PLANNING BOARD

Tuesday, November 18, 2025 at 4:30 PM
Room 24 (Basement of City Hall)

MEMBERS
Brandon Mazer, Chair
David Silk, Vice Chair
Austin Smith
Nicholas Messina
Joseph Zamboni
Kelsey Robertson
Michael Joseph Fox

The Planning Board will conduct this meeting in a hybrid format via Zoom pursuant to the Remote Meeting Policy adopted by the Planning Board. Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend live either in person or via Zoom, a recording will be available in the Agenda Center following the meeting. For more information on how to use zoom, please go here: https://content.civicplus.com/api/assets/18148b5d-f26e-472f-8d2c-245db97e5c27. For public comment via Zoom, you will need to use the "raise your hand" feature. To raise your hand via the telephone, please hit *9. You will be un-muted by the host when it is time for public comment. Please note that the placement of items on this agenda are subject to change – please check the Agenda Center prior to the meeting for the item start time.

Please click the link below to join the webinar:

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https://portlandmaine-gov.zoom.us/j/81963601141

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Join via audio:
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+1 305 224 1968 US
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+1 669 444 9171 US
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+1 719 359 4580 US
+1 253 205 0468 US
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+1 360 209 5623 US
+1 386 347 5053 US
+1 507 473 4847 US
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Webinar ID: 819 6360 1141
International numbers available: https://portlandmaine-gov.zoom.us/u/kbPSrwRXvd

PUBLIC COMMENT INFORMATION

To submit written public comment on an agenda item, email planningboard@portlandmaine.gov. Submissions must be received by 12:00 pm the day before the Planning Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

AGENDA:

WORKSHOP - 4:30 PM

i. Major Site Plan and Subdivision; 410 Auburn Street; GreenMars Real Estate Services, Applicant. The Planning Board will hold a hybrid workshop to consider an application for the creation of a 13-lot conservation residential development (CRD) subdivision and the creation of 130 dwelling units. The subject property totals 4.21 acres and is zoned Residential Neighborhood RN-1. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-003475-2025.

1. PUBLIC HEARING - 5:30 PM

2. ROLL CALL AND DECLARATION OF QUORUM

3. COMMUNICATION AND REPORTS

4. REPORT OF ATTENDANCE AT THE MEETING HELD ON NOVEMBER 4, 2025

Workshop
57 Castine Avenue: Fox, Mazer, Messina, Robertson, Silk, and Smith present. Zamboni absent.

5. REPORTS OF DECISIONS AT THE MEETING HELD ON NOVEMBER 4, 2025

i. There were no public hearing items scheduled on the agenda to report on.

6. NEW BUSINESS

i. Subdivision; 138 Auburn Street; DBA First Lutheran Church, Applicant. **This item is being tabled to the Decemer 9, 2025 Planning Board Meeting.**

To:	Chair Mazer & Members of the Planning Board
From:	Taylor Colbeth
Date:	November 12, 2025
Re:	410 Auburn Street
Project ID:	PL-003475-2025
CBL:	383 A001001
Meeting Date:	November 18, 2025

I. INTRODUCTION

GreenMars Real Estate submitted a Major Site Plan and Subdivision application to create 13 lots and a private road to facilitate the construction of 13 ten-unit buildings, for a total of 130 dwelling units and 146 surface parking spaces in the RN-1 Residential Neighborhood zone.

This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 13.6, and Subdivision Standards, Section 14.4.

The Planning and Urban Development Department mailed 164 notices advertising this meeting to property owners withing 500 feet of the site. A legal advertisement ran in the November 6, 2025, and November 7, 2025, editions of the Portland Press Herald.

Applicant: GreenMars Real Estate

I. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 13.6
Subdivision	Section 14.4
Conservation Residential Development	Section 7.4.1
Multifamily Design Review Standards	Design Manual

Project Data	
Existing Zoning	RN-1 Residential Neighborhood
Property Size	4.21 acres
Existing Use	Vacant, forested parcel
Proposed Use	13 new lots with 13 ten-unit buildings, a new private road, and 146 surface parking spaces

I. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on September 10, 2025 at 6:00PM. The in-person meeting was held at the Allen Avenue Universalist Church. 15 members of the public were in attendance. Public comment centered on:

- Traffic impacts on Auburn Street
- Parking concerns
- Wetland impacts
- Stormwater mitigation

The Planning & Urban Development Department has received five written public comments on the application as of the date this memo was posted. Written public comment has expressed concerns with the environmental impacts on the existing wetlands and concerns of runoff impacts to abutting properties in post-development conditions.

II. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located in North Deering and is bounded by North Deering Park to the west, single-family residential development to the north and east, and a three-family residential development to the south. The subject property has approximately 50 feet of frontage on Auburn Street. The lot is zoned RN-1 Residential Neighborhood and comprises approximately 4.21 acres. The site is currently a completely forested, undeveloped lot. There is an existing 50-foot-wide sewer easement to the City of Portland that runs directly through the middle of the subject property, extending from Auburn Street to North Deering Park.

The property frontage is located approximately 260 feet from Greater Portland METRO routes 9A and 9B. Routes 9A and 9B connect Portland Downtown to North Deering, with additional stops serving the Deering Junction, Deering Center, Libbytown, West End, and East End neighborhoods.

Figure 1. Existing Conditions and Context

III. PROPOSED DEVELOPMENT

The proposed development involves the creation of 13 new lots to facilitate the construction of 13 ten-unit buildings, for a total of 130 new units. The new lots would be accessible via a new 24-foot private road off of Auburn Street. A total of 146 surface parking spaces, including ten ADA spaces, are proposed to be distributed between two off-street lots and street parking would serve the proposed development. The proposed development would also feature a

continuous five-foot sidewalk to allow for a pedestrian connection between Auburn Street and each of the newly created lots.

The proposed development would feature 85,712 square feet (46.8% of the total property) of residential open space. This preserved open space is intended to protect a significant amount of wetlands on site. The applicant proposes a raised boardwalk to access the preserved open space.

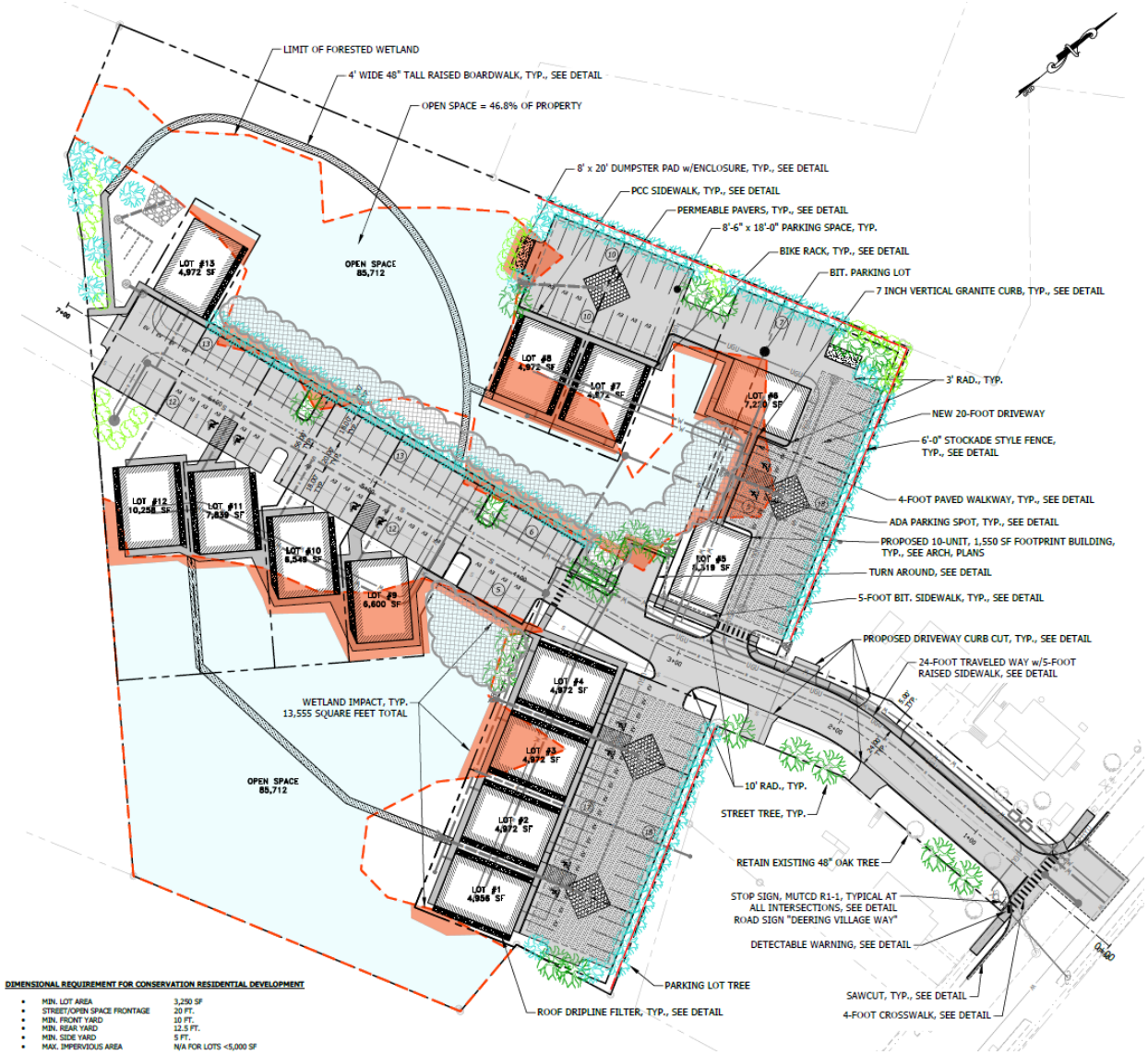

Figure 2. Proposed Site Plan

IV. RIGHT, TITLE, & INTEREST

The applicant has demonstrated sufficient right, title, and interest to the parcel involved in this application. The subject property was conveyed with associated rights on December 16, 2024. Conveyance of this parcel is recorded in the Cumberland County Registry of Deeds Book 41185, Page 63. Full right, title, and interest documentation is included as Attachment D.

There is an existing 50-foot-wide sewer easement to the City of Portland that runs directly through the middle of the development from Auburn Street to North Deering Park.

V. FINANCIAL & TECHNICAL CAPACITY

GreenMars is the primary consultant involved with the civil site engineering associated with this project. The applicant is working with Hay Runner for architecture services, Coppi Environmental for wetland consulting, and Barton & Loguidice for traffic engineering. At this time, the applicant has not provided a statement of financial capacity for the proposed project.

VI. ZONING ANALYSIS

The subject property is located within the RN-1 Residential Neighborhood zone. The purpose of the RN-1 zone is to provide for a residential neighborhood environment predominantly characterized by dwellings on lots of at least 6,500 square feet.

Under the base RN-1 zone dimensional requirements, the development potential of the subject property is primarily constrained by its Auburn Street frontage. As shown in Table 7-A, the RN-1 zone requires a minimum street frontage of 40 feet. The subject parcel provides 50 feet of frontage on Auburn Street, allowing the development of up to a four-family dwelling. With the provision of affordable units, the total unit count could increase to ten units.

Alternatively, the parcel could be subdivided through a traditional subdivision, which would require the developer to create a new public street to provide frontage for the newly created parcels. Establishing such a street would expand the site's development potential, enabling the creation of multiple buildable lots. For example, if a public street were constructed through the middle of the parcel, extending from Auburn Street on the east to the rear of the property on the west, the parcel could accommodate approximately 20 lots. This is based on a calculation looking at the remaining land available after taking into consideration the new street area as well as street frontage and minimum lot size requirements as detailed in Table 7-A. If each lot were developed with a four-family building, which is permitted by right in the RN-1 zone, without accounting for site plan requirements or wetland preservation, the parcel could potentially yield up to 80 residential units. Utilization of the affordable housing density bonus provisions could further increase this total to as many as 200 units (ten units per lot).

Conservation Residential Development

Within the RN-1 zone, the Conservation Residential Development (CRD) standards, outlined in Section 7.4.1 of the Land Use Code, provide an alternative approach to residential development intended to promote creative design while conserving significant natural resources. The CRD provisions allow flexibility from certain space and bulk requirements, such as lot size, setbacks, and street design, by permitting residential lots and dwellings to be clustered away from sensitive natural areas. In exchange for this flexibility, developments must be designed to protect key environmental resources, including streams, wetlands, mature tree stands, and wildlife habitats, and must permanently preserve a substantial portion of the property as open space. This approach seeks to minimize environmental impacts, protect and connect natural areas, and encourage efficient land use while maintaining the overall density permitted in the base zone.

Standard	Base RN-1	Conservation Residential Development	Proposed
Street frontage	40 ft	20 ft	37 ft +
Front setback	25 ft	12.5 ft	12.5 – 78 ft
Rear setback	25 ft	12.5 ft	25 – 60 ft
Side setback	15 ft	5 ft	5 ft +
Structure height (max)	35 ft	35 ft	35 ft
Lot coverage (max)	60%	30% for lots over 5,000 SF	Unknown
		N/A for lots under 5,000 SF	N/A
Landscaped open space ratio (min)	30%	60% for lots over 5,000 SF	Unknown
		N/A for lots under 5,000 SF	N/A

VII. SITE PLAN STANDARDS

The purpose of this section is to highlight the Staff's preliminary review of the proposed development against the City's Site Plan Standards, Section 13.6. It is important to note that this section is not intended to make a finding related to each standard, but rather guide Board discussion during preliminary review.

1. Transportation Standards

a. Access and Circulation

The applicant is proposing vehicular access via a new 24-foot private road off of Auburn Street. Continuous five-foot sidewalks are proposed along the new private road and parking lots to connect the residential dwellings to Auburn Street. Three curb cuts are proposed to the east of the development to provide access to the abutting 408 and 418 Auburn Street parcels. There is an existing access easement for the driveway at 418 Auburn Street, which the applicant is proposing to maintain. The applicant does not appear to be proposing an access easement for the 408 Auburn Street curb cut, and staff are seeking clarification as to whether the applicant intends to execute a similar agreement for this abutting property. Additionally, the applicant is proposing a trail connection to North Deering Park to the west; the proposed connection would be via the 5-foot sidewalk at the end of the new private road.

b. Public Transit Access

The proposed development is located approximately 260 feet from an existing Greater Portland METRO route 9A and 9B bus stop. Per standard 13.6.1.C, all residential development consisting of 20 or more dwelling units shall provide a transit shelter adjacent to or within the public right-of-way along its frontage or at a nearby high-volume transit stop without a transit shelter. Staff will coordinate with METRO to determine if the existing bus stop is an appropriate location for a transit shelter.

c. Parking

Per Table 18-A, two vehicle parking spaces are permitted per dwelling unit, for a total of 260 permitted spaces for this proposed development. The applicant is proposing a total of 146 surface parking spaces distributed between two off-street lots and 61 perpendicular on-street spaces. The applicant is proposing a shared access easement for the proposed parking areas. The site plan identifies 46 spaces for electric vehicles, but additional clarification is needed to determine whether these are proposed as EV-charging spaces or EV-ready spaces. Also, per Table 18-A, the applicant is required to provide one bicycle parking space per every two dwelling units, for a minimum of 65 bicycle parking spaces. The applicant has called out a bike rack on the submitted site plan, although the exact number of bike racks proposed is unclear at this time.

The applicant has indicated that 11 parking spaces would be reserved as a snow staging area and three green spaces would be utilized for snow storage areas. These identified locations are not clearly depicted on the site plan, therefore it is unclear exactly where these operations are intended to occur. Additionally, there is no turnaround at the end of the proposed new private road to be utilized during snowplowing operations.

Figure 3. End of Proposed Private Road

2. **Environmental Quality Standards**

a. Wetland Impacts

The subject property features a substantial area of forested wetlands, though the exact square footage of wetlands present is unknown. The applicant should clarify the exact area of wetlands on-site in a future submission. The proposed development as currently designed would impact 13,555 square feet of wetlands. The applicant did provide a wetland report that indicated that no Wetlands of Special Significance (WOSS), per Chapter 310 of NRPA, were observed within the property boundaries. Staff are coordinating with the City's Water Resources division on the significance of wetlands on-site.

b. Tree Preservation and Site Landscaping

The applicant has submitted a tree survey that depicts a total of 389 trees of greater than 10-inch DBH on site. The development proposes to remove 216 trees and supplement the loss by planting 120 new trees. Proposed trees would be dispersed throughout the parcel boundaries, with a concentration around the proposed parking areas to provide screening and buffering to adjacent properties. Additionally, per Standard 13.6.2.B.3, development with more than five parking spaces shall include at least one tree for every 750 square feet of uncovered parking area. The applicant is proposing a total of five landscaped islands within the parking areas, three of which would have trees. At this time, the total surface area of uncovered parking area proposed is unclear. The applicant should provide this information for staff to determine whether this standard is met.

c. Stormwater Management

The proposed development as currently designed would disturb 2.47 acres of the total site, of which 1.70 acres would be impervious cover consisting of roads, paved access ways, and roofs. The applicant is proposing a series of drywells and permeable pavers that would direct stormwater into underground crushed stone detention area. One underdrained soil filter pond would be used to treat stormwater on-site. A hydrologic analysis for the proposed development was completed, indicating a decrease in post-development peak runoff rates.

3. **Public Infrastructure and Community Safety Standards**
   a. Potential Impacts to City Infrastructure
   There is an existing 50-foot-wide sewer easement to the City of Portland that runs directly through the middle of the subject property between the Auburn Street and North Deering Park. The purpose of this easement is to maintain City access for the purpose of maintaining, altering, repairing, removing the existing City sewer line and force main in this area. The applicant is proposing that this easement be partially vacated and narrowed to 20 feet in width. Additionally, the applicant is proposing buildings that would encroach into the southerly portion of the easement, including one building that would be located within 15 feet of the existing force main. The Department of Public Works is not supportive of this requested alteration to this City-held easement. City Staff, including Corporation Counsel and Water Resources, will continue to work collaboratively with the applicant team to identify an alternative layout that maintains adequate access and protection for City infrastructure.

VIII. NEXT STEPS

Staff are requesting additional information from the applicant team in order to complete a comprehensive review of this Major Site Plan and Subdivision application. These requests include:

- Financial capacity
- Inclusionary zoning compliance
- Architectural drawings
- Lighting plan

IX. PLANNING BOARD FEEDBACK

This application is being presented at an initial Planning Board workshop to introduce the project and gather the Board's input and guidance on the submission.

Staff notes that the applicant is utilizing the Conservation Residential Development (CRD) standards, which are intended to provide zoning flexibility in exchange for a design that conserves significant natural resources and sensitive site features. While the applicant's proposal meets the technical standards for use of the CRD tool, it also includes impacts to approximately 13,555 square feet of wetlands. Although such impacts are not expressly prohibited, staff question whether the extent of wetland alteration is consistent with the intent of the CRD provisions, which emphasize the clustering of development away from critical natural areas. Staff recommends that the Planning Board discuss whether the proposal appropriately balances the CRD tool's zoning flexibility with its conservation objectives.

Applicant Submittal

A. Cover Letter
B. Site Plan Checklist
C. Subdivision Checklist
D. Deed_Bk41185 Pg59
E. Technical Ability
F1. Conservation Residential Development
F2. Site Plan Standards
F3. Subdivision Standards02
G. Zoning Analysis Table
H. Construction Management Plan
I. 410 Auburn Street TIS_Report (ID 3181873)
J. BWH Screenshot
K. Master Plan Narrative
L. Stormwater Report_02_Binder
M. Preservation of Signifigant Natural Features
M1. LID Narrative

M2. Appendix 3A LID Scoring Tool 2025-01-14.xlsx
M3. Wetland Report
N. Access and Circulation
O. Public Utilities
P. Public Transit
Q. Solid Waste Narrative
R. Off Street Parking
S. Public Safety and Fire Prevention
T. Design Narrative
U. Landscaping Narrative
V. Landscaping Plan
W. Snow Removal Plan
X. Soil Management and Protection Plan
Y. NM Certification Letter_Deering Village
Y1. NM Summary With Transcript_Deering Village

Drawings
1. Cover Sheet
2. C103_Subdivision Plan
3. C104_Site Plan
4. C105_Grading Plan
5. C106_Road Profile
6. C107_Utility Plan
7. C108_ESC Plan
8. C401_ESC Notes and Details
9. C501_Details
10. C502_Details
11. C503_Details
12. C504_Details
13. C505_Details
14. C506_Details
15. C507_Details
16. C508_Details
17. Standard Boundary Survey 6-25-24
18. T101_Tree Plan

Public Comment
PC1. Kim Gordon (Rec'd 10-31-2025)
PC2. Donna Segretario (Rec'd 11-02-2025)
PC3. Bethany Bultenhuys (Rec'd 11-04-2025)
PC4. Faith Johnson (Rec'd 11-07-2025)
PC5. Christopher Griffin (Rec'd 11-10-2025)

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. A

October 9, 2025

City of Portland Planning Authority
4th Floor, City Hall
389 Congress Street
Portland, ME 04101

RE: Deering Village
410 Auburn Street
Map 383/Block A/Lot 1, Map 384/Block A/Lot 9 & Lot 20

Dear Members of the Planning Committee,

We are pleased to present the Major Site Plan & Subdivision application for the Deering VIllage development, led by GreenMars Real Estate Services. Our proposal seeks to establish a vibrant community of 130 apartments at 410 Auburn Street.

Situated on a 4.21-acre lot within the Residential 1 Zone (RN-1), this undeveloped parcel boasts a generally sloping site towards the west covered with small and large trees. Access to public water, sewer lines along with other utilities from Auburn Street facilitates seamless development. Surrounding the site, a blend of residential and public uses contributes to the dynamic character of the neighborhood.

Designed to the Conservation Residential Development standards, the cornerstone of our development plan comprises thirteen three-story buildings, each designed to accommodate ten residential units accessible via a newly constructed private road. To ensure resident convenience, a total of 146 parking spaces, including ADA accessible spots, will be distributed across two off-street lots. Furthermore, in line with our commitment to affordability, 50% of the units.

The following sections of this application present comprehensive, in-depth analyses of every critical project component, ranging from detailed landscape architecture plans and affordability strategies to advanced stormwater management solutions, along with a host of additional technical and community considerations.

We eagerly anticipate collaborating with you and the Planning Staff throughout the project review process. Your valuable insights and feedback will undoubtedly contribute to the successful realization of Deering Village. Please feel free to reach out with any questions or concerns regarding the application materials.

Warm Regards,

Travis A. Letellier, P.E.
GreenMars Real Estate Services
travis@greenmars.com
207-205-0208

Att. B

Planning & Urban Development Department

MAJOR AND MINOR SITE PLAN DOCUMENT CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

General Application Documents

	Indicate Below		Required of All Applications
APP 01	☑		Project Description • Cover letter with detailed project description
APP 02	☑		Completed Checklist (this document)
APP 03	☑		Evidence of Right, Title, and Interest • Deeds, leases, or purchase and sale agreements
APP 04	☑		Financial Capacity • Letter or evidence from a financial institution or third-party verifying financial capacity to undertake the project.
APP 05	☑		Technical Capacity • Evidence of technical capability of applicant and consultants – resume and/or examples of past projects.
APP 06	☐		Site Plan Standards • Summary of project compliance with site plan standards of the land use code.
APP 07	☑		ZoningAssessment (the link to the form can be found **here**) • Summary of compliance with use and dimensional standards of the land use code.
	Indicate Below Yes	N/A	**Only if Applicable**
	☐	☑	Waiver Requests (the link to the form can be found **here**) • Written request for waiver describing request and compliance with applicable waiver standards.
Survey/ Subdivison plans	☑	☐	Summary of Existing or Proposed Easements or Covenants • Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way.
	☐	☑	Evidence of State or Federal Approvals • Permits or letters of non-jurisdiction

Additional Documents

	Indicate Below Yes	N/A	Only if Applicable
AD 01	☑	☐	Construction Management Plan, including traffic control plan. • Provide construction management narrative in accordance with the City's Construction Management Template.
AD 02	☑	☐	Traffic Study and/or other Transportation Plans • Detailed in Sec. 2 of the Technical Manual
AD 03	☑	☐	Significant Natural Features Narrative

			• Identify significant natural features, wildlife habitats, fisheries habitats, or archaeological sites as detailed Ch. 14, Article 13, located on or near the project site, and describe protection methods during and after construction.
AD 04	☑	☐	Stormwater Management Report • Detailed in Sec. 14 of the Technical Manual
AD 05	☑	☐	City Master Plan Narrative • Detail project's consistency with City adopted Master Plans.
AD 06	☑	☐	Evidence of Utility Capacity • Provide letter from all utility providers demonstrating capacity to service the project.
AD 07	☑	☐	Solid Waste Narrative • Detail the amount of solid waste and recyclable material anticipated to be generated by the development, and information on how waste will be collected and removed.
AD 08	☑	☐	Life/Safety Code Analysis Narrative • Detail how the project complies with NFPA 1 and other Fire Department technical standards.
AD 09	☑	☐	Design Narrative • Detail how the project complies with any applicable design standards contained within the Land Use Code or City of Portland Design Manual.
AD 10	☑	☐	HVAC and Manufacturing Equipment Verification • Provide verification from manufacturer that equipment meets applicable state and federal emissions requirements.
AD 11	☑	☐	Low Impact Development (LID) Analysis • Provide a narrative detailing how the subdivision complies with the low impact development requirements listed in Section 3 of the Technical Manual, along with a completed LID scorecard.

MAJOR AND MINOR SITE PLAN DRAWINGS CHECKLIST

Please upload the following drawings with the listed details into ProjectDox as separate PDFs. All drawings must be submitted in a 24 x 36 inch sheet size.

Boundary Survey (Stamped by a Licensed Surveyor in accordance with Sec. 14 of the Technical Manual)

Site Plan(s) (Stamped by a Maine Licensed Professional Engineer)

Indicate Below		**All Sheets** – Include a title block with project title and the following information:
☑		Project street address
☑		Name and address of property owner & applicant.
☑		Licensed design professional, including firm that produced plans.
☑		North arrow
☑		Date of preparation and revision history block.
☑		Tax parcel (chart, block, and lot) number

Indicate Below Yes	N/A	**Existing Conditions Plan**
☑	☐	Existing structures, with distance from primary building façade(s) to the property line.
☑	☐	Approximate location of structures on abutting properties
☑	☐	All streets and intersections adjacent to the site
☑	☐	Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials

☑	☐	Existing public transit infrastructure
☑	☐	Existing vehicle & bicycle parking areas
☑	☐	Existing utilities on site and within adjacent rights-of-way
☑	☐	Existing grades (two-foot contours preferred)
☑	☐	Location of water courses, wetlands, and vegetation, or other significant natural features
☑	☐	Existing soil conditions and locations of test pits and borings
☑	☐	Zoning boundary lines, including overlays
☑	☐	Location of all existing easements and rights-of-way.
Indicate Below Yes	N/A	**Proposed Site Plan**
☑	☐	Proposed structures, including distance from primary building façade(s) to property lines
☑	☐	Ground floor area, and finished floor elevations for all buildings
☑	☐	Any proposed geometric modifications to streets and intersections adjacent to site
☑	☐	Location, dimensions and materials of all proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
☑	☐	Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
☐	☑	Location and dimensions of proposed loading areas, including turning templates
☑	☐	Proposed transit infrastructure with dimensions/ engineering specifications
☑	☐	Location of vehicle and bicycle parking with dimensions and engineering specifications
☑	☐	Location of all snow storage areas
☑	☐	Exterior lighting (please see Technical Manual for photometrics requirements)
☑	☐	Location of fire hydrants
☑	☐	Location of solid waste management receptacles
☐	☐	Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable
☑	☐	Location of proposed easements and rights-of-way, including dimensions
☑	☐	Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed
Indicate Below Yes	N/A	**Utility Plan**
☑	☐	Proposed electrical infrastructure
☑	☐	Location, sizing and directional flows of all proposed sewer and stormwater infrastructure
☑	☐	Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to the site
Indicate Below Yes	N/A	**Grading and Drainage Plan**
☑	☐	Proposed grades
☑	☐	Proposed stormwater management measures meeting Technical Manual standards
☑	☐	Any proposed alteration of a watercourse or wetlands
☐	☑	Any groundwater protection measures
☑	☐	Proposed buffers and preservation measures for wetlands or significant natural features
Indicate Below Yes	N/A	**Landscape Plan**
☑	☐	Existing vegetation to be preserved and preservation measures

☑	☐	Proposed landscaping, screening, and street trees, including caliper widths for trees
☑	☐	Planting schedule, including street trees detailing species, quantity of plantings, and size at planting.
Indicate Below Yes	N/A	**Architectural Plans and Renderings**
☑	☐	Exterior building elevations, color renderings, illustrations of all sides.
☐	☑	Axonometric and street-level views for structures greater than three stories in height.
☐	☑	Context drawings
☑	☐	Floor plans
Indicate Below Yes	N/A	**Construction Management Plan**
☑	☐	Specifics on traffic control, sidewalk sheds, and pedestrian rerouting
☑	☐	Construction management plan and narrative based upon site plan in accordance with the City's construction management template.
Indicate Below Yes	N/A	**Other**
☑	☐	Details and cross-sections

Att. C

Planning & Urban Development Department

SUBDIVISION
GENERAL DOCUMENT AND DRAWING CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

General Application Documents

	Indicate Below	Required of All Applications
APP 01	☑	Project Description • Cover letter with detailed project description
APP 02	☑	Completed Checklist (this document)
APP 03	☑	Evidence of Right, Title, and Interest • Deeds, leases, or purchase and sale agreements
APP 04	☑	Financial Capacity • Letter or evidence from a financial institution or third-party verifying financial capacity to undertake the project.
APP 05	☑	Technical Capacity • Evidence of technical capability of applicant and consultants – resume and/or examples of past projects.
APP 06	☐	Subdivision Standards • Summary of project compliance with subdivision standards of the land use code.
APP 07	☑	Zoning Assessment (the link to the form can be found here) • Summary of compliance with use and dimensional standards of the land use code.

	Indicate Below Yes	Indicate Below N/A	Only if Applicable
	☐	☐	Waiver Requests (the link to the form can be found here) • Written request for waiver describing request and compliance with applicable waiver standards.
Survey	☑	☑	Summary of Existing or Proposed Easements or Covenants • Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way.
	☐	☐	Evidence of State or Federal Approvals • Permits or letters of non-jurisdiction

Additional Documents

Indicate Below Yes	Indicate Below N/A	Only if Applicable
☑	☑	Soil Test Analysis • Where private sewage systems are used, soil test results and supporting data, as required by Article 14 in the Land Use Code shall be provided.
☐	☐	Load Bearing Analysis • Information demonstrating the property's capacity to support the load of the anticipated new development. If the property's load bearing capacity is in question, the

			applicant shall include a geotechnical report, prepared by a professional engineer, with supporting data, detailing the results of test borings.
AD 13	☑	☑	Price Range of Residential Units Being Developed
AD 04	☑	☐	High Intensity Soil Survey • Detailed in Sec. 14 of the Technical Manual
AD 05	☐	☑	City Master Plan Narrative • Detail project's consistency with City adopted Master Plans.
AD 06	☑	☐	Evidence of Utility Capacity • Provide letter from all utility providers demonstrating capacity to service the project.
AD 07	☑	☑	Solid Waste Narrative • Detail the amount of solid waste and recyclable material anticipated to be generated by the development, and information on how waste will be collected and removed.
AD 08	☐	☐	Life/Safety Code Analysis Narrative • Detail how the project complies with NFPA 1 and other Fire Department technical standards.
AD 09	☑	☑	Design Narrative • Detail how the project complies with any applicable design standards contained within the Land Use Code or City of Portland Design Manual.
AD 10	☐	☑	HVAC and Manufacturing Equipment Verification • Provide verification from manufacturer that equipment meets applicable state and federal emissions requirements.
AD 23	☑	☑	Site Buffer Narrative • Provide a narrative detailing all proposed buffer areas, their dimensions, and long-term maintenance plans and responsibilities.
AD 03	☑	☑	Significant Natural Features Narrative • Identify significant natural features, wildlife habitats, fisheries habitats, or archaeological sites, located on or near the project site, and describe protection methods during and after construction.
AD 01	☐	☑	Construction Management Plan • Provide construction management narrative in accordance with the City's Construction Management Template that details the sequence of construction for major site elements, construction timeline, erosion and sedimentation control measures, and pollution abatement measures.
C108	☐	☑	Erosion and Sedimentation Control Plan • Provide an ESC Narrative in accordance with Section 12 of the Technical Manual.
AD 11	☑	☑	Low Impact Development (LID) Analysis • Provide a narrative detailing how the subdivision complies with the low impact development requirements listed in Section 3 of the Technical Manual, along with a completed LID scorecard.

SUBDIVISION DRAWINGS CHECKLIST

Please upload the following drawings with the listed details into ProjectDox as separate PDFs. All drawings must be submitted in a 24 x 36 inch sheet size.

Subdivision Plat (at a scale not more than 1" = 60', unless lots are more than one acre in size)

Indicate Below	**All Sheets** – Include a title block with project title and the following information:
☑	Project street address
☑	Name and address of property owner & applicant.

☐	Licensed design professional, including firm that produced plans.
☑	North arrow
☐	Date of preparation and revision history block.
☑	Tax parcel (chart, block, and lot) number
Indicate Below	Other Information
☐	Vicinity sketch (may be shown on separate plan)
☑	Names of adjacent property owners with parcels over 25,000 square feet or names of adjacent subdivision(s).
☐	Location and designation of any zoning district boundaries affecting the subdivision.
☑	Site Date - Breakdown of area within the subdivision by street area, lot area (listing out each lot), and recreation and open space area.
☐	Based on a recent survey by the subdivider, existing contours at two-foot intervals or as otherwise required by the Public Works Authority. Existing structures which are to remain shall be delineated;
☑	Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered.
☐	Names of proposed streets, width of rights of way, typical cross section reservation, and depth of construction materials.
☑	Locations, widths and purposes of other rights of way or easements to be recorded.
☐	All appropriate street geometry information, including point of curvature, point of tangency, tangent distance, radii and interior angle, in standard engineering format
☐	Location of those utilities existing on or adjacent to the tract to be subdivided, including size and elevation of buried or underground utilities (may be shown on separate plan)
☐	Designation of flood hazard areas, as defined by the National Flood Insurance Program and shown on the city flood hazard boundary map, as well as any other areas in the subdivision subject to inundation by stormwater or storm sewer overflow
☑	All potential wetlands within the proposed subdivision, regardless of the size of those wetlands
☑	Any river, stream or brook within or abutting the proposed subdivision. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. § 480 B, Subsection 9
n/a ☑	Existing historic sites and structures which either appear on the National Register or are nominated to the National Register by the state historic preservation officer
☐	Proposed private and public utility system including water, gas, telephone, fire hydrants, and any other services which shall supply the area (may be shown on separate plan)
☐	Sanitary sewer and storm drain plans and profiles showing size, kind and slope of pipe, proposed manhole rim and invert elevations and catch basin locations and drains (may be shown on separate plan).
☐	Lighting plan showing the location, design, height and spacing from each other of the support poles, in accordance with standards and specifications established by the Public Works Authority (may be shown on separate plan)
☐	Tree plan showing groups of existing, sizeable trees which the subdivider intends to preserve (may be shown on separate plan).
☑	A detailed plan of the entire subdivision and the immediate vicinity showing all existing and proposed drainage both on- and off-site including drainage swales, ditches, etc., with directional flow arrows and approximate slope grades, and showing proposed finished "spot elevations" around the perimeter of the subdivision. Proposed drainage shall be shown as it may affect or restrict development on individual lots and with reference to improvements for which a performance guarantee is required under this article. Where deemed feasible by the Public Works Authority, proposed finished contours at intervals of two feet shall be provided on the drainage plan upon request (may be shown on separate plan)

n/a	☑	All future phases and sections of the subdivision proposed by the subdivider (may be shown on separate plan).
n/a	☐	Proposed parks and school sites, or other public open space that the developer proposes to convey to the city
	☑	Streets and right of way monuments and property line markers
	☐	Profiles of each street or way in the subdivision shall be shown on the subdivision plat. They shall be drawn to a longitudinal scale of 40 feet to one foot and a vertical scale of four feet to one inch. Such profiles shall include separate profiles of each side line and center line of the street or way. Any buildings abutting on the street shall be shown in standard engineering format as requested by the Public Works Authority
	☑	Where submission drawings are available in electronic form, the applicant shall submit any available electronic CAD files with final plans

Att. D

MAINE REAL ESTATE TAX-Paid

DLN: 2202172

WARRANTY DEED
Statutory Short Form

KNOW ALL BY THESE PRESENTS, That We, **NASSER ROHANI AND PARIVASH ROHANI**, whose mailing address is 555 Auburn Street, Portland, ME 04103, for consideration paid, grant to **DEERING VILLAGE, LLC**, a Maine Limited Liability Company whose mailing address is 30 Exchange Street, Suite 3 Portland, Maine 04101, with Warranty Covenants, the real property in the City of Portland, County of Cumberland and State of Maine, more particularly described as follows:

See Exhibit A attached hereto and made a part hereof.

Meaning and intending to convey and hereby conveying the real property described in a deed to Nasser Rohani and Parivash Rohani, as joint tenants, dated December 1, 2017 and recorded in the Cumberland County Registry of Deeds at Book 34504, Page 220 AND a deed to Nasser Rohani and Parivash Rohani, as joint tenants, dated February 21, 2018 and recorded in the Cumberland County Registry of Deeds at Book 34672, Page 328.

{Signature Page Follows}

Witness our hands and seals this 13th day of December, 2024.

Witness:

Nasser Rohani

Parivash Rohani

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

12-13-24
date

Personally appeared on the above date, the above-named Nasser Rohani and Parivash Rohani and severally acknowledged the foregoing instrument to be their free act and deed.

Before me,

~~Notary Public~~/Attorney at Law
Print name: Shane T. Wright
Exp: _____

EXHIBIT A

Parcel One - 410 Auburn Street, Portland

A certain lot or parcel of land located on the westerly sideline of Auburn Street, so-called, in the City of Portland, County of Cumberland and State of Maine and shown as Land of Nasser & Parivash Rohani on the plan titled "Standard Boundary Survey Plan, 410 Auburn Street, Portland, Maine", for GreenMars, dated June 2024, by BH2M, Inc.; said Land of Nasser & Parivash Rohani being more particularly described as follows:

Beginning at a point on the westerly sideline of said Auburn Street, at the northeasterly corner of land now or formerly of Robert C. Pantel as shown on aforesaid plan;

thence S 80°-34'-54" W along the land of said Pantel and an existing easement to the City of Portland a distance of 116.97 feet to a 5/8" iron rod found;

thence S 61°-50'-54" W along said land of said Pantel and an existing easement to the City of Portland a distance of 78.24 feet to a capped iron rod to be set (PLS #2190) near a blazed 14" Birch tree;

thence S 28°-17'-22" E along land of said Pantel and land now or formerly of Sarah & Edwin Rich a distance of 164.49 feet to a 5/8" iron rod found and the northerly sideline of land now or formerly of Anzelc Properties LLC;

thence S 68°-08'-08" W along the land of said Anzelc Properties LLC a distance of 60.57 feet to a 1" iron pipe found at the northwesterly corner of said Anzelc Properties LLC as shown on aforesaid plan;

thence S 09°-49'-18" E along the land of said Anzelc Properties LLC a distance of 49.71 feet to a 1" iron pipe found on the northerly sideline of land now or formerly of Shibley Real Estate Holdings LLC;

thence S 62°-30'-07" W along the land of said Shibley Real Estate Holdings LLC a distance of 201.44 feet to a 1" iron pipe found at the southeasterly corner of land now or formerly of the City of Portland;

thence N 54°-36'-52" W along the land of said City of Portland a distance of 364.57 feet to a capped iron rod found (PLS #2273);

thence N 60°-00'-57" W along the land of said City of Portland a distance of 47.66 feet to a capped iron rod found in a stonewall;

thence N 27°-59'-41" W along the land of said City of Portland a distance of 79.95 feet to a capped iron rod to be set (PLS #2190) and the southerly sideline of land of Maureen P. Haverty;

thence N 62°-15'-15" E along the land of said Haverty and land now or formerly of Scott E. & Elena Corliss a distance of 409.82 feet to a point at the northwesterly corner of other land of Nasser & Parivash Rohani as shown on aforesaid plan;

thence S 28°-21'-06" E along the other land of said Rohani a distance of 191.16 feet to a point and the northeasterly sideline of an existing easement to said City of Portland;

thence N 61°-50'-54" E along the other land of said Rohani and land now or formerly of Thomas T. & Michelle D. Didonato a distance of 140.27 feet to a capped iron rod to be set (PLS #2190);

thence N 80°-34'-54" E along the land of said Didonato a distance of 124.98 feet to a point and the westerly sideline of said Auburn Street;

thence S 09°-41'-15" E along the westerly sideline of said Auburn Street a distance of 50.00 feet to the point of beginning.

All bearings refer to grid north.

Subject to a 50 foot wide right of way and easement as described in the deed of Lester E. Marston to the City of Portland dated June 17, 1963, and recorded in Cumberland County Registry of Deeds in Book 2757, Page 272.

Parcel Two - 418 Auburn Street, Portland

A certain lot or parcel of land located westerly of, but not adjacent thereto, the westerly sideline of Auburn Street, so-called, in the City of Portland, County of Cumberland and State of Maine and shown as Land of Nasser & Parivash Rohani on the plan titled "Standard Boundary Survey Plan, 410 Auburn Street, Portland, Maine", for GreenMars, dated June 2024, by BH2M, Inc.; said Land of Nasser & Parivash Rohani being more particularly described as follows:

Beginning at a capped iron rod to be set (PLS #2190) at the southwesterly corner of land now or formerly of Thomas T. & Michelle D. Didonato and the northwesterly sideline of other land of Nasser & Parivash Rohani as shown on aforesaid plan;

thence S 61°-50'-54" W along the land of said Rohani and an existing easement to the City of Portland a distance of 75.00 feet to a point;

thence N 28°-21'-06" W along said land of Rohani a distance of 191.16 feet to a point and land now or formerly of Scott E. & Elena Corliss;

thence N 62°-15'-15" E along said Corliss a distance of 75.67 feet to a capped iron rod to be set (PLS #2190) and the northwesterly corner of said Didonato as shown on aforesaid plan;

thence S 28°-09'-06" E along the land of said Didonato a distance of 190.62 feet to the point of beginning.

Together with a certain right of way set forth in prior deed dated February 21, 2018 and recorded in the Cumberland County Registry of Deeds at Book 34672, Page 328.

All bearings refer to grid north.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. E

Technical Ability

- **Overview**
  The design and permitting of the project is being completed under the direction of the GreenMars Real Estate Services (GreenMars). GreenMars and their consultants have the technical ability to prepare the construction documents, oversee construction, operate, and manage the project in compliance with applicable regulations.

  GreenMars is the primary consultant involved with the civil/site design and site permitting of the project and has assembled the materials in this application. The following firms are acting as consultants to the Department or as subconsultants for the project:

Firm	Services	Contact
GreenMars 30 Exchange Street Portland, Maine	Civil Site Engineering	Travis Letellier, P.E. travis@greenmars.com
Hay Runner 99 Federal Street	Architect	
Coppi Environmental Hollis Center, Maine	Wetland Consultant	Christopher Coppi – LSS, LSE, CWS cjc1828@gmail.com
BH2M 380B Maine Street Gorham, Maine	Boundary Survey	Robert Libby, PLS rlibby@bh2m.com
Barton & Loguidice 383 US RT 1 Scarborough, Maine	Traffic Engineer	Bill Bray, P.E. trafficsolutions@maine.rr.com

- **Experience of Project Team**
  The team of consultants retained by GreenMars has expertise and experience in the design of large facilities that require a major site plan permitting.

  A full list of completed construction projects by GreenMars and their principal members is available upon request.

- **Ability of the Applicant**
  GreenMars experience is apparent in the ongoing operation and maintenance of their existing facilities.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. F1

Conservation Residential Development Standards
Deering Village
410 Auburn Street, Portland, Maine

The proposed development at **410 Auburn Street**, known as **Deering Village**, is a premier example of Portland's **Conservation Residential Development (CRD)** zoning model in action. Encompassing **13 buildings** with **130 total units** this project makes full use of the CRD ordinance found in **Section 7.4.1 of the Portland Land Use Code**.

Purpose and Fit for CRD Zoning

The CRD model is intended "**to allow for the efficient use of land and preservation of Portland's natural resources**," promoting compact development while conserving meaningful open space. Deering Village exemplifies this by concentrating homes on upland areas of the property while dedicating its more sensitive areas, particularly forested wetlands and mature tree stands at the rear, to permanent preservation.

