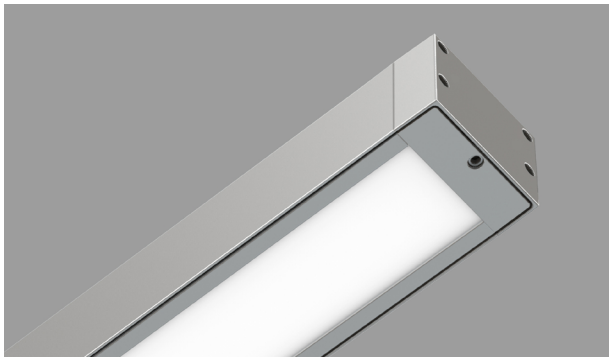
5 YEAR WARRANTY

Project: _____

Type: _____



DESCRIPTION

Via Wet offers architectural lighting for wet locations in both exterior and interior applications. With a simple 3¾" high by 4½" wide profile of extruded aluminum, Via Wet can be installed in recessed, ceiling, wall, or pendant mounting.
Fully sealed, Via Wet is suitable for extreme weather condition, -20°C/-4°F to 40°C/104°F. A choice of output options provides up to 1000 lumens per foot section.

SENSORS
For latest information on sensors, click here.

IMPORTANT: Fixture must be installed with lens facing down.

Up to 89 lm/W performance

IC RATED

Order Guide

LUMINAIRE ID	DISTRIBUTION	PROTECTIVE OPTIC	OPTIC	LIGHT SOURCE	CRI	LUMEN PACKAGE
VIAWETR	**D**			**SW**		
VIAWETR - Via Wet Recessed	**D** - Direct	**TMG** - Tempered Clear Glass **PYC** - Clear Polycarbonate	**HLO** - High-Efficiency Lambertian Optic **PMO** - Precision Micro-Prism Optic	**SW** - Static white	**80CRI** - 80 CRI **90CRI** - 90 CRI	**500LMF** - Low output 500 lm/ft **750LMF** - Medium output 750 lm/ft **1000LMF** - High output 1000 lm/ft

COLOR TEMP.	LUMINAIRE LENGTH	VOLTAGE	DRIVER [2]	ELECTRICAL
27K - 2700K **30K** - 3000K **35K** - 3500K **40K** - 4000K **50K** - 5000K	**#FT** - Specify nominal length (#) in 1 foot increments **Standard nominal lengths:** Single units: 3' and 4'. Continuous runs: lengths over 4'	**120V** - 120V **277V** - 277V **UNV** - 120V-277V **347V** [1] - 347V [1] Only available with D1 driver.	**D1** - 1% 0-10V **DA** [3] - DALI **LTD10** [4] - Low-temperature 10% 0-10V [2] PoE (Power-over-Ethernet) compatible. Consult factory for details. [3] On-site commissioning is required. [4] Suitable for temperatures down to -40°C/F.	**1C** - 1 circuit **#MC** [5] - Multi circuit **EC** - Emergency-powered fixture **NL** - Night light fixture **DL** - Daylight fixture **GTD** [6, 7, 8] - Generator transfer device fixture [5] Specify total number of circuits (#), including any circuits required for electrical section options. Provide drawing or layout specifications. Minimum 4' section per circuit. [6] Minimum 4' fixture. [7] Not available with 347V. [8] Not available for environments where the ambient temperature falls below 0°C (32°F).

ELECTRICAL SECTIONS (optional) [9, 10]	POWER FEED	MOUNTING	FINISH	OPTION
#EC## [11] - Emergency-powered section **#NL##** [11] - Night light section **#DL##** [11] - Daylight section **#GTD##** [11, 12, 13, 14] - Generator transfer device section **NA** - None [9] Specify with multi circuit (#MC) electrical option only. [10] Provide drawing or layout specifications. Consult factory for other configurations. Default section length is 4'. [11] Specify quantity (#), and section length in inches (##). [12] Minimum 4' section. [13] Not available with 347V. [14] Not available for environments where the ambient temperature falls below 0°C (32°F).	**TF** - Top feed **EF** - End feed	**MTR -** Trim **MTL** - Trimless	**W** - Matte white **CF#** - Custom finish, specify RAL#	**NATA** - Natatorium finish **NA** - None

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Intertek

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PoE

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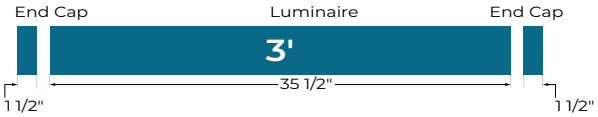
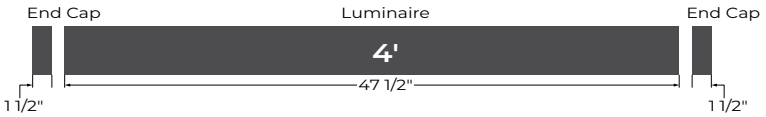
Row Configurations and Mounting Spacing

