

ITEM 1

**Town of Kittery
Planning Board Meeting
March 23, 2023**

ITEM 2 – 39 Badgers Island, Sketch Plan Review – Minor Cluster Subdivision

Action: approve/deny final plan, postpone action, or continue review: Pursuant to §16.4 Land Use Regulations and §16.9.3 Shoreland Development Review requirements of the Town of Kittery Land Use and Development Code, owner applicant B.I.W. Group, LLC and agent Chris Atwood Otter Creek homes with Ambit Engineering propose to subdivide the 0.48-acre parcel identified as Lot 38 of Tax Map 1 into 4 residential condominiums. The property is located at 39 Badgers Island West, in the Mixed-Use Badgers Island Zoning District (MU-BI) and Shoreland Overlay Zone (OZ-SL-250’).

PROJECT TRACKING

REQ’ D	ACTION	COMMENTS	STATUS
YES	Sketch Plan – Minor Subdivision	Accepted as complete 1/12/23. Preliminary Subdivision Application not required for minor subdivisions.	Accepted. Sketch plan approved February 9.
YES	Site Visit	Applicant presented Planning Board members and interested residents with location of future buildings, driveway, landscaping, and tree removal. Drainage, fencing, and off-site improvements were also discussed. No other actions were taken by the Board during this meeting.	Held 1/25/23
NO	Public Hearing		Held and closed 2/9/23
YES	Subdivision - Final Plan Review Shoreland Development Plan Review	Final Subdivision application submitted February 14, 2023. Updated plans reviewed by Planning Board March 9, 2023. Responses to peer review comments to be reviewed during March 23 meeting.	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

39 Badgers Island West (“Property”) is a 21,029 square-foot (0.48 acres) property located along the middle portion of the looping road of Badger Island West, within the Mixed-Use Badgers

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Island (MU-BI) zoning district. The entire parcel is also within the Shoreland Overlay Zone (OZ-SL-250) but located upland of the 75-foot setback to the highest annual tide.

The proposed project is to create (4) 1,037 sq ft buildings noted on the plan as A, B, C, D. Each building will contain 3 bedrooms/ 2 ½ baths with parking for 2 vehicles in enclosed garages, driveway parking for 2 more vehicles, and walkways and patios surfaced with pavers.

The Board approved the Sketch Plan for this project during the February 9 meeting after accepting the application as complete on January 12 and conducting a site walk on January 25. Packets for both these meetings are here:

- [Planning Board Meeting | Kittery ME for January 12.](#)
- [Planning Board Meeting | Kittery ME for February 9](#)

Because this subdivision is four single-family dwellings in a condominium development, it is classified as a minor subdivision. There are only two stages to a minor subdivision review – sketch and final. The applicant submitted a Final Subdivision application through the Town’s application portal on February 14, 2023. The Board reviewed this Final Subdivision submission during the March 9 meeting and voted to continue review to allow for response to peer review comments. March 9 meeting packet: [Planning Board Meeting | Kittery ME](#) Those comments (CMA Engineers, March 9), the applicant’s response letter (March 16), and updated plans are included in the packet for this meeting.

Staff Review Notes: Title 16: Land Use and Development Code

- Single family dwellings are a permitted use in MU-BI zoning districts per §16.4.24(B)
- Plan complies with development standards for MU-BI zoning districts (unit density, setbacks, open space) of §16.4.24 (D) and (E) and with the OZ-SL Shoreland Overlay Zone of §16.4.28. Maximum devegetated area is 60% of lot; applicant proposes to achieve 45% devegetated area which lowers the pre-development amount of impervious surface.
- Plan complies with Net residential acreage, Dwellings in Shoreland Overlay Zones, of §16.5 Performance Standards. Sprinkler systems are required in buildings three or more stories or 36 or more feet in height (§16.5.25)
- The applicant provided a complete final plan submission including 10 detailed plan sheets depicting existing conditions, utilities, grading, and lighting. A drainage analysis prepared by a licensed engineer, a quitclaim deed and associated authorization letters, site photographs, a soils report, lighting specifications, and perspective building drawings were submitted and presented at an earlier meeting. The applicant is not requesting any **waivers**.
- §16.8.10 Performance Standards. Public water and sewer utilities available. Stormwater and erosion control requirements are being reviewed by the Town’s qualified peer review consultants. Vehicular trip generation should be typical of residential uses. Snow storage proposed in open space areas east of driveway and at driveway terminus. The subdivision’s sign has been moved to the south entrance. Additional plantings have been added to the west side of the property.
- Applicant must demonstrate financial and technical capacity prior to project approval and provide a **financial guarantee** prior to start of construction. Maintenance and inspection of

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stormwater facilities is required after project completion. Easements may be required to enable inspectors to access on-site facilities.

- Proposed exterior lighting is comprised of wall-mounted fixtures over driveways and one 12'-foot tall pole light located east of the driveway. Offsite light spillage or glare is anticipated to be minimal and generally complies with applicable standards.
- The proposed development is accessed from the south, where emergency responders can access an existing fire hydrant. This driveway will also connect to Badgers Island West in the north.
- The amount of open space required is 40%. The open space calculation shown on the Site Plan indicates that 51% of the property will be comprised of open space for this project.
- 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.

Recommendations

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.

Motions

Move to approve with conditions/ continue review of final plan for minor subdivision.

Move to approve/ deny/ continue sketch plan application from owner/applicant owner applicant B.I.W. Group, LLC and agent Chris Atwood Otter Creek homes with Ambit Engineering request approval to create a subdivision of 4 residential lots on a legally conforming lot located on real property with the address of 39 Badgers Island West, Tax Map 1, Lot 38, in the Mixed-Use Badgers Island Zone (MU-BI), Shoreland Overlay Zone (OZ-SL-250').

**KITTERY PLANNING BOARD
FINDINGS OF FACT -
for
39 Badgers Island West
Minor Cluster Subdivision Plan**

**M 16 L 148
Unapproved**

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 B.I.W. Group, LLC and applicant Otter Creek homes propose to subdivide the 0.48-acre parcel identified as Lot 38 of Tax Map 1 into 4 residential condominiums. The property is located at 39 Badgers Island West, in the Mixed-Use Badgers Island Zoning District (MU-BI) and Shoreland Overlay Zone (OZ-SL-250')

Hereinafter the "Development".

Pursuant to the Plan Review meetings conducted by the Planning Board as duly noted in the Plan Review Notes dated 03/09/2023;

Sketch Plan Review	Accepted	1/12/23
Site Visit	Held	1/25/23
Public Hearing	Held	2/9/23
Final Plan Approval	Granted	3/09/23

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 2/23/2023 (Hereinafter the "Plan").

1. Cover Letter and Application including stormwater and soils reports, Ambit Engineering, Inc. December 15, 2022
2. Residential Development Minor Subdivision Plans, Ambit Engineering, Inc. dated February 14 2023
3. Locus Map and Aerial Photograph, dated February 14, 2023

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 **16.10.8.3.D.** 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 requirements:

A. Development Conforms to Local Ordinances.

Standard: *The proposed development conforms to a duly adopted comprehensive plan as per adopted provisions in the Town Code, zoning ordinance, subdivision regulation or ordinance, development plan or land use plan, if any. In making this determination, the municipal reviewing authority may interpret these ordinances and plans.*

Finding: The proposed development conforms to Title 16, Article XI Cluster Residential Development, Section 16.8.11.

Conclusion: This standard appears to be met.

Vote of _in favor _against_ abstaining
B. Freshwater Wetlands Identified.
Standard: <i>All freshwater wetlands within the project area have been identified on any maps submitted as part of the application, regardless of the size of these wetlands.</i>
Finding: While the entire parcel is in the shoreland zone, there are no wetlands within or abutting the parcel..
Conclusion: This standard appears to be met.
Vote of _in favor _against_ abstaining
C. River, Stream or Brook Identified.
Standard: <i>Any river, stream or brook within or abutting the proposed project area has been identified on any maps submitted as part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. §480-B, Subsection 9.</i>
Finding: No rivers, streams or brooks were identified on the plans submitted.
Conclusion: This standard appears to be met.
Vote of _in favor _against_ abstaining
D. Water Supply Sufficient. {and}
<i>The proposed development has sufficient water available for the reasonably foreseeable needs of the development.</i>
E. Municipal Water Supply Available.
<i>Standard The proposed development will not cause an unreasonable burden on an existing water supply, if one is to be used.</i>
Finding: The proposed development is being serviced by an existing 6-inch municipal water main on Badgers Island West with a 4-inch line proposed along the new travel way to service the four new buildings.
Conclusion: A letter from the Kittery Water District stating there is capacity to service the development was submitted.
Vote of _in favor _against_ abstaining
F. Sewage Disposal Adequate.
Standard: <i>The proposed development will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services if they are utilized.</i>
Finding: The proposed development will use municipal wastewater services.
The sewer fees for each new unit are \$3,000 plus a \$3,000 entrance fee for connecting the private sewer line that is used by all four units per Sheet C-3 to public sewer at the street. There is also a \$15 charge for the sewer application permit. However, the final amount owed will be assessed by the Sewer Department.

Conclusion: A letter from the Sewer Department stating the capacity and ability of the Town's sewer system is sufficient for the development was submitted.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
G. Municipal Solid Waste Disposal Available.
<i>Standard: The proposed development will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be used.</i>
Finding: The proposed development does not require any changes to municipal solid waste services.
Conclusion: This standard appears to be met.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
H. Water Body Quality and Shoreline Protected.
Standard: <i>Whenever situated entirely or partially within two hundred fifty (250) feet of any wetland, the proposed development will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water.</i>
Finding: The four proposed single-family buildings are located upland from the 75 feet setback from the highest annual tide (HAT) with the nearest building located 185.1 feet from the HAT.
Conclusion: This standard appears to be met.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
I. Groundwater Protected.
<i>Standard: The proposed development will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.</i>
Finding: The four proposed single-family buildings do not appear to adversely impact the quality or quantity of the groundwater.
Conclusion: This standard appears to be met.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
J. Flood Areas Identified and Development Conditioned.
Standard: <i>All flood-prone areas within the project area have been identified on maps submitted as part of the application based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, and information presented by the applicant. If the proposed development, or any part of it, is in such an area, the applicant must determine the one hundred (100) year flood elevation and flood hazard boundaries within the project area. The proposed plan must include a condition of plan approval requiring that principal structures in the development will be constructed with their lowest floor, including the basement, at least one foot above the one hundred (100) year flood elevation.</i>
Finding: No flood hazard zones were identified to be located on the property.
Conclusion: This standard appears to be met.

Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining	
K. Stormwater Managed.	
Standard: <i>Stormwater Managed. The proposed development will provide for adequate stormwater management</i>	
Finding: The design was prepared by Ambit Engineering, Inc. and reviewed by CMA Engineers, Town peer-review engineer.	
Conclusion: Responses to comments indicate that applicable standards are met.	
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining	
L. Erosion Controlled.	
Standard: <i>The proposed development will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results.</i>	
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.	
Finding: There are erosion control measures shown in the plans. Best management practices for erosion control will be reviewed as part of the MDEP <i>Stormwater Law License</i> permit.	
Conclusion: This standard appears to be met.	
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining	
M. Traffic Managed.	
Standard: <i>The proposed development will:</i>	
<ol style="list-style-type: none"> 1. <i>Not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed; and</i> 2. <i>Provide adequate traffic circulation, both on-site and off-site.</i> 	
Finding: Because the proposed development is four single-family houses, on a currently vacant lot with private roadway access, any impacts to the public roads will be minimal. On-site traffic circulation includes a private road which runs through the development and connects to the public road at both ends. The northern end will have a gate that will be accessible for use in public safety emergencies.	
Conclusion: This standard appears to be met.	
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining	
N. Water and Air Pollution Minimized.	
Standard: <i>The proposed development will not result in undue water or air pollution. In making this determination, the following must be considered:</i>	
<ol style="list-style-type: none"> 1. <i>Elevation of the land above sea level and its relation to the floodplains;</i> 2. <i>Nature of soils and sub-soils and their ability to adequately support waste disposal;</i> 3. <i>Slope of the land and its effect on effluents;</i> 4. <i>Availability of streams for disposal of effluents;</i> 5. <i>Applicable state and local health and water resource rules and regulations; and</i> 6. <i>Safe transportation, disposal and storage of hazardous materials.</i> 	

Finding: 1. No floodplains are located at or near the property. 2. The development will utilize public sewer. 3. See 2 above. 4. All effluent will be managed by the public sewer system. 5. No DEP permits are required. 6. Not applicable
Conclusion: This standard appears to be met.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
O. Aesthetic, Cultural and Natural Values Protected.
Standard: <i>The proposed development will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the department of inland fisheries and wildlife or the municipality, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline.</i>
Finding: The proposed development will claim approximately 11,503 sf of vegetated area, between the limited common areas and the common open space which is a significant increase. Landscaping and trees are being proposed. Conclusion: The development will not have an adverse effect on the aesthetic, cultural or natural beauty of the area.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
P. Developer Financially and Technically Capable.
Standard: <i>Developer is financially and technically capable to meet the standards of this section.</i>
Finding: The developer will provide an inspection escrow in an amount suitable to cover the costs of on-site inspection by the Peer Review Engineer to ensure the proposed development is constructed according to the approved plan.
Conclusion: This standard appears to be met.
Vote of <u> </u> in favor <u> </u> against <u> </u> abstaining
Chapter 16. 9 MARITIME AND SHORELAND RELATED DEVELOPMENT
16.9.3.F. Findings of Fact <i>(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:</i>
<i>(a). Maintain safe and healthful conditions;</i>
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: <u> </u> in favor <u> </u> against <u> </u> abstaining
<i>(b) Not result in water pollution, erosion or sedimentation to surface waters;</i>

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.

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 proposed development's parcel does not have shore access. There are no adverse impacts to visual or actual points of access to waters.

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: The property is not located in the Commercial Fisheries / Maritime Use Zone and will have no adverse effect on commercial fishing nor maritime activities.

Conclusion: This requirement is not applicable.

Vote: ___ in favor ___ against ___ abstaining

<p><i>(h) Avoid problems associated with floodplain development and use;</i></p> <p><u>Finding:</u> The proposed development is not located in a floodplain.</p> <p><u>Conclusion:</u> This requirement appears to be met.</p> <p style="text-align: right;">Vote: ____ in favor ____ against ____ abstaining</p>
<p><i>(i) Is in conformance with the provisions of this code;</i></p> <p><u>Finding:</u> The proposed project is in conformance with the provisions of Title 16.</p> <p><u>Conclusion:</u> This requirement appears to be met.</p> <p style="text-align: right;">Vote: ____ in favor ____ against ____ abstaining</p>
<p><i>(j) Be recorded with the York County Registry of Deeds.</i></p> <p><u>Finding:</u> A plan suitable for recording will be submitted by the Applicant since this application is both a subdivision and a shoreland development plan.</p> <p><u>Conclusion:</u> 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.</p> <p style="text-align: right;">Vote: ____ in favor ____ against ____ abstaining</p>

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: 03/09/2023).