This strategy fully supports the CRD's mandate to "**minimize impacts on the natural environment by carefully laying out structures, streets, and other infrastructure, including buffer zones to protect and connect existing natural areas on site."**

Dimensional Standards and Compliance

Located in the **RN-1 zone**, the parcel qualifies for CRD as it exceeds the **2-acre minimum site area** (totaling **4.21 acres** or 183,185 sq ft). The project takes advantage of CRD's dimensional flexibilities, including:

- **Minimum lot size reduced** from 6,500 sq ft to 3,250 sq ft
- **Street/open space frontage** reduced from 40 ft to 20 ft
- **Setbacks** reduced: front to 10 ft, rear to 12.5 ft, and side to 5 ft

Each building fronts either a **private road or common open space with the majority of the lots, 12 of 13, gaining frontage from the proposed 85,700 square feet of open space**, consistent with Section 7.4.1.E.1 of the CRD standards. Clustering units in this way enhances land efficiency and preserves larger blocks of open land.

Conservation Area and Natural Features

The property features two extensive wetland pockets with mature tree growth, which have been consciously preserved as part of the required open space. Notably, this conservation area includes the preservation of many large trees. In total, 216 of the 389 trees greater than 10 inches in diameter will be preserved, demonstrating a strong commitment to the CRD's goal of protecting significant natural features.

The conservation area:

- **Comprises more than 30% of the total site area**
- **Meets the required 30-foot minimum width in all directions**
- Contains **natural vegetation, stream buffers, and recreational green space**

Design and Landscape Features

A defining feature of the Stroudwater Commons design is its raised boardwalk. The boardwalk will be constructed 4 feet above the wetlands to create a low impact feature within the open space on the property. The trail will connect blocks of buildings as well as provide access to the neighboring Portland park's trail system for the public. This **trail system**, in alignment with the CRD standards which specifically calls for the layout of infrastructure to "**protect and connect existing natural areas on site.**"

Additional open space elements include:

- **Public access trails and sidewalks**
- **Tree and shrub buffers for ecological and visual cohesion**

This layout ensures **minimal disruption** to mature vegetation.

Conclusion

Deering Village is a model for how the **CRD ordinance can deliver sustainable, context-sensitive housing**. It balances the need for increased housing options with environmental stewardship by:

- Concentrating development in areas of low ecological value
- Preserving wetlands and mature tree stand
- Offering well-integrated pedestrian amenities and open space

This development not only complies with CRD requirements but also embodies its **spirit**, delivering a **compact, livable, and ecologically respectful neighborhood** that contributes to Portland's vision for smart growth.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. F2

Site Plan Standards
Deering Village
410 Auburn Street, Portland, Maine

Prepared by: GreenMars
Date: October 2, 2025

Project Summary
The proposed development at **410 Auburn Street** consists of a **13-lot Conservation Residential Subdivision** containing **130 multifamily residential units** in condominium or apartment form. The project will be served by a **new 24-foot-wide private roadway** with a **5-foot sidewalk on the north side**, connecting directly to Auburn Street.
Key features of the project include:

- **Surface parking** provided on each lot, supplemented with bicycle parking and EV-ready infrastructure.
- **Centralized dumpsters** located at the ends of parking areas, screened with fencing and landscaping.
- **Significant wetlands preservation** through compliance with Conservation Residential Development standards, with substantial common open space maintained.
- **Stormwater management** via underground infiltration beneath parking areas, dripline filters for rooftops, and one filter basin.
- **Public trail connection** providing access to **North Deering Park**, enhancing recreational and connectivity opportunities.
- **Three-story residential buildings** designed to comply with the City's standards for massing, lighting, and environmental quality.
- **Proximity to METRO bus service** along Auburn Street, supporting transit use and Transportation Demand Management measures.

This design balances residential density with environmental preservation, infrastructure efficiency, and neighborhood connectivity.

(full standards/responses text as we completed below — Sections §13.6.1 through §13.6.4)

City of Portland Land Use Code, Chapter 14, Section 13.6: Site Plan Review Standards:

§13.6.1 Transportation Standards

A. Impact on Surrounding Street Systems
Standard. Provisions for on-site circulation, parking, and site access, as well as the incremental traffic generated by the project, shall not create or aggravate safety hazards or substantially increase congestion without proportionate mitigation.
Response. The proposed 13-lot subdivision with 130 residential units will generate traffic typical of a multifamily development. Access will be provided via a new 24-foot-wide private roadway extending from Auburn Street. The roadway is designed for two-way circulation and includes a hammerhead turnaround for emergency access. Traffic analysis indicates that project-generated volumes will not substantially increase congestion or create safety hazards on Auburn Street, particularly given the roadway's existing capacity and available transit service.

B. Access and Circulation

1. **General**
   Standard. Safe and reasonable access must be provided in compliance with the Technical Manual. Shared access and circulation must be used where practicable. Internal walkways must link sidewalks, transit stops, and crossings to building entrances. Connections to public trails are required where applicable.
   Response. The project will be served by a new private roadway designed to City standards, with each building lot fronting on this roadway. A 5-foot sidewalk will be provided along the north side of the new road, connecting internal pedestrian circulation to Auburn Street and the existing sidewalk system. The project will also provide a pedestrian connection through common open space to the adjacent North Deering Park, fulfilling the City's goal of public trail access.

2. **Curbs and Sidewalks**
   Standard. Streets shall include curb and sidewalk improvements as required by the Technical Manual.
   Response. The new private roadway will include curbing and a 5-foot-wide sidewalk along its north side, meeting City standards and providing safe pedestrian circulation.

C. Public Transit Access
Standard. For certain larger developments, improvements such as bus shelters may be required along transit routes.
Response. Auburn Street is served by Greater Portland METRO bus routes. The project will coordinate with the City and METRO to determine whether additional pedestrian connections or transit stop improvements are warranted at the project entrance.

D. Parking

1. **Vehicular Parking**
   Standard. Parking must meet the requirements of Article 18 and the Technical Manual.
   Response. Parking will be provided on-site within surface lots associated with each building lot. The total number of spaces will meet City requirements for multifamily housing and will be distributed to ensure convenience and efficiency for residents.

2. **Bicycle Parking**
   Standard. Bicycle parking must be provided consistent with Article 18 and the Technical Manual.
   Response. Bicycle racks will be provided on-site in accessible locations to serve residents and visitors, consistent with Article 18 requirements.

3. **Snow Storage**
   Standard. Adequate snow storage or removal plans must be provided without interfering with circulation, stormwater systems, or landscaping.
   Response. Snow storage will be accommodated within designated roadside and landscaped areas, as well as at the ends of parking lots. Snow management will avoid conflicts with stormwater treatment systems and landscaped buffers. A snow removal plan has been developed and tailored for this project.

4. **Electric Vehicle (EV) Charging**
   Standard. New development must comply with EV-readiness requirements outlined in the Technical Manual.
   Response. The multifamily buildings will be designed to comply with EV-readiness requirements. EV-capable infrastructure will be installed at the building permit stage consistent with City standards.

E. Transportation Demand Management (TDM)
Standard. A Transportation Demand Management plan is required for larger developments.
Response. A TDM is not required for this project.

§13.6.2 Environmental Quality Standards
A. Preservation of Significant Natural Features
Standard. Significant natural features, including mature trees, wetlands, water bodies, shorelands, steep slopes, and identified habitats, shall be preserved to the maximum extent practicable. If full preservation would substantially compromise otherwise allowable development, requirements may be reduced per the Low-Impact Development (LID) standards. Site plans must also show protective measures for features being preserved.

Response. The project is designed under the City's Conservation Residential Development standards, with a substantial portion of the site preserved as permanent open space. A significant amount of wetlands will remain protected, and only limited wetland impacts are proposed. Protective measures, such as construction fencing and erosion control, will safeguard preserved areas during and after construction.

B. Site Landscaping and Buffers

Standard. Development must provide landscaping to enhance site appearance, supply shade, aid stormwater management, and buffer uses. Requirements include:

- Shade trees or equivalent plantings based on lot area.
- Credit for preserved vegetation.
- Alternatives if constraints prevent plantings.
- Screening of service areas, utilities, and parking lots.
- Evergreen buffers for residential projects where necessary.
- Landscaping for parking areas greater than 5 spaces.
- Use of high-reflectance paving or shade trees for large non-vehicular paved areas.
- Provision of street trees along all road frontages, or approved alternatives.
- Removal of heritage or feature trees requires a contribution to the City Tree Fund.

Response. Common open space and preserved vegetation will count toward landscaping requirements. Street trees will be planted along the new roadway at required intervals. Landscaped buffers and tree plantings will be provided along parking areas to soften visual impacts. Dumpster locations at parking lot ends will be screened with fencing and evergreen plantings. If removal of heritage trees becomes necessary, contributions will be made to the City Tree Fund.

C. Water Quality, Stormwater Management, and Erosion Control

Standard. Development must minimize impervious surface and manage runoff so that:

1. Pre-development flows across the site are not impeded or redirected to cause off-site flooding.
2. Increases in runoff volume or rate can be managed without problems on adjacent lots or City property, and the developer has the legal right to discharge.
3. Increases into the City's stormwater system can be accommodated without exceeding system capacity.

   All projects must comply with the Technical Manual's stormwater standards, avoid groundwater contamination during and after construction, and demonstrate that subsurface and slope conditions are suitable. A geotechnical study may be required.

Response. The majority of stormwater will be treated in underground infiltration systems beneath parking areas, supplemented by dripline filters for building rooftops and one aboveground filter basin. These measures will ensure that post-development runoff does

not exceed pre-development conditions and will provide adequate treatment per the Technical Manual. Construction-phase erosion and sedimentation controls will prevent temporary impacts to wetlands and adjacent properties.

§13.6.3 Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans

Standard.

1. All developments shall be designed so as to be consistent with City Council–approved master plans and facilities plans and with off-premises infrastructure.
2. The site plan shall include suitable easements, rights, and improvements to connect or continue off-premises public infrastructure as may be required by the review authority.

Response. The project extends public utilities and infrastructure consistent with City plans. Water, sewer, and electrical service will connect to existing systems in Auburn Street. Easements will be provided as necessary for utility connections. Public trail access to North Deering Park will further City recreational and connectivity goals.

B. Public Safety and Fire Prevention

Standard.

1. All development shall incorporate the following public safety principles for Crime Prevention Through Environmental Design (CPTED):
   - Natural surveillance that promotes visibility of public spaces and areas.
   - Access control that promotes authorized and appropriate access to the site.
   - Territorial reinforcement that promotes a sense of ownership and responsibility through design.
2. All developments shall be designed to provide adequate emergency vehicle access to the site and comply with the Public Safety standards of the Technical Manual.

Response. The project layout provides clear access and frontage for all units, ensuring visibility and neighborhood identity. A 24-foot roadway with hammerhead turnaround ensures fire and emergency access. Building design and placement will comply with CPTED principles and fire/life safety standards.

C. Public Utilities

Standard.

1. The development shall not overburden sanitary sewers and storm drains, water lines or supply, or other public infrastructure and utilities. Adequate on-site infrastructure shall be provided.
2. Electrical service shall be underground unless exempted.
3. All sanitary sewer lines, storm drains, water lines, and other utilities shall conform with Technical Manual standards.

4. All development within 200 feet of a public sanitary system shall connect. If unavailable, private systems may be used subject to Chapter 24 and Technical Manual standards.
5. Residential development of 20 units or more, commercial, and industrial projects shall provide for screened storage and removal of trash and recyclables.

Response. The development will connect to public water and sewer systems. Drainage facilities will discharge through infiltration and treatment systems in compliance with City standards. Electrical service will be installed underground. Centralized dumpsters will provide trash and recycling collection, screened with fencing and landscaping, consistent with City requirements.

§13.6.4 Site Design Standards

A. Massing, Ventilation, Wind, and Heat Impact

Standard.

1. The bulk, location, or height of proposed buildings and structures shall not result in health or safety problems from a reduction in ventilation to abutting structures or changes to the existing wind climate that would result in unsafe wind conditions.
2. Development shall locate all HVAC venting mechanisms to direct exhaust away from public spaces and adjacent residential properties.
3. For buildings or additions with aggregate roof area greater than 2,000 sq. ft. (and for residential, more than nine units), 75% of the roof must meet “cool roof” SRI standards.

Response. The project proposes three-story multifamily buildings. Structures are sited to avoid adverse wind or ventilation impacts. Roofs will be designed to comply with the City’s “cool roof” standards. HVAC equipment will be sited on individual buildings and directed away from public spaces and abutting properties.

B. Shadow

Standard. Development over 65 feet in height shall be designed to avoid and/or mitigate adverse impacts of shadows on publicly accessible open space in accordance with the Technical Manual.

Response. The proposed buildings are limited to three stories and well below 65 feet in height. The standard does not apply.

C. Snow and Ice Loading

Standard. All development shall be designed to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties or public ways.

Response. Snow storage areas will be designated within parking lots, roadway shoulders, and landscaped buffers. These locations ensure that snow will not be pushed onto adjacent properties or compromise stormwater systems.

D. View Corridors

Standard. The massing, location, and height of development shall not substantially obstruct public view corridors identified in the City of Portland Design Manual.

Response. The site is not located within a designated view corridor. The project will not obstruct any identified public views.

E. Historic Resources

Standard.

1. Development affecting a designated landmark or property within a historic district must obtain approval under Article 16.
2. All development shall document and protect state or local archaeological resources if known or discovered.

Response. The property does not contain designated historic or archaeological resources. If resources are uncovered during construction, appropriate documentation and consultation with authorities will occur.

F. Exterior Lighting

Standard.

1. All exterior site lighting shall be full cutoff, prevent light spillover, and meet Technical Manual standards.
2. Where development may impact residential properties, shielding shall be used.
3. Architectural and specialty lighting must be limited to specific features; up-lighting is generally prohibited.
4. All development shall provide municipal street lighting consistent with standards.

Response. Exterior lighting will be limited to site safety needs. All lighting will be full cutoff, shielded, and designed to prevent spillover onto abutting properties. Municipal street lighting will be provided along the new roadway consistent with City requirements.

G. Noise and Vibration

Standard. HVAC, air handling units, emergency generators, and similar equipment must meet state/federal emissions requirements and be located away from abutting properties.

Response. Mechanical systems will consist of small-scale residential HVAC units, located and screened in compliance with City standards. No large mechanical systems or generators are proposed.

H. Signage and Wayfinding

Standard.

1. On-site directional signage may be provided to aid safe navigation.
2. Signage shall not obstruct visibility at intersections.

Response. Project signage will be limited to building identification and regulatory signage. Dumpster enclosures and parking areas will be signed for resident use. No additional wayfinding signage is required beyond standard street signs.

I. Design Standards

Standard. Development in certain zones must comply with the City of Portland Design Manual. If located in a historic district, Article 16 standards supersede.
Response. The site is not located within a Design Manual overlay or historic district. This standard is not applicable.

Conclusion

The **410 Auburn Street development** has been carefully designed to comply with the **City of Portland Land Use Code, Chapter 14, Section 13.6 Site Plan Review Standards**. The project meets or exceeds requirements for transportation, environmental quality, public infrastructure, and site design.

By clustering residential development under the Conservation Residential standards, the project preserves significant wetlands and open space while still providing needed housing opportunities in Portland. The inclusion of sidewalks, transit access, and a public trail connection ensures safe, multimodal transportation options and strengthens connections to surrounding neighborhoods and parks.

Overall, the subdivision will create a **vibrant residential community** that enhances Auburn Street, expands housing supply, and supports the City's long-term planning goals while respecting the site's natural resources.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. F3

Subdivision Standards
Deering Village
410 Auburn Street, Portland, Maine

Subdivision Standards Compliance Response for Deering Village
SECTION 14.4.1: Standards of Review

A. Water or Air Pollution:
The development will not cause undue pollution. An erosion and sediment control plan has been developed and will be strictly implemented to minimize airborne dust and runoff-related pollution during and after construction.

B. Sufficient Water Supply:
Public water service will be extended to the site. Infrastructure will meet or exceed Portland Water District standards.

C. Water Supply Burden:
The water demand from 130 units has been reviewed and coordinated with local utility capacity to ensure no unreasonable burden.

D. Soil Erosion or Capacity Loss:
A Soil Management and Protection Plan is in place, including measures like silt fencing, temporary seeding, and permanent vegetation establishment to mitigate erosion risks

E. Traffic Safety and Congestion:
A traffic study concluded that the site will generate acceptable traffic volumes. Intersection capacity analysis confirms LOS A at site driveways and no high crash areas nearby

F. Waste Disposal:
The design includes underground stormwater detention and treatment facilities with Contech StormFilter units. Sanitary waste is handled via public sewer.

G. Solid Waste Burden:
Waste will be managed by a licensed private hauler. A recycling program and education materials are part of the Solid Waste Management Plan

H. Natural/Historic Resource Impact:
An environmental study found no significant wildlife habitats. Preservation areas are identified, including a buffer along an unnamed tributary of the Stroudwater River

I. Comprehensive Plan Compliance:
The project aligns with Portland's Plan 2030, supporting affordable housing, connectivity, and environmental stewardship.

J. Developer Capacity:
GreenMars has engaged licensed engineers and consultants and has a detailed Construction Management Plan ensuring proper execution.

K. Shoreline Protection:
There is no development within the 100-year floodplain or direct shoreland development. Measures are in place to protect the unnamed tributary.

L. Groundwater Impact:
The stormwater management plan includes infiltration strategies and soil restoration to protect groundwater recharge.

M. Flood Risk:
The site is outside the 100-year floodplain, as per FEMA mapping

N. Stormwater Management:
Compliant with MDEP Chapter 500 standards. Includes underground detention, infiltration, catch basins, roof dripline filters and a soil filter pond.

O. Shoreline Lot Ratios:
Not applicable; no shoreline lots are proposed.

P. Cross-Municipal Impact:
The project is contained within Portland and will not affect traffic patterns in neighboring municipalities.

SECTION 14.5: Technical and Development Standards

14.5.1 Technical Manual Compliance:
All site work complies with Portland's Technical Manual, including public utilities, stormwater, and road design standards

14.5.2 Timing of Improvements:
The Construction Management Plan outlines phased construction and coordinated installation of utilities, roads, and stormwater features

14.5.3 Subdivision Names:
"Deering Village" is the formal name submitted for approval.

14.5.4 Streets:
The private roadway meets city standards for width, material, and connectivity. Sidewalks, bike racks, and pedestrian-scale lighting are integrated.

14.5.5 Sewers and Storm Drains:
Sanitary sewer and storm drain systems are entirely separate and meet City and MDEP requirements

14.5.6 Blocks:
The block layout is adapted to site topography and use. No block exceeds 800 feet.

14.5.7 Lots:
Lots are designed to meet CRD zoning requirements and include access to utilities, stormwater, and parking facilities.

14.5.8 Public Open Space:
Trail connections, raised boardwalks, and green buffers are provided. These link to the North Deering Park Trail system and surrounding open space network

14.5.9 Shoreline Access:
Not directly applicable, but the development protects visual and environmental integrity of the nearby tributary.

14.5.10 Nonresidential Standards:
Not applicable; this is a residential project.

Att. G

ZONING ANALYSIS Relevant Zone(s) RN-1

All Projects:

	Required	Proposed
Lot Size	3,250 sf	13 @ 4,956+ sf
Area Per Dwelling Unit	n/a	
Minimum Street Frontage	20'	13 @ 37.0'+
Front Yard Minimum	12.5'	12.5' to 78'
Front Yard Maximum	n/a	
Rear Yard	25'	25' to 60'
Yard Right	5'	13 @ 5'+
Yard Left	5'	13 @ 5'+
Side Street Setback	n/a	
Step Back	n/a	
Maximum Lot Coverage	60%	13 @ <60%
Minimum Lot Coverage	n/a	
Maximum Height	35'	13@ <35'
Open Space		
Maximum Impervious Area	60%	13 @ <60%
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces	0	146
Loading Bays	n/a	
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size	n/a	
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density	Increase	4 x 2.5 = 10	10
Height	n/a		
Setback Reduction	n/a		
Recreation Space	n/a		
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional): 50% affordable units allows for 2.5x base density of 4			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

GreenMars Real Estate Services
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Portland, ME 04101

Att. H

Construction Management Plan
Deering Village
410 Auburn Street, Portland, Maine

1. Project Overview
   - Project Name: **Deering VIllage**
   - Location: **410 Auburn Street, Portland, Maine**
   - Developer: **GreenMars**
   - Project Manager: TBD
   - Project Start Date: TBD
   - Project Completion Date: TBD

2. Objectives
   - Develop a 13-lot subdivision with new private road and utilities.
   - Ensure compliance with local regulations and environmental standards.
   - Minimize disruption to local residents and businesses during construction.
   - Maintain safety for workers and the public throughout the project.

3. Construction Phases

Phase 1: Pre-Construction

- Permits and Approvals:
  - Obtain all necessary permits and approvals from the City of Portland, including building permits, environmental clearances, and any special permits required for road construction and utility installations.
- Surveys and Assessments:
  - Conduct detailed topographical surveys, geotechnical investigations, and environmental assessments to inform the construction process and ensure compliance with local regulations.
- Construction Plans and Designs:
  - Develop comprehensive construction plans and engineering designs for the subdivision, including site layout, road alignment, utility routes, stormwater management systems, and landscaping.
- Procurement and Subcontractors:

    - Procure materials, equipment, and subcontractors necessary for construction activities, ensuring compliance with project specifications and quality standards.

Phase 2: Site Preparation

- Site Clearing and Access:
    - Clear the site of existing vegetation and debris, and establish temporary access roads to facilitate construction activities while minimizing disruption to surrounding areas.
- Erosion Control and Sedimentation Measures:
    - Install temporary erosion control measures such as silt fences, sediment traps, and erosion blankets to prevent soil erosion and protect nearby water bodies during construction.
- Utility Installations:
    - Begin installation of public utilities including water mains, sanitary sewers, storm drains, electrical conduits, and telecommunications infrastructure according to approved designs and specifications.
- Construction Staging Areas:
    - Designate and prepare construction staging areas for storage of materials, equipment assembly, and parking of construction vehicles to optimize workflow and minimize congestion on site.

Phase 3: Road Construction

- Road Alignment and Grading:
    - Construct the new private road network according to approved road alignment and grading plans, ensuring proper drainage, pavement structure, and alignment with existing road infrastructure.
- Stormwater Management:
    - Implement effective stormwater management practices such as bio-retention basins, permeable pavement, and swales to control runoff and promote groundwater recharge while complying with city regulations and approved plans
- Utility Connections:

    - Coordinate with utility providers to connect individual lots to public water, sewer, and electrical services, ensuring proper functioning and compliance with utility company standards.

Phase 4: Lot Development

- Lot Grading and Foundations:
    - Grade individual lots to ensure proper drainage away from buildings and prepare foundations for residential or commercial structures according to approved building plans and local building codes.
- Landscaping and Street Trees:
    - Install landscaping elements including grass seeding, tree planting, shrubbery, and decorative elements as required by city ordinances and subdivision design guidelines to enhance aesthetic appeal and environmental sustainability.
- Utility Hook-Ups:
    - Complete final utility connections for each lot, including water meters, sewer connections, electrical hook-ups, and telecommunications services to facilitate occupancy and use of the developed properties.

Phase 5: Finalization and Inspection

- Final Inspections:
    - Conduct comprehensive inspections with city officials, engineers, and regulatory agencies to verify compliance with approved construction plans, building codes, and environmental regulations.
- Deficiency Resolution:
    - Address any outstanding issues or deficiencies identified during inspections promptly and efficiently to ensure all construction work meets quality standards and safety requirements.
- Certificates and Sign-Offs:
    - Obtain final certificates of occupancy and other necessary approvals from relevant authorities to officially complete the construction project and allow for occupancy of the developed lots.

4. Environmental Management
- Implement erosion control measures throughout construction.

- Monitor and protect nearby water bodies and wetlands
- Properly manage construction debris and hazardous materials.

5. Traffic Management
    - Develop a traffic control plan for construction vehicles.
    - Minimize impact on local traffic and ensure safe pedestrian access.
    - Coordinate with the City of Portland for any lane closures or detours.

6. Safety Protocols
    - Conduct regular safety inspections and regular morning meetings
    - Provide necessary personal protective equipment (PPE) for all workers.
    - Maintain emergency response procedures on-site.

7. Community Relations
    - Communicate project updates to local residents and businesses.
    - Address community concerns promptly and professionally.
    - Provide a point of contact for inquiries or complaints.

8. Waste Management
    - Implement a waste management plan to recycle materials where possible.
    - Dispose of construction waste in accordance with city regulations.
    - Minimize environmental impact related to waste generation.

9. Quality Control
    - Conduct regular quality inspections of materials and workmanship.
    - Ensure compliance with construction standards and specifications.
    - Document and rectify any defects or non-compliance issues.

10. Schedule and Budget
    - Develop a detailed construction schedule with milestones.
    - Monitor progress regularly and adjust as necessary.
    - Manage expenditures within the approved budget.

11. Appendices
    - List of Permits and Approvals Obtained
    - Construction Drawings and Specifications
    - Safety Procedures and Emergency Contacts
    - Contact Information for Project Team Members

Barton & Loguidice

Att. I

TRAFFIC IMPACT STUDY

FOR PROPOSED

Residential Development

410 Auburn Street, Portland, Maine

Prepared For: **Greenmars Holdings, LLC**

Prepared By: Barton & Loguidice

August, 2024

2865.002.001

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Traffic Impact Study

Residential Development

410 Auburn Street, Portland, Maine

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1 INTRODUCTION

Greenmars Holdings, LLC is proposing to construct a 130-unit apartment complex on the 3.6±-acre parcel addressed 410 Auburn Street in the City of Portland. The residential development will be comprised of a mix of market-rate units, and workforce units which will be rented below market rate. Of the total 130 apartment units, 65 will be rented at market rate, and 65 will be rented below market rate. Access to the development will be provided via a new driveway entrance located 320± feet south of the intersection at Auburn Street and Lambert Street. The development site is depicted below in Image 1A.

The purpose of this traffic impact study is to examine existing traffic conditions in the general vicinity of the proposed project, estimate the total number of site trips generated by the project, and determine whether the existing transportation system can safely accommodate the added traffic generated by the project.

Image 1A Proposed Development Site

2 EXISTING CONDITIONS

2.1 Existing Development Site

The existing site is located on the 3.6±-acre parcel addressed 410 Auburn Street in the City of Portland. It is presently unoccupied and wooded. Most of the acreage on the site is set back from Auburn Street and bordered by single-family homes and/or vacant wooded lots. The site is provided with 55± feet of frontage on Auburn Street.

2.2 Study Intersection

For this traffic impact study, we have identified 4 study intersections:

1. Auburn Street (SR 26/100) at Lambert Street
2. Auburn Street at Clayton Street
3. Auburn Street at Jackson Street
4. Auburn Street at Proposed Site Entrance

Auburn Street, within the vicinity of the proposed development, is a two-lane bi-directional roadway that runs north to south. Clayton Street and Jackson Street both intersect with the eastern side of Auburn Street and are situated between Auburn Street and Summit Street. The proposed site entrance is located on the western side of Auburn Street, 320± feet south of the intersection at Auburn Street and Lambert Street.

2.4 Existing Traffic Conditions

Turning movement counts were collected at the three existing study intersections during the weekday morning, weekday evening, and Saturday peak hour time periods. The weekday morning and evening traffic data was collected during the first week of April, and the Saturday peak hour traffic data was collected during the second week of April. All traffic entering the study intersections was recorded in 15-minute intervals. During the weekday time periods, all traffic entering the study intersections was recorded between the hours of 7:00 and 9:00 AM and again between the hours of 3:00 and 6:00 PM. On Saturday, all traffic entering the study intersections was recorded between 11:00 AM and 2:00 PM. The turning movement counts are attached in *Section A of the appendix*.

From a summary of the traffic data, peak hour time periods have been established at each study intersection. The peak hours are provided below:

- **Weekday Morning Peak Hour**
  - Lambert St @ Auburn St: 7:30 AM to 8:30 AM
  - Clayton St @ Auburn St: 7:30 AM to 8:30 AM
  - Jackson St @ Auburn St: 7:30 AM to 8:30 AM

- **Weekday Evening Peak Hour**
  - Lambert St @ Auburn St: 3:45 PM to 4:45 PM
  - Clayton St @ Auburn St: 3:45 PM to 4:45 PM
  - Jackson St @ Auburn St: 4:30 PM to 5:30 PM

- **Saturday Midday Peak Hour**
  - Lambert St @ Auburn St: 11:45 AM to 12:45 PM
  - Clayton St @ Auburn St: 11:30 AM to 12:30 PM
  - Jackson St @ Auburn St: 11:15 AM to 12:15 PM

Figure 1, attached in *Section A of the Appendix*, depicts the 2024 count volumes at each study intersection.

3 BACKGROUND TRAFFIC

3.1 Seasonal Adjustments

Traffic data collected during the first week and the second week of April requires a seasonal adjustment to reflect the "*peak*" travel conditions typically found during the summer months of July and August. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. MaineDOT's 2019 Count Book classifies Auburn Street as a Group I roadway, defined as *"roadways or urban roads are those which carry commuter traffic and exhibit little seasonal change in traffic volumes"*.

In accordance with MaineDOT's 2023 Weekly Group Mean Factors, a seasonal adjustment factor of **1.1023** has been applied to the weekday traffic counts collected during the first week of April, and a seasonal adjustment factor of **1.1136** has been applied to the Saturday traffic counts collected during the second week of April.

3.2 Future Traffic Growth

This traffic study has been prepared based on a projected build-out year of 2025. MaineDOT's traffic counts on Auburn Street, between Jackson Street and Clayton Street, recorded 11,370 AADT in 2016, and 11,120 AADT in 2022. In the six years between 2016 and 2022, the traffic volumes on Auburn Street experienced an annual decrease of approximately -0.36%. For this study, we have assumed that a **1%** yearly growth will occur on Auburn Street, Lambert Street, Clayton Street, and Jackson Street. **Figure 2**, attached in *Section A of the appendix,* depicts the 2025 design hour traffic volumes, including seasonal and annual adjustments.

3.3 Other Development Traffic

The City of Portland Planning & Urban Development office has been contacted and was requested to identify all pending or approved other development projects whose trips may have an impact on Auburn Street within the vicinity of the site. The City has confirmed that there are two other development sites whose trips may impact the study intersections. The two other developments are listed below:

- Lambert Woods – 165-unit apartment complex (approved)
    - AM peak hour (street) = 60 trips
    - PM peak hour (street) = 76 trips

- 84 Auburn Street – 2,250sf National Coffee Shop (pending)
    - AM peak hour (street) = 194 trips

The trip assignment diagrams prepared for the two other development sites are attached in *Section A of the appendix*.

As shown above, Lambert Woods was studied in the weekday AM and PM peak hours, while 84 Auburn Street was studied in the weekday AM peak hour. For our study, we have prepared trip generation estimates for the peak hours included in this study that were not included in the other development studies. Tables 3A and 3B, following, provide the trip generation estimates for Lambert Woods and 84 Auburn Street:

Table 3A ITE Trip Generation Calculations						
Land Use	**Affordable Housing-Income Limits - LUC 223**					
Time Period	**Dwelling Units**	**Trip Generation Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	150	4.81	722	50% / 50%	361	361
AM Weekday Peak Hour (Street)	150	0.36	54	26% / 74%	14	40
PM Weekday Peak Hour (Street)	150	0.46	69	59% / 41%	41	28
AM Weekday Peak Hour (Generator)	150	0.36	54	26% / 74%	14	40
PM Weekday Peak Hour (Generator)	150	0.50	75	58% / 42%	44	31
Saturday*	150	0.41	62	50% / 50%	31	31

*ITE only provides one data point for Sat. Peak Hour. Assumed similar to LUC #220 Sat. Peak Hour. Assumed 50/50 Distribution.

During the Saturday peak hour, the only peak hour not included in the study, Lambert Woods is expected to generate 62 peak hour trips. These trips have been assigned through the study intersections based on the directional volumes recorded on Auburn Street.

Table 3B ITE Trip Generation Calculations						
Land Use	**Coffee/Donut Shop with Drive-Through Window - LUC 937**					
Time Period	**Square Footage (1k)**	**Trip Generation Rate Trips/ 1k Sf**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	2.25	533.57	1201	50% / 50%	601	600
AM Weekday Peak Hour (Street)	2.25	85.88	194	51% / 49%	99	95
PM Weekday Peak Hour (Street)	2.25	38.99	88	50% / 50%	44	44
AM Weekday Peak Hour (Generator)	2.25	101.27	228	50% / 50%	114	114
PM Weekday Peak Hour (Generator)	2.25	43.65	99	50% / 50%	50	49
Saturday Peak Hour	2.25	87.91	198	50% / 50%	99	99

During the weekday PM peak hour, the 84 Auburn Street coffee shop is expected to generate 88 trips. During the Saturday peak hour, the site is forecast to produce 198 peak trips.

Within the 84 Auburn Street TMP, prepared by Barton & Loguidice and dated January 10, 2023, the site is noted to produce 70% pass-by trips during the AM peak hour. In this study, we have assumed that 70% of the PM peak hour and Saturday peak hour trips will be pass-by trips. Accordingly, the site is expected to produce the following primary peak hour trips:

- Weekday PM Peak Hour Primary Trips = 26
- Saturday Midday Peak Hour Primary Trips = 59

The primary trips generated by the coffee shop, listed above, were assigned to 84 Auburn Street following the recorded peak hour traffic volumes.

Figure 3, attached in *Section A of the appendix*, assigns the other development traffic through the study intersections following the existing traffic patterns shown in Figure 1.

3.3 2025 Pre-Development Traffic Volumes

2025 Pre-Development traffic volume estimates have been prepared for the study intersections by combining the 2025 design hour traffic volumes, shown in Figure 2, with the other development trips, illustrated in Figure 3. **Figure 4**, attached in *Section A of the appendix*, presents the 2025 pre-development traffic volumes.

4 PROPOSED CONDITIONS

4.1 Development

Greenmars Holdings, LLC, is proposing to construct a 130-unit apartment complex on the 3.6±-acre parcel addressed 410 Auburn Street in the City of Portland. The residential development will be comprised of a mix of market-rate units, and workforce units which will be rented below market rate. Of the total 130 apartment units, 65 will be rented at market rate, and 65 will be rented below market rate.

4.2 Site Access

Access to the development site will be provided via a new driveway entrance located 320± feet south of the intersection at Auburn Street and Lambert Street.

4.3 Site Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the proposed development based upon the trip generation tables presented within the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUC) and the average volume of site generated trips produced by each category.
Trip generation calculations for the 65 market-rate apartment units have been prepared using LUC #220 – Multifamily Housing (Low-Rise), which ITE defines as "*apartments, townhouses, and condominiums located within the same building with at least three other dwelling units that have two or three floors*."

The trip generation calculations for the 65 workforce apartments have been prepared using LUC #223 – Affordable Housing - Income Limits, defined as "*all multifamily housing that is rented at below market rate to households that include at least one employed member.*" The trip generation calculations for the 65 market-rate and 65 workforce apartment units are provided below in Table 4A and Table 4B:

Table 4A
ITE Trip Generation Calculations

Land Use	Multifamily Housing (Low-Rise) Not Close to Rail Transit - LUC 220					
Time Period	**Dwelling Units**	**Avg. Trip Gen. Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	65	6.74	438	50% / 50%	219	219
AM Weekday Peak Hour (Street)	65	0.40	26	24% / 76%	6	20
PM Weekday Peak Hour (Street)	65	0.51	33	63% / 37%	21	12
AM Weekday Peak Hour (Generator)	65	0.47	31	24% / 76%	7	24
PM Weekday Peak Hour (Generator)	65	0.57	37	62% / 38%	23	14
Saturday Peak Hour*	65	0.41	27	50% / 50%	14	13

*Trip generation distribution is assumed for the Saturday peak hour.

Table 4B ITE Trip Generation Calculations							
Land Use	**Affordable Housing-Income Limits - LUC 223**						
Time Period	**Dwelling Units**	**Avg. Trip Gen. Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**		**Enter**	**Exit**
Weekday	65	4.81	313	50%	/ 50%	157	156
AM Weekday Peak Hour (Street)	65	0.36	23	26%	/ 74%	6	17
PM Weekday Peak Hour (Street)	65	0.46	30	59%	/ 41%	18	12
AM Weekday Peak Hour (Generator)	65	0.36	23	26%	/ 74%	6	17
PM Weekday Peak Hour (Generator)	65	0.50	33	58%	/ 42%	19	14
Saturday Peak Hour*	65	0.41	27	50%	/ 50%	14	13

*ITE only provides one study point for the Saturday peak hour. Assumed similar to LUC #220 Saturday peak hour.

Table 4C, below, summarizes the total trips generated by the proposed market-rate and workforce housing apartments.

Table 4C ITE Trip Generation Summary			
Time Period	**Total Trips**	**Enter**	**Exit**
Weekday	751	376	375
AM Weekday Peak Hour (Street)	49	12	37
PM Weekday Peak Hour (Street)	63	39	24
AM Weekday Peak Hour (Generator)	54	13	41
PM Weekday Peak Hour (Generator)	70	42	28
Saturday Peak Hour	54	28	26

Table 4C shows that the proposed residential development is expected to generate a total of 49 trips during the AM peak hour of the adjacent (street), and 63 trips during the PM peak hour of the adjacent street. During the peak hours of the (generator), the proposed development is expected to generate 54 trips in the AM peak hour and a maximum of 70 trips during the PM peak hour. The proposed project is expected to generate 54 trips during the Saturday peak hour.

4.5 Trip Assignment

Traffic generated by the proposed development has been assigned to and from the proposed development based on the traffic patterns on the adjacent roadway, as illustrated in Figure 1. The peak hour trip assignment percentages are shown in Table 4D, below:

Table 4D Vehicle Trip Assignment			
Approach	**AM Peak Hour**	**PM Peak Hour**	**Sat. Peak Hour**
Auburn Street (North)	27%	30%	37%
Lambert Street	8%	9%	11%
Clayton Street	4%	6%	5%
Jackson Street	3%	4%	5%
Auburn Street (South)	58%	51%	42%

The site generated trips have been assigned to and from the project site based upon the distribution percentages listed above in Table 4D. **Figure 5**, attached in *Section A of the appendix,* illustrates the site trip assignment.

4.6 2025 Post-Development Volumes

Figure 6, attached in *Section A of the appendix*, provides the 2025 post-development traffic volumes, which have been established by combining the pre-development traffic volumes shown in Figure 4 with the site trip assignment shown in Figure 5.

5 ANALYSES

5.1 Intersection Sight Distance

Intersection sight distances were recorded at the proposed site driveway's intersection with Auburn Street in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which require the following minimum sight distance for non-mobility roadways based upon the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 feet
30 mph	250 feet
35 mph	**305 feet**
40 mph	360 feet
45 mph	425 feet
50 mph	495 feet

The section of Auburn Street fronting the proposed development is posted at 35 mph, requiring an unobstructed sight distance of 305 feet. In accordance with *Highway Driveway and Entrance Rules,* sight distance measurements were recorded using the following procedures: "*Sight distance is measured to and from the point on the centerline of the proposed access that is located 10-feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement.*"

The field measurements recorded from the proposed site entrance looking directionally onto Auburn Street indicate that existing sight distances are in excess of the minimum standard based upon the 35 mph posted speed limit. Looking left, we recorded a sight distance in excess of 400 feet, and looking right, we recorded a similar measurement in excess of 400 feet. Refer to Image 2 and Image 3, attached below:

Image 2 - Sight Distance – Looking Left

Image 3 - Sight Distance – Looking Right

5.2 Crash Analysis

Crash data for the latest three-year time period (2021-2023) was provided by MaineDOT's Accident Records Section for the segment of Auburn Street between the intersections of Jackson Street and Lambert Street for a distance of 0.13 miles. MaineDOT's crash report has been attached in *section B of the appendix*. A summary of the report is provided below in Table 5A:

Table 5A
2021-2023 Crash Report Summary
Auburn Street Between Lambert Street and Jackson Street

#	Location	Total Crashes	Critical Rate Factor
1	Auburn Street @ Clayton Street	0	0.00
2	Auburn Street @ Lambert Street	3	0.66
3	Auburn Street @ Jackson Street	0	0.00
4	Auburn Street btw. Jackson Street and Clayton Street	1	0.18
5	Auburn Street btw. Clayton Street and Lambert Street	0	0.00

MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more crashes within the latest three-year period***
- ***A Critical Rate Factor greater than or equal to 1.00***

As the data presented in Table 5A shows, there are no high crash locations within the defined study area.

5.3 Capacity Analysis

A capacity analysis of the 2025 pre-development and post-development traffic conditions has been performed for the four unsignalized study intersections.

Within the capacity analysis, we will review the level of service (LOS) for each movement at the study intersections. LOS is a measurement of the delay experienced by stopped vehicles at an intersection. LOS rankings are similar to the academic grading system, where an "A" is very good with little delay, and an "F" represents very poor conditions. The following chart presents the relationship between delay and LOS for unsignalized intersections.

Level of Service Criteria for Unsignalized Intersections	
Level of Service	**Total Control Delay (sec/veh)**
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater Than 50.0

The capacity analysis was performed using Synchro 11 inputs and SimTraffic reporting outputs. The results are based on 7 SimTraffic runs, averaging 5 runs with the lowest and highest run removed. The SimTraffic reports are included in *Section C of the appendix.*

Table 5B, below, summarizes the results of the analysis completed for the AM and PM peak hour pre- and post-development conditions:

Table 5B

Level of Service Summary

Intersection/Approach	2025 Pre-Development						2025 Post-Development					
	AM Peak Hour		PM Peak Hour		Saturday Peak Hour		AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS
1. Auburn Street @ Clayton Street												
Clayton St - WBL	15.7	C	27.1	D	10.0	A	17.3	C	24.1	C	8.1	A
Clayton St - WBR	5.9	A	14.0	B	5.4	A	5.4	A	18.6	C	5.0	A
Auburn St - NBT	1.1	A	2.2	A	0.9	A	0.7	A	1.3	A	0.6	A
Auburn St - NBR	0.2	A	2.0	A	0.5	A	0.0	A	0.1	A	0.0	A
Auburn St - SBL	3.8	A	8.7	A	3.5	A	4.6	A	8.3	A	3.9	A
Auburn St - SBT	1.1	A	2.3	A	0.5	A	1.6	A	2.2	A	0.6	A
Overall	***1.5***	***A***	***3.2***	***A***	***1.0***	***A***	***1.7***	***A***	***3.2***	***A***	***0.8***	***A***
2. Auburn Street @ Lambert Street												
Lambert St - EBL	20.8	C	34.2	D	14.9	B	20.0	C	58.9	F	14.4	B
Lambert St - EBR	11.3	B	7.3	A	4.2	A	13.7	B	7.5	A	4.7	A
Auburn St - NBL	5.2	A	5.3	A	3.3	A	5.7	A	5.1	A	3.5	A
Auburn St - NBT	2.0	A	3.4	A	1.3	A	2.1	A	3.3	A	1.3	A
Auburn St - SBT	1.4	A	1.7	A	0.6	A	1.7	A	1.5	A	0.7	A
Auburn St - SBR	0.3	A	0.9	A	0.1	A	0.8	A	0.7	A	0.0	A
Overall	***4.0***	***A***	***3.6***	***A***	***1.6***	***A***	***4.7***	***A***	***3.5***	***A***	***1.7***	***A***
3. Auburn Street @ Jackson Street												
Auburn St - NBT	0.4	A	0.8	A	0.5	A	0.4	A	1.0	A	0.4	A
Auburn St - NBR	0.2	A	0.3	A	0.2	A	0.2	A	0.4	A	0.2	A
Auburn St - SBL	4.2	A	7.8	A	3.7	A	4.4	A	6.9	A	3.8	A
Auburn St - SBT	1.4	A	1.9	A	0.7	A	1.6	A	1.4	A	0.8	A
Jackson St - SWL	25.8	D	19.4	C	11.4	B	23.5	C	23.7	C	12.1	B
Jackson St - SWR	6.2	A	8.0	A	4.6	A	7.2	A	8.3	A	4.4	A
Overall	***1.5***	***A***	***1.8***	***A***	***0.9***	***A***	***1.6***	***A***	***1.6***	***A***	***0.9***	***A***
4. Auburn Street @ Site Entrance												
Site - EBL	-	n/a	-	n/a	-	n/a	20.1	C	19.4	C	12.4	B
Site - EBR	-	n/a	-	n/a	-	n/a	8.3	A	7.3	A	5.6	A
Auburn St - NBL	-	n/a	-	n/a	-	n/a	5.4	A	3.9	A	3.5	A
Auburn St - NBT	-	n/a	-	n/a	-	n/a	0.6	A	1.4	A	0.6	A
Auburn St - SBT	-	n/a	-	n/a	-	n/a	0.6	A	0.6	A	0.3	A
Auburn St - SBR	-	n/a	-	n/a	-	n/a	0.1	A	0.1	A	0.0	A
Overall	***-***	***n/a***	***-***	***n/a***	***-***	***n/a***	***1.0***	***A***	***1.3***	***A***	***0.7***	***A***

The capacity analysis shows that the project will have minimal impact on the adjacent roadway network. During all post-development peak hours, the Auburn Street movements are expected to continue operating at a LOS 'A'. On the minor street approaches, the LOS will remain similar. The most significant

impact is seen on the Lambert Street left-turn movement, which is low volume and services 3 to 4 vehicles in the peak hours. During the PM peak hour, the movement operates at a LOS 'D' in the pre-development condition, and is expected to increase to a LOS 'F' in the post-development condition.