LUMINAIRE LENGTHS AND ENDCAPS

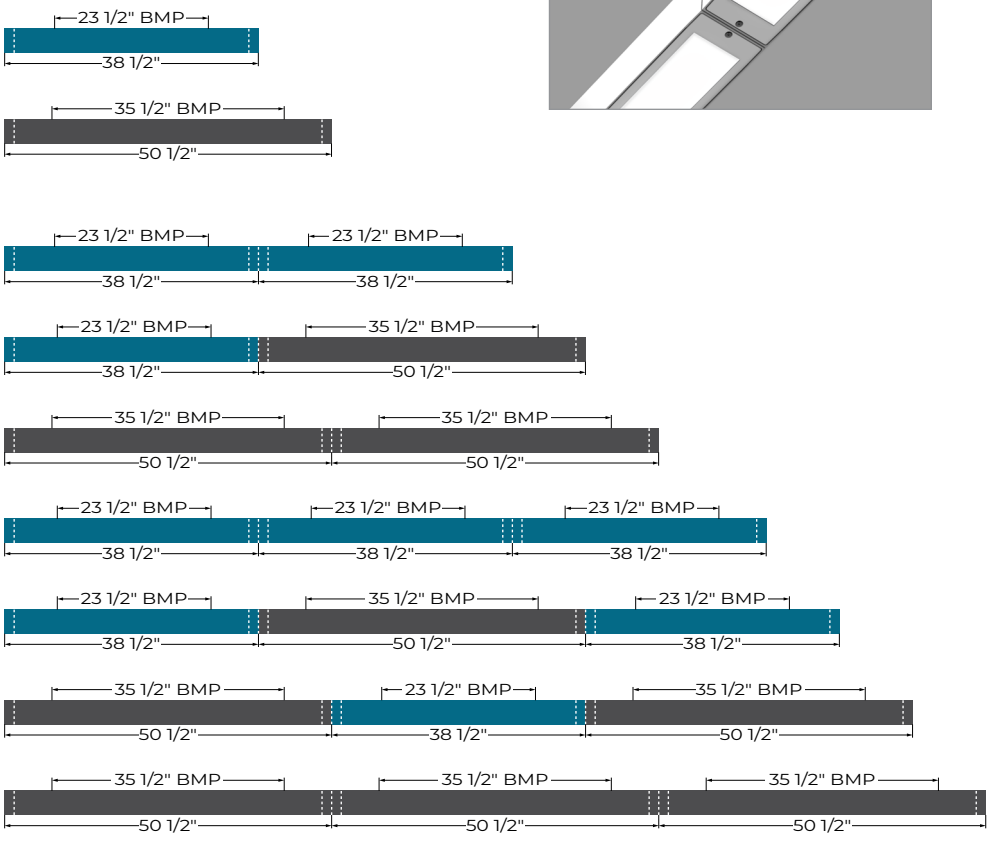




ROW CONFIGURATIONS AND MOUNTING SPACING

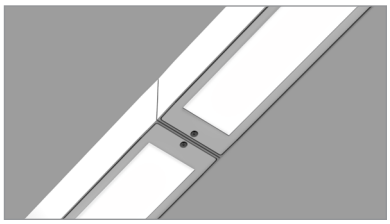
SECTIONS		TOTAL LENGTH	
3ft	4ft	Nominal	Actual
1X		3'	38 1/2"
	1X	4'	50 1/2"
2X		6'	77 1/16"
1X	1X	7'	89 1/16"
	2X	8'	101 1/16"
3X		9'	115 5/8"
2X	1X	10'	127 5/8"
1X	2X	11'	139 5/8"
	3X	12'	151 5/8"

BMP = Distance Between Mounting Points



For longer run please use the same logic

3D LUMINAIRE JOINING SECTION



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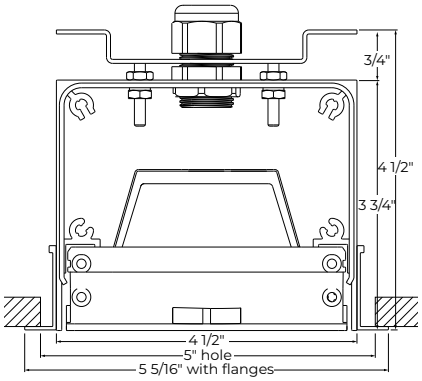
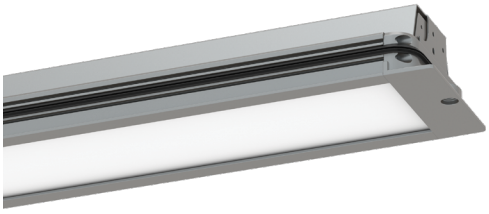
SECTION VIEW



VIAWETR

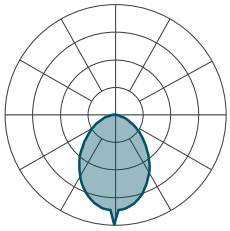
OPTIC AND PROTECTIVE OPTIC



TMG + HLO - Tempered Clear Glass with High-Efficiency Lambertian Optic

Photometrics

Values calculated based on a 4 ft fixture at 35K and 80 CRI, and apply to all optics and protective optics.



LM/FT	W/FT	LPW
500	5.6	89
750	8.6	87
1000	11.7	85

MULTIPLIER TABLE

Use the table to get results for different color temperatures and CRI for all photometric tables.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI 80	CRI 90	CRI 80	CRI 90
2700	1.05	1.27	0.95	0.79
3000	1.02	1.23	0.98	0.81
3500	1.00	1.19	1.00	0.84
4000	1.00	1.19	1.00	0.84
5000	0.96	1.12	1.04	0.89

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Technical Specifications

OPTICS AND PROTECTIVE OPTICS

Via Wet is available with a clear tempered glass **(TMG)** or a clear, UV stabilized polycarbonate **(PYC)** protective enclosure, which are installed outside of the luminaire optic itself.
The Precision Micro-Prism Optic **(PMO)** option utilizes a special catadioptric lens with a two-dimensional array of prisms designed to eliminate glare while maintaining high efficiency and clean luminous appearance. The High-Efficiency Lambertian Optic **(HLO)** option uses a diffuser that combines 88% transmission with good source obscuration.

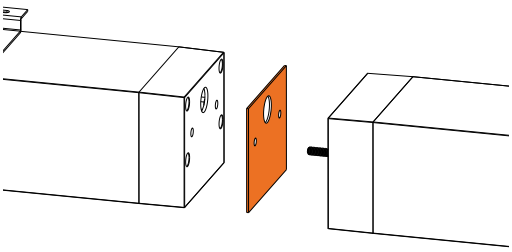
LIGHT SOURCE

Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K, 4000K and 5000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operate at reduced drive current to optimize efficacy and lumen maintenance.
All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

LUMINAIRE LENGTH

Via Wet is made up of standard 3, and 4 foot sections that can be joined cleanly and securely for continuous runs in all configurations.

Joining system



All individual sections are joined together onsite using the ¼"-20 screws and nuts provided. The joint between 2 adjacent individual sections is sealed by a silicone gasket attached to one of the 2 sections. The electrical connection between sections is made through the holes provided in the end-caps.

ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at -20°C min. and 40°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. DALI protocol drivers are also available. Power grommet for cable diameter between 0.276" and 0.512" (7-13mm). All of our standard 0-10V drivers are NEMA 410 compliant. An optional low-temperature 10% 0-10V driver, suitable for temperatures down to -40°C/F is also available.

PoE

Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire, or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections

Options include emergency-powered (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency-powered sections on a second circuit.
Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.
Code: 1MC-1GTD48

Generator Transfer Device (GTD)

A UL924 listed shunt relay that can bypass both line voltage (120-277V) and 0-10V dimming signal. Suited for ambient temperatures of 0°C (32°F) to 60°C (140°F).

