ITEM 1

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Town of Kittery Planning Board Meeting October 13, 2022

28 Wyman Avenue — Sketch Plan Review, Cluster Residential Subdivision

Action: Hold Public Hearing; continue, approve, or deny plan: Pursuant to Title 30-A M.R.S.A. §4401-4408 Municipal Subdivision Law and §16.8.10.H, Cluster Residential Development of the Town of Kittery Land Use and Development Code, owner Lusitano, LLC requests approval for a cluster residential development proposing three (3) single-family residences as a condominium on real property with an address of 28 Wyman Avenue (Tax Map 16, Lot 148) located in the Residential-Urban (R-U) Zone.

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PROJECT TRACKING

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REQ'D	ACTION	COMMENTS	STATUS	
YES	Sketch Plan	June 9, 2022	Continued, not	
1 E3	Acceptance/Approval	September 8, 2022 possible approval	yet approved	
NO	Site Visit	June 28, 2022	Held	
	Preliminary Plan		N/A	
YES	Review	N/A		
1 E3	Completeness/Accepta	IVA		
	nce			
YES	Public Hearing	October 13, 2022	TBD	
YES	Preliminary Plan	N/A	N/A	
1 E3	Approval	IVA		
YES	Final Plan Review and	TBD	TBD	
IES	Decision	ם מדו	טעו	

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Project Introduction

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The property at 28 Wyman (Map 16, Lot 148) currently has a boarding house and a garage/barn located on

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it. The lot is 82,839 sf (1.9 acres) in size and is located in the Residential-Urban Zone (R-U). A wetland spreads along the northern portion of the property. The property fronts Wyman Avenue in two places but neither has sufficient frontage (100 continuous feet required) so the lot is legally non-conforming as regards street frontage. A residential neighborhood surrounds the property. The Board first reviewed this project in January as a preliminary site plan review. The project was

reclassified to a minor subdivision (per State statute and Title 16, a subdivision includes anything that creates residential units that do not share a common wall) and the Board reviewed it as a cluster subdivision on June 9th and visited the site on June 28th. Kittery permits cluster residential development and makes a conventional subdivision a special exception so the applicant is offering the plans as a cluster residential development that also is a condominium – meaning that the three residential units will share the one lot.

At the meeting on June 9th, the Board accepted the sketch plan. The applicant has resubmitted with plan revisions still under sketch plan. This is necessary because there are only two stages to a minor subdivision review – sketch and final. This means that most important aspects of the plan get worked out during sketch, rather than preliminary as is the case with major subdivisions of more than four lots.

Purpose of Application Phase

The sketch plan phase allows the Board to: 1) determine if sufficient information has been supplied, and if not request the information, 2) to ask questions and 3) give direction to the applicant. If the Board finds the application insufficient or requires additional information, the Board should request that information be provided for the next meeting. The scheduled Public Hearing will allow the public to comment on the plan. The Board may continue the plan, approve the plan, or deny the plan.

Submission Requirements

The Subdivision Ordinance in Section 16.8.10. requires the following information for Preliminary Plan submittal:

Covenants

No information on any covenants nor Condominium Association documents were provided with the plan. **Update:** this stage of the subdivision process does not require COA documents. In this case per State statute, covenants mean any existing easements or other land use covenants that may exist for the property. The applicant's engineer informed staff that there are no known easements or covenants on this property.

High-intensity Class "A" soil survey and soil interpretation sheets

The applicant has provided a soil survey.

Available community facilities

Update: The plan highlights a "Common Area" green space on sheet C-2 with the addition of where the 50-foot wetland buffer markers will be installed. The common area will serve the three residences of the condominium development.

Utilities

The site plan (sheet C-4) shows the plan for utility services. The plan shows using an existing sewer connection, as well as using an existing water connection. Existing overhead electrical lines will terminate at a new pole where underground electrical service will extend to each condo unit. A stormwater management plan has been supplied with drop inlets connected to an outfall at the eastern edge of the property. This outfall appears to be located in an area labeled "Common Area" on other plan sheets.

Number of residential or business lots and/or dwelling units;

Applicant has detailed that three single family dwelling units are proposed. The applicant has provided the net residential calculations to show a yield of 3 units.

Typical lot width and depth

There are no new lots being proposed, as all three dwelling units are proposed on the existing lot.

Price range

No price range information was given. The applicant has supplied dwelling unit layouts.

71 Business areas

- No business areas are proposed.
- 73 Playgrounds, park areas and other public areas;
- There are no parks, playgrounds or public areas proposed.

76 Street improvements

The plan proposes a 40-foot right-of-way with a 16-foot-wide pavement strip that ends as a shared common driveway.

In addition, all the Cluster Residential Development submission requirements under 16.8.10.H.(5) have been met:

- [1] Dimensional modifications/standards, land area identified as net residential acreage, net residential density located in plan notes and on the plans (C-2) as applicable, see additional information under Development Standards.
- [2] *Constraints to development* shown on C-2
- [3] *Natural features statement* information from J. Noel, wetland scientist and letter from DEP (see paragraph with more details below) in the June 9th submission.
- [4] Building envelopes shown the building footprints are shown.

The applicant in the June 9th submission provided a letter from the Maine Department of Environmental Protection stating that the vernal pool identified on the site is not significant, noting that the pool provides some habitat for wood frogs and spotted salamanders but does not meet biological criteria. The vernal pool was surveyed by Joseph Noel.

Development Standards

Setbacks

The proposed residential structure closest to the wetland is shown to be over 100 feet from the wetland. The end of the shared driveway (per §16.3, a driveway may service two or less residential units) depicted on the plan is located approximately 65 feet from the wetland. Per Table 16.5.30 *Minimum Setbacks from Wetlands and Waterbodies*, a traveled way of road or driveway can be located 10 feet from the wetland. Rear and side setbacks for the R-U zone are 15 feet which is the requirement (see §16.4.13.D)

Road/Common Driveway

The plans show a 16-foot-wide private way which extends just past Unit 1. From there, a common driveway provides access to Unit 2 and 3. Because the street frontage for this property is nonconforming (less than 100 feet) and the proposed use is intensifying from one residential use/building to three residential uses/buildings, the private road will serve to provide both access and frontage to the units. However, it is not required for each unit to have its own 100-foot frontage because it is a condominium – one lot shared in common by three residential units. As shown on the plans the private way is over 100 feet long, thus providing the frontage required for the condominium. The private way will be named by the applicant (once the name is approved by the Town's addressing officer) and all three units will derive their addresses from that road, if the plan is approved.

Update: June 9th's plan did not include a turnaround that didn't require travel on private driveways. During the Technical Review Committee review, the Fire Chief required that a hammerhead turnaround be located on the private road. This plan shows the turnaround located across from Unit 1. The turnaround is noted to be 30 feet long. The Fire Chief will be asked to weigh in again on this plan.

- There are also Condo Owners Association-related considerations. All three units will need to pay for upkeep and maintenance of the private road (and stormwater systems) while only two will be involved in upkeep and maintenance of the private driveway as currently presented.
- 123 **Recommendation:** Staff will have the Fire Chief review the plans at the next Technical Review Committee meeting. (still waiting)

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- 126 Open Space
- Per §16.8.10. H.(6).(e), a cluster residential development must provide open space. The requirement is that 50% of the lot must remain undeveloped (which usually includes all the wetlands, water bodies etc.) with 30% of that comprised of upland. **Update**: Open space calculations are shown in C-2's plan note #7. While the calculations shown appear to be accurate, the note states that there is .98 acres of open space provided but below that it shows .94 acres as Common Open Space but nothing for either of the remaining two categories of open space. Where is the remaining .4 acres located?

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Staff noted to the applicant's engineer that the limited common areas around each residential unit are very limited. **Update:** The Limited Common Areas have been expanded which resulted in less Common Open Space.

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Recommendation: Staff recommends that the open space calculations clarify where all .98 acres of open space are and represent them suitably in the plan notes and on the plans.

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- 141 Cluster Residential Development
 142 An important component of a cluster
 - An important component of a cluster residential development plan is that dimensional requirements are allowed flexibility in the interests of reducing infrastructure and impact on the land. The plan as shown is compact, with limited impervious surface, underground utilities as required, public water and sewer, and infrastructure located beyond required setbacks from the wetlands.

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- 147 Waivers
- The applicant will want to address the submission requirements of both the cluster residential development and Kittery's subdivision ordinance. There may be instances where the applicant would like to request a waiver. Waiver requests are best submitted during sketch plan, rather than final plan.

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- Additional Reviews
- Staff will send the plans out for peer review to CMA before the applicant submits for Final Plan but after the Fire Chief reviews the plans.

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- **Update:**
- 157 Staff Review 10/13/2022

Applicant has submitted no new plans, please refer to previously submitted plans.

Applicant to provide reasonable alternative or reason for proximity to wetland area i.e. There is ample room to the west of Condo Unit #1 to be shifted toward abutting property Map 10 Lot 97 (Niver) and subsequently shift each of the two remaining properties up and over 10-15'. There is an opportunity to site the turnaround at the end of the paved common driveway that would allow both firetrucks and plow trucks to turn around. Staff has provided comments from the Fire Chief on the proposed turn-around at the end of the right-of-way but before the common driveway. Additionally, this change would allow for the plow truck to store snow further away from the wetland buffer. This would also more equally divide the proposed contiguous common area behind each of the 3 proposed condos and allow for more common area on the easterly portion of the project site.

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Recommendation: Even though there are no updated plans for this meeting, the Public Hearing was	as
noticed and advertised. Staff recommends the Board hold the public hearing and continue this item to	a
subsequent meeting.	

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Recommended Motion

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Below is a recommended motion for this item:

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- Move to continue the sketch plan cluster residential subdivision application
- Move to continue the sketch subdivision plan application from owner Lusitano, LLC for a cluster residential development proposing three (3) single-family residences as a condominium on real property with an address of 28 Wyman Avenue (Tax Map 16, Lot 148) located in the Residential-Urban (R-U) Zone

MEMORANDUM 06 October 2022

From: Chief David O'Brien

Subj: 28 Wyman Ave

The Fire Department has completed a review of the proposed residential development to be constructed at 28 Wyman Ave. The Fire Department does not accept the use of a shared driveway for a three-unit development. Fire apparatus weighing in excess of 25 tons may cause damage to private property driveways.

//s//

D. W. O'Brien Fire Chief



CMA ENGINEERS, INC. CIVIL JENVIRONMENTAL J STRUCTURAL

35 Bow Street Portsmouth, New Hampshire 03801-3819

> P: 603 | 431 | 6196 www.cmaengineers.com

September 28, 2022

Adam Causey, AICP, Director of Planning and Development Town of Kittery 200 Rogers Road Kittery, Maine 03904

RE: Town of Kittery, Planning Board Services Wyman Hill Cluster Subdivision 28 Wyman Avenue, Tax Map 16, Lot 148 CMA #591.151

Dear Adam:

CMA Engineers has received the following information for Assignment #151, review of the Wyman Hill Cluster Subdivision at 28 Wyman Avenue (Tax Map 16, Lot 148).

- 1) Drawings titled Wyman Hill, 28 Wyman Avenue, Kittery, Maine, Assessor's Parcel 16, Lot 148, Plan Issue Date June 21, 2022, Planning Board Submission, August 11, 2022, P.B. Re-Submission by Altus Engineering, Inc., of Portsmouth, NH.
- 2) Drainage Analysis for Wyman Hill, 28 Wyman Avenue, Kittery, ME, Tax Map 16, Lot 148, Kittery, ME, Tax Map 16, Lot 148, dated August 11, 2022, Prepared for Lusitano, LLC by Altus Engineering, Inc., of Portsmouth, NH.
- 3) Letter from the State of Maine Department of Environmental Protection, Re: Vernal Pool Significance Determination, dated May 23, 2022.
- 4) Supporting documentation.

We have reviewed the information submitted for conformance with the Kittery Land Use and Development Code (LUDC) and general engineering practices and offer the comments below that correspond directly to the Town's Ordinances.

The project is proposed as a 3-lot cluster subdivision with access off Wyman Avenue. The project is located in the residential-urban (R-U) zone. The development is located on a 1.90-acre lot, including single family residences and a roadway with a hammerhead. Lots are proposed between 9,220+ square feet and 13,600+/- square feet in the cluster. 49% of the lot is proposed to remain undeveloped. Water supply is proposed off a Kittery Water District (KWD) main from Wyman Avenue. Wastewater disposal is proposed off a Town sewer main from Wyman Avenue. There is a wetland on the northeast side of the property.

16.4 Zoning Regulations

16.4.13 Residential-Urban(R-U)

The proposed use (dwelling, single family) is a permitted use, and a cluster residential development is specifically included in the permitted uses.

The project conforms to all zoning standards.

16.5 General Development Requirements

16.5.9 Conservation of Wetlands Including Vernal Pools

The vernal pool on site is not a significant vernal pool per a letter from Maine Department of Environmental Protection dated May 23, 2022. There are no proposed alterations to the wetlands on site and no proposed work within the wetland buffer.

16.5.18 Net Residential Acreage

The applicant has presented calculations to show that the net residential acreage allows 3 dwelling units. The applicant is proposing 3 dwelling units.

16.5.27 Streets and Pedestrianways/Sidewalks Site Design Standards

16.5.27.H.(4) The site distance in both directions on Wyman Avenue should be indicated on the plans.

16.7 General Development Requirements

16.7.11 Performance Standards and Approval Criteria

16.7.11.A. Water Supply

16.7.11.A.(2) The applicant should provide written documentation of conformance and water supply adequacy from the Kittery Water District.

16.7.11.B Sewage Disposal

16.7.11.B.(1)(b) The applicant should provide written certification of capacity from the Superintendent of Sewer Services (SSS), and 16.7.11.B.(1)(d) The applicant should provide written approval of the construction drawings by the Town's SSS.

16.7.11.C. Stormwater and Surface Drainage

16.7.11.C. The applicant is proposing a combination of open and closed drainage that flows to a grassed soil filter which discharges to an outfall with plunge pool outside of the wetland buffer.

16.7.11.C.(3)(a) Minimum drainage pipe size is 12", but the stormwater design uses smaller pipes. The drainage analysis shows that the proposed piping has adequate theoretical hydraulic capacity for the design, however the minimum pipe size of 12" has other purposes (clogging, debris). The applicant should re-assess or apply for a waiver, with justification.

16.7.11.C.(4)(a) The drainage analysis should use rainfall data for Portsmouth, NH.

We have the following additional comments on the drainage analysis:

- Infiltration rates for the biofilter media is 2.5 in/hr. Where was this rate derived?
- The drainage analysis has YD #4 as an 8" pipe but Sheet shows it as 6". Please clarify.



