Town of Kittery
Planning Board Meeting
September 14, 2023

ITEM 4 – 163-165 Rogers Road – Conventional Subdivision Plan – Preliminary Review
Action: accept plan as complete or continue review. Schedule site walk/public hearing. Rick Chellman, on behalf of applicant Ledge Development LLC, is proposing to merge two existing parcels into a single 2.84-acre lot subdivided by unit into five single-family residential dwellings, along a shared driveway. The proposed subdivision is located on the properties of 163 and 165 Rogers Road, Map 14 Lots 53 & 53-1, in the Residential-Urban (R-U) Zone.

PROCESS SUMMARY

REQ'D	ACTION	COMMENTS	STATUS
YES	Sketch Plan Acceptance/Approval	7/13/23	Accepted
YES	Planning board determination of completeness	Scheduled for 9/14/23	Pending
NO	Site Visit		TBD
YES	Public Hearing	Required for Preliminary Site Plan or Subdivision Approval	TBD
YES	Preliminary Plan Approval		TBD
YES	Final Plan Review and Decision		TBD
Applicant: 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.L - 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 INTRODUCTION

This is a conceptual review for a proposed major subdivision by unit at the properties of 163 and 165 Rogers Road in the Residential-Urban Zone. 163 Rogers Road is a lot of approximately 103,200 square feet; directly north of it is 165 Rogers Road, a spaghetti-shaped lot of 20,290 square feet. Both properties are legally non-conforming due to street frontage and contain one single-family residential dwelling connected by a shared driveway, surrounded by open fields and a forest covering most of each lot.

The plan proposes merging both properties into a single lot that conforms to dimensional standards, then extending the shared driveway further into the property to construct three new single-family dwellings. The subdivision will total up to 5 units, all of which will be converted into condos. The applicant identified a wetland pocket in the wooded area of the lot totaling 9,315 sq ft. Although this deducts land from the development's net residential acreage calculations outlined in **§16.5.8,** the resource is too far to trigger any setback requirements for the proposed development. The wooded area, wetlands, and stone walls bordering the north and south portions of the lots will not be disturbed in the proposed development. A burial ground referred to as the Keen Cemetery has been identified within the wooded portion of the lot. The applicant is proposing public access through a "licensing agreement" that would allow residents to enter the lot to view or maintain the graves.

The applicant has provided the submission requirements for a preliminary site plan, with the requested modifications listed below. Staff advise determining application completeness and providing initial feedback during this meeting.

WAIVERS REQUESTED

1. Topography waiver: Applicant requests a modification to the topographic mapping requirements to minimize disturbance of the wooded area on the lot, as no construction in the forested area is proposed. Topographic mapping would extend only 50 feet into the wooded area (the planning board expressed they would be amenable to this during the sketch review).

STAFF COMMENTS

Listed below are comments provided by staff in addition to general review of standards:

1. The existing features map notates headstones in the wooded area, two of which are for Benjamin Keen and Hannah G Keen, who died in 1871. There is no evidence of maintenance in recent years, nor is there evidence of a cemetery boundary. However, the burial site is still considered a cemetery per the definition in **§16.3.**
    a. The state requires a 25-foot buffer area around all cemeteries. This is not a complete setback, but if any bodies are found within this buffer, the state must be notified, and development must be stopped. While the proposed subdivision will not be built near the cemetery or disturb any area within this radius, staff still require the buffer area be noted for Town records.
    b. Per state statute, public access to the cemetery must not be impeded. Although the applicant is not required to build or maintain a path to the headstones, they are proposing public access to the lot through a "license" for interested residents who want access.
2. While the driveway will not be considered an official right of way (discussed further below), Fire and Police staff still require the driveway have a street name.
3. The boundary survey makes a note regarding the ROW claiming that readjustment may add up to 5 feet of additional land area to the site.
4. In addition to a locus map, sheet 2 indicates the site is located within an identified growth area from Kittery's last comprehensive plan.

PROJECT ANALYSIS

Code Ref.	§16.4 Land Use Zone Standards	
	Standard	Determination
§16.4.13.B	Permitted/Special Exception Uses	Conventional subdivisions are a special exception use in R-U.
§16.4.13.D.(2).(a).	Minimum area per dwelling: 20,000 sq ft.	It appears the standard is satisfied.
§16.4.13.D.(2).(b).	Lot size: 20,000 sq ft minimum	It appears the standard is satisfied.

§16.4.13.D.(2).(c).	Street frontage: 100 ft minimum	It appears the standard is satisfied.
§16.4.13.D.(2).(d).	Front setback: 30 ft minimum, all buildings	The existing property on 165 Rogers Road appears to encroach on the setback, which would make it a legally non-conforming structure. The standard appears to be met for all new buildings.
§16.4.13.D.(2).(e).	Rear and side setbacks: 15 ft minimum Note: buildings higher than 40 actual feet must have side and rear yard not less than 50% of building height	The existing properties on 163 and 165 Rogers Road appear to encroach on the side setbacks, making them legally non-conforming structures. The standard appears to be met for all new buildings.
§16.4.13.D.(2).(f).	Building height: 35 ft maximum	Proposed building heights not notated on plan set
§16.4.13.D.(2).(g).	Building coverage: 20% maximum	The standard appears to be satisfied
§16.4.13.D.(2).(i).	Minimum water-body setbacks: up to 100 feet from high-water line of identified wetlands	The standard appears to be satisfied
§16.4.13.D.(3).	Subdivision types and standards: open space minimum of 15%	The standard appears to be satisfied
Code Ref.	§16.5 Performance Standards	
	Standard	Determination
§16.5.4	Affordable housing requirements	Not applicable, as the subdivision has less than 10 units.
§16.5.10	Essential services	Test pits and well locations have been notated. Connections to existing water and electricity utilities are proposed. Standards appear to be met
§16.5.14.B	Lots	Both existing lots are legally non-conforming due to road frontage. By merging the properties, the proposed

		development would create one single conforming parcel.
§16.5.18.	Net residential acreage	Staff suggest the applicant revise the calculations to include the land area within the "burying ground area" of the headstones. It appears even with this revision to calculations that the property has enough land to support the proposed number of dwellings
§16.5.27	Street Standards	Per the definitions in **§16.3,** the proposed driving area is considered a driveway because it is less than 500 linear feet and services one single lot. The proposed driveway appears to meet the standards of a class II private street. Fire staff would like the applicant to show there is enough room for an emergency vehicle to turn around in.
§16.5.30	All wetlands of 501 sq ft.or greater trigger setbacks for certain uses	A delineation was provided. All development is out of relevant setbacks. It appears the standard is satisfied
Code Ref.	§16.8.9.C Preliminary Subdivision Plan Requirements	
	Standard	Determination
§16.8.9.C.(5).(a-i).	* Paper plan sheets no smaller than 11" x 17" * Scale of drawing no greater than 1 inch = 30 feet * Code block in right-hand corner * Standard boundary survey of existing conditions * Compass with arrow pointing true north * Locus map of property * Vicinity map and aerial photograph * Surveyed acreage of parcel(s), rights-of-way, wetlands, and amount of street frontage * Names and addresses of owners of record abutting property	Provided.

§16.8.9.C.(5).(j).	Existing conditions survey including all identified structures, natural resources, rights-of-way, and utilities located on and within 100 feet of the property	Provided. Staff suggest the boundary survey (sheet 1) be updated to include the wetlands and headstones
§16.8.9.C.(5).(k).	Proposed development area including: * Location and detail of proposed structures and signs * Proposed utilities including power, water, and sewer * Sewage facilities type and placement * Domestic water source * Lot lines, rights-of-way, and street alignments * Road and other paved area plans * Existing and proposed setbacks * Storage areas for waste or hazardous materials * Topographic contours of existing contours and finished grade elevations * Locations and dimensions of artificial features such as pedestrian ways, sidewalks, curb cuts, driveways, fences, retaining walls,	Provided. Applicant has requested a modification of the topographic contours, listed above.
§16.8.9.C.(6).(a).	Documents showing legal interest in the property	Provided
§16.8.9.C.(6).(b).	Identified property encumbrances	Provided
§16.8.9.C.(6).(c).	Kittery Water District approval letter	Provided
§16.8.9.C.(6).(d).	Erosion and sedimentation control plan	Provided
§16.8.9.C.(6).(e).	Stormwater management plan and drainage analysis	Provided
§16.8.9.C.(6).(f).	Soil survey	Provided
§16.8.9.C.(6).(g).	Vehicular traffic report	Provided
§16.8.9.C.(6).(h).	Traffic impact analysis	Not deemed applicable due to low traffic volume
§16.8.9.C.(6).(i).	Test pit analysis for proposed septic systems	Provided
§16.8.9.C.(6).(j).	Town sewage department confirmation	Private septic proposed; not applicable.
§16.8.10.C.(6).(k).	Evaluation of development by Police, Fire, and Public Works department heads	Provided
§16.8.10.C.(6).(l).	Additional submissions as required	None proposed at this time

DISCUSSION, NEXT STEPS, AND RECOMMENDATIONS

The purpose of the first meeting of a preliminary site plan is to determine the completeness of the application, provide specific feedback to the applicant, and determine whether the plan is ready to schedule a public hearing. The issues that have been identified are able to be modified at later iterations of the preliminary site plan. Staff believe the application meets the submission requirements for initial acceptance and suggest the planning board advise the applicant on whether they would entertain the proposed "license agreement" for the cemetery.

RECOMMENDED MOTIONS

Below are recommended motions for the Board's use and consideration:

Motion to accept the application as complete

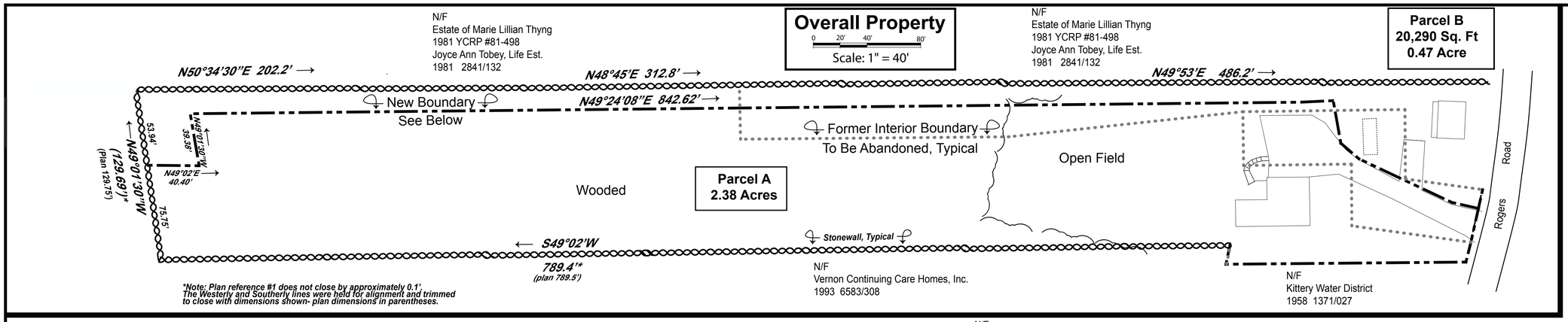
Move to accept the plan by Rick Chellman, on behalf of applicant Ledge Development LLC, proposing to merge two existing parcels into a single 2.84 acre lot subdivided by unit into five single-family residential dwellings, along a shared driveway. The proposed subdivision is located on the properties of 163 and 165 Rogers Road, Map 14 Lots 53 & 53-1, in the Residential-Urban (R-U) Zone.

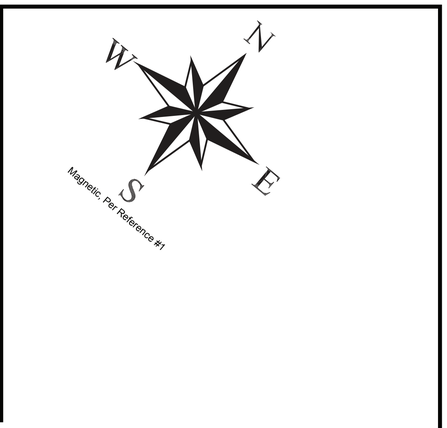
Motion to schedule a site walk

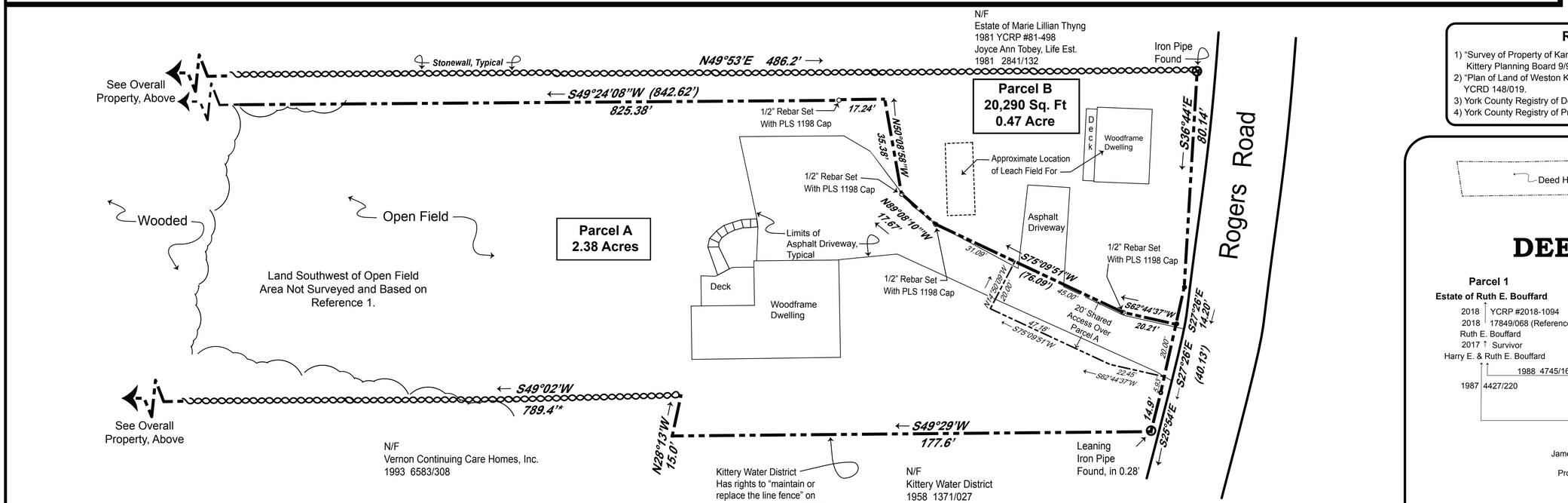
Move to visit the site of the plan by Rick Chellman, on behalf of applicant Ledge Development LLC, proposing to merge two existing parcels into a single 2.84 acre lot subdivided by unit into five single-family residential dwellings, along a shared driveway. The proposed subdivision is located on the properties of 163 and 165 Rogers Road, Map 14 Lots 53 & 53-1, in the Residential-Urban (R-U) Zone.

Motion to schedule a public hearing

Move to schedule a public hearing for the plan by Rick Chellman, on behalf of applicant Ledge Development LLC, proposing to merge two existing parcels into a single 2.84 acre lot subdivided by unit into five single-family residential dwellings, along a shared driveway. The proposed subdivision is located on the properties of 163 and 165 Rogers Road, Map 14 Lots 53 & 53-1, in the Residential-Urban (R-U) Zone.

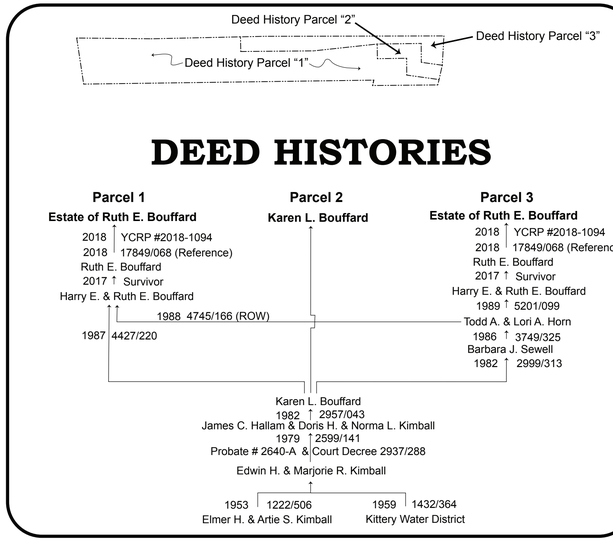






REFERENCES

1) "Survey of Property of Karen L. Bouffard" by Russell H. Caldwell, June, 1982; Approved by Kittery Planning Board 9/9/82, YCRD Book 120, Page 18.
2) "Plan of Land of Weston Keyes and Penelope Brewster" by Civil Consultants, June 1986 YCRD 148/019.
3) York County Registry of Deeds (YCRD).
4) York County Registry of Probate (YCRP).



TND

0 10' 20' 40'

Scale: 1" = 20'

Scale Note:
This plan has been prepared to print at the scales noted (e.g. 1"=20') only if printed on 24" x 36" paper; printing on other sizes of paper or viewing digitally will change the scale reference accordingly.

Note:
This plan depicts existing conditions and other elements extant when prepared and recorded in March, 2023. The interior boundaries shown on the plan recorded at Book 430, Page 14 are proposed to be abandoned as a part of the Enclave subdivision.
See sheet #3 for additional details.

Rogers Road ROW Note (9/4/23)

The right of way limits of Rogers Road were depicted on Reference 1 in 1982 (above) and were not updated for the existing conditions plan prepared in February, 2023.
Recent investigation of Maine DOT materials has shown that Rogers Road is depicted on plans dated Jan. 1942 for "State Highway A-10" available online at the Maine DOT Public Map Viewer. These plans show Rogers Road in the area of the subject property as being 40' wide and an approximate aerial reconstruction indicates the existing traveled surface may not be centered within the 1942 right of way.
The limits of Rogers Road shown have not been adjusted from Ref. 1. If the preliminary reconstruction is accurate, it could add between 3' and 5' of additional land area to the site along Rogers Road. This further analysis, if any, is reserved for future consideration since it does not impact the current proposal, as land may only be added to the site for area calculations and increased existing setbacks from the Road.

Certification

This plan has been prepared by me based on and on-site field survey in December, 2022.
All boundary information is from a plan prepared by me based on that information and which is recorded at the York County Registry of Deeds at Book 430, Page 14.
This sheet copies that information without change to the standard preliminary subdivision base sheet for the proposed Enclave subdivision.

September 4, 2023

Chester E. Chellman, P.L.S.