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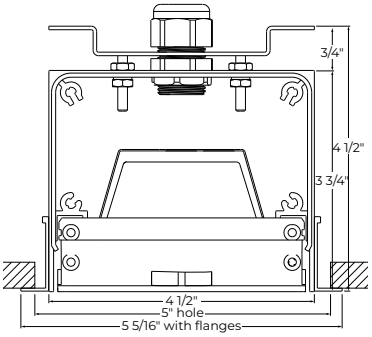
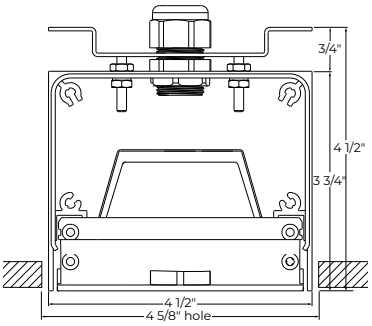
MOUNTING OPTIONS

Mountings are available with trim or trimless

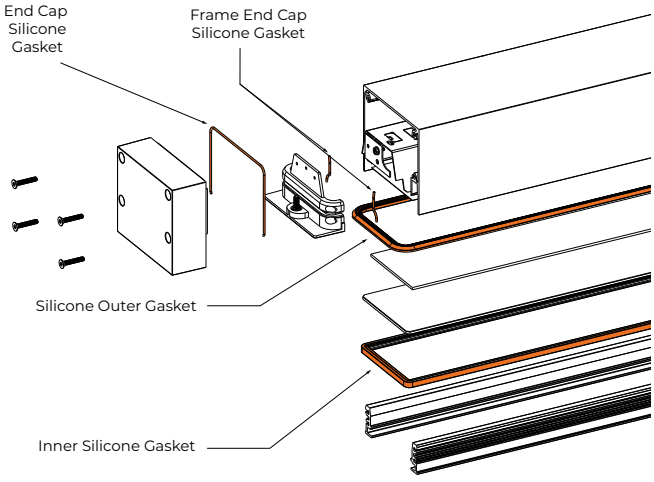


MTR - Trim



MTL - Trimless

GASKETED FIXTURE OVERVIEW



Lens and enclosure are sealed with inner and outer silicone gaskets

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - Matte white powder coating.
Custom finishes are also available.

CONSTRUCTION

Housing - Extruded aluminum (0.095" nominal) up to 90% recycled content
Side frame extrusions – Extruded aluminum (0.125" nominal) up to 90% recycled content
Interior brackets - Die formed cold rolled sheet steel 16 gauge thick
Joining system - 2 x ¼"-20 screws + nuts accessible from inside the fixture + one silicone gasket attached to one of the end-caps
Reflectors - Flat rolled aluminum sheet 0.040" thick precisely die formed, 95% reflective matte white painted
End cap - Aluminum die cast
Tempered Clear Glass - Clear, 1/8" thickness, fully tempered optics
Clear Polycarbonate - Clear, 1/8" thickness, UV protected optics
Gaskets - Fixture lens unit and end-caps are fully sealed using silicone gaskets

WEIGHT

4ft - 18.2 lbs - 8.27 Kg

CERTIFICATIONS

ETL - Rated for Wet location. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.
IC rated - Suitable for direct contact with insulation.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

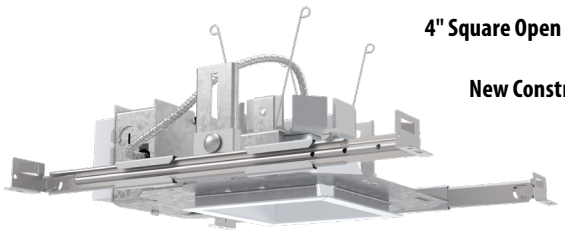
3737 Cote Vertu St-Laurent, Quebec, Canada H4R 2C9
T (514) 225-4304 F (514) 931 -4862
www.lumenwerx.com

VIAWET-RECESSED-SPEC-REV1 February 15, 2023

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LDN4SQ STATIC WHITE



4" Square Open and Wallwash LED
Non-IC
New Construction Downlight

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Durable square metal reflectors retained by torsion springs.

Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches.

Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.

Two combination 1/2"-3/4" and four 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.

Accommodates 12"-24" joist spacing.

Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.

Max ceiling thickness 1-1/2".

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse; 80 CRI minimum. 90 CRI optional.

LED light source concealed with diffusing optical lens.

General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.

Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting.

ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.

0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.

LUMEN MAINTENANCE — 70% lumen maintenance at 60,000 hours. (L70/60,000 hours)

LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product. Drivers are RoHS compliant.

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

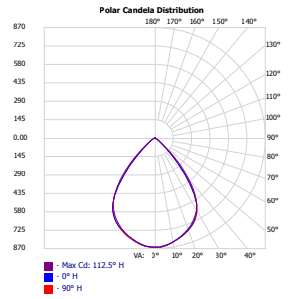
WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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

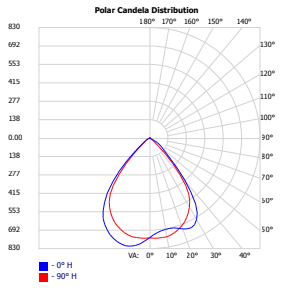
PERFORMANCE DATA

LDN4SQ 3500K AR LSS CRI80			
Nominal	**Lumens**	**Wattage**	**Lm/W**
500	432.5	5.7	75.3
750	620	8.6	72.1
1000	863	10.6	81.6
1500	1249	17.5	71.4
2000	1657	22.1	74.9
2500	2218	26.1	85.0
3000	2483	32.1	77.4
4000	3479	43.0	80.9

Notes
- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.