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 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 March 23 , 2023

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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

16 March 2023

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

**Re: Final Subdivision Application; Residential Development
Tax Map 1, Lot 38
39 Badgers Island West
Kittery, ME**

Dear Dutch and Planning Board Members:

On behalf of BIW Group LLC – Owner and **Otter Creek Homes - Applicant** we submit herewith the attached package for **Final Subdivision Approval** at the March 23, 2023, Planning Board Meeting. In support thereof, we are submitting a revised Site Plan set with the associated revisions as needed to address the comments from CMA Engineers, along with this letter explaining the changes. The specific comments from the CMA letter are repeated below; with our response in **bold** text:

Condominium Site Plan

1. The legend should be updated to apply to the plan. **Completed.**
2. The certification items B and C do not appear to apply. **Certification removed.**
3. Note 8 should be amended to read Kittery Water District and Kittery Sewer Services. **Completed.**
4. There are undefined shaded and brick areas at each unit that should be called out. **See Legend.**
5. Note 9 references landscaping, should landscaping elements be defined/called out? **Completed, and Note 9 updated.**

Sheet C1 – Existing Conditions Plan

1. SMH 217 is not shown on the plan. It should be removed from the sewer structure table. **SMH 217 is out of view; however, it is important as it is in the sewer main run that the project will connect to, so we are leaving it in. We labelled the location (arrow and distance) to SMH 217 in the plan view.**

2. CB 159 should be labelled. **Completed.**
3. For the existing CB north of the project, disrepair is one word (no hyphen). **Completed.**
4. The sewer pipes materials, PVC, should be labeled next to the pipe size on the plan. **Completed.**
5. The water main material should be labelled on the plan. **We have labelled as much information as we have.**
6. Are the features steps, bulkhead, ramp, concrete pad, etc. still on the site or have they been removed? **Removed.**
7. If the existing building has been removed, should it be shown on the plan? **We prefer to leave the plan as shown, but we adjusted the lines to show it as removed.**
8. The concrete pad multileader at the south of the former building is only pointing to one pad. **Revised.**
9. The existing water service size and material should be shown. **We have labelled as much information as we have.**
10. The existing sewer service size, material and location should be shown. **We have labelled as much information as we have.**
11. Note 10 should include the dimensions provided in addition to the requirements. **The dimensions are shown on the proposed plan; see Sheet C2.**

Sheet C2 – Shoreland Development Plan

1. The landscape schedule quantities may not coincide with the number of species shown on the plan. **We reviewed the count; our plan is correct.**
2. The landscape species 1 and 4 have the same symbol and are not clearly labeled on the plan. These should be different symbols and clearly labeled. **We did adjust one of the symbols to be clearer. Each number designation is tied to the particular plant(s).**
3. “Conveyence” is spelled incorrectly. **Completed.**
4. There is a TBM to the southwest of proposed building D that is “set in 12 pine) but no pine is shown. **This tree will be removed; we turned off the TBM note.**
5. The tree to the northwest of the site should be labeled as “to remain”. **We labelled the trees to remain once (each tree type) with a TYP label.**

Sheet C3 – Utility Plan

1. The sewer service size and type should be indicated. **Completed – see schedule.**
2. The water service and sprinkler service materials should be indicated. **Completed -see note.**
3. The sewer on site shows an external drop outside of the manhole near where the service ties into the existing main. Has Kittery sewer services approved an external drop? Alternatively, should the drop be located in SMH A, or another manhole be placed for the drop? **The sewer main in the street is deep; we propose to run the sewer on site at a minimal depth and then provide a**

chimney prior to the connection at the main. We revised the chimney detail to show the cleanout at finish grade.

4. Details of the demo of the existing water service should be specified after coordination with Kittery Water District. **See Note 6.**
5. Curb stops should be shown on the plan. **Completed.**
6. Sewer service cleanouts should be shown on the plan. **See Note 10; cleanouts will be inside the structures.**
7. The symbol HP should be defined. **Completed - see Cover Sheet legend.**
8. Where does the electric go underground? It is not clear on the plan. Electrical details should be coordinated with CMP. **The UGE runs from the pole; we will label as such. The owner is coordinating with CMP.**

Sheet C4 – Grading Plan

1. The limits of the construction entrance should be shown on the plan. **Completed.**

Sheet C5 – Demolition Plan

1. Should the sheet be printed partially in color or all black and white? **The plan shows color for the landscape elements which highlights this important part of the application. We prefer to leave the plan as is.**

Sheet D2 –Details

1. Water service connection details should be approved by KWD. **This review can be a part of the connection permit. Also see added Note 4.**
2. Detail G does not apply to this project and should be removed. **Completed.**

Sheet D3 – Details

1. Sewer chimney and sewer service connections should be approved by KSS. **This review can be a part of the connection permit. Also see added Note 4.**
2. A sewer manhole detail should be provided. **Completed.**

We have the following comments on the drainage analysis:

1. The downstream analysis point DP2 catch basin should be shown on the plans (inverts, pipe sizes, rim elevation, etc.). **It is out of plan view; but clearly depicted in the Subcatchment Plan in the Drainage Analysis, copy attached for clarity.**
2. While flows are decreased, the drainage analysis does not model the capacity of the existing catch basins or pipes to prove that there is current capacity. **There is no report of drainage issues; the network functions now and should function better with less flow.**
3. The Inspection & Long-Term Maintenance Plan should indicate that reports

should be submitted to Code Enforcement Officer by the required date. **In the Drainage Analysis it so states (date added); Note 9 added to plan C2.**

4. All stormwater generated on site is transported to the existing off-site closed drainage system and relies on maintenance of that system to be performed by others. Are provisions made for failure of the system? Has the applicant considered on-site drainage features to treat and reduce flows further (infiltration features, sedimentation basins, etc.)? **The site is utilizing the adjacent town drainage infrastructure which is and should be maintained by the town. This project is decreasing flow.**
5. The source of the rainfall event amounts should be included. **Completed – see revised Drainage report.**

We look forward to your review of this submission and our in-person presentation at the Planning Board meeting. Thank you for your time and attention to this proposal. Please contact me if you have any questions or concerns regarding this application.

Sincerely,

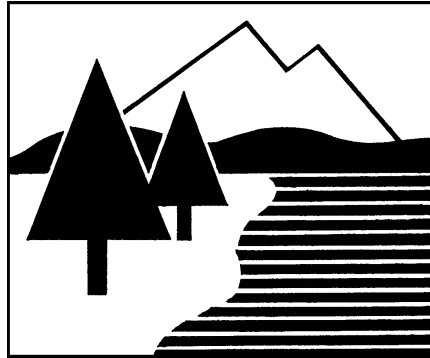
A handwritten signature in black ink, appearing to read 'JRC', with a long horizontal flourish extending to the right.

John R. Chagnon, PE
Ambit Engineering, Inc.
CC: Project Team; CMA Review Engineer

DRAINAGE ANALYSIS

SITE REDEVELOPMENT

**39 BADGERS ISLAND WEST
KITTERY, ME**



**PREPARED FOR
OTTER CREEK HOMES**

**14 DECEMBER 2022
REVISED 16 MARCH 2023**



200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 603.436.2315
E-mail: jchagnon@haleyward.com
(Ambit Job Number 3430.01)

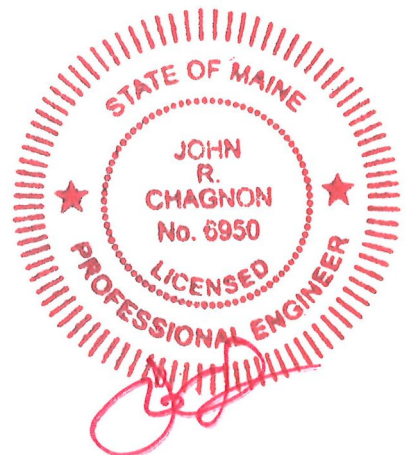


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Proposed Subcatchments

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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 39 Badgers Island West in Kittery, ME. The site is shown on the Town of Kittery Assessor's Tax Map 1 as Lot 38. The total size of the lot and associated drainage area is 21,026± square-feet (0.483 acres).

The development will provide for four residences 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, which 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.

The hydrologic modeling utilized for this analysis uses the "Extreme Precipitation" values for rainfall from The Northeast Regional Climate Center (Cornell University).

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 38. Bounding the site to the north, east, and south is the cul-de-sac of Badger's Island West. Bounding the site to the west is a parking lot. A vicinity map is included in the Appendix to this report.

The proposed project includes four residences, 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 through E3) based on localized topography and discharge location. Subcatchment E1 contains the north half of the property and flows toward the catch basin flowing to the

north boundary of Badgers Island (Discharge Point 1 or DP1). Subcatchment E2 contains the south half of the property and flows toward the catch basin flowing to the west boundary of Badgers Island (Discharge Point 2 or DP2). Subcatchment E3 contains the west boundary of the property and flows toward DP2. Proposed subcatchments P1 and P2 occupy the same approximate space as subcatchments E1 and E2 respectively and flow to the same discharge points. The area of E3 was split between P1 and P2 in the proposed condition, and will be conveyed using swales on the west edge of the property. 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	2,071	4,148
Pavement	13,286	4,705
Stairs / Ramp	51	0
Bulkhead	25	0
Concrete Pads	29	0
Walkway	0	312
Patios	0	288
Total	15,462	9,453
Lot Size	21,029	21,029
% Devegetated Area	73.5	45.0

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	10,484	5.0	94	1.02	1.62	2.08
E2	8,690	5.0	92	0.80	1.30	1.69
E3	1,853	5.0	94	0.18	0.29	0.37
P1	11,185	5.0	87	0.87	1.52	2.03
P2	9,841	5.0	89	0.82	1.40	1.84

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. A plan sheet detailing the subcatchments and direction of runoff are included in the Appendix.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (CFS)		Q10 (CFS)		Q25 (CFS)		
Design Point	Pre	Post	Pre	Post	Pre	Post	Description
DP1	1.02	0.87	1.62	1.52	2.08	2.03	North Catch Basin
DP2	0.98	0.82	1.59	1.40	2.06	1.84	West Catch Basin

In the developed condition, the site will see a net reduction in impervious surfaces. As a result, discharge points DP1 and DP2 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 receive decreased peak flows from the existing conditions. 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 gravel.

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.

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	70.754 degrees West
Latitude	43.082 degrees North
Elevation	0 feet
Date/Time	Thu, 13 Oct 2022 15:12:38 -0400

Extreme Precipitation Estimates

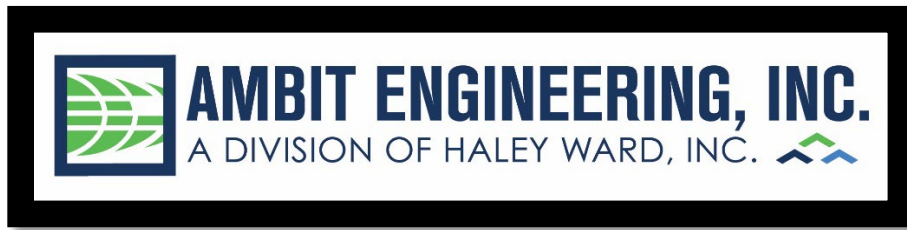
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	1yr	0.70	0.98	1.21	1.56	2.03	2.65	2.92	1yr	2.35	2.81	3.22	3.94	4.54	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.52	1.94	2.48	3.20	3.57	2yr	2.84	3.43	3.93	4.67	5.32	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
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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



***INSPECTION & LONG-TERM MAINTENANCE PLAN
FOR
SITE REDEVELOPMENT***

**39 BADGERS ISLAND WEST
KITTERY, ME**

Introduction

The intent of this plan is to provide Otter Creek Homes (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 construction drainage (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 to the Kittery Code Enforcement Officer each year by July 1st.

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

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.

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

RESIDENTIAL DEVELOPMENT

OWNER:

B.I.W. GROUP, LLC

41 INDUSTRIAL DRIVE, SUITE 20
EXETER, N.H. 03833

APPLICANT:

OTTER CREEK HOMES

198 LAFAYETTE ROAD, UNIT 1
NORTH HAMPTON, N.H. 03862
(603) 833-0784

CIVIL ENGINEER & LAND
SURVEYOR:

AMBIT ENGINEERING,

A DIVISION OF HALEY WARD INC.

200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801-7114

TEL: (603) 430-9282

FAX: (603) 436-2315

BUILDING DESIGN:

DESIGNS WORTH CALLING HOME

PO BOX 547

GREENLAND, NH 03840

(603) 767-3232

INDEX OF SHEETS

- | | |
|-------|------------------------------|
| | CONDOMINIUM SITE PLAN |
| C1 | — EXISTING CONDITIONS PLAN |
| C2 | — SHORELAND DEVELOPMENT PLAN |
| C3 | — UTILITY PLAN |
| C4 | — GRADING PLAN |
| C5 | — DEMOLITION PLAN |
| C6 | — LIGHTING PLAN |
| D1—D3 | — DETAIL SHEETS |

OWNER:

SIGNATURE

DATE _____

APPROVED BY THE KITTERY PLANNING BOARD

CHAIRMAN

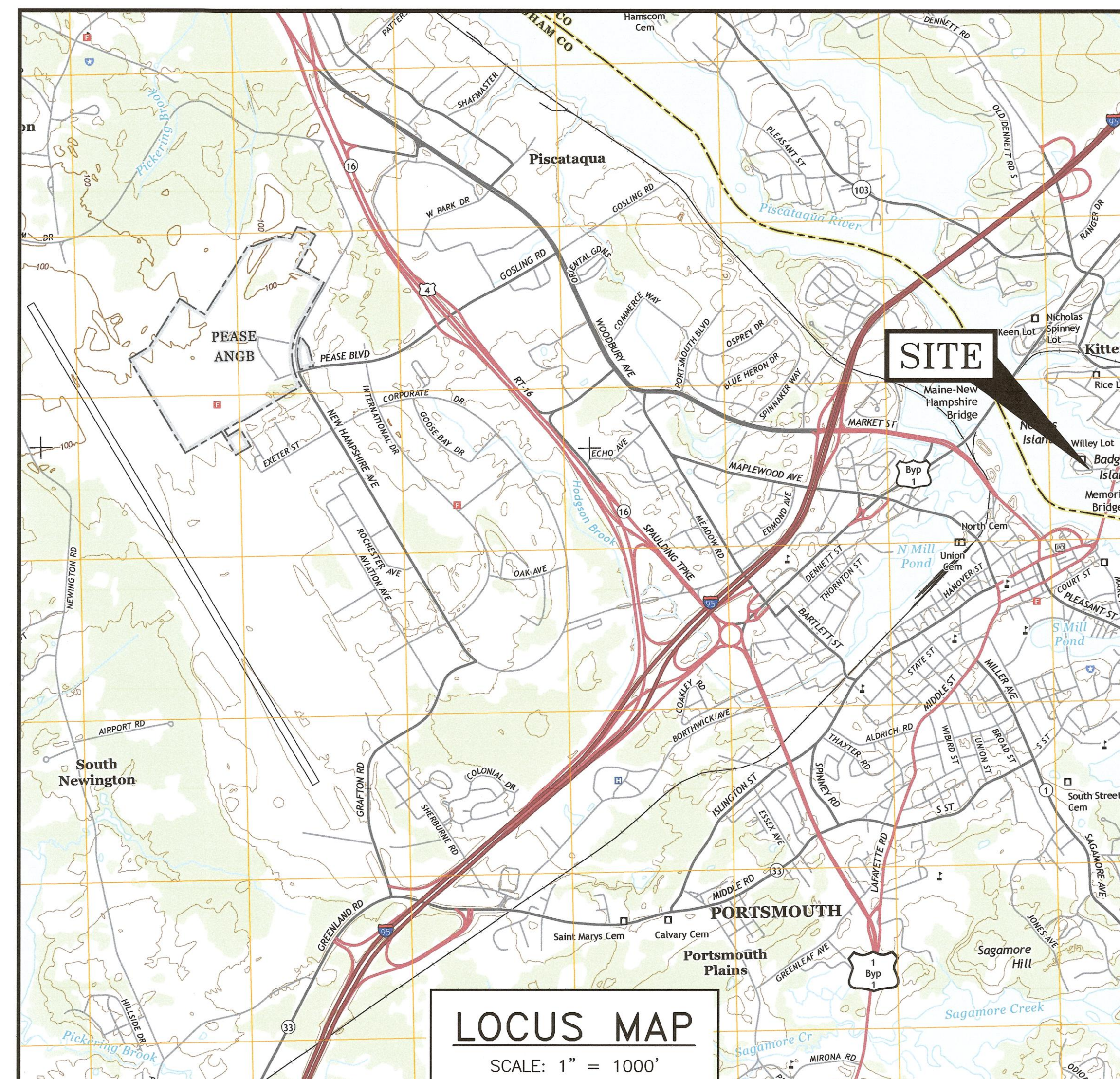
DATE _____

39 BADGERS ISLAND WEST

KITTERY, MAINE

MINOR SUBDIVISION

SINGLE FAMILY DETACHED CONDOMINIUM



LEGEND:

N/F RP YCRD		NOW OR FORMERLY RECORD OF PROBATE YORK COUNTY REGISTRY OF DEEDS
(11/21)		MAP 11/Lot 21
RR SPK FND IR FND IP FND DH FND BND w/DH ST BND w/DH	RR SPK SET IR SET IP SET DH SET BND w/DH ST BND w/DH	RAILROAD SPIKE FOUND / SET IRON ROD FOUND / SET IRON PIPE FOUND / SET DRILL HOLE FOUND BOUND WITH DRILL HOLE STONE BOUND WITH DRILL HOLE
EXISTING	PROPOSED	
FM S G D W	FM S G D W	FORCE MAIN SEWER LINE GAS LINE STORM DRAIN WATER LINE
		UNDERGROUND ELECTRIC OVERHEAD ELECTRIC/WIRES
		EDGE OF WATER BODY EDGE OF WETLAND EDGE OF RESOURCE PROTECTION AREA AREA OF WETLAND DISTURBANCE E OF DITCH/SWALE CONTOUR SPOT ELEVATION
100 97x3	100 98x0	EDGE OF PAVEMENT (EP) WOODS / TREE LINE
BuB		SECURITY FENCE WETLANDS SOIL SERIES
		UTILITY POLE
		WATER SHUT OFF/CURB STOP
		GAS SHUT OFF
		GATE VALVE
		HYDRANT
		CATCH BASIN
		TELEPHONE MANHOLE
		SEWER MANHOLE
		DRAIN MANHOLE
		WELL
		ASBESTOS CEMENT PIPE
		CENTERLINE
		CAST IRON PIPE
		CORRUGATED METAL PIPE
		COPPER PIPE
		CORRUGATED PLASTIC PIPE
		DUCTILE IRON PIPE
		ELEVATION
		EDGE OF PAVEMENT
		FINISHED FLOOR
		INVERT
		POLYVINYL CHLORIDE PIPE
		REINFORCED CONCRETE PIPE
		TO BE DETERMINED
		TEMPORARY BENCH MARK
		TYPICAL
		VITRIFIED CLAY PIPE
		PARKING SPACE COUNT
		PROPOSED HEAT PUMP

MINOR SUBDIVISION

TAX MAP 1, LOT 38

SINGLE FAMILY DETACHED CONDOMINIUM

39 BADGERS ISLAND WEST

KITTERY, MAINE

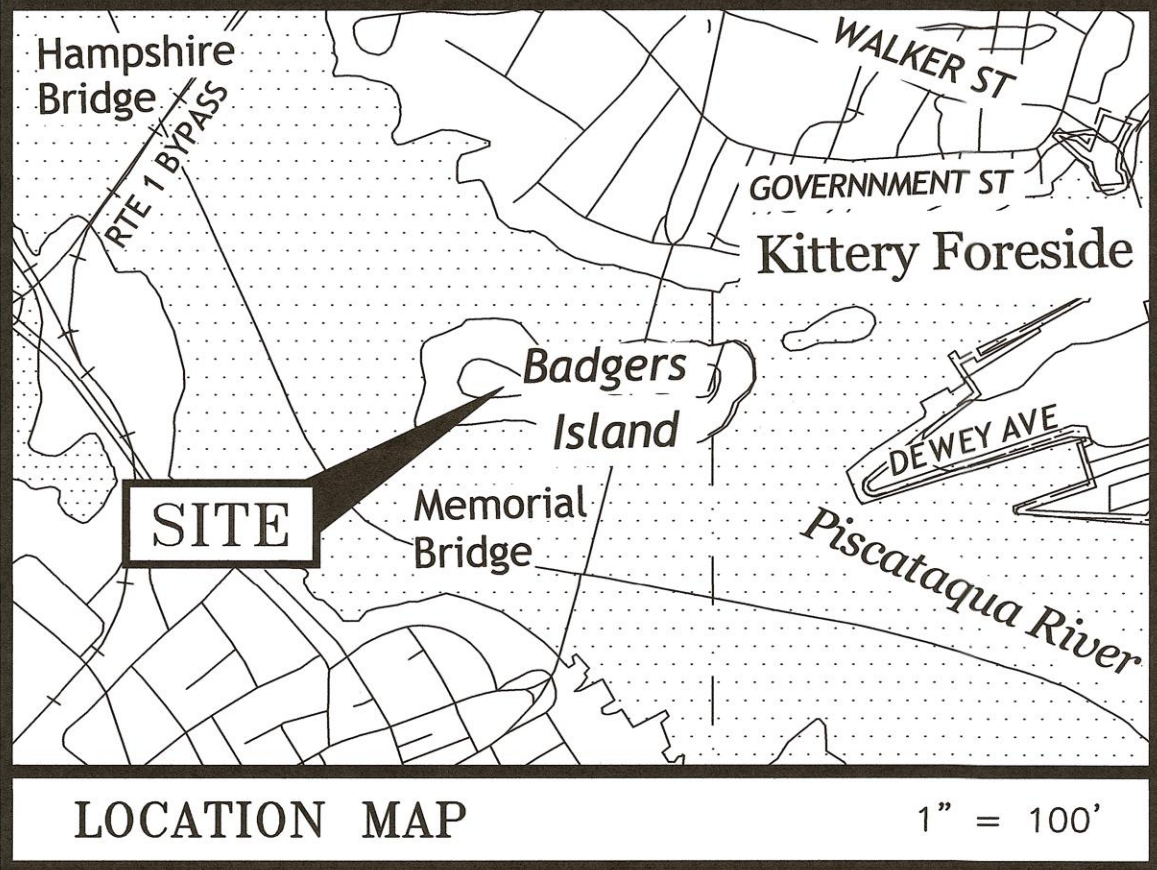


WWW.HALEYWARD.COM

200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315

PLAN SET SUBMITTAL DATE: 16 MARCH 2023

3430.01 TAX MAP 1 LOT 38



PLAN REFERENCES:

- 1) "STANDARD BOUNDARY SURVEY OF TAX MAP 1, LOT 38 ON BADGERS ISLAND, KITTERY, MAINE, FOR LIL'S GREENDREAM, INC.," PREPARED BY DOUCET SURVEY, INC., DATED JUNE 16, 1995 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 224 PAGE 42.
- 2) "PLAN OF LOTS BADGERS ISLAND, KITTERY, MAINE, OWNED BY JOSEPH W. THORNER", PREPARED BY JOHN W. DURGIN, DATED APRIL, 1936 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 22 PAGE 31.
- 3) EXISTING CONDITIONS PLAN, 39 BADGERS ISLAND WEST, SCALE: 1"=10. DATED 4/19/22. PREPARED BY EASTERLY SURVEY (NOT RECORDED).

COMMON OPEN SPACE (DEVEGETATED) CALCULATION

COMMON AREA:	3,618 SF
LCE UNIT A:	3,363-(985-144-78-535)=1,621 SF
LCE UNIT B:	2,961-(985-144-78-535)=1,219 SF
LCE UNIT C:	3,385-(985-144-78-535)=1,643 SF
LCE UNIT D:	4,499-(985-144-78-535)=2,757 SF
TOTAL COMMON OPEN SPACE	10,858
LOT SIZE	21,029
% COMMON OPEN SPACE	51.6%

TYPICAL SQUARE FOOTAGE:
BUILDING=985
PATIO=144
WALKWAY=78
DRIVEWAY=535

ME SPC
NAD83(2011)
GRID NORTH
WEST ZONE

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

200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.430.9282

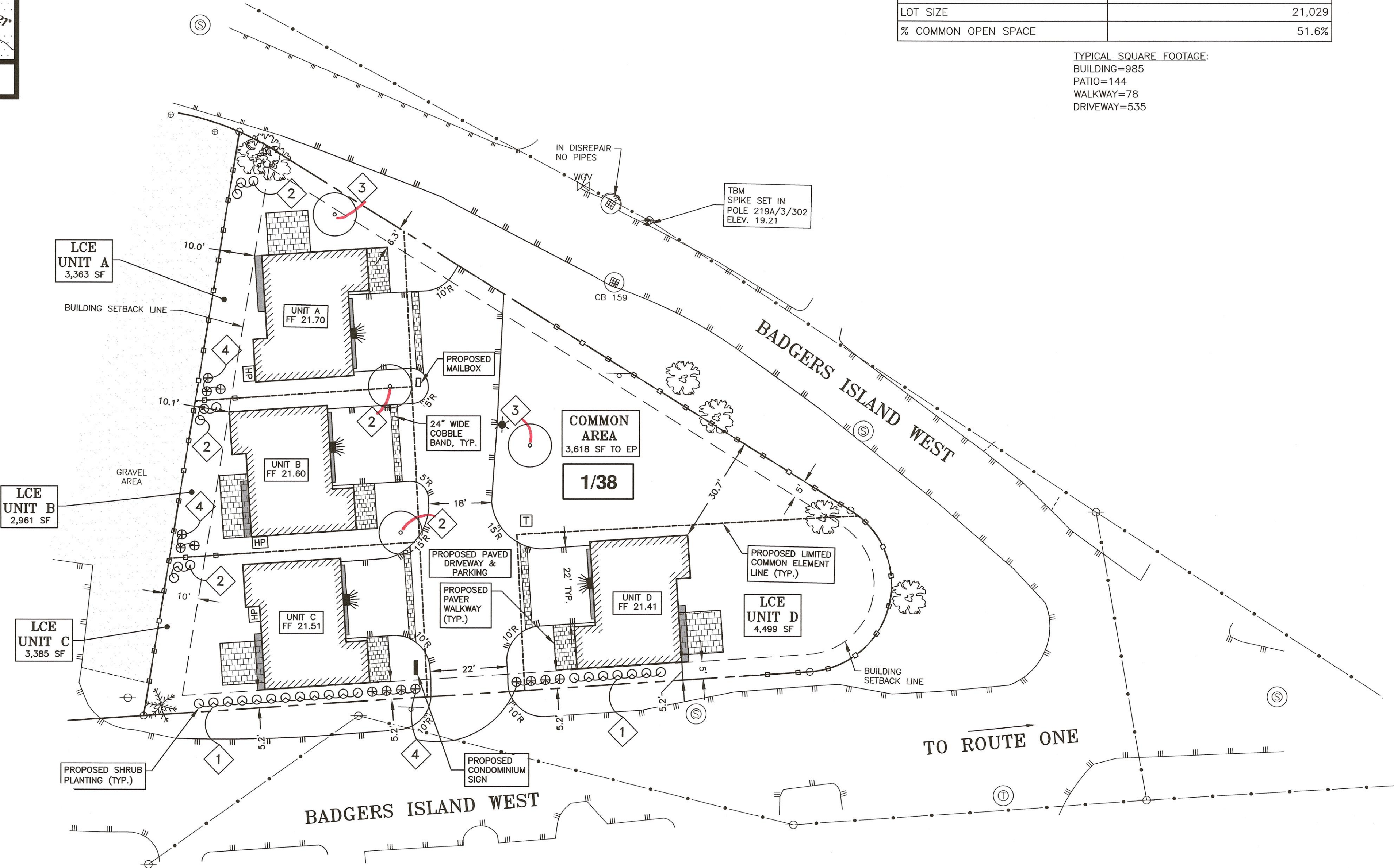
WWW.HALEYWARD.COM

NOTES:

- 1) PARCEL IS SHOWN ON THE TOWN OF KITTERY ASSESSOR'S MAP 1 AS LOT 38.
- 2) OWNER OF RECORD:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE, SUITE 20
EXETER, NH 03833
18503/331
- 3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD ZONE (ZONE C) AS SHOWN ON FIRM PANEL 2301710008D. EFFECTIVE DATE JULY 3, 1986.
- 4) EXISTING LOT AREA (SUBMITTED LAND):
21,029 S.F.
0.4828 ACRES
- 5) THE BOUNDARY SHOWN HEREON IS FROM PLAN REFERENCE 3.
- 6) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.
- 7) THE PURPOSE OF THIS PLAN IS TO SHOW A RESIDENTIAL CONDOMINIUM ON ASSESSOR'S MAP 1 LOT 38 IN THE TOWN OF KITTERY.
- 8) PARCEL IS SERVED BY KITTERY WATER DISTRICT AND KITTERY SEWER DISTRICT.
- 9) TREES, LANDSCAPING, AND OPEN SPACE SHALL BE PERMANENTLY MAINTAINED BY THE PROPERTY OWNERS. EXCEPT FOR REPLACEMENT IN-KIND, MODIFICATIONS TO VEGETATION OR OPEN SPACE SHOWN ON THIS PLAN SHALL BE REVIEWED AND APPROVED BY THE KITTERY TOWN PLANNER OR, IN THE EVENT OF MAJOR MODIFICATIONS, THE KITTERY PLANNING BOARD.

LEGEND:

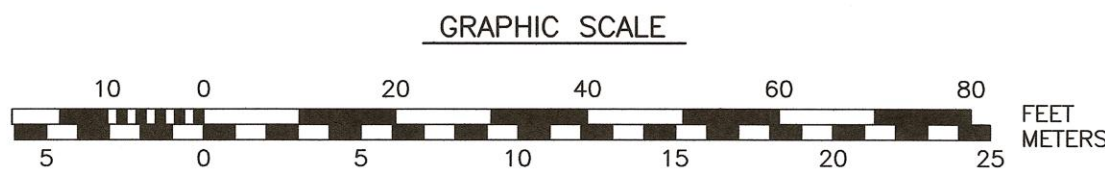
N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	YORK COUNTY REGISTRY OF DEEDS
11/21	MAP 11/LOT 21
RR SPK FND	RAILROAD SPIKE FOUND / SET
IR FND	IRON ROD FOUND / SET
IP FND	IRON PIPE FOUND / SET
DH FND	DRILL HOLE FOUND / SET
MB	MAINE D.O.T. BOUND FOUND
TB	TOWN BOUND FOUND
BND w/DH	BOUND WITH DRILL HOLE
ST BND w/DH	STONE BOUND WITH DRILL HOLE
F.F.	PROPOSED FENCE
LCA	FINISH FLOOR
	LIMITED COMMON ELEMENT
	LIMITED COMMON/LCE LINE
	PROPOSED PATIO/WALKWAY/COBBLE BAND
	PROPOSED BUILDING OVERHANG
	EDGE OF PAVEMENT
	PROPOSED TREE/SHRUB
T	PROPOSED TRANSFORMER
HP	PROPOSED HEAT PUMP
	BUILDING MOUNTED LIGHT
	POLE MOUNTED LIGHT
	EXISTING DECIDUOUS TREE
	EXISTING EVERGREEN TREE



LANDSCAPE SCHEDULE

I.D. No.	ITEM	SIZE	QTY
1	KELSEY'S RED OSIER DOGWOOD	3 GAL.	19
	CORNUS SERICEA "KELSEY"		
2	PINK SPIRES CRABAPPLE	2-1/2 GAL.	11
	MALUS "PINK SPIRES"		
3	SHAWNEE BRAVE BALD CYPRESS	6-7' HEIGHT	2
	TAXODIUM DISTICHUM "SHAWNEE BRAVE"		
4	SARAH HYBRID MOUNTAIN LAUREL	6 GAL.	14
	KALMIA LATIFOLIA "SARAH"		

*SUBSTITUTIONS WITH PERMISSION



OWNER & DECLARANT:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE
SUITE 20
EXETER, NH 03833

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801

CONDOMINIUM SITE PLAN
39 BADGERS ISLAND WEST
CONDOMINIUM

FOR OWNER/DECLARANT:

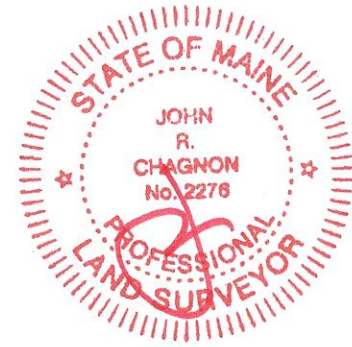
BIW GROUP, LLC
PROPERTY LOCATED AT
TAX MAP 1 LOT 38
39 BADGERS ISLAND WEST
TOWN OF KITTERY
COUNTY OF YORK
STATE OF MAINE

SCALE: 1" = 20'

NOVEMBER 2022

FB 398 PG 70

3430.01

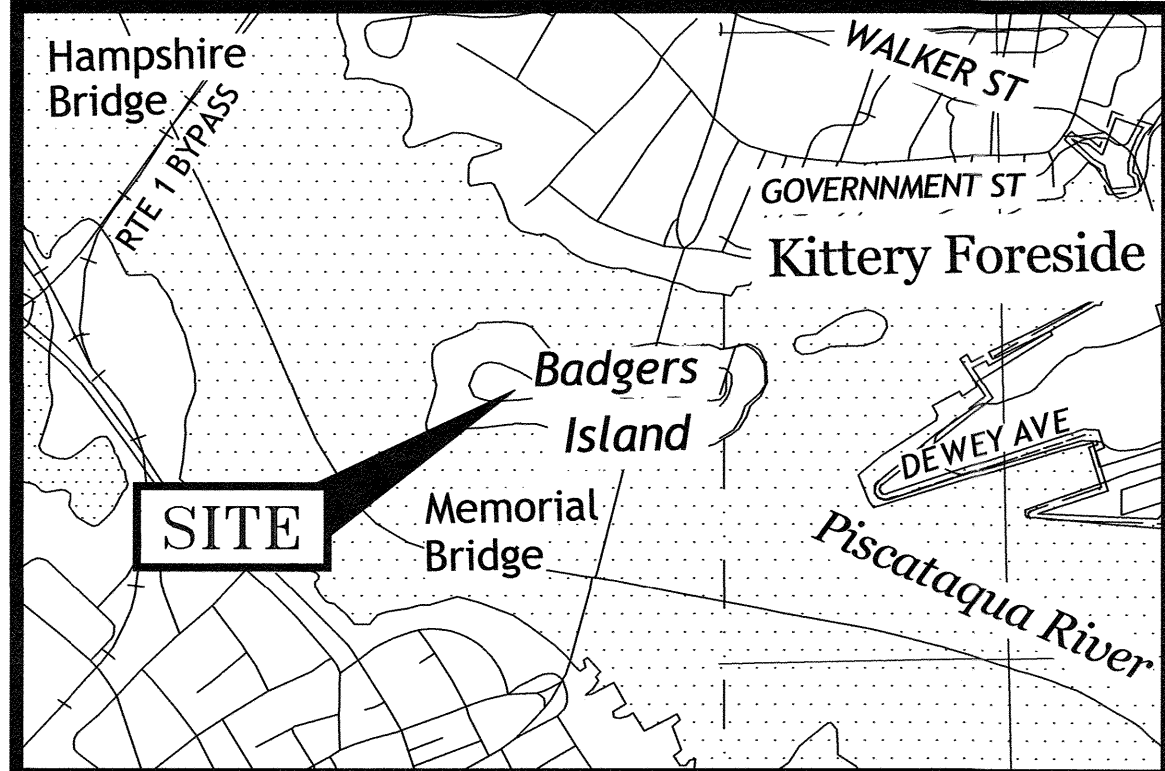


PURSUANT TO CHAPTER 90 PARTS 1 AND 2 OF THE SURVEY STANDARDS OF PRACTICE AS ADOPTED BY THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, THE FOLLOWING EXCEPTIONS TO PART 2 ARE NOTED:
A) NO SURVEY REPORT HAS BEEN PREPARED.