We have the following additional comments on the O&M:

- There should be a discussion of stone drip edge maintenance.
- The BMP table should include riprap outlets, swales, and stone drip edges.

16.7.11.G. Utilities

16.7.11.G.(2) Utilities are to be installed underground where feasible. The applicant is proposing overhead wires for a portion of the site and should apply for a waiver.

We have the following comments on the plans:

Cover Sheet:

• Sheet C-6 is referred to as Detail Sheet in the Sheet Index and Erosion Control Details in the Sheet C-6 title block.

Existing Conditions Plan:

- The asterisks next to the minimum rear and side yards and maximum building height in the Zoning Data per Kittery Zoning Ordinance table should be defined.
- Please provide a note regarding wetland delineation and have the wetland scientist stamp the plans.
- Existing utilities sizes and materials should be shown on the plan.
- Existing structures rim and invert elevations should be shown on the plan.

Sheet C-1:

- Add Kittery Water District to Note 5.
- Note 6 does not apply to this project.
- Is the post and rail fence to remain?
- The plan should include a legend.
- Was a test pit completed on site? Where is the test pit log?
- Remove the wetland buffer markers from the plan.

Sheet C-2:

- The large turnaround tee is located before the last houses. The applicant should provide turning movements to show that a fire truck can turnaround at the tee located beyond Unit #3.
- Why does the 40' private ROW change to a shared driveway?

Sheet C-3:

- Note 9 should read "grassed soil filter" not "stormwater pond".
- Note 13 should read upon "establishment of vegetation, all temporary erosion and sediment controls shall be removed" not "upon completion of construction".
- YD #4 should be identified as the outlet structure on the plan.



Sheet C-4:

- The plans should include a profile of the roadway/driveway with utilities.
- Add existing main materials and sizes to the plan.
- Add existing service materials and sizes to the plan.
- SMH #4 has two rim elevations and two invert out elevations (REC and SURV). Please remove the ones that are inaccurate.
- Add the invert in to SMH #4 and SMH #5.
- The proposed sewer main shows a 45-degree elbow and cleanout in the roadway. This is unconventional. A sewer manhole structure should be placed at the change in sewer main alignment.
- The proposed sewer main shows a cleanout located in the driveway at the terminal end. This is unconventional. A sewer manhole structure should be placed at the end of the sewer main. In addition, the terminal cleanout invert is below the inverts in PSMH #1.
- The 6" invert elevation of the proposed connection to the sewer main in Wyman Ave is approximately 6' above the invert of the existing main. Is this correct? If so, the applicant should install a sewer manhole with interior drop at the tie-in location as a 4" wye with 8" x6" chimney connection is unconventional.

Sheet C-5:

• Edit "During construction..." sentence.

Sheet C-6:

- Note 1 for the Typical Grassed Soil Filter detail should reference a grassed soil filter not a rain garden.
- The Typical Grassed Soil Filter detail should label the outlet structure YD #4.

Sheet C-7:

- Include a detail for the roadway and the shared driveway.
- Update the Notes for the Standard Duty Asphalt Pavement detail to apply to this project.
- The Water Service Connection details should specify 2" DR11 service lines.
- Is a stop bar proposed at the intersection with Wyman Avenue? Please provide a detail.

Sheet C-8:

• Remove the wood sheeting from the Drainage & Sewer Trench detail.

Should you have any questions, please do not hesitate to call.

Very truly yours,

CMA ENGINEERS, INC.

Jodie Braystrickland Jodie Bray Strickland, P.E.

Senior Project Engineer

cc: Eric Weinrieb, P.E. Altus Engineering

JBS:rol



WYMAN HILL

28 WYMAN AVENUE KITTERY, MAINE

Assessor's Parcel 16, Lot 148

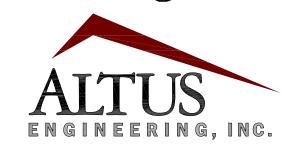
Plan Issue Date:

June 21, 2022 August 11, 2022 Planning Board Submission P.B. Re-Submission

Owner/Applicant: LUSITANO, LLC JIM HIGGINS

119 KINGS HIGHWAY NO. ELIOT, MAINE 03903 (617) 501-6149

Civil Engineer:



133 Court Stree

Portsmouth, NH 03801 www.altus-eng.com

Architect: HIGGINS + DESIGN

119 Kings Highway North Eliot, ME 03903 (617) 501-6149 jimhiggins05@comcast.net

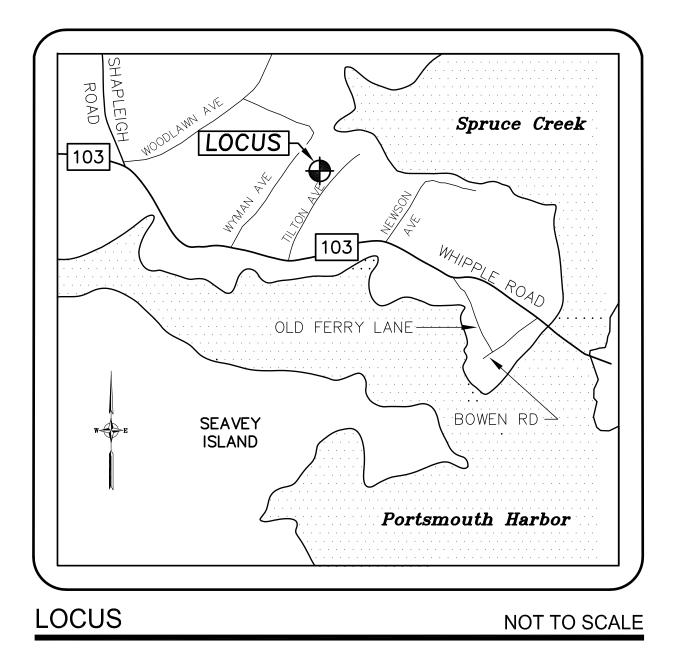
Surveyor:



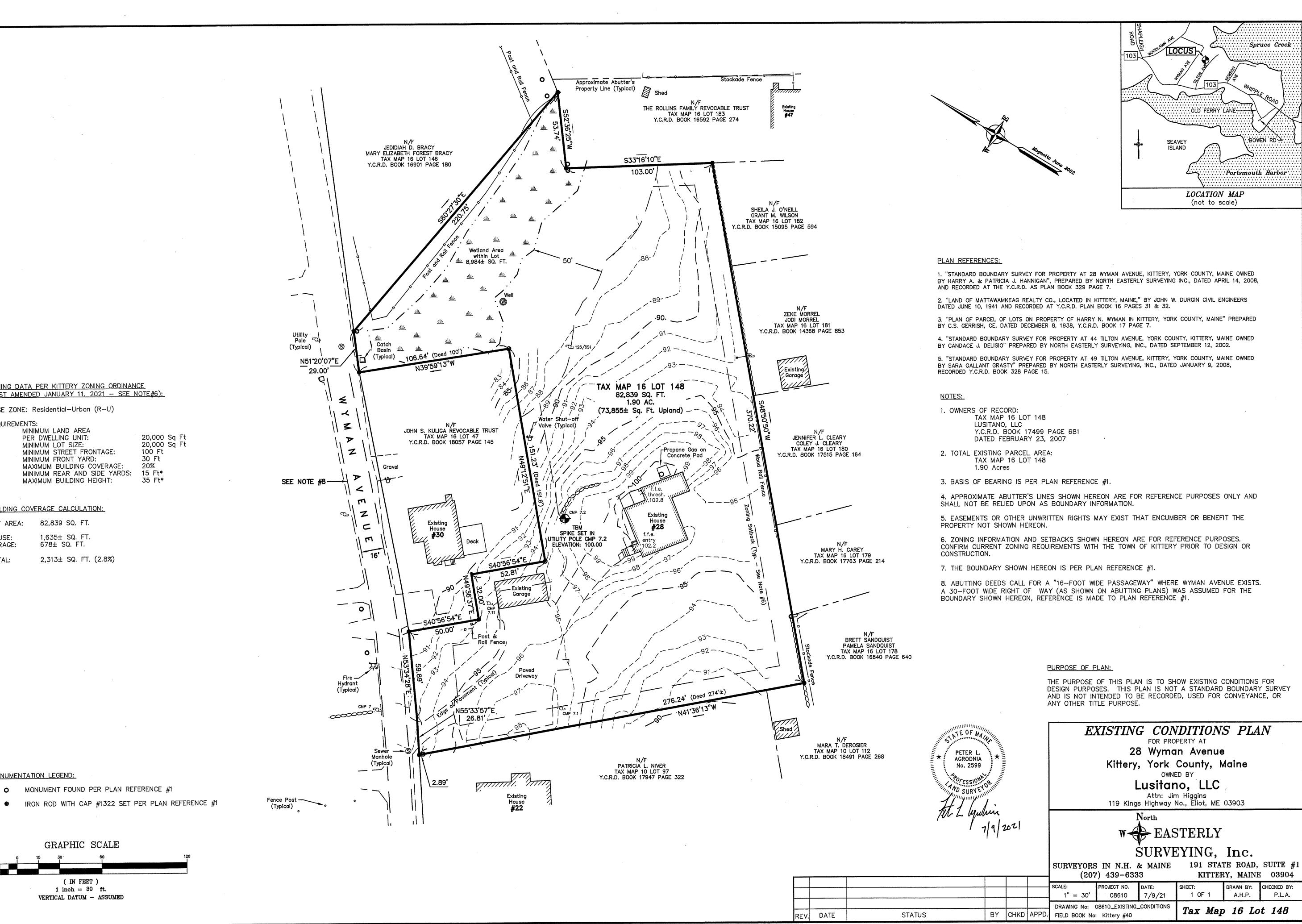
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904

Soils/Wetlands Scientist: MICHAEL MARIANO, CSS

75 Prospect Street Somersworth, NH 03878 (603) 692-4457



Sheet Index Title	$Sheet \ No.:$	Rev.	Date
Existing Conditions Plan	1 of 1	0	07/09/21
Demolition Plan	C-1	0	12/22/21
Condominium Site Plan	C - 2	3	08/11/22
Grading & Stormwater Management Plan	C - 3	2	08/11/22
Utility Plan	C - 4	2	08/11/22
Erosion Control Notes	C - 5	1	08/11/22
Detail Sheet	C - 6	1	08/11/22
Detail Sheet	C - 7	1	08/11/22
Detail Sheet	C-8	1	08/11/22
Layout Plans	A01	0	11/22/21
Elevations	A02	0	11/22/21
Elevations	A03	0	11/22/21



ZONING DATA PER KITTERY ZONING ORDINANCE

MINIMUM STREET FRONTAGE:

MAXIMUM BUILDING HEIGHT:

1,635± SQ. FT.

2,313± SQ. FT. (2.8%)

O MONUMENT FOUND PER PLAN REFERENCE #1

GRAPHIC SCALE

(IN FEET)

1 inch = 30 ft.

VERTICAL DATUM - ASSUMED

678± SQ. FT.

MAXIMUM BUILDING COVERAGE:

MINIMUM REAR AND SIDE YARDS: 15 Ft*

BASE ZONE: Residential—Urban (R—U)

MINIMUM LAND AREA

MINIMUM FRONT YARD:

PER DWELLING UNIT:

MINIMUM LOT SIZE:

BUILDING COVERAGE CALCULATION:

LOT AREA: 82,839 SQ. FT.

MONUMENTATION LEGEND:

REQUIREMENTS:

GARAGE:

TOTAL:

(LAST AMENDED JANUARY 11, 2021 - SEE NOTE#6):