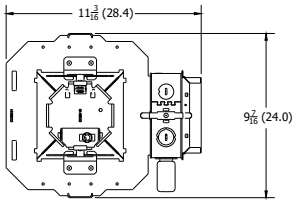
Open

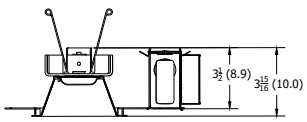


Wallwash

DIMENSIONS

LDN4 500 - 1500 LUMENS





Aperture: 4-5/16" (11)
Ceiling Opening: 5-1/8" (13)
Overlap Trim: 5-7/16" (13.8)

See page 4 for other fixture dimensions

LDN4SQ

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN4SQ 35/15 LS4 AR LSS MVOLT EZ1

LDN4SQ							
Series	**Color temperature**	**Lumens ‡**	**Trim Style**	**Trim Color**	**Trim Finish**	**Flange Color ‡**	**Voltage**
LDN4SQ 4" square	27/ 2700K 30/ 3000K 35/ 3500K 40/ 4000K 50/ 5000K	05 500 lumens 07 750 lumens 10 1000 lumens 15 1500 lumens 20 2000 lumens 25 2500 lumens 30 3000 lumens 40 4000 lumens	LS4 Downlight LSW4 Wallwash	AR Clear WR ‡ White BR ‡ Black TCPC ‡ Custom painted trim TRALTBD ‡ RAL painted trim	LSS Semi-specular LD Matte diffuse LS Specular	TRW White painted flange TRBL Black painted flange FCPC Custom painted flange only FRALTBD RAL painted flange only	MVOLT Multi-volt 120 120V 277 277V 347 ‡ 347V

Driver	**Emergency ‡**	**Control Input ‡**	**Options**
GZ10 0-10V driver dims to 10% GZ1 0-10V driver dims to 1% D10 Minimum dimming 10% driver for use with JOT D1 Minimum dimming 1% driver for use with JOT EZ1 0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 1% EDAB eldoLED DALI SOLDRIVE dim to dark	(blank) No Emergency Needed EL Battery pack (10W constant power), non-T20 compliant, integral test switch ELR Battery pack (10W constant power), non-T20 compliant, remote test switch ELSD Self-diagnostic battery pack (10W constant power), non-T20 compliant, integral test switch ELRSD Self-diagnostic battery pack (10W constant power), non-T20 compliant, remote test switch E10WCP Battery pack (10W constant power), T20 compliant, integral test switch E10WCPR Battery pack (10W constant power), T20 compliant, remote test switch E10WRSTAR Emergency battery pack, 10W with remote test switch and Iota STAR technology	(blank) No Control Input Needed JOT Wireless room control with "Just One Touch" pairing NPP16D nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). NPP16DER nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). ER controls fixtures on emergency circuit. NPS80EZ nLight® dimming pack controls 0-10V eldoLED drivers (EZ1). NPS80EZER nLight® dimming pack controls 0-10V eldoLED drivers (EZ1). ER controls fixtures on emergency circuit. N80 nLight™ Lumen Compensation NLTAIR2 nLight® Air enabled NLTAIRER2 nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit, not available with battery pack options NLTAIREM2 nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. Available with battery pack options.	HAO ‡ High ambient option (40°C) CP ‡ Chicago Plenum RRL___ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Refer to RRL for complete nomenclature. Available only in RRLA, RRLB, RRLAE, and RRLC12S. BAA Buy America(n) Act Compliant 90CRI High CRI (90+) SF ‡ Single fuse

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
Lumens	Overall height varies based on lumen package; refer to dimensional chart.
TRW, TRBL	Available with clear (AR) reflector only. Not available with finishes.
347	Not available with emergency options.
SF	Must specify voltage 120V or 277V.
EL, ELR, ELSD, ELRSD, E10WCP, E10WCPR	12.5" of plenum depth or top access required for battery pack maintenance.
NPP16D, NPP16DER, NPS80EZ, NPS80EZER	Specify voltage. ER for use with generator supply EM power. Will require an emergency hot feed and normal hot feed. See UL 924 Sequence of Operation table.
NLTAIR2, NLTAIRER2, NLTAIREM2	NLTAIR2, NLTAIRER2 and NLTAIREM2 not recommended for metal ceiling installations. See UL 924 Sequence of Operation table. Not available with CP, NPS80EZ, NPS80EZER, NPP16D, NPP16DER or N80 options.
N80	Fixture begins at 80% light level. Must be specified with NPS80EZ or NPS80EZ ER. Only available with EZ1 drivers.
HAO	Fixture height is 5-11/16" for all lumen packages with HAO.
CP	Must specify voltage for 3000lm. Not available with emergency battery pack option.
JOT	Must specify D10 or D1 driver. Not available with nLight options. Not available with CP. Not recommended for metal ceiling installation. Not for use with emergency backup power systems other than battery packs.
Reloc® Options	Refer to RRL specification sheet on acuitybrands.com for further details.
RRLAE	Commercial fixtures should disconnect the TSPL before unplugging the RRL so it does not go into discharge mode.
RRLC12S	RRLC12S option is to be used with the OnePass OCU, OCS, OD, OFC and OD for 0-24V integrated single-circuit or 0-10V low voltage controls applications. Not available with integral dimming sensors.
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details
E10WRSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter / 2 Hour Runtime
ILB CP10 A	10W	90	1200	
ILBLP CP10 HE SD A+	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A+	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic
ILBHI CP10 HE SD A+	10W	90	1200	347-480V AC Input, Title 20, Self Diagnostic
ILBHI CP15 HE SD A+	15W	90	1800	347-480V AC Input, Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.
*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.
The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.
Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

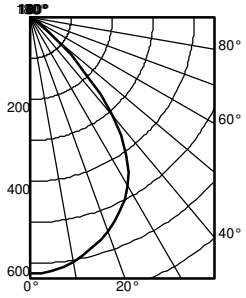
DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com
 Rev. 03/21/23

LDN4SQ

PHOTOMETRY

Distribution Curve | **Distribution Data** | **Output Data** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

LDN4SQ 35/10 LS4AR, input watts: 10.58, delivered lumens: 908.4, LM/W = 85.86, spacing criterion at 0= 1.15, test no. ISF 35250P109



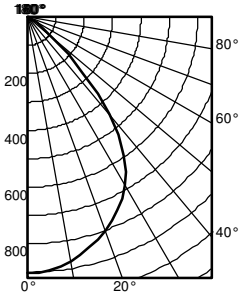
	Ave	Lumens
0	625	
5	621	59
15	580	163
25	519	238
35	409	251
45	192	148
55	37	38
65	7	8
75	2	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	460.2	50.7
0° - 40°	710.8	78.2
0° - 60°	897.5	98.8
0° - 90°	908.1	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.1	0.0
90° - 180°	0.3	0.0
0° - 180°	908.4	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 59.5° Diameter	50% beam - 59.5° FC	10% beam - 90.9° Diameter	10% beam - 90.9° FC
8.0	20.6	6.3	10.3	11.2	2.1
10.0	11.1	8.6	5.5	15.2	1.1
12.0	6.9	10.9	3.5	19.3	0.7
14.0	4.7	13.1	2.4	23.4	0.5
16.0	3.4	15.4	1.7	27.4	0.3

LDN4SQ 35/15 LS4AR, input watts: 17.5, delivered lumens: 1314.4, LM/W = 75.10, spacing criterion at 0= 1.15, test no. ISF 35250P114.