STATE OF MAINE
CHESTER E. CHELLMAN
1198
PROFESSIONAL LAND SURVEYOR

Date	Revision	By
9/4/23	Boundary Detail Placed on Subdivision Sheet Format	RC

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:

Ledge Development, L.L.C. (Applicant)

195 State Street, Suite #1, Portsmouth , NH 03801

On Land of: The Estate of Ruth Bouffard and Land of: Karen L. Bouffard (Owners)

C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802

#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)

Kittery, Maine

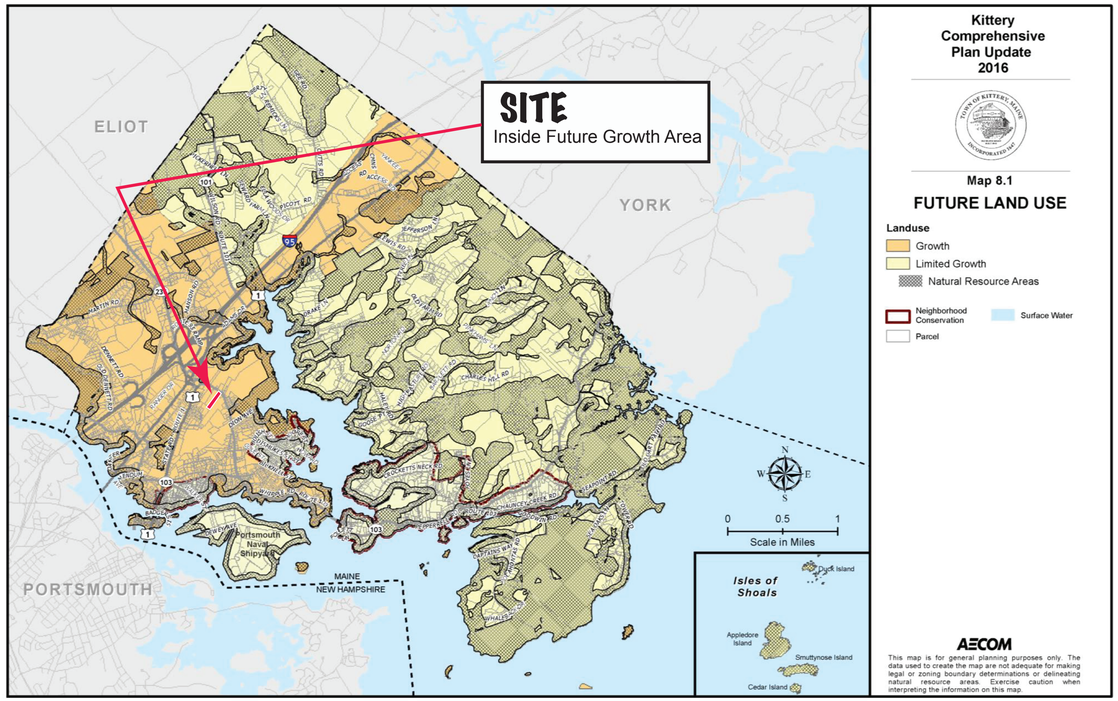
August 20, 2023

Standard Boundary Survey

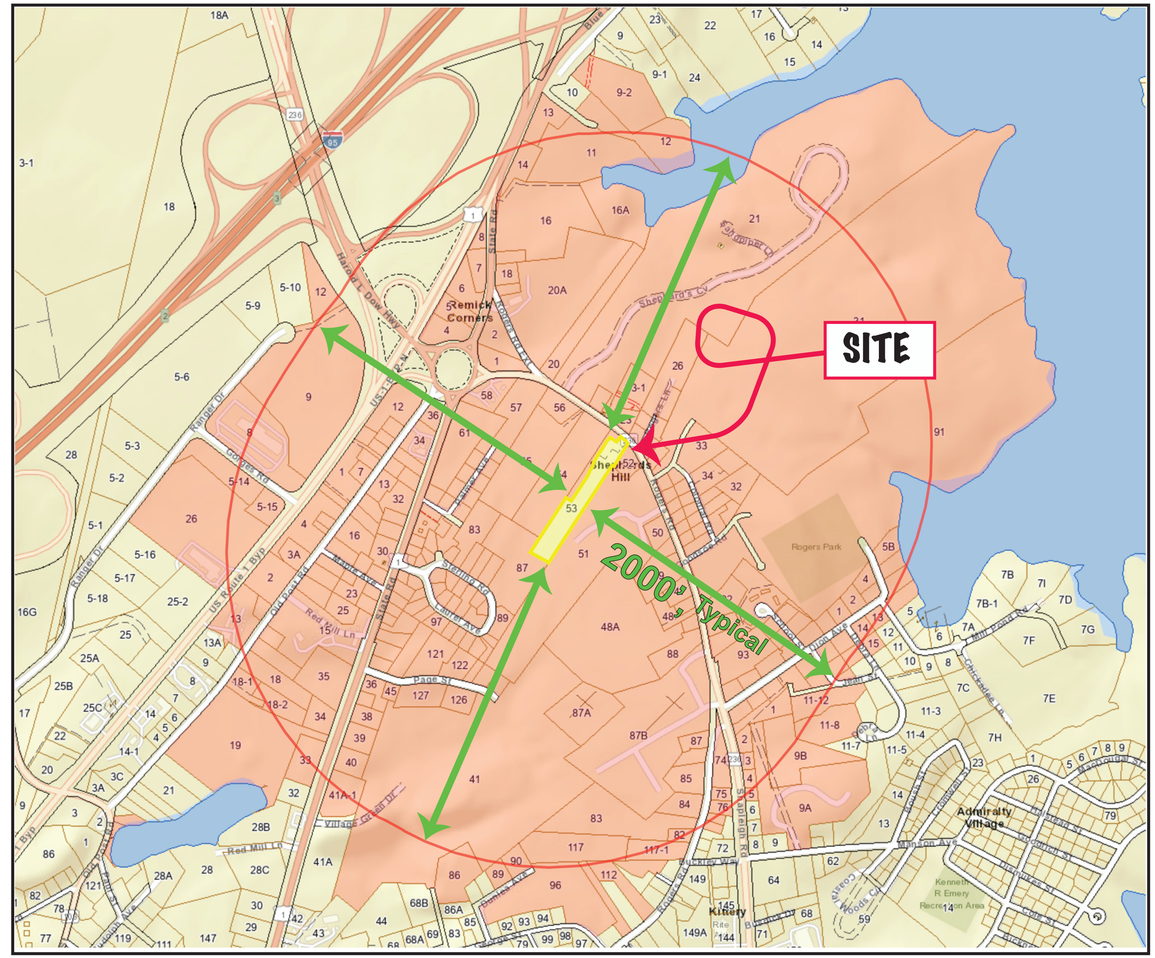
Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 1

FUTURE LAND USE MAP 8.1 FROM KITTERY COMPREHENSIVE PLAN 2017



LOCUS MAP OF SITE AND AREA ROADS FROM KITTERY ONLINE GIS MAPPING



AERIAL VICINITY MAP

Date	Revision	By

Preliminary Plan of Subdivision Of:

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For:

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195 State Street, Suite #1, Portsmouth , NH 03801

On Land of: The Estate of Ruth Bouffard and

Land of: Karen L. Bouffard (Owners)

C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802

#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)

Kittery, Maine

August 20, 2023

Locus & Vicinity Maps; Location on Future Land Use Plan

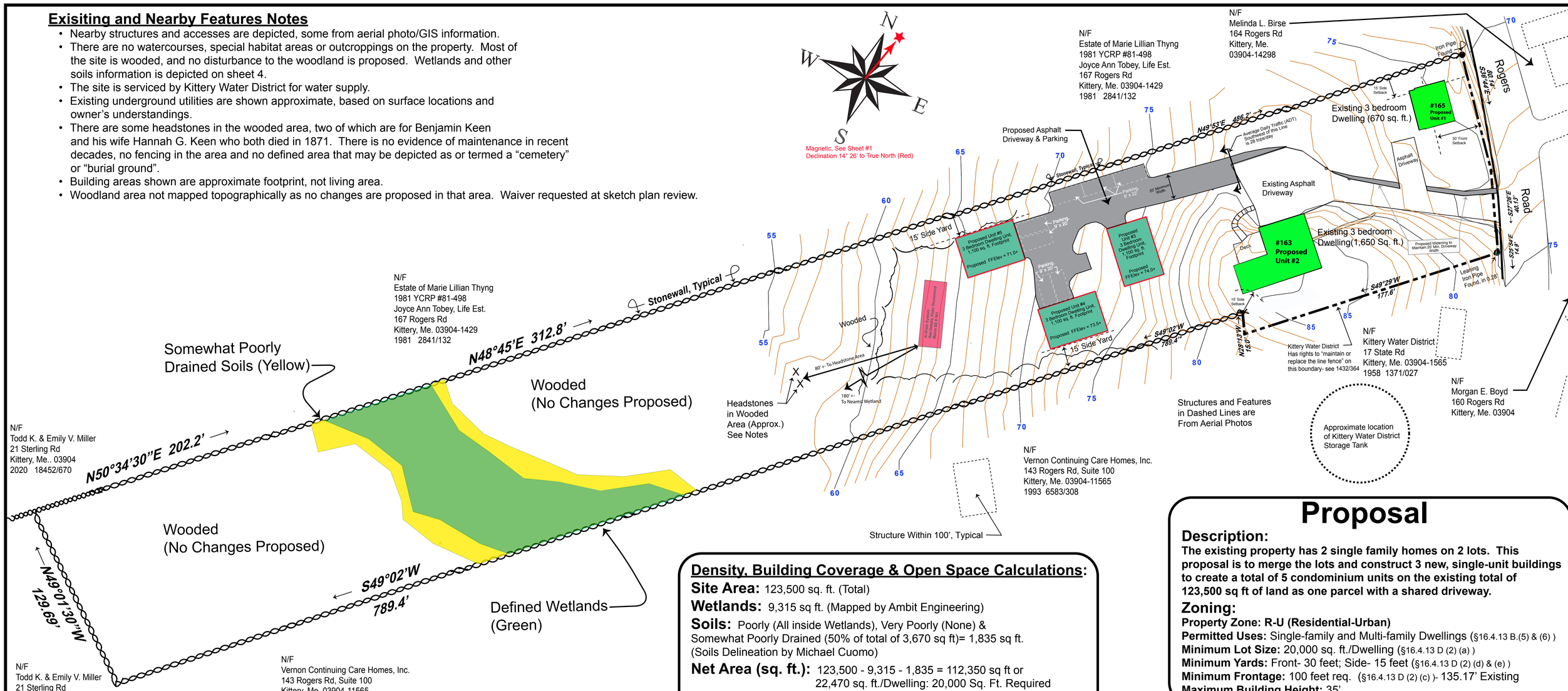
Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

TND

SHEET 2

Exisiting and Nearby Features Notes

- Nearby structures and accesses are depicted, some from aerial photo/GIS information.
- There are no watercourses, special habitat areas or outcroppings on the property. Most of the site is wooded, and no disturbance to the woodland is proposed. Wetlands and other soils information is depicted on sheet 4.
- The site is serviced by Kittery Water District for water supply.
- Existing underground utilities are shown approximate, based on surface locations and owner's understandings.
- There are some headstones in the wooded area, two of which are for Benjamin Keen and his wife Hannah G. Keen who both died in 1871. There is no evidence of maintenance in recent decades, no fencing in the area and no defined area that may be depicted as or termed a "cemetery" or "burial ground".
- Building areas shown are approximate footprint, not living area.
- Woodland area not mapped topographically as no changes are proposed in that area. Waiver requested at sketch plan review.



TND

0 15' 30' 60'

Scale: 1" = 30'

Scale Note:
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Density, Building Coverage & Open Space Calculations:

Site Area: 123,500 sq. ft. (Total)

Wetlands: 9,315 sq ft. (Mapped by Ambit Engineering)

Soils: Poorly (All inside Wetlands), Very Poorly (None) & Somewhat Poorly Drained (50% of total of 3,670 sq ft)= 1,835 sq ft. (Soils Delineation by Michael Cuomo)

Net Area (sq. ft.): 123,500 - 9,315 - 1,835 = 112,350 sq ft or 22,470 sq. ft./Dwelling: 20,000 Sq. Ft. Required

Building Coverage: 5,620/123,500 = 4.6%

Open Space: 123,500/18,700 = 84.9%

Proposal

Description:

The existing property has 2 single family homes on 2 lots. This proposal is to merge the lots and construct 3 new, single-unit buildings to create a total of 5 condominium units on the existing total of 123,500 sq ft of land as one parcel with a shared driveway.

Zoning:

Property Zone: R-U (Residential-Urban)
Permitted Uses: Single-family and Multi-family Dwellings (§16.4.13 B.(5) & (6))
Minimum Lot Size: 20,000 sq. ft./Dwelling (§16.4.13 D (2) (a))
Minimum Yards: Front- 30 feet; Side- 15 feet (§16.4.13 D (2) (d) & (e))
Minimum Frontage: 100 feet req. (§16.4.13 D (2) (c))- 135.17' Existing
Maximum Building Height: 35'

Town of Kittery

Approved

By: Date
Its:

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:

Ledge Development, L.L.C. (Applicant)
195 State Street, Suite #1, Portsmouth , NH 03801

On Land of: The Estate of Ruth Bouffard and
Land of: Karen L. Bouffard (Owners)
C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802

#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)
Kittery, Maine
August 23, 2023

Overall Condominium Site and Subdivision Plan

Certification

This is a plan for subdivision preliminary plan review with the Town of Kittery.

August 23, 2023

Chester E. Chellman, P.L.S.

STATE OF MAINE
CHESTER E. CHELLMAN
1198
PROFESSIONAL LAND SURVEYOR

Seal

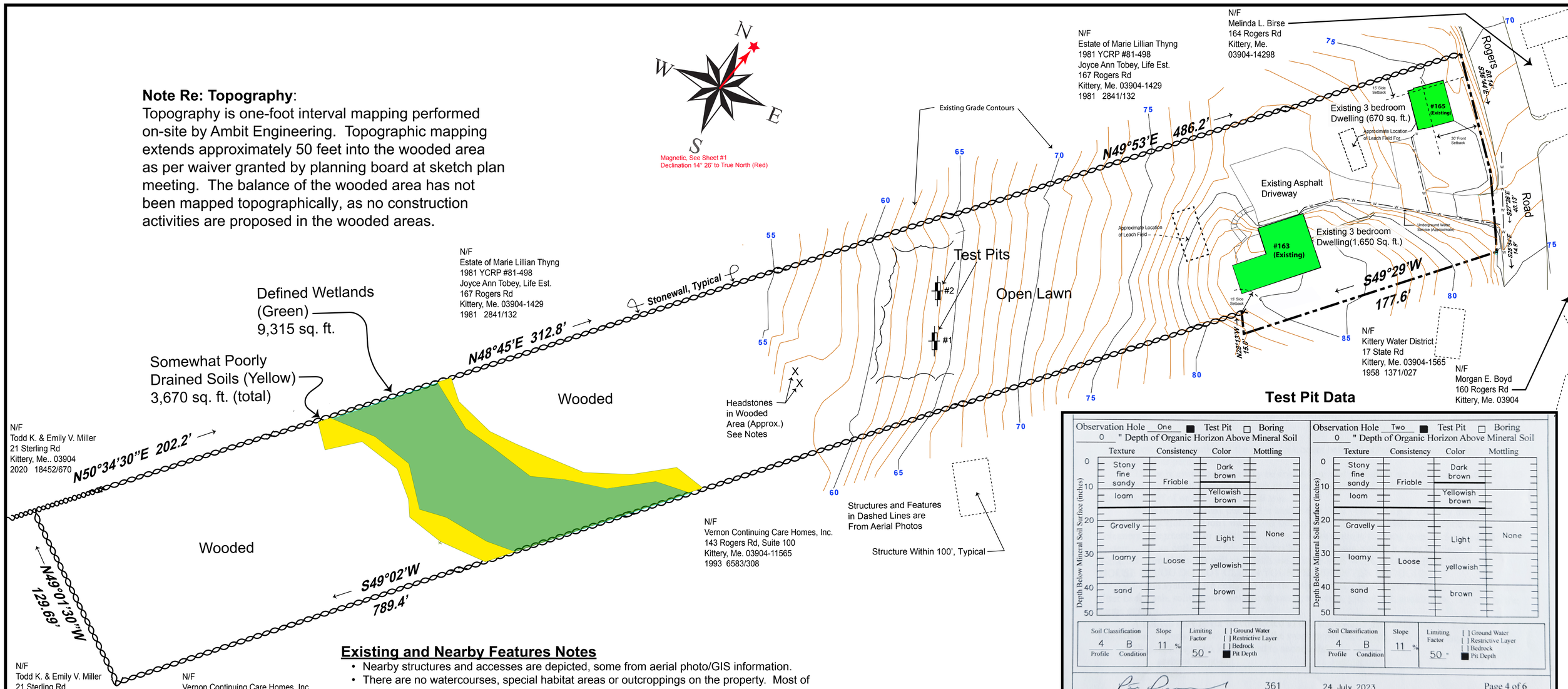
Date	Revision	By
9/06/23	Building coverage, open space and maximum building height added	RC
8/31/23	Revised per Town Planner review, replaced prior sheet #3	RC

Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 3

TND

Note Re: Topography:
Topography is one-foot interval mapping performed on-site by Ambit Engineering. Topographic mapping extends approximately 50 feet into the wooded area as per waiver granted by planning board at sketch plan meeting. The balance of the wooded area has not been mapped topographically, as no construction activities are proposed in the wooded areas.



Test Pit Data

Observation Hole One ■ Test Pit □ Boring
0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Stony fine sandy loam	Friable	Dark brown / Yellowish brown	None
10–30	Gravelly loamy sand	Loose	Light yellowish brown	None
30–50				

Soil Classification: 4 Profile, B Condition
Slope: 11 %
Limiting Factor: 50 " [ ] Ground Water [ ] Restrictive Layer [ ] Bedrock ■ Pit Depth

Observation Hole Two ■ Test Pit □ Boring
0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Stony fine sandy loam	Friable	Dark brown / Yellowish brown	None
10–30	Gravelly loamy sand	Loose	Light yellowish brown	None
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Soil Classification: 4 Profile, B Condition
Slope: 11 %
Limiting Factor: 50 " [ ] Ground Water [ ] Restrictive Layer [ ] Bedrock ■ Pit Depth

Site Evaluator Signature — SE # 361 — Date 24 July 2023 — Page 4 of 6 HHE-200 Rev. 8/01

Existing and Nearby Features Notes

- Nearby structures and accesses are depicted, some from aerial photo/GIS information.
- There are no watercourses, special habitat areas or outcroppings on the property. Most of the site is wooded, and no disturbance to the woodland is proposed. Wetlands and other soils information is depicted on sheet 4.
- The site is serviced by Kittery Water District for water supply.
- Existing underground utilities are shown approximate, based on surface locations and owner's understandings.
- There are some headstones in the wooded area, two of which are for Benjamin Keen and his wife Hannah G. Keen who both died in 1871. There is no evidence of maintenance in recent decades, no fencing in the area and no defined area that may be depicted as or termed a "cemetery" or "burial ground".
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TND

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Town of Kittery
Approved

By: Date
Its:

Certification
This is a plan for subdivision preliminary plan review with the Town of Kittery.

August 23, 2023
Chester E. Chellman, P.L.S.