20,000 Sq Ft

20,000 Sq Ft

100 Ft

30 Ft

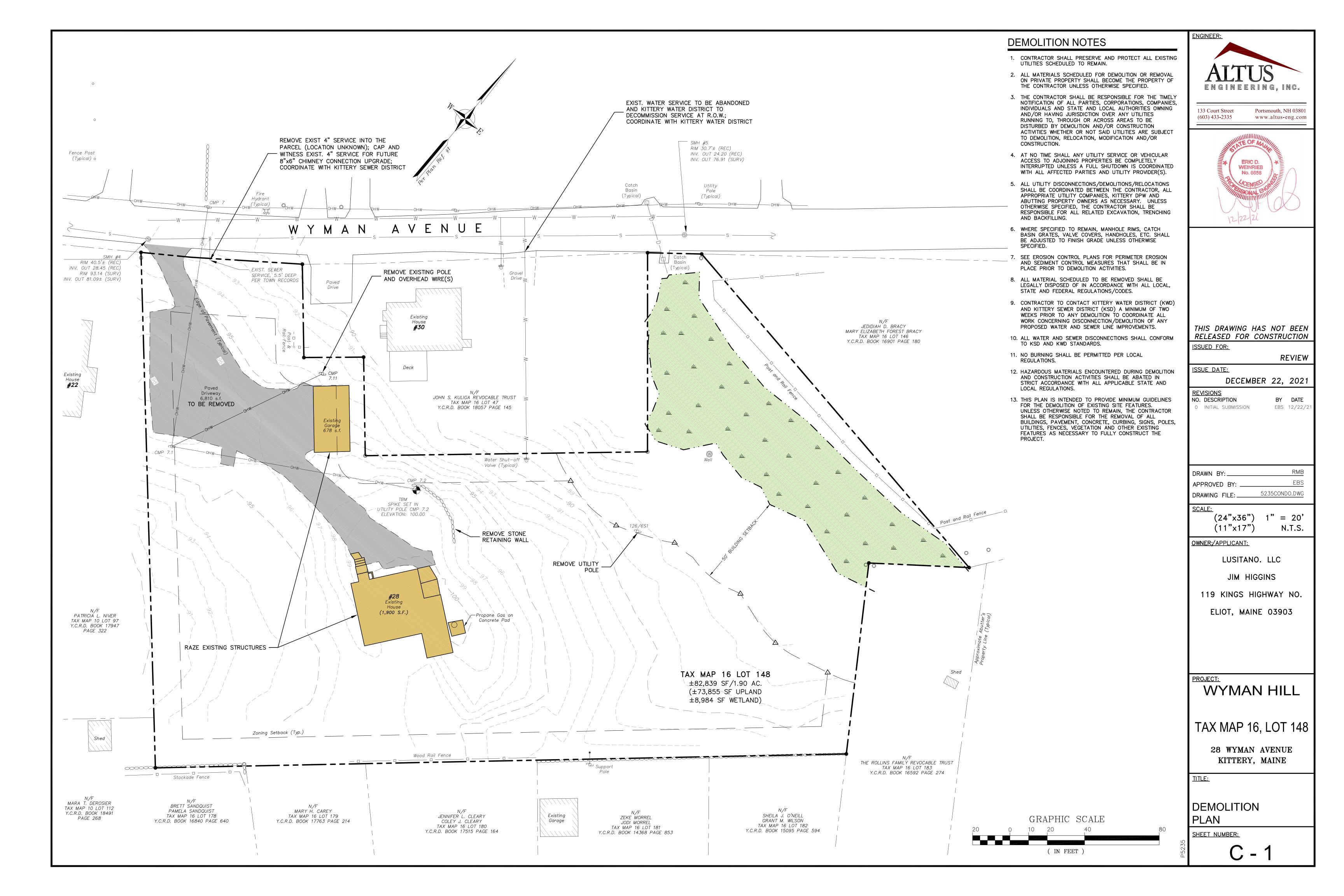
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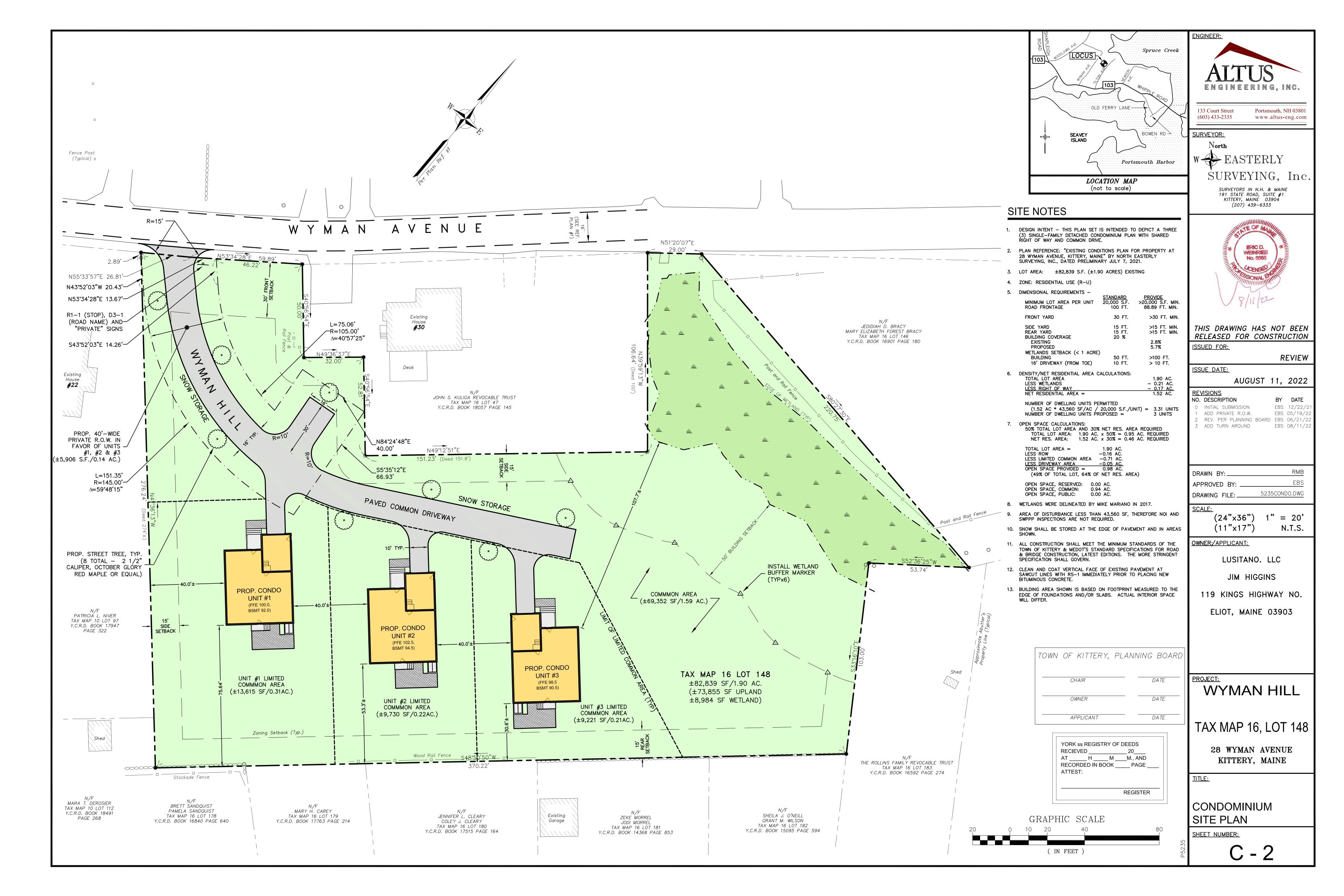
BOWEN RD 🔑

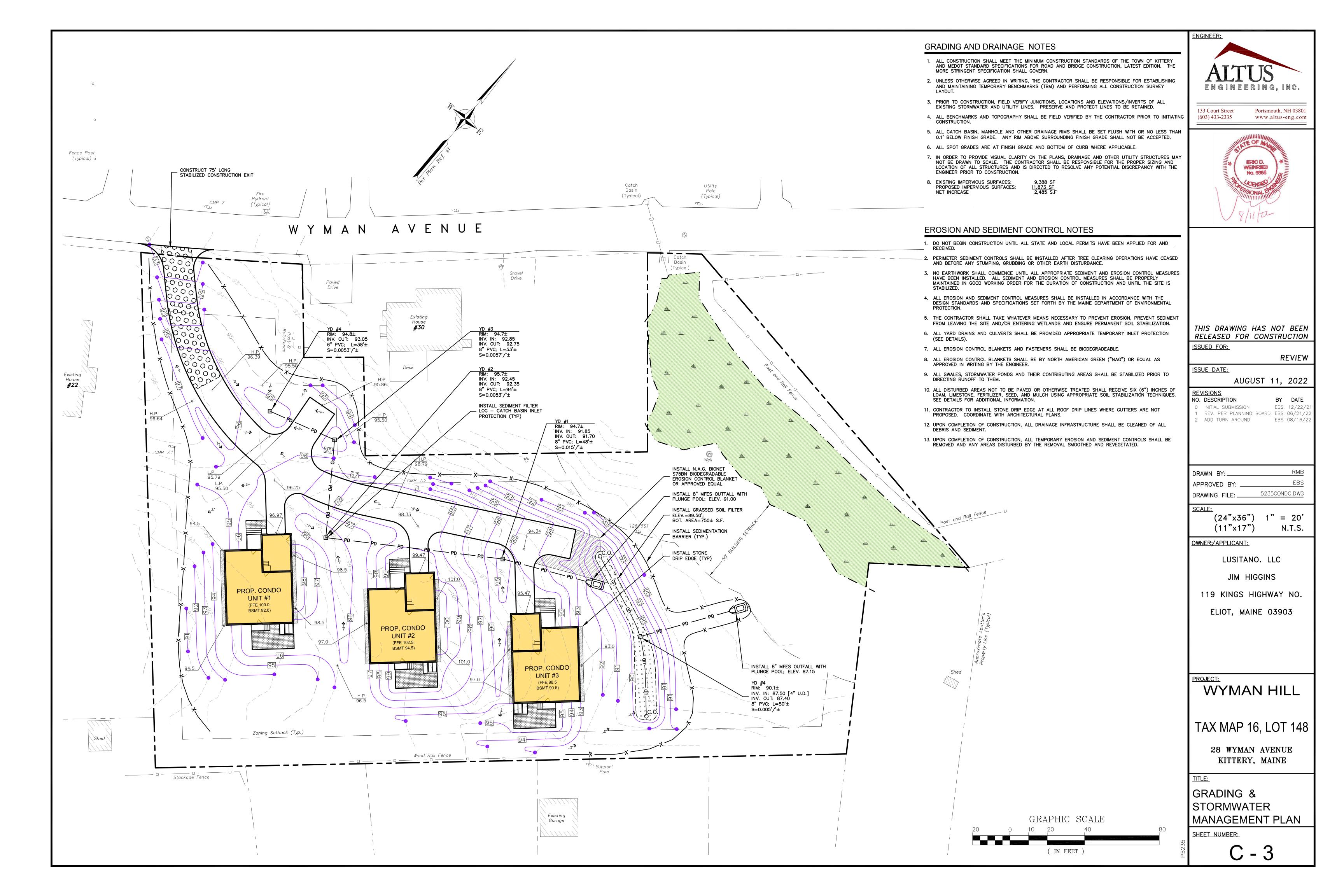
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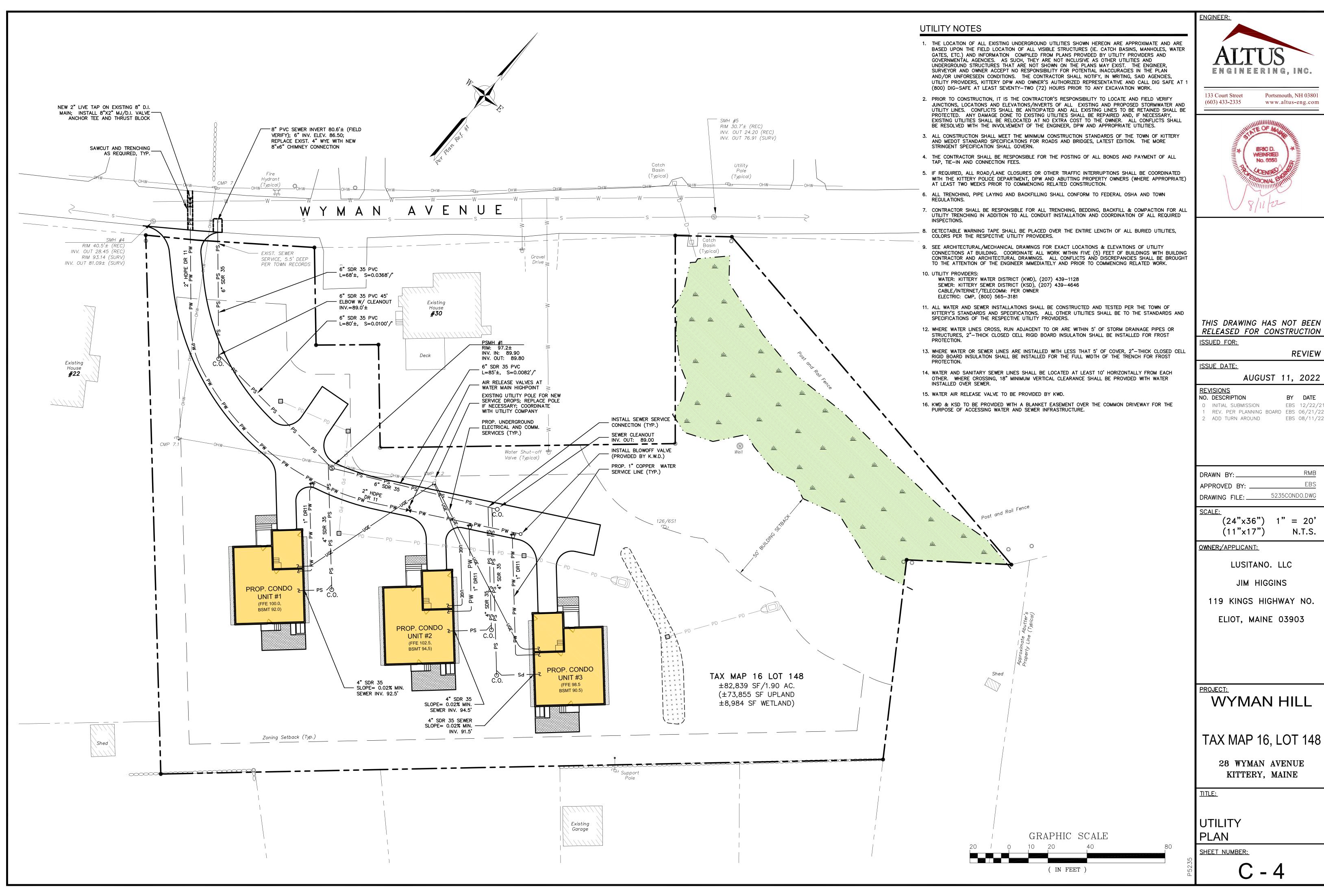
DRAWN BY: CHECKED BY:

A.H.P.









PROJECT NAME AND LOCATION

Wyman Hill Map 16 Lot 148 Kittery, Maine

Latitude: 043° 05' 16" N Longitude: 070° 43′ 45″ W

DESCRIPTION

he project consists of a three (3) single—family detached condominium units with shared right—of—way and drive. The project will be completed in a single phase.

DISTURBED AREA

he total area to be disturbed is approximately 0.8 acres for constructing new driveway and dwelling units ncluding lot development). Prior to lot clearing and soil disturbance, sedimentation barrier shall be installed o prevent sediment leaving the lot.

SEQUENCE OF MAJOR ACTIVITIES

- Install temporary erosion control measures including perimeter controls as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the
- Clear and grub wooded area; strip and stockpile loam. Stockpiles shall be temporarily stabilized with hay hales mulch and surrounded by a hay bale or silt fence barrier until material is removed and final
- grading is complete. Shut off and terminate existing services; demolish existing structures and pavement.
- Construct ditches and stabilize prior to directing flow to them. Construct drainage structures, swales & road base materials.
- Ditches and swales with grades over 5% shall have sides and bottom reinforced with excelsior matting.
- Shape site to desired grades Loam (6" min) and seed all disturbed areas not paved or otherwise stabilized.
- Install landscaping. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

NAME OF RECEIVING WATER

Innamed wetlands complex and open drainage systems to tidal waters of Spruce Creek.

TEMPORARY EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES.

All work shall be in accordance with state and local permits. Installation or construction of erosion control neasures shall conform to the practices described in the "2014 Revision to the 2003 Maine Erosion and Sediment Control Field Guide for Contractors, published by the Maine Department of Environmental Protection.

Minimum erosion control measures will need to be implemented and the contractor will be responsible to naintain all components of the erosion control plan until the site is fully stabilized. However, based on site and weather conditions during construction, additional erosion control measures may need to be implemented. All areas of instability and erosion must be repaired immediately during construction and need to be maintained ıntil the site is fully stabilized or vegetation is established. A construction log must be maintained for the erosion and sedimentation control inspections and maintenance.

as indicated in the sequence of Major Activities, perimeter controls shall be installed prior to commencing any elearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and hay bale barriers and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible channels where possible. Sheet runoff from the site will be filtered through hay bale barriers, stone check dams, and/or silt fences. All storm drain inlets shall be provided with inlet filters or stone check dams. Stone rip ap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

emporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation ontrol plan. All areas shall be inspected and maintained until desires vegetative cover is established. These ontrol measures are essential to erosion prevention and also reduce costly rework of graded and shaped

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion sedimentation measures shall be maintained until permanent vegetation is established.

NSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

- Perimeter controls shall be installed prior to earth moving operations. The smallest practical portion of the site will be denuded at one time and no more than be mulched in
- one day. All disturbed areas must be stabilized by temporary measures within 5 days of initial disturbance and stabilized by permanent measures immediately after final grading.
- Sediment barriers shall be installed downgradient of stockpiles and diversion swales installed upgradient of stockpiles to prevent movement of soil. Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the
- height of the tubular barrier or bale, or when "bulges" occur in silt fence. All diversion dikes shall be inspected and any breaches promptly repaired.
- Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the
- All ditches and swales shall be stabilized prior to directing runoff to them. All diversion dikes will be
- inspected and any breaches promptly repaired. Temporary water diversion (swales, basins, etc) shall be used as necessary until areas are stabilized. Ponds and swales shall be installed early on in the construction sequence (before rough grading site).
- All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade. An area shall be considered stable if one of the following has occurred:
- a. Base coarse gravels have been installed in areas to be paved;
- A minimum of 90% vegetated growth as been established;
- A minimum of 3 inches of non-erosive material such as stone of riprap has been installed; or Erosion control blankets have been properly installed.

MULCHING

- * In sensitive areas (within 100 ft of streams, wetlands and in lake watersheds) temporary mulch
- shall be applied within 7 days of exposing soil or prior to any storm event. * Areas, which have been temporarily or permanently seeded, shall be mulched immediately following
- * Areas which cannot be seeded within the growing season shall be mulched for over—winter protection and the area should be seeded at the beginning of the growing season.
- * Mulch anchoring should be used on slopes greater than 5% in late fall (past September 15), and over-winter (September 15 - April 15).

Type of Mulch

Hay or Straw Mulches Organic mulches, including hay and straw, shall be air-dried, free of undesirable seeds and coarse materials. Application rate shall be 2 bales (70—90 pounds) per 1000 sq. ft. or 1.5 to 2 tons (90—100 bales) per acre to cover 75 to 90 % of the ground surface. Hay mulch subject to wind

Erosion Control Mix

- Erosion control mix shall consist primarily of organic material and shall include any of the following: shredded bark, stump grindings, composted bark or other acceptable products based on a similar raw source. Wood or bark chips, ground construction debris or reprocessed wood products shall not be acceptable as the organic component of the mix.
- It can be used as a stand-alone reinforcement:
- * On slopes 2 horizontal to 1 vertical or less. * On frozen ground or forested areas.
- * At the edge of gravel parking areas and areas under construction.

blowing shall be anchored via: netting; peg and twine or tracking.

Other reinforcement BMPs (i.e. riprap) should be used:

- * On slopes with groundwater seepage; At low points with concentrated flows and in gullies;
- At the bottom of steep perimeter slopes exceeding 100 feet in length; Below culvert outlet aprons; and
- Around catch basins and closed storm systems.

Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

- * The organic matter content shall be between 80 and 100%, dry weight basis. * Particle size by weight shall be 100% passing a 6" screen and a minimum of 70%, maximum of
- 85%, passing a 0.75" screen.
- * The organic portion needs to be fibrous and elongated. * Large portions of silts, clays or fine sands are not acceptable in the mix.

* Erosion control mix shall not be used on slopes steeper than 2:1.

- * On slopes of 3:1 or less; 2 inches plus an additional 1/2 inch per 20 feet of slope up to 100
- * On slopes between 3:1 and 2:1, 4 inch plus an additional 1/2 inch per 20 feet of slope up to

The thickness of the mulch at the bottom of the slope needs to be <3:1 slope slopes between 3:1 and 2:1 <20' of slope 2.0" <60' of slope

<100' of slope 4.0" * It shall be placed evenly and must provide 100% coverage with the soil totally invisible.

Any required repairs shall be made immediately, with additional erosion control mix placed on top of the mulch to reach the recommended thickness. When the mix is decomposed, clogged with sediment, eroded or ineffective, it shall be replaced or repaired. Erosion control mix mulch shall be left in place. If the mulch needs to be removed spread it out into the landscape.

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets shall be inspected after rain events for dislocation or failure. If washouts or breakage occur, re—install the nets as necessary after repairing damage to the slope. Inspections shall take place until grasses are firmly established (95% soil surface covered with grass). Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

C. TEMPORARY VEGETATION

- Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result
- in an inadequate stand of vegetation that provides little or no erosion control. * Nutrients and pesticides used to establish and maintain a vegetation cover shall be managed to protect the surface and ground water quality.
- * Temporary seeding shall be used extensively in sensitive areas (ponds and lake watersheds, steep slopes, streambanks, etc.).
- * Late fall seeding may fail and cause water quality deterioration in spring runoff events, thus other measures such as mulching shall be implemented.

Seedbed Preparation Apply limestone and fertilizer according to soil test recommendations. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 600 pounds per acre or 13.8 pounds per 1,000 square feet of 10-10-10 (N-P20S-K20) or equivalent. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lb. per 1,000 square feet).

- * Select seed from recommendations in enclosed table. * Where the soil has been compacted by construction operations, loosen soil to a depth of 2 inches
- before applying fertilizer, lime and seed. * Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed and fertilizer). Hydroseeding that includes mulch may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

Apply mulch over seeded area according to the TEMPORARY MULCHING BMP.

Temporary seeding shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

Temporary Seeding Rates and Dates					
Seed	Lb./Ac	Seeding Depth	Recommended Seeding Dates	Remarks	
Winter Rye	112 (2.0 bu)	1-1.5 in	8/15-10/1	Good for fall seeding. Select a hardy species, such as Aroostook Rye.	
Oats	80 (2.5 bu)	1-1.5 in	4/1-7/1 8/15-9/15	Best for spring seeding. Early fall seeding will die when winter weather moved in, but mulch will provide protection.	
Annual Ryegrass	40	.25 in	4/1-7/1	Grows quickly but is of short duration. Use where appearance is important. With mulch, seeding may be done throughout growing season.	
Sudangrass	40 (1.0 bu)	.5-1 in	5/15-8/15	Good growth during hot summer periods.	
Perennial	40 (2.0 bu)	.25 in	8/15-9/15	Good cover, longer lasting than Annual Ryegrass. Mulching will allow seeding throughout growing season.	
Temporary mulch with and/or without dorm			10/1-4/1	Refer to TEMPORARY MULCHING BMP PERMANENT VEGETATION BMP.	

D SEDIMENT BARRIERS

Tubular Sediment Barrier

- a. To be provided by an approved manufacturer or supplier:
- Installed per manufacturer's specifications; c. Barrier shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

<u>Organic Filter Berm</u> See detail

* Sediment barriers shall be installed along the down gradient side of proposed ground disturbance areas prior to any construction activities. * The barrier must be placed along a relatively level contour.

- * Hay bale barriers, silt fences and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired immediately if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center
- or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. * Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the
- end of the expected usable life and the barrier still is necessary, the fabric shall be replaced
- * Sediment deposits should be removed when deposits reach approximately one third (1/3) the height of the barrier.
- * Filter berms should be reshaped as needed. * Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required
- shall be dressed or removed to conform to the existing grade, prepared and seeded. * Additional stone may have to be added to the construction stabilized entrance, rock barriers, stone lined swales, etc., periodically to maintain proper function of the erosion control structure.

- Bedding stones larger than $1\frac{1}{2}$, trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 6" to prepare a seedbed and mix fertilizer (refer to Landscape Drawings and Specifications) into the
- 2. Fertilizer (refer to Landscape Drawings and Specifications) lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests.

3. Seed Mixture (See Landscape Drawings for additional information):

- 3.1. Lawn seed mix shall be a fresh, clean new seed crop. The Contractor shall furnish a dealer's guaranteed statement of the composition of the mixture and the percentage of purity and ermination of each variety. 3.2. Seed mixture shall conform to landscape specifications
- 4. Sodding sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

DEWATERING

A dewatering plan shall be implemented to address excavation de—watering following heavy rainfall events or where the excavation may intercept the groundwater table during construction. The collected water needs treatment and a discharge point that will not cause downgradient erosion and offsite sedimentation or within a resource.

All dewatering discharge locations shall be located on relatively flat ground at least 75' from streams and 25' from wetlands. The contractor shall utilize dirtbags, erosion control mix berms, or similar methods for filtration of dewatering and shall conform to the Maine Erosion and Sediment Control BMPs.

The contractor shall be responsible for installing, monitoring, maintaining, repairing, replacing and removing all of the erosion and sedimentation controls or appointing a qualified subcontractor to do so. Maintenance measures will be applied as needed during the entire construction cycle. immediately following any significant rainfall, and at least once a week, a visual inspection will be made of all erosion and sedimentation controls as follows:

1. Silt fence shall be inspected and repaired. Sediment trapped behind these barriers shall be excavated when it reaches a depth of 6" and redistributed to areas undergoing final grading.

2. Construction entrance shall be visually inspected and repaired as needed. Any areas subject to rutting shall be stabilized immediately. If the voids of the construction entrance become filled with mud, more crushed stone shall be added as needed. The public roadway shall be swept should mud be deposited/tracked onto them.

STANDARDS FOR STABILIZING SITES FOR THE WINTER The following standards and methodologies shall be used for stabilizing the site during the winter

- construction period: 1. Standard for the timely stabilization of disturbed slopes (any area having a grade greater than 25%) — the contractor will seed and mulch all slopes to be vegetated by September 15th. If the contractor fails to stabilize any slope to be vegetated by September 15th, then the contractor will take one of the following
- actions to stabilize the slope for late fall and winter. A. Stabilize the soil with temporary vegetation and erosion control mats: by October 1st the contractor will seed the disturbed slope with winter rye at a rate of 3 pounds per 1000 square feet and then install erosion control mats or anchored hay mulch over the seeding. The contractor will monitor growth of the
- rye over the next 30 days. B. <u>Stabilize the slope with wood-waste compost</u>: the contractor will place a six-inch layer of wood-waste compost on the slope by November 15th. The contractor will not use wood—waste compost to stabilize slopes having grades greater than 50% (2h:iv) or having groundwater seeps on the slope face. C. Stabilize the slope with stone riprap: the contractor will place a layer of stone riprap on the slope by

November 15th. The development's owner will hire a registered professional engineer to determine the

- stone size needed for stability on the slope and to design a filter layer for underneath the riprap. 2. Standard for the timely stabilization of disturbed soils — by September 15th the contractor will seed and mulch all disturbed soils on the site. If the contractor fails to stabilize these soils by this date, then the contractor will take on of the following actions to stabilize the soil for late fall and winter.
- A. Stabilize the soil with temporary vegetation: by October 1st the contractor will seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. The contractor will monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1, then the contractor will mulch the area for
- over-winter protection as described in item iii of this standard. Stabilize the soil with sod: the contractor will stabilize the disturbed soil with properly installed sod by October 1st. proper installation includes the contractor pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root
- growth into the disturbed soil. Stabilize the soil with mulch: by November 15th the contractor will mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Immediately after applying the mulch, the contractor will anchor the mulch with netting or other method to prevent wind from moving the mulch off the disturbed soil.

Winter inspections shall be preformed after, each rainfall, snowstorm or thawing and at least once a week. All areas within 75 feet of a protected natural resource must be protected with a double row of sediment

EROSION CONTROL REMOVAL

- An area is considered stable if it is paved or if 90% growth of planted seeds is established. once an area is considered stable, the erosion control measures can be removed as follows:
- . <u>Silt Fence:</u> Silt fence shall be disposed of legally and properly off—site. all sediment trapped behind these controls shall be distributed to an area undergoing final grading or removed and relocated off—site. 2. <u>Stabilized Construction Entrance</u>: The stabilized construction entrance shall be removed once the compacted roadway base in in place. Stone and sediment from the construction entrance shall be
- redistributed to an area undergoing grading or removed and relocated offsite. 3. <u>Miscellaneous:</u> Once all the trapped sediments have been removed from the temporary sedimentation devices the disturbed areas must be regraded in an aesthetic manner to conform to the surrounding topography. Once graded these disturbed areas must be loamed (if necessary), fertilized, seeded and mulched in accordance with the rates previously stated.

The above erosion controls must be removed within 30 days of final stabilization of the site. Conformance with this plan and following these practices will result in a project that complies with the state regulations and the standards of the natural resources protection act, and will protect water quality in areas downstream from the project.

INSPECTION AND MAINTENANCE

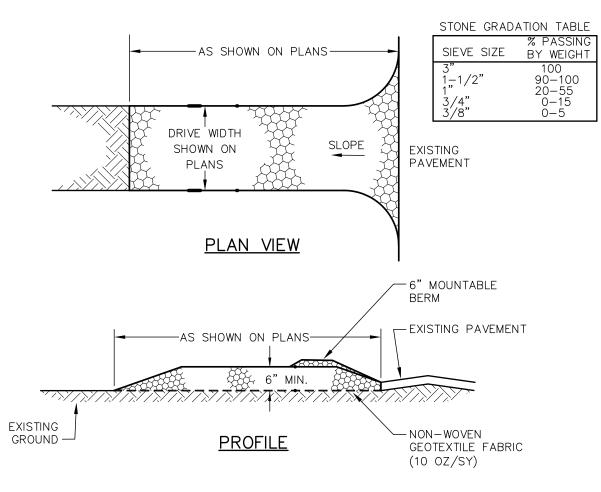
- 1. All sediment control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater for the duration of construction and until the site is fully stabilized. An inspection report shall be made after each inspection by a qualified inspector engaged by the Owner. The qualified inspector shall be a Professional Engineer licensed in Maine or be a Certified Professional in
- Erosion and Sediment Control approved by the Owner. 2. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within
- 24 hours and completed within 72 hours. 3. Inspection and maintenance requirements: Inspect disturbed and impervious areas, erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and after a 0.5 inches or greater storm event and prior to completion of permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards in the MCGP and any departmental companion document to the MCGP, must conduct the inspection. This person must be identified in the inspection log. If best management practices (BMPs) need to be modified or if additional BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event

(rainfall). All measures must be maintained in effective operating condition until areas area permanently

4. Inspection Log (report): A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the date(s) of the inspection, and major observations relating to operation of erosion and sedimentation controls and pollution prevention measures. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the inspection log the correct action taken and when it was taken. The log must be made accessible to the department staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of the permanent stabilization.