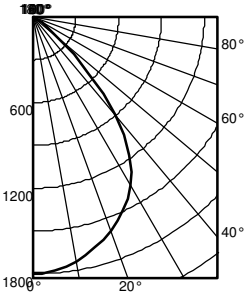
	Ave	Lumens
0	904	
5	898	85
15	840	237
25	751	344
35	592	363
45	277	214
55	54	56
65	11	12
75	2	3
85	1	1
90	0	

Zone	Lumens	% Lamp
0° - 30°	665.9	50.7
0° - 40°	1028.5	78.2
0° - 60°	1298.6	98.8
0° - 90°	1314.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.1	0.0
90° - 180°	0.4	0.0
0° - 180°	1314.4	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 59.5° Diameter	50% beam - 59.5° FC	10% beam - 90.9° Diameter	10% beam - 90.9° FC
8.0	29.9	6.3	14.9	11.2	3.0
10.0	16.1	8.6	8.0	15.2	1.6
12.0	10.0	10.9	5.0	19.3	1.0
14.0	6.8	13.1	3.4	23.4	0.7
16.0	5.0	15.4	2.5	27.4	0.5

LDN4SQ 35/30 LS4AR, input watts: 32.1, delivered lumens: 2614.1, LM/W = 83.78, spacing criterion at 0= 1.15, test no. ISF 31036P129.



	Ave	Lumens
0	1797	
5	1786	169
15	1670	470
25	1493	685
35	1178	721
45	551	426
55	107	111
65	21	24
75	5	6
85	1	1
90	0	

Zone	Lumens	% Lamp
0° - 30°	1324.3	50.7
0° - 40°	2045.4	78.2
0° - 60°	2582.5	98.8
0° - 90°	2613.2	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.2	0.0
90° - 180°	0.8	0.0
0° - 180°	2614.0	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 59.5° Diameter	50% beam - 59.5° FC	10% beam - 90.9° Diameter	10% beam - 90.9° FC
8.0	59.4	6.3	29.7	11.2	5.9
10.0	32.0	8.6	16.0	15.2	3.2
12.0	19.9	10.9	10.0	19.3	2.0
14.0	13.6	13.1	6.8	23.4	1.4
16.0	9.9	15.4	4.9	27.4	1.0

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

The LPW rating is also available at Designlight Consortium.

Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

LUMEN OUTPUT MULTIPLIERS - FINISH			
	Clear (AR)	**White (WR)**	**Black (BR)**
Specular (LS)	1.0	N/A	N/A
Semi-specular (LSS)	0.950	N/A	N/A
Matte diffuse (LD)	0.85	N/A	N/A
Painted	N/A	0.87	0.73

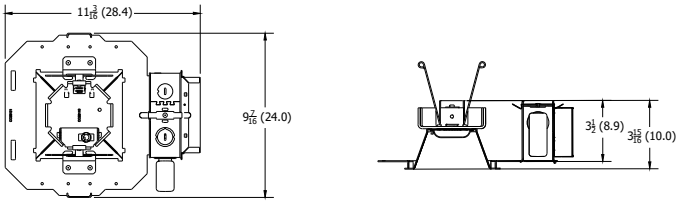
LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

LUMEN OUTPUT MULTIPLIERS - CCT					
	2700K	**3000K**	**3500K**	**4000K**	**5000K**
80CRI	0.950	0.966	1.000	1.025	1.101

LDN4SQ

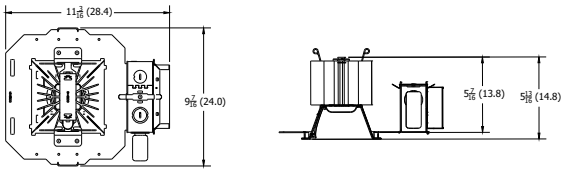
* All dimensions are inches (centimeters) unless otherwise noted.

LDN4 500 - 1500 LUMENS



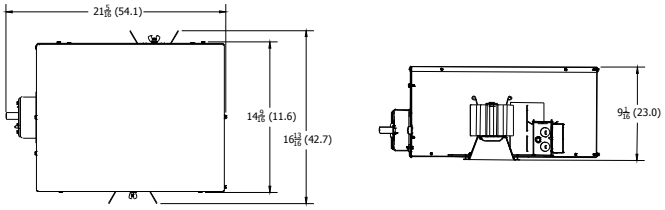
Aperture: 4-5/16" (11)
Ceiling Opening: 5-1/8" (13)
Overlap Trim: 5-7/16" (13.8)

LDN4 2000 - 3000 LUMENS



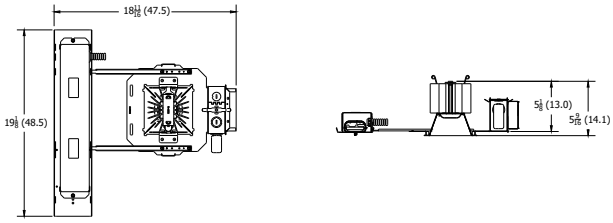
Aperture: 4-5/16" (11)
Ceiling Opening: 5-1/8" (13)
Overlap Trim: 5-7/16" (13.8)

LDN4 CP



Aperture: 4-5/16" (11)
Ceiling Opening: 5-1/8" (13)
Overlap Trim: 5-7/16" (13.8)

LDN4 EL



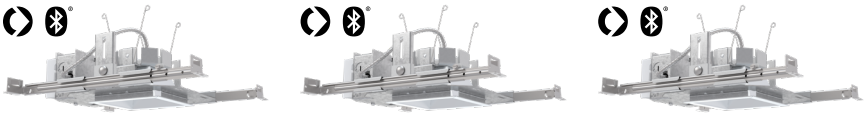
Aperture: 4-5/16" (11)
Ceiling Opening: 5-1/8" (13)
Overlap Trim: 5-7/16" (13.8)

ADDITIONAL DATA

JOT
JUST ONE TOUCH

The Sensor Switch JOT enabled solution offers a wireless, app-free approach to single room lighting control. JOT enabled products use Bluetooth® Low Energy (BLE) technology to enable wireless dimming and switching.