Overall, when the development is built and occupied, the four study intersections are expected to operate at an overall LOS 'A'.

5.4 Queue Analysis

In addition to outputting the vehicle delay, SimTraffic also provides vehicle queue reports, which show the expected average queue and 95th percentile queue. The queue reports for the pre- and post-development conditions are summarized below in Table 5C:

Table 5B
Level of Service Summary

Intersection/Approach	2025 Pre-Development			2025 Post-Development		
	AM Peak Hour	PM Peak Hour	Saturday Peak Hour	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)
1. Auburn Street @ Clayton Street						
Clayton St - WB LR	57	79	48	54	95	48
Auburn St - NB TR	31	56	18	17	46	11
Auburn St - SB LT	79	120	38	106	127	44
2. Auburn Street @ Lambert Street						
Lambert St - EB LR	130	67	44	140	73	46
Auburn St - NB LT	114	145	89	114	139	82
Auburn St - SB TR	11	55	5	29	50	-
3. Auburn Street @ Jackson Street						
Auburn St - NB TR	-	-	-	-	4	-
Auburn St - SB LT	71	97	42	101	101	50
Jackson St - SW LR	47	51	45	52	53	45
4. Auburn Street @ Site Entrance						
Site - EB LR	-	-	-	52	45	44
Auburn St - NB LT	-	-	-	36	56	35
Auburn St - SB TR	-	-	-	4	-	-

The queueing analysis shows that on Auburn Street, a vehicle queue of 1 to 6 vehicles (25' vehicle length) is expected on Auburn Street at each of the minor streets. The vehicle queues are the result of left-turning vehicles waiting for a gap in the oncoming traffic. A maximum vehicle queue length of 56 feet is expected on the proposed site entrance approach.

6 SUMMARY

6.1 Trip Generation

The proposed residential development is expected to generate a total of 49 trips during the AM peak hour of the adjacent (street), and 63 trips during the PM peak hour of the adjacent street. During the peak hours of the (generator), the proposed development is expected to generate 54 trips in the AM peak hour and a maximum of 70 trips during the PM peak hour. The proposed project is expected to generate 54 trips during the Saturday peak hour. Overall, the project will remain below the 100 trip threshold required to trigger a MaineDOT Traffic Movement Permit.

6.2 Intersection Sight Distance

Sight distance field measurements were recorded looking both left and right directionally onto Auburn Street from the proposed site entrances. The field measurements indicate that looking both left and right, existing sight distances exceed MaineDOT's requirement.

6.3 Crash Analysis

A review of MaineDOT's crash data available for the latest three-year time period (2021-2023) was conducted for the segment of Auburn Street between the intersections of Jackson Street and Lambert Street. Our review indicated that there were no high crash locations within the study area.

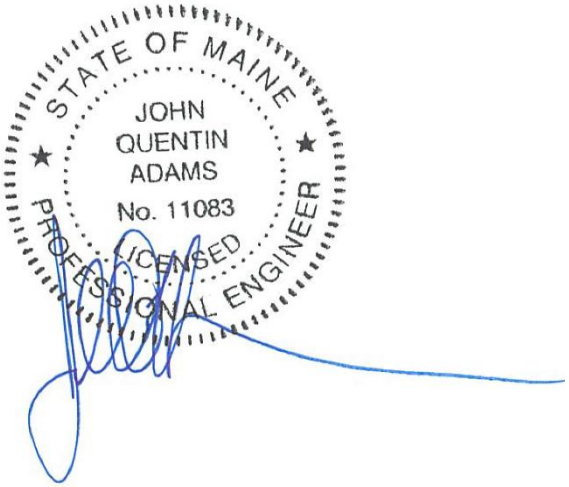
6.4 Capacity Analysis

The capacity analysis shows that the project will have minimal impact on the adjacent roadway network. During all post-development peak hours, the Auburn Street movements are expected to continue operating at a LOS 'A'. On the minor street approaches, the LOS will remain similar. The most significant impact is seen on the Lambert Street left-turn movement, which is low volume and services 3 to 4 vehicles in the peak hours. During the PM peak hour, the movement operates at a LOS 'D' in the pre-development condition, and is expected to increase to a LOS 'F' in the post-development condition.

Overall, when the development is built and occupied, the four study intersections are expected to operate at an overall LOS 'A'.

6.5 Queue Analysis

The queueing analysis shows that on Auburn Street, a vehicle queue of 1 to 6 vehicles (25' vehicle length) is expected on Auburn Street at each of the minor streets. The vehicle queues are the result of left-turning vehicles waiting for a gap in the oncoming traffic. A maximum vehicle queue length of 56 feet is expected on the proposed site entrance approach.



John Q. Adams, PE, PTOE
August 9th, 2024

APPENDIX

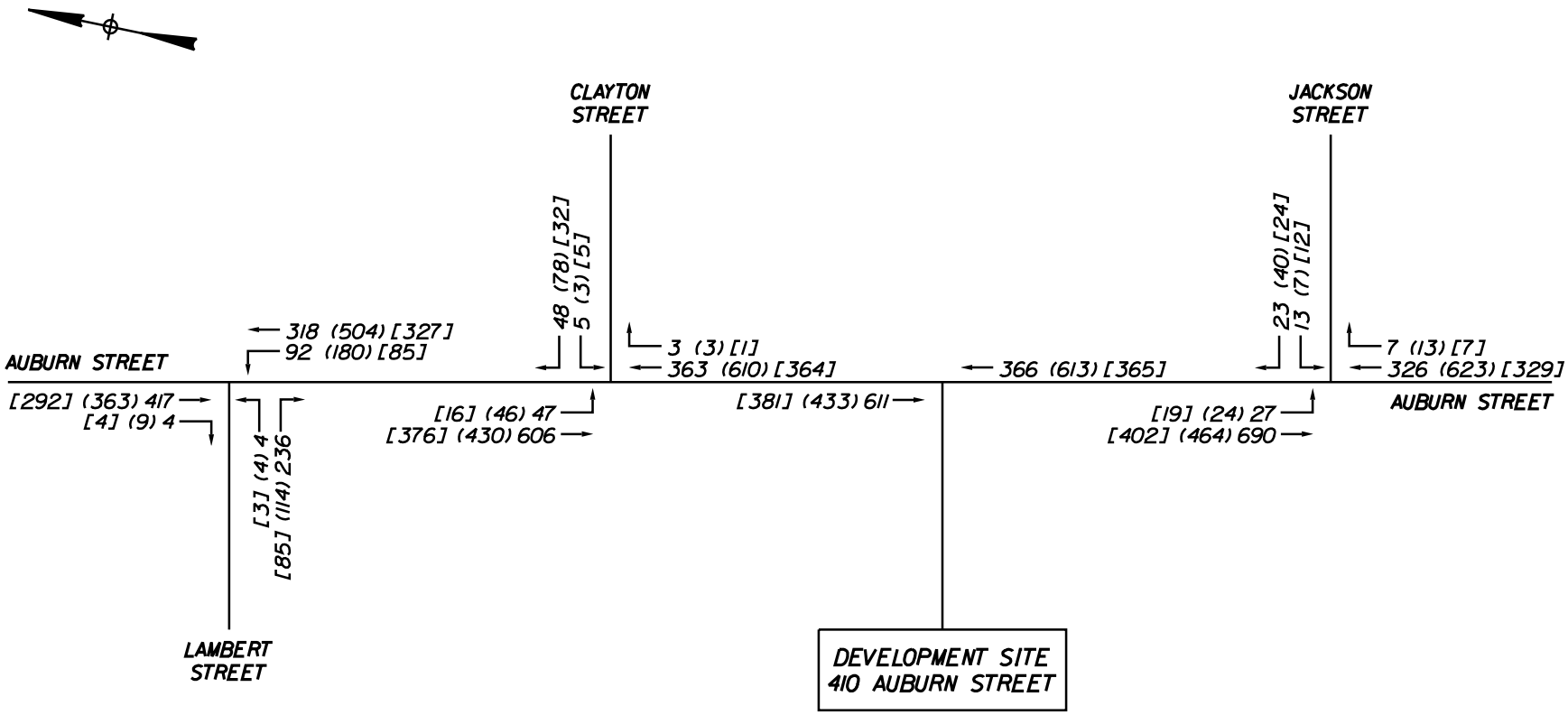
A. TRAFFIC FIGURES & TRAFFIC COUNTS

B. MAINEDOT CRASH REPORT

C. SYNCHRO & SIMTRAFFIC CAPACITY ANALYSIS REPORTS

APPENDIX A

TRAFFIC FIGURES & TRAFFIC COUNTS



2024 TRAFFIC VOLUMES

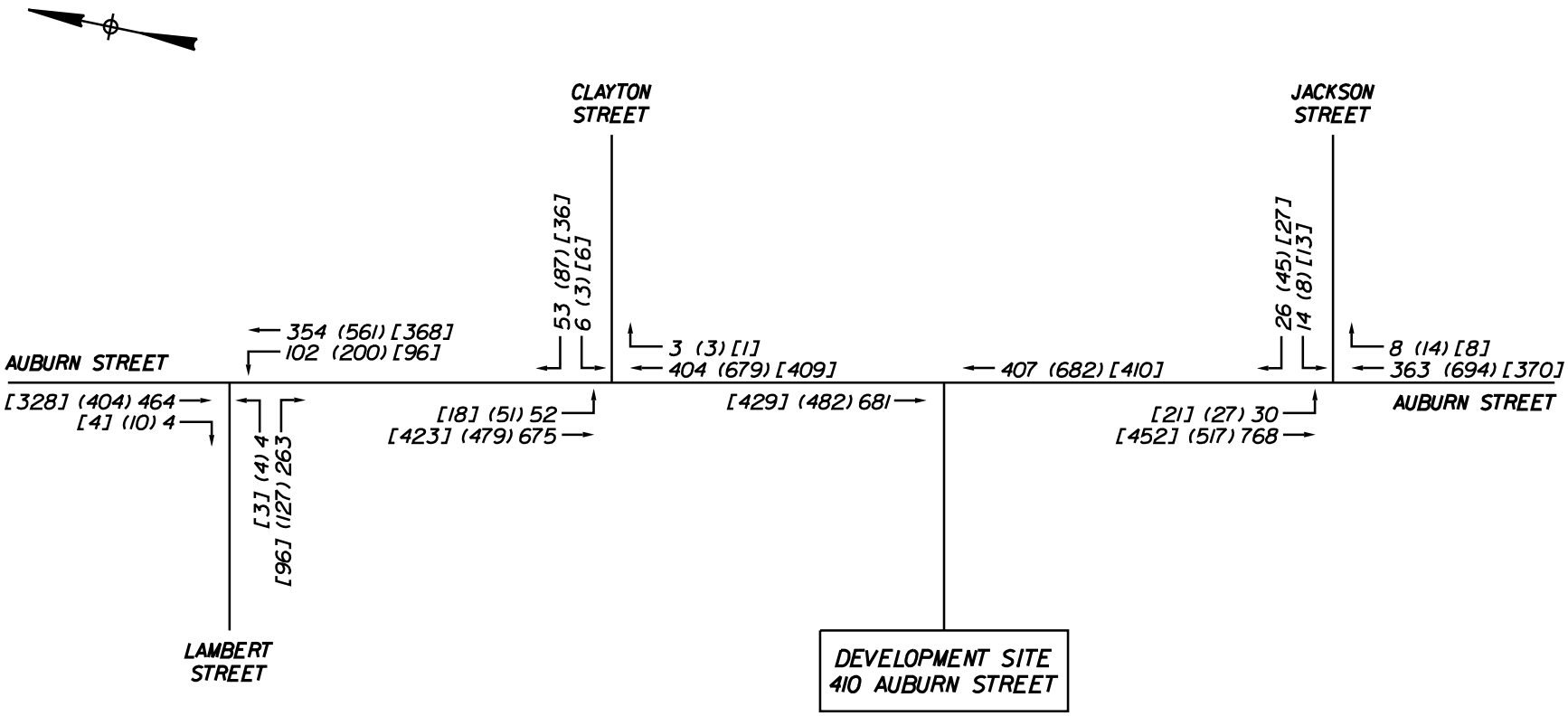
FIGURE 1

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice



2025 DESIGN HOUR TRAFFIC VOLUMES

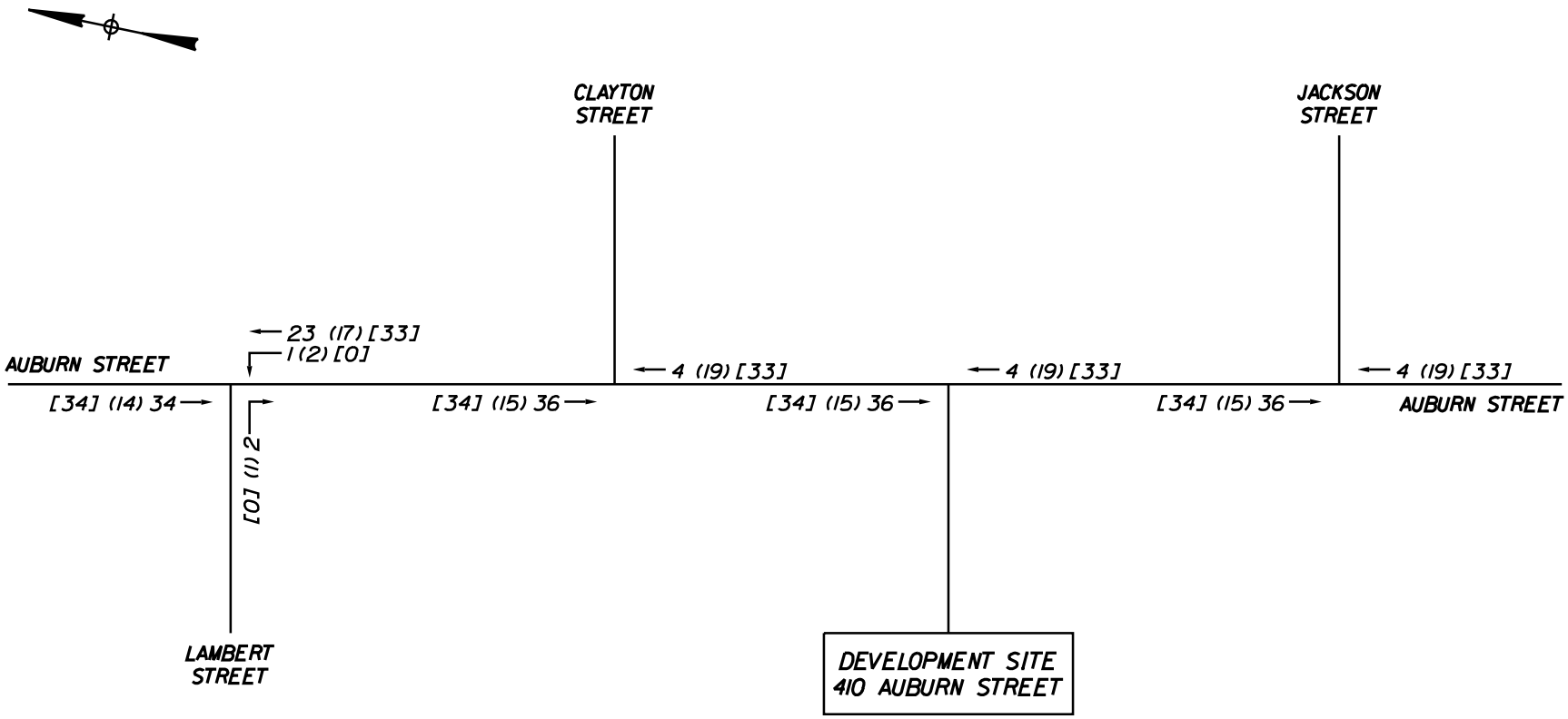
FIGURE 2

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice



OTHER DEVELOPMENT TRIPS

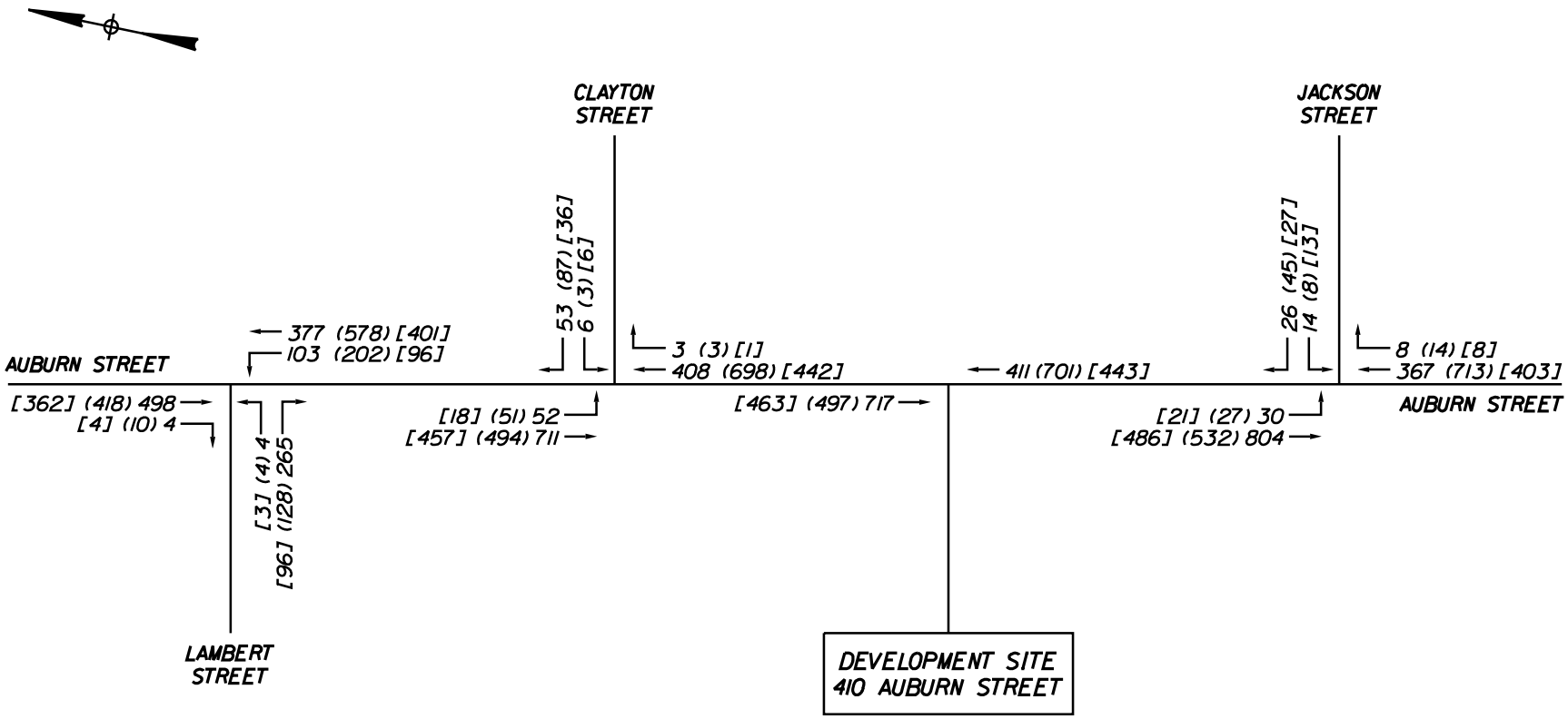
FIGURE 3

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice



2025 PRE-DEVELOPMENT TRAFFIC VOLUMES

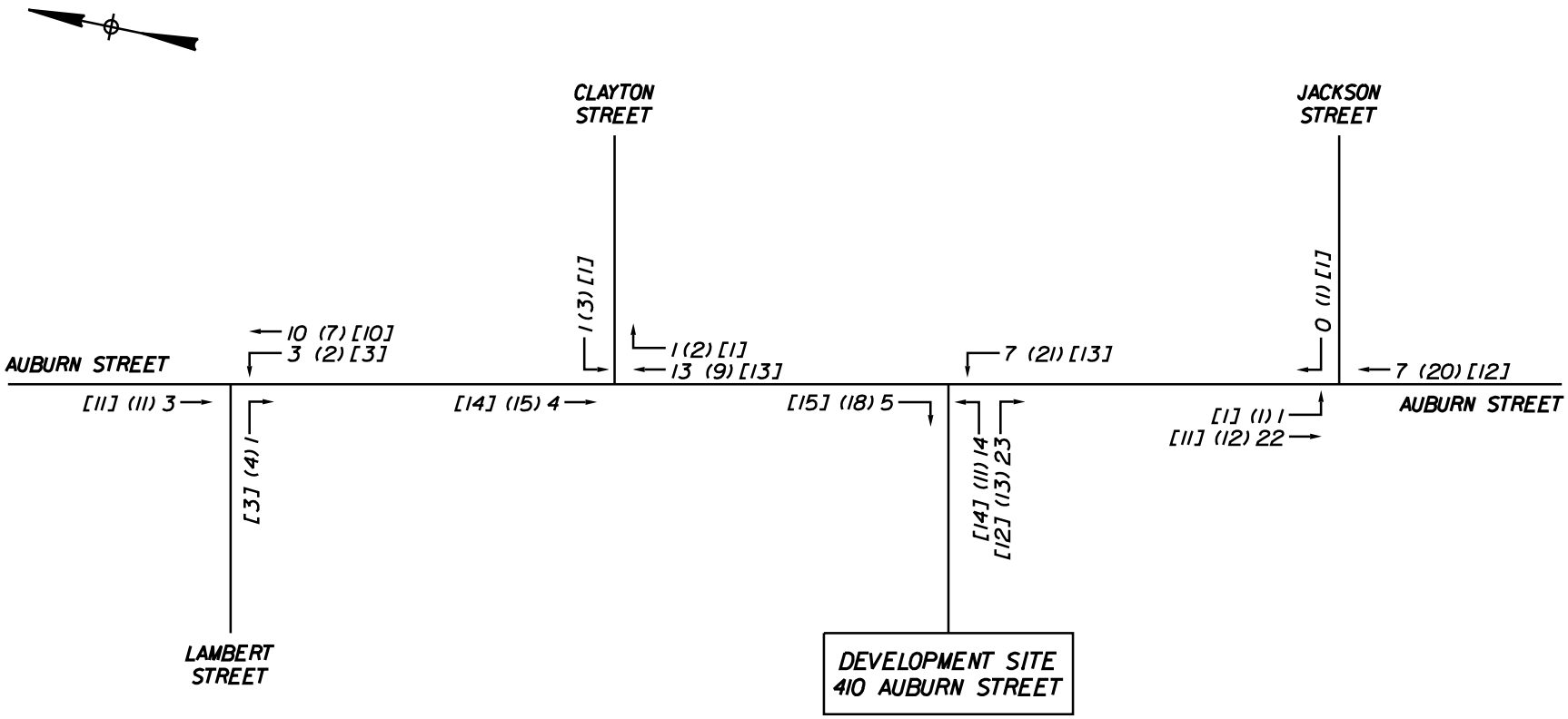
FIGURE 4

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice



SITE TRIP ASSIGNMENT

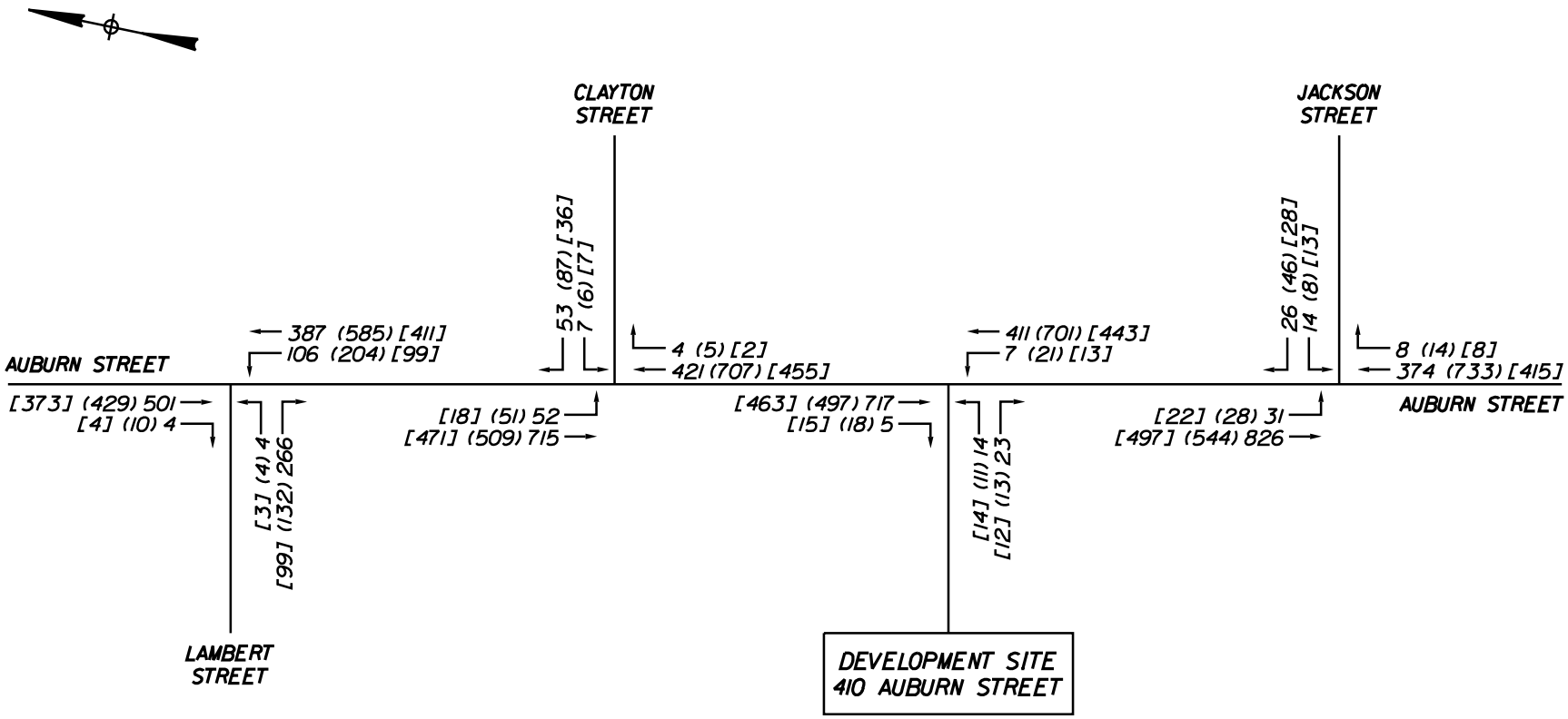
FIGURE 5

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice



2025 POST-DEVELOPMENT TRAFFIC VOLUMES

FIGURE 6

LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

410 AUBURN STREET DEVELOPMENT
PORTLAND, MAINE

2865.002.001 DATE: MAY, 2024

Barton & Loguidice

Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St & Clayton St
April 02, 2024 AM
40 Degrees Sun
St.Clair Associates

File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	125	7	0	132	2	70	0	72	6	1	0	7	211
07:15 AM	147	9	0	156	0	79	0	79	17	2	0	19	254
07:30 AM	179	17	0	196	1	96	0	97	13	0	0	13	306
07:45 AM	160	14	0	174	0	81	0	81	9	2	0	11	266
Total	611	47	0	658	3	326	0	329	45	5	0	50	1037
08:00 AM	136	11	0	147	1	78	0	79	12	2	0	14	240
08:15 AM	131	5	0	136	1	108	0	109	14	1	0	15	260
08:30 AM	127	11	0	138	0	82	0	82	15	1	0	16	236
08:45 AM	146	11	0	157	2	94	0	96	10	0	0	10	263
Total	540	38	0	578	4	362	0	366	51	4	0	55	999

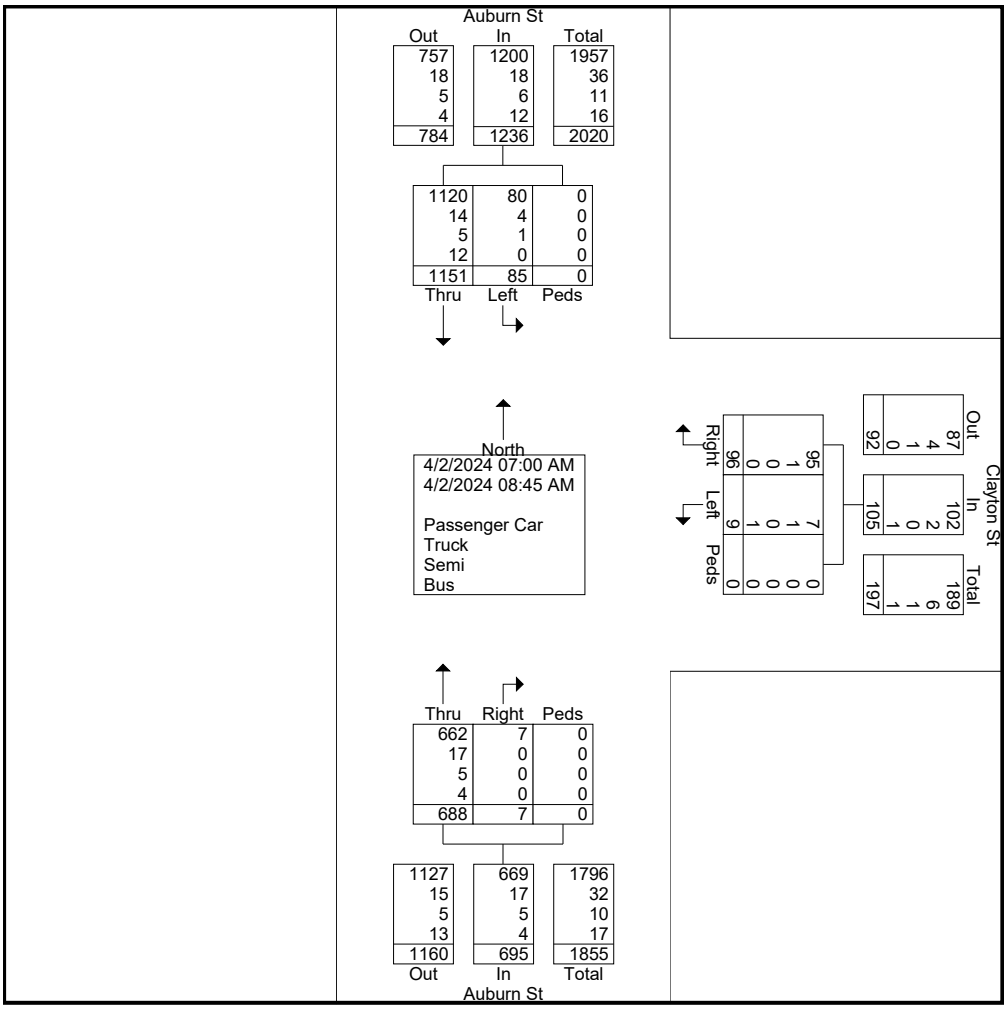
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 2

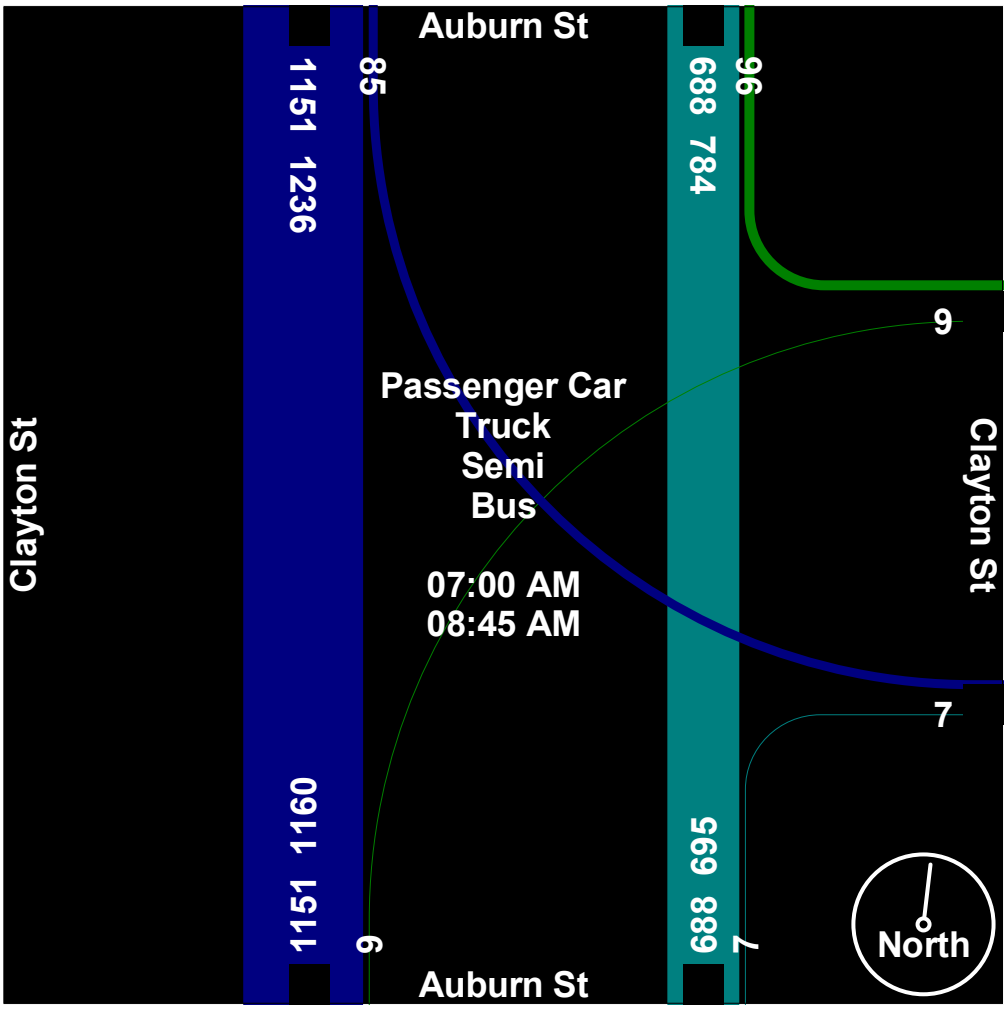
Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Clayton St From East				
	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	1151	85	0	1236	7	688	0	695	96	9	0	105	2036
Apprch %	93.1	6.9	0		1	99	0		91.4	8.6	0		
Total %	56.5	4.2	0	60.7	0.3	33.8	0	34.1	4.7	0.4	0	5.2	
Passenger Car	1120	80	0	1200	7	662	0	669	95	7	0	102	1971
% Passenger Car	97.3	94.1	0	97.1	100	96.2	0	96.3	99	77.8	0	97.1	96.8
Truck	14	4	0	18	0	17	0	17	1	1	0	2	37
% Truck	1.2	4.7	0	1.5	0	2.5	0	2.4	1	11.1	0	1.9	1.8
Semi	5	1	0	6	0	5	0	5	0	0	0	0	11
% Semi	0.4	1.2	0	0.5	0	0.7	0	0.7	0	0	0	0	0.5
Bus	12	0	0	12	0	4	0	4	0	1	0	1	17
% Bus	1	0	0	1	0	0.6	0	0.6	0	11.1	0	1	0.8



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 3

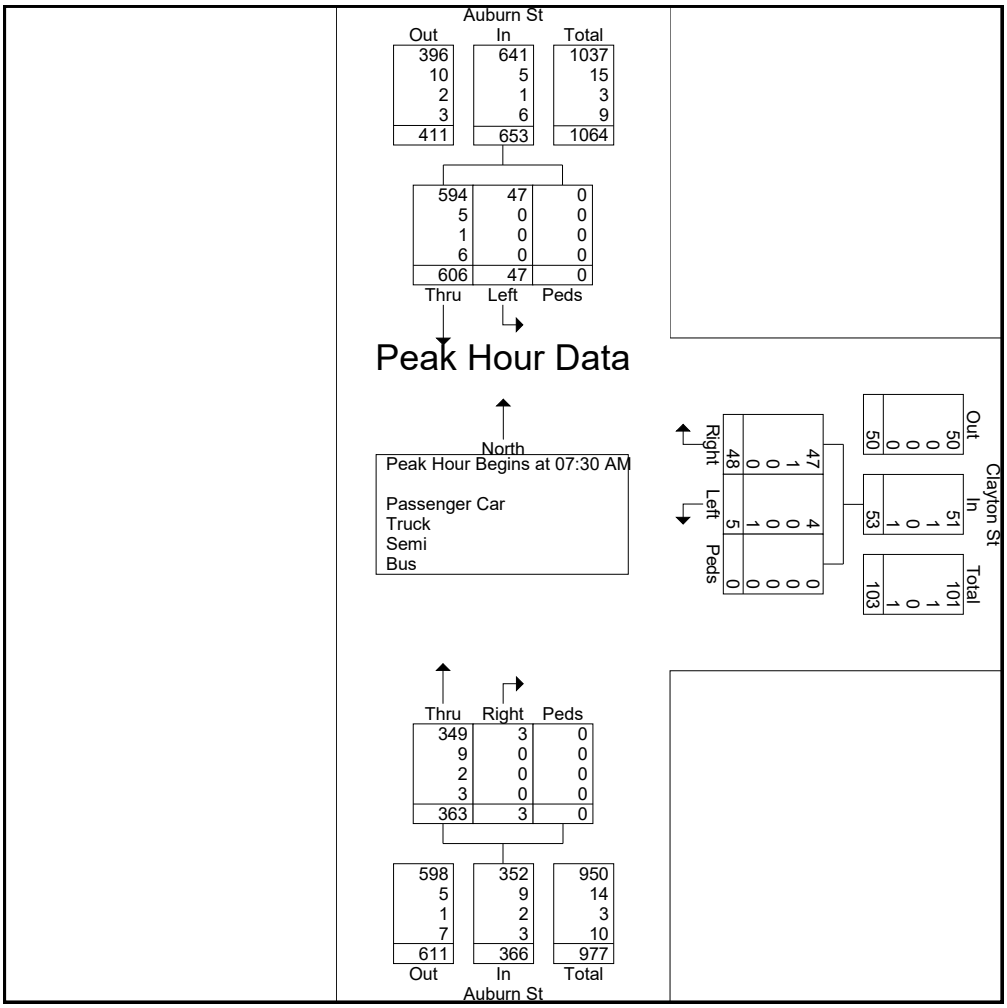


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 4

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	**179**	**17**	0	**196**	**1**	96	0	97	13	0	0	13	**306**
07:45 AM	160	14	0	174	0	81	0	81	9	**2**	0	11	266
08:00 AM	136	11	0	147	1	78	0	79	12	2	0	14	240
08:15 AM	131	5	0	136	1	**108**	0	**109**	**14**	1	0	**15**	260
Total Volume	606	47	0	653	3	363	0	366	48	5	0	53	1072
% App. Total	92.8	7.2	0		0.8	99.2	0		90.6	9.4	0		
PHF	.846	.691	.000	.833	.750	.840	.000	.839	.857	.625	.000	.883	.876
Passenger Car	594	47	0	641	3	349	0	352	47	4	0	51	1044
% Passenger Car	98.0	100	0	98.2	100	96.1	0	96.2	97.9	80.0	0	96.2	97.4
Truck	5	0	0	5	0	9	0	9	1	0	0	1	15
% Truck	0.8	0	0	0.8	0	2.5	0	2.5	2.1	0	0	1.9	1.4
Semi	1	0	0	1	0	2	0	2	0	0	0	0	3
% Semi	0.2	0	0	0.2	0	0.6	0	0.5	0	0	0	0	0.3
Bus	6	0	0	6	0	3	0	3	0	1	0	1	10
% Bus	1.0	0	0	0.9	0	0.8	0	0.8	0	20.0	0	1.9	0.9

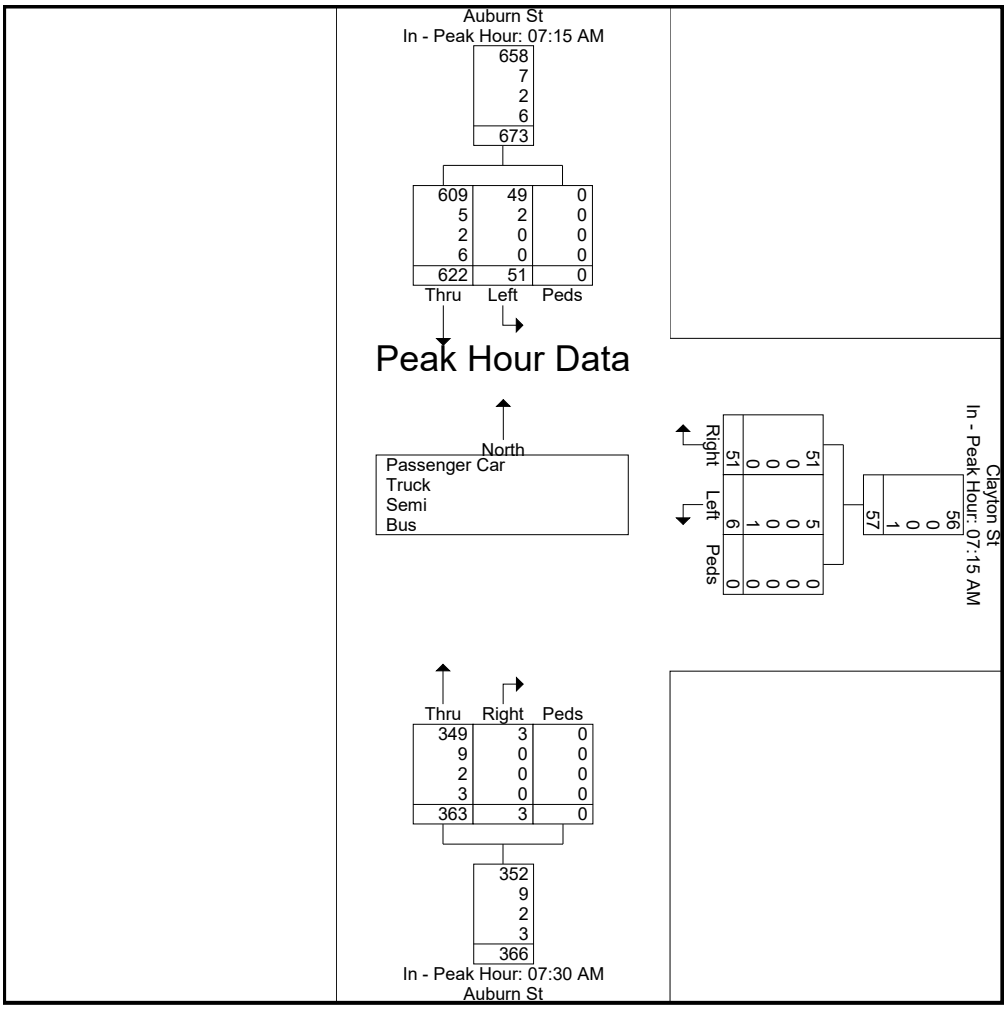


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

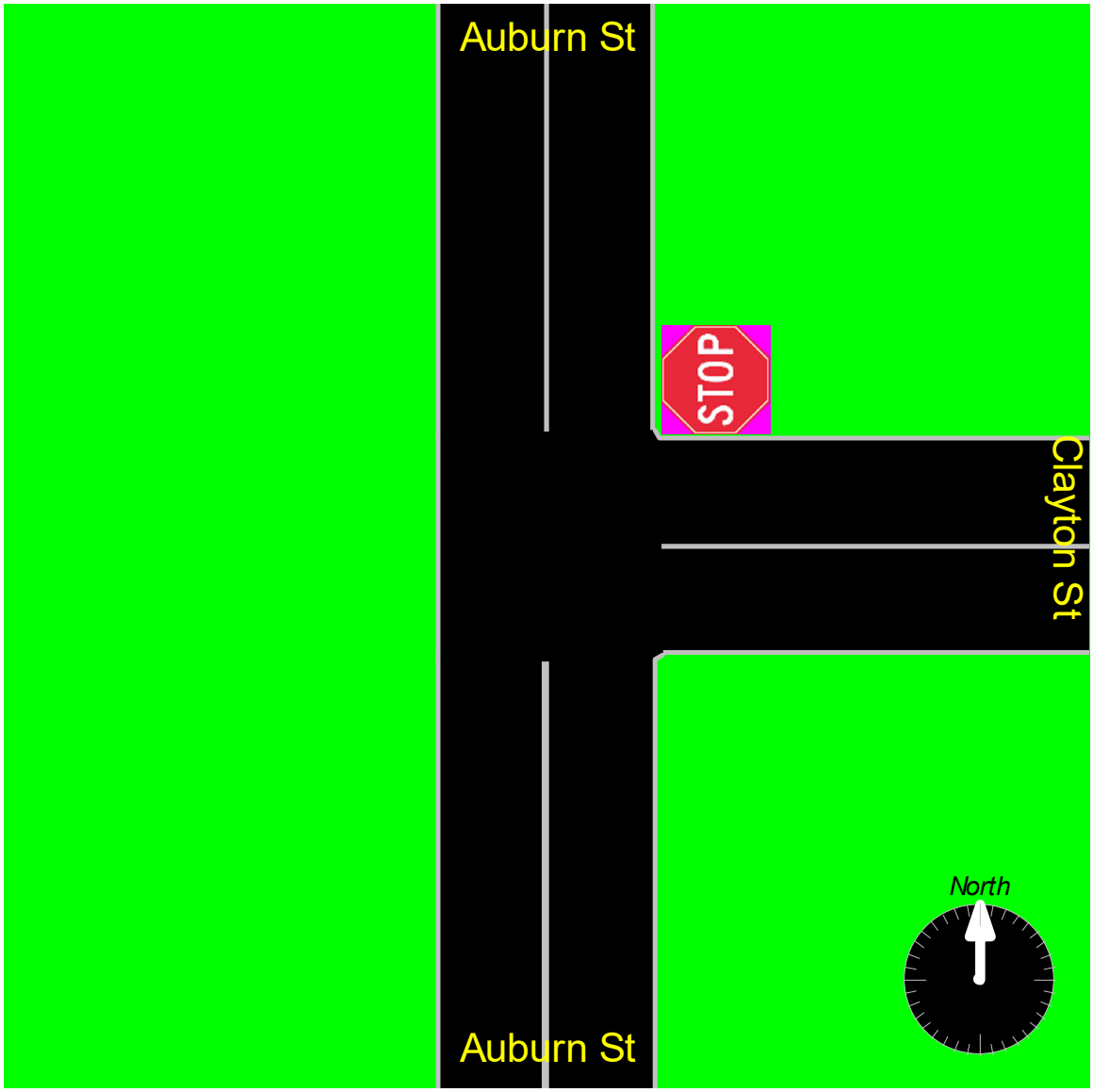
File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 5