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 #2278

3-16-23
DATE



LOCATION MAP

SCALE: 1" = 1,000'

LEGEND:

*SEE COVER SHEET.

PLAN REFERENCES:

- 1) "STANDARD BOUNDARY SURVEY OF TAX MAP 1, LOT 38 ON BADGERS ISLAND, KITTERY, MAINE, FOR LIL'S GREENDREAM, INC.," PREPARED BY DOUCET SURVEY, INC., DATED JUNE 16, 1995 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 224 PAGE 42.
- 2) "PLAN OF LOTS BADGERS ISLAND, KITTERY, MAINE, OWNED BY JOSEPH W. THORNER", PREPARED BY JOHN W. DURGIN, DATED APRIL, 1936 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 22 PAGE 31.
- 3) EXISTING CONDITIONS PLAN, 39 BADGERS ISLAND WEST, SCALE: 1"=10. DATED 4/19/22. PREPARED BY EASTERLY SURVEY (NOT RECORDED).

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.

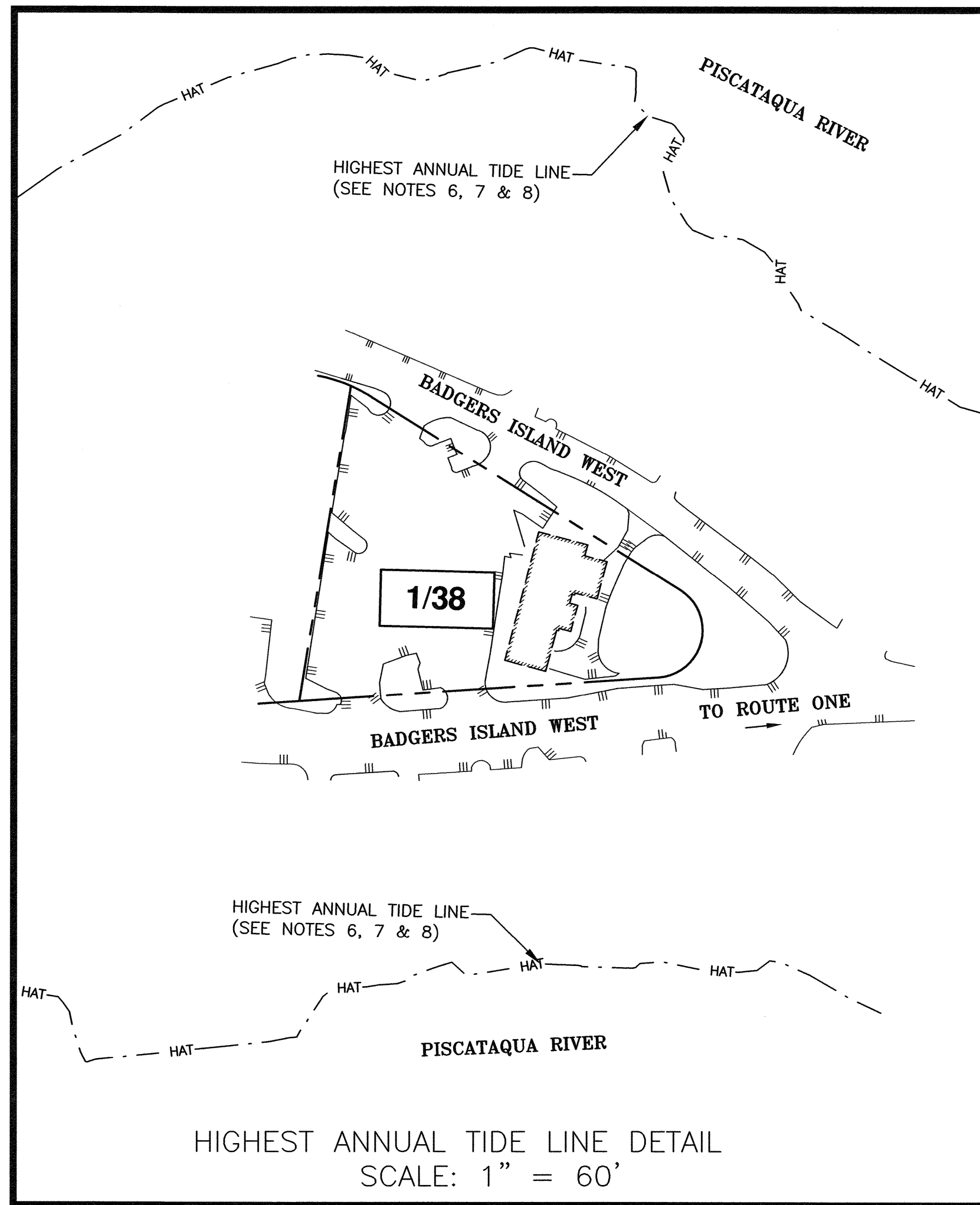
SEWER STRUCTURE SCHEDULE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
SMH 127	EX	21.97	8" PVC	7.82	7.42	E
			8" PVC	7.52		NW
SMH 128	EX	20.43	8" PVC	8.83	8.58	SE
			8" PVC	12.53		NW
SMH 129	EX	21.86	8" PVC	13.61	13.56	SW
			6" PVC	13.61		NE
SMH 216	EX	19.69	8" PVC	8.09	7.99	E
			8" PVC	8.09		W
SMH 217	EX	16.30	8" PVC	8.95	8.80	E
			6" PVC	8.95		NW
			4" PVC	8.85		W

DRAINAGE STRUCTURE SCHEDULE

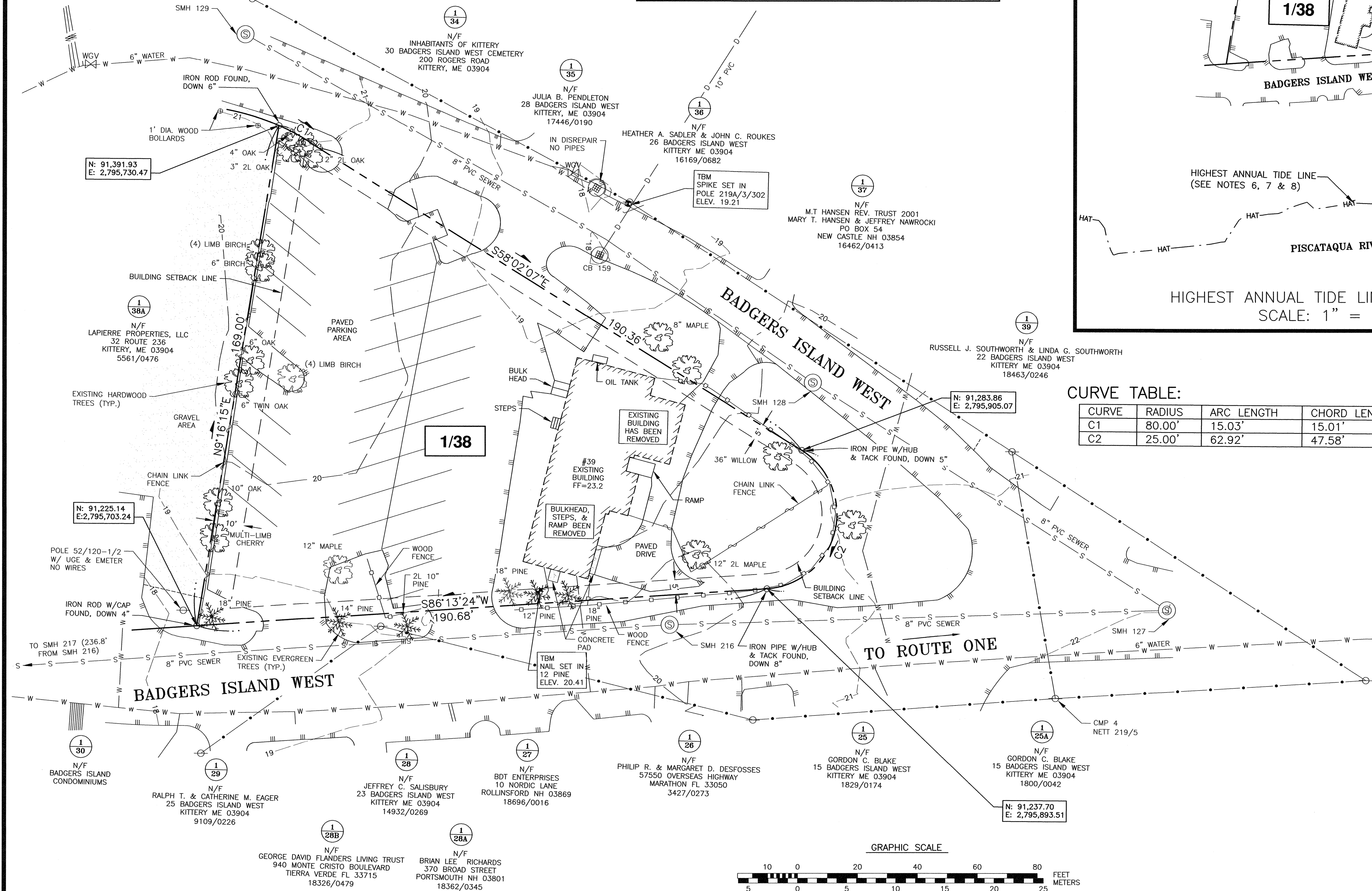
STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT	DIRECTION
CB 159	EX	18.9	10" PVC		17.1	NE

ME SPC
NAD83(2011)
GRID NORTH
WEST ZONE

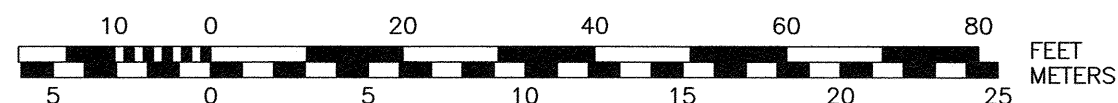


CURVE TABLE:

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	80.00'	15.03'	15.01'	S60°52'37"E	10°45'46"
C2	25.00'	62.92'	47.58'	S14°04'04"W	144°12'22"



GRAPHIC SCALE



AMBIT ENGINEERING, INC.

A DIVISION OF HALEY WARD, INC.

200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315

WWW.HALEYWARD.COM

NOTES:

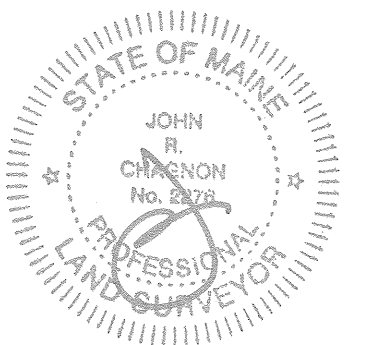
- 1) PARCEL IS SHOWN ON THE TOWN OF KITTERY ASSESSOR'S MAP 1 AS LOT 38.
- 2) OWNER OF RECORD:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE, SUITE 20
EXETER, NH 03833
18503/331
- 3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD ZONE (ZONE C) AS SHOWN ON FIRM PANEL 2301710008D. EFFECTIVE DATE JULY 3, 1986.
- 4) EXISTING LOT AREA:
21,029 S.F.
0.4828 ACRES
- 5) THE BOUNDARY SHOWN HEREON IS FROM PLAN REFERENCE 3.
- 6) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.
- 7) HIGHEST ANNUAL TIDE SHOWN AT ELEVATION 5.8 PER LOCATION SEAVEY ISLAND IN MAINE DEP HIGHEST ANNUAL TIDE (HAT) LEVELS FOR YEAR 2018.
- 8) THE ENTIRE PARCEL IS WITHIN THE 250' SHORELAND PROTECTION ZONE
- 9) PARCEL ZONING INFORMATION:
BASE ZONE: MIXED USE - BADGERS ISLAND (MU-BI)
OVERLAY ZONES:
WATER BODY/WETLAND PROTECTION AREA - 250' (OZ-SL-250')
COMMERCIAL FISHERIES/MARITIME USES - (CFMU)
- 10) DIMENSIONAL REQUIREMENTS:
MU-BI BASE ZONE REQUIREMENTS:
MINIMUM LAND AREA PER DWELLING UNIT:
3,000 SQ. FT. (UNITS 1 & 2)
6,000 SQ. FT. (UNITS 3+)
MINIMUM LOT SIZE: 6,000 SQ. FT.
MINIMUM STREET FRONTAGE: 50 FT.
MINIMUM FRONT YARD: 5 FT.
MINIMUM REAR AND SIDE YARDS: 10 FT.
MAXIMUM BUILDING HEIGHT: 40 FT.
MINIMUM OPEN SPACE: 40%
- OZ-SL-250' REQUIREMENTS (SEE 16.3.2.17):
MAXIMUM DEVEGETATED COVERAGE: 60%
PRINCIPAL AND ACCESSORY STRUCTURES
SETBACK: 75 FT.
ACCESSORY PATIO/DECK < 500 SQ.FT.
SETBACK: 75 FT.

- 11) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON ASSESSOR'S MAP 1 LOT 38 IN THE TOWN OF KITTERY.