HOUSEKEEPING

1. Spill prevention: Controls must be used to prevent pollutants from construction and waste materials stored onsite, including storage practices to minimize exposure of the materials to stormwater and appropriate spill prevention, containment, and response planning implementation. The contractor and owners need to take care with construction and waste materials such that contaminates do not enter the stormwater. The storage of materials such as paint, petroleum products, cleaning agents and the like are to be stored in watertight containers. The use of the products should be in accordance with manufacturer recommendations. When fueling equipment, including snowblowers and lawnmowers, have oil absorbent pads available below the fueling. Refueling of small engines by the owner should occur in the garage or on a paved surface. Any spill or release of toxic or



CONSTRUCTION SPECIFICATIONS

- 1. STONE SIZE MEDOT STANDARD STONE SIZE #4 SECTION 703 OF MEDOT STANDARD.
- 2. <u>LENGTH</u> DETAILED ON PLANS (50 FOOT MINIMUM).
- 3. <u>THICKNESS</u> SIX (6) INCHES (MINIMUM).
- 4. WIDTH FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
- 5. <u>FILTER FABRIC</u> MIRAFI 600X OR EQUAL APPROVED BY ENGINEER. SURFACE WATER CONTROL - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE
- BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT FRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND

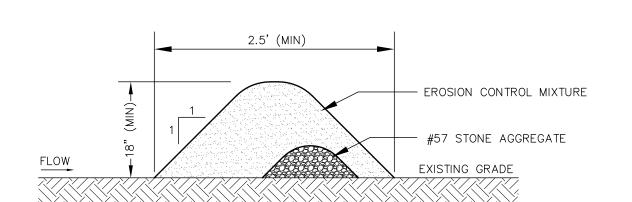
CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A

REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. 8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.

WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH

DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. 9. STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS-OF-WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE

STABILIZED CONSTRUCTION EXIT NOT TO SCALE



EXCEED 2').

- 1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
- 2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL-GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
- a) THE ORGANIC CONTENT SHALL BE 80-100% OF DRY WEIGHT.
- b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70-85% PASSING A 0.75" SCREEN. c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.

e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.

ORGANIC FILTER BERM

f) THE pH SHALL BE BETWEEN 5.0 AND 8.0. 3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES

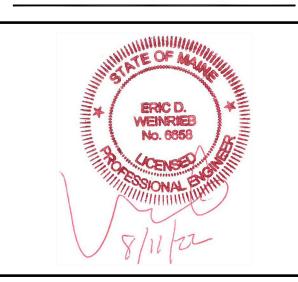
d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.

- THAT WOULD ENABLE FINES TO WASH UNDER THE BERM. 4. ON SLOPES LESS THAN 5%, OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT
- 5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING
- 6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
- 7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.
- 8. FILTER BERMS ARE PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER WITHOUT THE SUPPORT OF ADDITIONAL MEASURES SUCH AS SILTFENCE.

NOT TO SCALE

<u>NGINEER:</u> ENGINEERING, INC.

Portsmouth, NH 03801 133 Court Street (603) 433-2335 www.altus-eng.com



THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

AUGUST 11, 2022

BY DATE

EBS 12/22/

EBS 08/11/2

REVIEW **ISSUE DATE:**

REVISIONS NO. DESCRIPTION

) INITIAL SUBMISSION

GENERAL REVISIONS

<u>ISSUED FOR:</u>

RMB DRAWN BY: APPROVED BY

NOT TO SCALE

5235DETAILS.DWG

OWNER:/APPLICANT:

DRAWING FILE: _

SCALE:

LUSITANO. LLC

JIM HIGGINS

119 KINGS HIGHWAY NO. ELIOT, MAINE 03903

PLAN TAX MAP 16, LOT 148

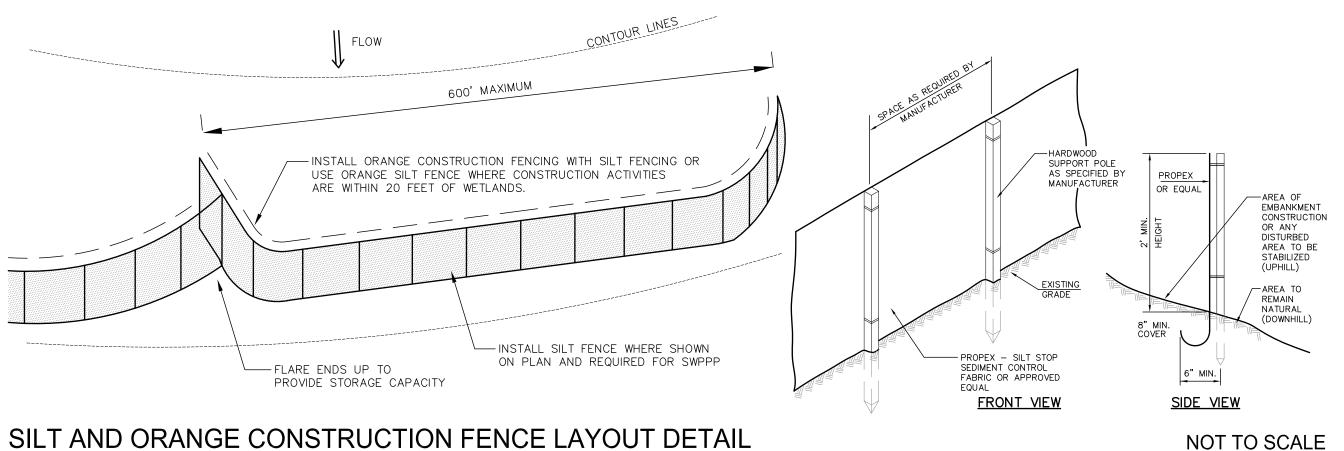
RE-DEVELOPMENT

28 WYMAN AVENUE

KITTERY, MAINE

IEROSION CONTROL NOTES

<u>SHEET NUMBER:</u>

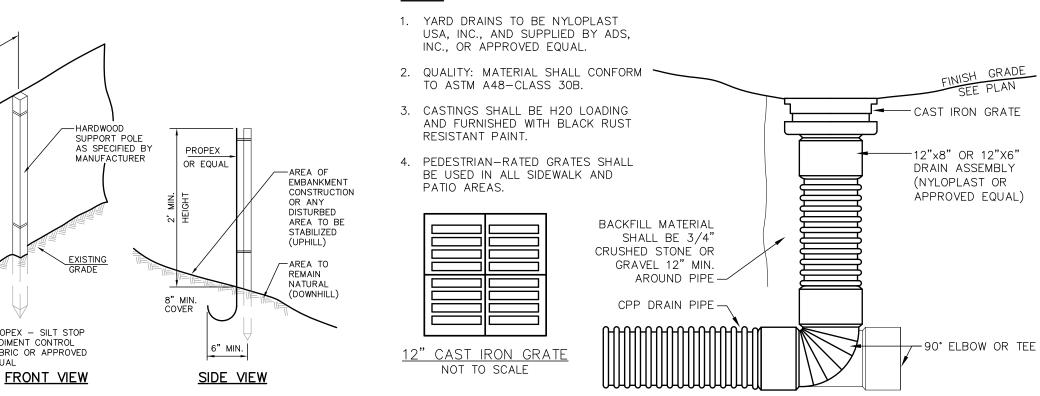


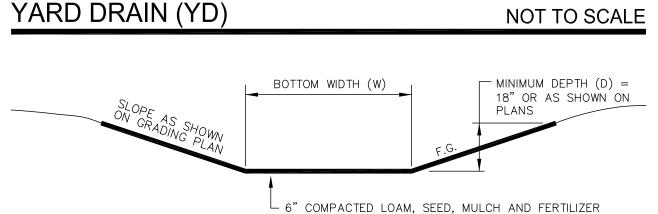
DRAIN PIPE w/FLARED

END SECTION —

THE DEPTH OF RIPRAP

90-100





-NON-WOVEN GEOTEXTILE

FABRIC (10 OZ/SY) AND

-EROSION STONE 18" MIN.

- SCARIFIED EXISTING NATIVE

DEPTH (SEE NOTE #3)

10 MIL. POLY BARRIER

- THE FOUNDATION AREA OF THE SWALE SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED
- TO MEET THE DESIGN CRITERIA AND BE FREE OF IRREGULARITIES. 3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR
- TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO
- PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED SWALE. 4. VEGETATION SHALL BE ESTABLISHED IN THE SWALE OR AN EROSION CONTROL MATTING INSTALLED PRIOR TO DIRECTING STORMWATER TO IT.
- 5. MAINTENANCE OF THE VEGETATION IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE SWALE. MOWING SHALL BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHALL NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE SWALE.

BERM=91.0'

6. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER ANY STORM GREATER THAN 0.5" OF RAINFALL IN 24 HOURS TO DETERMINE ITS CONDITION. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

THE STONE SIZES. PLUNGE POOL NOT TO SCALE

THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO ACCOUNT FOR

4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT

OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL

5. THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL

LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF

OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE

OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18".

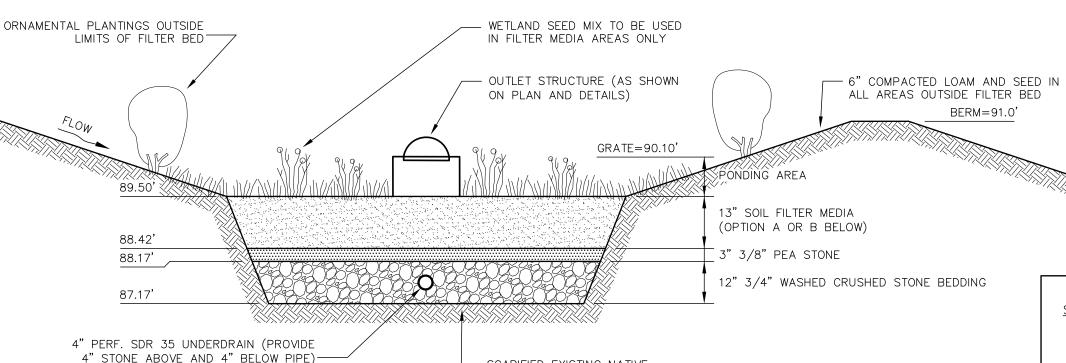
2' MIN. —

EROSION STONE USED FOR THE PLUNGE POOL SHALL MEET THE FOLLOWING GRADATION:

CONSTRUCT PLUNGE POOL TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.

PERCENT PASSING BY WEIGHT

VEGETATED SWALE



CRUSHED STONE BEDDING * % PASSING BY WEIGHT 100 3/4" 90 - 100 3/8" 20 - 55 0 -10 #8 0 - 5

EQUIVALENT TO STANDARD STONE

STANDARD SPECIFICATIONS

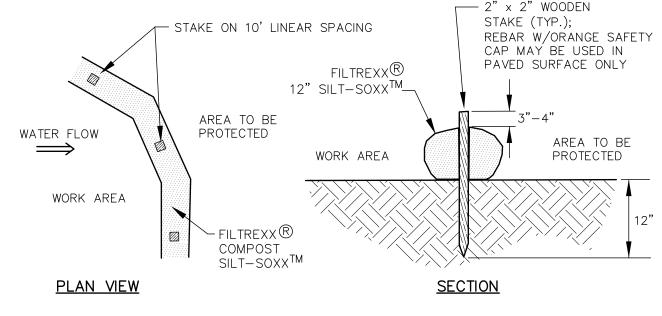
SIZE #67 - SECTION 703 OF MEDOT

FILTER MEDIA MIXTURES Gradation of material Percent of Component Material Percent by Weight Mixture by Sieve Volume No. Passing Standard Sieve Filter Media Option A ASTM C-33 concrete sand 50 to 55

ASTM C 33 Concrete sund] 30 (0 33		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
	70 to 80	10	85 to 100
Loamy coarse sand		20	70 to 100
Louiny course sund		60	15 to 40
		200	8 to 15

NOT TO SCALE

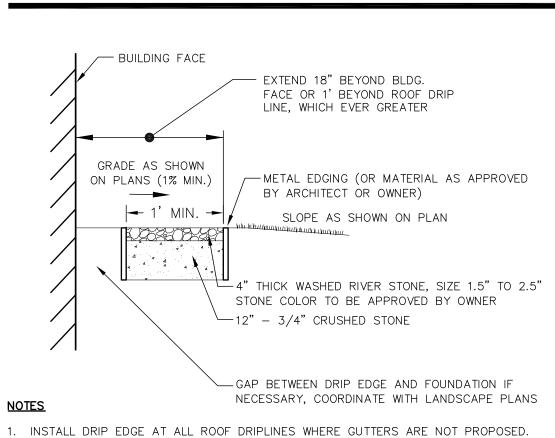
NOT TO SCALE



- 1. SILTSOXX MAY BY USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
- 2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS. 3. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- 4. ALL SEDIMENT TRAPPED BY SILTSOXX SHALL BE DISPOSED OF PROPERLY.

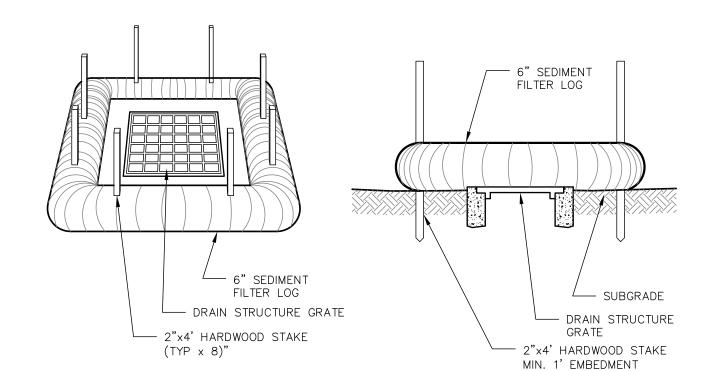
TUBULAR SEDIMENT BARRIER

NOT TO SCALE



DRIP EDGE DETAIL

NOT TO SCALE



SEDIMENT FILTER LOG -CATCH BASIN INLET PROTECTION

NOT TO SCALE

<u>NOTES</u>

- 1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL. SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION. DO NOT PLACE GSF INTO SERVICE UNTIL IT HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES TO THE GSF DURING ANY STAGE OF CONSTRUCTION.
- 5. DO NOT TRAFFIC EXPOSED SURFACES OF GSF WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION ACTIVITIES WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE BASIN.

MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF

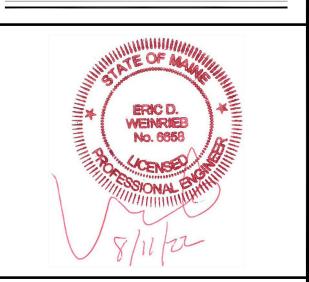
DESIGN REFERENCES

- UNH STORMWATER CENTER EPA (1999A)
- MAINE STORMWATER MANAGEMENT DESIGN MANUAL, VOLUME 3, MAY 2016 AS AMENDED.