Diagram



LDN4SQ Series

Sensor Switch
WSXA JOT

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

COMPATIBLE 0-10V WALL-MOUNT DIMMERS		
MANUFACTURER	PART NO.	POWER BOOSTER AVAILABLE
Lutron®	Diva® DVTV	
	Diva® DVSCTV	
	Nova T® NTFTV	
	Nova® NFTV	
Leviton®	AWSMT-7DW	CN100
	AWSMG-7DW	PE300
	AMRMG-7DW	
	Leviton Centura Fluorescent Control System	
	IllumaTech® IP7 Series	
Synergy®	ISD BC	RDMFC
	SLD LPCS	
	Digital Equinox (DEQ BC)	
Douglas Lighting Controls	WPC-5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V)	
	Tap Glide Heatsink TGH1500FAM120 (120V)	
	Oasis OA2000FAMU	
Honeywell	EL7315A1019	EL7305A1010 (optional)
	EL7315A1009	
HUNT Dimming	Preset slide: PS-010-IV and PS-010-WH	
	Preset slide: PS-010-3W-IV and PS-010-3W-WH	
	Preset slide, controls FD-010: PS-IFC-010-IV and PS-IFC-010-WH-120/277V	
	Preset slide, controls FD-010: PS-IFC-010-3W-IV and PS-IFC-010-3W-WH-120/277V	
	Remote mounted unit: FD-010	
Lehigh Electronic Products	Solitaire	PBX
PDM Electrical Products	WPC-5721	
Starfield Controls	TR61 with DALI interface port	RT03 DALInet Router
WattStopper®	LS-4 used with LCD-101 and LCD-103	

DOWNLIGHTING: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com

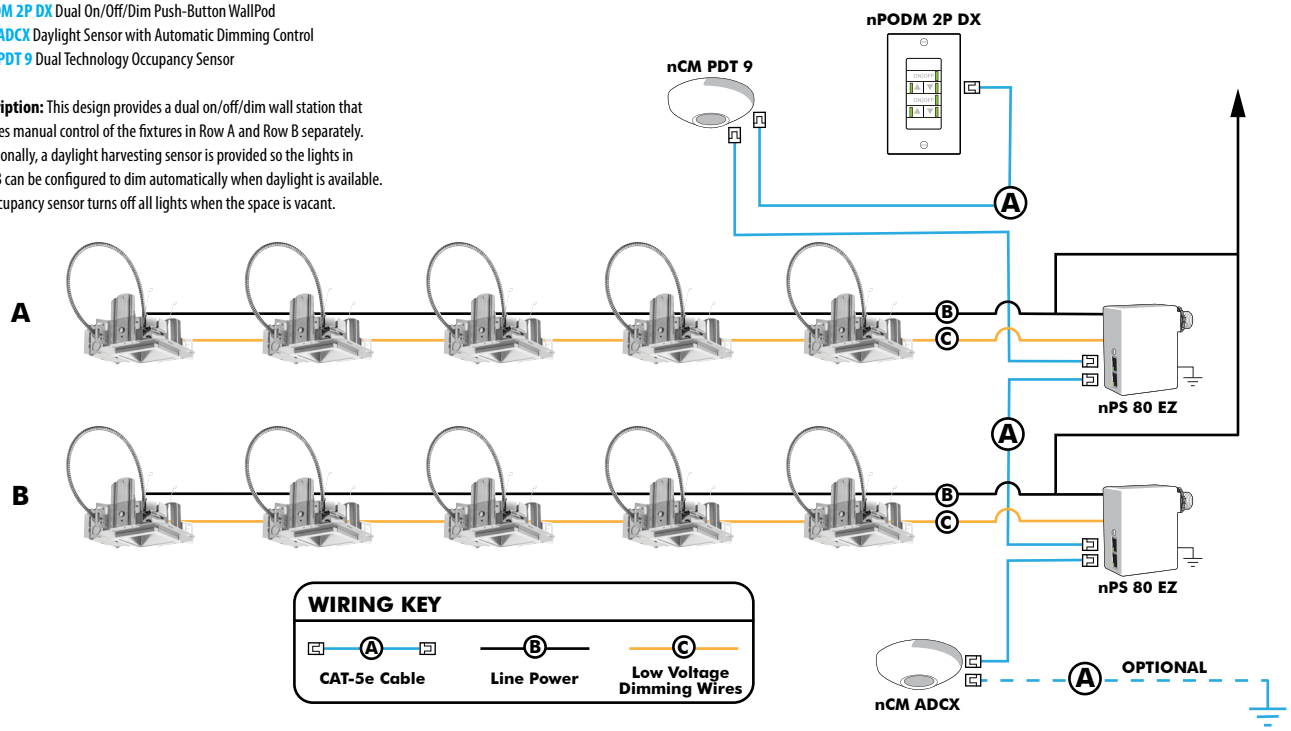
 Rev. 03/21/23

LDN4SQ

EXAMPLE
Group Fixture Control*
*Appication diagram applies for fixtures with eldoLED drivers only.

nPS 80 EZ Dimming/Control Pack (qty: 2 required)
nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
nCM ADCX Daylight Sensor with Automatic Dimming Control
nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in Row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.



Choose Wall Controls
nLight offers multiple styles of wall controls - each with varying features and user experience.