SITE REDEVELOPMENT 39 BADGERS ISLAND WEST KITTERY, ME

NO.	DESCRIPTION	DATE
3	LABELS, NOTES	3/16/23
2	ADD STATE PLANE COORDINATES	2/13/23
1	SEWER SCHEDULE ADDED	12/08/22
0	ISSUED FOR COMMENT	10/24/22

REVISIONS



3-16-23

SCALE: 1"=20'

OCTOBER 2022

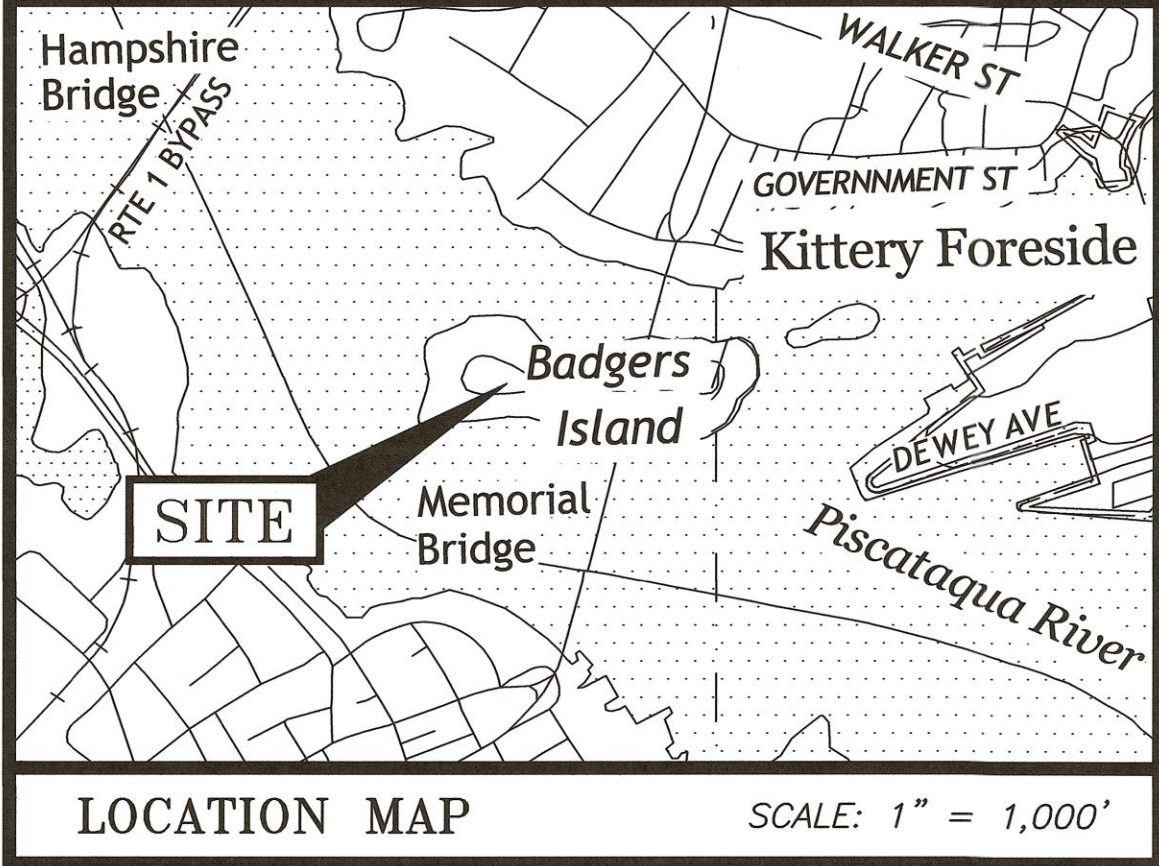
EXISTING CONDITIONS
PLAN

C1

OWNER:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE
SUITE 20
EXETER, NH 03833

APPLICANT:
OTTER CREEK HOMES
198 LAFAYETTE ROAD UNIT 1
NORTH HAMPTON, NH 03862

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801



DEVEGETATED COVERAGE CALCULATION (TO LOT LINE)

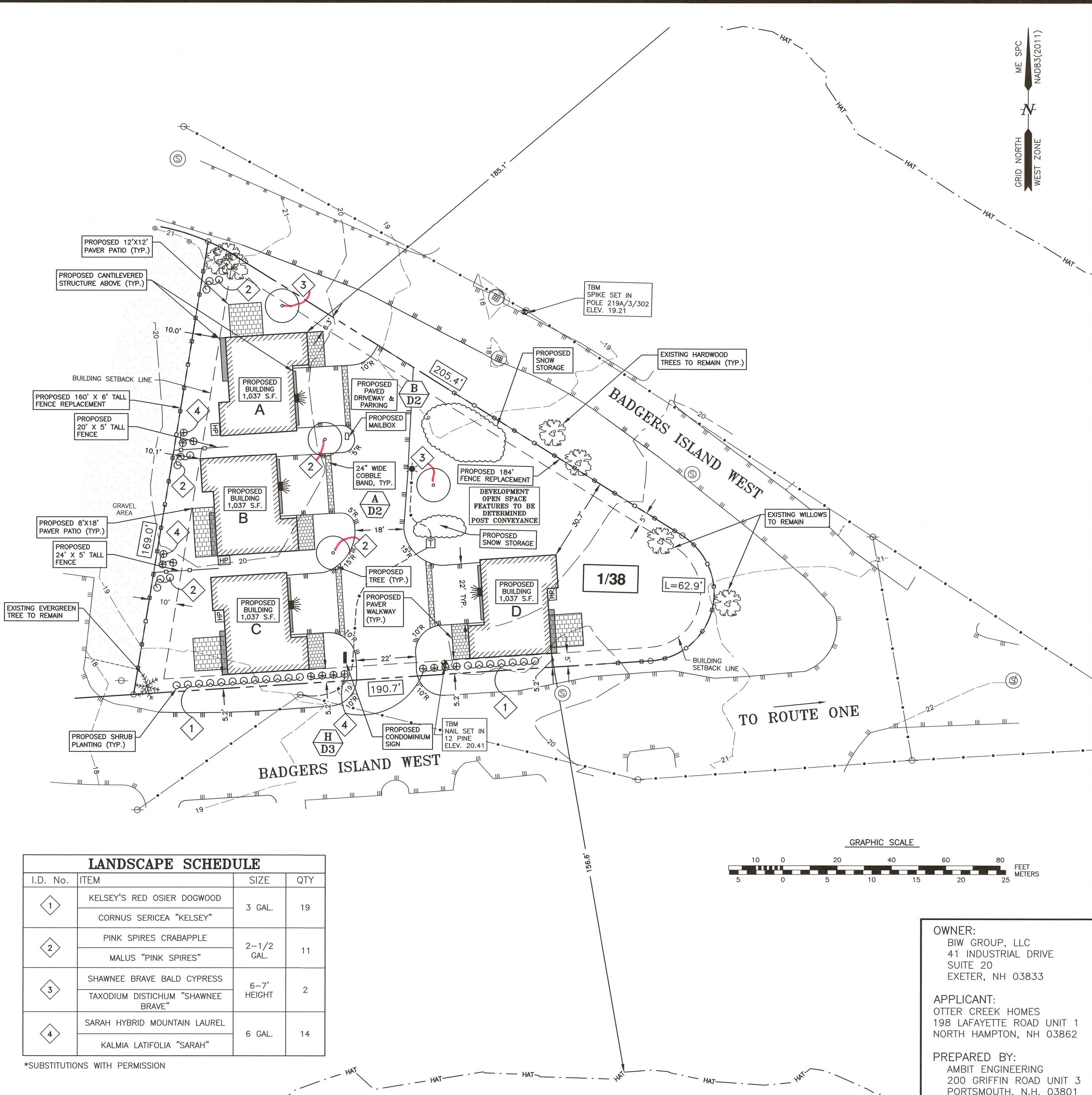
STRUCTURE	PRE-CONSTRUCTION (S.F.)	POST-CONSTRUCTION (S.F.)
MAIN STRUCTURES	2,071	4,148
PAVEMENT	13,286	4,771
STAIRS/RAMP	51	0
BULKHEAD	25	0
CONCRETE PADS	29	0
WALKWAY	0	312
PATIOS	0	288
TOTAL	15,462	9,519
LOT SIZE	21,029	21,029
% DEVEGETATED AREA	73.5%	45.3%

PROPOSED BUILDING COVERAGE: 19.7%
SITE IS CURRENTLY 0% BUILDING COVERAGE (POST BUILDING REMOVAL)

LANDSCAPE SCHEDULE

I.D. No.	ITEM	SIZE	QTY
1	KELSEY'S RED OSIER DOGWOOD	3 GAL.	19
2	CORNUS SERICEA "KELSEY"	2-1/2 GAL.	11
3	PINK SPIRES CRABAPPLE	6-7' HEIGHT	2
4	MALUS "PINK SPIRES"	6 GAL.	14
5	SHAWNEE BRAVE BALD CYPRESS		
6	TAXODIUM DISTICHUM "SHAWNEE BRAVE"		
7	SARAH HYBRID MOUNTAIN LAUREL		
8	KALMIA LATIFOLIA "SARAH"		

*SUBSTITUTIONS WITH PERMISSION



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

200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315

WWW.HALEYWARD.COM

NOTES:

- 1) PARCEL IS SHOWN ON THE TOWN OF KITTERY ASSESSOR'S MAP 1 AS LOT 38.
- 2) OWNER OF RECORD:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE, SUITE 20
EXETER, NH 03833
18503/331
APPLICANT:
OTTER CREEK HOMES
198 LAFAYETTE ROAD, UNIT 1
NORTH HAMPTON, NH 03862
- 3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD ZONE (ZONE C) AS SHOWN ON FIRM PANEL 2301710008D. EFFECTIVE DATE JULY 3, 1986.
- 4) EXISTING LOT AREA:
21,029 S.F.
0.4828 ACRES
- 5) PARCEL ZONING INFORMATION:
BASE ZONE: MIXED USE - BADGERS ISLAND (MU-BI)
OVERLAY ZONES:
WATER BODY/WETLAND PROTECTION AREA - 250' (OZ-SL-250')
COMMERCIAL FISHERIES/MARITIME USES - (CFMU)
- 6) DIMENSIONAL REQUIREMENTS:
MU-BI BASE ZONE REQUIREMENTS:
MINIMUM LAND AREA PER DWELLING UNIT:
3,000 SQ. FT. (UNITS 1 & 2)
6,000 SQ. FT. (UNITS 3+)
MINIMUM LOT SIZE: 6,000 SQ. FT.
MINIMUM STREET FRONTAGE: 50 FT.
MINIMUM FRONT YARD: 5 FT.
MINIMUM REAR AND SIDE YARDS: 10 FT.
MAXIMUM BUILDING HEIGHT: 40 FT.
MINIMUM OPEN SPACE: 40%
OZ-SL-250' REQUIREMENTS (SEE 16.3.2.17):
MAXIMUM DEVEGETATED COVERAGE: 60%
PRINCIPAL AND ACCESSORY STRUCTURES SETBACK: 75 FT.
ACCESSORY PATIO/DECK < 500 SQ.FT.
SETBACK: 75 FT.
- 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED STRUCTURES & SITE IMPROVEMENTS ON ASSESSOR'S MAP 1 LOT 38 IN THE TOWN OF KITTERY.
- 8) IF SNOW STORAGE CAPACITY IS EXCEEDED SNOW WILL NEED TO BE TRUCKED OFF SITE. NO SNOW STORAGE IN TOWN RIGHT OF WAY.
- 9) ANNUAL DRAINAGE MAINTENANCE REPORTS SHALL BE SUBMITTED TO THE KITTERY CEO BY JULY 1ST EACH YEAR.

SITE REDEVELOPMENT
39 BADGERS ISLAND WEST
KITTERY, ME

NO.	DESCRIPTION	DATE
5	LANDSCAPE SYMBOLS, TBM, NOTE 9	3/16/23
4	ELIMINATE DRIVEWAY ENTRANCE	3/6/23
3	SIGN, LANDSCAPING	2/14/23
2	LANDSCAPE, ENTRANCE, NOTE 8	1/19/23
1	ISSUED FOR APPROVAL	12/8/22

NO. DESCRIPTION DATE

REVISIONS

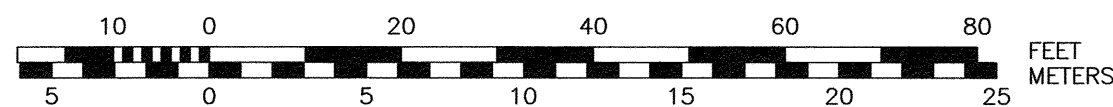
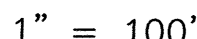
STATE OF MAINE
JOHN R. CHANNON
PROFESSIONAL ENGINEER
3-16-23

STATE OF MAINE
JOHN R. CHANNON
PROFESSIONAL LAND SURVEYOR
3-16-23

SCALE: 1"=20' OCTOBER 2022

SHORELAND DEVELOPMENT PLAN C2

EASTERLY 3430.01 MAP 1 LOT 38

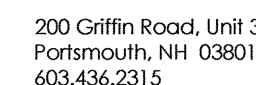


SEWER PIPE SCHEDULE				
PIPE #	PIPE SIZE	PIPE TYPE	LENGTH	SLOPE
S1	8"	SDR 35	118'	0.004
S2	8"	SDR 35	6'	0.004

S1 & S2 @ CHIMNEY

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801

C3



WWW.HALEYWARD.COM

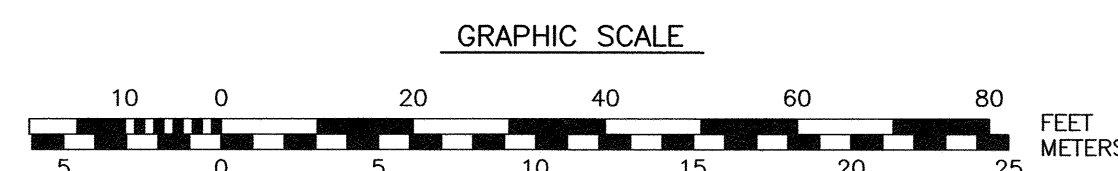
1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

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: 22,092 S.F.

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



OWNER:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE
SUITE 20
EXETER, NH 03833

APPLICANT:
OTTER CREEK HOMES
198 LAFAYETTE ROAD UNIT 1
NORTH HAMPTON, NH 03862

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801



SITE REDEVELOPMENT 39 BADGERS ISLAND WEST KITTERY, ME

4	CONSTRUCTION ENTRANCE	3/16/21
3	ELIMINATE DRIVEWAY ENTRANCE	3/6/23
2	SIGN	2/14/23
1	PAVEMENT	1/19/23
0	ISSUED FOR COMMENT	12/8/22
NO.	DESCRIPTION	DATE

REVISIONS

SCALE: 1"=20'

OCTOBER 2022

GRADING PLAN

C4

EASTERLY

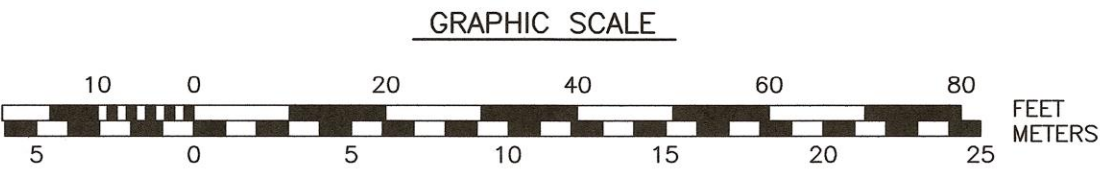
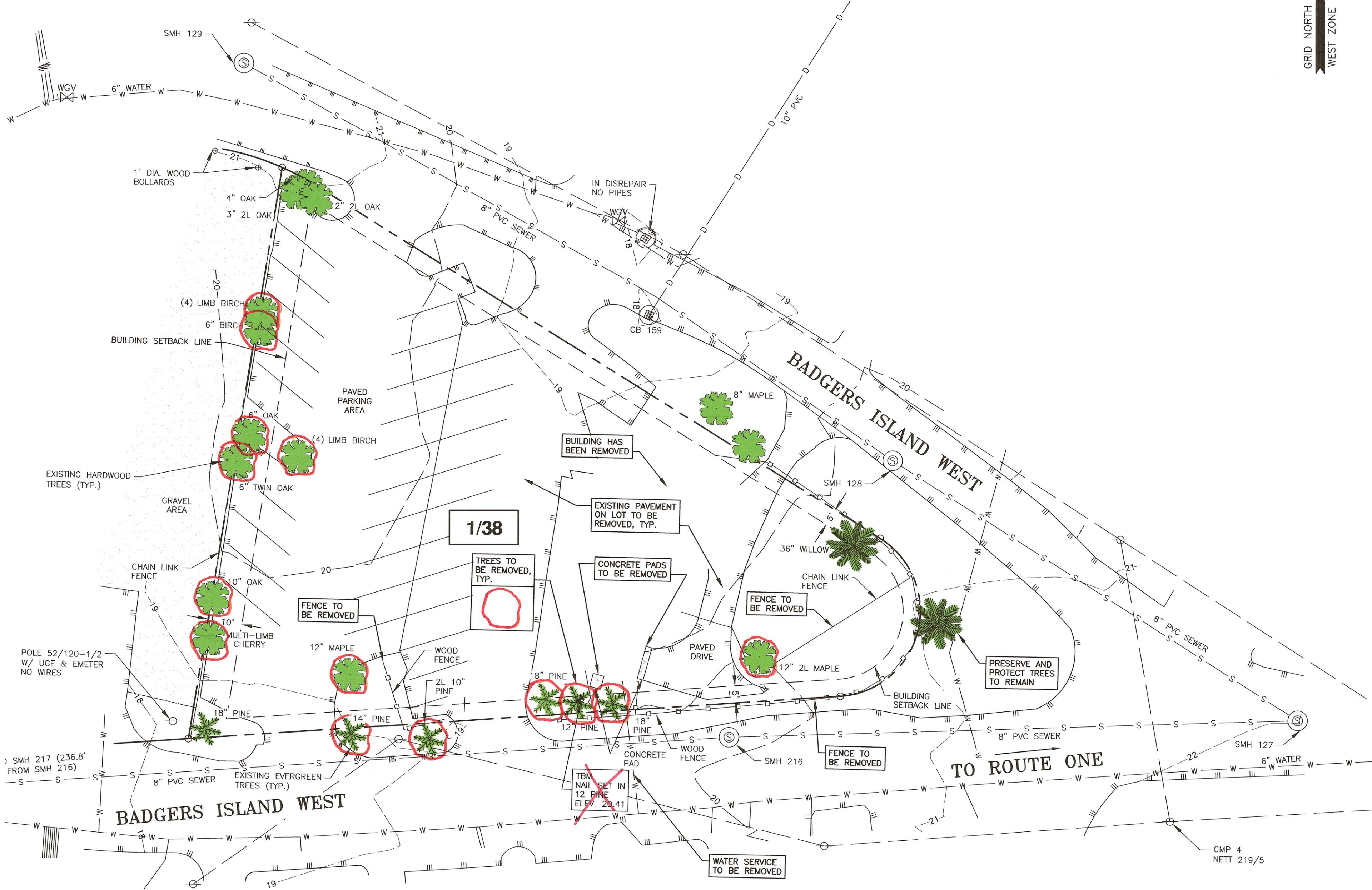
3430.01