TYPICAL GRASSED SOIL FILTER (GSF)

ENGINEERING, INC. 133 Court Street Portsmouth, NH 03801 (603) 433-2335 www.altus-eng.com

<u>ENGINEER:</u>



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REVIEW

ISSUED FOR:

ISSUE DATE: AUGUST 11, 2022

REVISIONS

NO. DESCRIPTION O INITIAL SUBMISSION EBS 12/22/ REV. GUSF DETAIL EBS 08/11/2

DRAWN BY:	RM
APPROVED BY:	EB
DRAWING FILE:	5235DETAILS.DW

SCALE:

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OWNER:/APPLICANT:

LUSITANO. LLC

JIM HIGGINS

119 KINGS HIGHWAY NO. ELIOT, MAINE 03903

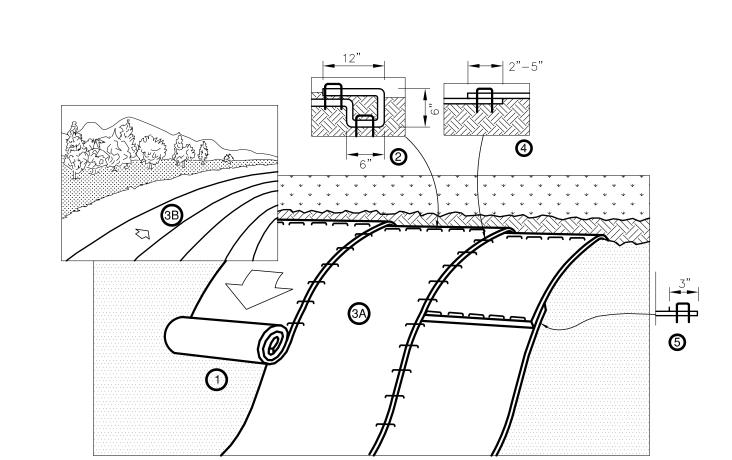
RE-DEVELOPMENT PLAN

TAX MAP 16, LOT 148

28 WYMAN AVENUE KITTERY, MAINE

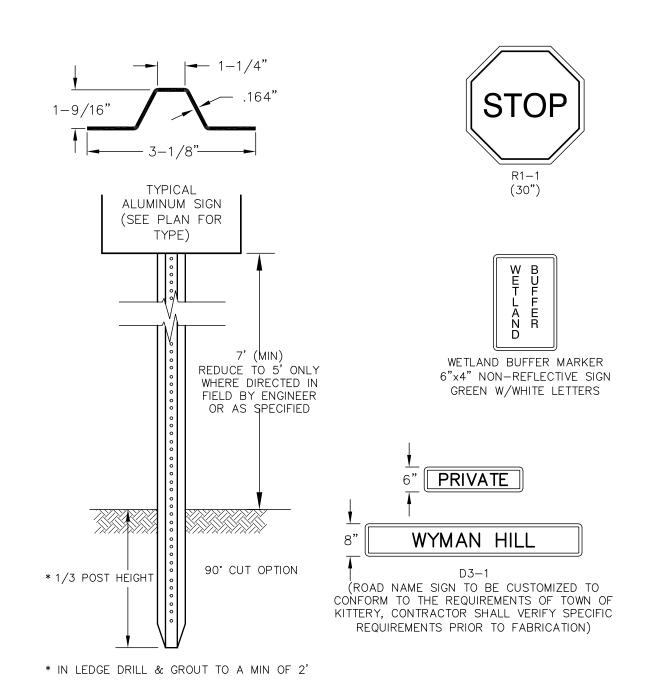
EROSION CONTROL DETAILS

<u>SHEET NUMBER:</u>



- 1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
- 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



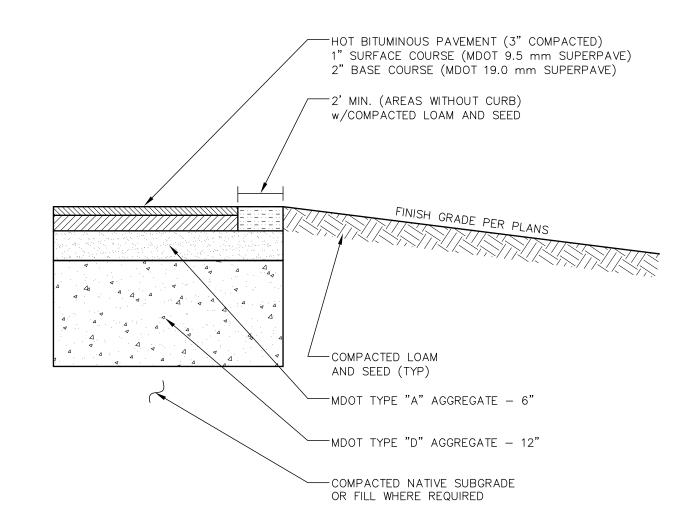
<u>LENGTH:</u> AS REQUIRED WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)

SIGN DETAILS

HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)

1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

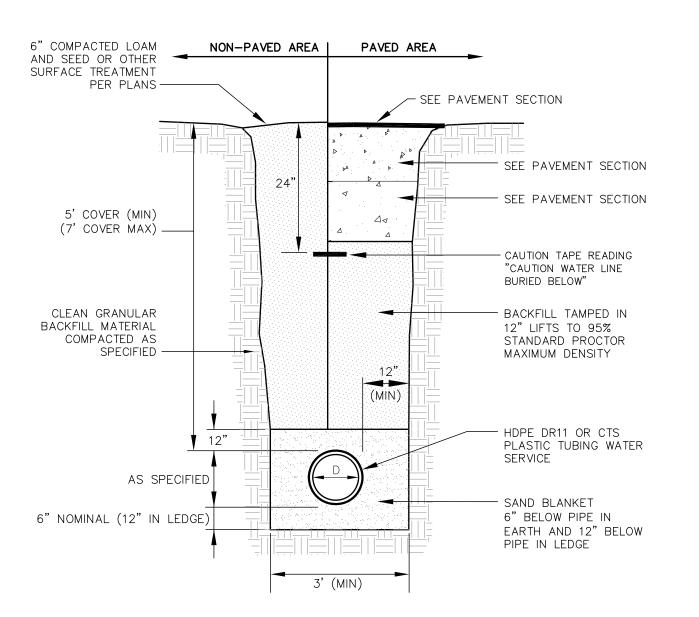
NOT TO SCALE



NOTES FOR STANDARD AND HEAVY DUTY ASPHALT PAVEMENT

- 1. PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- 2. ALL EXISTING FILL, BURIED ORGANIC MATTER, CLAY, LOAM, MUCK, AND/OR OTHER QUESTIONABLE MATERIAL SHALL BE REMOVED FROM BELOW ALL PAVEMENT, SHOULDER'S AND UNDERGROUND PIPING/UTILITIES TO DEPTHS RECOMMENDED IN GEOTECHNICAL REPORT.
- 3. SUBGRADE SHALL BE PROOFROLLED A MINIMUM OF 6 PASSES WITH A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY MEANS APPROVED BY THE ENGINEER.
- 4. FILL BELOW PAVEMENT GRADES SHALL BE GRANULAR BORROW COMPACTED PER DOT REQUIREMENTS. 5. SITEWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS WITH THE
- CONSTRUCTION MANAGER PRIOR TO PLACING GRAVELS.
- 6. TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT.
- 7. THE BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 95 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM

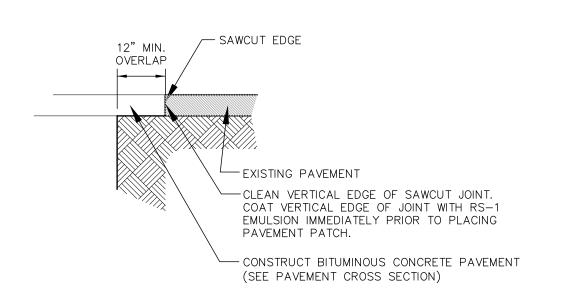
STANDARD DUTY ASPHALT PAVEMENT NOT TO SCALE



SAND BLANKET/BARRIER % FINER BY WEIGHT 90 - 100 200 0 - 15

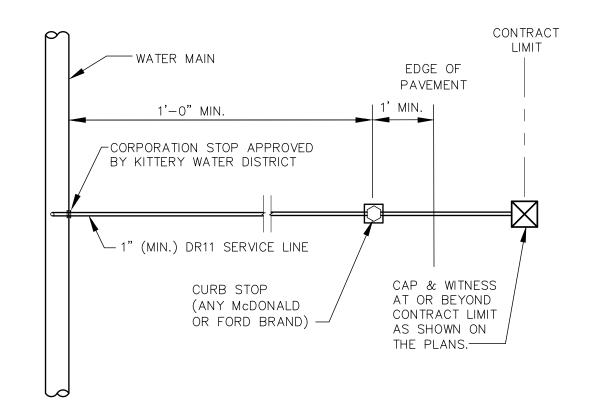
- 1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99,
- 2. ALL TRENCHING AND BACKFILL SHALL CONFORM WITH THE STANDARDS OF THE KITTERY WATER

WATER MAIN TRENCH NOT TO SCALE

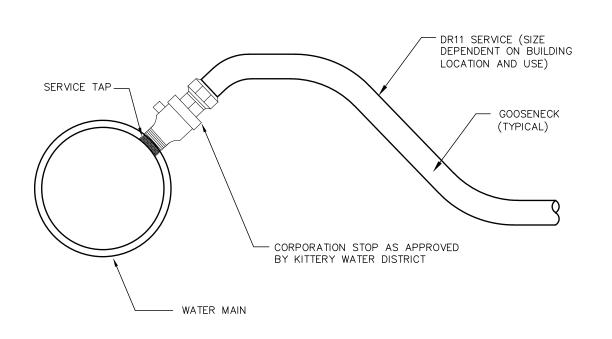


TYPICAL PAVEMENT SAWCUT

NOT TO SCALE

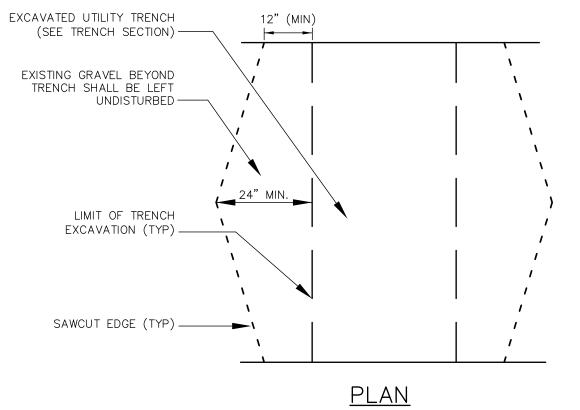


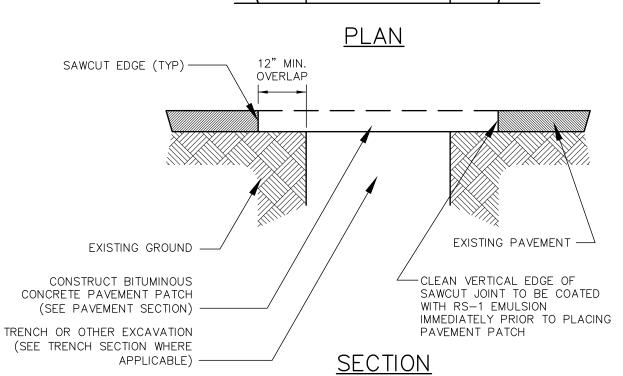
NOTE: ALL MATERIALS AND SPECIFICATIONS SHALL CONFORM TO KITTERY WATER DEPARTMENT STANDARDS AND REQUIREMENTS. VERIFY PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.



WATER SERVICE CONNECTION

NOT TO SCALE

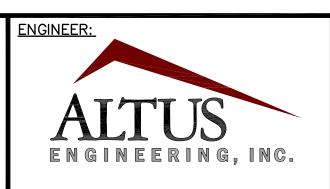




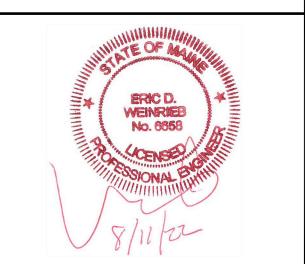
- 1. MACHINE CUT EXISTING PAVEMENT.
- 2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
- 3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET MEDOT REQUIREMENTS.

TYPICAL TRENCH PATCH

NOT TO SCALE



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REVIEW

RMB DRAWN BY:_ APPROVED BY

SCALE:

NOT TO SCALE

5235DETAILS.DWG

OWNER:/APPLICANT:

DRAWING FILE: __

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119 KINGS HIGHWAY NO.

ELIOT, MAINE 03903

RE-DEVELOPMENT PLAN

TAX MAP 16, LOT 148

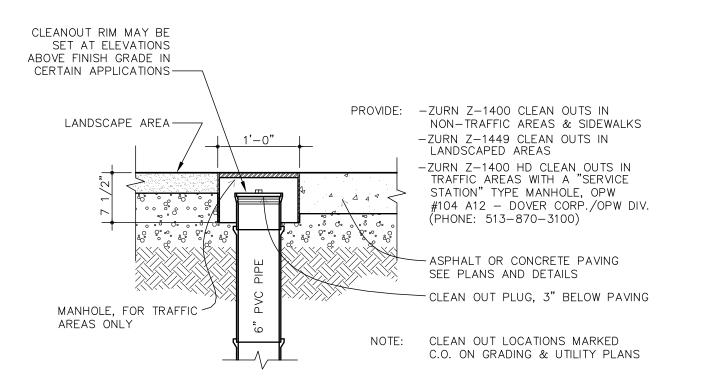
28 WYMAN AVENUE

KITTERY, MAINE

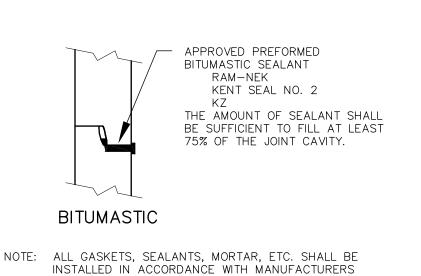
DETAIL SHEET

<u>SHEET NUMBER:</u>

C - 7



CLEANOUT NOT TO SCALE



- INSERT-A-TEE OR WYE CONNECTION — 4" PVC (SDR35) - BEND MIN. SLOPE = 1- CAPPED END AT CONTRACT CONTRACT LIMITS -FINISH GRADE-2" x 4" WOOD MARKER SHALL EXTEND TO — SURFACE FROM BELOW INVERT OF PIPE AND BE ONE HOMOGENEOUS PIECE OF WOOD -COMPACTED BACKFILL < BARRIER-WARNING TAPE -SAND BLANKET OVER SERVICE-SEWER MAIN-INSERT-A-TEE OR WYE AT APPROX. 45° (LENGTH VARIES) 1/2"- 3/4" CRUSHED STONE (SEE STÁNDARD TRENCH SECTION) LIMIT OF PAYMENT FOR SERVICE CONNECTION NOTE: SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE. **ELEVATION**

NON-PAVED AREA | PAVED AREA LOAM AND SEED OR OTHER SURFACE TREATMENT PER PLANS -- SEE PAVEMENT SECTION 6" GRAVEL BORROW — SUITABLE EXCAVATED SEE PAVEMENT SECTION BACKFILL OR CLEAN GRANULAR BACKFILL SEE PAVEMENT SECTION MATERIAL COMPACTED AS SPECIFIED -"CAUTION - WARNING" TAPE 18" BELOW SURFACE -SAND BLANKET AS SPECIFIED BELOW -WOOD SHEETING AS REQUIRED (3" MINIMUM THICKNESS) — -SCREENED GRAVEL OR CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH NON-WOVEN GEOTEXTILE UP TO SPRINGLINE OF PIPE, 6"

BELOW PIPE IN EARTH AND 12"

BELOW PIPE IN ROCK

- ROCK SUBGRADE

(TEMPLATE)

A.O.S.=70 OR LESS —

UNDISTURBED SOIL -

- 1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99,
- 2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.