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:15 AM				07:30 AM				07:15 AM				
+0 mins.	147	9	0	156	**1**	96	0	97	**17**	**2**	0	**19**	
+15 mins.	**179**	**17**	0	**196**	0	81	0	81	13	0	0	13	
+30 mins.	160	14	0	174	1	78	0	79	9	2	0	11	
+45 mins.	136	11	0	147	1	**108**	0	**109**	12	2	0	14	
Total Volume	622	51	0	673	3	363	0	366	51	6	0	57	
% App. Total	92.4	7.6	0		0.8	99.2	0		89.5	10.5	0		
PHF	.869	.750	.000	.858	.750	.840	.000	.839	.750	.750	.000	.750	
Passenger Car	609	49	0	658	3	349	0	352	51	5	0	56	
% Passenger Car	97.9	96.1	0	97.8	100	96.1	0	96.2	100	83.3	0	98.2	
Truck	5	2	0	7	0	9	0	9	0	0	0	0	
% Truck	0.8	3.9	0	1	0	2.5	0	2.5	0	0	0	0	
Semi	2	0	0	2	0	2	0	2	0	0	0	0	
% Semi	0.3	0	0	0.3	0	0.6	0	0.5	0	0	0	0	
Bus	6	0	0	6	0	3	0	3	0	1	0	1	
% Bus	1	0	0	0.9	0	0.8	0	0.8	0	16.7	0	1.8	



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 6



Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St Clayton St
April 02, 2024 PM
40 Degrees
St.Clair Associates

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
03:00 PM	99	6	0	105	0	130	2	132	9	1	0	10	247
03:15 PM	94	2	0	96	0	120	0	120	11	1	0	12	228
03:30 PM	70	9	0	79	0	139	1	140	16	0	0	16	235
03:45 PM	93	11	0	104	1	113	2	116	18	0	0	18	238
Total	356	28	0	384	1	502	5	508	54	2	0	56	948
04:00 PM	71	2	0	73	2	124	0	126	12	0	0	12	211
04:15 PM	97	3	0	100	1	130	0	131	18	0	0	18	249
04:30 PM	107	14	0	121	0	152	1	153	24	1	0	25	299
04:45 PM	110	14	0	124	0	158	2	160	21	2	0	23	307
Total	385	33	0	418	3	564	3	570	75	3	0	78	1066
05:00 PM	91	8	0	99	2	160	0	162	19	0	0	19	280
05:15 PM	122	10	0	132	1	140	1	142	14	0	0	14	288
05:30 PM	100	3	0	103	1	135	2	138	15	1	0	16	257
05:45 PM	129	7	0	136	0	151	1	152	15	0	0	15	303
Total	442	28	0	470	4	586	4	594	63	1	0	64	1128

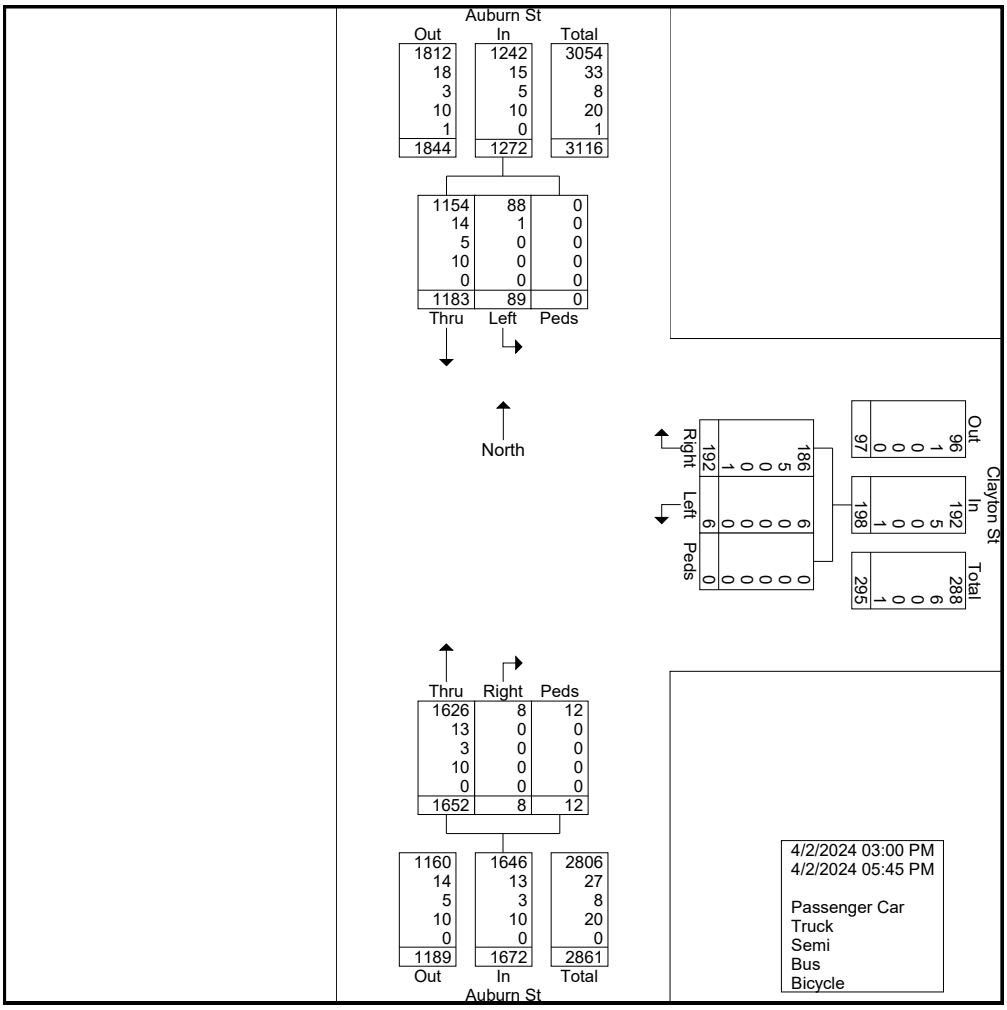
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 2

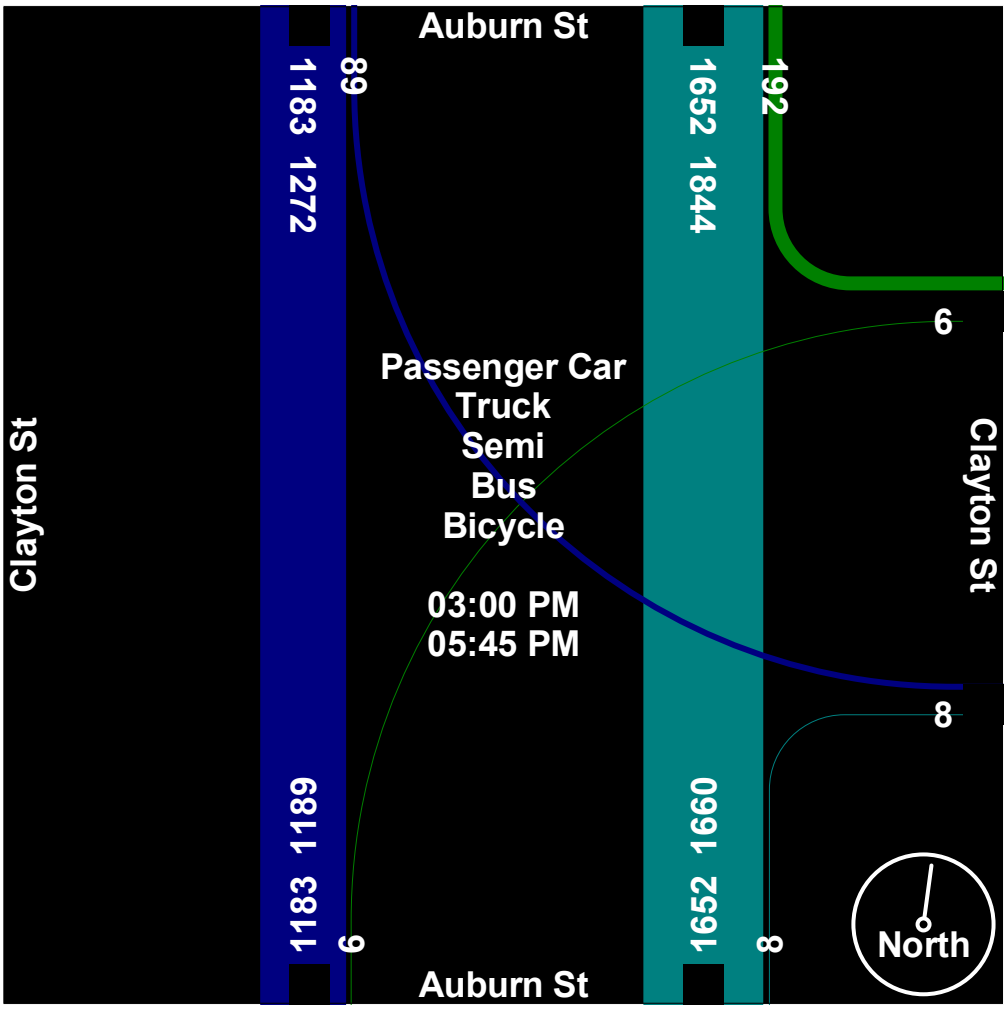
Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Clayton St From East				
	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	1183	89	0	1272	8	1652	12	1672	192	6	0	198	3142
Apprch %	93	7	0		0.5	98.8	0.7		97	3	0		
Total %	37.7	2.8	0	40.5	0.3	52.6	0.4	53.2	6.1	0.2	0	6.3	
Passenger Car	1154	88	0	1242	8	1626	12	1646	186	6	0	192	3080
% Passenger Car	97.5	98.9	0	97.6	100	98.4	100	98.4	96.9	100	0	97	98
Truck	14	1	0	15	0	13	0	13	5	0	0	5	33
% Truck	1.2	1.1	0	1.2	0	0.8	0	0.8	2.6	0	0	2.5	1.1
Semi	5	0	0	5	0	3	0	3	0	0	0	0	8
% Semi	0.4	0	0	0.4	0	0.2	0	0.2	0	0	0	0	0.3
Bus	10	0	0	10	0	10	0	10	0	0	0	0	20
% Bus	0.8	0	0	0.8	0	0.6	0	0.6	0	0	0	0	0.6
Bicycle	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bicycle	0	0	0	0	0	0	0	0	0.5	0	0	0.5	0



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 3



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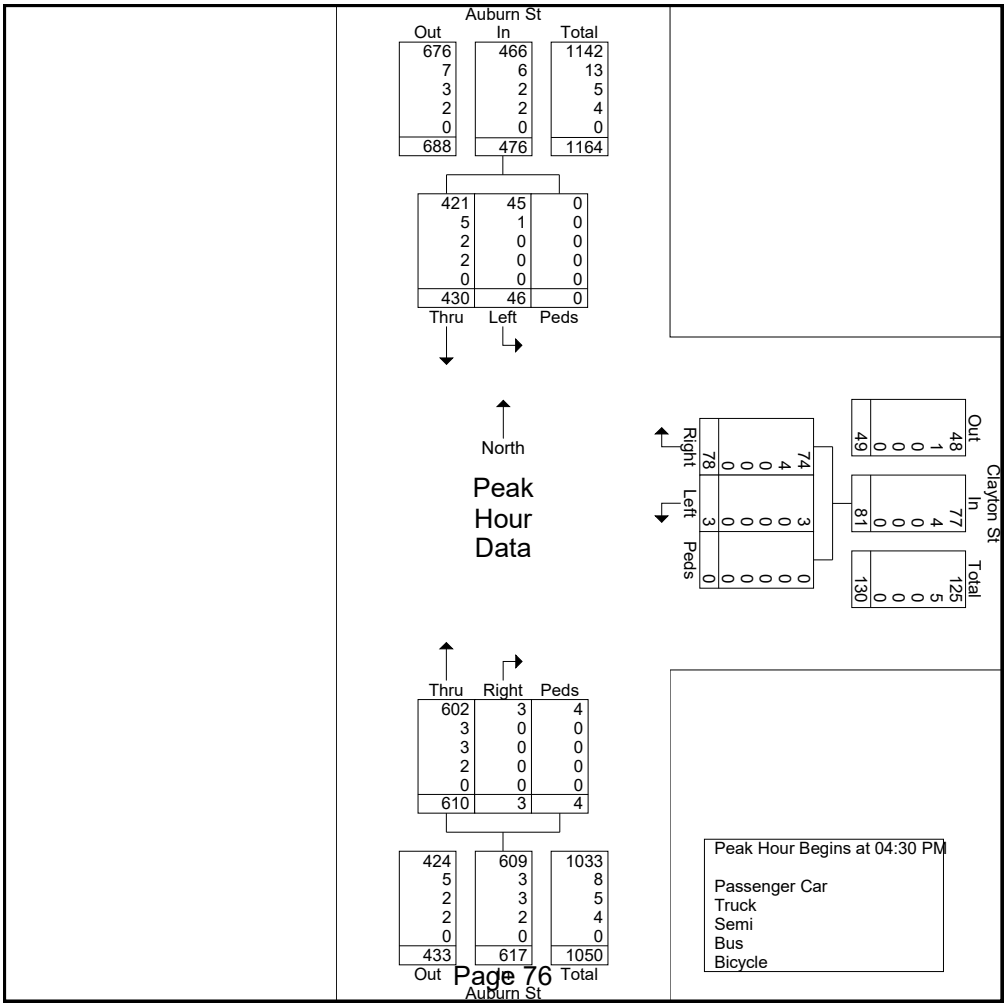
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 4

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	107	**14**	0	121	0	152	1	153	**24**	1	0	**25**	299
04:45 PM	110	14	0	124	0	158	**2**	160	21	**2**	0	23	**307**
05:00 PM	91	8	0	99	**2**	**160**	0	**162**	19	0	0	19	280
05:15 PM	**122**	10	0	**132**	1	140	1	142	14	0	0	14	288
Total Volume	430	46	0	476	3	610	4	617	78	3	0	81	1174
% App. Total	90.3	9.7	0		0.5	98.9	0.6		96.3	3.7	0		
PHF	.881	.821	.000	.902	.375	.953	.500	.952	.813	.375	.000	.810	.956
Passenger Car	421	45	0	466	3	602	4	609	74	3	0	77	1152
% Passenger Car	97.9	97.8	0	97.9	100	98.7	100	98.7	94.9	100	0	95.1	98.1
Truck	5	1	0	6	0	3	0	3	4	0	0	4	13
% Truck	1.2	2.2	0	1.3	0	0.5	0	0.5	5.1	0	0	4.9	1.1
Semi	2	0	0	2	0	3	0	3	0	0	0	0	5
% Semi	0.5	0	0	0.4	0	0.5	0	0.5	0	0	0	0	0.4
Bus	2	0	0	2	0	2	0	2	0	0	0	0	4
% Bus	0.5	0	0	0.4	0	0.3	0	0.3	0	0	0	0	0.3
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

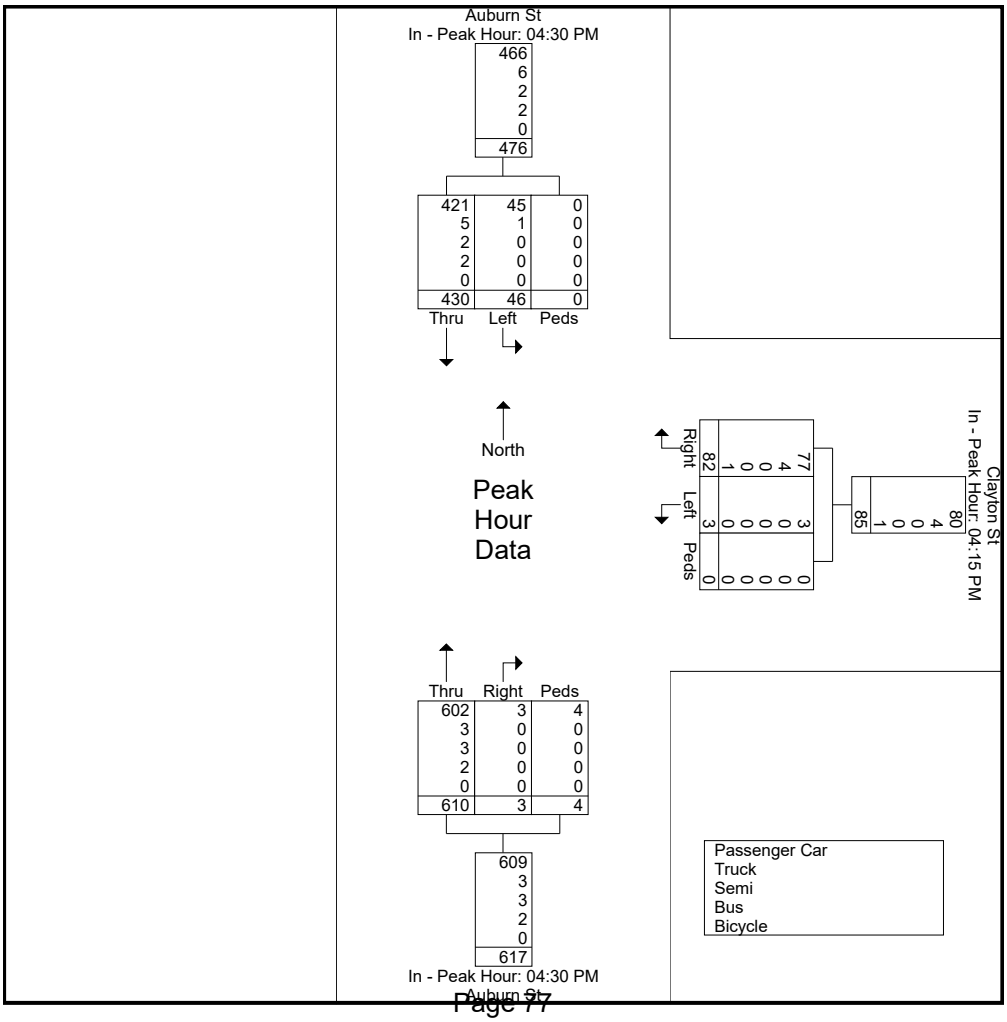


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 5

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM				04:30 PM				04:15 PM				
+0 mins.	107	**14**	0	121	0	152	1	153	18	0	0	18	
+15 mins.	110	14	0	124	0	158	**2**	160	**24**	1	0	**25**	
+30 mins.	91	8	0	99	**2**	**160**	0	**162**	21	**2**	0	23	
+45 mins.	**122**	10	0	**132**	1	140	1	142	19	0	0	19	
Total Volume	430	46	0	476	3	610	4	617	82	3	0	85	
% App. Total	90.3	9.7	0		0.5	98.9	0.6		96.5	3.5	0		
PHF	.881	.821	.000	.902	.375	.953	.500	.952	.854	.375	.000	.850	
Passenger Car	421	45	0	466	3	602	4	609	77	3	0	80	
% Passenger Car	97.9	97.8	0	97.9	100	98.7	100	98.7	93.9	100	0	94.1	
Truck	5	1	0	6	0	3	0	3	4	0	0	4	
% Truck	1.2	2.2	0	1.3	0	0.5	0	0.5	4.9	0	0	4.7	
Semi	2	0	0	2	0	3	0	3	0	0	0	0	
% Semi	0.5	0	0	0.4	0	0.5	0	0.5	0	0	0	0	
Bus	2	0	0	2	0	2	0	2	0	0	0	0	
% Bus	0.5	0	0	0.4	0	0.3	0	0.3	0	0	0	0	
Bicycle	0	0	0	0	0	0	0	0	1	0	0	1	
% Bicycle	0	0	0	0	0	0	0	0	1.2	0	0	1.2	



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17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
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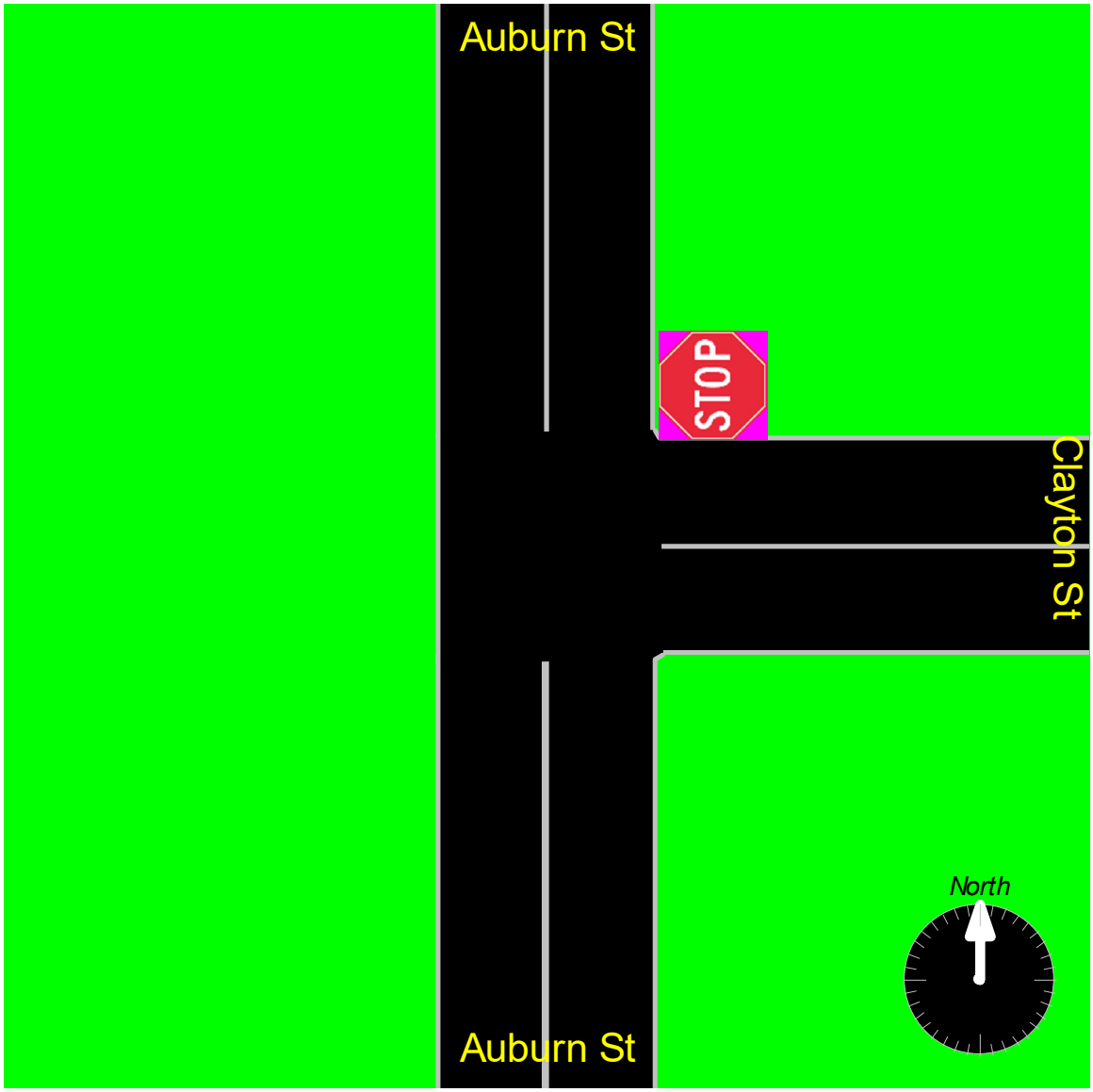


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St Clayton St
April 13, 2024 Sat
50 Degrees
St.Clair Associates

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
11:00 AM	89	7	0	96	1	86	0	87	11	0	0	11	194
11:15 AM	93	2	0	95	2	78	0	80	7	0	0	7	182
11:30 AM	98	3	0	101	0	71	0	71	9	2	2	13	185
11:45 AM	99	3	0	102	0	101	0	101	6	1	0	7	210
Total	379	15	0	394	3	336	0	339	33	3	2	38	771
12:00 PM	91	8	0	99	1	94	0	95	12	2	0	14	208
12:15 PM	88	2	0	90	0	98	0	98	5	0	2	7	195
12:30 PM	82	4	0	86	0	86	0	86	10	1	0	11	183
12:45 PM	85	4	0	89	1	94	0	95	10	0	0	10	194
Total	346	18	0	364	2	372	0	374	37	3	2	42	780
01:00 PM	78	2	0	80	0	101	0	101	9	0	0	9	190
01:15 PM	55	4	0	59	0	85	0	85	9	1	1	11	155
01:30 PM	74	2	0	76	2	80	0	82	7	1	0	8	166
01:45 PM	63	2	0	65	0	90	0	90	8	0	0	8	163
Total	270	10	0	280	2	356	0	358	33	2	1	36	674

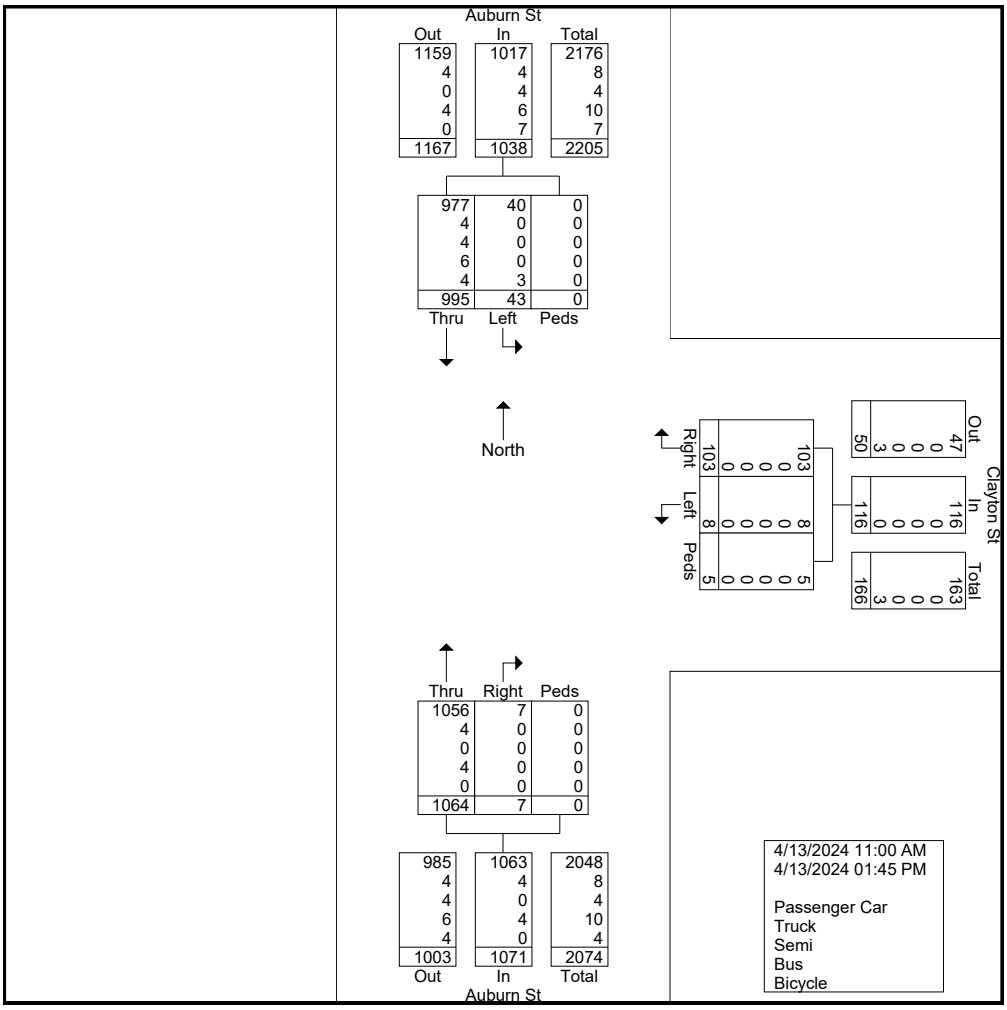
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
Page No : 2

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Clayton St From East				
	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	995	43	0	1038	7	1064	0	1071	103	8	5	116	2225
Apprch %	95.9	4.1	0		0.7	99.3	0		88.8	6.9	4.3		
Total %	44.7	1.9	0	46.7	0.3	47.8	0	48.1	4.6	0.4	0.2	5.2	
Passenger Car	977	40	0	1017	7	1056	0	1063	103	8	5	116	2196
% Passenger Car	98.2	93	0	98	100	99.2	0	99.3	100	100	100	100	98.7
Truck	4	0	0	4	0	4	0	4	0	0	0	0	8
% Truck	0.4	0	0	0.4	0	0.4	0	0.4	0	0	0	0	0.4
Semi	4	0	0	4	0	0	0	0	0	0	0	0	4
% Semi	0.4	0	0	0.4	0	0	0	0	0	0	0	0	0.2
Bus	6	0	0	6	0	4	0	4	0	0	0	0	10
% Bus	0.6	0	0	0.6	0	0.4	0	0.4	0	0	0	0	0.4
Bicycle	4	3	0	7	0	0	0	0	0	0	0	0	7
% Bicycle	0.4	7	0	0.7	0	0	0	0	0	0	0	0	0.3



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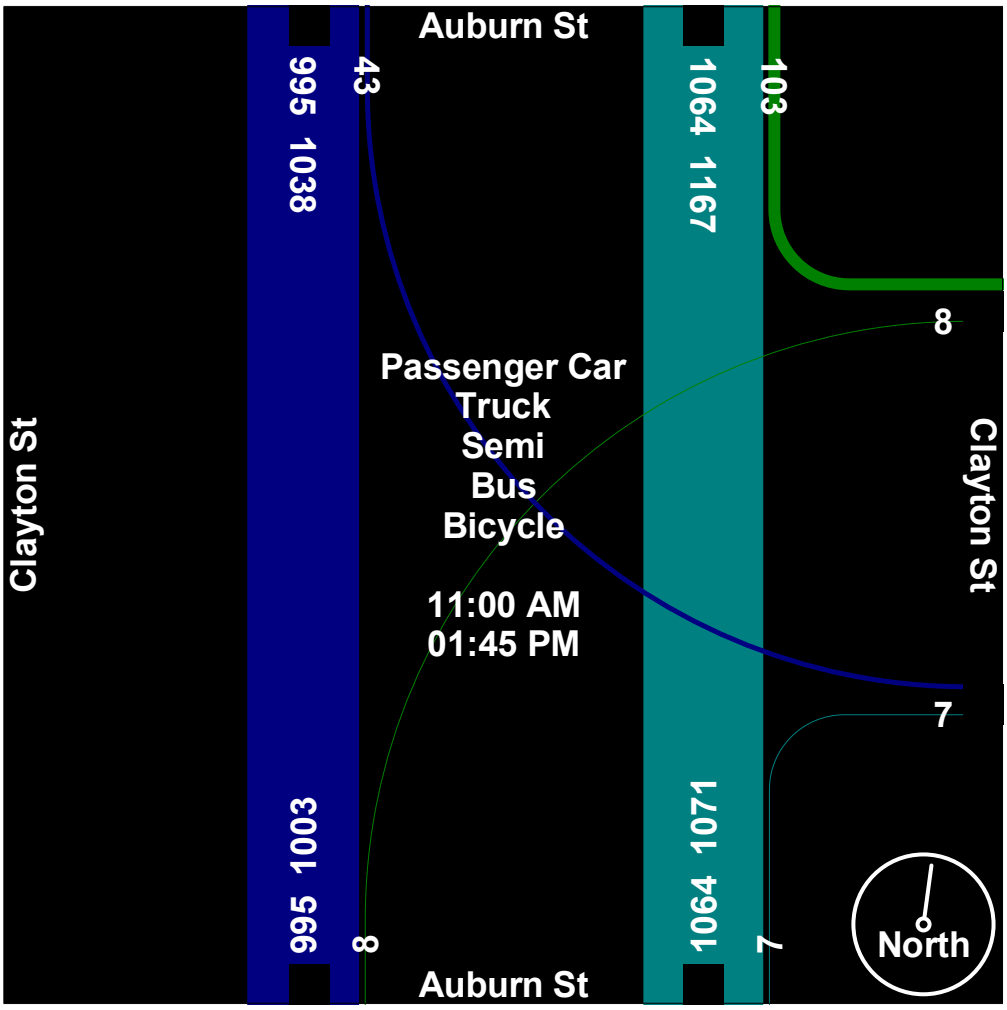
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
Page No : 3

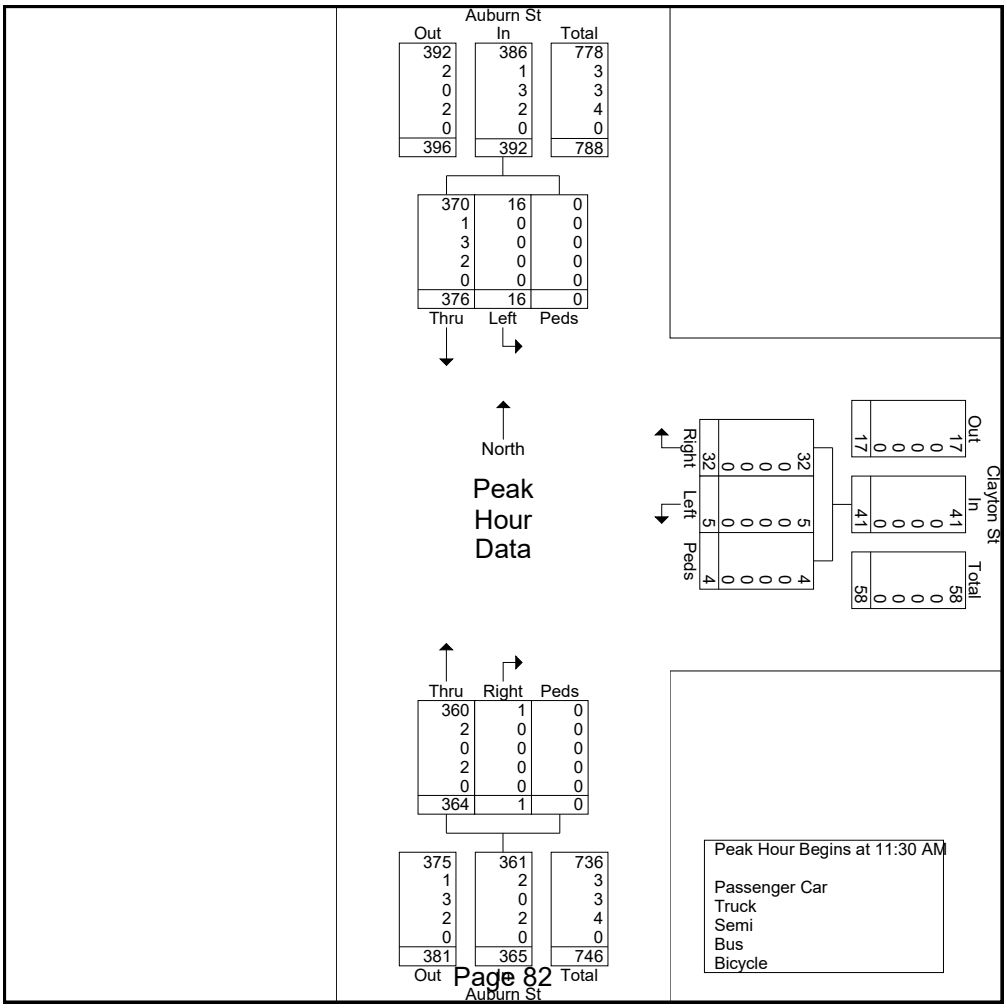


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
Page No : 4

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30 AM													
11:30 AM	98	3	0	101	0	71	0	71	9	**2**	**2**	13	185
11:45 AM	**99**	3	0	**102**	0	**101**	0	**101**	6	1	0	7	**210**
12:00 PM	91	**8**	0	99	**1**	94	0	95	**12**	2	0	**14**	208
12:15 PM	88	2	0	90	0	98	0	98	5	0	2	7	195
Total Volume	376	16	0	392	1	364	0	365	32	5	4	41	798
% App. Total	95.9	4.1	0		0.3	99.7	0		78	12.2	9.8		
PHF	.949	.500	.000	.961	.250	.901	.000	.903	.667	.625	.500	.732	.950
Passenger Car	370	16	0	386	1	360	0	361	32	5	4	41	788
% Passenger Car	98.4	100	0	98.5	100	98.9	0	98.9	100	100	100	100	98.7
Truck	1	0	0	1	0	2	0	2	0	0	0	0	3
% Truck	0.3	0	0	0.3	0	0.5	0	0.5	0	0	0	0	0.4
Semi	3	0	0	3	0	0	0	0	0	0	0	0	3
% Semi	0.8	0	0	0.8	0	0	0	0	0	0	0	0	0.4
Bus	2	0	0	2	0	2	0	2	0	0	0	0	4
% Bus	0.5	0	0	0.5	0	0.5	0	0.5	0	0	0	0	0.5
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

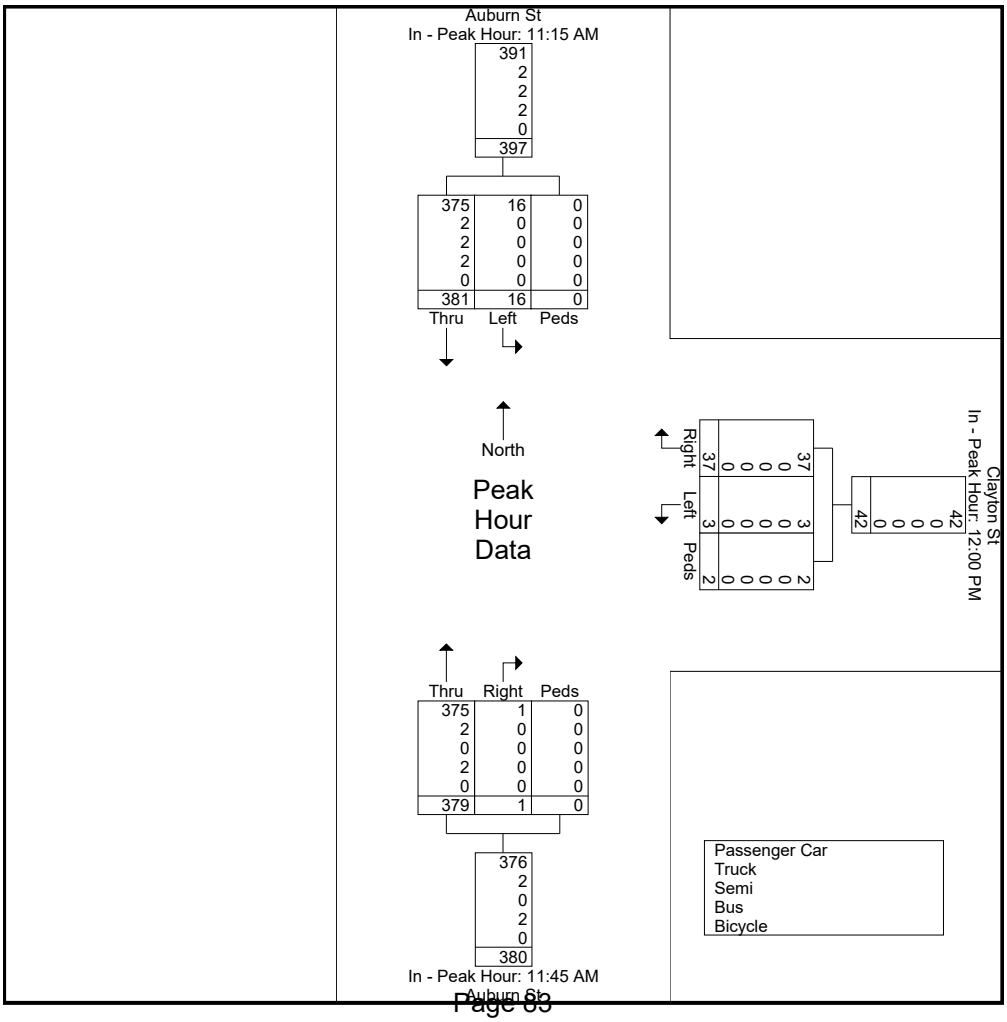


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
Page No : 5

	Auburn St From North				Auburn St From South				Clayton St From East				
Start Time	Thru	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	11:15 AM				11:45 AM				12:00 PM				
+0 mins.	93	2	0	95	0	**101**	0	**101**	**12**	**2**	0	**14**	
+15 mins.	98	3	0	101	**1**	94	0	95	5	0	**2**	7	
+30 mins.	**99**	3	0	**102**	0	98	0	98	10	1	0	11	
+45 mins.	91	**8**	0	99	0	86	0	86	10	0	0	10	
Total Volume	381	16	0	397	1	379	0	380	37	3	2	42	
% App. Total	96	4	0		0.3	99.7	0		88.1	7.1	4.8		
PHF	.962	.500	.000	.973	.250	.938	.000	.941	.771	.375	.250	.750	
Passenger Car	375	16	0	391	1	375	0	376	37	3	2	42	
% Passenger Car	98.4	100	0	98.5	100	98.9	0	98.9	100	100	100	100	
Truck	2	0	0	2	0	2	0	2	0	0	0	0	
% Truck	0.5	0	0	0.5	0	0.5	0	0.5	0	0	0	0	
Semi	2	0	0	2	0	0	0	0	0	0	0	0	
% Semi	0.5	0	0	0.5	0	0	0	0	0	0	0	0	
Bus	2	0	0	2	0	2	0	2	0	0	0	0	
% Bus	0.5	0	0	0.5	0	0.5	0	0.5	0	0	0	0	
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Clayton 04-13-2024 Sat
Site Code : 00413241
Start Date : 4/13/2024
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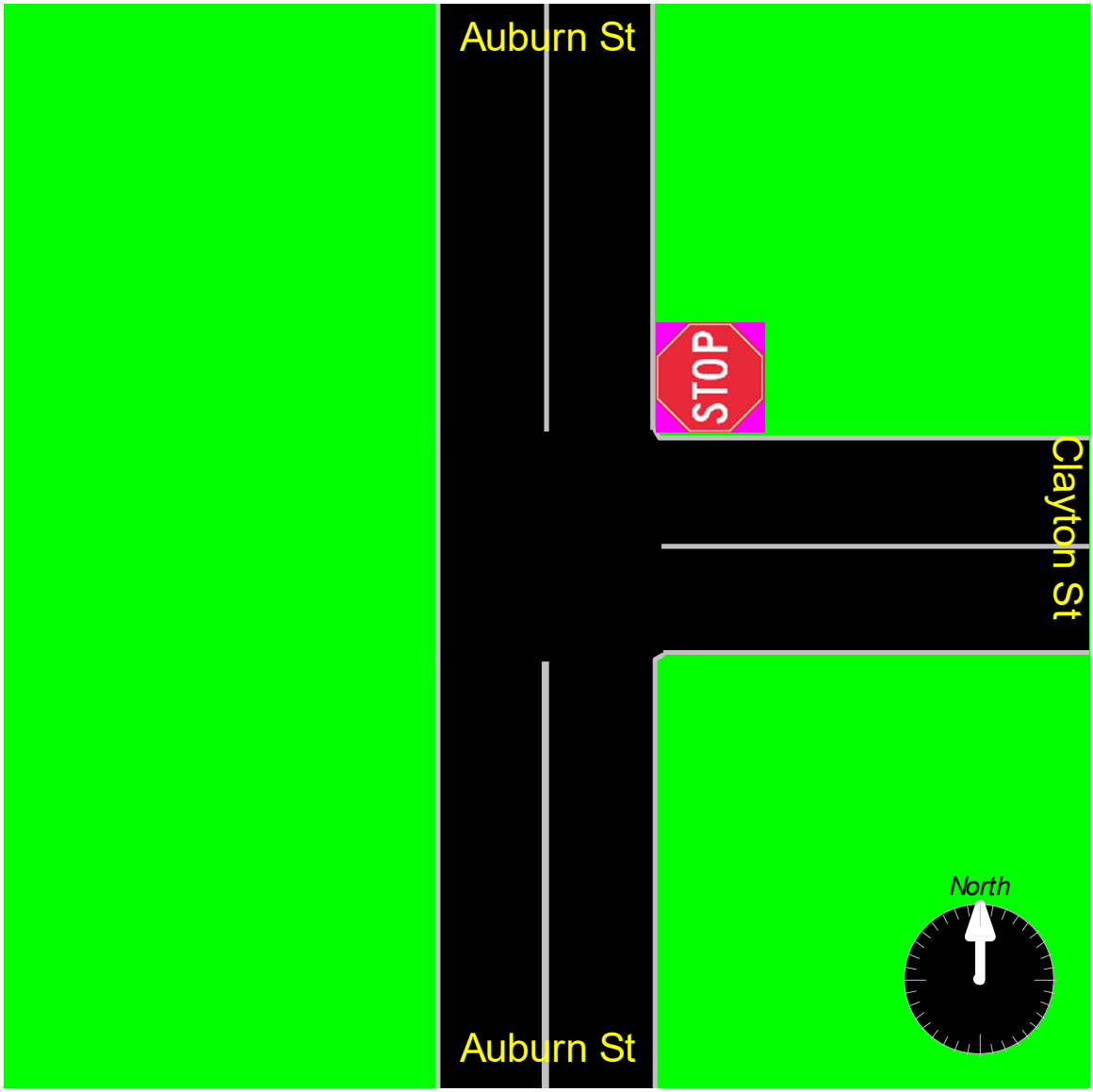