MAP 1 LOT 38

34NH55010207-Otter Creek Homes\3430.01-Radness Island West Kitchen, B\3430.2022 Site Plan\Plans & Specs\Site\3430.01 Surveys 2022.dwg 3/16/2023 10:51:05 AM

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 SAFETY 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



OWNER:
BW GROUP, LLC
41 INDUSTRIAL DRIVE
SUITE 20
EXETER, NH 03833

APPLICANT:
OTTER CREEK HOMES
198 LAFAYETTE ROAD UNIT 1
NORTH HAMPTON, NH 03862

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801

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

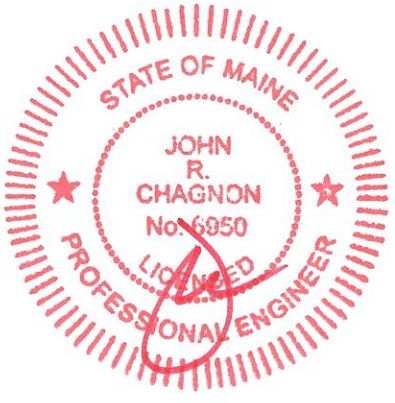
200 Griffin Road, Unit 3
Portsmouth, NH 03801
603.436.2315

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 REDEVELOPMENT
39 BADGERS ISLAND WEST
KITTERY, ME

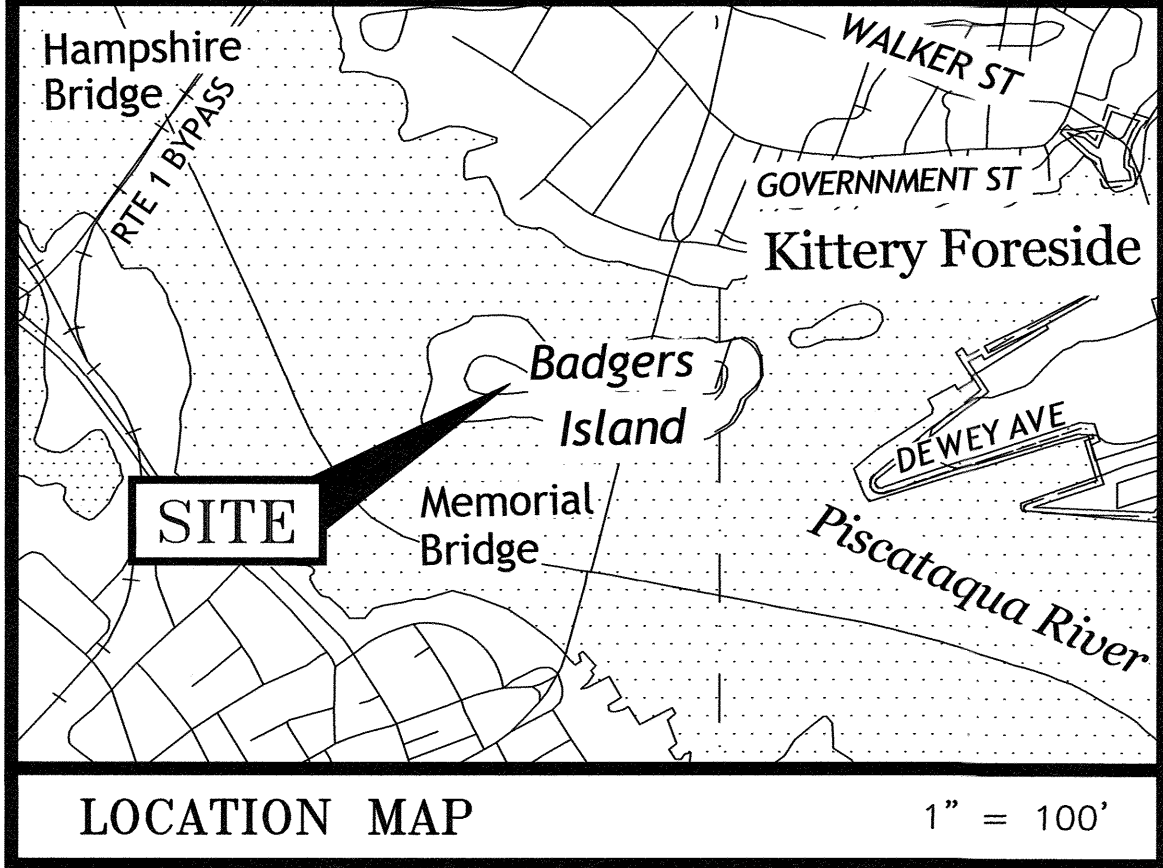
0	ISSUED FOR COMMENT	12/8/22
NO.	DESCRIPTION	DATE
REVISIONS		



12.8.22


SCALE: 1"=20' OCTOBER 2022

DEMOLITION PLAN C5



LIGHTING SCHEDULE				
SYMBOL	QTY.	LABEL	ARRANGEMENT	DESCRIPTION
	1	P	SINGLE	UMC-20001-30W-T2-W30-CXX-120/277V/12' POLE
	4	W	SINGLE	UCI-30131-18W-T4-W30-CXX-120/277V/WALL MTD. 10 AFG

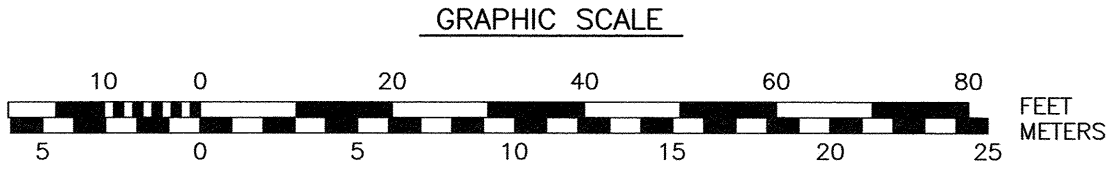
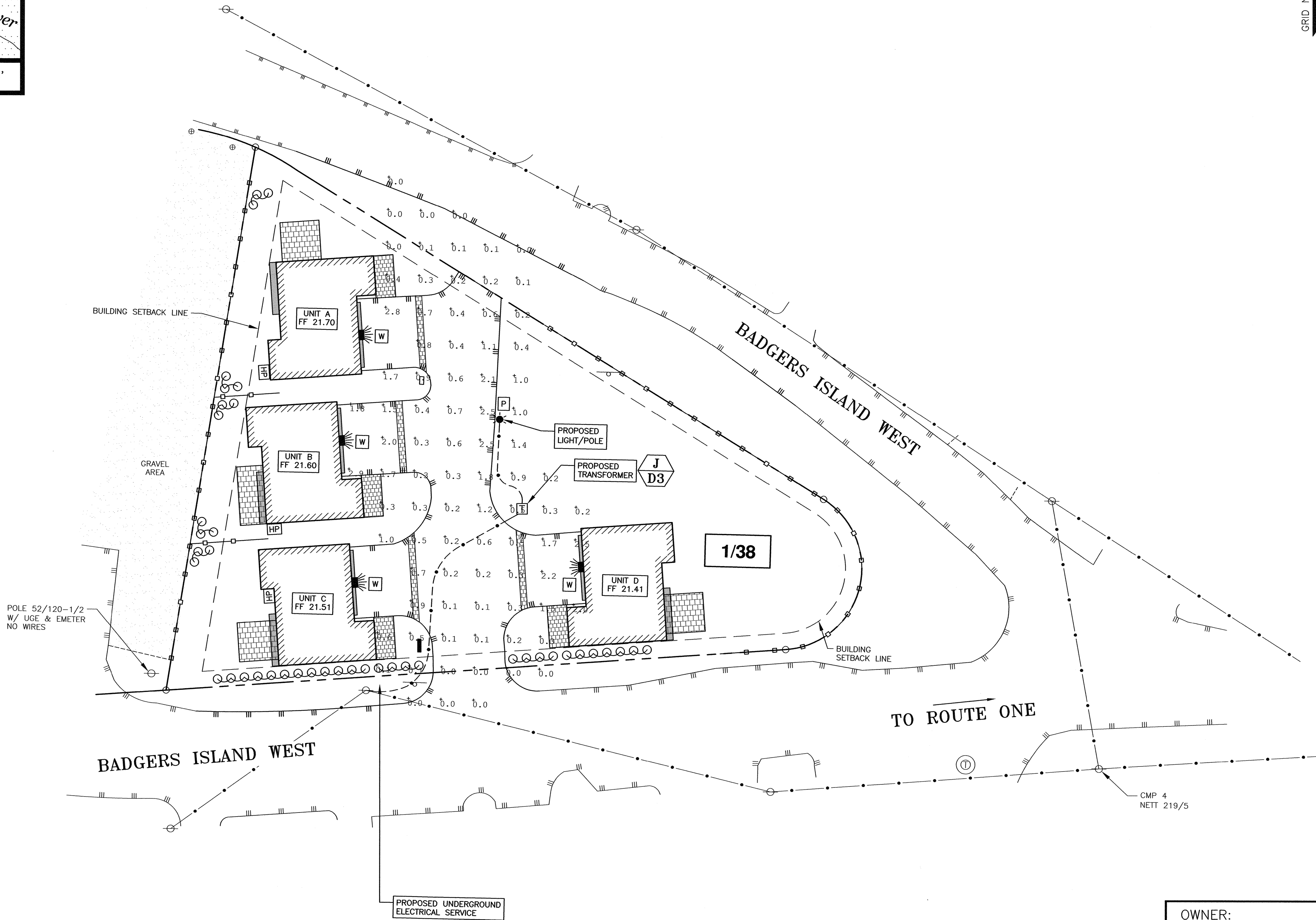
ME SPC
NAD83(2011)
GRID NORTH
WEST ZONE

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 - 4) POLE MOUNTED LIGHTS SHALL HAVE A MAXIMUM FIXTURE OF HEIGHT OF 12 FEET.
 - 5) ALL LIGHTING SHALL BE SHIELDED TO MINIMIZE LIGHT TRESPASS AND DIRECT GLARE BEYOND THE PROPERTY.
 - 6) ALL LIGHTS SHALL BE DARK SKY COMPLIANT AND DIRECTED DOWNWARD.
 - 7) LIGHTING PLAN DESIGN BY EXPOSURE 2 LIGHTING 603-601-8080.
 - 8) LIGHTS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.



OWNER:
BIW GROUP, LLC
41 INDUSTRIAL DRIVE
SUITE 20
EXETER, NH 03833

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198 LAFAYETTE ROAD UNIT 1
NORTH HAMPTON, NH 03862

PREPARED BY:
AMBIT ENGINEERING
200 GRIFFIN ROAD UNIT 3
PORTSMOUTH, N.H. 03801

**SITE REDEVELOPMENT
39 BADGERS ISLAND WEST
KITTERY, ME**

NO.	DESCRIPTION	DATE
2	ELIMINATE DRIVEWAY ENTRANCE	3/6/23
1	PAVEMENT	1/19/23
0	ISSUED FOR COMMENT	12/8/22

REVISIONS

SCALE: 1"=20' OCTOBER 2022

LIGHTING PLAN

C6

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 RESEDED, 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 RESEDED 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 RESEDED 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 OTTER CREEK HOMES 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, AND ASSOCIATED OUTLET CONTROL STRUCTURES.

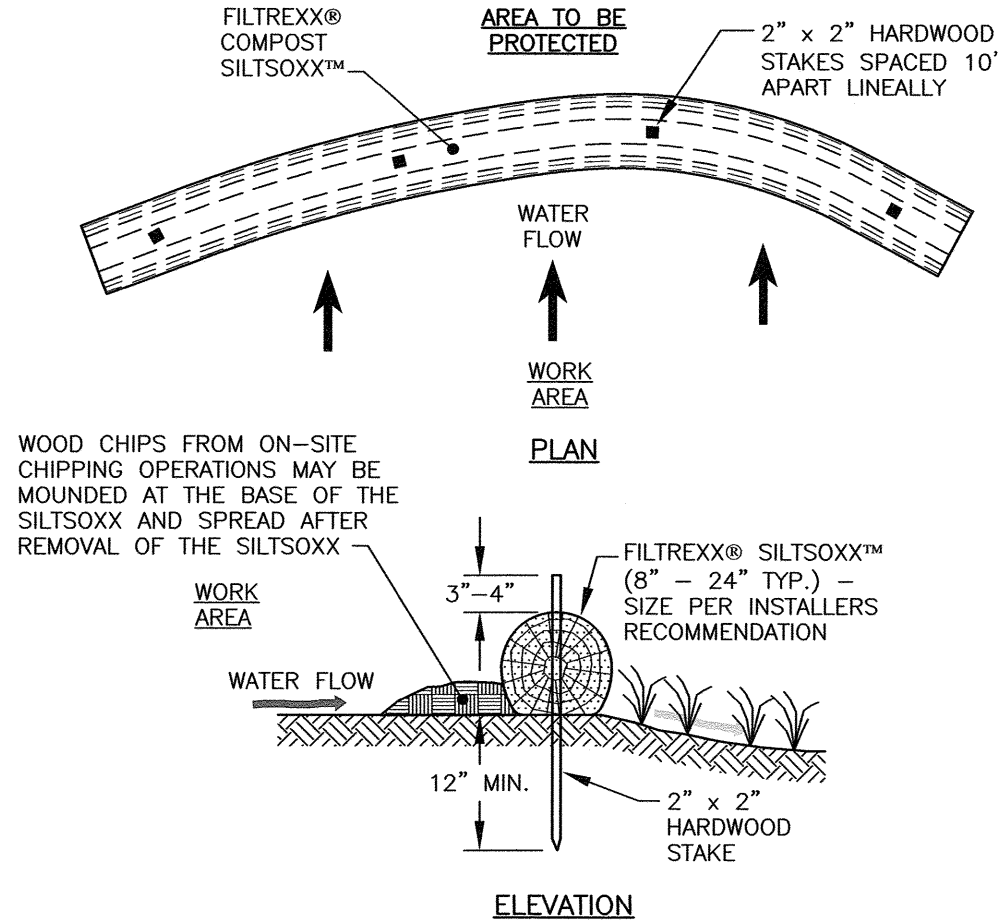
INSPECTION AND MAINTENANCE REQUIREMENTS

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

1. GRASSSED AREAS: AFTER EACH RAIN EVEN OF 0.5" OR MORE DURING A 24 HOUR PERIOD, INSPECT GRASSSED 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.