3'-0" (MIN) OR D+2

FOR SINGLE PIPE

(WHICHEVER IS GREATER)

3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES

SAND BLANKET/BARRIER		SCREENED GRAVEL O	R CRUSHED STONE BEDDING	
	SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
	1/2" 200	90 — 100 0 — 15	1" 3/4" 3/8" # 4 # 8	100 90 - 100 20 - 55 0 - 10 0 - 5

STANDARD TRENCH NOTES

- 1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
- 2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL
- 3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
- 4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
- 5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE MAINE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES
- 6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAT 1 FOOT ABOVE THE TOP
- 7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- 8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- 9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE MAINE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS: CEMENT: 6.0 BAGS PER CUBIC YARD WATER: 5.75 GALLONS PER BAG

CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH CONCRETE ENCASEMENT IS <u>NOT</u> ALLOWED FOR PVC PIPE.

- 10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- 11. MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO TOWN'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.
- 12. IN AREAS WHERE DEWATERING IS REQUIRED OR THE TRENCH SLOPE EXCEEDS 5%, THE CONTRACTOR SHALL INSTALL TRENCH DAMS IN ACCORDANCE WITH MEDEP REGULATIONS.

SEWER MANHOLE DETAIL B

NOT TO SCALE

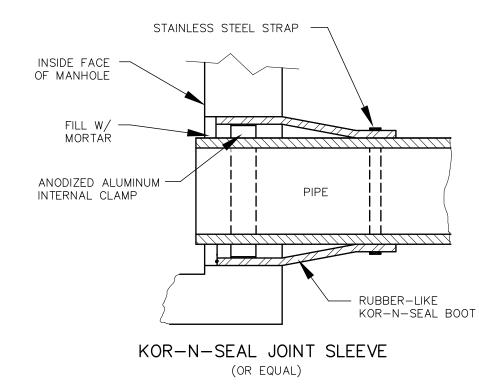
SEWER SERVICE CONNECTION

NOT TO SCALE

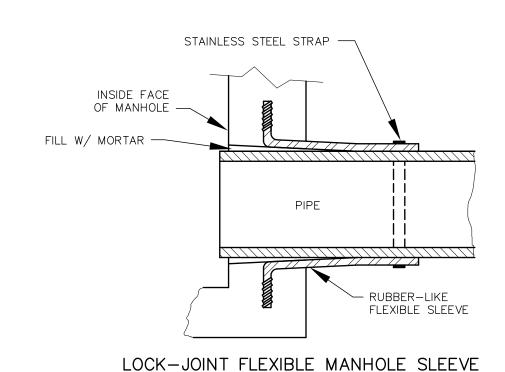
DRAINAGE & SEWER TRENCH

BE BRICK MASONRY. —

NOT TO SCALE



NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



(OR EQUAL)

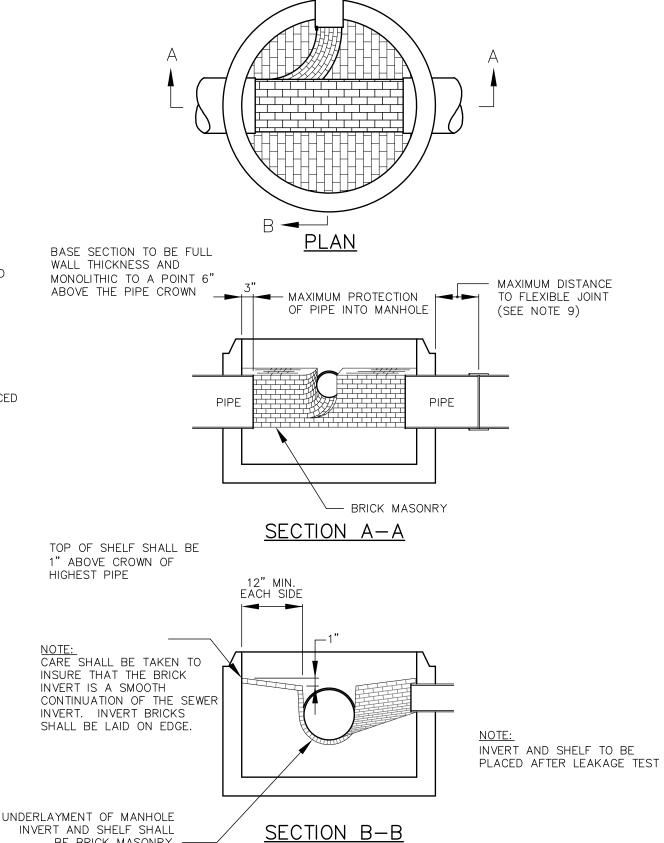
SEWER MANHOLE DETAIL A

NOT TO SCALE

SEWER MANHOLE

- 30" CLEAR OPENING INCLUDING FRAME AND COVER WITH PICK-HOLES NOTE: MANHOLE STEPS SHALL NOT BE PERMITTED FRAME TO BE SET IN BED OF MORTAR \$}}}} ADJUST TO GRADE WITH -BRICK, 2 COURSES (MIN.); MAXIMUM 12" ADJUSTMENT 2'-0" MIN. - ECCENTRIC CONE 4'-0" MAX. 48" MIN. 2 LAYERS OF BUTYL RUBBER JOINT COMPOUND (TYP.) (SEE DETAIL-B) -SEE DETAIL-A FOR APPROVED JOINTING METHODS _ 5" MIN.

-MORTAR ALL AROUND - STEEL REINFORCED 2'-6" MIN. 6" BEDDING OF 1/2" TO 3/4" CRUSHED STONE TYPICAL SECTION



MANHOLE NOTES:

- 1. IT IS THE INTENTION OF THE MAINE DEP THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT IN ANY APPROVED MANHOLE. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MAN-HOLE CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE, A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
- 2. <u>BARRELS AND CONE SECTIONS</u> SHALL BE PRECAST REINFORCED.
- 3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
- 4. <u>LEAKAGE TEST</u> SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN'S STANDARD SPECIFICATIONS AND WITH MAINE DEP 10-144 CMR 241.
- 5. <u>INVERTS AND SHELVES</u> MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES, OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. BRICK MASONRY SHALL CONFORM WITH ASTM C32.
- 6. MORTAR MORTAR USED FOR MANHOLE CONSTRUCTION SHALL CONFORM WITH MAINE DEP 10-144
- 7. FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL CONFORM WITH ASTM A48/48M, BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWERS OR "D" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH
- 8. <u>BEDDING</u> SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33.

100% PASSING 1 INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE 90-100% PASSING 3/4 INCH SCREEN 20- 55% PASSING 3/8 INCH SCREEN

- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2" TO 1/2" SHALL BE USED.
- 9. <u>CONCRETE</u> FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3000 LBS.) CONCRETE OF THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:

CEMENT 6.0 BAGS PER CUBIC YARD WATER 5.75 GALLONS PER BAG CEMENT MAXIMUM SIZE OF AGGREGATE 1 INCH 9.

10. FLEXIBLE JOINT A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES: PVC PIPE - 60"

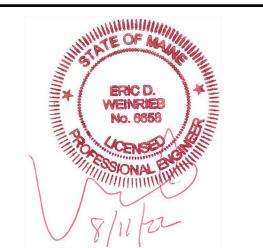
RCP & CI PIPE - ALL SIZES - 48" AC & VC PIPE - UP THROUGH 12" DIAMETER - 18" AC & VC PIPE - LARGER THAN 12" DIAMETER - 36"

11. SHALLOW MANHOLE IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.

NOT TO SCALE

<u>NGINEER:</u> ENGINEERING, INC.