STATE OF MAINE — CHESTER E. CHELLMAN — 1198 — PROFESSIONAL LAND SURVEYOR

Date	Revision	By
8/31/23	Revised per Town Planner review	RC

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:
Ledge Development, L.L.C. (Applicant)
195 State Street, Suite #1, Portsmouth , NH 03801
On Land of: The Estate of Ruth Bouffard and
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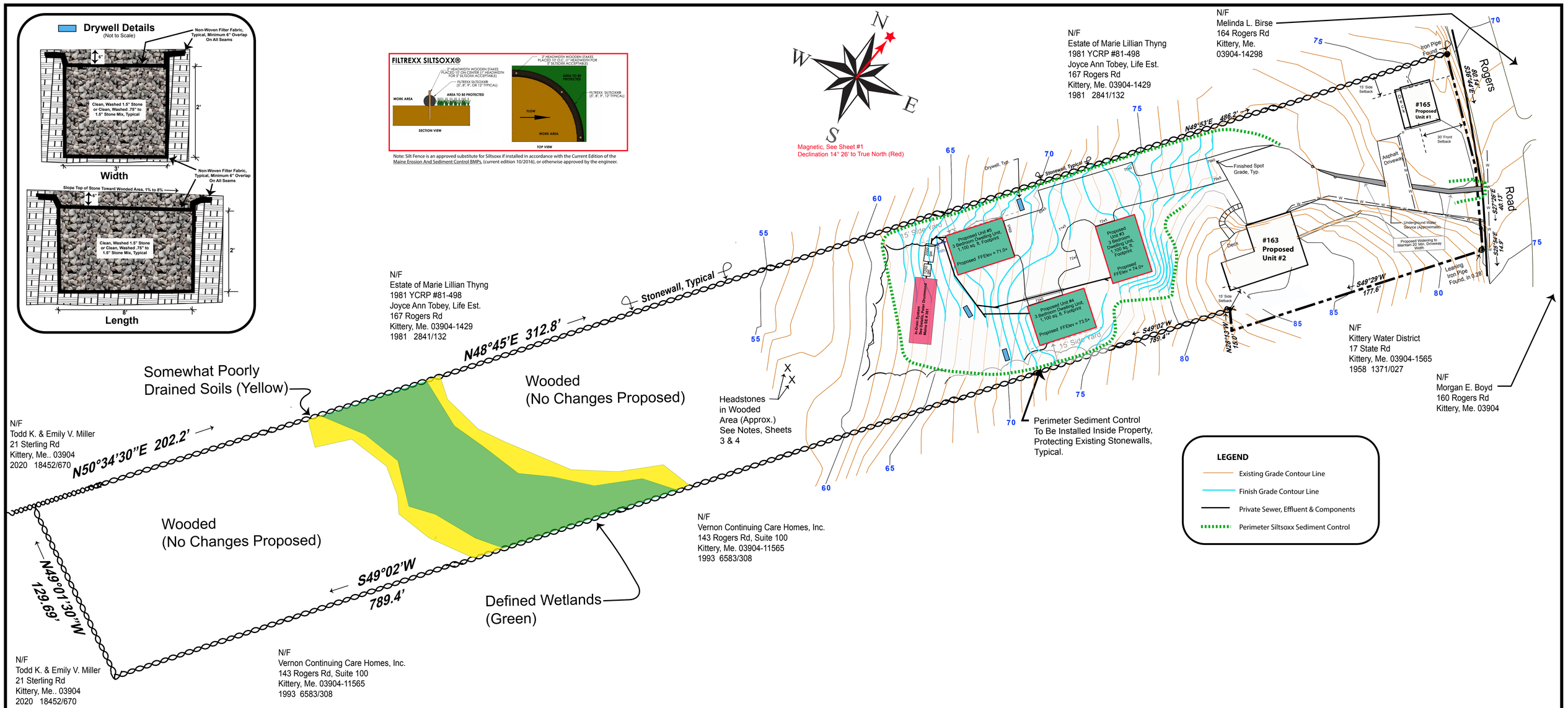
C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802
#163 & #165 Rogers Road
(Tax Parcels 14-53 & 14-53-1)
Kittery, Maine
August 23, 2023

Overall Plan With Soils, Topography, Wetlands & Features

Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 4



Note: Silt Fence is an approved substitute for Siltsoxx if installed in accordance with the Current Edition of the Maine Erosion And Sediment Control BMPs, (current edition 10/2016), or otherwise approved by the engineer.

TND

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Certification

This is a plan for subdivision preliminary plan review with the Town of Kittery.

August 23, 2023

Chester E. Chellman, P.E.

STATE OF MAINE
Chester E. Chellman
4962
LICENSED PROFESSIONAL ENGINEER

Seal

Town of Kittery

Approved

By: Date

Its:

Date	Revision	By
8/31/23	Revised per Town Planner review, replaced prior sheet #3	RC

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:

Ledge Development, L.L.C. (Applicant)

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#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)

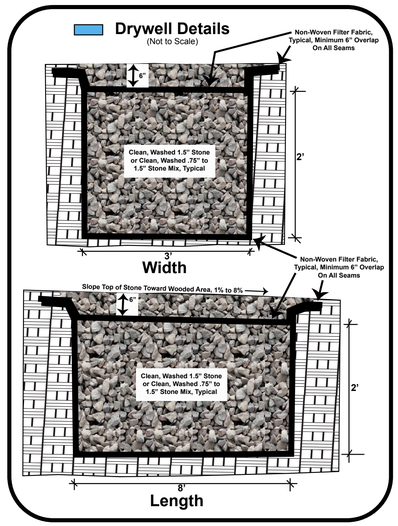
Kittery, Maine

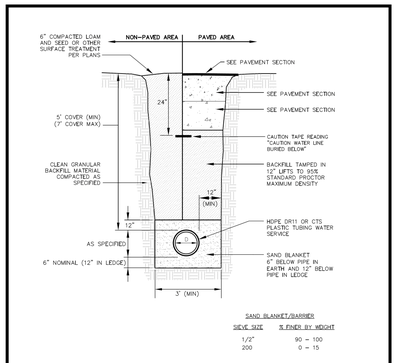
August 31, 2023

Grading and Stormwater Management Plan

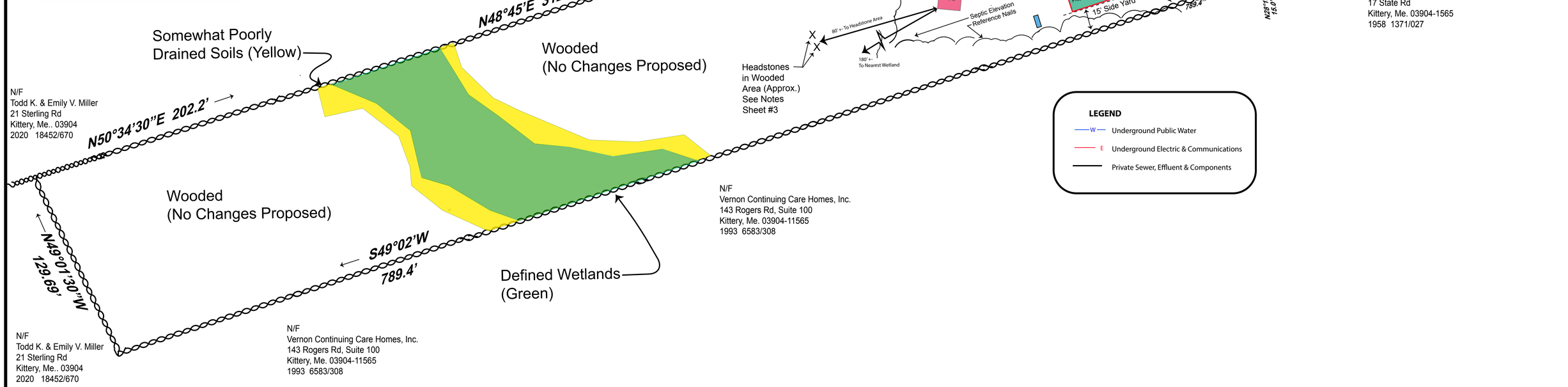
Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 5





All waterline installation, including trenching, backfill and materials shall be in accordance with the standards of the Kittery Water District.
The above detail is from plan by Altus Engineering for Lusitano, LLC issued 11/3/22 for Wyman Hill.



LEGEND

- W — Underground Public Water
- E — Underground Electric & Communications
- Private Sewer, Effluent & Components

TND

0 15' 30' 60'

Scale: 1" = 30'

Scale Note:
This plan has been prepared to print at 1"=30' only if printed on 24" x 36" paper; printing on other sizes of paper or viewing digitally will change the scale reference accordingly.

Town of Kittery

Approved

By: Date
Its:

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:

Ledge Development, L.L.C. (Applicant)
195 State Street, Suite #1, Portsmouth , NH 03801

On Land of: The Estate of Ruth Bouffard and
Land of: Karen L. Bouffard (Owners)
C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802

#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)
Kittery, Maine
August 23, 2023

Utilities Plan

Certification

This is a plan for subdivision preliminary plan review with the Town of Kittery.

August 23, 2023

Chester E. Chellman, P.L.S.

STATE OF MAINE
CHESTER E. CHELLMAN
1198
PROFESSIONAL LAND SURVEYOR

Seal

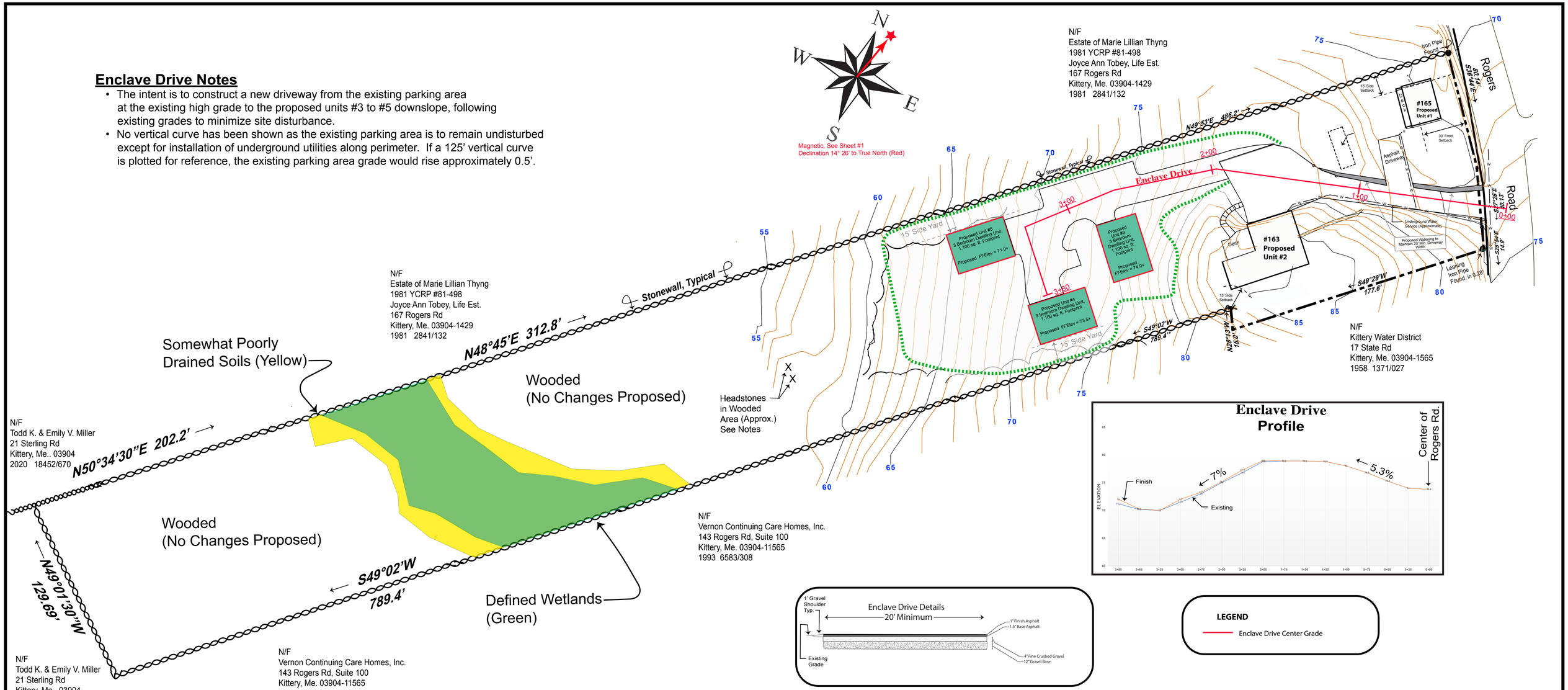
Date	Revision	By

Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 6

Enclave Drive Notes

- The intent is to construct a new driveway from the existing parking area at the existing high grade to the proposed units #3 to #5 downslope, following existing grades to minimize site disturbance.
- No vertical curve has been shown as the existing parking area is to remain undisturbed except for installation of underground utilities along perimeter. If a 125' vertical curve is plotted for reference, the existing parking area grade would rise approximately 0.5'.



LEGEND

Enclave Drive Center Grade

TND

0 15' 30' 60'

Scale: 1" = 30'

Scale Note:
This plan has been prepared to print at 1"=30' only if printed on 24" x 36" paper; printing on other sizes of paper or viewing digitally will change the scale reference accordingly.

Town of Kittery

Approved

By: Date

Its:

Preliminary Plan of Subdivision Of:

THE ENCLAVE

For:

Ledge Development, L.L.C. (Applicant)

195 State Street, Suite #1, Portsmouth , NH 03801

On Land of: The Estate of Ruth Bouffard and

Land of: Karen L. Bouffard (Owners)

C/o Karen L. Bouffard, P.O. Box 1167, Portsmouth , NH 03802

#163 & #165 Rogers Road

(Tax Parcels 14-53 & 14-53-1)

Kittery, Maine

August 31, 2023

Driveway Plan & Profile

Certification

This is a plan for subdivision preliminary plan review with the Town of Kittery.

August 23, 2023

Chester E. Chellman, P.L.S.

STATE OF MAINE CHESTER E. CHELLMAN 1198 PROFESSIONAL LAND SURVEYOR

Seal

Date	Revision	By

Prepared By:
TND Engineering
224 State Street
Portsmouth, NH 03801
Chester "Rick" Chellman, P.E., P.L.S.

SHEET 7

TND ENGINEERING

TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

Mr. Dutch Dunkelberger
Chair, Planning Board
Kittery, Maine
200 Rogers Road
Kittery, Maine 03904

August 24, 2023

Re: The Enclave- 163 & 165 Rogers Road

Dear Mr. Dunkelberger and Members of the Planning Board:

I have prepared a submission for preliminary subdivision on behalf of the above project that was accepted as a sketch plan on July 13.

Accompanying this letter, please find a set of plan sheets (24” x 36”) and other documents as follows:

Sheet 1: The existing conditions survey of the site as recorded at the York County Registry of Deeds at Book 430, page 14.

Sheet 2: The locus map and aerial vicinity maps showing the site in relation to surrounding roads within 2,000’ and other feature. In addition, this sheet contains Future Land Use Map 8.1 from the Kittery Comprehensive Plan that shows the site in the area designated for future growth.

Sheet 3: A reduced copy (to keep the plan sheets of consistent size) of the sketch plan accepted as noted above.

Sheet 4: An overall plan with topographic mapping of the front area, extending partially into the forested area as I explained at the sketch plan discussion. No changes are proposed to the forested land and I understand the Board to have waived the requirement for any topographic mapping beyond what is shown. Please note that the contour interval is only one-foot, so the site may appear steeper than it is, or actually would be, if two-foot interval contours were this proximate.

Sheet 4 also depicts the wetlands mapping, the somewhat poorly soils mapping (both of which are well inside the forested area of the property) and the two test pits with the test pit data.

Sheet 5: An overall plan of the entire site at 1”=30’, showing the existing features and nearby structures and other improvements.

Sheet : This sheet contains the septic system design details prepared by Peter Drummond (Maine SE #361).

Sheet 7: Depicts the proposed improvements, being three single family detached dwellings, each of which will be a condominium unit (as will the two existing dwellings, for a total of five dwellings). This plan also shows: the proposed driveway and parking for the units; the grading and drainage features; the septic system design; setbacks; driveway cross section and other elements required by the town Code. This sheet is at 1"= 20' to allow more detail to be seen.

The additional documents in letter and 11" x 17" sizes contain the soils data, a representative elevation of the proposed dwellings; the septic sheets; a traffic analysis demonstrating the volumes of traffic that are all below the thresholds for more detailed traffic analysis; drainage calculations with storm flow design data; and, a letter from the Kittery Water District confirming the availability of water for the proposed project.

With respect to the stormwater calculations

Sincerely,

Chester "Rick" Chellman, P.E., P.L.S.

Email only copies to:
Ledge Development. LLC

OFFICE OF

KITTERY WATER DISTRICT

17 State Road
Kittery, ME 03904-1565
TEL: 207-439-1128
FAX: 207-439-8549
Email: info@kitterywater.org

Kittery Planning Board
200 Rogers Road
Kittery, ME 03904

August 3, 2023

Re: Proposed Subdivision, Ledge Development, LLC (163 & 165 Rogers Road)

Dear Planning Board Members,

Please accept this letter as verification that the Kittery Water District does have the capacity to supply the proposed subdivision, proposed by Ledge Development, LLC, Map 14 (Lots 53 and 53-1), on Rogers Road, Kittery with Municipal Water Service.

Sincerely,

Michael S. Rogers
Superintendent

cc: Rick Chellman, P.E. L.L.S, TND Engineering

TND ENGINEERING

TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

Mr. Dutch Dunkelberger
Chair, Planning Board
Kittery, Maine
200 Rogers Road
Kittery, Maine 03904

August 22, 2023

Re: The Enclave- 163 & 165 Rogers Road

Dear Mr. Dunkelberger and Members of the Planning Board:

Section 16.7.10 (s) of the Town of Kittery Code establishes a threshold of 400 vehicle trips per day, or 40 or more parking spaces, to require a detailed traffic impact analysis for proposed projects.

This proposal does not exceed either threshold, but to assist the Board in its review of this proposal, I have prepared an analysis of the vehicle trips per day and at peak hours that may be anticipated from this project.

There will only be 2 parking spaces per dwelling provided, or 10 parking spaces, so that threshold is not met.

Based on the Institute of Transportation Engineers (ITE) data published online, the two existing dwellings may be expected to generate 9 entering and 10 exiting vehicle trips, for a total of 19, on a daily basis.[1]

With the proposed new three additional units, the site may be expected to generate 24 entering and 23 exiting vehicle trips, for a total of 47, on a daily basis and again using ITE data. This is a net increase of 28 vehicle trips per day, or well below the 400 trips per day threshold.

During the morning peak hour, the two existing dwellings are calculated to generate 1 trip, while the total of 5 dwellings are calculated to generate 4, for a net increase of 3 vehicle trips during the morning peak hour.

During the evening peak hour, the two existing dwellings may be expected to generate 2 trips and the total of 5 proposed will generate 5 trips; a net increase of 3 vehicle trips during the evening peak hour.

[1] Please see attached. Based on my experience and guidance from the ITE Trip Generation Guide, I have used the average rate as the fitted curve rate is applicable only for project of much larger scale.

This information is summarized in the following table:

Vehicle Trip Generation: The Enclave, Kittery Maine			
	AM Peak	PM Peak	Daily
Existing (2 Dwellings)	**1**	**2**	**19**
Proposed (5 Dwellings)	**4**	**5**	**47**
Change	**+ 3**	**+ 3**	**+ 28**

Both the existing conditions and the proposed conditions represent very small numbers of dwellings, but the comparions between existing a proposed conditions are comparable.[2]

I will of course be available to address any questions that arise concerning these matters.

Sincerely,

Chester "Rick" Chellman, P.E., P.L.S.

Email only copies to:
Ledge Development. LLC

[2] The ITE Trip Generation information is a database of traffic trip data collected from a very large number of sites. The number of dwellings sampled for daily trip generation data is within the range of 10 to 2,945 dwellings.