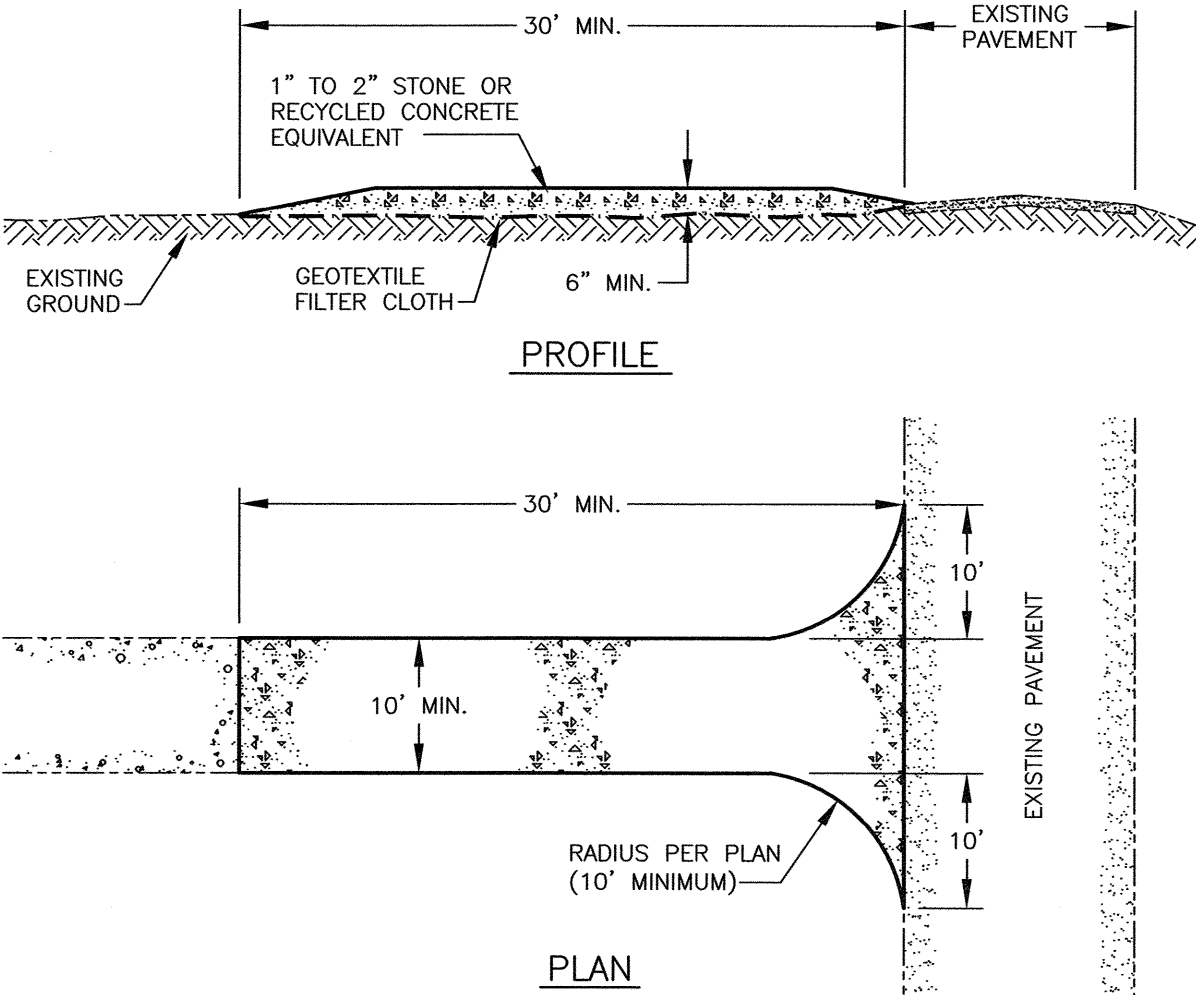
2. PLANTINGS: PLANTING AND LANDSCAPING (TREES, SHRUBS) SHALL BE MONITORED BI-MONTHLY DURING THE FIRST YEAR TO INSURE VIABILITY AND VIGOROUS GROWTH. REPLACE DEAD OR DYING VEGETATION WITH NEW STOCK AND MAKE ADJUSTMENTS TO THE CONDITIONS THAT CAUSED THE DEAD OR DYING VEGETATION. DURING DRYER TIMES OF THE 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-STRIPE 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.



- NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
 2. FILTREXX 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 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 GROSSED 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 STABILIZED CONSTRUCTION ENTRANCE (AS NEEDED) NTS



AMBIT ENGINEERING, INC.

Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2316

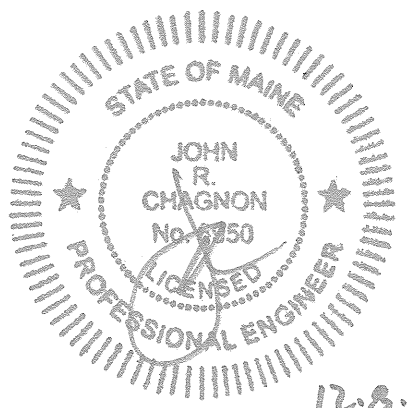
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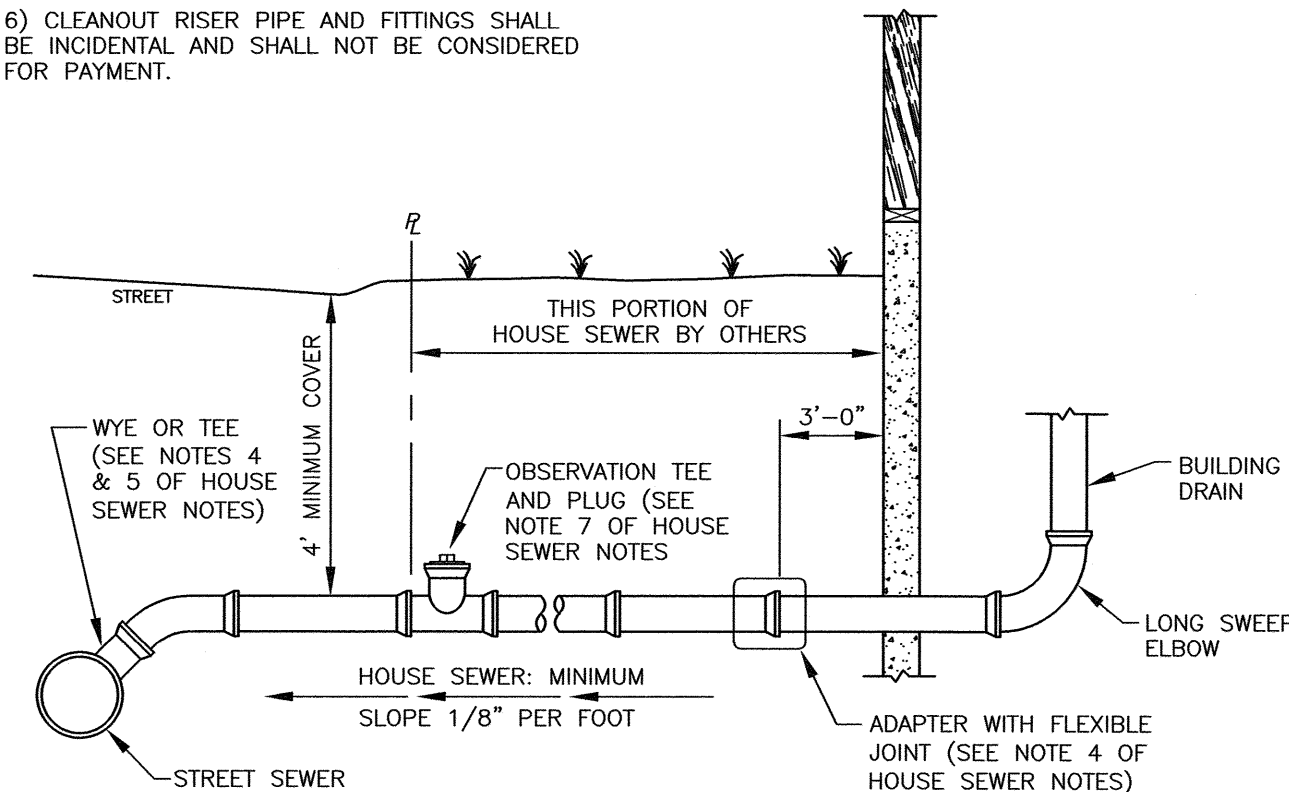


SCALE: AS SHOWN DECEMBER 2022

EROSION CONTROL
NOTES AND DETAILS

D1

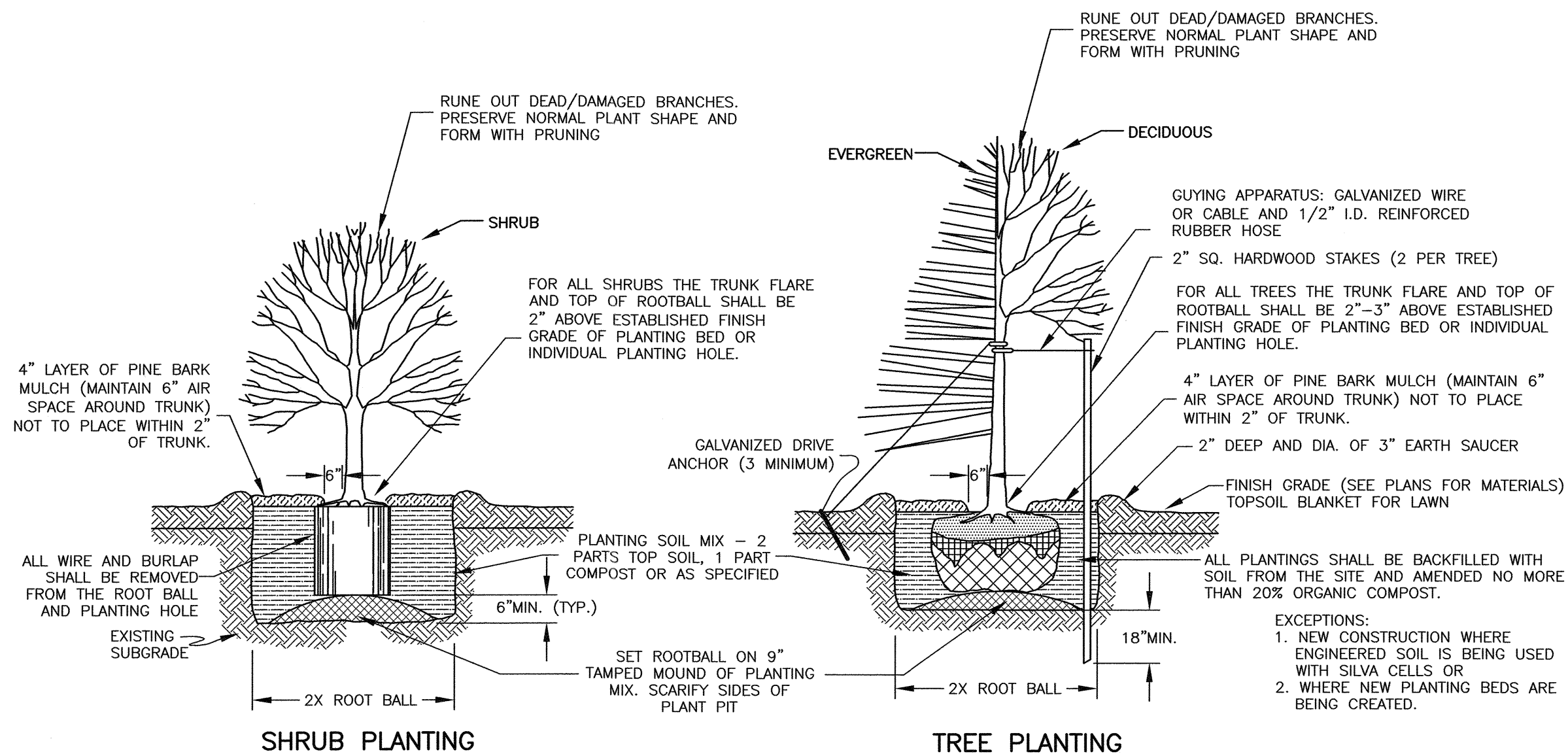
SERVICE CONNECTION NOTES:
1) SEE NOTES FOR SERVICE CONNECTION REQUIREMENTS.
2) SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.
3) CLEANOUTS SHALL BE INSTALLED AT EACH SERVICE CONNECTION.
4) REBAR SHALL BE PLACED AT SIDE OF CLEANOUT.
5) CLEANOUT SHALL BE USED TO PLUG AND TEST ALL 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.



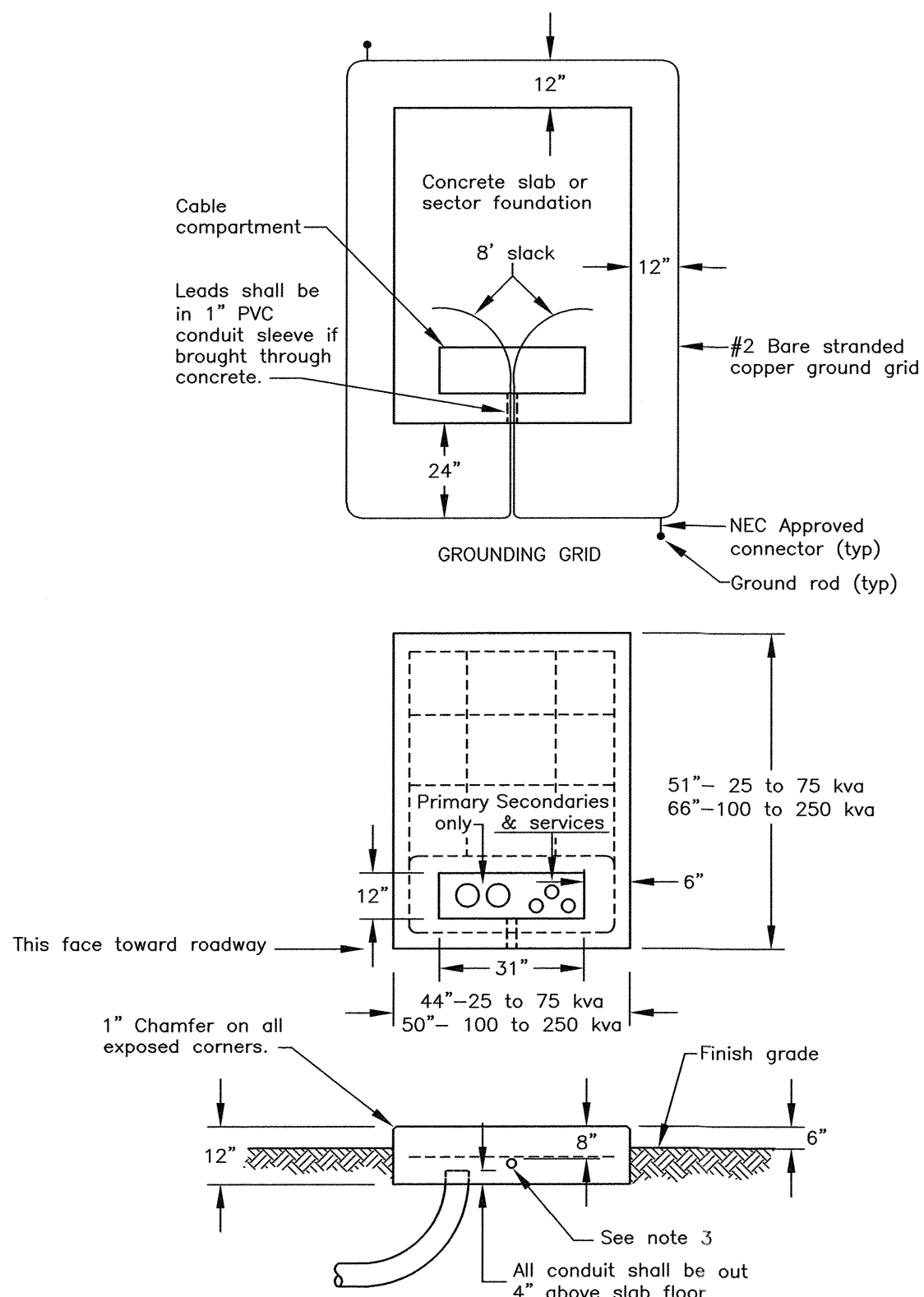
I
C3 TYPICAL SEWER SERVICE CONNECTION
NTS

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) |
| F798 | 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 FLUORESCENCE 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.