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St & Jacksont St
April 03, 2024 AM
40 degrees overcast
Miovisioin/ K Tillson

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	111	3	0	114	6	1	0	7	0	64	0	64	185
07:15 AM	163	6	0	169	4	4	0	8	0	52	0	52	229
07:30 AM	188	9	0	197	6	3	0	9	0	70	0	70	276
07:45 AM	208	3	0	211	5	3	0	8	1	70	0	71	290
Total	670	21	0	691	21	11	0	32	1	256	0	257	980
08:00 AM	165	10	0	175	8	3	0	11	5	97	0	102	288
08:15 AM	129	5	0	134	4	4	0	8	1	89	0	90	232
08:30 AM	146	6	0	152	4	2	0	6	3	54	0	57	215
08:45 AM	137	4	0	141	4	3	0	7	2	82	0	84	232
Total	577	25	0	602	20	12	0	32	11	322	0	333	967

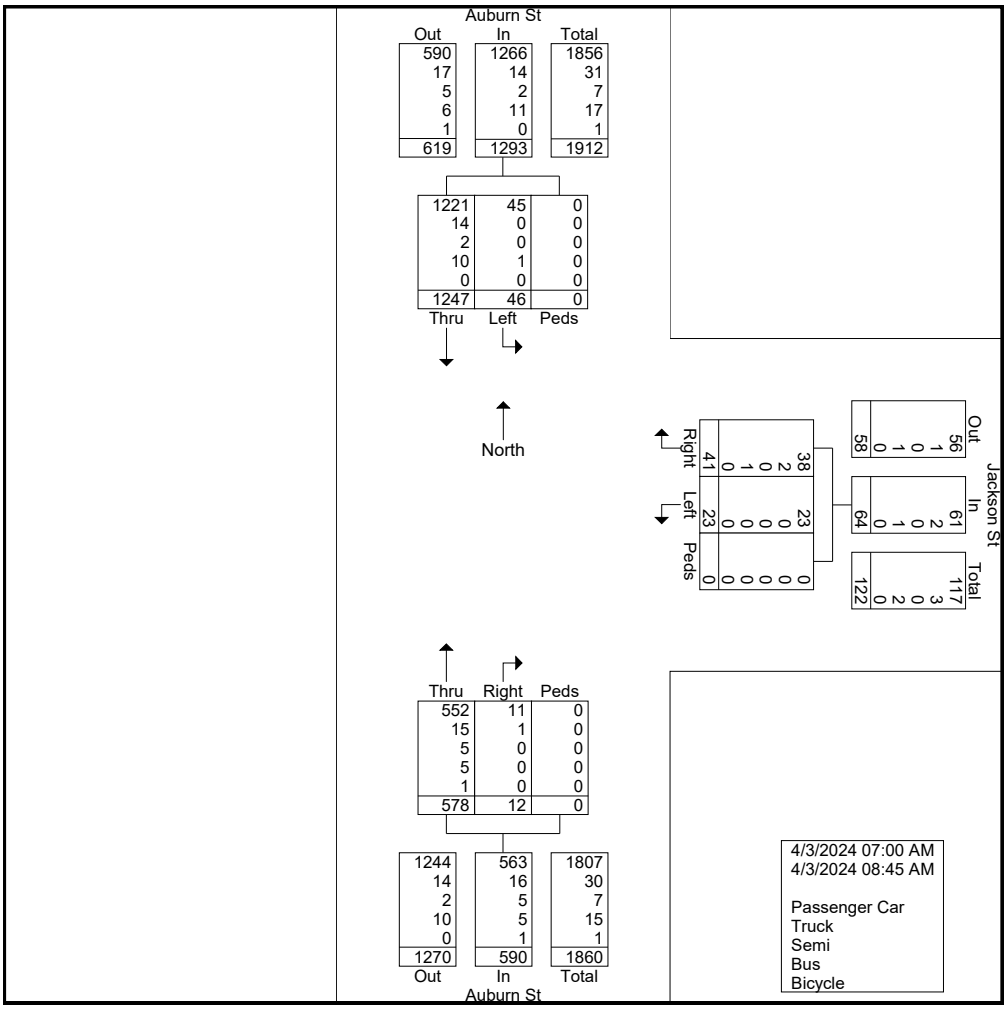
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 2

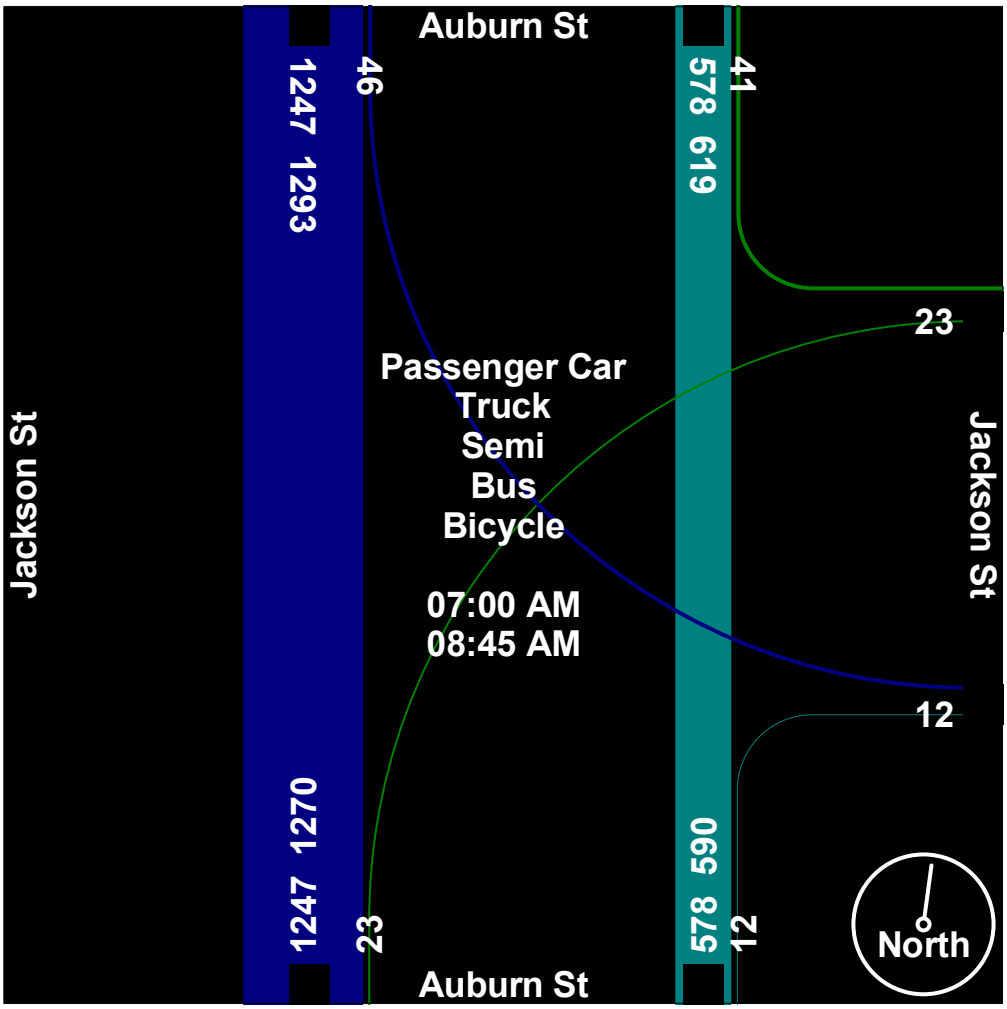
Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Jackson St From East				Auburn St From South				
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Grand Total	1247	46	0	1293	41	23	0	64	12	578	0	590	1947
Apprch %	96.4	3.6	0		64.1	35.9	0		2	98	0		
Total %	64	2.4	0	66.4	2.1	1.2	0	3.3	0.6	29.7	0	30.3	
Passenger Car	1221	45	0	1266	38	23	0	61	11	552	0	563	1890
% Passenger Car	97.9	97.8	0	97.9	92.7	100	0	95.3	91.7	95.5	0	95.4	97.1
Truck	14	0	0	14	2	0	0	2	1	15	0	16	32
% Truck	1.1	0	0	1.1	4.9	0	0	3.1	8.3	2.6	0	2.7	1.6
Semi	2	0	0	2	0	0	0	0	0	5	0	5	7
% Semi	0.2	0	0	0.2	0	0	0	0	0	0.9	0	0.8	0.4
Bus	10	1	0	11	1	0	0	1	0	5	0	5	17
% Bus	0.8	2.2	0	0.9	2.4	0	0	1.6	0	0.9	0	0.8	0.9
Bicycle	0	0	0	0	0	0	0	0	0	1	0	1	1
% Bicycle	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.1



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 3



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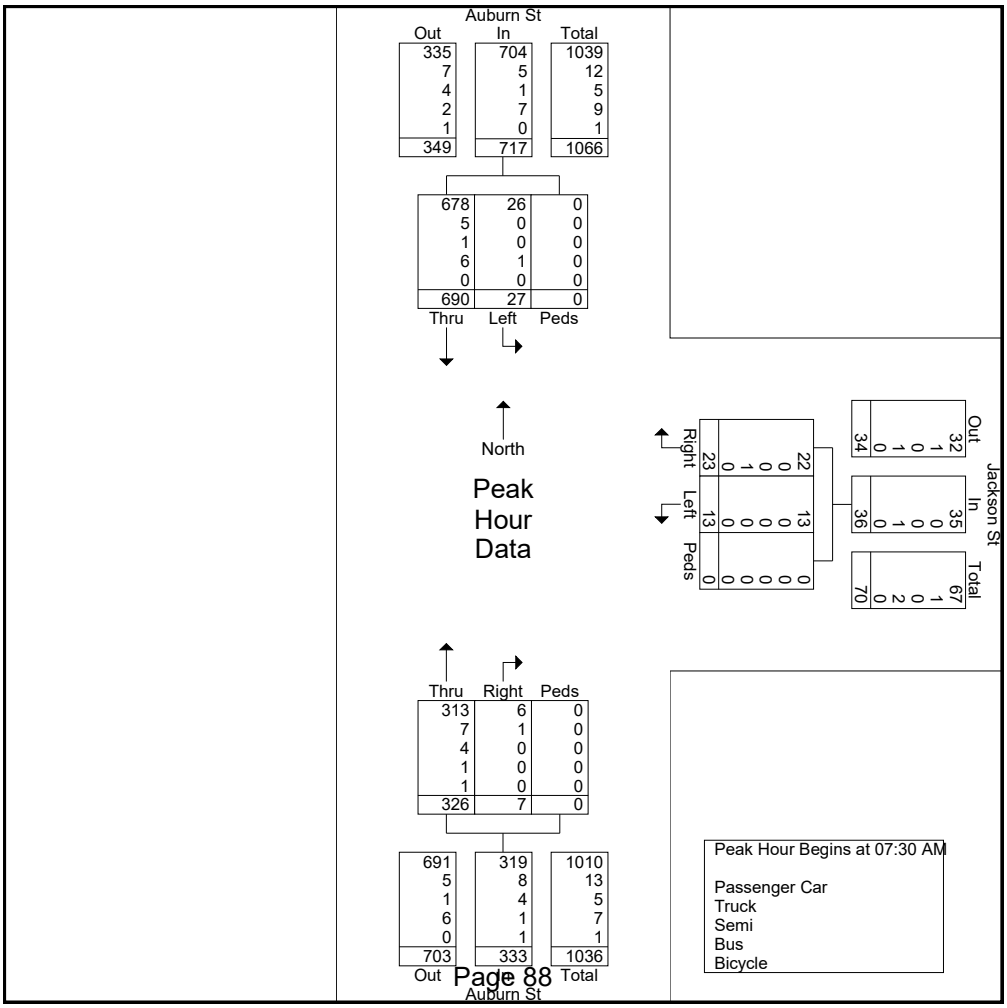
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 4

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	188	9	0	197	6	3	0	9	0	70	0	70	276
07:45 AM	**208**	3	0	**211**	5	3	0	8	1	70	0	71	**290**
08:00 AM	165	**10**	0	175	**8**	3	0	**11**	**5**	**97**	0	**102**	288
08:15 AM	129	5	0	134	4	**4**	0	8	1	89	0	90	232
Total Volume	690	27	0	717	23	13	0	36	7	326	0	333	1086
% App. Total	96.2	3.8	0		63.9	36.1	0		2.1	97.9	0		
PHF	.829	.675	.000	.850	.719	.813	.000	.818	.350	.840	.000	.816	.936
Passenger Car	678	26	0	704	22	13	0	35	6	313	0	319	1058
% Passenger Car	98.3	96.3	0	98.2	95.7	100	0	97.2	85.7	96.0	0	95.8	97.4
Truck	5	0	0	5	0	0	0	0	1	7	0	8	13
% Truck	0.7	0	0	0.7	0	0	0	0	14.3	2.1	0	2.4	1.2
Semi	1	0	0	1	0	0	0	0	0	4	0	4	5
% Semi	0.1	0	0	0.1	0	0	0	0	0	1.2	0	1.2	0.5
Bus	6	1	0	7	1	0	0	1	0	1	0	1	9
% Bus	0.9	3.7	0	1.0	4.3	0	0	2.8	0	0.3	0	0.3	0.8
Bicycle	0	0	0	0	0	0	0	0	0	1	0	1	1
% Bicycle	0	0	0	0	0	0	0	0	0	0.3	0	0.3	0.1

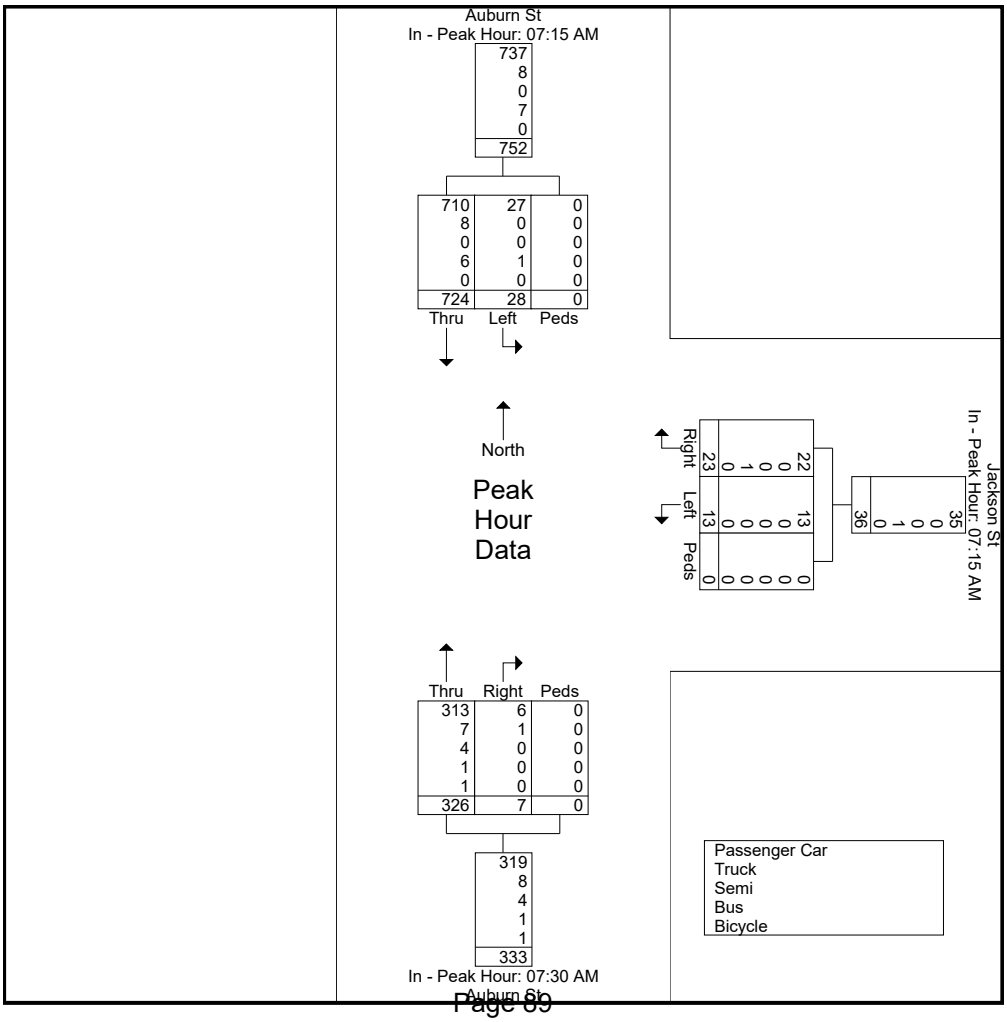


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 5

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:15 AM				07:15 AM				07:30 AM				
+0 mins.	163	6	0	169	4	**4**	0	8	0	70	0	70	
+15 mins.	188	9	0	197	6	3	0	9	1	70	0	71	
+30 mins.	**208**	3	0	**211**	5	3	0	8	**5**	**97**	0	**102**	
+45 mins.	165	**10**	0	175	**8**	3	0	**11**	1	89	0	90	
Total Volume	724	28	0	752	23	13	0	36	7	326	0	333	
% App. Total	96.3	3.7	0		63.9	36.1	0		2.1	97.9	0		
PHF	.870	.700	.000	.891	.719	.813	.000	.818	.350	.840	.000	.816	
Passenger Car	710	27	0	737	22	13	0	35	6	313	0	319	
% Passenger Car	98.1	96.4	0	98	95.7	100	0	97.2	85.7	96	0	95.8	
Truck	8	0	0	8	0	0	0	0	1	7	0	8	
% Truck	1.1	0	0	1.1	0	0	0	0	14.3	2.1	0	2.4	
Semi	0	0	0	0	0	0	0	0	0	4	0	4	
% Semi	0	0	0	0	0	0	0	0	0	1.2	0	1.2	
Bus	6	1	0	7	1	0	0	1	0	1	0	1	
% Bus	0.8	3.6	0	0.9	4.3	0	0	2.8	0	0.3	0	0.3	
Bicycle	0	0	0	0	0	0	0	0	0	1	0	1	
% Bicycle	0	0	0	0	0	0	0	0	0	0.3	0	0.3	



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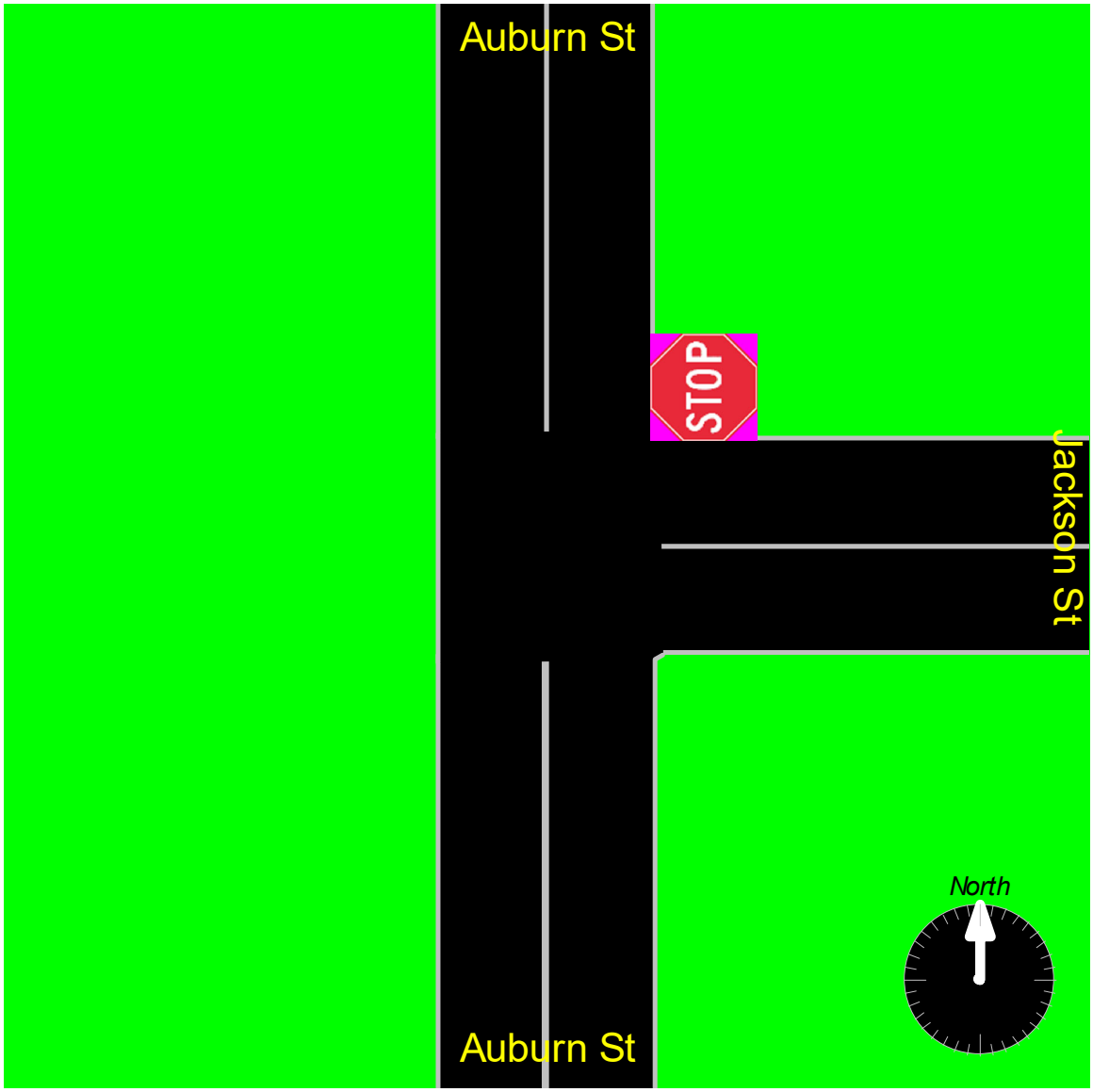
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 AM
Site Code : 00403241
Start Date : 4/3/2024
Page No : 6



Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St & Jackson St
April 03, 2024 PM
40 degrees overcast
Miovision/K Tillson

File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
03:00 PM	99	4	0	103	8	4	0	12	0	115	4	119	234
03:15 PM	90	6	0	96	7	1	0	8	1	113	0	114	218
03:30 PM	97	5	0	102	14	0	0	14	2	134	2	138	254
03:45 PM	99	3	0	102	9	1	0	10	0	147	0	147	259
Total	385	18	0	403	38	6	0	44	3	509	6	518	965
04:00 PM	138	7	0	145	9	2	0	11	2	171	0	173	329
04:15 PM	124	7	0	131	7	3	0	10	8	170	0	178	319
04:30 PM	103	7	0	110	15	1	0	16	3	135	0	138	264
04:45 PM	99	3	0	102	8	1	0	9	1	109	1	111	222
Total	464	24	0	488	39	7	0	46	14	585	1	600	1134
05:00 PM	110	7	0	117	12	3	0	15	0	138	0	138	270
05:15 PM	89	2	0	91	4	2	0	6	3	116	0	119	216
05:30 PM	91	4	0	95	6	4	0	10	0	122	0	122	227
05:45 PM	87	7	0	94	1	0	0	1	5	101	0	106	201
Total	377	20	0	397	23	9	0	32	8	477	0	485	914

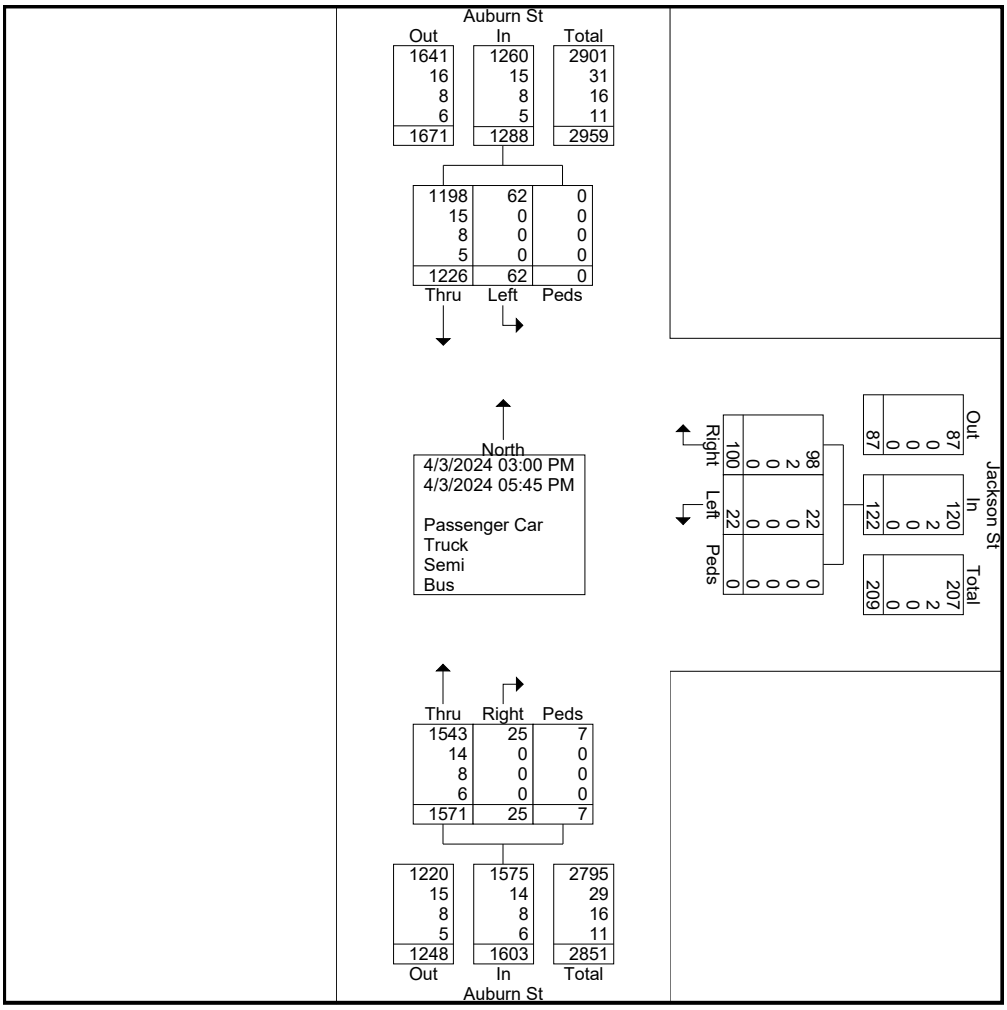
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 2

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Jackson St From East				Auburn St From South				
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Grand Total	1226	62	0	1288	100	22	0	122	25	1571	7	1603	3013
Apprch %	95.2	4.8	0		82	18	0		1.6	98	0.4		
Total %	40.7	2.1	0	42.7	3.3	0.7	0	4	0.8	52.1	0.2	53.2	
Passenger Car	1198	62	0	1260	98	22	0	120	25	1543	7	1575	2955
% Passenger Car	97.7	100	0	97.8	98	100	0	98.4	100	98.2	100	98.3	98.1
Truck	15	0	0	15	2	0	0	2	0	14	0	14	31
% Truck	1.2	0	0	1.2	2	0	0	1.6	0	0.9	0	0.9	1
Semi	8	0	0	8	0	0	0	0	0	8	0	8	16
% Semi	0.7	0	0	0.6	0	0	0	0	0	0.5	0	0.5	0.5
Bus	5	0	0	5	0	0	0	0	0	6	0	6	11
% Bus	0.4	0	0	0.4	0	0	0	0	0	0.4	0	0.4	0.4



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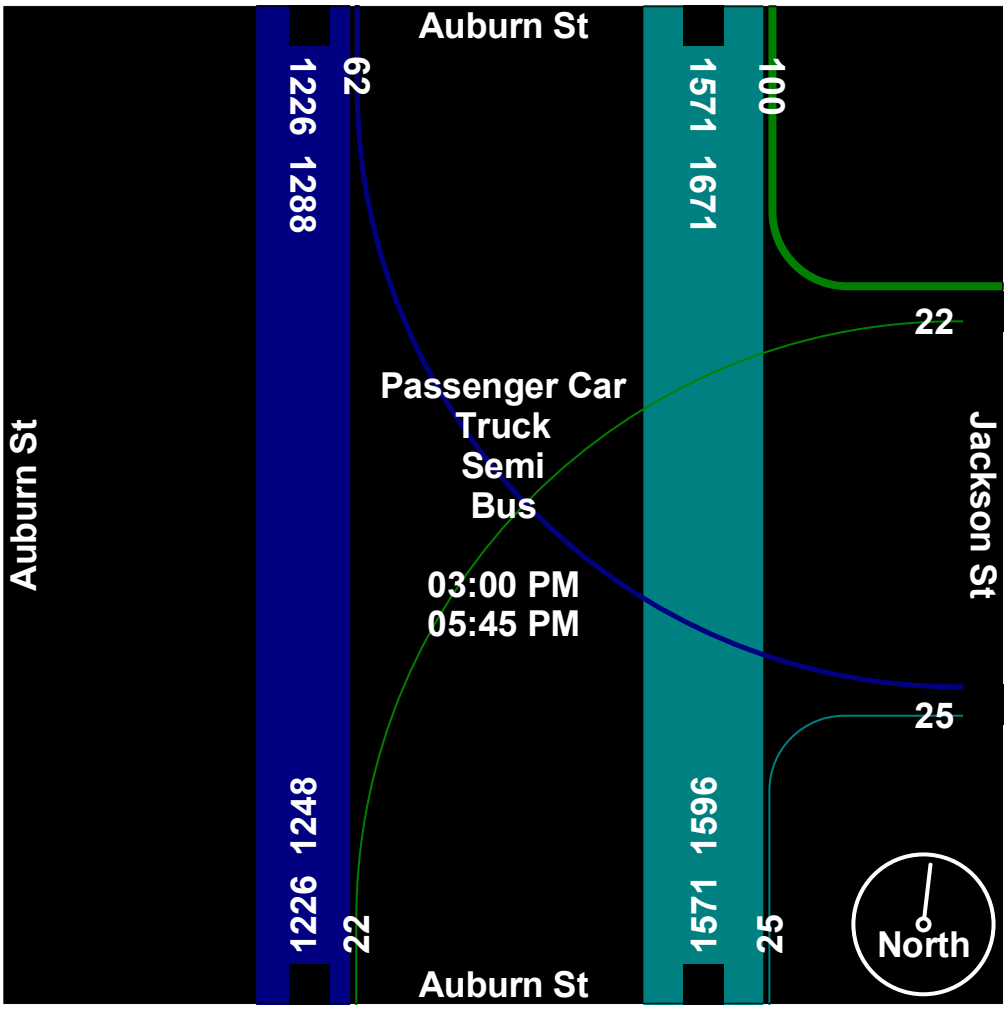
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 3



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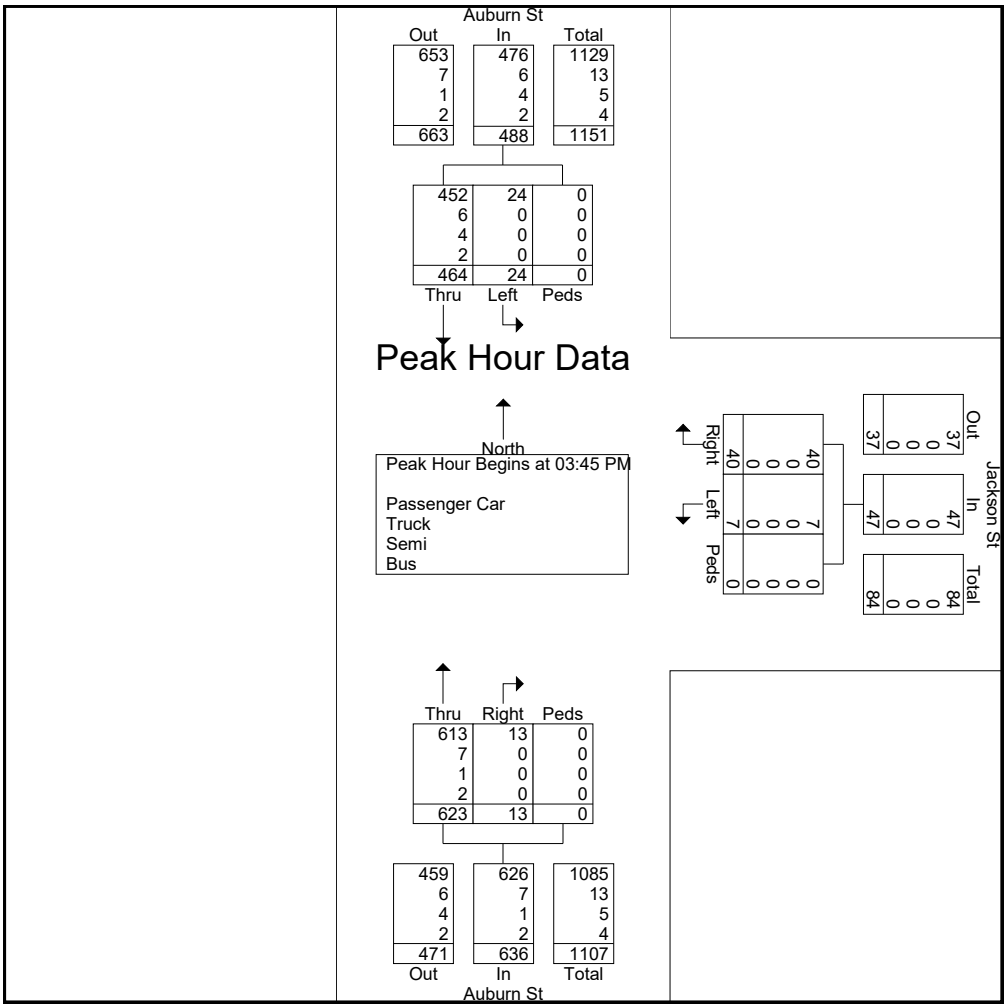
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 4

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	99	3	0	102	9	1	0	10	0	147	0	147	259
04:00 PM	**138**	**7**	0	**145**	9	2	0	11	2	**171**	0	173	**329**
04:15 PM	124	7	0	131	7	**3**	0	10	**8**	170	0	**178**	319
04:30 PM	103	7	0	110	**15**	1	0	**16**	3	135	0	138	264
Total Volume	464	24	0	488	40	7	0	47	13	623	0	636	1171
% App. Total	95.1	4.9	0		85.1	14.9	0		2	98	0		
PHF	.841	.857	.000	.841	.667	.583	.000	.734	.406	.911	.000	.893	.890
Passenger Car	452	24	0	476	40	7	0	47	13	613	0	626	1149
% Passenger Car	97.4	100	0	97.5	100	100	0	100	100	98.4	0	98.4	98.1
Truck	6	0	0	6	0	0	0	0	0	7	0	7	13
% Truck	1.3	0	0	1.2	0	0	0	0	0	1.1	0	1.1	1.1
Semi	4	0	0	4	0	0	0	0	0	1	0	1	5
% Semi	0.9	0	0	0.8	0	0	0	0	0	0.2	0	0.2	0.4
Bus	2	0	0	2	0	0	0	0	0	2	0	2	4
% Bus	0.4	0	0	0.4	0	0	0	0	0	0.3	0	0.3	0.3



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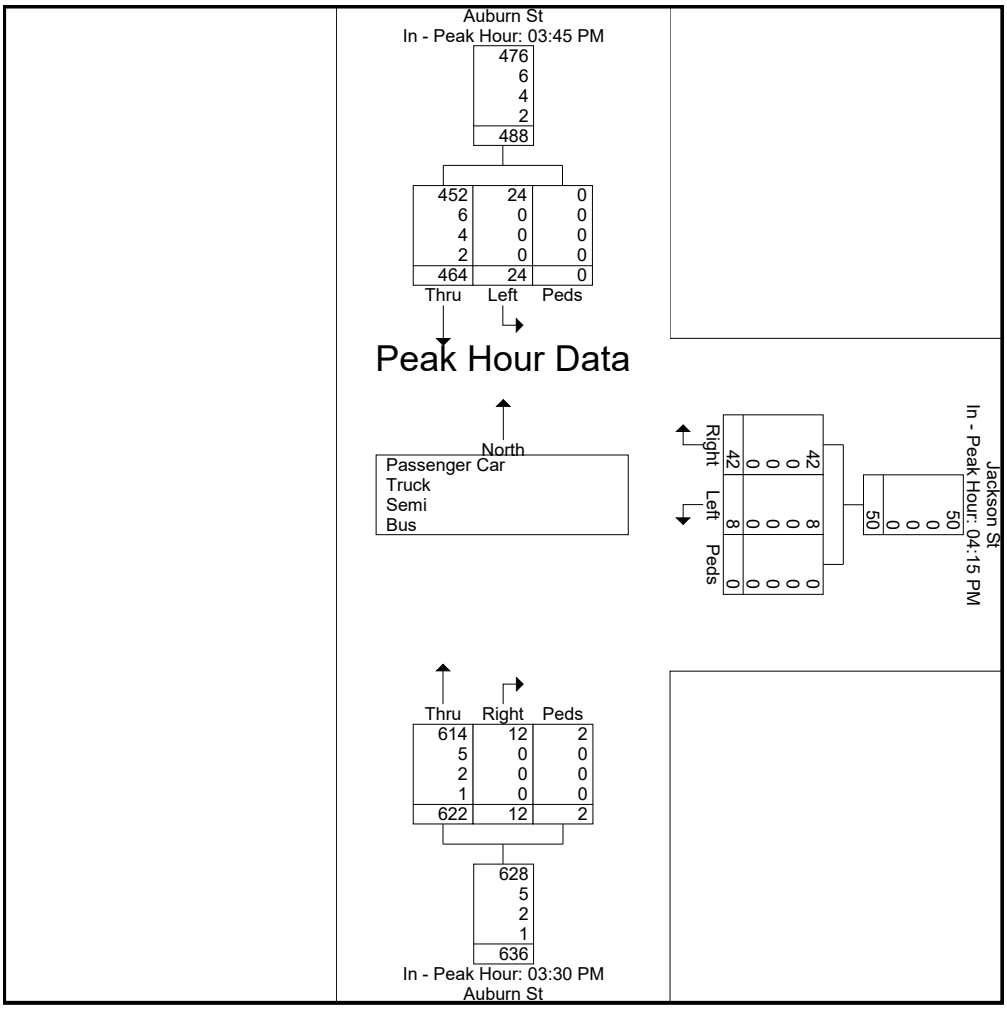
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 5

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	03:45 PM				04:15 PM				03:30 PM				
+0 mins.	99	3	0	102	7	**3**	0	10	2	134	**2**	138	
+15 mins.	**138**	**7**	0	**145**	**15**	1	0	**16**	0	147	0	147	
+30 mins.	124	7	0	131	8	1	0	9	2	**171**	0	173	
+45 mins.	103	7	0	110	12	3	0	15	**8**	170	0	**178**	
Total Volume	464	24	0	488	42	8	0	50	12	622	2	636	
% App. Total	95.1	4.9	0		84	16	0		1.9	97.8	0.3		
PHF	.841	.857	.000	.841	.700	.667	.000	.781	.375	.909	.250	.893	
Passenger Car	452	24	0	476	42	8	0	50	12	614	2	628	
% Passenger Car	97.4	100	0	97.5	100	100	0	100	100	98.7	100	98.7	
Truck	6	0	0	6	0	0	0	0	0	5	0	5	
% Truck	1.3	0	0	1.2	0	0	0	0	0	0.8	0	0.8	
Semi	4	0	0	4	0	0	0	0	0	2	0	2	
% Semi	0.9	0	0	0.8	0	0	0	0	0	0.3	0	0.3	
Bus	2	0	0	2	0	0	0	0	0	1	0	1	
% Bus	0.4	0	0	0.4	0	0	0	0	0	0.2	0	0.2	



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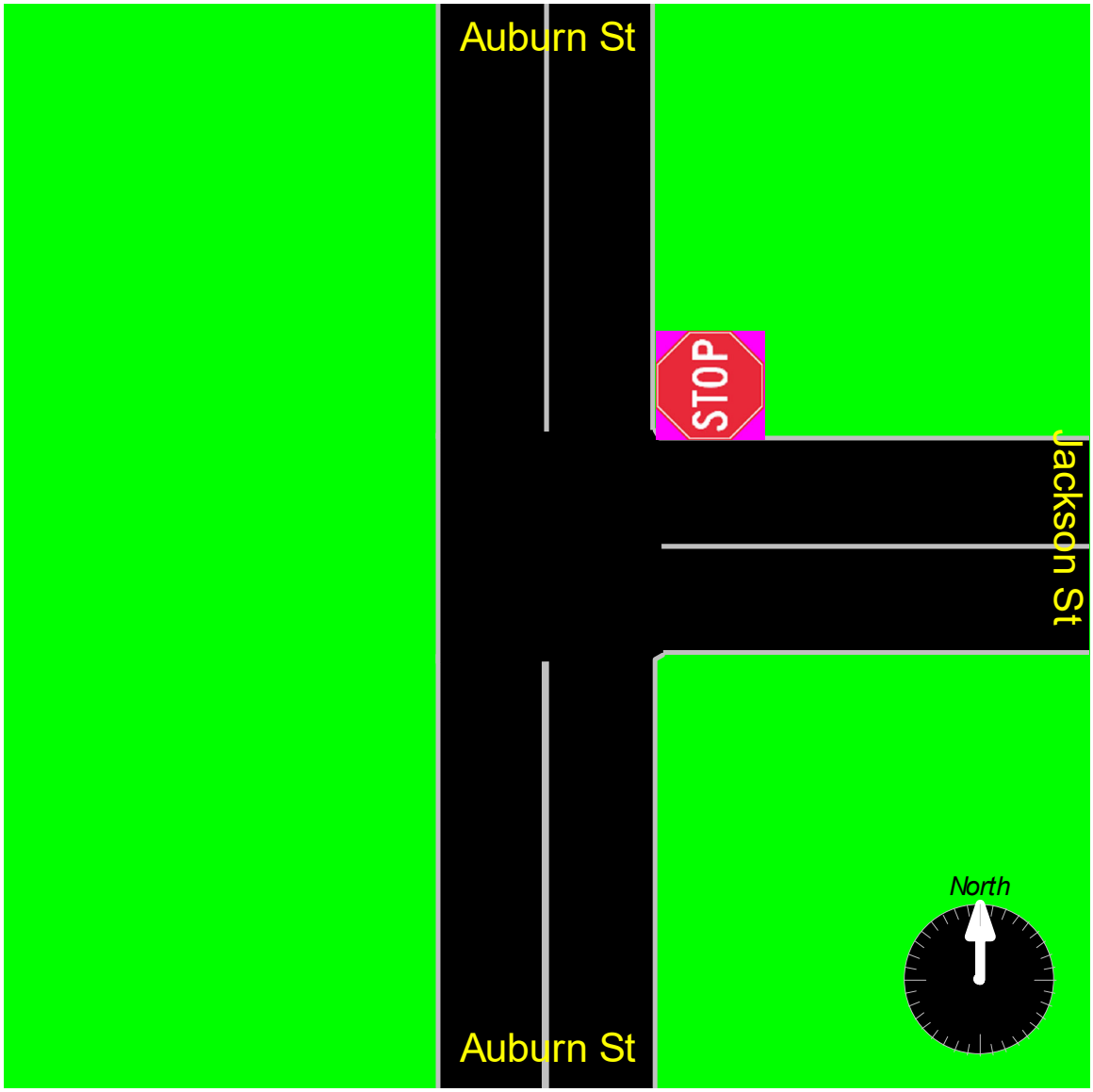
File Name : Portland Auburn St & Jackson St 04-03-2024 PM
Site Code : 00403242
Start Date : 4/3/2024
Page No : 6



Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St Jackson St
April 13, 2024 Sat
55 degrees sun
St.Clair Associates

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
11:00 AM	87	5	0	92	3	1	3	7	0	81	1	82	181
11:15 AM	103	3	0	106	10	4	0	14	4	75	0	79	199
11:30 AM	105	4	0	109	2	5	2	9	0	65	0	65	183
11:45 AM	107	7	3	117	6	2	0	8	3	98	0	101	226
Total	402	19	3	424	21	12	5	38	7	319	1	327	789
12:00 PM	87	5	0	92	6	1	0	7	0	91	0	91	190
12:15 PM	92	6	0	98	9	4	2	15	1	82	0	83	196
12:30 PM	78	4	0	82	7	3	3	13	5	81	0	86	181
12:45 PM	97	7	0	104	8	4	0	12	3	79	0	82	198
Total	354	22	0	376	30	12	5	47	9	333	0	342	765
01:00 PM	86	5	0	91	6	2	0	8	2	93	0	95	194
01:15 PM	77	2	0	79	7	2	0	9	1	91	0	92	180
01:30 PM	84	5	0	89	7	3	0	10	0	71	0	71	170
01:45 PM	78	4	0	82	7	1	0	8	1	91	0	92	182
Total	325	16	0	341	27	8	0	35	4	346	0	350	726

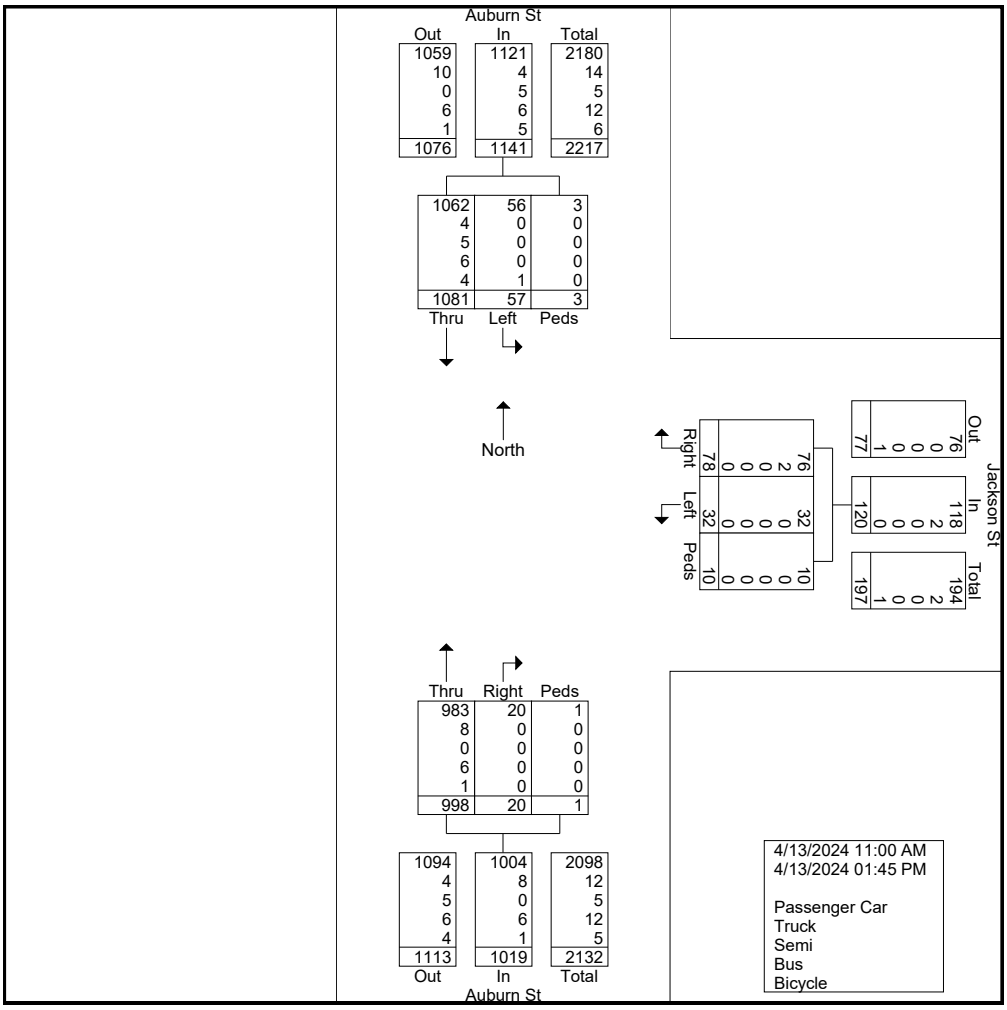
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 2

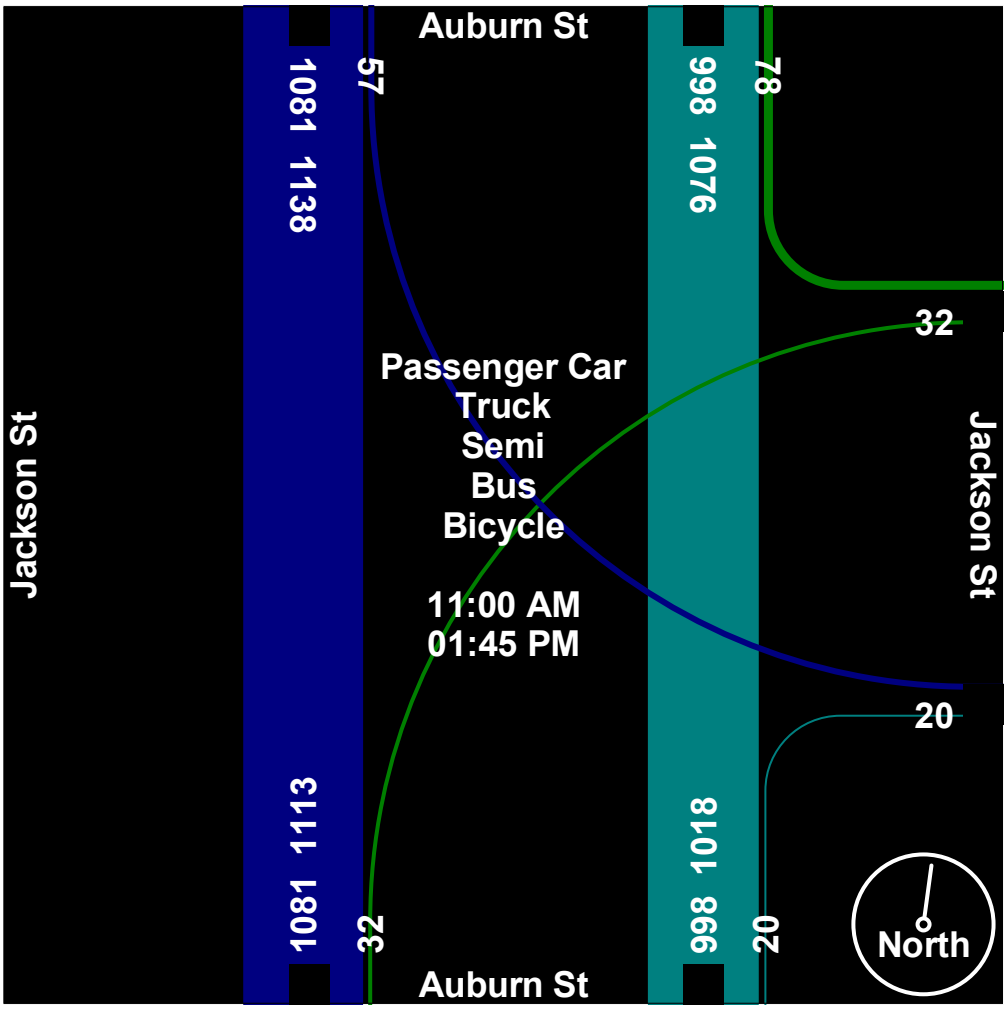
Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Jackson St From East				Auburn St From South				
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Grand Total	1081	57	3	1141	78	32	10	120	20	998	1	1019	2280
Apprch %	94.7	5	0.3		65	26.7	8.3		2	97.9	0.1		
Total %	47.4	2.5	0.1	50	3.4	1.4	0.4	5.3	0.9	43.8	0	44.7	
Passenger Car	1062	56	3	1121	76	32	10	118	20	983	1	1004	2243
% Passenger Car	98.2	98.2	100	98.2	97.4	100	100	98.3	100	98.5	100	98.5	98.4
Truck	4	0	0	4	2	0	0	2	0	8	0	8	14
% Truck	0.4	0	0	0.4	2.6	0	0	1.7	0	0.8	0	0.8	0.6
Semi	5	0	0	5	0	0	0	0	0	0	0	0	5
% Semi	0.5	0	0	0.4	0	0	0	0	0	0	0	0	0.2
Bus	6	0	0	6	0	0	0	0	0	6	0	6	12
% Bus	0.6	0	0	0.5	0	0	0	0	0	0.6	0	0.6	0.5
Bicycle	4	1	0	5	0	0	0	0	0	1	0	1	6
% Bicycle	0.4	1.8	0	0.4	0	0	0	0	0	0.1	0	0.1	0.3



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 3

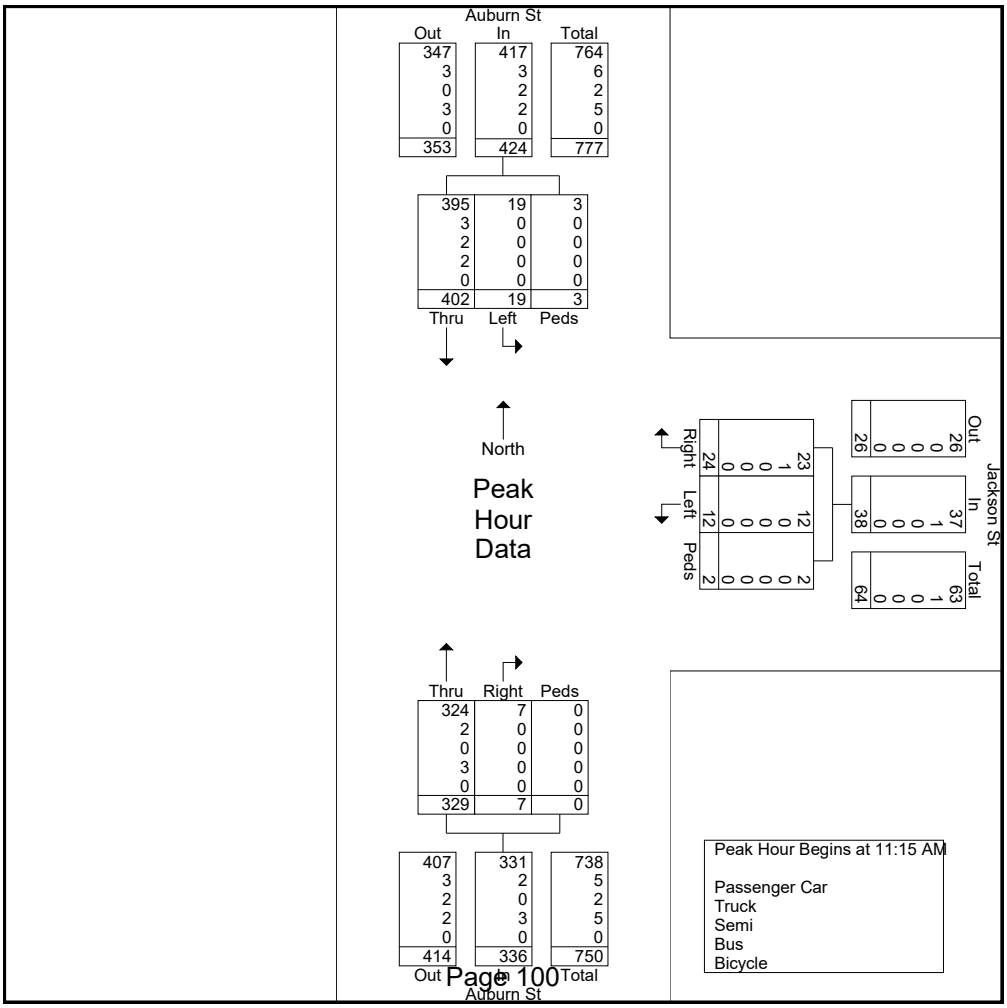


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 4

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:15 AM													
11:15 AM	103	3	0	106	**10**	4	0	**14**	**4**	75	0	79	199
11:30 AM	105	4	0	109	2	**5**	**2**	9	0	65	0	65	183
11:45 AM	**107**	**7**	**3**	**117**	6	2	0	8	3	**98**	0	**101**	**226**
12:00 PM	87	5	0	92	6	1	0	7	0	91	0	91	190
Total Volume	402	19	3	424	24	12	2	38	7	329	0	336	798
% App. Total	94.8	4.5	0.7		63.2	31.6	5.3		2.1	97.9	0		
PHF	.939	.679	.250	.906	.600	.600	.250	.679	.438	.839	.000	.832	.883
Passenger Car	395	19	3	417	23	12	2	37	7	324	0	331	785
% Passenger Car	98.3	100	100	98.3	95.8	100	100	97.4	100	98.5	0	98.5	98.4
Truck	3	0	0	3	1	0	0	1	0	2	0	2	6
% Truck	0.7	0	0	0.7	4.2	0	0	2.6	0	0.6	0	0.6	0.8
Semi	2	0	0	2	0	0	0	0	0	0	0	0	2
% Semi	0.5	0	0	0.5	0	0	0	0	0	0	0	0	0.3
Bus	2	0	0	2	0	0	0	0	0	3	0	3	5
% Bus	0.5	0	0	0.5	0	0	0	0	0	0.9	0	0.9	0.6
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0

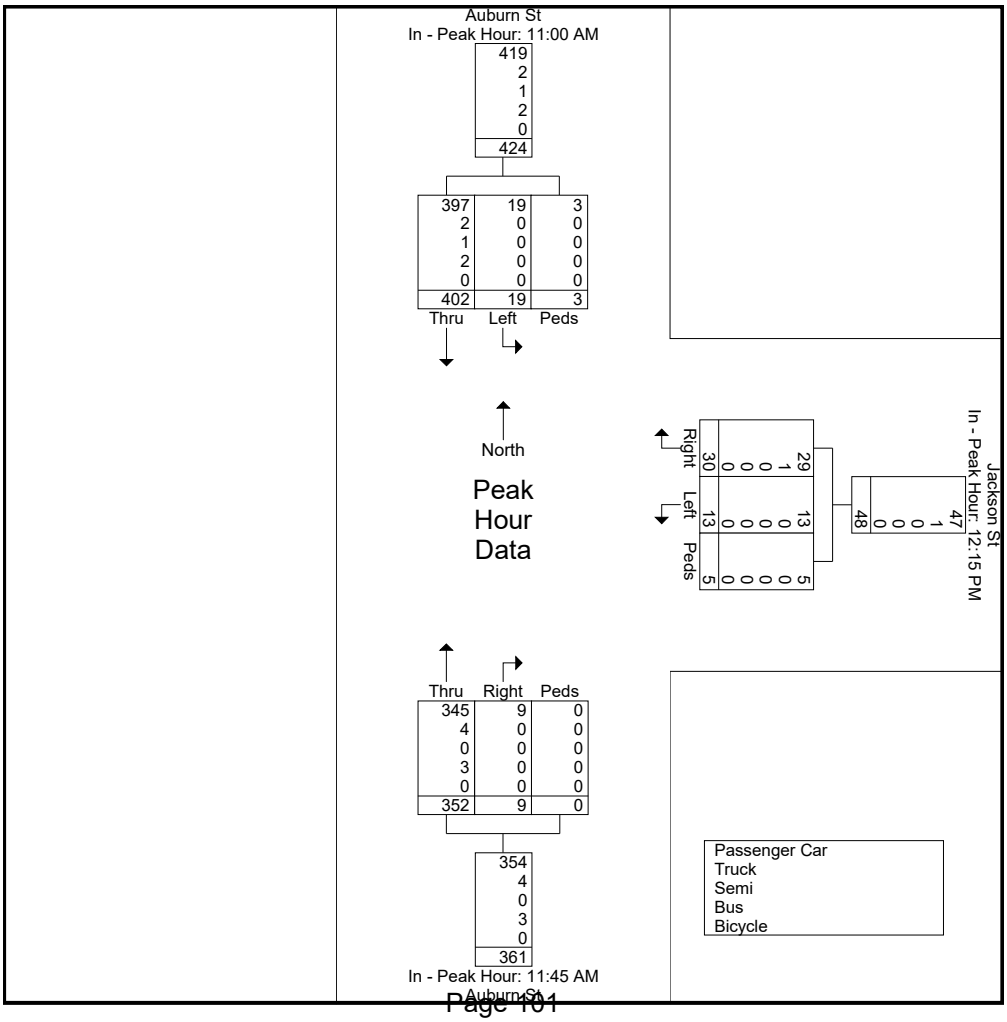


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 5

	Auburn St From North				Jackson St From East				Auburn St From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	11:00 AM				12:15 PM				11:45 AM				
+0 mins.	87	5	0	92	**9**	**4**	2	**15**	3	**98**	0	**101**	
+15 mins.	103	3	0	106	7	3	**3**	13	0	91	0	91	
+30 mins.	105	4	0	109	8	4	0	12	1	82	0	83	
+45 mins.	**107**	**7**	**3**	**117**	6	2	0	8	**5**	81	0	86	
Total Volume	402	19	3	424	30	13	5	48	9	352	0	361	
% App. Total	94.8	4.5	0.7		62.5	27.1	10.4		2.5	97.5	0		
PHF	.939	.679	.250	.906	.833	.813	.417	.800	.450	.898	.000	.894	
Passenger Car	397	19	3	419	29	13	5	47	9	345	0	354	
% Passenger Car	98.8	100	100	98.8	96.7	100	100	97.9	100	98	0	98.1	
Truck	2	0	0	2	1	0	0	1	0	4	0	4	
% Truck	0.5	0	0	0.5	3.3	0	0	2.1	0	1.1	0	1.1	
Semi	1	0	0	1	0	0	0	0	0	0	0	0	
% Semi	0.2	0	0	0.2	0	0	0	0	0	0	0	0	
Bus	2	0	0	2	0	0	0	0	0	3	0	3	
% Bus	0.5	0	0	0.5	0	0	0	0	0	0.9	0	0.8	
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	



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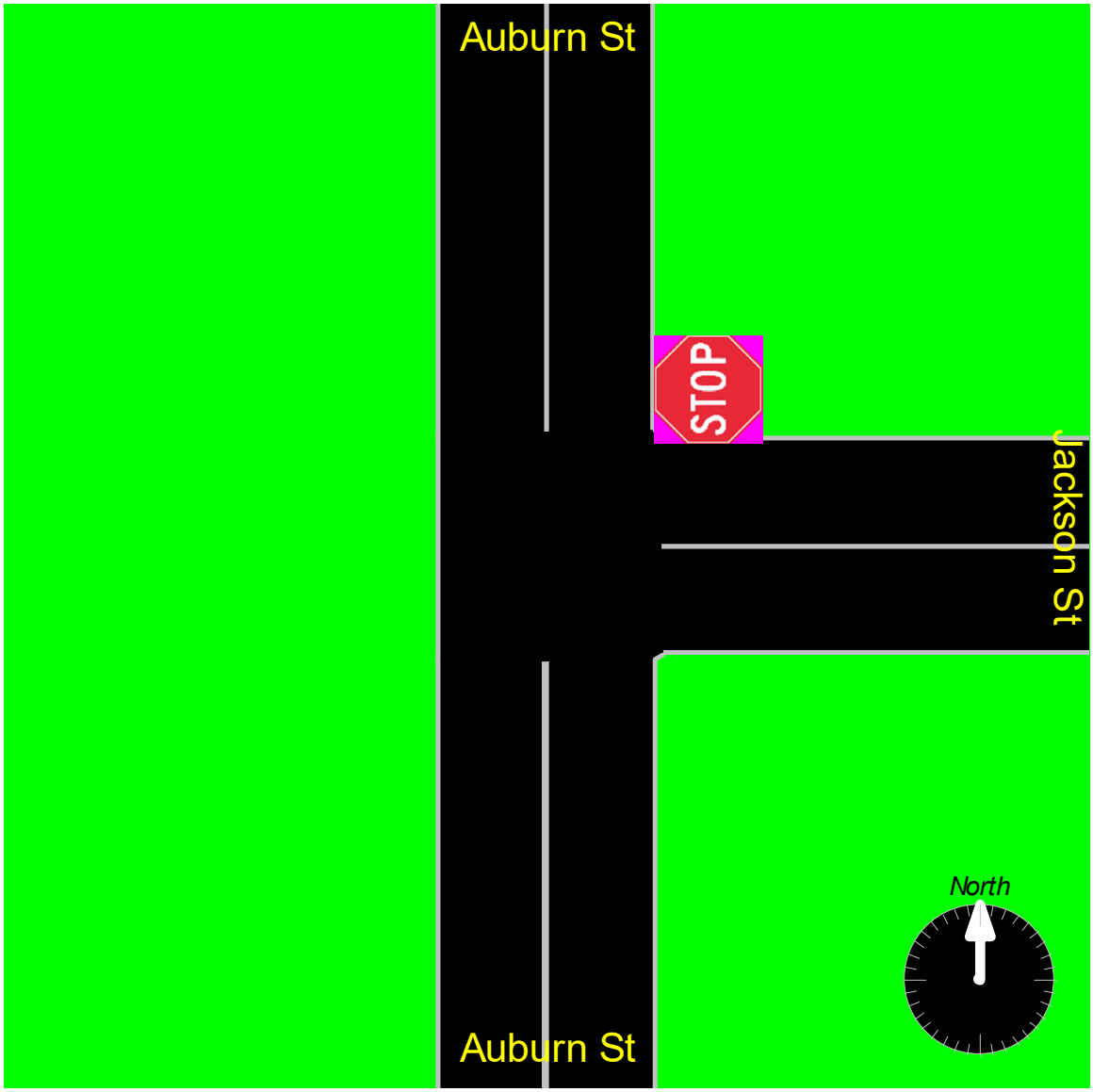
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Jackson St 04-13-2024 Sat
Site Code : 04132403
Start Date : 4/13/2024
Page No : 6



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Portland Auburn St & Lambert St
April 02, 2024 AM
40 Degrees
St.Clair Associates

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	1	85	0	86	66	10	0	76	47	0	0	47	209
07:15 AM	1	98	0	99	73	23	0	96	58	2	0	60	255
07:30 AM	1	131	0	132	92	17	0	109	65	2	0	67	308
07:45 AM	1	107	0	108	71	19	0	90	67	0	0	67	265
Total	4	421	0	425	302	69	0	371	237	4	0	241	1037
08:00 AM	1	95	0	96	67	23	0	90	52	2	0	54	240
08:15 AM	1	84	0	85	88	33	0	121	52	0	0	52	258
08:30 AM	1	82	0	83	77	20	0	97	57	1	0	58	238
08:45 AM	0	125	0	125	81	23	0	104	32	0	0	32	261
Total	3	386	0	389	313	99	0	412	193	3	0	196	997

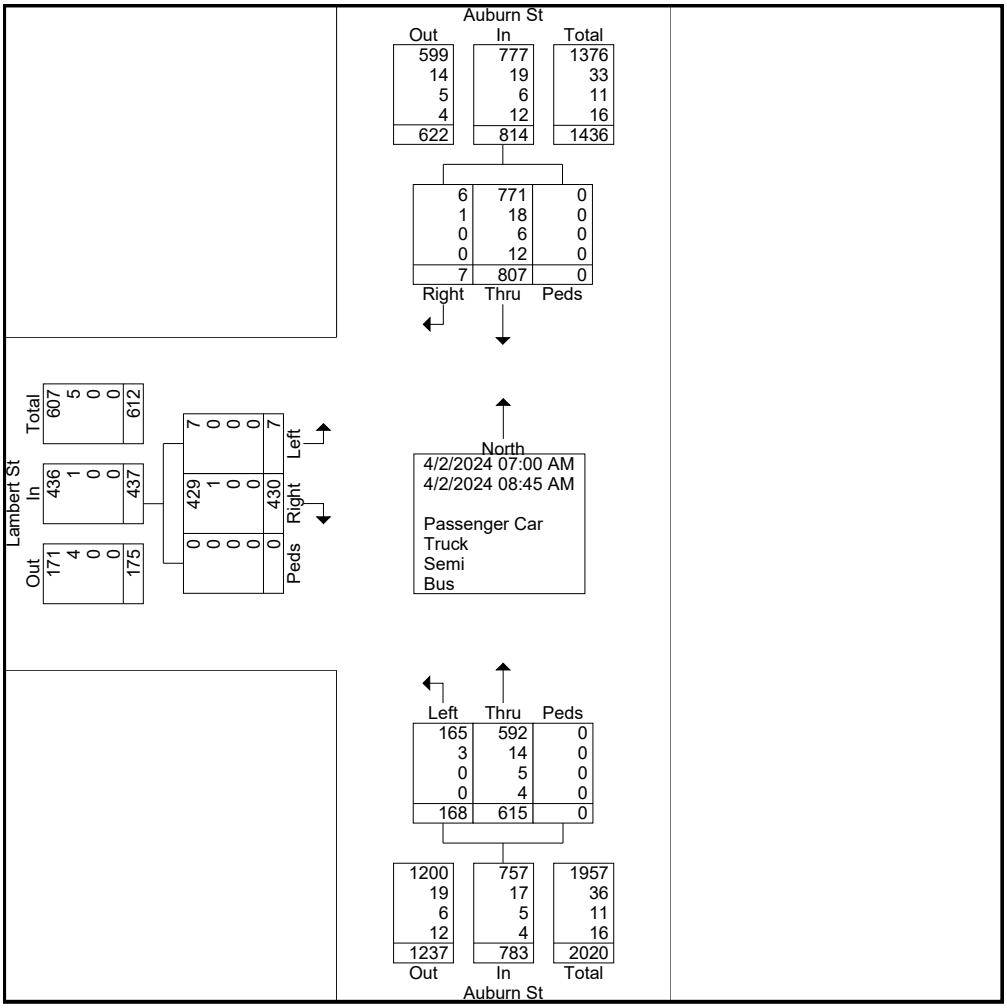
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 2

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Lambert St From West				
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	7	807	0	814	615	168	0	783	430	7	0	437	2034
Apprch %	0.9	99.1	0		78.5	21.5	0		98.4	1.6	0		
Total %	0.3	39.7	0	40	30.2	8.3	0	38.5	21.1	0.3	0	21.5	
Passenger Car	6	771	0	777	592	165	0	757	429	7	0	436	1970
% Passenger Car	85.7	95.5	0	95.5	96.3	98.2	0	96.7	99.8	100	0	99.8	96.9
Truck	1	18	0	19	14	3	0	17	1	0	0	1	37
% Truck	14.3	2.2	0	2.3	2.3	1.8	0	2.2	0.2	0	0	0.2	1.8
Semi	0	6	0	6	5	0	0	5	0	0	0	0	11
% Semi	0	0.7	0	0.7	0.8	0	0	0.6	0	0	0	0	0.5
Bus	0	12	0	12	4	0	0	4	0	0	0	0	16
% Bus	0	1.5	0	1.5	0.7	0	0	0.5	0	0	0	0	0.8



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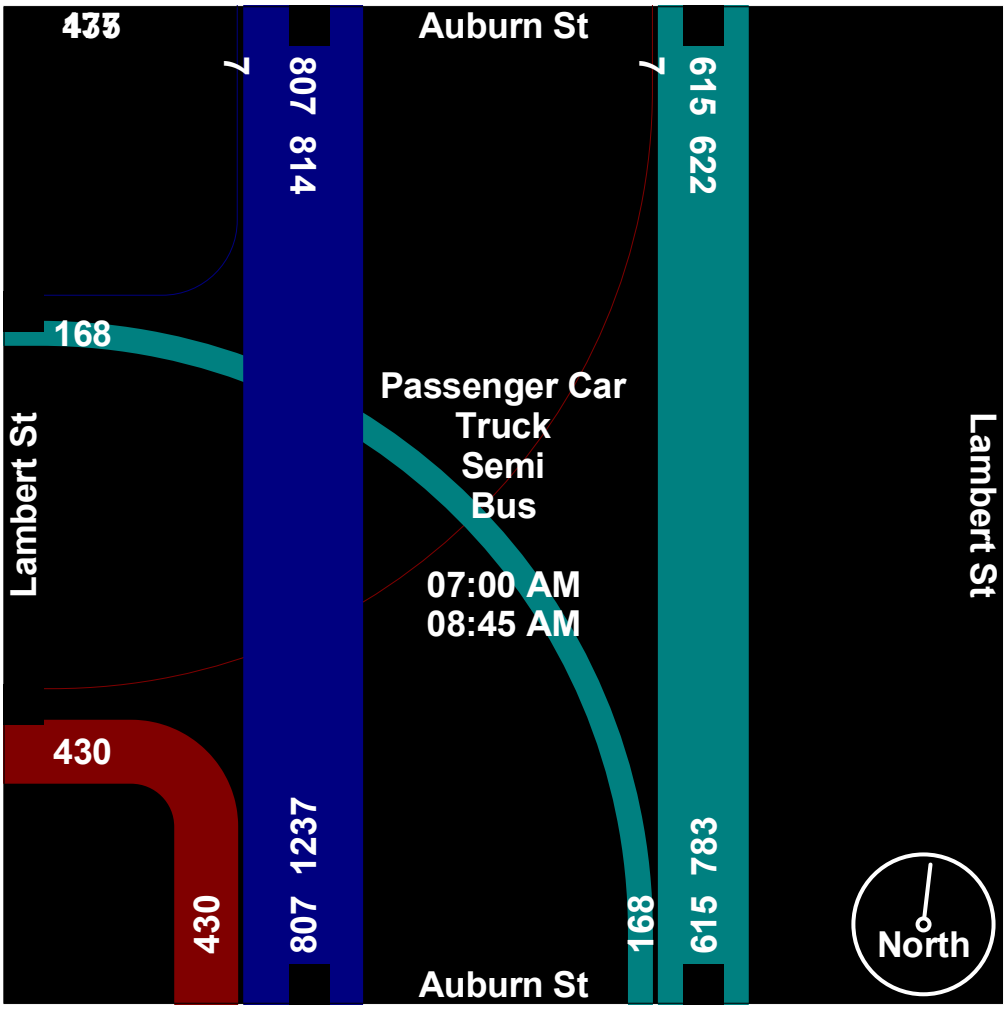
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 3



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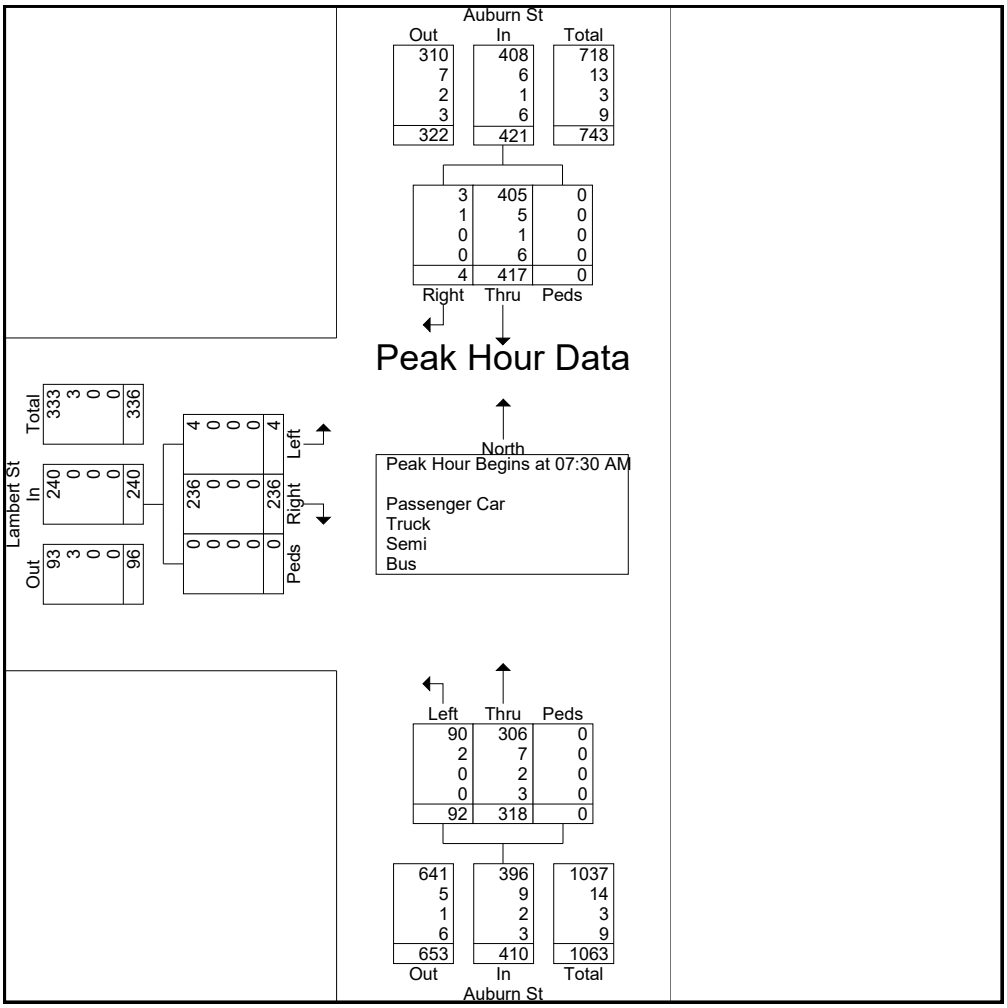
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 4

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	**1**	**131**	0	**132**	**92**	17	0	109	65	**2**	0	**67**	**308**
07:45 AM	1	107	0	108	71	19	0	90	**67**	0	0	67	265
08:00 AM	1	95	0	96	67	23	0	90	52	2	0	54	240
08:15 AM	1	84	0	85	88	**33**	0	**121**	52	0	0	52	258
Total Volume	4	417	0	421	318	92	0	410	236	4	0	240	1071
% App. Total	1	99	0		77.6	22.4	0		98.3	1.7	0		
PHF	1.00	.796	.000	.797	.864	.697	.000	.847	.881	.500	.000	.896	.869
Passenger Car	3	405	0	408	306	90	0	396	236	4	0	240	1044
% Passenger Car	75.0	97.1	0	96.9	96.2	97.8	0	96.6	100	100	0	100	97.5
Truck	1	5	0	6	7	2	0	9	0	0	0	0	15
% Truck	25.0	1.2	0	1.4	2.2	2.2	0	2.2	0	0	0	0	1.4
Semi	0	1	0	1	2	0	0	2	0	0	0	0	3
% Semi	0	0.2	0	0.2	0.6	0	0	0.5	0	0	0	0	0.3
Bus	0	6	0	6	3	0	0	3	0	0	0	0	9
% Bus	0	1.4	0	1.4	0.9	0	0	0.7	0	0	0	0	0.8



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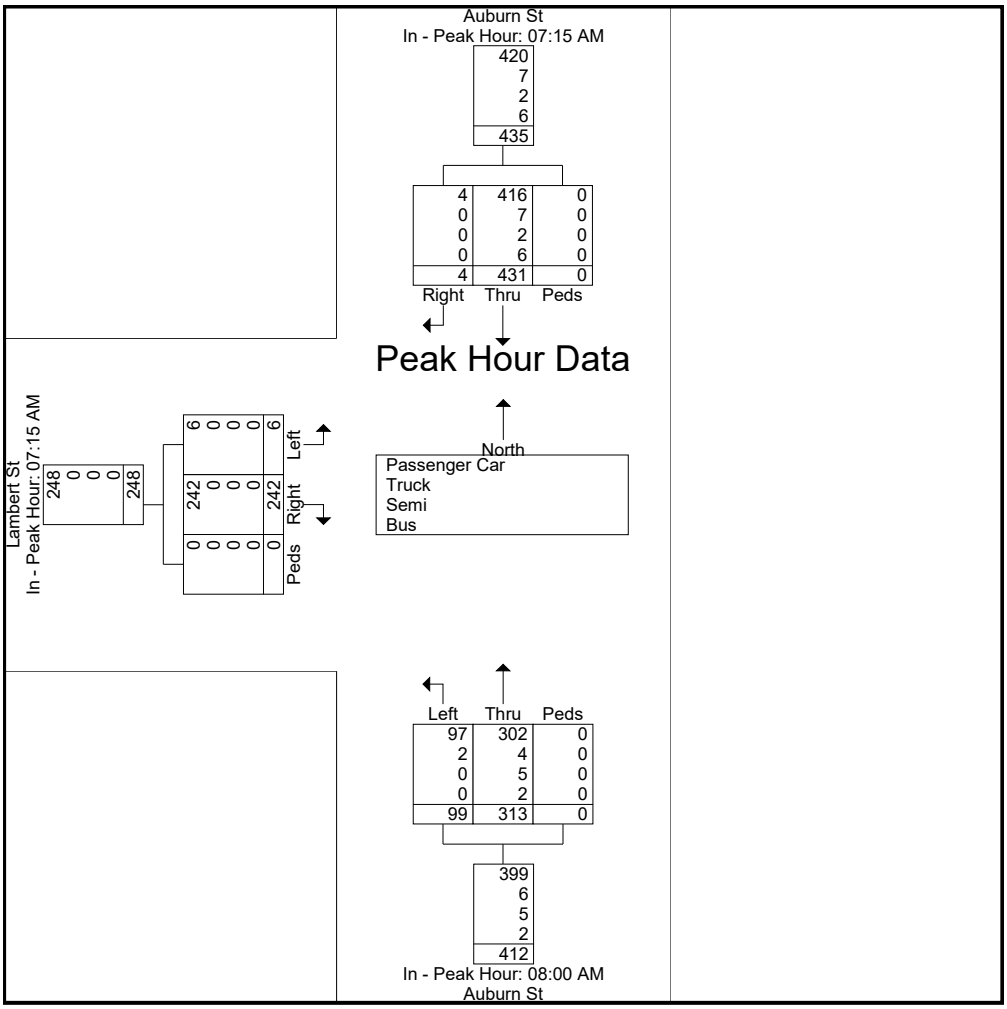
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 5

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:15 AM				08:00 AM				07:15 AM				
+0 mins.	**1**	98	0	99	67	23	0	90	58	**2**	0	60	
+15 mins.	1	**131**	0	**132**	**88**	**33**	0	**121**	65	2	0	**67**	
+30 mins.	1	107	0	108	77	20	0	97	**67**	0	0	67	
+45 mins.	1	95	0	96	81	23	0	104	52	2	0	54	
Total Volume	4	431	0	435	313	99	0	412	242	6	0	248	
% App. Total	0.9	99.1	0		76	24	0		97.6	2.4	0		
PHF	1.000	.823	.000	.824	.889	.750	.000	.851	.903	.750	.000	.925	
Passenger Car	4	416	0	420	302	97	0	399	242	6	0	248	
% Passenger Car	100	96.5	0	96.6	96.5	98	0	96.8	100	100	0	100	
Truck	0	7	0	7	4	2	0	6	0	0	0	0	
% Truck	0	1.6	0	1.6	1.3	2	0	1.5	0	0	0	0	
Semi	0	2	0	2	5	0	0	5	0	0	0	0	
% Semi	0	0.5	0	0.5	1.6	0	0	1.2	0	0	0	0	
Bus	0	6	0	6	2	0	0	2	0	0	0	0	
% Bus	0	1.4	0	1.4	0.6	0	0	0.5	0	0	0	0	



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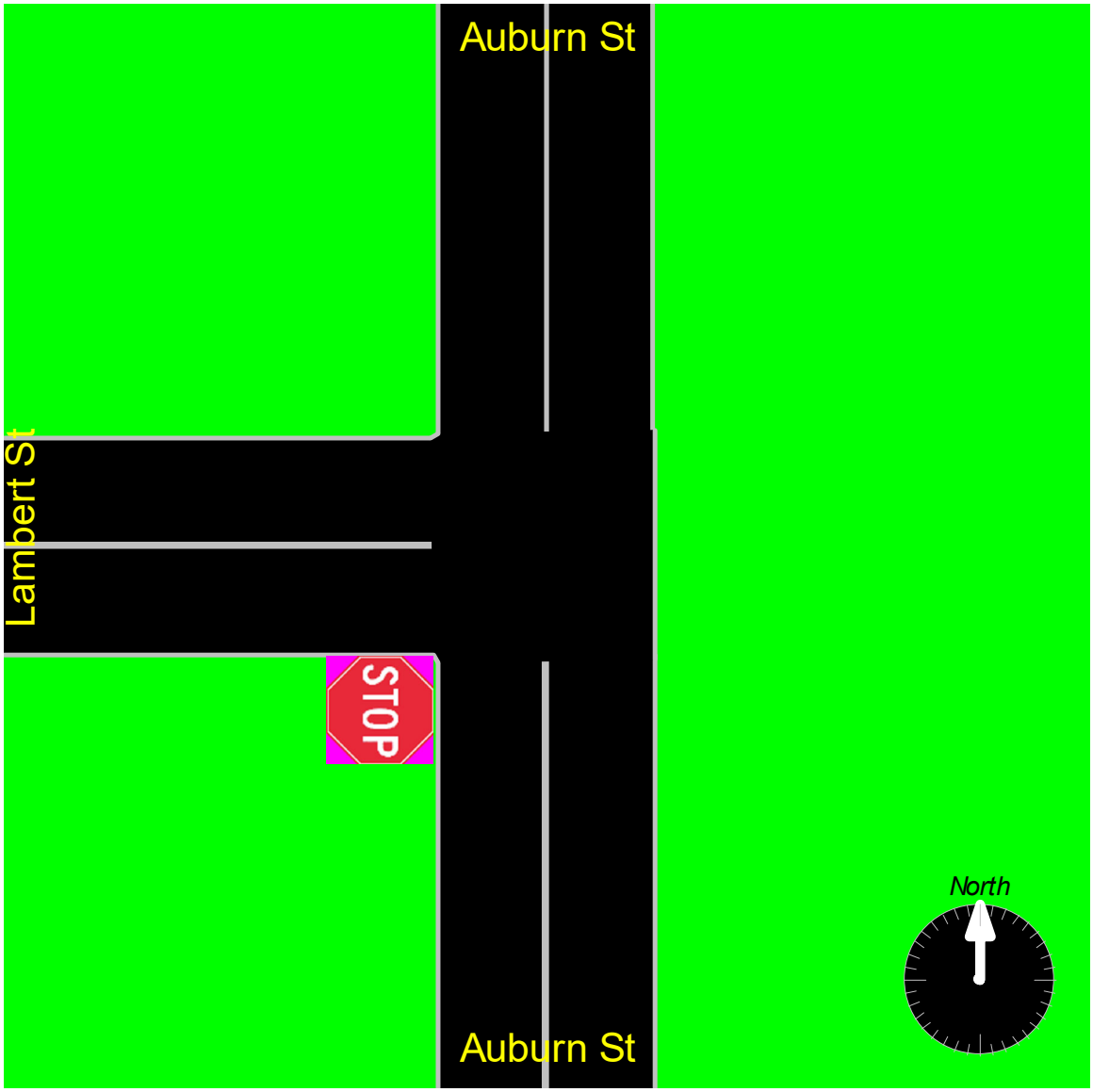
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 AM
Site Code : 00402243
Start Date : 4/2/2024
Page No : 6



Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

Portland Auburn St & Lambert St
April 02, 2024 PM
40 Degrees
St.Clair Associates

File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
03:00 PM	2	81	0	83	76	44	0	120	25	3	0	28	231
03:15 PM	1	67	0	68	102	29	0	131	30	0	0	30	229
03:30 PM	0	49	0	49	115	35	0	150	30	0	0	30	229
03:45 PM	2	81	0	83	88	33	0	121	23	0	0	23	227
Total	5	278	0	283	381	141	0	522	108	3	0	111	916
04:00 PM	1	45	0	46	103	31	0	134	29	2	0	31	211
04:15 PM	1	79	0	80	90	39	0	129	21	1	0	22	231
04:30 PM	2	93	0	95	132	43	0	175	28	2	0	30	300
04:45 PM	1	90	0	91	110	66	0	176	35	2	0	37	304
Total	5	307	0	312	435	179	0	614	113	7	0	120	1046
05:00 PM	1	80	0	81	147	32	0	179	19	0	0	19	279
05:15 PM	5	100	0	105	115	39	0	154	32	0	0	32	291
05:30 PM	0	83	0	83	110	40	0	150	20	0	0	20	253
05:45 PM	1	110	0	111	113	53	0	166	26	1	0	27	304
Total	7	373	0	380	485	164	0	649	97	1	0	98	1127