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

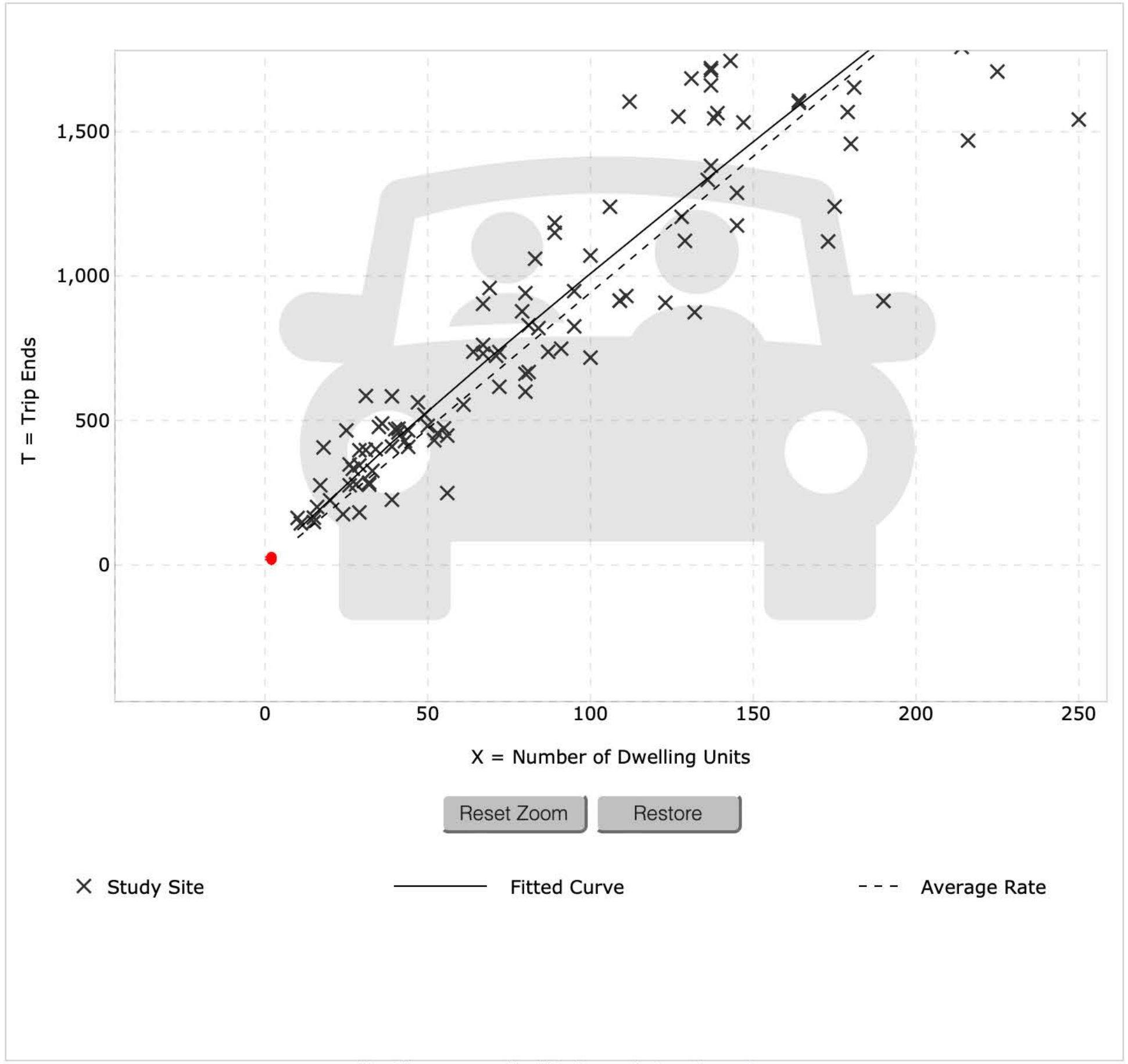
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
174

Avg. Num. of Dwelling Units:
246

Average Rate:
9.43

Range of Rates:
4.45 - 22.61

Standard Deviation:
2.13

Fitted Curve Equation:
$Ln(T) = 0.92\ Ln(X) + 2.68$

R^2:
0.95

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 19 (Total), 9 (Entry), 10 (Exit)
Fitted Curve: 28 (Total), 14 (Entry), 14 (Exit)

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

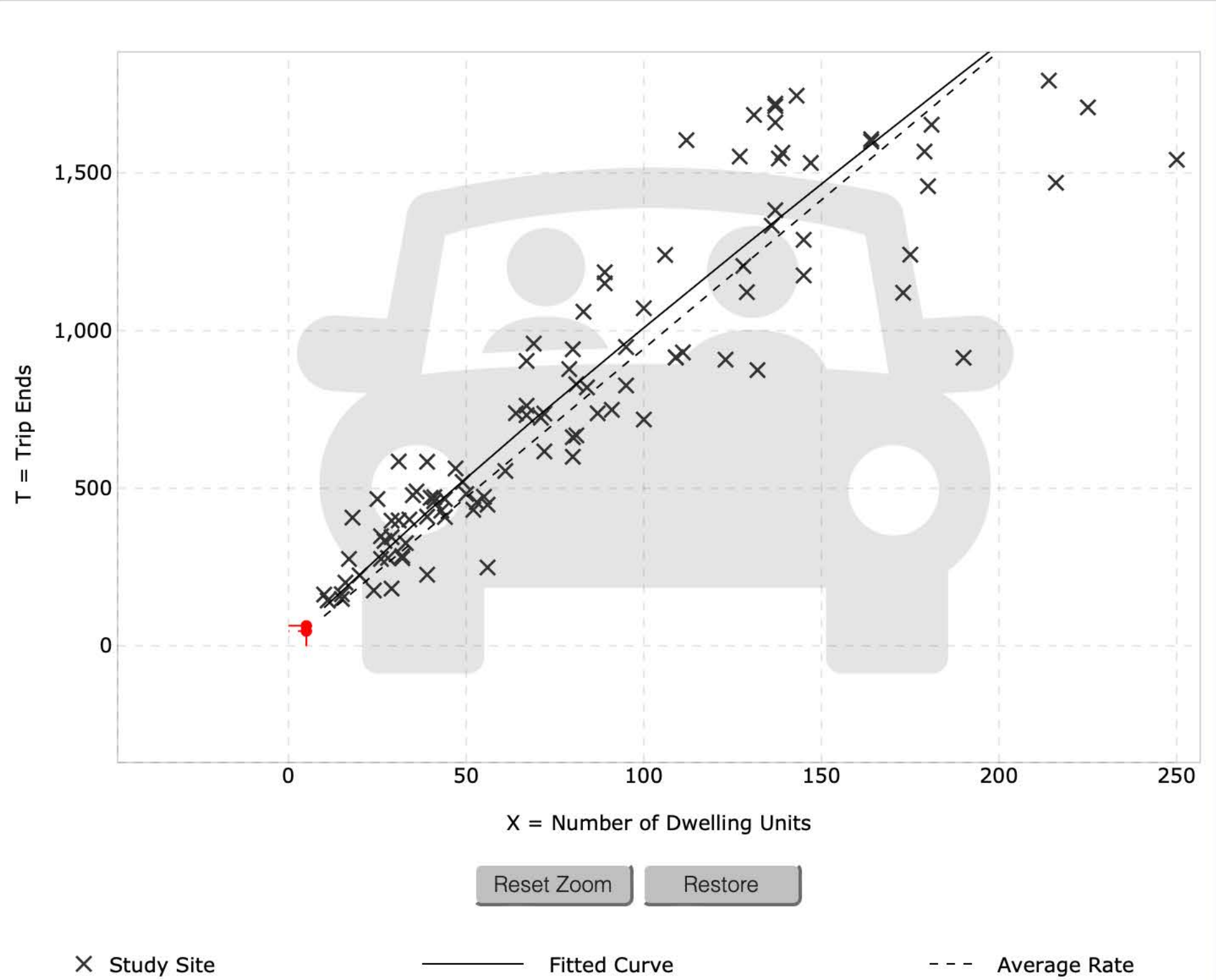
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
5 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
174

Avg. Num. of Dwelling Units:
246

Average Rate:
9.43

Range of Rates:
4.45 - 22.61

Standard Deviation:
2.13

Fitted Curve Equation:
Ln(T) = 0.92 Ln(X) + 2.68

R^2:
0.95

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 47 (Total), 24 (Entry), 23 (Exit)
Fitted Curve: 64 (Total), 32 (Entry), 32 (Exit)

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

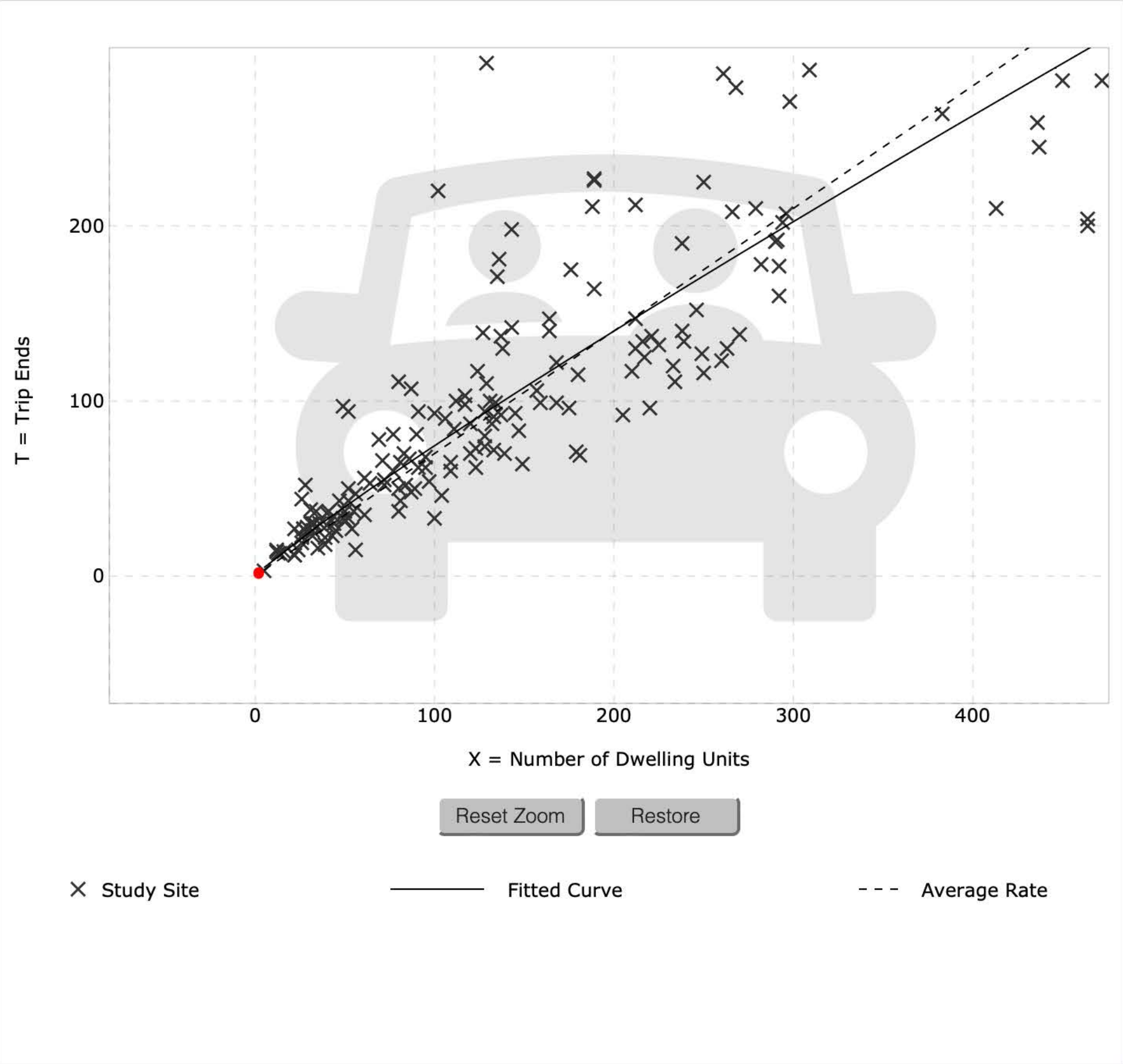
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffi

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
192

Avg. Num. of Dwelling Units:
226

Average Rate:
0.70

Range of Rates:
0.27 - 2.27

Standard Deviation:
0.24

Fitted Curve Equation:
$Ln(T) = 0.91\ Ln(X) + 0.12$

R^2:
0.90

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 1 (Total), 0 (Entry), 1 (Exit)
Fitted Curve: 2 (Total), 1 (Entry), 1 (Exit)

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

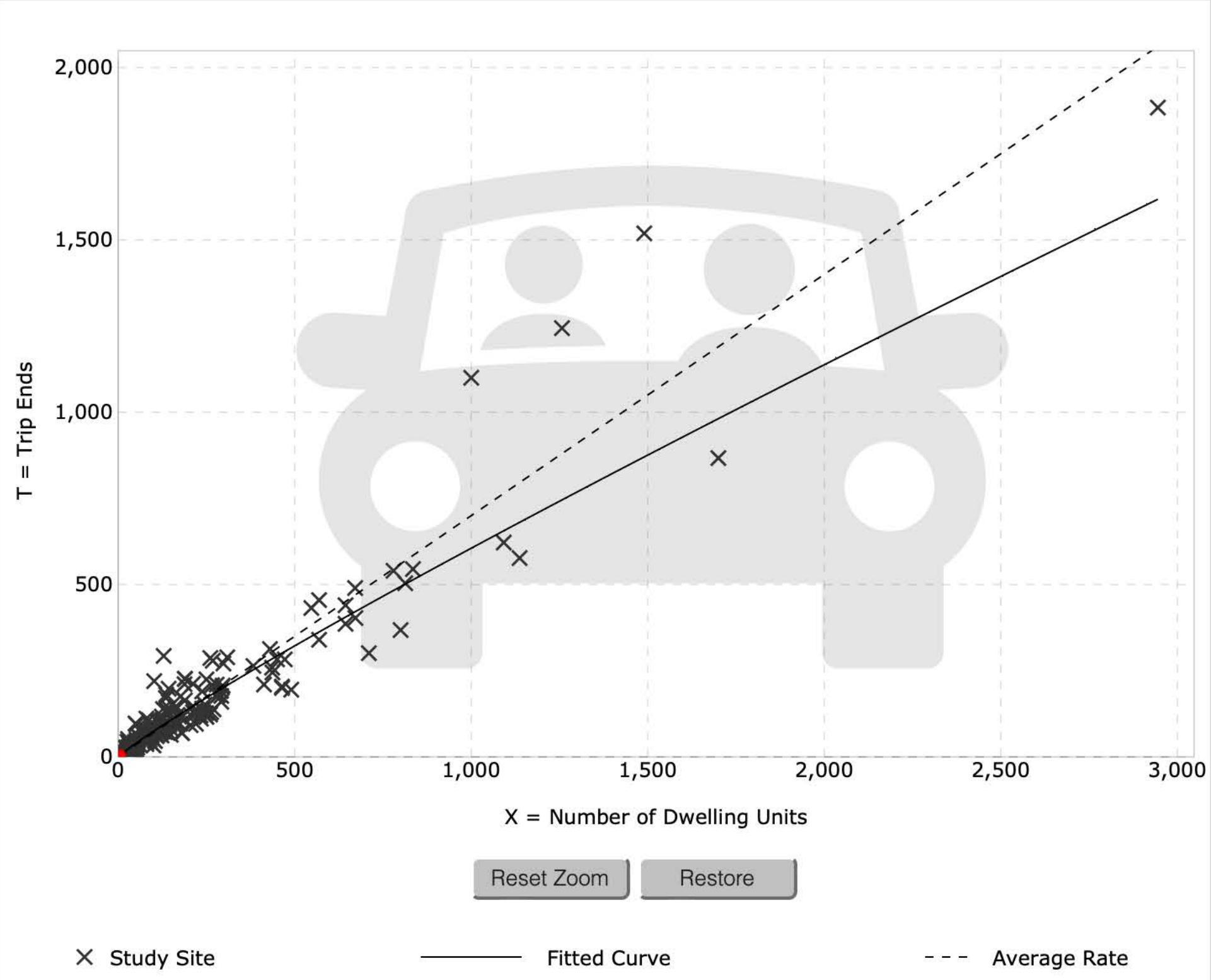
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffi

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
5 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
192

Avg. Num. of Dwelling Units:
226

Average Rate:
0.70

Range of Rates:
0.27 - 2.27

Standard Deviation:
0.24

Fitted Curve Equation:
$Ln(T) = 0.91\ Ln(X) + 0.12$

R^2:
0.90

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 4 (Total), 1 (Entry), 3 (Exit)
Fitted Curve: 5 (Total), 1 (Entry), 4 (Exit)

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

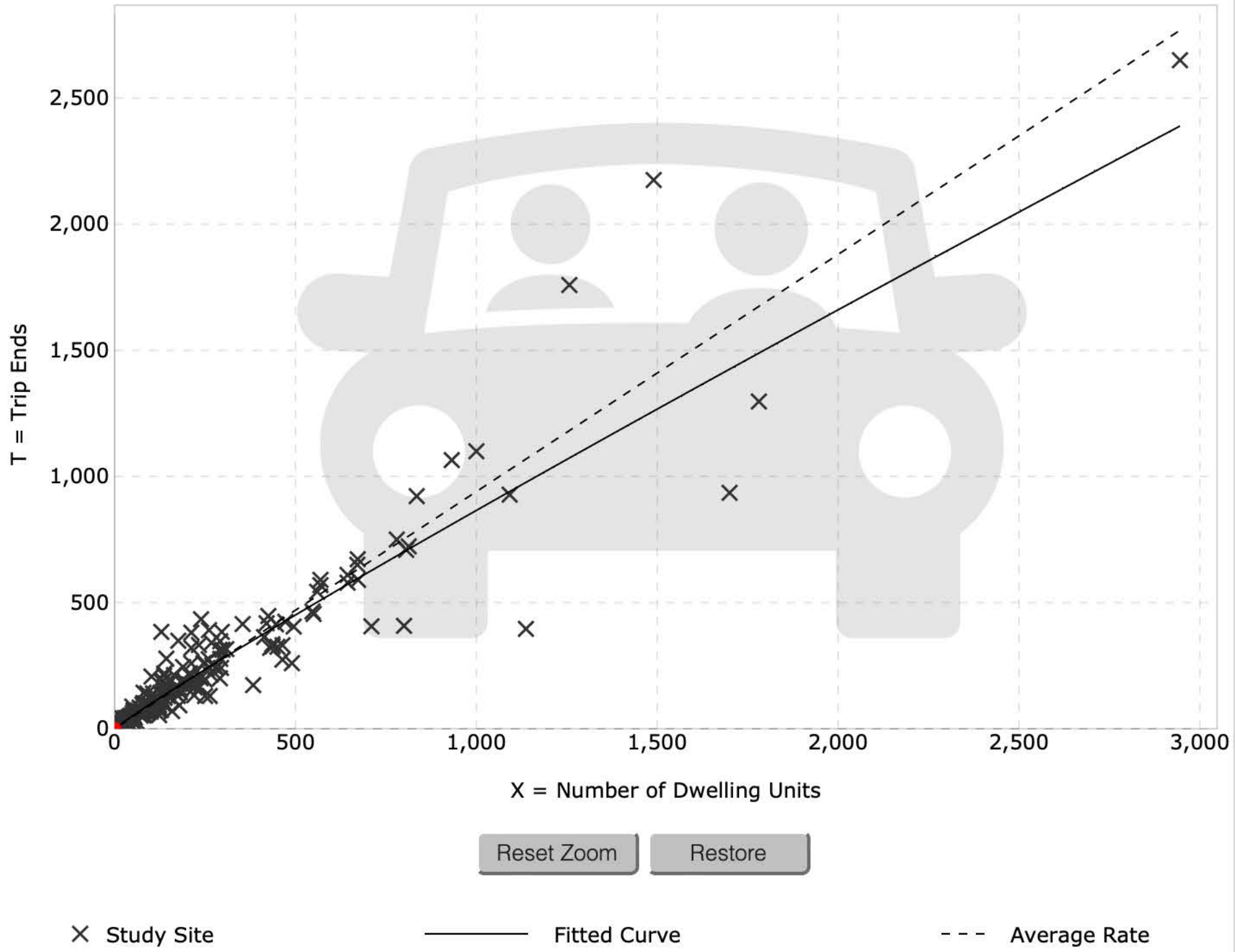
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
nt Street Traffic, One Hour Between 4 and 6 p

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
208

Avg. Num. of Dwelling Units:
248

Average Rate:
0.94

Range of Rates:
0.35 - 2.98

Standard Deviation:
0.31

Fitted Curve Equation:
$Ln(T) = 0.94\ Ln(X) + 0.27$

R^2:
0.92

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 2 (Total), 1 (Entry), 1 (Exit)
Fitted Curve: 3 (Total), 2 (Entry), 1 (Exit)