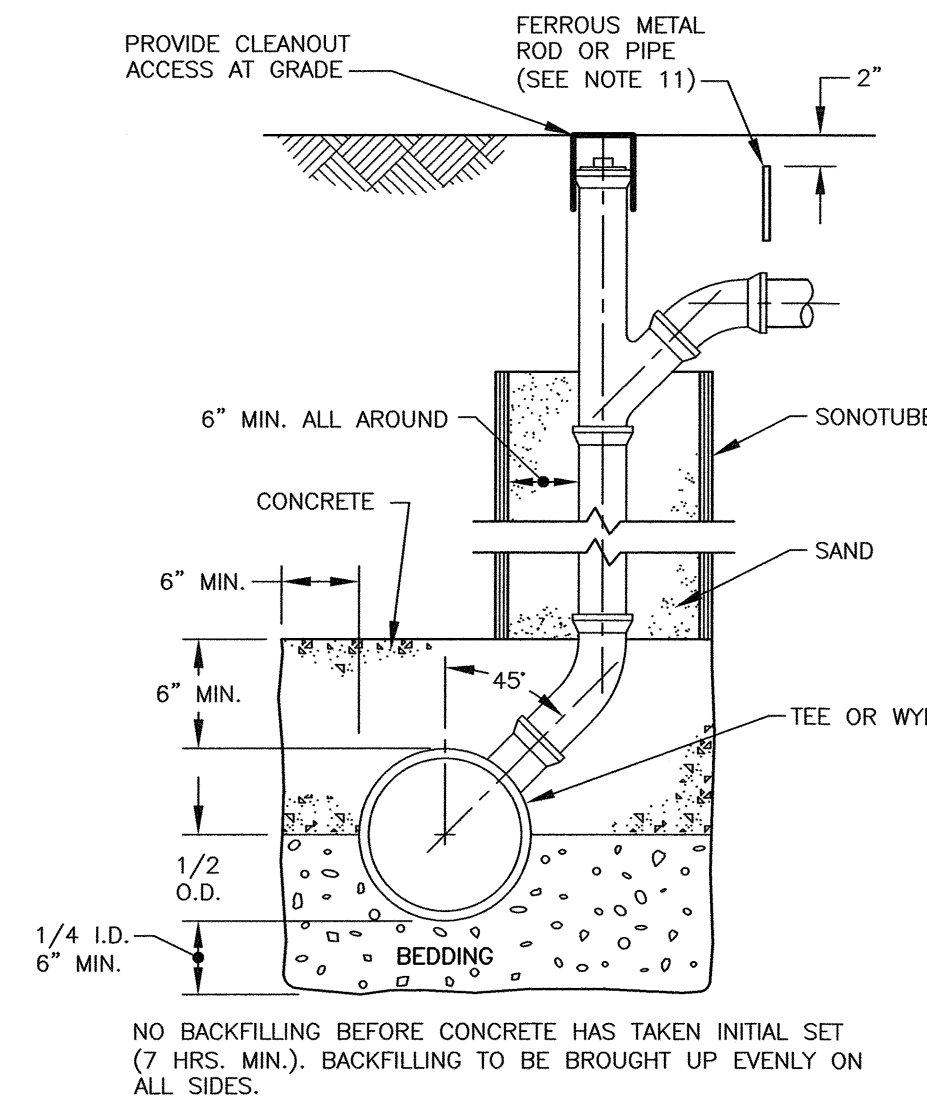


H
D3 SHRUB & TREE PLANTING DETAIL
(SHRUB PLANTING DETAIL APPLIES TO EVERGREEN AND DECIDUOUS SHRUBS)
NTS

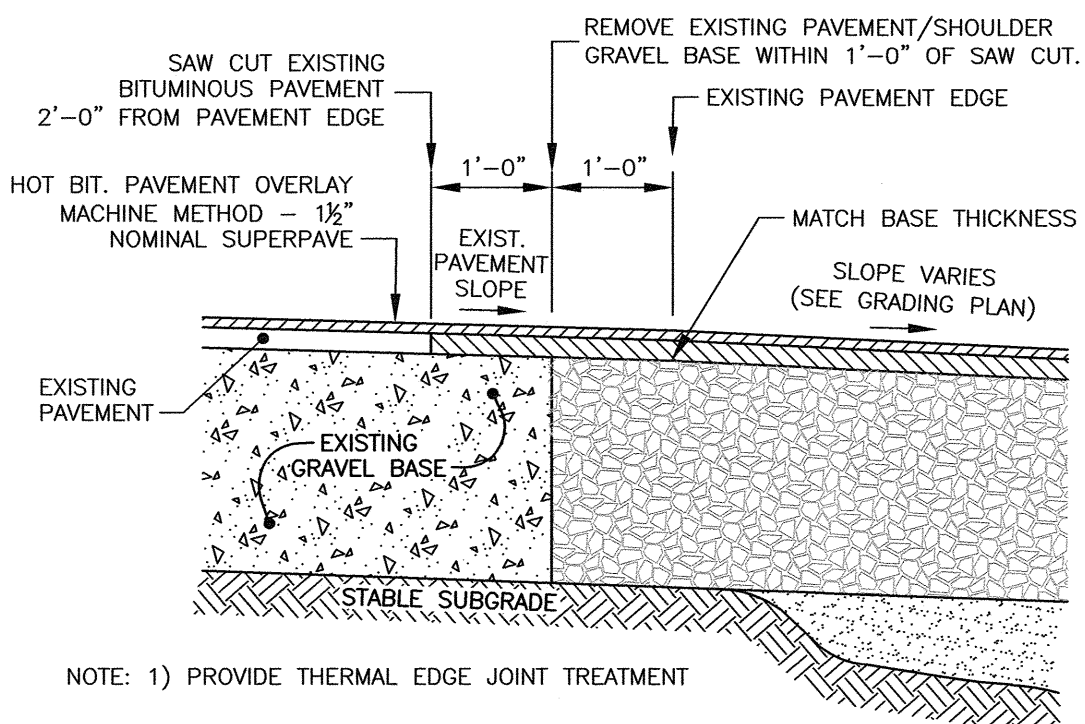


- NOTES:**
1. See sheet "Requirements for Padmounted Transformer Slab Details".
 2. All reinforcing to be #6 bars.
 3. 1" PVC conduit sleeve for ground grid leads.
 4. The ground grid shall be supplied and installed by the customer and is to be buried at least 12" below grade. Eight feet of extra wire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

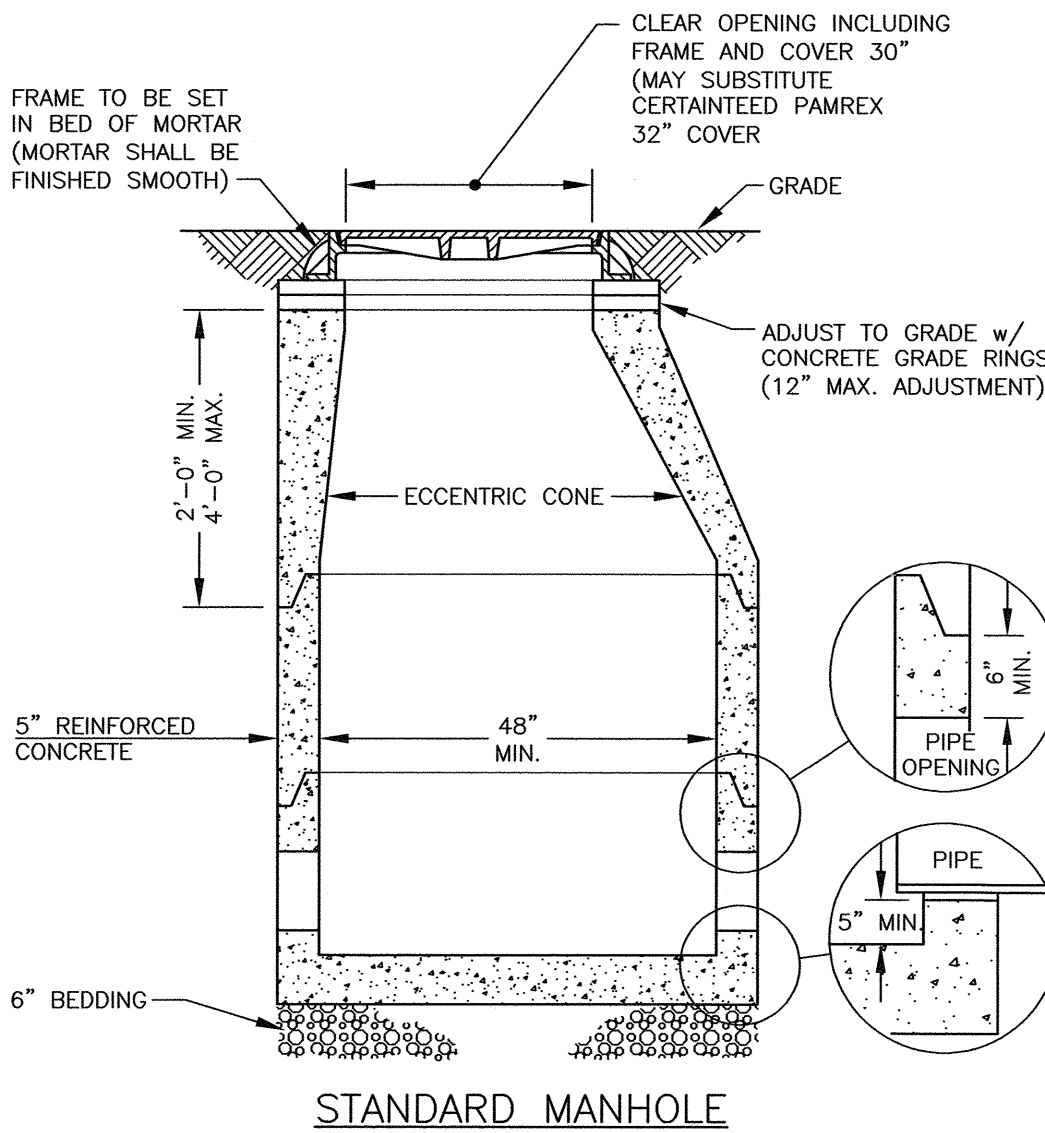
J
C3 TRANSFORMER PAD
CMP
NTS



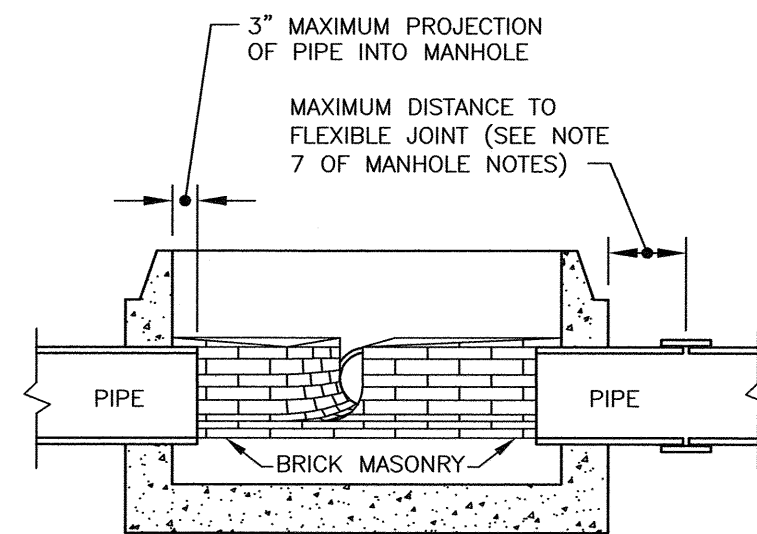
K
C3 SEWER CHIMNEY
NOT TO SCALE



L
C3 PAVEMENT JOINT DETAIL
NTS

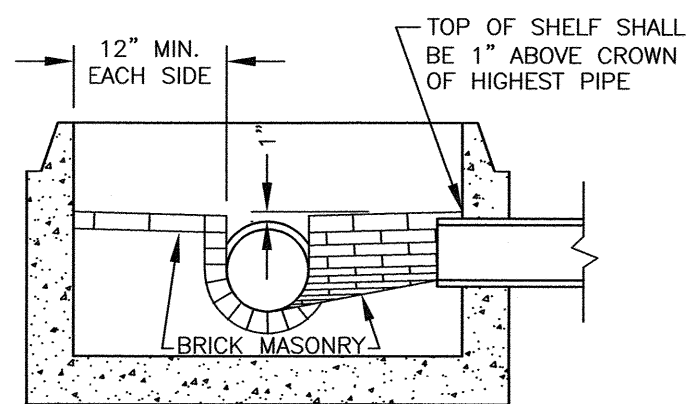


STANDARD MANHOLE

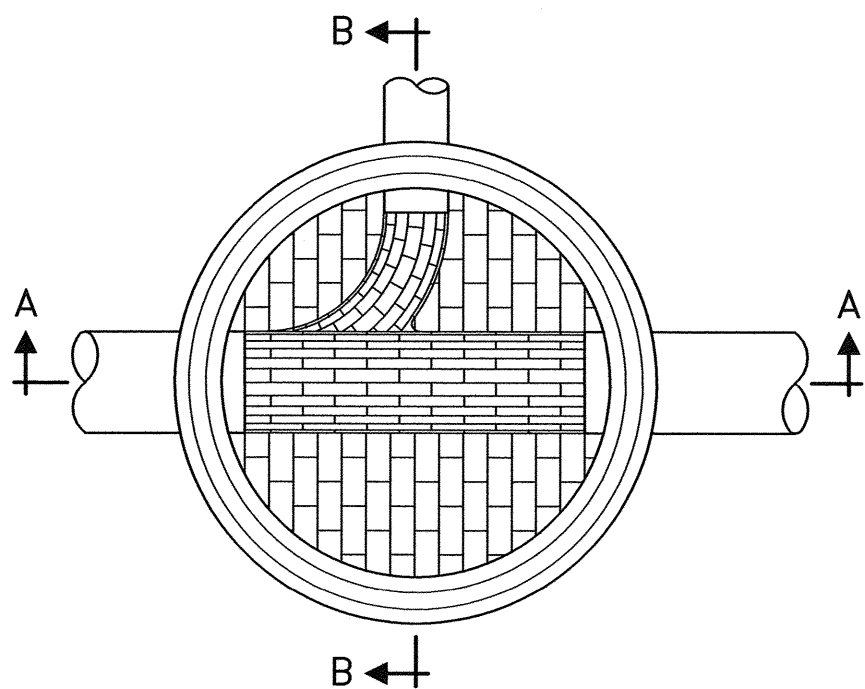


SECTION "A-A"

M
C3 TYPICAL SEWER MANHOLE
NTS



SECTION "B-B"



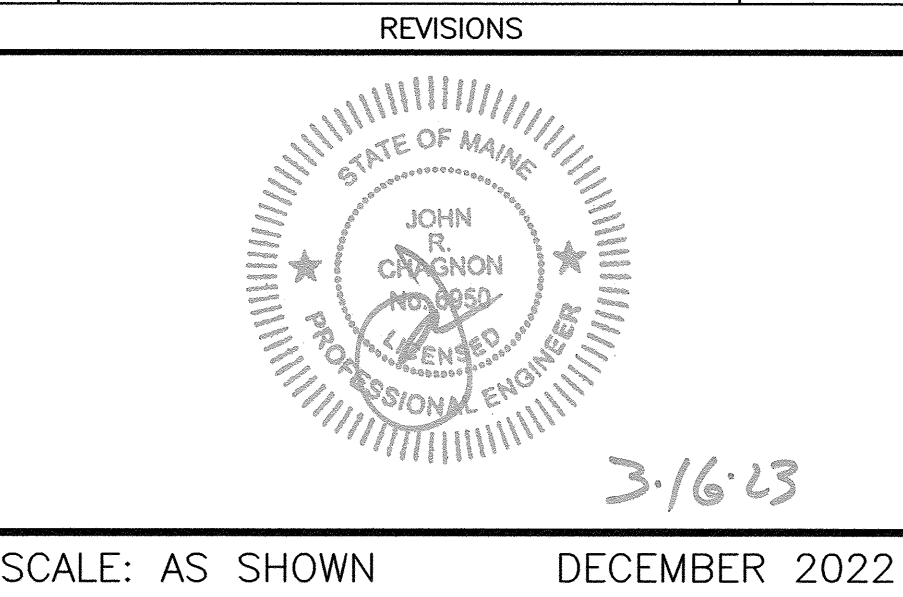
- NOTES:**
- A) INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
- B) CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.
- C) BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6 INCHES ABOVE THE PIPE CROWN.

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) SEWER, CHIMNEY, AND SEWER SERVICE CONNECTIONS TO BE APPROVED BY KITTERY SEWER SERVICES.

SITE REDEVELOPMENT
39 BADGERS ISLAND WEST
KITTERY, ME

1	ADDED DETAIL M, REVISE K	3/16/23
0	ISSUED FOR COMMENT	12/8/22
NO.	DESCRIPTION	DATE



SCALE: AS SHOWN DECEMBER 2022

DETAILS

D3