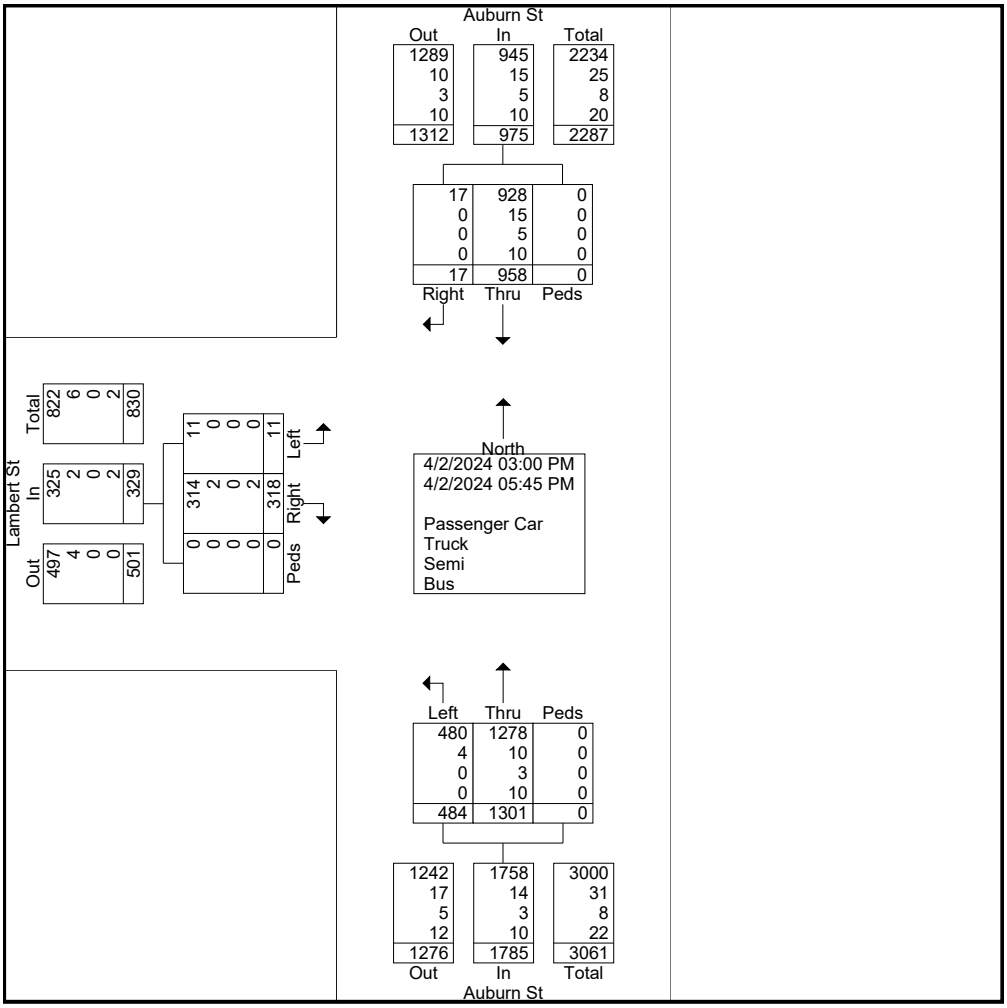
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 2

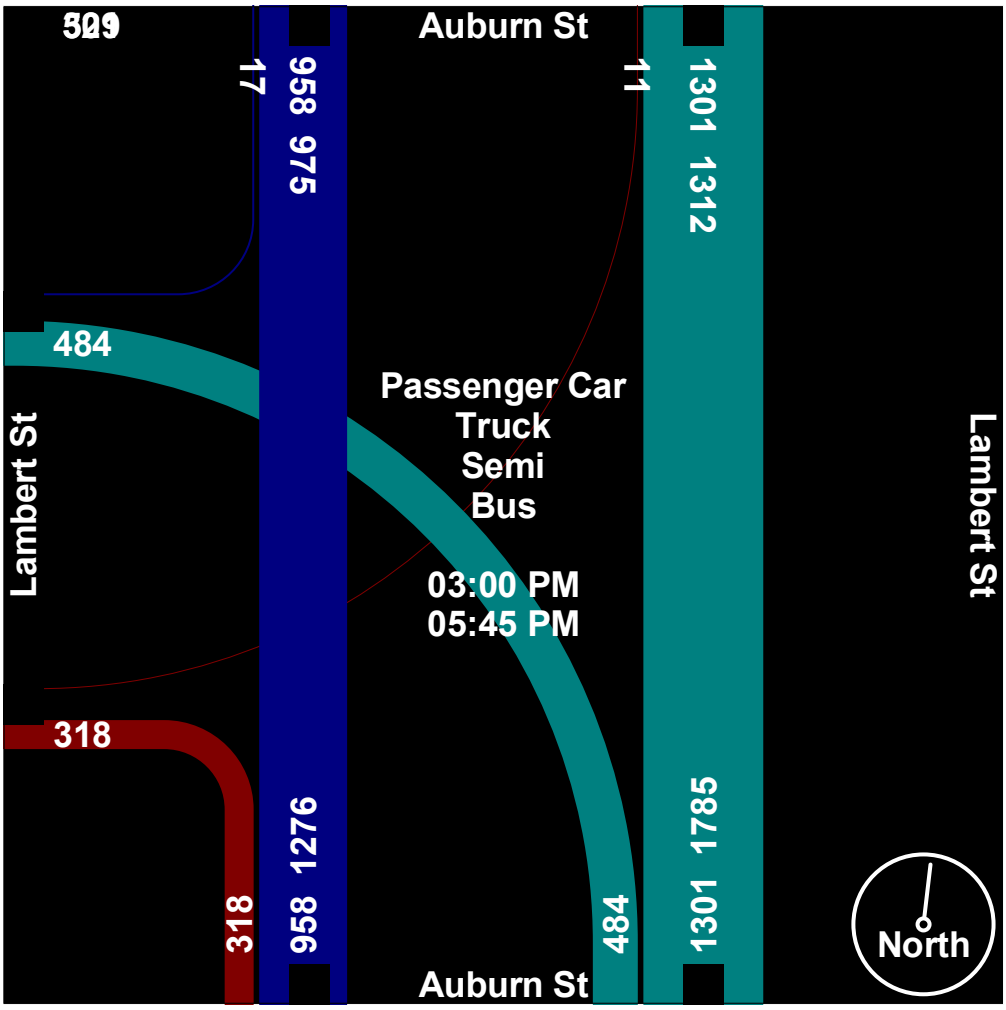
Groups Printed- Passenger Car - Truck - Semi - Bus

	Auburn St From North				Auburn St From South				Lambert St From West				
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	17	958	0	975	1301	484	0	1785	318	11	0	329	3089
Apprch %	1.7	98.3	0		72.9	27.1	0		96.7	3.3	0		
Total %	0.6	31	0	31.6	42.1	15.7	0	57.8	10.3	0.4	0	10.7	
Passenger Car	17	928	0	945	1278	480	0	1758	314	11	0	325	3028
% Passenger Car	100	96.9	0	96.9	98.2	99.2	0	98.5	98.7	100	0	98.8	98
Truck	0	15	0	15	10	4	0	14	2	0	0	2	31
% Truck	0	1.6	0	1.5	0.8	0.8	0	0.8	0.6	0	0	0.6	1
Semi	0	5	0	5	3	0	0	3	0	0	0	0	8
% Semi	0	0.5	0	0.5	0.2	0	0	0.2	0	0	0	0	0.3
Bus	0	10	0	10	10	0	0	10	2	0	0	2	22
% Bus	0	1	0	1	0.8	0	0	0.6	0.6	0	0	0.6	0.7



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 3



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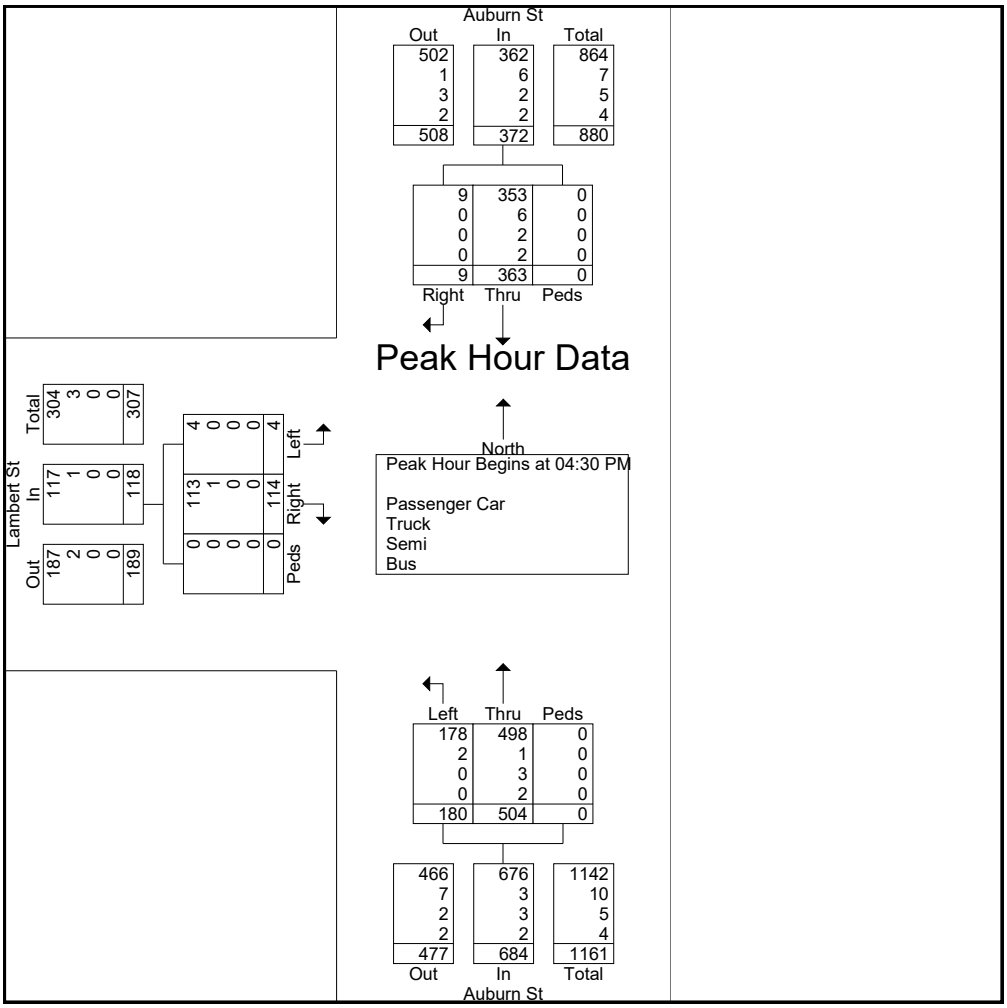
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 4

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	2	93	0	95	132	43	0	175	28	**2**	0	30	300
04:45 PM	1	90	0	91	110	**66**	0	176	**35**	2	0	**37**	**304**
05:00 PM	1	80	0	81	**147**	32	0	**179**	19	0	0	19	279
05:15 PM	**5**	**100**	0	**105**	115	39	0	154	32	0	0	32	291
Total Volume	9	363	0	372	504	180	0	684	114	4	0	118	1174
% App. Total	2.4	97.6	0		73.7	26.3	0		96.6	3.4	0		
PHF	.450	.908	.000	.886	.857	.682	.000	.955	.814	.500	.000	.797	.965
Passenger Car	9	353	0	362	498	178	0	676	113	4	0	117	1155
% Passenger Car	100	97.2	0	97.3	98.8	98.9	0	98.8	99.1	100	0	99.2	98.4
Truck	0	6	0	6	1	2	0	3	1	0	0	1	10
% Truck	0	1.7	0	1.6	0.2	1.1	0	0.4	0.9	0	0	0.8	0.9
Semi	0	2	0	2	3	0	0	3	0	0	0	0	5
% Semi	0	0.6	0	0.5	0.6	0	0	0.4	0	0	0	0	0.4
Bus	0	2	0	2	2	0	0	2	0	0	0	0	4
% Bus	0	0.6	0	0.5	0.4	0	0	0.3	0	0	0	0	0.3

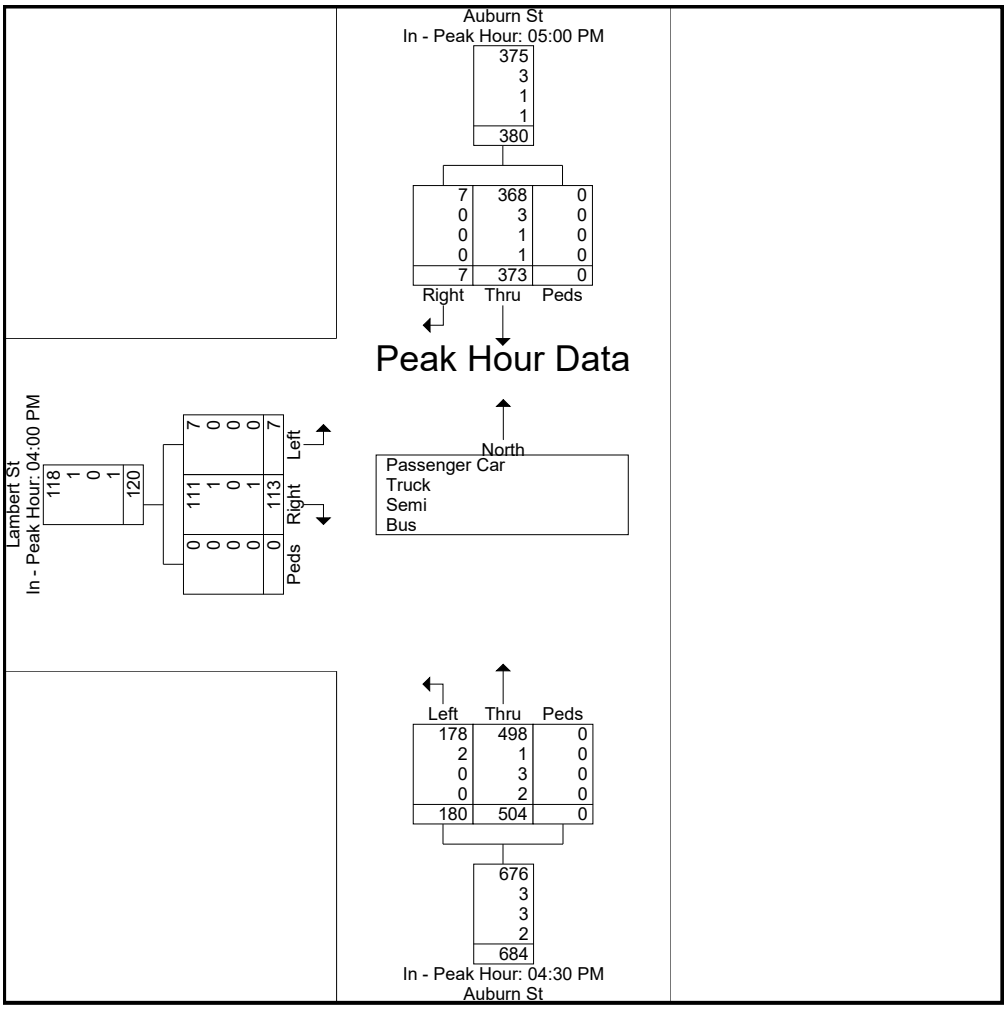


Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 5

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	05:00 PM				04:30 PM				04:00 PM				
+0 mins.	1	80	0	81	132	43	0	175	29	**2**	0	31	
+15 mins.	**5**	100	0	105	110	**66**	0	176	21	1	0	22	
+30 mins.	0	83	0	83	**147**	32	0	**179**	28	2	0	30	
+45 mins.	1	**110**	0	**111**	115	39	0	154	**35**	2	0	**37**	
Total Volume	7	373	0	380	504	180	0	684	113	7	0	120	
% App. Total	1.8	98.2	0		73.7	26.3	0		94.2	5.8	0		
PHF	.350	.848	.000	.856	.857	.682	.000	.955	.807	.875	.000	.811	
Passenger Car	7	368	0	375	498	178	0	676	111	7	0	118	
% Passenger Car	100	98.7	0	98.7	98.8	98.9	0	98.8	98.2	100	0	98.3	
Truck	0	3	0	3	1	2	0	3	1	0	0	1	
% Truck	0	0.8	0	0.8	0.2	1.1	0	0.4	0.9	0	0	0.8	
Semi	0	1	0	1	3	0	0	3	0	0	0	0	
% Semi	0	0.3	0	0.3	0.6	0	0	0.4	0	0	0	0	
Bus	0	1	0	1	2	0	0	2	1	0	0	1	
% Bus	0	0.3	0	0.3	0.4	0	0	0.3	0.9	0	0	0.8	



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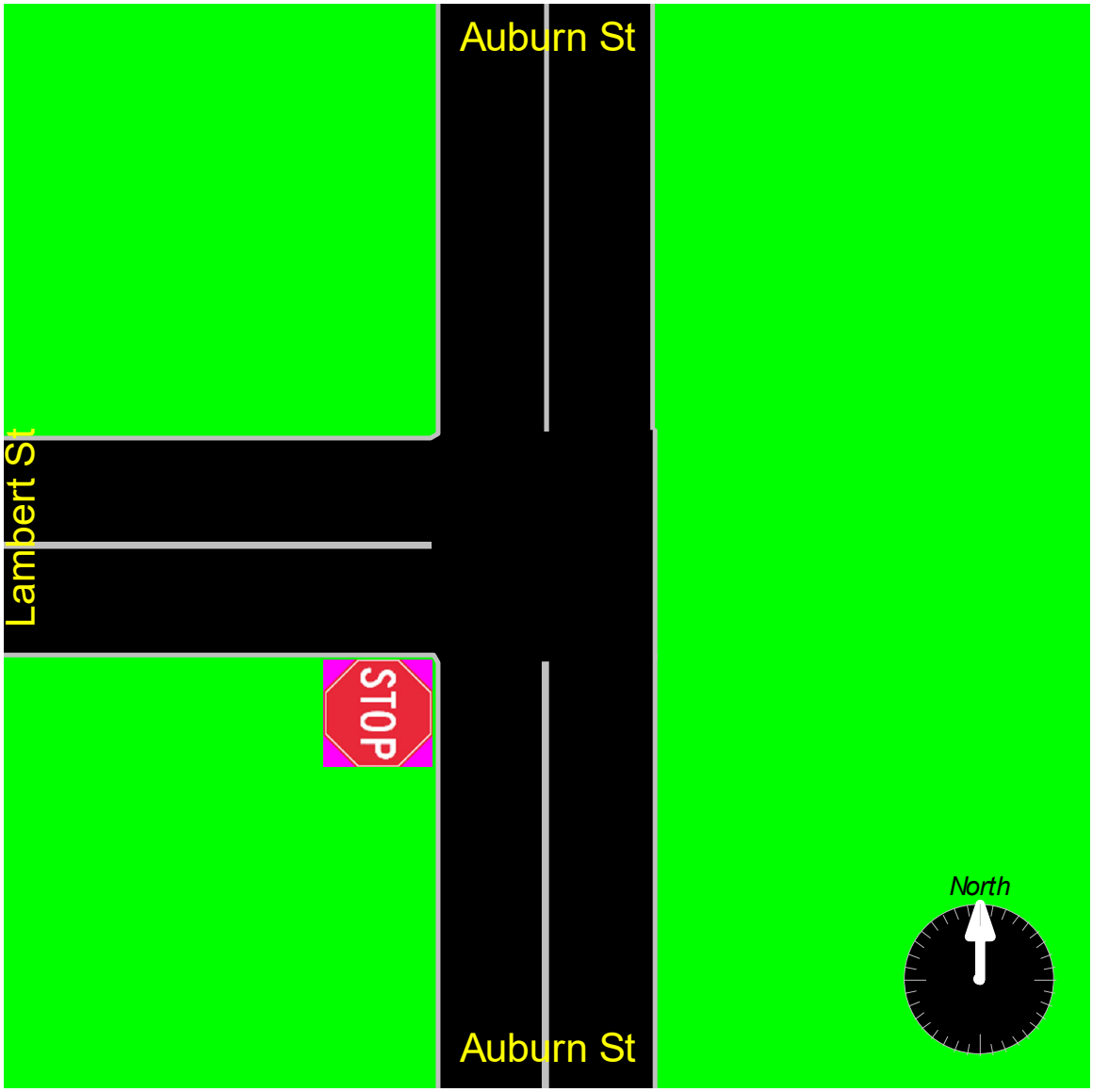
File Name : Portland Auburn St & Lambert 04-02-2024 PM
Site Code : 00402244
Start Date : 4/2/2024
Page No : 6



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Portland Auburn St Lambert St
April 13, 2022 Sat
50 Degrees
St.Clair Associates

File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 1

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
11:00 AM	2	71	0	73	74	23	0	97	25	0	0	25	195
11:15 AM	1	71	0	72	63	22	0	85	24	1	0	25	182
11:30 AM	3	75	0	78	61	19	0	80	26	0	0	26	184
11:45 AM	2	74	0	76	79	28	0	107	28	1	0	29	212
Total	8	291	0	299	277	92	0	369	103	2	0	105	773
12:00 PM	0	81	0	81	85	21	0	106	18	0	0	18	205
12:15 PM	1	69	0	70	83	20	0	103	21	0	0	21	194
12:30 PM	1	68	0	69	80	16	0	96	18	2	0	20	185
12:45 PM	0	51	0	51	86	18	0	104	38	0	0	38	193
Total	2	269	0	271	334	75	0	409	95	2	0	97	777
01:00 PM	2	58	0	60	86	25	0	111	22	0	0	22	193
01:15 PM	1	41	0	42	71	23	0	94	18	0	0	18	154
01:30 PM	2	54	0	56	68	19	0	87	22	1	0	23	166
01:45 PM	0	45	0	45	77	21	0	98	20	1	0	21	164
Total	5	198	0	203	302	88	0	390	82	2	0	84	677

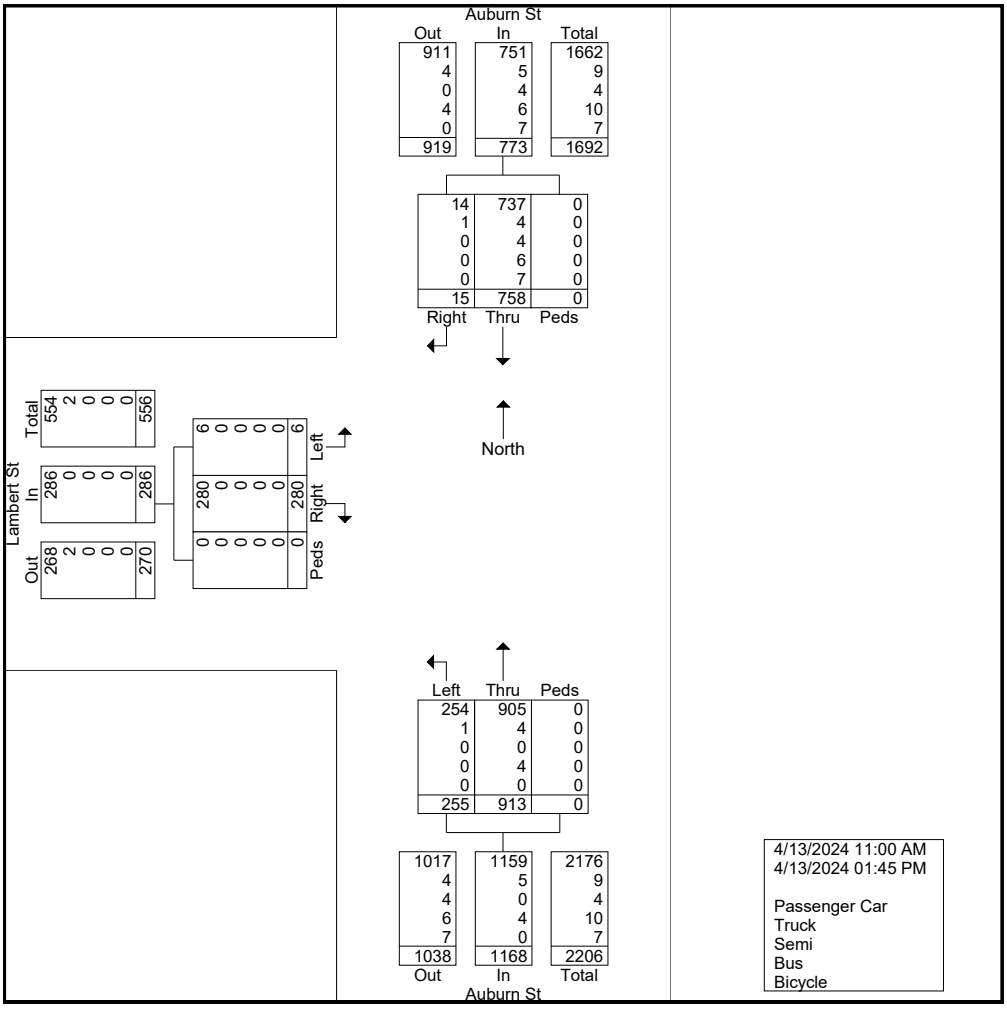
Traffic Solutions

17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 2

Groups Printed- Passenger Car - Truck - Semi - Bus - Bicycle

	Auburn St From North				Auburn St From South				Lambert St From West				
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Grand Total	15	758	0	773	913	255	0	1168	280	6	0	286	2227
Apprch %	1.9	98.1	0		78.2	21.8	0		97.9	2.1	0		
Total %	0.7	34	0	34.7	41	11.5	0	52.4	12.6	0.3	0	12.8	
Passenger Car	14	737	0	751	905	254	0	1159	280	6	0	286	2196
% Passenger Car	93.3	97.2	0	97.2	99.1	99.6	0	99.2	100	100	0	100	98.6
Truck	1	4	0	5	4	1	0	5	0	0	0	0	10
% Truck	6.7	0.5	0	0.6	0.4	0.4	0	0.4	0	0	0	0	0.4
Semi	0	4	0	4	0	0	0	0	0	0	0	0	4
% Semi	0	0.5	0	0.5	0	0	0	0	0	0	0	0	0.2
Bus	0	6	0	6	4	0	0	4	0	0	0	0	10
% Bus	0	0.8	0	0.8	0.4	0	0	0.3	0	0	0	0	0.4
Bicycle	0	7	0	7	0	0	0	0	0	0	0	0	7
% Bicycle	0	0.9	0	0.9	0	0	0	0	0	0	0	0	0.3



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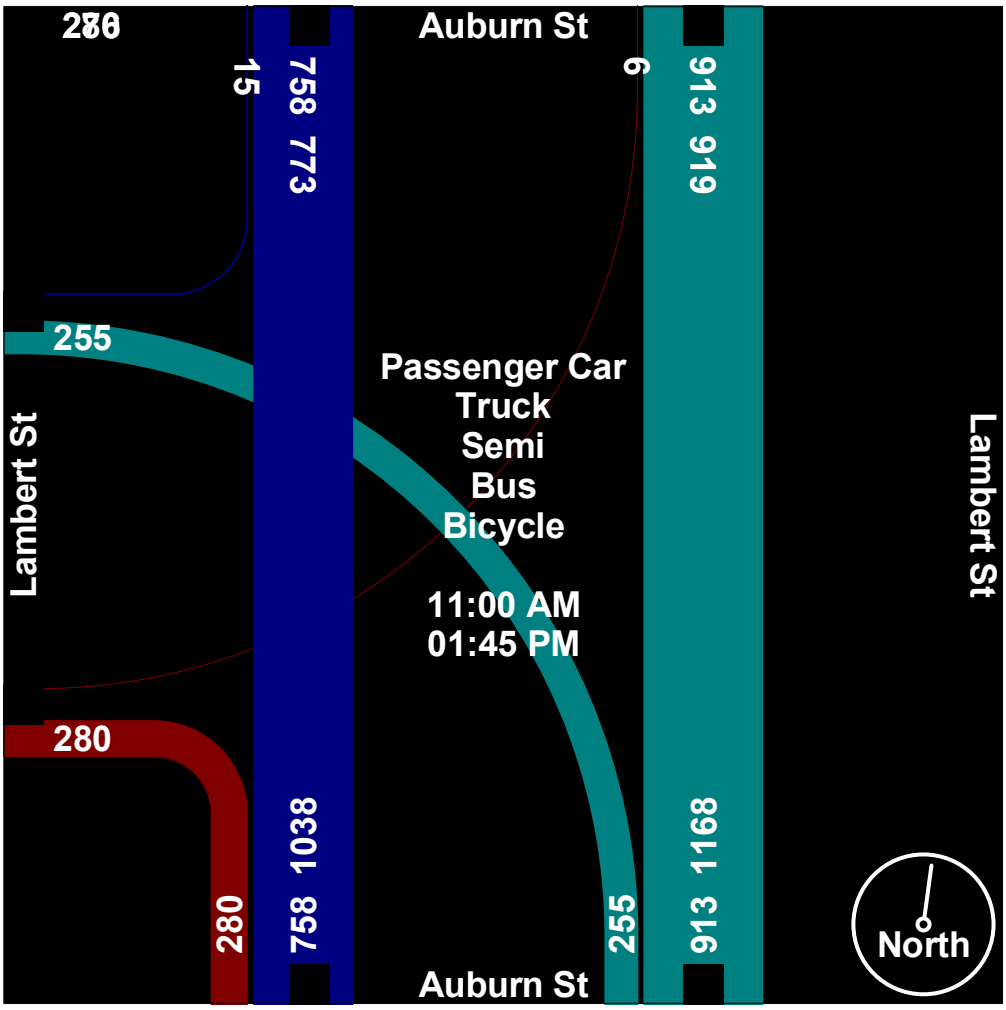
File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 3



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17 Mountview Drive
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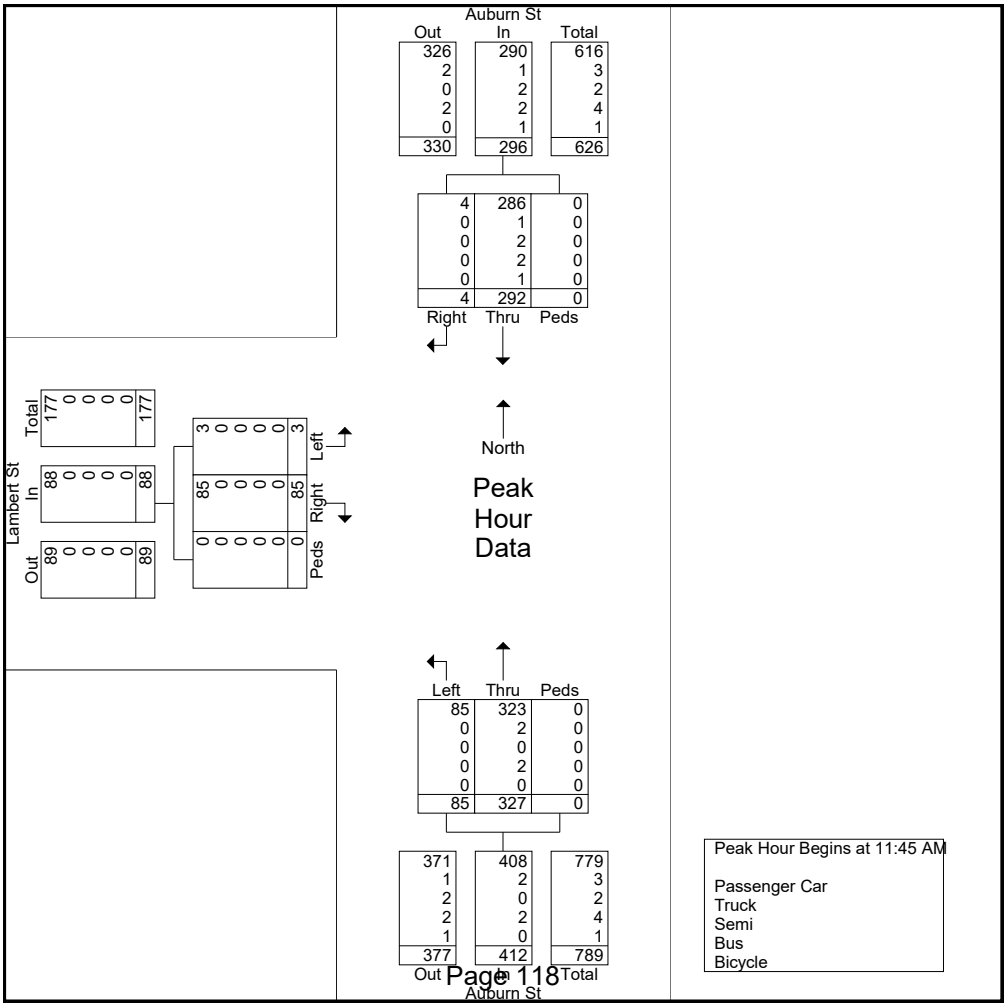
File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 4

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:45 AM													
11:45 AM	**2**	74	0	76	79	**28**	0	**107**	**28**	1	0	**29**	**212**
12:00 PM	0	**81**	0	**81**	**85**	21	0	106	18	0	0	18	205
12:15 PM	1	69	0	70	83	20	0	103	21	0	0	21	194
12:30 PM	1	68	0	69	80	16	0	96	18	**2**	0	20	185
Total Volume	4	292	0	296	327	85	0	412	85	3	0	88	796
% App. Total	1.4	98.6	0		79.4	20.6	0		96.6	3.4	0		
PHF	.500	.901	.000	.914	.962	.759	.000	.963	.759	.375	.000	.759	.939
Passenger Car	4	286	0	290	323	85	0	408	85	3	0	88	786
% Passenger Car	100	97.9	0	98.0	98.8	100	0	99.0	100	100	0	100	98.7
Truck	0	1	0	1	2	0	0	2	0	0	0	0	3
% Truck	0	0.3	0	0.3	0.6	0	0	0.5	0	0	0	0	0.4
Semi	0	2	0	2	0	0	0	0	0	0	0	0	2
% Semi	0	0.7	0	0.7	0	0	0	0	0	0	0	0	0.3
Bus	0	2	0	2	2	0	0	2	0	0	0	0	4
% Bus	0	0.7	0	0.7	0.6	0	0	0.5	0	0	0	0	0.5
Bicycle	0	1	0	1	0	0	0	0	0	0	0	0	1
% Bicycle	0	0.3	0	0.3	0	0	0	0	0	0	0	0	0.1



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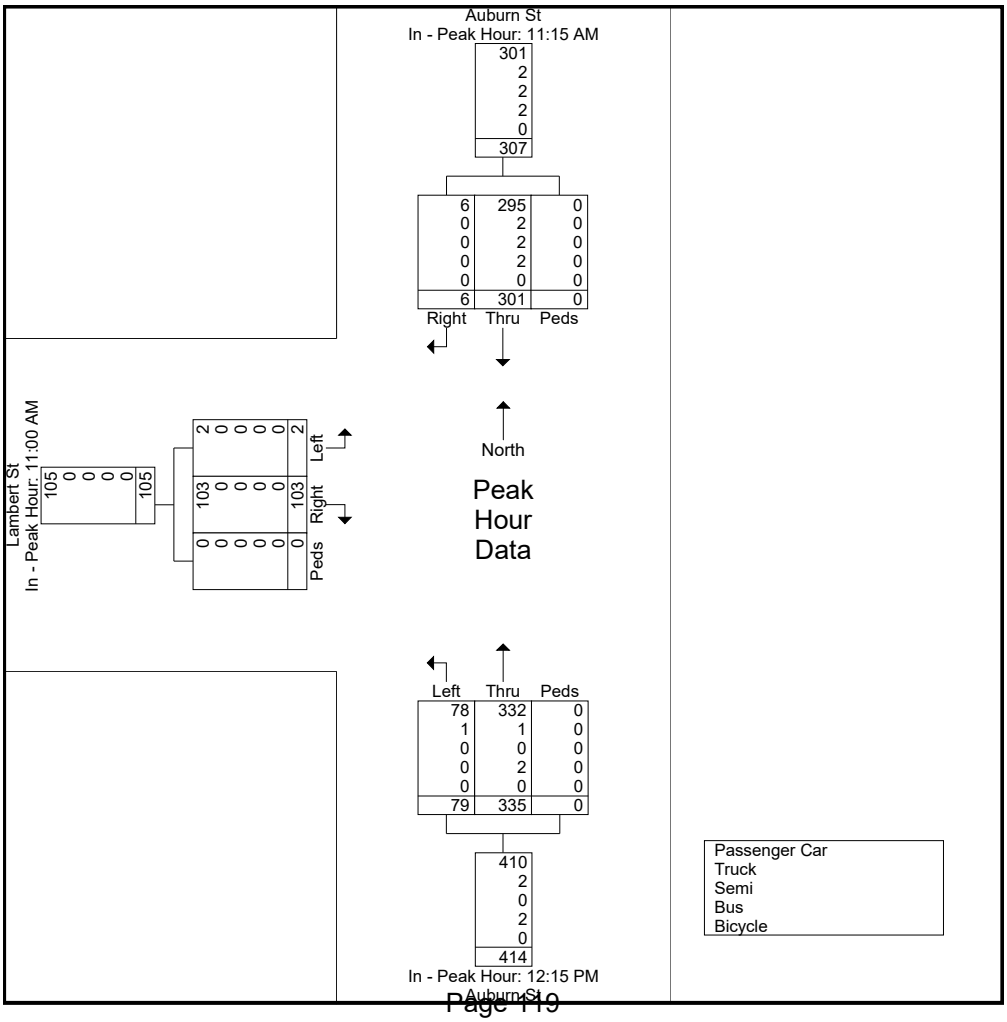
17 Mountview Drive
Gorham, ME 04038

File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 5

	Auburn St From North				Auburn St From South				Lambert St From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	11:15 AM				12:15 PM				11:00 AM				
+0 mins.	1	71	0	72	83	20	0	103	25	0	0	25	
+15 mins.	**3**	75	0	78	80	16	0	96	24	**1**	0	25	
+30 mins.	2	74	0	76	**86**	18	0	104	26	0	0	26	
+45 mins.	0	**81**	0	**81**	86	**25**	0	**111**	**28**	1	0	**29**	
Total Volume	6	301	0	307	335	79	0	414	103	2	0	105	
% App. Total	2	98	0		80.9	19.1	0		98.1	1.9	0		
PHF	.500	.929	.000	.948	.974	.790	.000	.932	.920	.500	.000	.905	
Passenger Car	6	295	0	301	332	78	0	410	103	2	0	105	
% Passenger Car	100	98	0	98	99.1	98.7	0	99	100	100	0	100	
Truck	0	2	0	2	1	1	0	2	0	0	0	0	
% Truck	0	0.7	0	0.7	0.3	1.3	0	0.5	0	0	0	0	
Semi	0	2	0	2	0	0	0	0	0	0	0	0	
% Semi	0	0.7	0	0.7	0	0	0	0	0	0	0	0	
Bus	0	2	0	2	2	0	0	2	0	0	0	0	
% Bus	0	0.7	0	0.7	0.6	0	0	0.5	0	0	0	0	
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	



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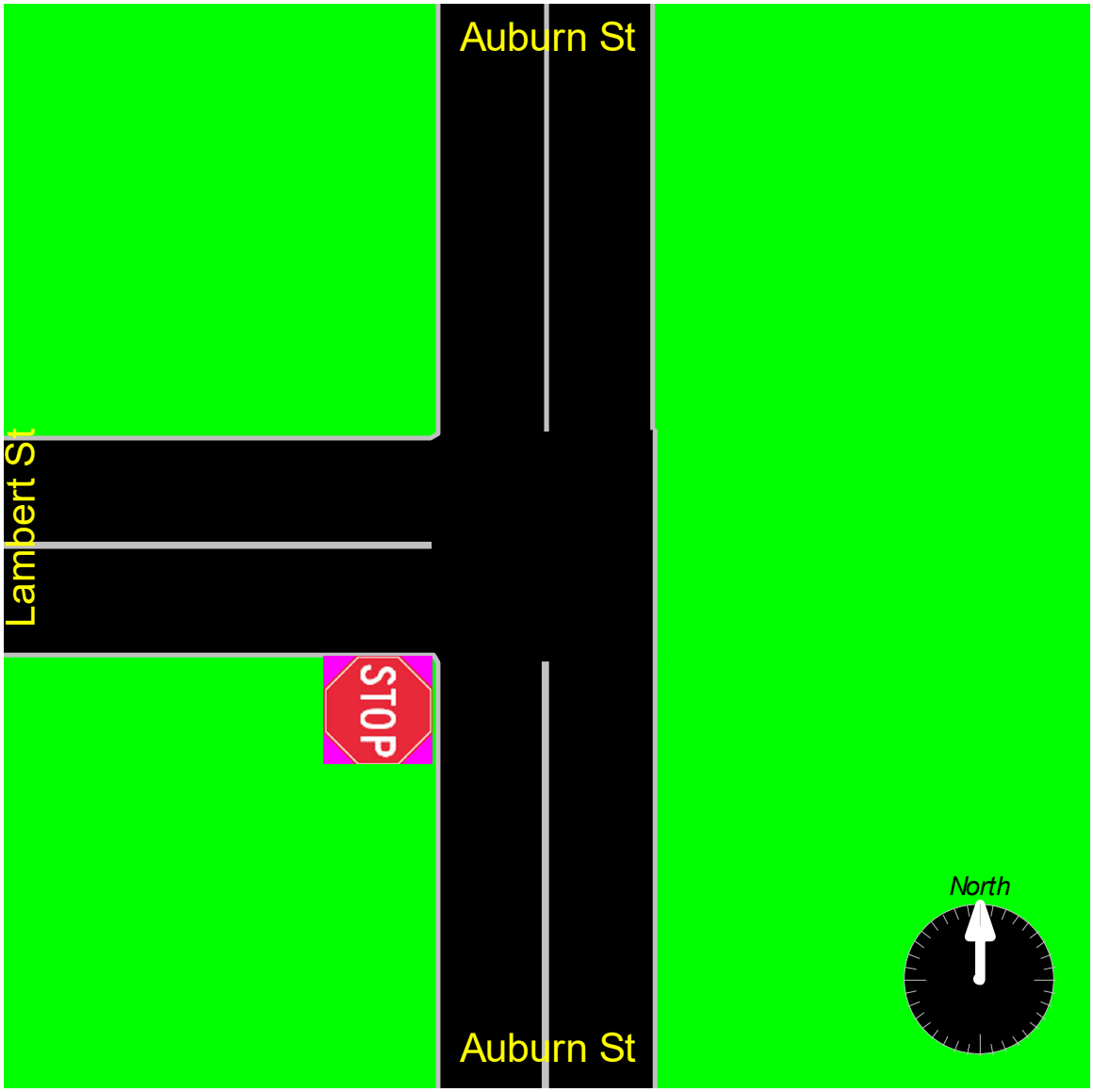
File Name : Portland Auburn St & Lambert 04-13-2024 Sat
Site Code : 00413242
Start Date : 4/13/2024
Page No : 6



APPENDIX B

MAINEDOT CRASH REPORT

LAMBERT ST
HAVERTYS WAY
17069
CLAYTON ST
13436
13438
KENNETH ST
26
100
AUBURN ST
PORTLAND
JACKSON ST
13434
17068
Scale: 1:1425
100ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Portland
Auburn St from Jackson St (17068) to Lambert St (17069)

REPORT PARAMETERS

Year 2021, Start Month 1 through Year 2023 End Month: 12

Route: **0026X**	Start Node: **17068**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **17069**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
13438	0026X - 4.37	Int of AUBURN ST CLAYTON ST	2	0	0	0	0	0	0	0.0	4.163	0.00	0.35	0.00
												Statewide Crash Rate:	0.13	
17069	0026X - 4.41	Int of AUBURN ST LAMBERT ST	2	3	0	0	0	0	3	0.0	4.263	0.23	0.35	0.00
												Statewide Crash Rate:	0.13	
17068	0026X - 4.28	Int of AUBURN ST JACKSON ST	2	0	0	0	0	0	0	0.0	4.207	0.00	0.35	0.00
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		3	0	0	0	0	3	0.0	12.633	0.08	0.27	0.30

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
13438	17068	3130462	0 - 0.09	0026X - 4.28	0.09	2	1	0	0	0	0	1	0.0	0.00372	89.55	494.13	0.00
Int of AUBURN ST	CLAYTON ST			ST RTE 26											Statewide Crash Rate: 196.87		
13438	17069	3106258	0 - 0.04	0026X - 4.37	0.04	2	0	0	0	0	0	0	0.0	0.00165	0.00	609.18	0.00
Int of AUBURN ST	CLAYTON ST			ST RTE 26											Statewide Crash Rate: 196.87		
Study Years:	3.00			**Section Totals:**	0.13		1	0	0	0	0	1	0.0	0.00538	62.00	450.47	0.14
				Grand Totals:	0.13		4	0	0	0	0	4	0.0	0.00538	247.99	607.42	0.41