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

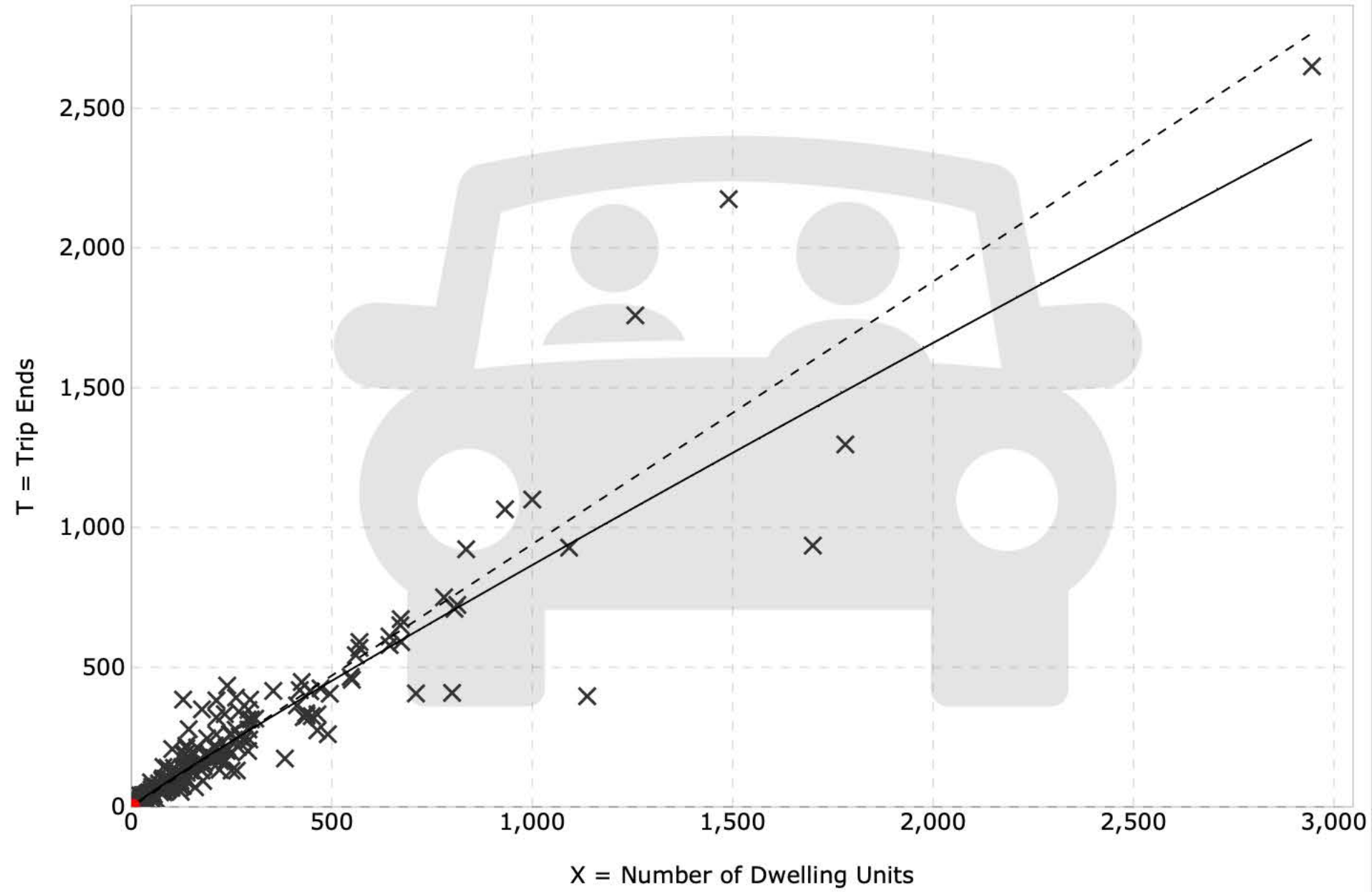
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
nt Street Traffic, One Hour Between 4 and 6 p

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
5 Calculate

Data Plot and Equation



Reset Zoom | Restore

× Study Site — Fitted Curve - - - Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
208

Avg. Num. of Dwelling Units:
248

Average Rate:
0.94

Range of Rates:
0.35 - 2.98

Standard Deviation:
0.31

Fitted Curve Equation:
$Ln(T) = 0.94\ Ln(X) + 0.27$

R^2:
0.92

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 5 (Total), 3 (Entry), 2 (Exit)
Fitted Curve: 6 (Total), 4 (Entry), 2 (Exit)

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
Div of Environmental Health , 11 SHS
(207) 287-5672 Fax: (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	Kittery
Street or Road	163–165 Rogers Road
Subdivision, Lot #	

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit# _____

Date Permit Issued __/__/__ Fee: $_____ Double Fee Charged [ ]

_____ L.P.I. # _____
Local Plumbing Inspector Signature

The Subsurface Wastewater Disposal System ***shall not*** be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map # 14 Lot # 53

OWNER/APPLICANT INFORMATION

Name (last, first, MI)	Ledge Development, LLC ■ Owner Applicant
Mailing Address of Owner	195 State St. Unit #1 Portsmouth, NH 03801
Daytime Tel. #	(603) 969–4073

OWNER OR APPLICANT STATEMENT

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.

_____ _____
Signature of Owner or Applicant Date

CAUTION: INSPECTION REQUIRED

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved

_____ _____
Local Plumbing Inspector Signature (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION

■. First Time System
2. Replacement System
Type replaced: _____
Year installed: _____
3. Expanded System
a. <25% Expansion
b. ≥25% Expansion
4. Experimental System
5. Seasonal Conversion

THIS APPLICATION REQUIRES

■. No Rule Variance
2. First Time System Variance
a. Local Plumbing Inspector Approval
b. State & Local Plumbing Inspector Approval
3. Replacement System Variance
a. Local Plumbing Inspector Approval
b. State & Local Plumbing Inspector Approval
4. Minimum Lot Size Variance
5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

■1. Complete Non-engineered System
2. Primitive System (graywater & alt. toilet)
3. Alternative Toilet, specify: _____
4. Non-engineered Treatment Tank (only)
5. Holding Tank, _____ gallons
6. Non-engineered Disposal Field (only)
7. Separated Laundry System
8. Complete Engineered System (2000 gpd or more)
9. Engineered Treatment Tank (only)
10. Engineered Disposal Field (only)
11. Pre-treatment, specify: _____
12. Miscellaneous Components

SIZE OF PROPERTY

2.8± SQ. FT. ■ ACRES

SHORELAND ZONING

Yes ■No

DISPOSAL SYSTEM TO SERVE

1. Single Family Dwelling Unit, No. of Bedrooms: ____
■. Multiple Family Dwelling, No. of Units: 3, 3 bedroom
3. Other: _____ units. (detatched condos)
(specify)
Current Use Seasonal Year Round ■Undeveloped

TYPE OF WATER SUPPLY

1. Drilled Well 2. Dug Well 3. Private
■4. Public 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

■1. Concrete
■a. Regular
b. Low Profile
2. Plastic
3. Other: _____
CAPACITY: 3250 GAL. tot.
(A 2000 gal. tank followed by a 1250 gal., 2 compart. tank.)

DISPOSAL FIELD TYPE & SIZE

1. Stone Bed 2. Stone Trench
■3. Proprietary Device
■a. cluster array c. Linear
■b. regular load d. H-20 load
4. Other: _____
SIZE: 2112 ■ sq. ft. lin. ft.

GARBAGE DISPOSAL UNIT

■1. No 2. Yes 3. Maybe
If Yes or Maybe, specify one below:
a. multi-compartment tank
b. ___ tanks in series
c. increase in tank capacity
d. Filter on Tank Outlet

DESIGN FLOW

810 gallons per day
BASED ON:
■1. Table 4A (dwelling unit(s))
2. Table 4C(other facilities)
SHOW CALCULATIONS for other facilites
44 Eljen In–drains required, 44 provided.
3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE/CONDITION
4 / B
at Observation Hole # 1
Depth 50 "
of Most Limiting Soil Factor,
Elevation: –105"

DISPOSAL FIELD SIZING

■. Medium---2.6 sq. ft. / gpd
2. Medium---Large 3.3 sq. f.t / gpd
3. Large---4.1 sq. ft. / gpd
4. Extra Large---5.0 sq. ft. / gpd

EFFLUENT/EJECTOR PUMP

■1. Not Required Raise houses to avoid pump.
2. May Be Required
3. Required

DOSE: _____ gallons max.

LATITUDE AND LONGITUDE
at center of disposal area
Lat. 43 d 05 m 55.1 s
Lon. 70 d 44 m 27.0 s
if g.p.s, state margin of error: 29'

SITE EVALUATOR STATEMENT

I certify that on 18 July 2023 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Site Evaluator Signature	SE # 361	Date 24 July 2023
Site Evaluator Name Printed: Peter Drummond	Telephone Number (207) 752–6162	E-mail Address

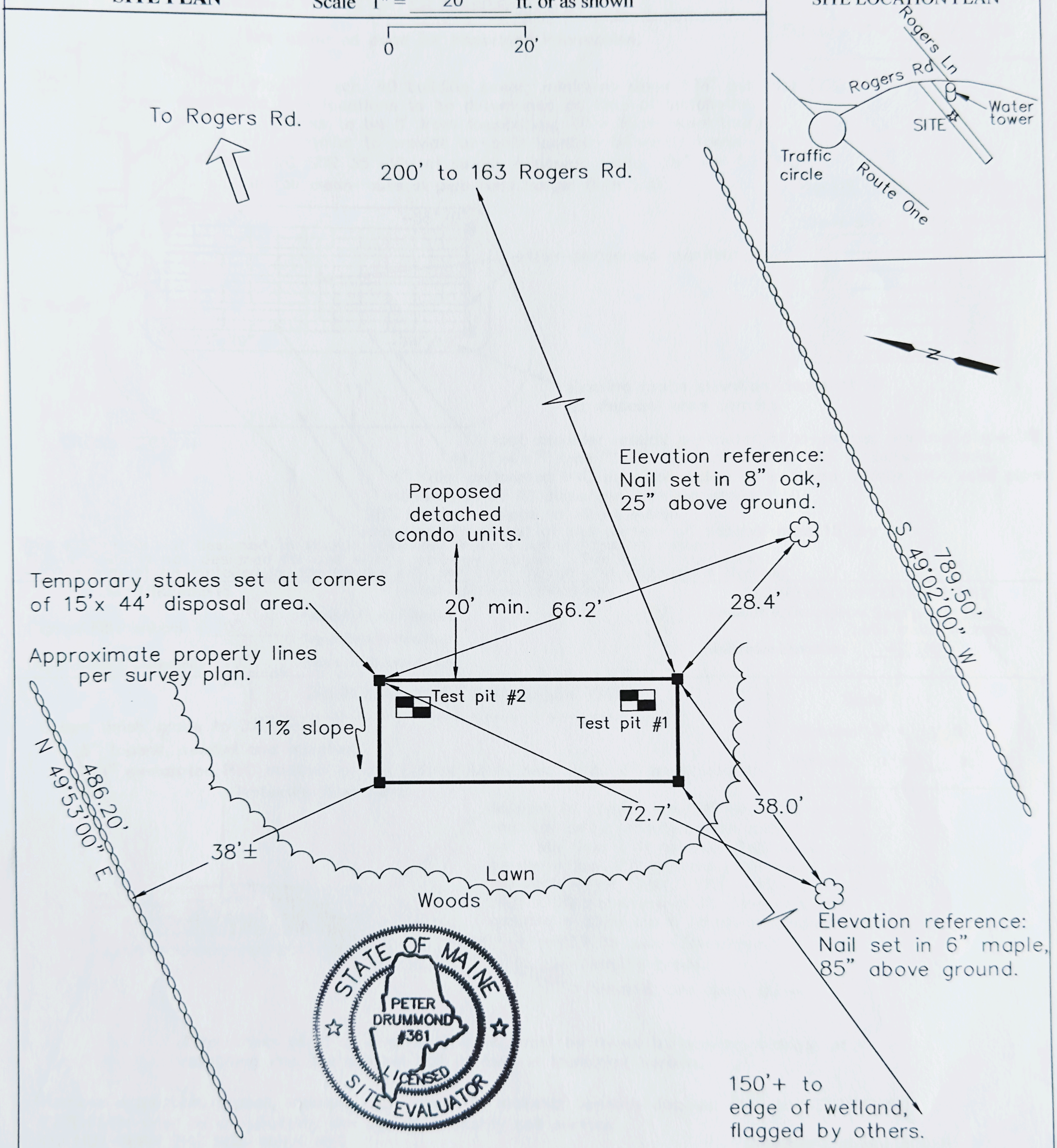
Note: Changes to or deviations from the design must be confirmed with the Site Evaluator. HHE-200 Rev. 08/2011

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Kittery	163–165 Rogers Road	Ledge development, LLC

SITE PLAN Scale 1" = 20 ft. or as shown



STATE OF MAINE
PETER DRUMMOND
#361
LICENSED
SITE EVALUATOR

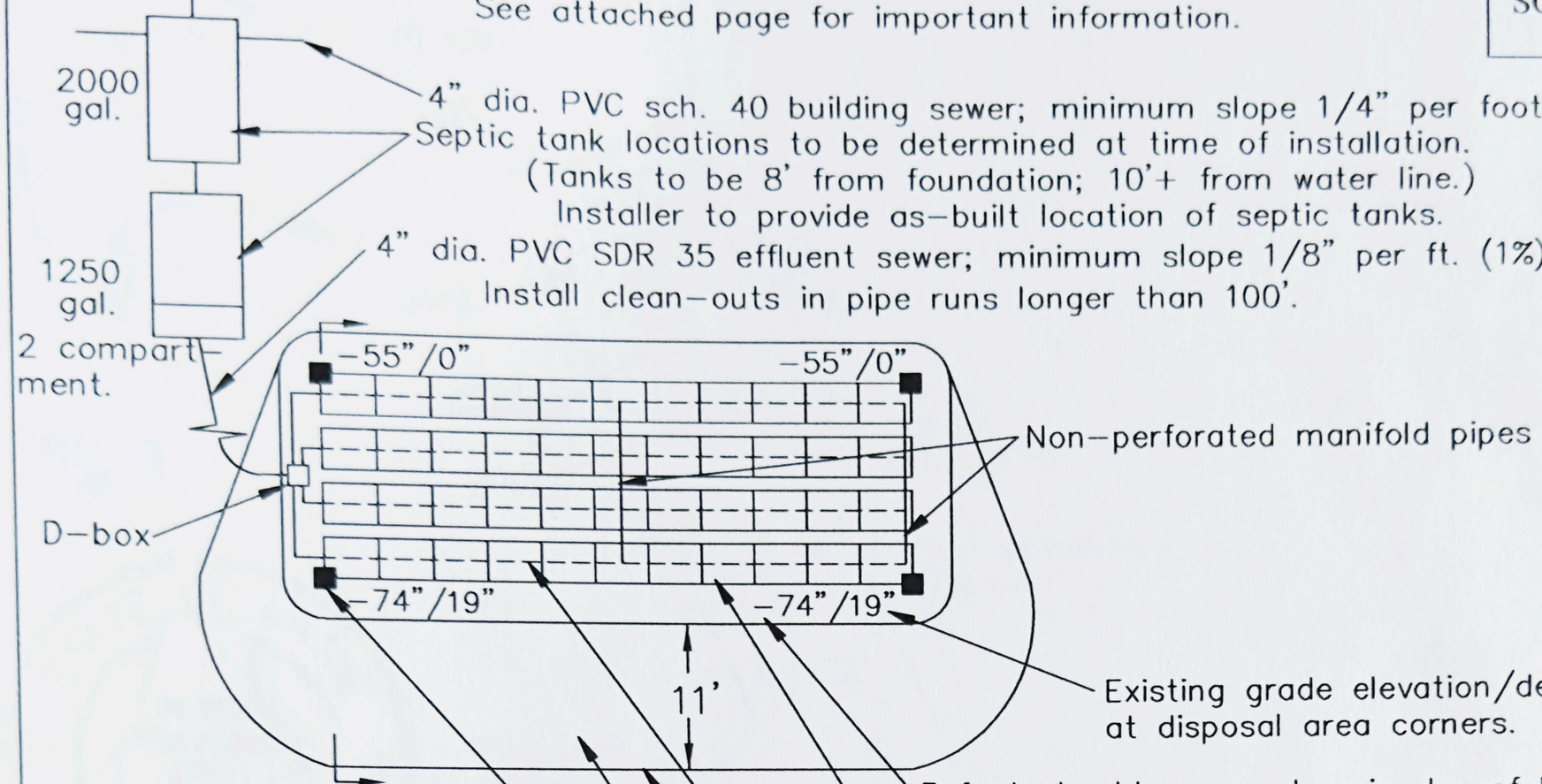
Site Evaluator Signature	SE #	Date
	361	24 July 2023

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION	Department of Human Services Division of Health Engineering (207) 287-5672 Fax: (207) 287-3165
Town, City, Plantation: Kittery Street, Road, Subdivision: 163–165 Rogers Road	Owner's Name: Ledge development, LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 20' FT.

See attached page for important information.



4" dia. PVC sch. 40 building sewer; minimum slope 1/4" per foot (2%).
Septic tank locations to be determined at time of installation.
(Tanks to be 8' from foundation; 10'+ from water line.)
Installer to provide as-built location of septic tanks.
4" dia. PVC SDR 35 effluent sewer; minimum slope 1/8" per ft. (1%).
Install clean-outs in pipe runs longer than 100'.
Non-perforated manifold pipes
Existing grade elevation/depth of fill at disposal area corners.
3 foot shoulder around perimeter of In-drains; surface slope 3%.
44, 3'x4'x7" type "B43" Eljen In-drains; one ft. between rows.
4" dia. perforated PVC pipe connected at end and middle with solid pipe.
Intersection of fill slope and existing grade.
25% maximum slope of fill extension.
Temporary stakes set at the corners of disposal area 15' by 44'.

Backfill Textural Gradation

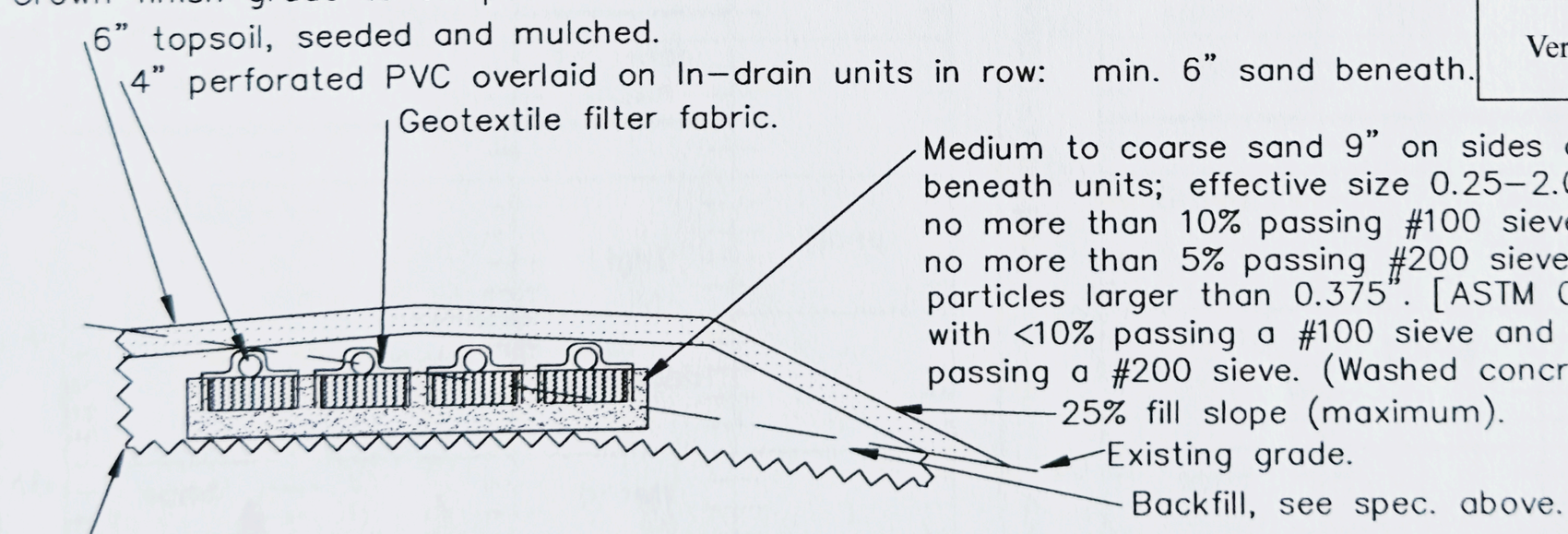
Sieve size	Percent passing by weight
3"	100
#4	75–100
#10	50–100
#60	10–50
#100	2–20
#200	2–8
Clay fraction	0–2

This system is not designed to accept backwash from a water filtration system.
This system is not designed for use with a garbage disposal. This design complies with and must be installed in accordance with the Eljen Design and Installation Manual.

FILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT
Depth of Fill (Upslope)	0"	Finished Grade Elevation	-55"	Location & Description: See page two, both nails = zero.
		Top of Distribution Pipe	-63"	Reference Elevation: =ZERO
Depth of Fill (Downslope)	19"	Bottom of Disposal Area	-74"	

DISPOSAL AREA CROSS SECTION

Scale
Horizontal 1" = 10' ft.
Vertical 1" = 5' ft.



A minimum of 4" of backfill material must be mixed by plowing, disking, or rototilling into the original soil to form a transition horizon.

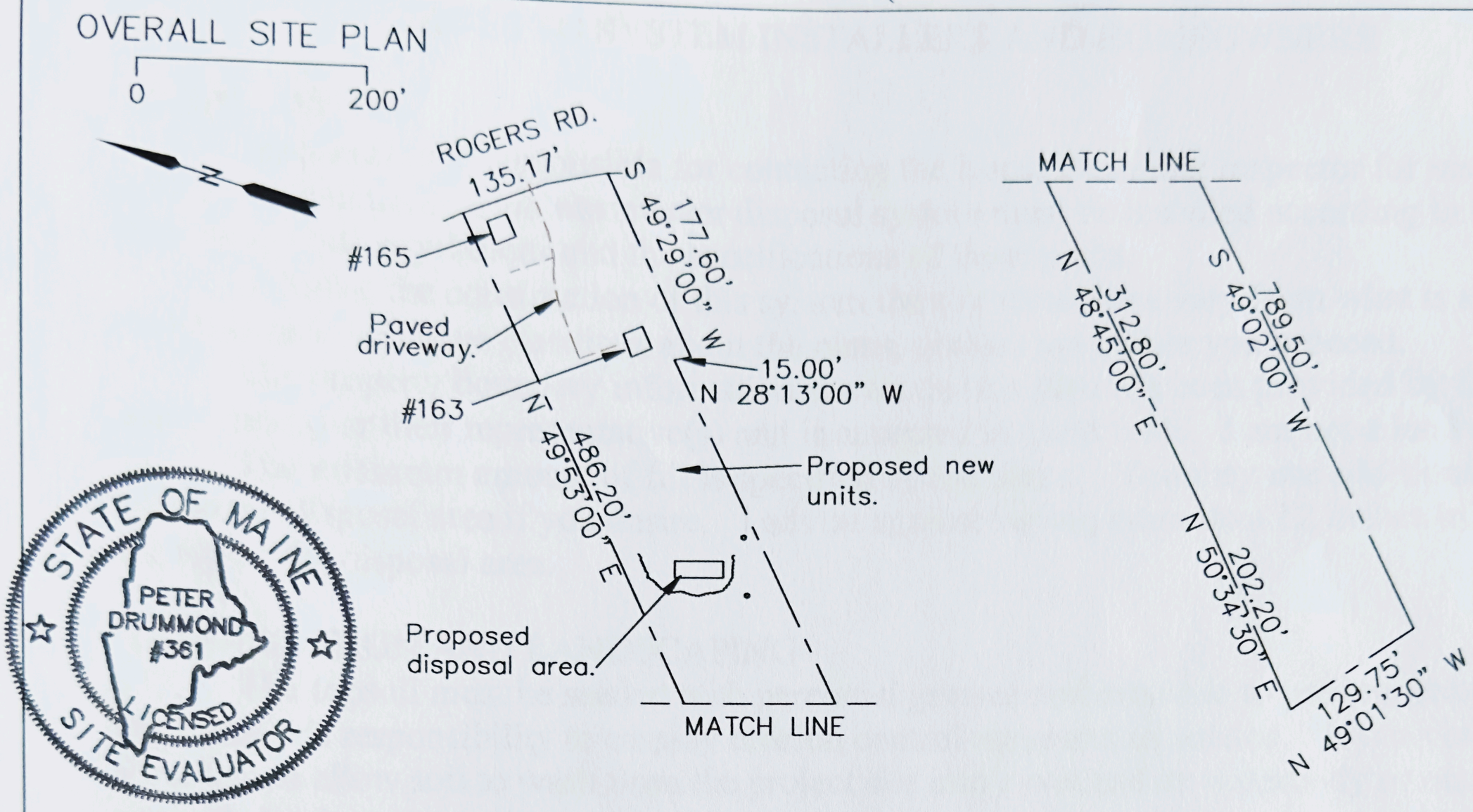
Remove vegetation, topsoil, stumps, and unsuitable material beneath disposal area and ENTIRE FILL EXTENSION prior to constructing the system. Scarify soil surface.
DO NOT WORK THE SOIL WHEN WET.

Designer's phone # 439-3624

Site Evaluator Signature	SE #	Date	
	361	24 July 2023	Page 3 of 6 HHE-200 Rev. 8/01

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION	Department of Human Services Division of Health Engineering (207) 287-5672 Fax: (207) 287-3165
Town, City, Plantation: Kittery Street, Road, Subdivision: 163–165 Rogers Road	Owner's Name: Ledge development, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)



Observation Hole One ■ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Stony fine sandy loam	Friable	Dark brown	
10–20			Yellowish brown	
20–30	Gravelly loamy	Loose	Light yellowish	None
30–40				
40–50	sand		brown	

Soil Classification		Slope	Limiting Factor	
4	B	11 %	50 "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock ■ Pit Depth
Profile	Condition			

Observation Hole Two ■ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Stony fine sandy loam	Friable	Dark brown	
10–20			Yellowish brown	
20–30	Gravelly loamy	Loose	Light yellowish	None
30–40				
40–50	sand		brown	

Soil Classification		Slope	Limiting Factor	
4	B	11 %	50 "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock ■ Pit Depth
Profile	Condition			

Site Evaluator Signature	SE #	Date
[signature]	361	24 July 2023

TND ENGINEERING

TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

Mr. Dutch Dunkelberger
Chair, Planning Board
Kittery, Maine
200 Rogers Road
Kittery, Maine 03904

August 22, 2023

Re: The Enclave- 163 & 165 Rogers Road

Dear Mr. Dunkelberger and Members of the Planning Board:

The elevation perspective images below are representative of what the applicants are proposing for the new 3 dwellings in The Enclave.

Sincerely,

Chester "Rick" Chellman, P.E., L.L.S.

Email only copies to:
Ledge Development, LLC.

The Enclave Drainage Calculations

Front Area
Property (Around existing buildings): no significant changes proposed; no changes necessary. This area drains toward Rogers Road.

Rear Area

Existing Conditions: This area drains to the forested land which contains a wetlands (see Sheet 4).

Drainage Area (all areas proposed to be disturbed): 8,275 sq. ft
Runoff coefficient (all grassed lawn): .35
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Existing runoff:
2 year, 24 hr: 3.9 gpm
25 year, 24 hr: 7.5 gpm

Existing treatment: None all surface runoff.

Proposed (Build) Conditions:

Drainage Area (same areas proposed to be disturbed): 8,275 sq. ft
Runoff coefficient (all pavement & Buildings): 1.0
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Post Construction runoff:
2 year, 24 hr: 11.2 gpm less existing = 7.3 gpm
25 year, 24 hr: 21.5 gpm less existing = 14.0 gpm
Soil conditions: all Lyman loam. Saturation water transmission limit (Ksat): 14.03 in/hr

Proposed treatment: Surface flow to drywells (3). Each drywell 3'x8'x2'= 48 cubic feet, or 359 gallons/drywell, gross storage/drywell; net @ 2/3 = 239 gal/drywell.
Exfiltration @ 20% less than Ksat Ksat: 11.2 in/hr = .19 in/min
Drywell bases @ 24 sq ft. .19 in/min= 2.8 gpm design infiltration

2 year storm
7.3 gpm/ 3 drywells = 2.4 gpm/drywell; each drywell = 2.8 gpm; drywell infiltration 16.7% more than stormwater flow (all contained).

25 year storm
14.0 gpm/ 3 drywells = 4.7 gpm/drywell; each drywell = 2.8 gpm; drywell infiltration 59.6% of stormwater flow (most contained, 1.9 gpm flow to forested area).

These calculations show that the proposed drywells will contain all of the 2 year design storm runoff and will contain most of the 25 year design storm runoff.

The forested land that is proposed to remain untouched will therefore receive an additional 1.9 gpm during the 25 year storm.

There is an area of 9,825 sq. ft. of forest between the proposed development area and the mapped wetlands (not including the wetlands). This area will receive the additional 1.9 gpm during the 25 year storm. 1.9 gallons over that area equates to .254 cubic feet of water, spread over 9,825 square feet amounts to less than 0.00003' of water depth over the entire area. The water will not, of course, spread out over the entire area, but will first flow over the areas closest to the development that will receive and infiltrate the water before it reaches the wetlands.

To approximately quantify the stormwater benefits of the forested area, it was assumed the soils are consistent as they are mapped in the accompanying soils data sheets (test pits were not dug in the forested area to avoid disturbing it).

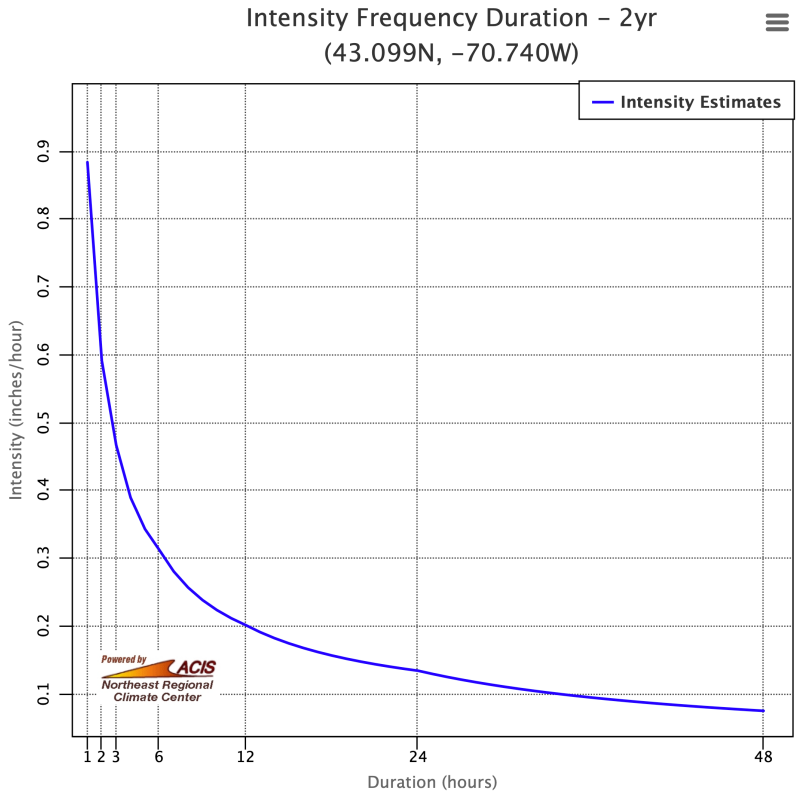
If these same soils are calculated at having only 1% of the capacity of the same soils near the proposed dry wells, then the area is capable of accepting 172 gpm, or 90 times more stormwater than will be sheet flowed into the forest during the 25 year storm.

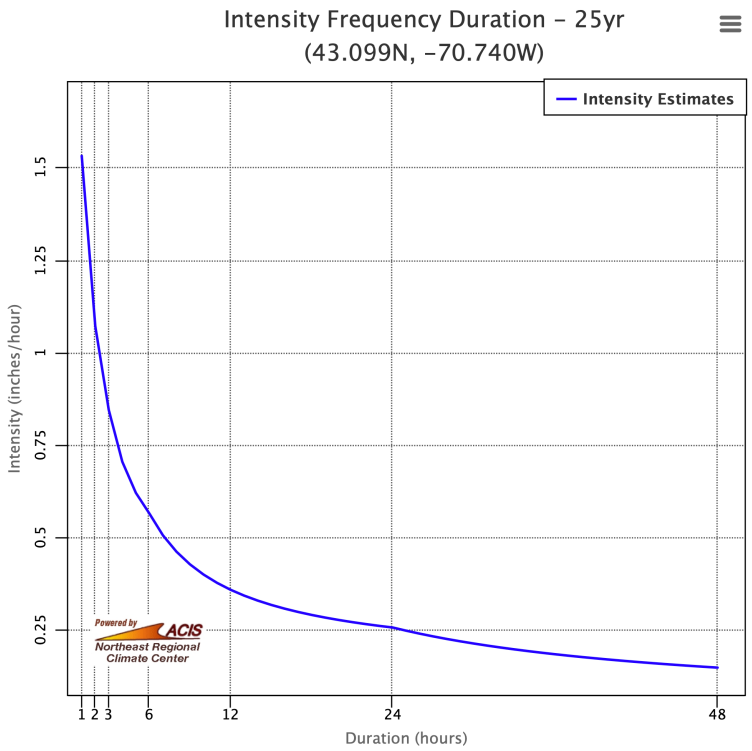
The benefits of "urban forests" which have many different descriptions, are many but stormwater management is one of those benefits as demonstrated here.

Respectfully Submitted,

Rick Chellman, P.E.

STATE OF MAINE
Chester E. Chellman
4962
LICENSED
PROFESSIONAL ENGINEER


Intensity Frequency Duration - 2yr
(43.099N, -70.740W)
Intensity Estimates
Intensity (inches/hour)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1 2 3
6
12
24
48
Duration (hours)
Powered by
ACIS
Northeast Regional
Climate Center


Intensity Frequency Duration - 25yr
(43.099N, -70.740W)
Intensity Estimates
Intensity (inches/hour)
1.5
1.25
1
0.75
0.5
0.25
1 2 3
6
12
24
48
Duration (hours)
Powered by
ACIS
Northeast Regional
Climate Center

United States Department of Agriculture

Natural Resources Conservation Service

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

Custom Soil Resource Report for

York County, Maine

163-165 Rogers Road

August 17, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

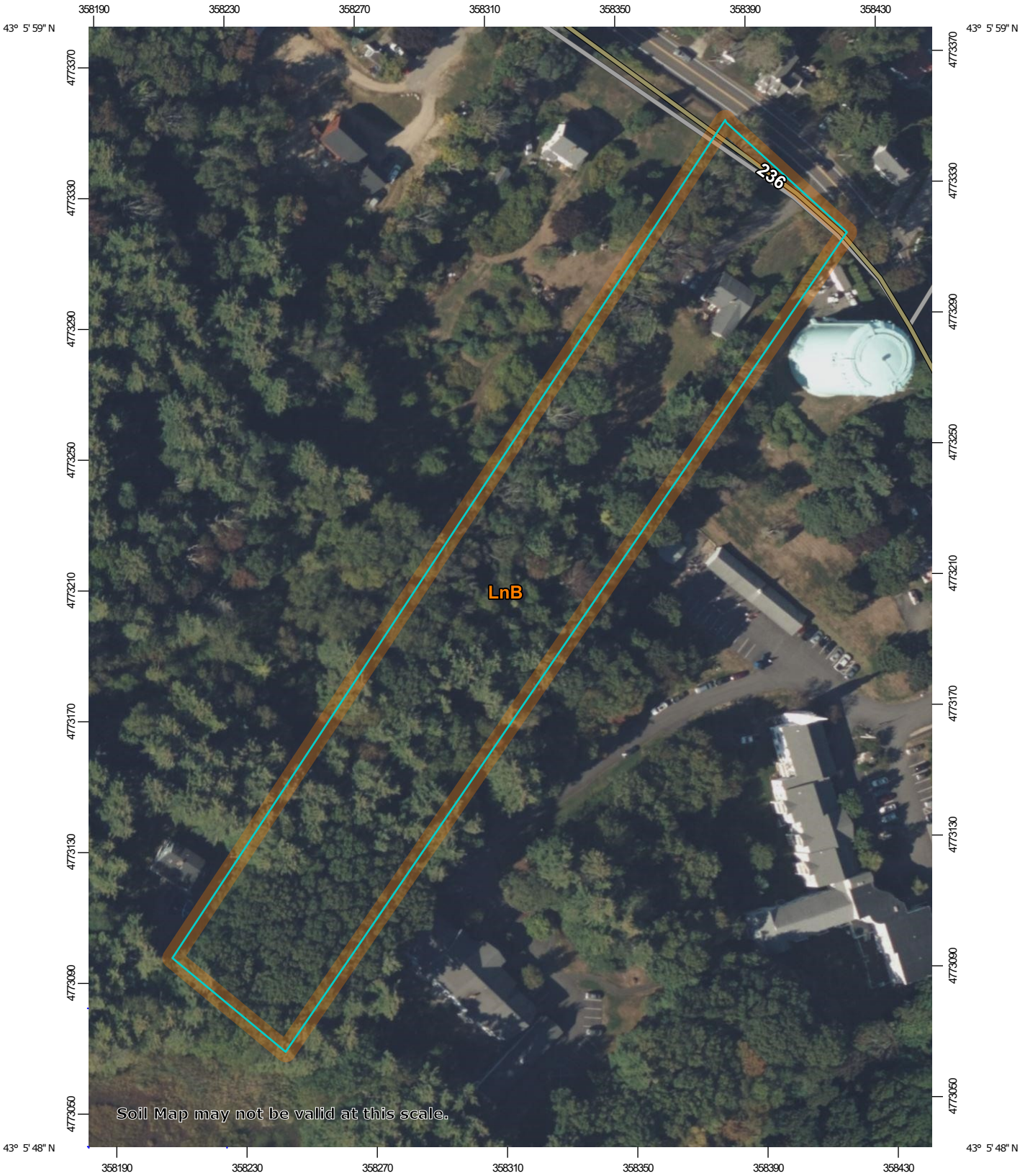
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,670 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 21, Aug 30, 2022

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LnB	Lyman loam, 3 to 8 percent slopes, rocky	3.6	100.0%
Totals for Area of Interest		**3.6**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

York County, Maine

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: D
Hydric soil rating: No

References

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The Enclave Drainage Calculations (Rev. 9.4.23)

Front Area

Property (Around existing buildings): Existing drive to be widened to 20' as per request of Fire Dept. This area drains toward Rogers Road.

Existing Conditions: This area drains to Rogers Rd.

Drainage Area (areas proposed to be disturbed): 300 sq. ft
Runoff coefficient (all grassed lawn): .35
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr
Existing runoff:
2 year, 24 hr: 0.1 gpm
25 year, 24 hr: 0.3 gpm

Proposed (Build) Conditions:

Driveway widening: 300 sq. ft
Runoff coefficient (all pavement): 1.0
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Drainage Area (areas proposed to be disturbed): 300 sq. ft
Runoff coefficient (all pavement): 1.0
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Post Construction runoff:
2 year, 24 hr: 0.4 gpm less existing = 0.3 gpm
25 year, 24 hr: 0.8 gpm less existing = 0.5 gpm

Proposed treatment: None. Even at .5 gpm, this is only about 5% of the flow rate of a garden hose (which ranges from 10-15 gpm for a 5/8" to 3/4" hose). The roadside swale area of Rogers Rd will capably handle this amount of water.