Push-Button Wallpod
Traditional tactile buttons and LED user feedback

Graphic Wallpod
Full color touch screen provides a sophisticated look and feel

nLight® Wired Controls Accessories:			
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight for complete listing of nLight controls.			
WallPod Stations	**Model number**	**Occupancy sensors**	**Model Number**
On/Off	nPODM (Color)	Small motion 360º, ceiling (PIR/dual Tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPOD DX (Color)	Large motion 360º, ceiling (PIR/dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX (Color)	Wide View (PIR/dual tech)	nWV 16 / nWV PDT 16
Photocell controls	**Model Number**	Wall Switch w/ Raise/Lower (PIR/dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	**Cat-5 cables (plenum rated)**	**Model Number**
		10', CAT5 10FT	CAT5 10FT J1
		15, CAT5 15FT	CAT5 15FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color]
On/Off two pole	rPODB 2P [color]
On/Off & raise/lower single pole	rPODB DX [color]
On/Off & raise/lower two pole	rPODB 2P DX [color]
On/Off & raise/lower single pole	rPODBZ DX WH[1]

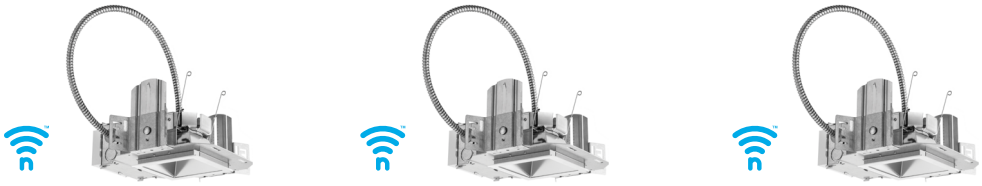
Notes
1 Can only be ordered with the RES7Z zone control sensor version.

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

nLight AIR
nLight AIR is the ideal solution for retrofit or new construction spaces where adding communication is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each Lithonia LDN Luminaire. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight AIR rPODB 2P DX Mobile Device

WDGE2 LED

Architectural Wall Sconce
Precision Refractive Optic

Catalog Number

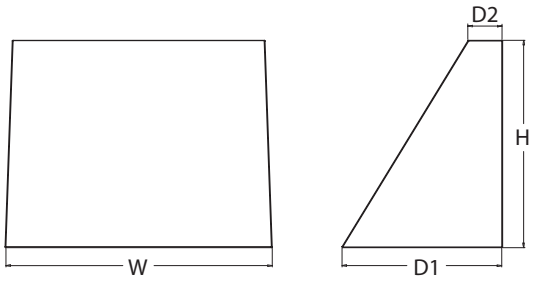
Notes

Type

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

Specifications

Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight: (without options) 13.5 lbs



Introduction

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

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI)						
					P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	750	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P0[1]	27K 2700K	70CRI[4]	T1S Type I Short	MVOLT	**Shipped included**
	P1[2]	30K 3000K	80CRI	T2M Type II Medium	347[5]	SRM Surface mounting bracket
	P2[2]	40K 4000K	LW[3] Limited Wavelength	T3M Type III Medium	480[5]	ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[6]
	P3[2]	50K 5000K		T4M Type IV Medium		**Shipped separately**
	P4[2]	AMB[3] Amber		TFTM Forward Throw Medium		AWS 3/8inch Architectural wall spacer
						PBBW S urface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options

E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)
E20WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)
PE[7]	Photocell, Button Type
DMG[8]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.
BAA	Buy America(n) Act Compliant

Standalone Sensors/Controls

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

Networked Sensors/Controls

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

See page 4 for out of box functionality

Finish

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

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Accessories

Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE2PBBW DDBXD U	WDGE2 surface-mounted back box (specify finish)

NOTES

1 P0 option not available with sensors/controls.
2 P1-P4 not available with AMB and LW.
3 AMB and LW always go together.
4 70CRI only available with T3M and T4M.
5 347V and 480V not available with E10WH or E20WC.
6 Not qualified for DLC. Not available with emergency battery backup or sensors/controls.
7 PE not available in 480V or with sensors/controls.
8 DMG option not available with sensors/controls.

Performance Data

Lumen Output

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

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI)					30K (3000K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)					Amber (Limited Wavelength)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P0	7W	T1S	636	92	0	0	0	666	97	0	0	0	699	101	0	0	1	691	100	0	0	1	712	47	0	0	1
		T2M	662	96	0	0	0	693	101	0	0	0	728	106	0	0	0	719	104	0	0	0	741	48	0	0	0
		T3M	662	96	0	0	0	693	101	0	0	0	728	106	0	0	0	719	104	0	0	0	741	48	0	0	0
		T4M	648	94	0	0	0	679	98	0	0	0	712	103	0	0	0	704	102	0	0	0	726	47	0	0	0
		TFTM	652	95	0	0	0	683	99	0	0	0	717	104	0	0	0	708	103	0	0	0	730	48	0	0	1
P1	11W	T1S	1,105	99	0	0	1	1,157	104	0	0	1	1,215	109	0	0	1	1,200	107	0	0	1					
		T2M	1,150	103	0	0	1	1,204	108	0	0	1	1,264	113	0	0	1	1,249	112	0	0	1					
		T3M	1,150	103	0	0	1	1,205	108	0	0	1	1,265	113	0	0	1	1,250	112	0	0	1					
		T4M	1,126	101	0	0	1	1,179	106	0	0	1	1,238	111	0	0	1	1,223	110	0	0	1					
		TFTM	1,133	101	0	0	1	1,186	106	0	0	1	1,245	112	0	0	1	1,230	110	0	0	1					
P2	19W	T1S	1,801	95	1	0	1	1,886	99	1	0	1	1,981	104	1	0	1	1,957	103	1	0	1					
		T2M	1,875	99	1	0	1	1,963	103	1	0	1	2,061	109	1	0	1	2,037	107	1	0	1					
		T3M	1,876	99	1	0	1	1,964	103	1	0	1	2,062	109	1	0	1	2,038	107	1	0	1					
		T4M	1,836	97	1	0	1	1,922	101	1	0	1	2,018	106	1	0	1	1,994	105	1	0	1					
		TFTM	1,847	97	1	0	1	1,934	102	1	0	1	2,030	107	1	0	1	2,006	106	1	0	1					
P3	32W	T1S	2,809	87	1	0	1	2,942	92	1	0	1	3,089	96	1	0	1	3,052	95	1	0	1					
		T2M	2,924	91	1	0	1	3,062	95	1	0	1	3,215	100	1	0	1	3,176	99	1	0	1					
		T3M	2,925	91	1	0	1	3,063	95	1	0	1	3,216	100	1	0	1	3,177	99	1	0	1					
		T4M	2,862	89	1	0	1	2,997	93	1	0	1	3,147	98	1	0	1	3,110	97	1	0	1					
		TFTM	2,880	90	1	0	1	3,015	94	1	0	1	3,166	99	1	0	1	3,128	97	1	0	1					
P4	47W	T1S	3,729	80	1	0	1	3,904	84	1	0	1	4,099	88	1	0	1	4,051	87	1	0	1					
		T2M	3,881	83	1	0	1	4,063	87	1	0	1	4,267	91	1	0	1	4,216	90	1	0	1					
		T3M	3,882	83	1	0	1	4,065	87	1	0	1	4,268	91	1	0	1	4,217	90	1	0	1					
		T4M	3,799	81	1	0	1	3,978	85	1	0	1	4,177	90	1	0	1	4,127	88	1	0	1					
		TFTM	3,822	82	1	0	1	4,002	86	1	0	1	4,202	90	1	0	1	4,152	89	1	0	1					