133 Court Street Portsmouth, NH 03801 (603) 433-2335 www.altus-eng.com



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RE-DEVELOPMENT PLAN

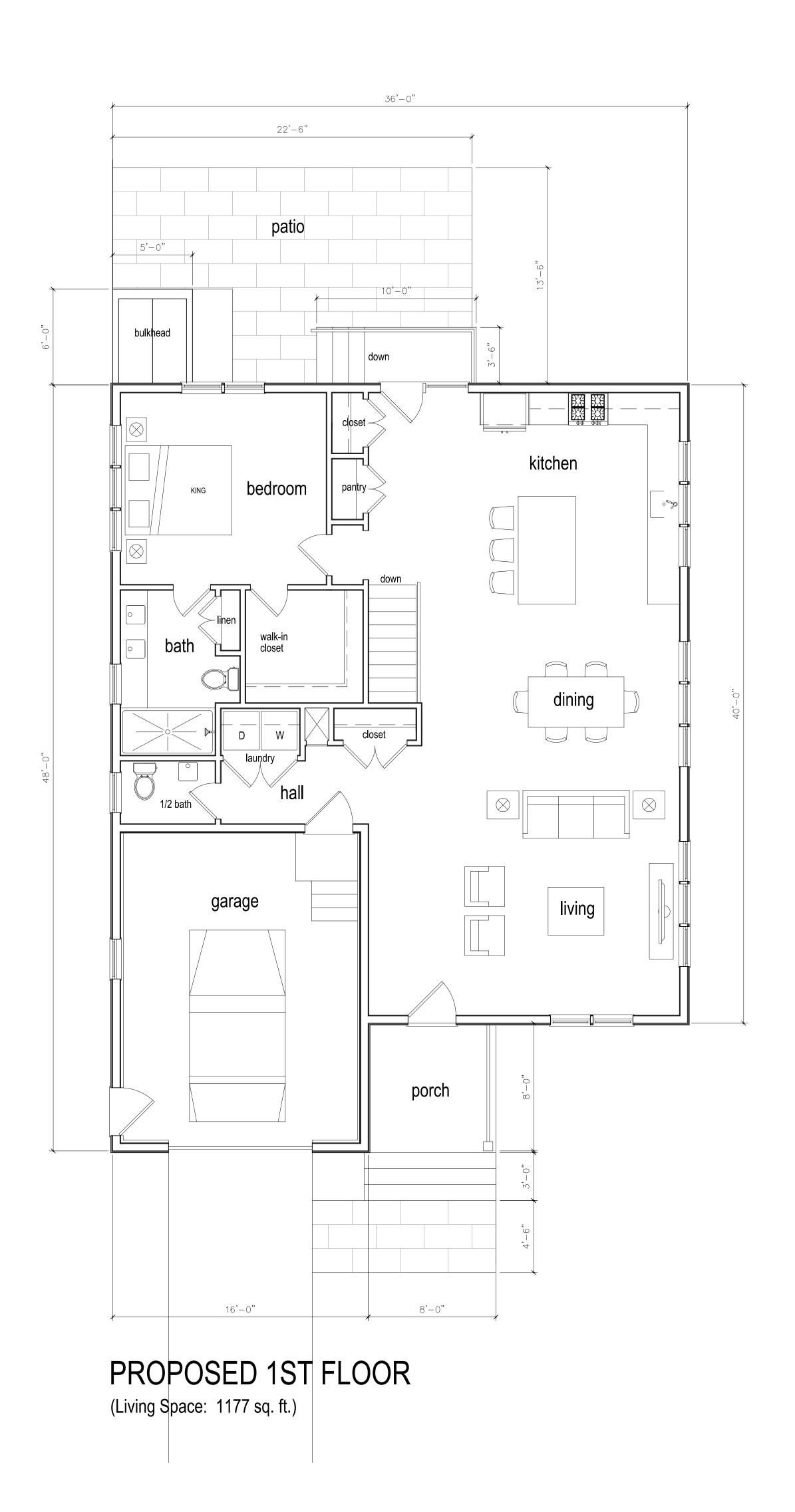
TAX MAP 16, LOT 148

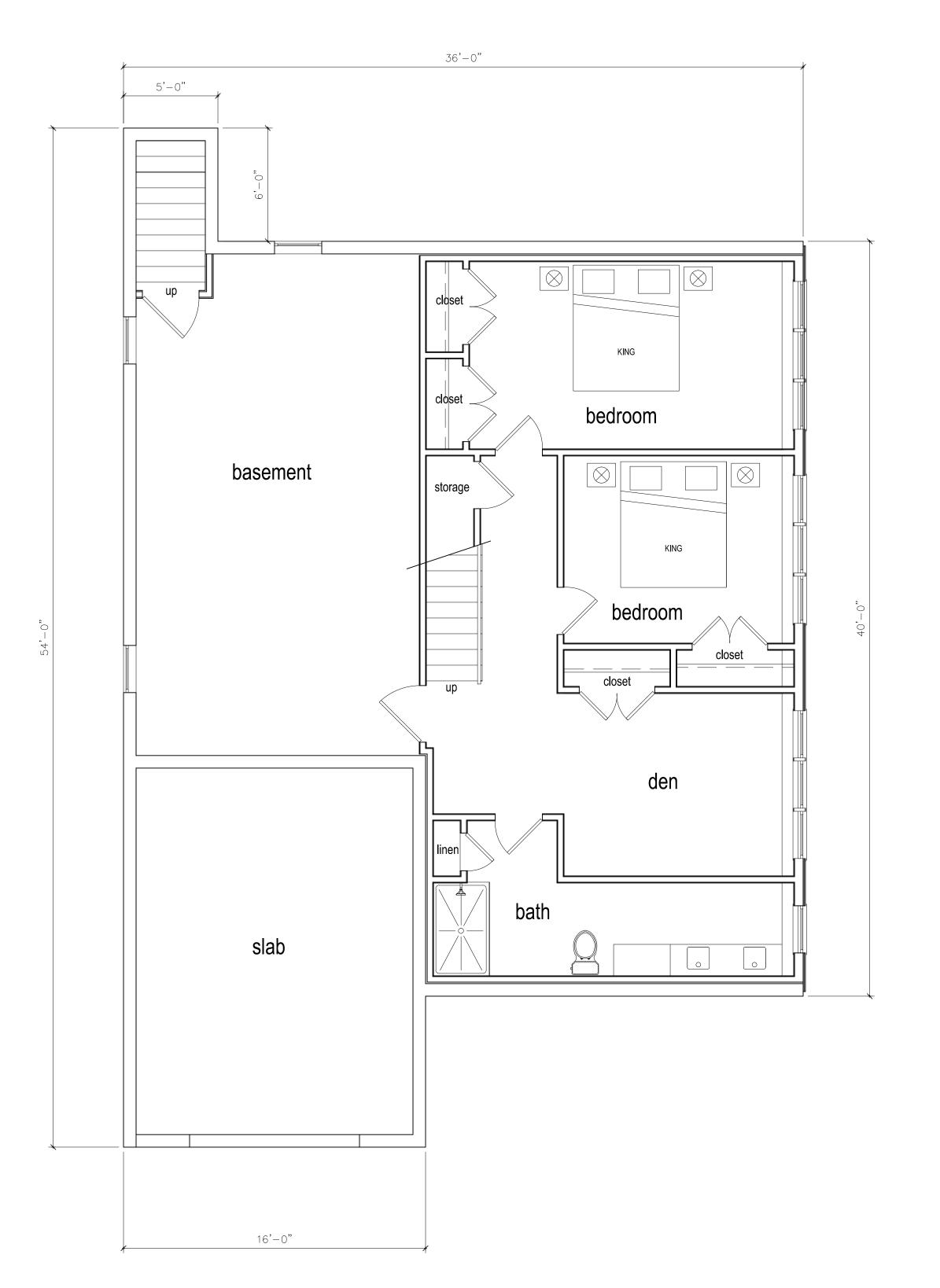
28 WYMAN AVENUE KITTERY, MAINE

DETAIL SHEET

SHEET NUMBER:

C - 8





PROPOSED LOWER LEVEL

(Living Space: 729 sq. ft.)

Wyman Hill

revisions

Residential Unit

28 Wyman Avenue Kittery Maine

architectural designer

HIGGINS + DESIGN

119 Kings Highway North Eliot, ME 03903 Tel 617.501.6149 jimhiggins05@comcast.net

Proposed Residential Unit

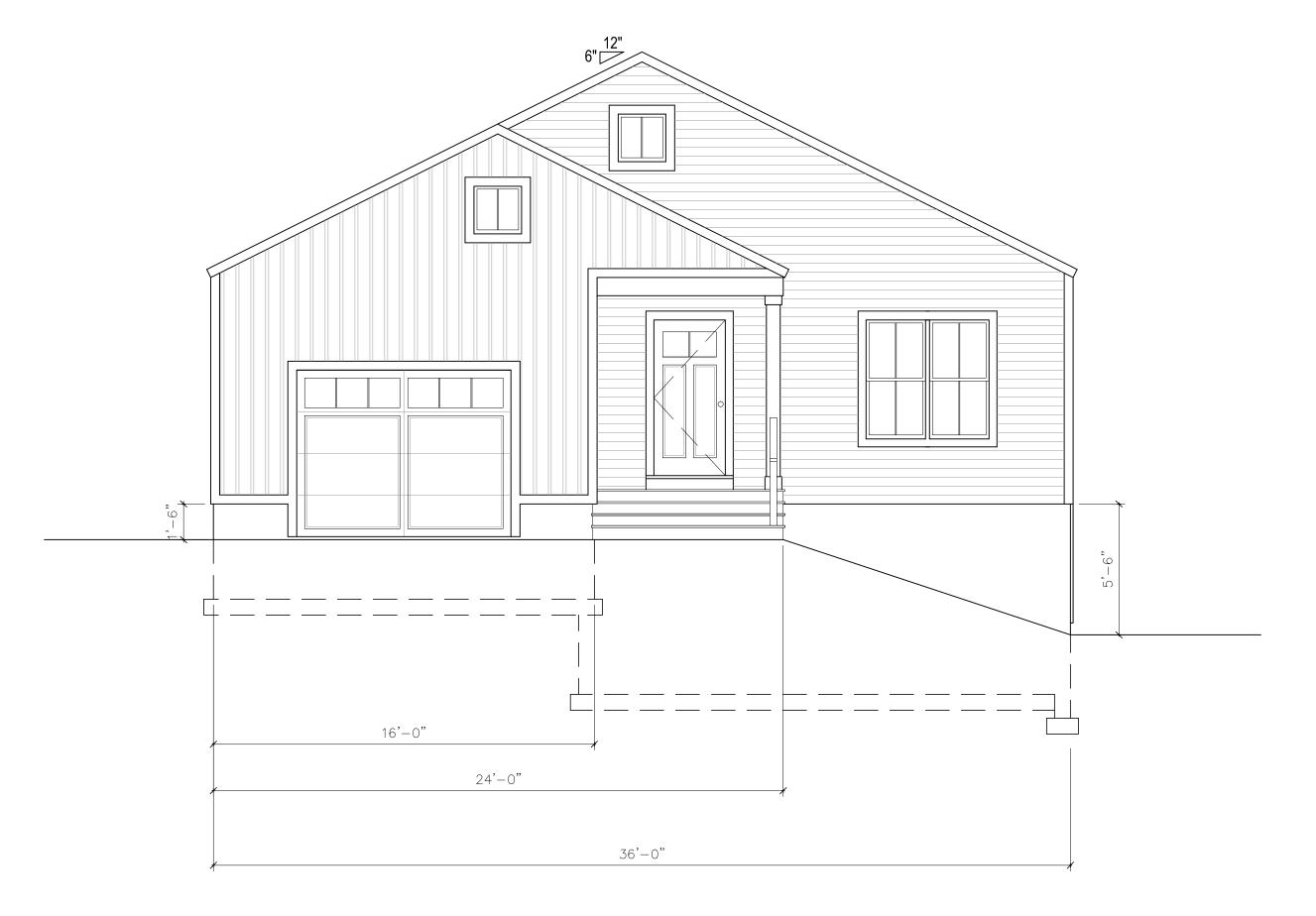
LAYOUT PLANS

scale
1/4"=1'-0"

date
November 22, 2021

project
Kittery01

A01



FRONT ELEVATION



RIGHT SIDE ELEVATION

revisions

Wyman Hill

Residential Unit

28 Wyman Avenue Kittery Maine

architectural designer

HIGGINS + DESIGN

119 Kings Highway North Eliot, ME 03903 Tel 617.501.6149 jimhiggins05@comcast.net

Proposed Residential Unit

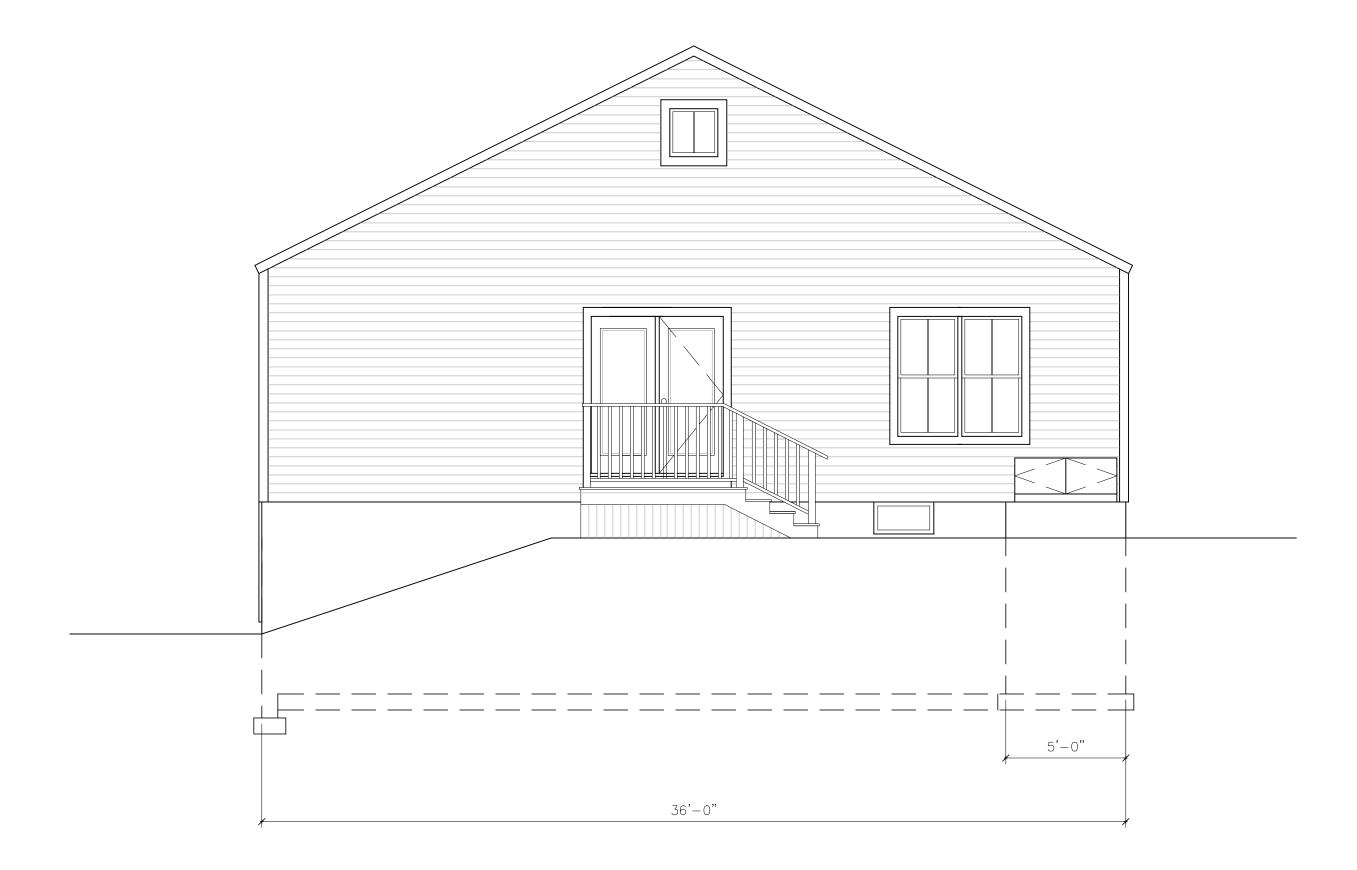
ELEVATIONS

scale
1/4"=1'-0"

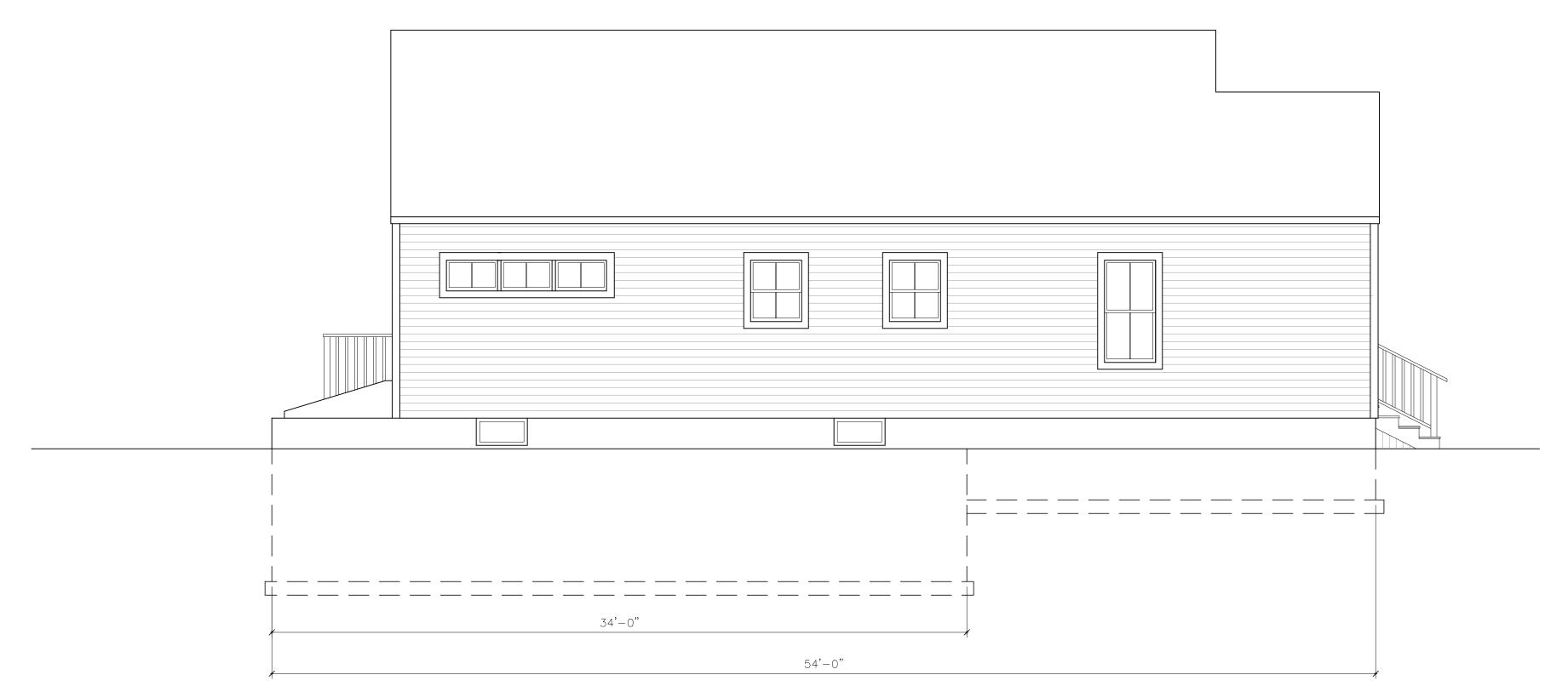
date
November 22, 20

project
Kittery01

A02



BACK ELEVATION



LEFT SIDE ELEVATION

revisions

1 12-5-16 Kitchen Layout, Exterior Door Revisions

Wyman Hill

Residential Unit

28 Wyman Avenue Kittery Maine

architectural designer

HIGGINS + DESIGN

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Proposed Residential Unit

ELEVATIONS

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A03