Rear Area

Existing Conditions: This area drains to the forested land which contains a wetlands (see Sheet 4).

Drainage Area (all areas proposed to be disturbed): 8,385 sq. ft
Runoff coefficient (all grassed lawn): .35
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Existing runoff:
2 year, 24 hr: 4.0 gpm
25 year, 24 hr: 7.6 gpm

Existing treatment: None all surface runoff.

Proposed (Build) Conditions:

Drainage Area (same areas proposed to be disturbed): 8,385 sq. ft
Runoff coefficient (all pavement & Buildings): 1.0
2 year, 24 hour storm: .13 in/hr
25 year, 24 hour storm: .25 in/hr

Post Construction runoff:
2 year, 24 hr: 11.3 gpm less existing = 7.3 gpm
25 year, 24 hr: 21.8 gpm less existing = 14.2 gpm
Soil conditions: all Lyman loam. Saturation water transmission limit (Ksat): 14.03 in/hr

Proposed treatment: First- surface flow to drywells (3). Each drywell 3'x8'x2'= 48 cubic feet, or 359 gallons/drywell, gross storage/drywell; net @ 2/3 = 239 gal/drywell.
Exfiltration @ 20% less than Ksat: 11.2 in/hr = .19 in/min
Drywell bases @ 24 sq ft. each @19 in/min= 2.8 gpm design infiltration

2 year storm
7.3 gpm/ 3 drywells = 2.4 gpm/drywell; capacity each drywell = 2.8 gpm; drywell infiltration 16.7% more than stormwater flow (all contained).

25 year storm
14.2 gpm/ 3 drywells = 4.7 gpm/drywell; each drywell capacity = 2.8 gpm; drywell infiltration 59% of stormwater flow (most contained, 1.9 gpm X 3, or 5.8 gpm flow to forested area).

These calculations show that the proposed drywells will contain all of the 2 year design storm runoff and will contain most of the 25 year design storm runoff.

The forested land that is proposed to remain untouched will therefore receive an additional 5.8 gpm during the 25 year storm.

There is an area of 39,300 sq. ft. of forest between the proposed development area and the mapped wetlands (not including the wetlands). This area will receive the additional 5.8 gpm during the 25 year storm. 5.8 gallons over that area equates to .775 cubic feet of water, spread over 39,300 square feet amounts to less than 0.00002' (or 0.00024") of water depth over the entire area. The water will not, of course, spread out over the entire area, but will first flow over the areas closest to the development that will receive and infiltrate the water before it reaches the wetlands.

To approximately quantify the stormwater benefits of the forested area, it was assumed the soils are consistent as they are mapped in the accompanying soils data sheets (test pits were not dug in the forested area to avoid disturbing it).

With these assumptions, the forested area above the wetlands are capable of handling approximately 800 gpm of flow, or more than 135 times as much excess water as generated by the 25 year storm. This is also logically consistent with the idea that 5.8 gallons/minute is well less than a garden hose flow and 39,300 sq ft of land (0.9 acre) is well capable of handling that amount of water. Even without the drywells, the total of 25 year storm flow 14.2 gpm is only 2% of the capacity of the undisturbed forest.

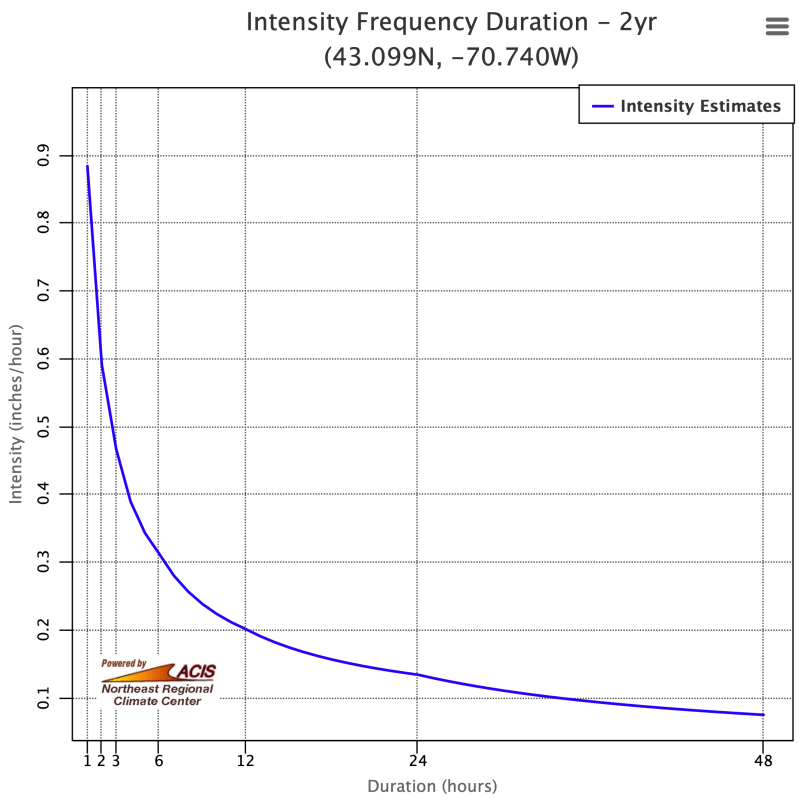
The benefits of "urban forests" which have many different descriptions, are many but stormwater management is one of those benefits as demonstrated here. The Maine Erosion and Sediment Control BMPs manual notes that forested buffer areas, such as are proposed to be preserved here, are beneficial for stormwater treatment as well as for stormwater containment. "It is preferable to protect or re-establish native forest cover"[1] for these purposes.

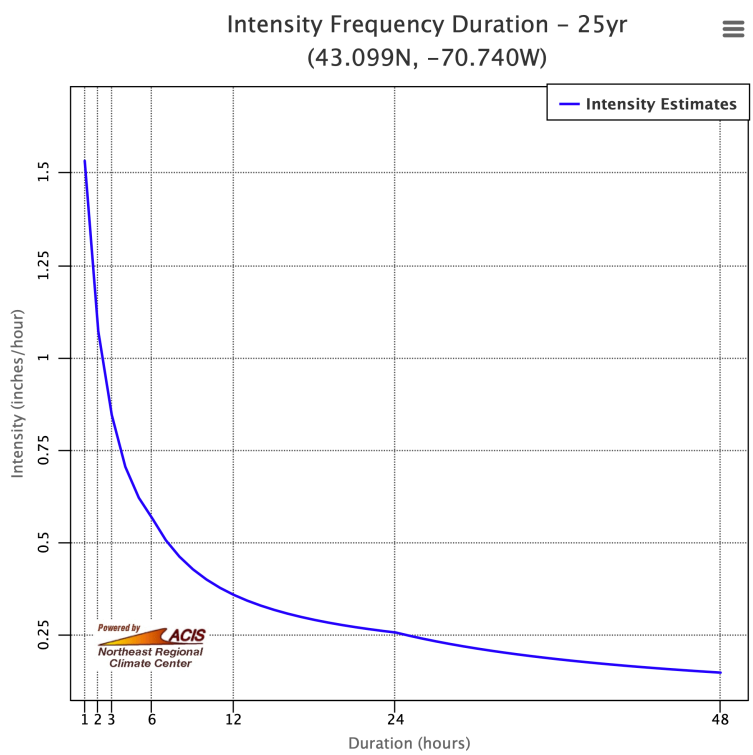
Respectfully Submitted,

Rick Chellman, P.E.

STATE OF MAINE
Chester E. Chellman
4962
LICENSED
PROFESSIONAL ENGINEER

[1] Maine Erosion and Sediment Control BMPs manual, 10/2016 edition, pg. 102.


Intensity Frequency Duration - 2yr
(43.099N, -70.740W)
Intensity Estimates
Intensity (inches/hour)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1 2 3
6
12
24
48
Duration (hours)
Powered by
ACIS
Northeast Regional
Climate Center


Intensity Frequency Duration - 25yr
(43.099N, -70.740W)
Intensity Estimates
Intensity (inches/hour)
0.25
0.5
0.75
1
1.25
1.5
1 2 3
6
12
24
48
Duration (hours)
Powered by
ACIS
Northeast Regional
Climate Center

The Enclave: 163-165 ROGERS HEADSTONE AREA PHOTOS

Figure 1: Looking Toward Rogers Road- Top Closer; B & H Keen Headstone Larger Stone Center and Left of Center

The Enclave: 163-165 ROGERS HEADSTONE AREA PHOTOS

Figure 2: Top looking Southeast; Bottom Closeup of Benjamin & Hannah Keen Headstone

TEMPORARY LICENSE AGREEMENT

This LICENSE AGREEMENT is made as of _____ 202_, between The Enclave Condominium Homeowners' Association ("Licensor"), and _____ ("Licensee").

WHEREAS, the parties desire, by this License Agreement, to provide for the temporary licensing by Licensor to Licensee of the right to access a certain area containing graves as partly depicted on The Enclave subdivision plan (hereafter referred to herein as the "License Area"); and NOW, THEREFORE, in consideration of the mutual agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby covenant and agree as follows:

License.

Licensor hereby grants to Licensee a temporary license (the "License") to visit the License Area and grants rights of access for pedestrians only thereto along the route designated by the Licensor for the purposes hereinafter provided as of this _____ day of _____, 20___, at 11:00 AM and shall extend to ____. _____, 20____ at ___:____ (time).

Licensor may renew, either on a regular schedule or may, in Licensor's sole discretion, grant an automatic license valid each year on a particular day or during particular time period, as may be specified in the license.

Licensor may, in Licensor's sole discretion, grant additional rights to trim vegetation and otherwise perform light maintenance of the graves area.

Licensor shall have the right to terminate this License if,_____

TND ENGINEERING

TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

Abutters to Kittery Parcels
14-53 and 14-53-1
Various addresses (see attached)

August 24, 2023

Re: The Enclave proposed subdivision

Dear Abutter:

Please be advised that I am the authorized agent, acting on behalf of the Estate of Ruth Bouffard and Karen Bouffard, as owners, and Ledge Development, LLC as applicant for a proposed subdivision at 163-165 Rogers Road.

This application proposes to construct three single family dwellings on the property, for a total after construction of five single family dwellings, to be owned under the condominium form of ownership.

This letter is to advise you that I have submitted an application for preliminary subdivision review for the proposal with the Town of Kittery.

Sincerely,

Rick

Chester "Rick" Chellman, P.E., L.L.S.

Email only copies to:
Bouffards
Ledge Development, LLC

150 foot Abutters List Report

Kittery, ME
August 24, 2023

Subject Properties:

Parcel Number:	14-53	Mailing Address:	BOUFFARD, HARRY E BOUFFARD, HARRY E PO BOX 30 KITTERY, ME 03904
CAMA Number:	14-53		
Property Address:	163 ROGERS ROAD		

Parcel Number:	14-53-1	Mailing Address:	BOUFFARD, HARRY E BOUFFARD, HARRY E PO BOX 30 KITTERY, ME 03904
CAMA Number:	14-53-1		
Property Address:	165 ROGERS ROAD		

Abutters:

Parcel Number:	14-51	Mailing Address:	VERNON CONTINUING CARE HOMES INC VERNON CONTINUING CARE HOMES INC 143 ROGERS ROAD SUITE 100 KITTERY, ME 03904-1449
CAMA Number:	14-51		
Property Address:	143-147 ROGERS ROAD		
Parcel Number:	14-52	Mailing Address:	KITTERY WATER DISTRICT KITTERY WATER DISTRICT 17 STATE ROAD KITTERY, ME 03904-1565
CAMA Number:	14-52		
Property Address:	147 ROGERS ROAD		
Parcel Number:	14-54	Mailing Address:	TOBEY, JOYCE ANN TOBEY, JOYCE ANN 167 ROGERS ROAD KITTERY, ME 03904-1429
CAMA Number:	14-54		
Property Address:	167 ROGERS ROAD		
Parcel Number:	14-87	Mailing Address:	MILLER, TODD KEITH MILLER, TODD KEITH 21 STERLING ROAD KITTERY, ME 03904
CAMA Number:	14-87		
Property Address:	21 STERLING ROAD		
Parcel Number:	22-21	Mailing Address:	SPENGLER, TR, ELLEN SPENGLER, TR, ELLEN 100 SANDPIPER LN #A1 KITTERY, ME 03904
CAMA Number:	22-211-A		
Property Address:	100 SANDPIPER LANE #A1		
Parcel Number:	22-21	Mailing Address:	DEBORAH B. BRYAN REV. TRUST DEBORAH B. BRYAN REV. TRUST 16 N. VILLAGE PKWY PALM COAST, FL 32137
CAMA Number:	22-211-B		
Property Address:	100 SANDPIPER LANE #B1		
Parcel Number:	22-21	Mailing Address:	DUNKELBERGER, GRETCHEN S DUNKELBERGER, GRETCHEN S 100 SANDPIPER LN #C1 KITTERY, ME 03904
CAMA Number:	22-211-C		
Property Address:	100 SANDPIPER LANE #C1		
Parcel Number:	22-21	Mailing Address:	SANDRA L. EVANS LIV. TRUST SANDRA L. EVANS LIV. TRUST 100 SANDPIPER LANE UNIT A2 KITTERY, ME 03904
CAMA Number:	22-212-A		
Property Address:	100 SANDPIPER LANE #A2		

150 foot Abutters List Report

Kittery, ME
August 24, 2023

Parcel Number:	22-21	Mailing Address:	HOEY, ROBERT A HOEY, ROBERT A
CAMA Number:	22-212-B		100 SANDPIPER LANE #B2
Property Address:	100 SANDPIPER LANE #B2		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	LYON, DAVID W LYON, DAVID W
CAMA Number:	22-212-C		100 SANDPIPER LN #C2
Property Address:	100 SANDPIPER LANE #C2		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	
CAMA Number:	22-21A		
Property Address:	100-100 SHEPARDS COVE ROAD		,
Parcel Number:	22-21	Mailing Address:	MCCARD, HAROLD K MCCARD, HAROLD K
CAMA Number:	22-21A-1		100 SHEPARDS COVE RD #A1
Property Address:	100 SHEPARDS COVE ROAD #A1		KITTERY, ME 03904-1145
Parcel Number:	22-21	Mailing Address:	THE CAROL A. POWLEY LIV TRUST THE CAROL A. POWLEY LIV TRUST
CAMA Number:	22-21A-2		100 SHEPARDS COVE ROAD #A2
Property Address:	100 SHEPARDS COVE ROAD #A2		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	SPIEGELMAN INVESTMENT TRUST SPIEGELMAN INVESTMENT TRUST
CAMA Number:	22-21C-1		100 SHEPARDS COVE ROAD UNIT C1
Property Address:	100 SHEPARDS COVE ROAD #C1		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	LISA B DESTEFANO REV TRUST OF 2008 LISA B DESTEFANO REV TRUST OF 2008
CAMA Number:	22-21D-1		100 SHEPARDS COVE ROAD #D1
Property Address:	100 SHEPARDS COVE ROAD #D1		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	MOFFATT, SCOTT C MOFFATT, SCOTT C
CAMA Number:	22-21E-1		195 STATE ROAD
Property Address:	100 SHEPARDS COVE ROAD #E1		KITTERY, ME 03904-1517
Parcel Number:	22-21	Mailing Address:	RING, EVELYN, M. RING, EVELYN, M.
CAMA Number:	22-21F-101		100 SHEPARDS COVE RD #F101
Property Address:	100 SHEPARDS COVE ROAD #F101		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	BRYANT, RONALD P BRYANT, RONALD P
CAMA Number:	22-21F-102		100 SHEPARDS COVE RD UNIT F102
Property Address:	100 SHEPARDS COVE ROAD #F102		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	VIETEN, CONSTANCE M. VIETEN, CONSTANCE M.
CAMA Number:	22-21F-103		100 SHEPARDS COVE ROAD #F103
Property Address:	100 SHEPARDS COVE ROAD #F103		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	LEW, ROBERTA A LEW, ROBERTA A
CAMA Number:	22-21F-104		100 SHEPARDS COVE RD #F104
Property Address:	100 SHEPARDS COVE ROAD #F104		KITTERY, ME 03904

150 foot Abutters List Report

Kittery, ME
August 24, 2023

Parcel Number:	22-21	Mailing Address:	GERRY 2020 TRUST GERRY 2020 TRUST
CAMA Number:	22-21F-105		100 SHEPARDS COVE ROAD #F105
Property Address:	100 SHEPARDS COVE ROAD #F105		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	POULIOPOULOS, CHRISTINA POULIOPOULOS, CHRISTINA
CAMA Number:	22-21F-106		100 SHEPARDS COVE RD #F106
Property Address:	100 SHEPARDS COVE ROAD #F106		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	BROWN, STEPHANIE K. BROWN, STEPHANIE K.
CAMA Number:	22-21F-107		100 SHEPARDS COVE ROAD, UNIT F-107
Property Address:	100 SHEPARDS COVE ROAD #F107		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	FERREIRA, DIANA FERREIRA, DIANA
CAMA Number:	22-21F-108		100 SHEPARDS COVE RD #F108
Property Address:	100 SHEPARDS COVE ROAD #F108		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	TEMPLETON, TR, LEROY TEMPLETON, TR, LEROY
CAMA Number:	22-21F-201		7500 EAST MCCORMICK PARKWAY #53
Property Address:	100 SHEPARDS COVE ROAD #F201		SCOTTSDALE, AZ 85258
Parcel Number:	22-21	Mailing Address:	LECUYER, PAULINE D LECUYER, PAULINE D
CAMA Number:	22-21F-202		100 SHEPARDS COVE ROAD UNIT F202
Property Address:	100 SHEPARDS COVE ROAD #F202		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	COHEN TRS, LAWRENCE & SHEILA R COHEN TRS, LAWRENCE & SHEILA R
CAMA Number:	22-21F-203		100 SHEPARDS COVE RD #F203
Property Address:	100 SHEPARDS COVE ROAD #F203		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	SAXBY, STANLEY E SAXBY, STANLEY E
CAMA Number:	22-21F-204		100 SHEPARDS COVE RD #F204
Property Address:	100 SHEPARDS COVE ROAD #F204		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	SHARON T. SYKAS REV. TRUST DATED 02/21/2019 SHARON T. SYKAS REV. TRUST DATED 02/21/2019
CAMA Number:	22-21F-205		1855 LES CHATEAUX BLVD. UNIT 101
Property Address:	100 SHEPARDS COVE ROAD #F205		NAPLES, FL 34109
Parcel Number:	22-21	Mailing Address:	MANSFIELD, MARVEL K MANSFIELD, MARVEL K
CAMA Number:	22-21F-206		100 SHEPARDS COVE RD #F206
Property Address:	100 SHEPARDS COVE ROAD #F206		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	KHAVARI, MARA K KHAVARI, PARIS KHAVARI, MARA K KHAVARI, PARIS
CAMA Number:	22-21F-207		79 SPINNAKER WAY
Property Address:	100 SHEPARDS COVE ROAD #F207		PORTSMOUTH, NH 03801
Parcel Number:	22-21	Mailing Address:	RUTLEDGE, GERALD J RUTLEDGE, GERALD J
CAMA Number:	22-21F-208		100 SHEPARDS COVE RD #F208
Property Address:	100 SHEPARDS COVE ROAD #F208		KITTERY, ME 03904