Performance Package	System Watts	Dist. Type	27K (2700K, 70 CRI)					30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P0	7W	T3M	737	107	0	0	0	763	111	0	0	0	822	119	0	0	0	832	121	0	0	1
		T4M	721	105	0	0	0	746	108	0	0	0	804	117	0	0	1	814	118	0	0	1
P1	11W	T3M	1,280	115	0	0	1	1,325	119	0	0	1	1,427	128	1	0	1	1,445	129	1	0	1
		T4M	1,253	112	0	0	1	1,297	116	0	0	1	1,397	125	0	0	1	1,415	127	0	0	1
P2	19W	T3M	2,087	110	1	0	1	2,160	114	1	0	1	2,327	123	1	0	1	2,357	124	1	0	1
		T4M	2,042	108	1	0	1	2,114	111	1	0	1	2,278	120	1	0	1	2,306	121	1	0	1
P3	32W	T3M	3,254	101	1	0	1	3,369	105	1	0	1	3,629	113	1	0	1	3,675	114	1	0	1
		T4M	3,185	99	1	0	1	3,297	103	1	0	1	3,552	111	1	0	1	3,597	112	1	0	1
P4	47W	T3M	4,319	93	1	0	1	4,471	96	1	0	1	4,817	103	1	0	2	4,878	105	1	0	2
		T4M	4,227	91	1	0	1	4,376	94	1	0	2	4,714	101	1	0	2	4,774	102	1	0	2

Electrical Load

Performance Package	System Watts	Current (A)					
		120Vac	208Vac	240Vac	277Vac	347Vac	480Vac
P0	7.0	0.061	0.042	0.04	0.039	--	--
	9.0	--	--	--	--	0.031	0.021
P1	11.0	0.100	0.064	0.059	0.054	--	--
	14.1	--	--	--	--	0.046	0.031
P2	19.0	0.168	0.106	0.095	0.083	--	--
	22.8	--	--	--	--	0.067	0.050
P3	32.0	0.284	0.163	0.144	0.131	--	--
	37.1	--	--	--	--	0.107	0.079
P4	47.0	0.412	0.234	0.207	0.185	--	--
	53.5	--	--	--	--	0.153	0.112

Lumen Output in Emergency Mode (4000K, 80 CRI, T3M)

Option	Lumens
E10WH	1,358
E20WC	2,230

Lumen Ambient Temperature (LAT) Multipliers

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

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

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

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

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.93	>0.87

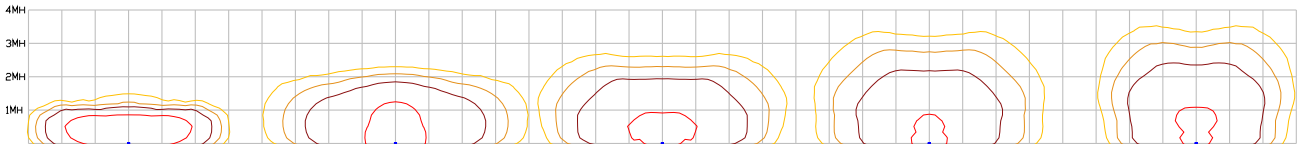
Photometric Diagrams

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

LEGEND

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

MH = 10ft
Grid = 10ft x 10ft



"P3 40K 80CRI T1S" "P3 40K 80CRI T2M" "P3 40K 80CRI T3M" "P3 40K 80CRI T4M" "P3 40K 80CRI TFTM"

Emergency Egress Options

Emergency Battery Backup

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

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

Control / Sensor Options

Motion/Ambient Sensor (PIR_, PIRH_)

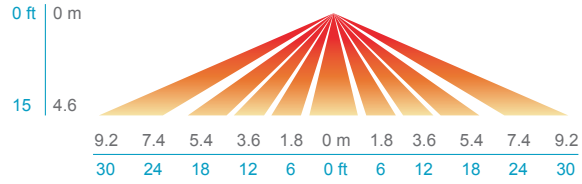
Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing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

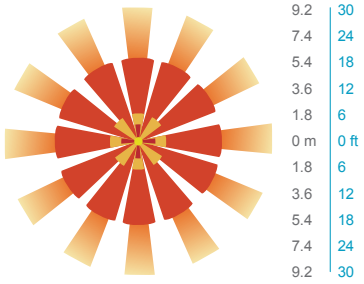
Networked Control (NLTAIR2)

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

PIR

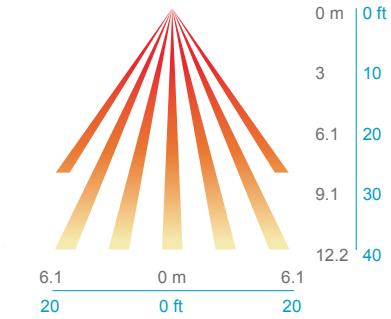
HIGH VIEW



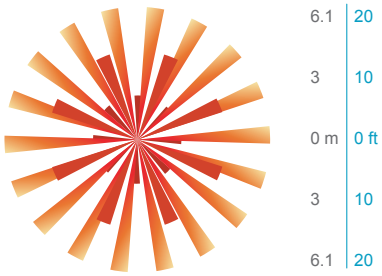


PIRH

SIDE VIEW



TOP VIEW



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

Mounting, Options & Accessories

Motion/Ambient Sensor

D = 7"
H = 9" (Standalone controls)
11" (nLight AIR controls, 2" antenna will be pointing down behind the sensor)
W = 11.5"

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

D = 1.75"
H = 9"
W = 11.5"

AWS – 3/8inch Architectural Wall Spacer

D = 0.38"
H = 4.4"
W = 7.5"

FEATURES & SPECIFICATIONS

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

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

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

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

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

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

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

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

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

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