150 foot Abutters List Report

Kittery, ME
August 24, 2023

Parcel Number:	22-21	Mailing Address:	WILMOTT, TR, GARETH WILMOTT, TR, GARETH 10 POPLAR DRIVE ORONO, ME 04473
CAMA Number:	22-21F-301		
Property Address:	100 SHEPARDS COVE ROAD #F301		
Parcel Number:	22-21	Mailing Address:	HOWARD, PATRICIA G. HOWARD, PATRICIA G. 100 SHEPARDS COVE ROAD #F-302 KITTERY, ME 03904
CAMA Number:	22-21F-302		
Property Address:	100 SHEPARDS COVE ROAD RD #F302		
Parcel Number:	22-21	Mailing Address:	GARY J KOLANCHICK REV TRUST GARY J KOLANCHICK REV TRUST 100 SHEPARDS COVE ROAD #F303 KITTERY, ME 03904
CAMA Number:	22-21F-303		
Property Address:	100 SHEPARDS COVE ROAD #F303		
Parcel Number:	22-21	Mailing Address:	DENNIS, ROBERT J DENNIS, ROBERT J 100 SHEPARDS COVE RD #F304 KITTERY, ME 03904
CAMA Number:	22-21F-304		
Property Address:	100 SHEPARDS COVE ROAD #F304		
Parcel Number:	22-21	Mailing Address:	KATSEKAS TR, SUSAN F KATSEKAS TR, SUSAN F 100 SHEPARDS COVE RD #F305 KITTERY, ME 03904
CAMA Number:	22-21F-305		
Property Address:	100 SHEPARDS COVE ROAD #F305		
Parcel Number:	22-21	Mailing Address:	HOPE C RYAN LIV TRUST HOPE C RYAN LIV TRUST 100 SHEPARDS COVE ROAD UNIT F-306 KITTERY, ME 03904
CAMA Number:	22-21F-306		
Property Address:	100 SHEPARDS COVE ROAD #F306		
Parcel Number:	22-21	Mailing Address:	ALTENBERG TR, HENRY E ALTENBERG TR, HENRY E 100 SHEPARDS COVE RD # F307 KITTERY, ME 03904
CAMA Number:	22-21F-307		
Property Address:	100 SHEPARDS COVE ROAD #F307		
Parcel Number:	22-21	Mailing Address:	ROSA HERNANDEZ ROSA HERNANDEZ 100 SHEPARDS COVE UNIT F308 KITTERY, ME 03904
CAMA Number:	22-21F-308		
Property Address:	100 SHEPARDS COVE ROAD #F308		
Parcel Number:	22-21	Mailing Address:	THOMSEN,TR, HEATHER THOMSEN,TR, HEATHER 100 SHEPARDS COVE RD # G101 KITTERY, ME 03904
CAMA Number:	22-21G-101		
Property Address:	100 SHEPARDS COVE ROAD #G101		
Parcel Number:	22-21	Mailing Address:	KAPLAN TR, FRANKLIN L KAPLAN TR, FRANKLIN L 906 COVE POINT PLACE VERO BEACH, FL 32953-3996
CAMA Number:	22-21G-102		
Property Address:	100 SHEPARDS COVE ROAD #G102		
Parcel Number:	22-21	Mailing Address:	DUGDALE, RAYMOND W DUGDALE, RAYMOND W 100 SHEPARDS COVE ROAD THE CAMDEN UNIT G103 KITTERY, ME 03904-1141
CAMA Number:	22-21G-103		
Property Address:	100 SHEPARDS COVE ROAD #G103		
Parcel Number:	22-21	Mailing Address:	FRIEDMAN, JANIS B FRIEDMAN, JANIS B 100 SHEPARDS COVE RD #G104 KITTERY, ME 03904
CAMA Number:	22-21G-104		
Property Address:	100 SHEPARDS COVE ROAD #G104		

150 foot Abutters List Report

Kittery, ME
August 24, 2023

Parcel Number:	22-21	Mailing Address:	SIMMONS, SANDRA GALE SIMMONS, SANDRA GALE 440 NORTH BARRANCA AVENUE PMB 2219N COVINA, CA 91723
CAMA Number:	22-21G-105		
Property Address:	100 SHEPARDS COVE ROAD #G105		
Parcel Number:	22-21	Mailing Address:	MILLER, ROBIN JAY MILLER, ROBIN JAY 100 SHEPARDS COVE ROAD UNIT D-106 KITTERY, ME 03904
CAMA Number:	22-21G-106		
Property Address:	100 SHEPARDS COVE ROAD #G106		
Parcel Number:	22-21	Mailing Address:	FRYE, CLAIRE A FRYE, CLAIRE A 100 SHEPARDS COVE RD #G107 KITTERY, ME 03904
CAMA Number:	22-21G-107		
Property Address:	100 SHEPARDS COVE ROAD #G107		
Parcel Number:	22-21	Mailing Address:	THE MEP TRUST THE MEP TRUST 100 SHEPARDS COVE ROAD #G-108 KITTERY, ME 03904
CAMA Number:	22-21G-108		
Property Address:	100 SHEPARDS COVE ROAD #G108		
Parcel Number:	22-21	Mailing Address:	ROBERTS,TR SANFORD ROBERTS,TR SANFORD 100 SHEPARDS COVE RD #G201 KITTERY, ME 03904
CAMA Number:	22-21G-201		
Property Address:	100 SHEPARDS COVE ROAD #G201		
Parcel Number:	22-21	Mailing Address:	CORVEY, CANDACE R. CORVEY, CANDACE R. 100 SHEPARDS COVE ROAD UNIT G202 KITTERY, ME 03904
CAMA Number:	22-21G-202		
Property Address:	100 SHEPARDS COVE ROAD #G202		
Parcel Number:	22-21	Mailing Address:	AILA J PRATT 2006 TRUST AILA J PRATT 2006 TRUST 100 SHEPARDS COVE ROAD #G203 KITTERY, ME 03904
CAMA Number:	22-21G-203		
Property Address:	100 SHEPARDS COVE ROAD #G203		
Parcel Number:	22-21	Mailing Address:	CHASE, PHILLIP THOMPSON CHASE, PHILLIP THOMPSON 58 ROCHESTER ROAD NEWTOWN, MA 02458
CAMA Number:	22-21G-204		
Property Address:	100 SHEPARDS COVE ROAD #G204		
Parcel Number:	22-21	Mailing Address:	WESTMAN, LARRY O WESTMAN, LARRY O 100 SHEPARDS COVE RD #G205 KITTERY, ME 03904
CAMA Number:	22-21G-205		
Property Address:	100 SHEPARDS COVE ROAD #G205		
Parcel Number:	22-21	Mailing Address:	BOYER, ROBERT O. BOYER, ROBERT O. 100 SHEPARDS COVE ROAD UNIT G206 KITTERY, ME 03904
CAMA Number:	22-21G-206		
Property Address:	100 SHEPARDS COVE ROAD # G206		
Parcel Number:	22-21	Mailing Address:	ELLEN WATSON O'TOOLE REV TRUST ELLEN WATSON O'TOOLE REV TRUST 100 SHEPARDS COVE ROAD #G207 KITTERY, ME 03904
CAMA Number:	22-21G-207		
Property Address:	100 SHEPARDS COVE ROAD #G207		
Parcel Number:	22-21	Mailing Address:	ROBINSON, KATHLEEN M. ROBINSON, KATHLEEN M. 100 SHEPARDS COVE RD UNIT G-208 KITTERY, ME 03904
CAMA Number:	22-21G-208		
Property Address:	100 SHEPARDS COVE ROAD #G208		

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Parcel Number:	22-21	Mailing Address:	MARTIGNETTI, ALESSANDRO
CAMA Number:	22-21G-301		MARTIGNETTI, ALESSANDRO
Property Address:	100 SHEPARDS COVE ROAD #G301		32 MERRILL STREET AMESBURY, MA 01913
Parcel Number:	22-21	Mailing Address:	SAWERS TR, LINDA SAWERS TR, LINDA
CAMA Number:	22-21G-302		100 SHEPARDS COVE ROAD G302
Property Address:	100 SHEPARDS COVE ROAD #G302		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	SCHAPERKOTTER, NANCY J.
CAMA Number:	22-21G-303		SCHAPERKOTTER, NANCY J.
Property Address:	100 SHEPARDS COVE ROAD #G303		832 DORROLL STREET NE GRAND RAPIDS, MI 49505
Parcel Number:	22-21	Mailing Address:	REPPUCCI TR, JAMES C REPPUCCI TR, JAMES C
CAMA Number:	22-21G-304		2 NELSON ROAD
Property Address:	100 SHEPARDS COVE ROAD #G304		MELROSE, MA 02176
Parcel Number:	22-21	Mailing Address:	NOONAN, TIMOTHY M NOONAN, TIMOTHY M
CAMA Number:	22-21G-305		100 SHEPARDS COVE RD #G305
Property Address:	100 SHEPARDS COVE ROAD #G305		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	WEBSTER, TR, ROBERT G. WEBSTER, TR, ROBERT G.
CAMA Number:	22-21G-306		100 SHEPARDS COVE RD #G306
Property Address:	100 SHEPARDS COVE ROAD #G306		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	LAPRIORE, JANE A. LAPRIORE, JANE A.
CAMA Number:	22-21G-307		100 SHEPARDS COVE RD #G307
Property Address:	100 SHEPARDS COVE ROAD #G307		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	MOORE, SUSAN MOORE, SUSAN
CAMA Number:	22-21G-308		100 SHEPARDS COVE ROAD #G-308
Property Address:	100 SHEPARDS COVE ROAD #G308		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	GUSTAD, NANCY C. GUSTAD, NANCY C.
CAMA Number:	22-21H-101		100 SHEPARDS COVE RD UNIT H-101
Property Address:	100 SHEPARDS COVE ROAD #H101		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	D'ARRIGO, JOSEPH C D'ARRIGO, JOSEPH C
CAMA Number:	22-21H-102		100 SHEPARDS COVE ROAD UNIT H102
Property Address:	100 SHEPARDS COVE ROAD #H102		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	WITHAM, CHRISTINE M WITHAM, CHRISTINE M
CAMA Number:	22-21H-103		PO BOX 509
Property Address:	100 SHEPARDS COVE ROAD #H103		BAR HARBOR, ME 04609
Parcel Number:	22-21	Mailing Address:	MACDONALD, MARCIA MACDONALD, MARCIA
CAMA Number:	22-21H-104		PO BOX 584
Property Address:	100 SHEPARDS COVE ROAD #H104		DAYTON, WY 82836

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Parcel Number: CAMA Number: Property Address:	22-21 22-21H-105 100 SHEPARDS COVE ROAD H #H105	Mailing Address:	CREGG, FRANK E. CREGG, FRANK E. 43 SEMINOLE DRIVE NASHUA, NH 03063-3542
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-106 100 SHEPARDS COVE ROAD #H106	Mailing Address:	KAZAZIS, ANNE KAZAZIS, ANNE 100 SHEPARDS COVE RD #H106 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-107 100 SHEPARDS COVE ROAD #H107	Mailing Address:	BANESTER, TR, STEPHEN G. BANESTER, TR, STEPHEN G. PO BOX 8514 PORTSMOUTH, NH 03802
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-108 100 SHEPARDS COVE ROAD H #H108	Mailing Address:	BLOCK, THOMAS A BLOCK, THOMAS A 100 SHEPARDS COVE RD #H108 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-201 100 SHEPARDS COVE ROAD #H201	Mailing Address:	SKERRY, MATTHEW, R. SKERRY, MATTHEW, R. 100 SHEPARDS COVE ROAD #H201 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-202 100 SHEPARDS COVE ROAD #H202	Mailing Address:	LAPOINTE, KATHLEEN M. LAPOINTE, KATHLEEN M. 100 SHEPARDS COVE ROAD UNIT H202 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-203 100 SHEPARDS COVE ROAD #H203	Mailing Address:	WALKER TR, MARY E WALKER TR, MARY E 770 HORIZONS EAST APT 202 BOYNTON BEACH, FL 33435
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-204 100 SHEPARDS COVE ROAD #H204	Mailing Address:	KILROY, BRIAN J. KILROY, BRIAN J. 16682 SE 77TH NORTHRIDGE CT LADY LAKE, FL 32162
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-205 100 SHEPARDS COVE ROAD #H205	Mailing Address:	PAUL T BREEN JR REV TRUST PAUL T BREEN JR REV TRUST 100 SHEPARDS COVE ROAD #H205 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-206 100 SHEPARDS COVE ROAD #H206	Mailing Address:	PEARSON, MEREDITH N. PEARSON, MEREDITH N. 100 SHEPARDS COVE ROAD, UNIT H206 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-207 100 SHEPARDS COVE ROAD #H207	Mailing Address:	FAVINGER, LAURA FAVINGER, LAURA 100 SHEPARDS COVE ROAD UNIT H207 KITTERY, ME 03904
Parcel Number: CAMA Number: Property Address:	22-21 22-21H-208 100 SHEPARDS COVE ROAD #H208	Mailing Address:	KERTZNER, JANA MARIE KERTZNER, JANA MARIE 23 PARKLAND LANE ACTON, MA 01720

Parcel Number:	22-21	Mailing Address:	WISH, TR, WILLIAM H. WISH, TR, WILLIAM H.
CAMA Number:	22-21H-301		100 SHEPARDS COVE RD #H301
Property Address:	100 SHEPARDS COVE ROAD #H301		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	SCHEIN, HOPE M SCHEIN, HOPE M
CAMA Number:	22-21H-302		100 SHEPARDS COVE RD #H302
Property Address:	100 SHEPARDS COVE ROAD H #H302		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	BARTUKA, KENNETH BARTUKA, KENNETH
CAMA Number:	22-21H-304		100 SHEPARDS COVE RD #H304
Property Address:	100 SHEPARDS COVE ROAD #H304		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	RICHARDSON, JON E. RICHARDSON, JON E.
CAMA Number:	22-21H-305		100 SHEPARDS COVE RD #H305
Property Address:	100 SHEPARDS COVE ROAD #H305		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	OLIVEIRA, FERNANDO M OLIVEIRA, FERNANDO M
CAMA Number:	22-21H-306		100 SHEPARDS COVE RD #H306
Property Address:	100 SHEPARDS COVE ROAD #H306		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	DONALD E HENKLER & JOYCE D HENKLER FAM REV TRUST DONALD E HENKLER & JOYCE D HENKLER FAM REV TRUST
CAMA Number:	22-21H-307		100 SHEPARDS COVE ROAD #H307
Property Address:	100 SHEPARDS COVE ROAD H #H307		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	OLIVEIRA, FERNANDO OLIVEIRA, FERNANDO
CAMA Number:	22-21H-308		100 SHPARDS COVE ROAD UNIT H308
Property Address:	100 SHEPARDS COVE ROAD #H308		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	LEVY, DEAN J. LEVY, DEAN J.
CAMA Number:	22-21I-1		100 SHEPARDS COVE RD #I-1
Property Address:	100 SHEPARDS COVE ROAD #I1		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	BROWN TR, JOYCE H BROWN TR, JOYCE H
CAMA Number:	22-21I-2		100 SHEPARD'S COVE ROAD, UNIT I-2
Property Address:	100 SHEPARDS COVE ROAD #I2		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	THE ROBERT & SUSAN GOODBY REV. TRUST THE ROBERT & SUSAN GOODBY REV. TRUST
CAMA Number:	22-21J-1		100 SHEPARDS COVE ROAD #J-1
Property Address:	100 SHEPARDS COVE ROAD RD #J1		KITTERY, ME 03904
Parcel Number:	22-21	Mailing Address:	WALKER, TR, SUSAN C. WALKER, TR, SUSAN C.
CAMA Number:	22-21J-2		100 SHEPARDS COVE RD #J-2
Property Address:	100 SHEPARDS COVE ROAD #J2		KITTERY, ME 03904

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Parcel Number:	22-21	Mailing Address:	BULLIS FAMILY REV TRUST BULLIS FAMILY REV TRUST 37 NEWFIELDS ROAD EXETER, NH 03833
CAMA Number:	22-21K-1		
Property Address:	100 SHEPARDS COVE ROAD #K1		
Parcel Number:	22-21	Mailing Address:	TEEL, LOUISE DAVIS TEEL, LOUISE DAVIS 100 SHEPARDS COVE ROAD UNIT K2 KITTERY, ME 03904
CAMA Number:	22-21K-2		
Property Address:	100 SHEPARDS COVE ROAD #K2		
Parcel Number:	22-21	Mailing Address:	QUINLAN TR, DEAN A QUINLAN TR, DEAN A 100 SHEPARDS COVE RD #L1 KITTERY, ME 03904
CAMA Number:	22-21L-1		
Property Address:	100 SHEPARDS COVE ROAD #L1		
Parcel Number:	22-21	Mailing Address:	ALAN & DIANE FAIRBANKS FAMILY TRUST ALAN & DIANE FAIRBANKS FAMILY TRUST 100 SHEPARDS COVE RD #L2 KITTERY, ME 03904
CAMA Number:	22-21L-2		
Property Address:	100 SHEPARDS COVE ROAD #L2		
Parcel Number:	22-21	Mailing Address:	K & J SHEPARD'S COVE 2019 TRUST K & J SHEPARD'S COVE 2019 TRUST 100 SHEPARDS COVE ROAD, B-4 KITTERY, ME 03904
CAMA Number:	22-21S-10		
Property Address:	100 SHEPARDS COVE ROAD #B4		
Parcel Number:	22-21	Mailing Address:	FULLER, PETER W. FULLER, PETER W. PO BOX 805 KITTERY, ME 03904
CAMA Number:	22-21S-7		
Property Address:	100 SHEPARDS COVE ROAD #B1		
Parcel Number:	22-21	Mailing Address:	SANDRA J. TANIS REV. TRUST SANDRA J. TANIS REV. TRUST 100 SHEPARDS COVE ROAD UNIT B-2 KITTERY, ME 03904
CAMA Number:	22-21S-8		
Property Address:	100 SHEPARDS COVE ROAD #B2		
Parcel Number:	22-21	Mailing Address:	DEAL, MARCIA DEAL, MARCIA 100 SHEPARDS COVE RD #B3 KITTERY, ME 03904
CAMA Number:	22-21S-9		
Property Address:	100 SHEPARDS COVE ROAD #B3		
Parcel Number:	22-22	Mailing Address:	MOORE, MONICA E MOORE, MONICA E 170 ROGERS RD KITTERY, ME 03904-1428
CAMA Number:	22-22		
Property Address:	170 ROGERS ROAD		
Parcel Number:	22-23	Mailing Address:	BIRSE, MELINDA L BIRSE, MELINDA L 164 ROGERS ROAD KITTERY, ME 03904-1428
CAMA Number:	22-23		
Property Address:	164 ROGERS ROAD		
Parcel Number:	22-23-1	Mailing Address:	BIRSE, RYAN BIRSE, RYAN 164 ROGERS ROAD KITTERY, ME 03904
CAMA Number:	22-23-1		
Property Address:	6 EDENS WAY		
Parcel Number:	22-23-ROW	Mailing Address:	BIRSE, RYAN BIRSE, RYAN 164 ROGERS ROAD KITTERY, ME 03904
CAMA Number:	22-23-ROW		
Property Address:	EDENS WAY		

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Parcel Number:	22-24	Mailing Address:	BOYD, MORGAN E BOYD, MORGAN E
CAMA Number:	22-24		160 ROGERS ROAD
Property Address:	160 ROGERS ROAD		KITTERY, ME 03904
Parcel Number:	22-25	Mailing Address:	CUNNINGHAM, CHRISTOPHER
CAMA Number:	22-25		CUNNINGHAM, CHRISTOPHER
Property Address:	1 ROGERS LANE		1 ROGERS LANE
			KITTERY, ME 03904
Parcel Number:	22-28	Mailing Address:	OSBORN, DANIEL OSBORN, DANIEL
CAMA Number:	22-28		8 VALCAT RD
Property Address:	2 ROGERS LANE		ATKINSON, NH 03811
Parcel Number:	22-29	Mailing Address:	MINELLA, SARAH MINELLA, SARAH
CAMA Number:	22-29		PO BOX 436
Property Address:	154 ROGERS ROAD		LINCOLN, NH 03251