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
13438	17068	3130462	0 - 0.09	0026X - 4.28	1	0	0	0	0	1	2021-25703	09/25/2021	4.32	PD
13438	17069	3106258	0 - 0.04	0026X - 4.37	0	0	0	0	0	0				
				Totals:	1	0	0	0	0	1				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day						PM							
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THURSDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
Totals	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	**4**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	2	23-Bicyclist	0
2-(Sport) Utility Vehicle	3	24-Witness	0
3-Passenger Van	0	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	1	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	**Total**	**6**
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	0	2	0	0	0	0	2
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	0	0	0	0	0	0	0
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	2	0	0	0	0	0	2
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	**4**	**2**	**0**	**0**	**0**	**0**	**6**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	4	2	0	0	0	0	6
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**4**	**2**	**0**	**0**	**0**	**0**	**6**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	0	0	0	0	0	0
20-24	2	0	0	0	0	2
25-29	1	0	0	0	0	1
30-39	2	0	0	0	0	2
40-49	1	0	0	0	0	1
50-59	0	0	0	0	0	0
60-69	0	0	0	0	0	0
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
Total	**6**	**0**	**0**	**0**	**0**	**6**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**6**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	5		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	0	0
PD	4	0
Total	**4**	**0**

Road Character

Road Grade	Total
1-Level	3
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**4**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	4
14-Other	0
Total	**4**

Light

Light Condition	Total
1-Daylight	3
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	0
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**4**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2021	2022	2023	Total
JANUARY	0	0	1	1
FEBRUARY	0	1	0	1
MARCH	0	0	0	0
APRIL	0	0	1	1
MAY	0	0	0	0
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	1	0	0	1
OCTOBER	0	0	0	0
NOVEMBER	0	0	0	0
DECEMBER	0	0	0	0
Total	**1**	**1**	**2**	**4**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	1	0	0	0	0	0	0	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	1	0	0	0	0	0	0	0	0	0	1	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**

APPENDIX C

SIMTRAFFIC CAPACITY ANALYSIS REPORTS

Summary of All Intervals

Run Number	2	4	5	6	7	Avg
Start Time	7:55	7:55	7:55	7:55	7:55	7:55
End Time	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1421	1448	1369	1437	1396	1416
Vehs Exited	1431	1448	1373	1432	1398	1416
Starting Vehs	19	12	15	19	13	15
Ending Vehs	9	12	11	24	11	10
Travel Distance (mi)	354	357	338	352	344	349
Travel Time (hr)	15.2	14.7	14.0	14.6	14.1	14.5
Total Delay (hr)	3.3	2.7	2.6	2.8	2.5	2.8
Total Stops	559	511	487	495	513	515
Fuel Used (gal)	13.4	13.0	12.3	12.9	12.7	12.9

Interval #0 Information Seeding

Start Time	7:55
End Time	8:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	2	4	5	6	7	Avg
Vehs Entered	1421	1448	1369	1437	1396	1416
Vehs Exited	1431	1448	1373	1432	1398	1416
Starting Vehs	19	12	15	19	13	15
Ending Vehs	9	12	11	24	11	10
Travel Distance (mi)	354	357	338	352	344	349
Travel Time (hr)	15.2	14.7	14.0	14.6	14.1	14.5
Total Delay (hr)	3.3	2.7	2.6	2.8	2.5	2.8
Total Stops	559	511	487	495	513	515
Fuel Used (gal)	13.4	13.0	12.3	12.9	12.7	12.9

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	15.7	5.9	1.1	0.2	3.8	1.1	1.5

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.4	0.4	0.2
Total Del/Veh (s)	20.8	11.3	5.2	2.0	1.4	0.3	4.0

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.3	0.3	0.2	0.1	0.1	0.1	0.2
Total Del/Veh (s)	0.4	0.2	4.2	1.4	25.8	6.2	1.5

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.7

Intersection: 3: Auburn St & Clayton St

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	68	50	101
Average Queue (ft)	30	3	25
95th Queue (ft)	57	31	79
Link Distance (ft)	274	426	138
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	174	137	23
Average Queue (ft)	66	53	1
95th Queue (ft)	130	114	11
Link Distance (ft)	280	138	289
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Auburn St & Jackson St

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	139	56
Average Queue (ft)	16	22
95th Queue (ft)	71	47
Link Distance (ft)	426	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Summary of All Intervals

Run Number	1	3	4	5	6	Avg
Start Time	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1457	1480	1501	1417	1529	1476
Vehs Exited	1451	1486	1498	1416	1520	1475
Starting Vehs	10	16	16	14	9	10
Ending Vehs	16	10	19	15	18	13
Travel Distance (mi)	362	368	368	355	381	367
Travel Time (hr)	15.5	15.5	15.9	15.3	16.6	15.8
Total Delay (hr)	3.5	3.5	3.7	3.5	3.9	3.6
Total Stops	546	549	633	566	625	584
Fuel Used (gal)	13.3	13.5	13.7	12.9	14.0	13.5

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	3	4	5	6	Avg
Vehs Entered	1457	1480	1501	1417	1529	1476
Vehs Exited	1451	1486	1498	1416	1520	1475
Starting Vehs	10	16	16	14	9	10
Ending Vehs	16	10	19	15	18	13
Travel Distance (mi)	362	368	368	355	381	367
Travel Time (hr)	15.5	15.5	15.9	15.3	16.6	15.8
Total Delay (hr)	3.5	3.5	3.7	3.5	3.9	3.6
Total Stops	546	549	633	566	625	584
Fuel Used (gal)	13.3	13.5	13.7	12.9	14.0	13.5

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	27.1	14.0	2.2	2.0	8.7	2.3	3.2

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.4	0.3	0.1
Total Del/Veh (s)	34.2	7.3	5.3	3.4	1.7	0.9	3.6

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.6	0.4	0.0	0.1	0.1	0.1	0.4
Total Del/Veh (s)	0.8	0.3	7.8	1.9	19.4	8.0	1.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	8.4

Intersection: 3: Auburn St & Clayton St

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	96	111	142
Average Queue (ft)	42	11	43
95th Queue (ft)	79	56	120
Link Distance (ft)	274	426	138
Upstream Blk Time (%)			2
Queuing Penalty (veh)			9
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	85	143	114
Average Queue (ft)	33	75	9
95th Queue (ft)	67	145	55
Link Distance (ft)	280	138	289
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		7	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Auburn St & Jackson St

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	157	68
Average Queue (ft)	28	26
95th Queue (ft)	97	51
Link Distance (ft)	426	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 16

Summary of All Intervals

Run Number	1	2	4	5	6	Avg
Start Time	11:55	11:55	11:55	11:55	11:55	11:55
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1054	1039	1081	1007	1043	1045
Vehs Exited	1048	1042	1080	999	1036	1041
Starting Vehs	3	8	7	11	6	6
Ending Vehs	9	5	8	19	13	9
Travel Distance (mi)	264	262	274	255	261	263
Travel Time (hr)	9.7	9.6	9.9	9.4	9.6	9.6
Total Delay (hr)	1.1	1.1	1.1	1.1	1.1	1.1
Total Stops	276	240	247	251	230	251
Fuel Used (gal)	8.8	8.9	9.2	8.6	8.8	8.9

Interval #0 Information Seeding

Start Time	11:55
End Time	12:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	4	5	6	Avg
Vehs Entered	1054	1039	1081	1007	1043	1045
Vehs Exited	1048	1042	1080	999	1036	1041
Starting Vehs	3	8	7	11	6	6
Ending Vehs	9	5	8	19	13	9
Travel Distance (mi)	264	262	274	255	261	263
Travel Time (hr)	9.7	9.6	9.9	9.4	9.6	9.6
Total Delay (hr)	1.1	1.1	1.1	1.1	1.1	1.1
Total Stops	276	240	247	251	230	251
Fuel Used (gal)	8.8	8.9	9.2	8.6	8.8	8.9

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.0	5.4	0.9	0.5	3.5	0.5	1.0

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.3	0.2	0.1
Total Del/Veh (s)	14.9	4.2	3.3	1.3	0.6	0.1	1.6

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.1	0.1	0.2
Total Del/Veh (s)	0.5	0.2	3.7	0.7	11.4	4.6	0.9

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	3.5

Intersection: 3: Auburn St & Clayton St

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	48	35	62
Average Queue (ft)	23	2	9
95th Queue (ft)	48	18	38
Link Distance (ft)	274	426	138
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	61	124	10
Average Queue (ft)	23	34	0
95th Queue (ft)	44	89	5
Link Distance (ft)	280	138	289
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Auburn St & Jackson St

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	78	53
Average Queue (ft)	9	21
95th Queue (ft)	42	45
Link Distance (ft)	426	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	2	3	5	6	7	Avg
Start Time	7:55	7:55	7:55	7:55	7:55	7:55
End Time	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1505	1460	1428	1431	1534	1470
Vehs Exited	1506	1456	1425	1415	1537	1468
Starting Vehs	19	16	13	6	19	11
Ending Vehs	18	20	16	22	16	17
Travel Distance (mi)	370	351	345	348	372	357
Travel Time (hr)	16.4	15.6	14.6	15.4	16.0	15.6
Total Delay (hr)	4.0	3.9	3.0	3.7	3.4	3.6
Total Stops	612	585	559	599	638	599
Fuel Used (gal)	14.3	13.6	13.1	13.5	14.3	13.8

Interval #0 Information Seeding

Start Time	7:55
End Time	8:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	8:00
End Time	9:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	2	3	5	6	7	Avg
Vehs Entered	1505	1460	1428	1431	1534	1470
Vehs Exited	1506	1456	1425	1415	1537	1468
Starting Vehs	19	16	13	6	19	11
Ending Vehs	18	20	16	22	16	17
Travel Distance (mi)	370	351	345	348	372	357
Travel Time (hr)	16.4	15.6	14.6	15.4	16.0	15.6
Total Delay (hr)	4.0	3.9	3.0	3.7	3.4	3.6
Total Stops	612	585	559	599	638	599
Fuel Used (gal)	14.3	13.6	13.1	13.5	14.3	13.8

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	17.3	5.4	0.7	0.0	4.6	1.6	1.7

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.4	0.7	0.3
Total Del/Veh (s)	20.0	13.7	5.7	2.1	1.7	0.8	4.7

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.3	0.2	0.1	0.1	0.1	0.1	0.2
Total Del/Veh (s)	0.4	0.2	4.4	1.6	23.5	7.2	1.6

11: Auburn St & Site Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	20.1	8.3	5.4	0.6	0.6	0.1	1.0

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	8.3

Intersection: 3: Auburn St & Clayton St

Movement	WB	B9	NB	SB
Directions Served	LR	T	TR	LT
Maximum Queue (ft)	62	7	36	141
Average Queue (ft)	29	0	1	37
95th Queue (ft)	54	5	17	106
Link Distance (ft)	26	190	86	136
Upstream Blk Time (%)	10		0	1
Queuing Penalty (veh)	0		0	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	182	133	68
Average Queue (ft)	71	53	5
95th Queue (ft)	140	114	29
Link Distance (ft)	280	136	289
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Auburn St & Jackson St

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	187	73
Average Queue (ft)	26	22
95th Queue (ft)	101	52
Link Distance (ft)	285	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Auburn St & Site

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	58	70	6
Average Queue (ft)	26	6	0
95th Queue (ft)	52	36	4
Link Distance (ft)	274	285	86
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 5

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1505	1547	1528	1534	1506	1524
Vehs Exited	1504	1564	1533	1526	1512	1528
Starting Vehs	15	28	19	20	20	18
Ending Vehs	16	11	14	28	14	14
Travel Distance (mi)	370	382	371	373	368	373
Travel Time (hr)	16.2	16.7	16.4	16.4	16.2	16.4
Total Delay (hr)	3.9	4.1	4.1	4.0	3.9	4.0
Total Stops	546	625	620	649	605	609
Fuel Used (gal)	13.8	14.5	13.9	14.0	13.8	14.0

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1505	1547	1528	1534	1506	1524
Vehs Exited	1504	1564	1533	1526	1512	1528
Starting Vehs	15	28	19	20	20	18
Ending Vehs	16	11	14	28	14	14
Travel Distance (mi)	370	382	371	373	368	373
Travel Time (hr)	16.2	16.7	16.4	16.4	16.2	16.4
Total Delay (hr)	3.9	4.1	4.1	4.0	3.9	4.0
Total Stops	546	625	620	649	605	609
Fuel Used (gal)	13.8	14.5	13.9	14.0	13.8	14.0

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	24.1	18.6	1.3	0.1	8.3	2.2	3.2

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.3	0.4	0.1
Total Del/Veh (s)	58.9	7.5	5.1	3.3	1.5	0.7	3.5

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.6	0.8	0.0	0.1	0.1	0.1	0.4
Total Del/Veh (s)	1.0	0.4	6.9	1.4	23.7	8.3	1.6

9: Auburn St & Site Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	19.4	7.3	3.9	1.4	0.6	0.1	1.3

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	8.9

Intersection: 3: Auburn St & Clayton St

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	120	89	141
Average Queue (ft)	49	9	51
95th Queue (ft)	95	46	127
Link Distance (ft)	274	86	138
Upstream Blk Time (%)		0	1
Queuing Penalty (veh)		1	6
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	110	142	118
Average Queue (ft)	35	71	7
95th Queue (ft)	73	139	50
Link Distance (ft)	280	138	289
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		7	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Auburn St & Jackson St

Movement	NB	SB	SW
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	174	71
Average Queue (ft)	0	30	26
95th Queue (ft)	4	101	53
Link Distance (ft)	419	284	313
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Auburn St & Site

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	48	89
Average Queue (ft)	19	14
95th Queue (ft)	45	56
Link Distance (ft)	273	284
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 14

Summary of All Intervals

Run Number	1	3	4	5	7	Avg
Start Time	11:55	11:55	11:55	11:55	11:55	11:55
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1114	1079	1108	1080	1104	1097
Vehs Exited	1113	1071	1102	1085	1104	1095
Starting Vehs	6	3	3	14	8	5
Ending Vehs	7	11	9	9	8	7
Travel Distance (mi)	278	266	272	270	276	273
Travel Time (hr)	10.5	10.0	10.2	10.2	10.4	10.3
Total Delay (hr)	1.4	1.3	1.3	1.3	1.3	1.3
Total Stops	301	297	287	316	282	297
Fuel Used (gal)	9.6	9.3	9.5	9.3	9.5	9.4

Interval #0 Information Seeding

Start Time	11:55
End Time	12:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	3	4	5	7	Avg
Vehs Entered	1114	1079	1108	1080	1104	1097
Vehs Exited	1113	1071	1102	1085	1104	1095
Starting Vehs	6	3	3	14	8	5
Ending Vehs	7	11	9	9	8	7
Travel Distance (mi)	278	266	272	270	276	273
Travel Time (hr)	10.5	10.0	10.2	10.2	10.4	10.3
Total Delay (hr)	1.4	1.3	1.3	1.3	1.3	1.3
Total Stops	301	297	287	316	282	297
Fuel Used (gal)	9.6	9.3	9.5	9.3	9.5	9.4

3: Auburn St & Clayton St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	8.1	5.0	0.6	0.0	3.9	0.6	0.8

5: Auburn St & Lambert St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.3	0.3	0.1
Total Del/Veh (s)	14.4	4.7	3.5	1.3	0.7	0.0	1.7

7: Auburn St & Jackson St Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.1	0.1	0.2
Total Del/Veh (s)	0.4	0.2	3.8	0.8	12.1	4.4	0.9

9: Auburn St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	12.4	5.6	3.5	0.6	0.3	0.0	0.7

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	4.0

Intersection: 3: Auburn St & Clayton St

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	55	29	83
Average Queue (ft)	25	1	9
95th Queue (ft)	48	11	44
Link Distance (ft)	274	106	138
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Auburn St & Lambert St

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	58	113
Average Queue (ft)	26	35
95th Queue (ft)	46	82
Link Distance (ft)	280	138
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Auburn St & Jackson St

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	78	54
Average Queue (ft)	12	22
95th Queue (ft)	50	45
Link Distance (ft)	264	313
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Auburn St

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	44	57
Average Queue (ft)	18	7
95th Queue (ft)	44	35
Link Distance (ft)	266	264
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

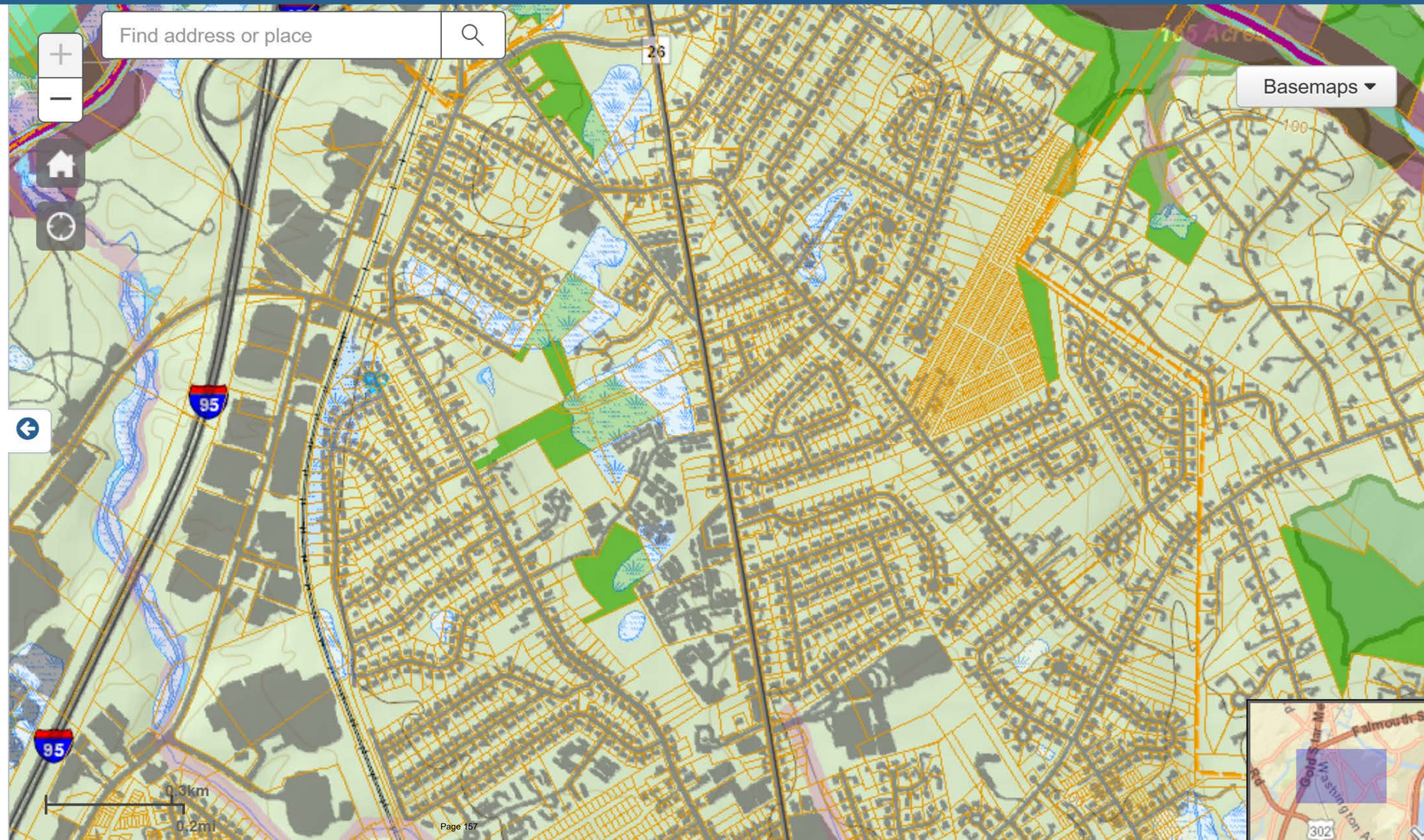
Network Summary

Network wide Queuing Penalty: 0

BwH Map Viewer

Welcome | Layers | Legend

- Connectors
  - Undeveloped Block Connectors
    - Less than 2000 Vehicles/Day
    - More than 2000 Vehicles/Day
  - Riparian Connectors
    - Less than 2000 Vehicles/Day
    - More than 2000 Vehicles/Day
  - Highway Bridge Connectors
- Conserved Lands
- Focus Areas- Overlapping Organized Towns



GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. K

Master Plan Narrative
Deering Village
410 Auburn Street, Portland, Maine

Our proposed residential development is located adjacent to the planned **North Deering Park** and is designed to complement and enhance the community's access to this important open space. In alignment with the City of Portland's vision for the park, our development will incorporate a thoughtfully planned access route that allows seamless pedestrian and recreational connectivity between the neighborhood and the park's future amenities.

Key Considerations for Integration:

1. **Pedestrian Access & Connectivity**
    - Our development will provide a direct and well-integrated pathway that connects to the North Deering Park entrance. This will enhance accessibility for both residents and the surrounding community, encouraging walkability and non-motorized transportation to and from the park. The proposed plan also includes trailhead parking within the open space for use by the public to access the trail system.

2. **Land Use Compatibility**
    - The design of our residential neighborhood prioritizes green space and low-impact development practices to complement the natural setting of the park. By incorporating landscaping buffers and open space, we aim to create a smooth transition between the built environment and the preserved parkland. Raised boardwalks will also enhance the recreational use of the open space while creating a low impact to the on-site wetlands.

3. **Stormwater & Environmental Considerations**
    - Given the park's inclusion of wetlands and ecological features, our stormwater management system will be designed to minimize runoff impact through green infrastructure solutions such as infiltration, bio-retention areas, and permeable surfaces. This will help maintain water quality and preserve the park's natural resources.

4. **Community Enhancement & Collaboration**
    - We recognize the value of the North Deering Park as a future recreational hub and are committed to working with the City of Portland, local stakeholders, and conservation groups to ensure that our development supports and complements the park's master plan. Our site design will promote outdoor engagement, reinforce a sense of community, and facilitate easy, safe access to public open space.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

By integrating our development with the North Deering Park initiative, we are contributing to a well-connected, sustainable, and vibrant community space that enhances the quality of life for both future residents and the broader neighborhood. Our goal is to create a thoughtful, pedestrian-friendly residential environment that not only provides new housing opportunities but also strengthens the accessibility and usability of Portland's expanding park network.

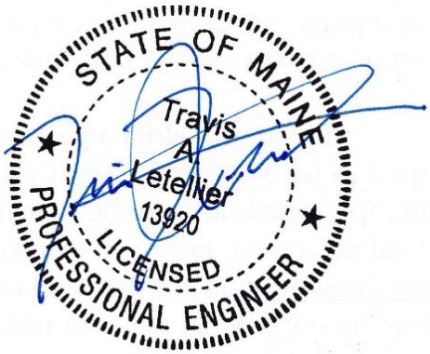
Att. L

STORMWATER MANAGEMENT REPORT

Deering Village

410 Auburn Street
Portland, Maine

Prepared for:
GreenMars
30 Exchange Street
Portland, Maine 04101



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APPENDICES

Appendix A HydroCAD Output: Pre-Development Condition
Appendix B HydroCAD Output: Post-Development Condition
Appendix C Soil Report
Appendix D Stormwater Calculations
Appendix E Inspection and Maintenance Plan

1) PROJECT DESCRIPTION

This Stormwater Management Report has been prepared for GreenMars to present the stormwater runoff results for a proposed affordable housing project in Portland, Maine. The property is identified parcels 383 A001001, 384 A009001 and 384 A020001 with total combined area of 4.21 acres.

The entirety of the site is forested, flat and sits on very poorly draining soil.

The development of the site will result in the following:

Road Development:

Proposed impervious area (on previously vegetated surface)	= 1.70 acres
Proposed developed area	= 2.47 acres
Proposed disturbed area	= 2.47 acres

2) STORMWATER NARRATIVE

2.1 SITE LOCATION

The project site is located on an undeveloped parcel at 410 Auburn Street in Portland, Maine. The property is currently unoccupied by development and consists of forested area.

2.2 RECEIVING WATERS

The site is drained to an unnamed drainage way that travels northnorthwest, traveling under the highway and through the Riverside Golf Course until it finally drains to the Presumpscot River adjacent to the I95 to I295 bypass.

2.3 HISTORIC FLOODING

The project site is not located with a floodplain as indicated on the Flood Insurance Rate Map for the City of Portland, Maine Cumberland County Panel 12 of 17. Map number 230051 0012C, dated December 8, 1998.

2.4 METHODOLOGY AND MODELING ASSUMPTIONS

Runoff and routing calculations have been performed for the watershed areas affected by the proposed development. Times of concentration and runoff curve number calculations have been determined using the method described in the Natural Resource Conservation Service (NRCS) Technical Release 55, (TR-55). Time of concentration calculations have been amended where the values given by the TR-55 method is less than five minutes. In these cases a standard minimum value of five minutes has been used to keep this parameter

within the acceptable working range of the model. Each Tc path and corresponding length and slope is identified in the pre and post development drainage area plan. The TR-20 based HydroCAD (version 10.0) modeling software has been utilized to perform the complex runoff and routing calculations.

Design rainfall has been modeled using the SCS Type III hydrograph for 24-hour duration storm events. The rainfall depth for each return period is taken from the Stormwater Management for Maine: Best Management Practices, Appendix H. The rainfall depth values utilized in the stormwater model are indicated in the table below.

24-Hour Rainfall Depths for Cumberland County			
Stormwater Management for Maine: Best Management Practices Appendix H			
Frequency	2-Year	10-Year	25-Year
Rainfall Depth	3.19	4.77	6.01

2.5 SOILS

Soil types in the area of the project were identified using the NRCS Web Soil Survey. The curve numbers (CN) utilized in this analysis relate to the ground cover that was observed on the site. Soils identified on the site (or within close proximity) are identified in the Table below. These soil boundaries have been identified on the Pre and Post Development Watershed Maps.

Soil Types	Symbol	HSG
Au Gres Loamy Sand	Au	D

2.6 PERMITTING REQUIREMENTS

The City of Portland

General Standard

Developments as specified under Section II Applicability in Portland must comply with the most recent version of the Maine Department of Environmental Protection (Maine DEP) Chapter 500 Rules for Stormwater Management (http://www.maine.gov/dep/land/stormwater/storm.html), including but not limited to the standards for Urban Impaired Stream, Basic, General, and Flooding Standards for the suitability, design, installation, and maintenance of systems to comply with the General and Flooding Standards are provided in Volume III of the Maine Stormwater Best Management Practices Manual

Applicability

Projects that require a Stormwater Permit pursuant to 38 M.R.S.A. Sec. 420-D (Stormwater Management Law) and projects that may substantially affect the environment and require a

site location of development (Site Law) permit pursuant to 38 M.R.S.A Sec 481-490 shall be reviewed for conformance with Chapter 500 under the City's Delegated Review Authority or by the Maine Department of Environmental Protection.

MDEP Permitting Requirements:

Basic Standards: The basic standards require that grading and other construction activities on the site do not impede or otherwise alter drainage ways to create an unreasonable adverse impact on a protected natural resource. The basic standards will be met by the implementation of an Erosion and Sedimentation Control Plan addressing erosion and sediment control during construction and post-construction stabilization of the site and through the implementation of Stormwater Management Facilities Maintenance Plan identifying various inspection, maintenance and general housekeeping procedures. A copy or the Stormwater Management Facilities Maintenance Plan is attached to this report.

The Erosion and Sedimentation Control Plan was developed following Best Management Practice (BMP) guidelines and has been placed directly on the design plans for reference during construction.

General Standards: The general standards consist of Best Management Practice (BMP) standards. The BMP standards require a project's stormwater management system to include treatment measures that will mitigate the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This must be achieved by using one or more MDEP approved methods to control runoff from no less than 95% of the proposed impervious area and no less than 80% of the proposed developed area associated with a project. As this project will create greater than one acre of new impervious surface area and is subject to MDEP General Standards. A DEP stormwater permit will be required for this project. It will also meet the MDEP General standards based on the requirements of Post-Construction Stormwater Infrastructure Management Ordinance

Flooding Standard: MDEP requires that projects which create 3 acres or more of impervious area and 20 acres or more of developed area or otherwise require review pursuant to the Site Location of Development Law must control the peak flow of runoff from the site to pre-development rates during the 2-year, 10-year and 25-year, 24-hour storms. As this project does not meet the above criteria the MDEP Flooding Standard does not apply. It will meet the MDEP Flooding standards based on the requirements of Post-Construction Stormwater Infrastructure Management Ordinance

2.7 PROPOSED BMPS

The majority of the site will be collected through a series of drywells and permeable pavers and then directly into underground crushed stone detention. Treatment will be provided via infiltration.

One underdrained soil filter pond will also be used to treat stormwater on site.

2.8 PROJECT IMPACTS

The total developed area associated with this project will be 2.47 acres of which 1.70 acres will be impervious cover, consisting of roads, paved access ways and roofs.

13,500 square feet of wetland is proposed to be altered as part of this project. A Maine DEP NRPA wetland permit and Army Corp of Engineers permit will be required for this alteration.

3) STORMWATER QUANTITY ANAYSIS

3.1 PRE-DEVELOPMENT CONDITIONS

Under pre-development conditions the site is modeled as a single watershed at the rear of the property that abuts City owned land.

3.2 POST- DEVELOPMENT CONDITIONS

Under the post-development condition, the site area is divided into five sub catchments in order to separate the developed area of the site from the undisturbed area. The same point of analysis is used for the post development calculations.

The watershed areas and times of concentration of the post-development watersheds vary from the existing conditions based on the proposed site development and grading. The Table below summarizes the results of the hydrologic analysis of the project under pre-development and post-development conditions.

3.3 STORMWATER QUANTITY SUMMARY

Stormwater Runoff Summary Table Pre-Development vs. Post-Development								
Study Point	Total Watershed Area (Ac)		**Peak Rates of Runoff (cfs)**					
			2-Year		**10-Year**		**25-Year**	
	Pre	**Post**	Pre	Post	Pre	**Post**	**Pre**	**Post**
SP-1	4.2	**4.2**	2.7	**2.6**	5.6	**4.3**	8.1	**6.0**

4) STORMWATER QUALITY ANALYSIS

Water quality treatment is provided by capturing sediment within deep sump catch basins and dry wells before entering underground crushed stone storage areas to be infiltrated into the groundwater. In addition to infiltration a single underdrained soil filter will be used to treat stormwater.

For treatment thresholds the project is broken into two categories, the linear portion of the project and the non-linear portion.

The linear portion of the project, the proposed new road, is required to treat 75% of impervious cover and 50% of the developed area, whereas the non-linear portion is required to treat 95% and 80% respectfully.

The linear portion contains a total developed area of 15,900 square feet of which 10,700 sf will be impervious. The total required treatment is 8,025 square feet of impervious and 7,950 square feet of developed area.

The non-linear portion contains a total developed area of 91,800 square feet of which 63,370 sf will be impervious. The total required treatment is 60,202 square feet of impervious and 73,440 square feet of developed area.

The total required treatment area is 68,227 square feet of impervious cover and 81,390 square feet of developed area.

Overall, the development proposed to treat 74,070 sf of the proposed impervious cover within the development and 107,570 sf of the developed area on the property.

5) CONCLUSIONS

The runoff and routing calculations demonstrate that the development will result in decreases in the peak rate to the Presumpscot River during the 2-year, 10-year and 25-year storm events.

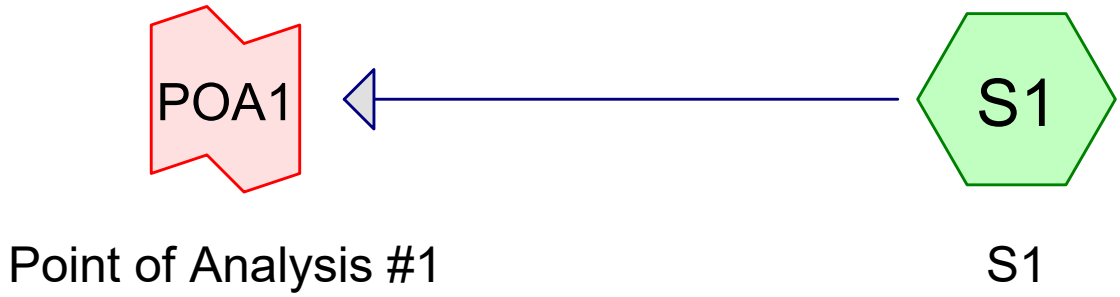
Stormwater runoff from this site has been designed to meet the MDEP Basic and General standards. As summarized, 74,070 square feet of impervious cover and 107,570 square feet of developed area will be treated.

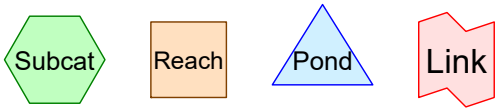
The proposed project is designed to fit into the topography and natural features of the site to the maximum extent practical. Stormwater runoff from the development will be captured, retained, and treated by means of infiltration along with an underdrained soil filter.

An Erosion and Sedimentation Control Plan will be implemented to address erosion and sediment control during construction and the post-construction stabilization of the site. These construction requirements have been developed following BMP guidelines and have been placed directly on the design plans for construction reference.

APPENDIX A

PRE-DEVELOPMENT HYDROCAD OUTPUT





Routing Diagram for PRE
Prepared by CivilX, LLc, Printed 8/27/2024
HydroCAD® 10.20-4a s/n 13287 © 2023 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se
Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se
Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.19	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.01	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
183,055	77	Woods, Good, HSG D (S1)
183,055	**77**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
183,055	HSG D	S1
0	Other	
183,055		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
0	0	0	183,055	0	183,055	Woods, Good	S1
0	**0**	**0**	**183,055**	**0**	**183,055**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S1: S1 Runoff Area=183,055 sf 0.00% Impervious Runoff Depth=1.20"
Flow Length=514' Slope=0.0200 '/' Tc=32.0 min CN=WQ Runoff=2.713 cfs 18,377 cf

Link POA1: Point of Analysis #1 Inflow=2.713 cfs 18,377 cf
Primary=2.713 cfs 18,377 cf

Total Runoff Area = 183,055 sf Runoff Volume = 18,377 cf Average Runoff Depth = 1.20"
100.00% Pervious = 183,055 sf 0.00% Impervious = 0 sf

Summary for Subcatchment S1: S1

Runoff = 2.713 cfs @ 12.46 hrs, Volume= 18,377 cf, Depth= 1.20"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

	Area (sf)	CN	Description
	183,055	77	Woods, Good, HSG D
*	0	93	Forested Wetland, HSG D
	183,055		Weighted Average
	183,055	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
9.8	414	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
32.0	514	Total			

Summary for Link POA1: Point of Analysis #1

Inflow Area = 183,055 sf, 0.00% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 2.713 cfs @ 12.46 hrs, Volume= 18,377 cf
Primary = 2.713 cfs @ 12.46 hrs, Volume= 18,377 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S1: S1 Runoff Area=183,055 sf 0.00% Impervious Runoff Depth=2.43"
Flow Length=514' Slope=0.0200 '/' Tc=32.0 min CN=WQ Runoff=5.642 cfs 37,096 cf

Link POA1: Point of Analysis #1 Inflow=5.642 cfs 37,096 cf
Primary=5.642 cfs 37,096 cf

Total Runoff Area = 183,055 sf Runoff Volume = 37,096 cf Average Runoff Depth = 2.43"
100.00% Pervious = 183,055 sf 0.00% Impervious = 0 sf

Summary for Subcatchment S1: S1

Runoff = 5.642 cfs @ 12.45 hrs, Volume= 37,096 cf, Depth= 2.43"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
	183,055	77	Woods, Good, HSG D
*	0	93	Forested Wetland, HSG D
	183,055		Weighted Average
	183,055	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
9.8	414	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
32.0	514	Total			

Summary for Link POA1: Point of Analysis #1

Inflow Area = 183,055 sf, 0.00% Impervious, Inflow Depth = 2.43" for 10-Year event
Inflow = 5.642 cfs @ 12.45 hrs, Volume= 37,096 cf
Primary = 5.642 cfs @ 12.45 hrs, Volume= 37,096 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S1: S1 Runoff Area=183,055 sf 0.00% Impervious Runoff Depth=3.49"
Flow Length=514' Slope=0.0200 '/' Tc=32.0 min CN=WQ Runoff=8.110 cfs 53,205 cf

Link POA1: Point of Analysis #1 Inflow=8.110 cfs 53,205 cf
Primary=8.110 cfs 53,205 cf

Total Runoff Area = 183,055 sf Runoff Volume = 53,205 cf Average Runoff Depth = 3.49"
100.00% Pervious = 183,055 sf 0.00% Impervious = 0 sf

Summary for Subcatchment S1: S1

Runoff = 8.110 cfs @ 12.44 hrs, Volume= 53,205 cf, Depth= 3.49"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

	Area (sf)	CN	Description
	183,055	77	Woods, Good, HSG D
*	0	93	Forested Wetland, HSG D
	183,055		Weighted Average
	183,055	77	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
9.8	414	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
32.0	514	Total			

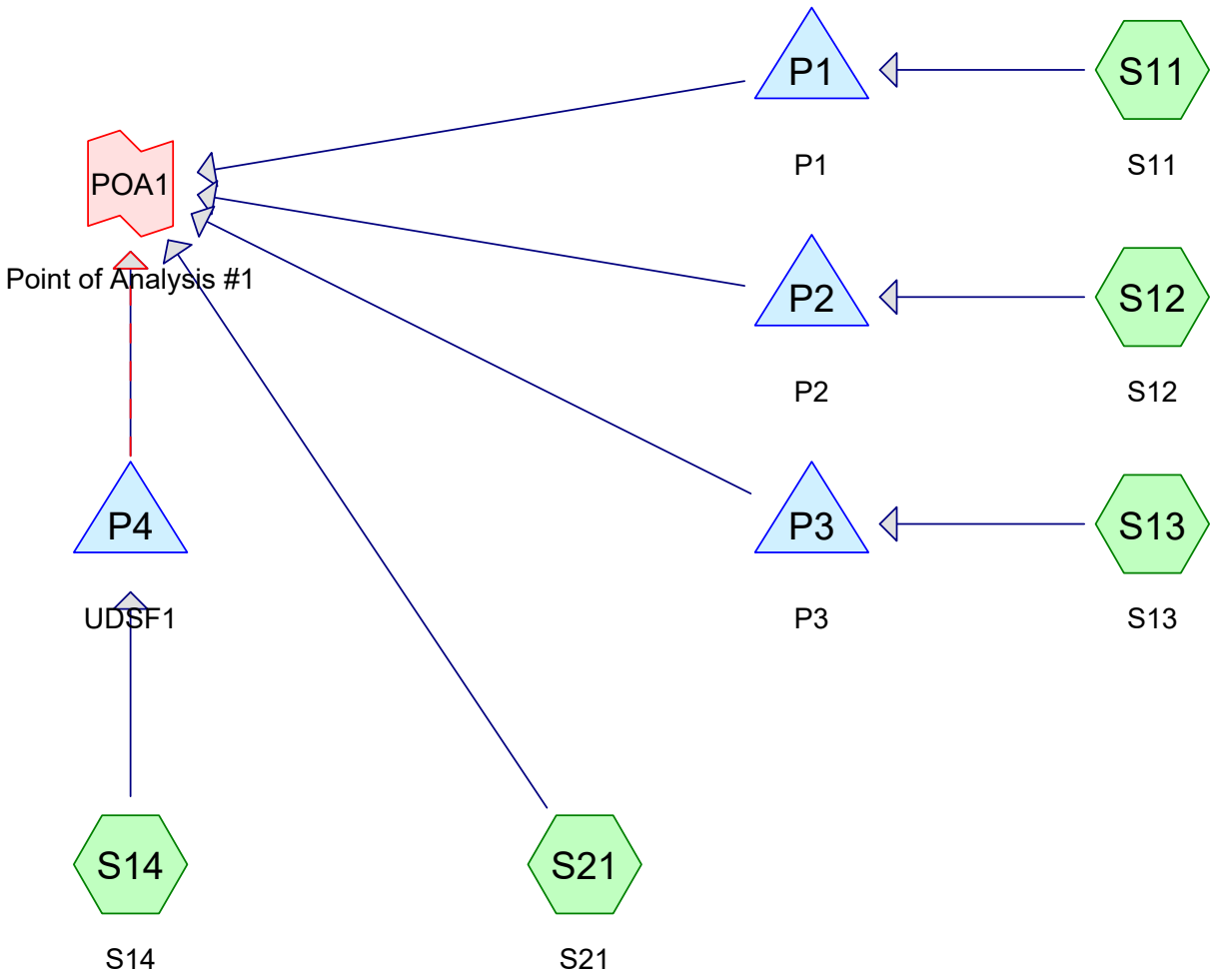
Summary for Link POA1: Point of Analysis #1

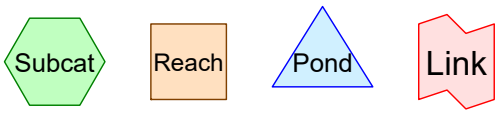
Inflow Area = 183,055 sf, 0.00% Impervious, Inflow Depth = 3.49" for 25-Year event
Inflow = 8.110 cfs @ 12.44 hrs, Volume= 53,205 cf
Primary = 8.110 cfs @ 12.44 hrs, Volume= 53,205 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

APPENDIX B

POST DEVELOPMENT HYDROCAD OUTPUT





Routing Diagram for POST_CRD
Prepared by CivilX, LLc, Printed 10/2/2025
HydroCAD® 10.20-5c s/n 13287 © 2023 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se
Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se
Rainfall events imported from "NRCS-Rain.txt" for 5105 ME Cumberland Se

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.19	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.01	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
10,124	80	>75% Grass cover, Good, HSG D (S11, S12, S13, S14)
12,000	98	Roofs, HSG D (S11, S12, S13)
56,073	98	Unconnected pavement, HSG D (S11, S12, S13, S14, S21)
6,000	98	Unconnected roofs, HSG D (S21)
98,883	77	Woods, Good, HSG D (S21)
183,080	**86**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
183,080	HSG D	S11, S12, S13, S14, S21
0	Other	
183,080		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	0	10,124	0	10,124	>75% Grass cover, Good	
0	0	0	12,000	0	12,000	Roofs	
0	0	0	56,073	0	56,073	Unconnected pavement	
0	0	0	6,000	0	6,000	Unconnected roofs	
0	0	0	98,883	0	98,883	Woods, Good	
0	**0**	**0**	**183,080**	**0**	**183,080**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	P1	129.00	128.50	30.0	0.0167	0.012	0.0	12.0	0.0	
2	P2	130.00	129.50	30.0	0.0167	0.012	0.0	12.0	0.0	
3	P3	130.00	129.00	60.0	0.0167	0.012	0.0	12.0	0.0	
4	P4	126.00	125.50	20.0	0.0250	0.013	0.0	12.0	0.0	

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S11: S11 Runoff Area=12,637 sf 92.19% Impervious Runoff Depth=2.84"
Tc=6.0 min CN=WQ Runoff=0.775 cfs 2,986 cf

Subcatchment S12: S12 Runoff Area=14,660 sf 96.04% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=WQ Runoff=0.916 cfs 3,538 cf

Subcatchment S13: S13 Runoff Area=20,537 sf 91.01% Impervious Runoff Depth=2.82"
Tc=6.0 min CN=WQ Runoff=1.252 cfs 4,821 cf

Subcatchment S14: S14 Runoff Area=27,760 sf 75.83% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=WQ Runoff=1.570 cfs 5,968 cf

Subcatchment S21: S21 Runoff Area=107,486 sf 8.00% Impervious Runoff Depth=1.34"
Flow Length=400' Slope=0.0200 '/' Tc=29.3 min UI Adjusted CN=WQ Runoff=1.844 cfs 12,047 cf

Pond P1: P1 Peak Elev=128.23' Storage=1,063 cf Inflow=0.775 cfs 2,986 cf
Discarded=0.049 cfs 2,988 cf Primary=0.000 cfs 0 cf Outflow=0.049 cfs 2,988 cf

Pond P2: P2 Peak Elev=129.92' Storage=1,175 cf Inflow=0.916 cfs 3,538 cf
Discarded=0.067 cfs 3,541 cf Primary=0.000 cfs 0 cf Outflow=0.067 cfs 3,541 cf

Pond P3: P3 Peak Elev=129.39' Storage=1,630 cf Inflow=1.252 cfs 4,821 cf
Discarded=0.087 cfs 4,826 cf Primary=0.000 cfs 0 cf Outflow=0.087 cfs 4,826 cf

Pond P4: UDSF1 Peak Elev=130.61' Storage=1,508 cf Inflow=1.570 cfs 5,968 cf
Primary=0.064 cfs 4,483 cf Secondary=1.682 cfs 1,487 cf Outflow=1.746 cfs 5,970 cf

Link POA1: Point of Analysis #1 Inflow=2.661 cfs 18,017 cf
Primary=2.661 cfs 18,017 cf

Total Runoff Area = 183,080 sf Runoff Volume = 29,359 cf Average Runoff Depth = 1.92"
59.54% Pervious = 109,007 sf 40.46% Impervious = 74,073 sf

Summary for Subcatchment S11: S11

Runoff = 0.775 cfs @ 12.13 hrs, Volume= 2,986 cf, Depth= 2.84"
Routed to Pond P1 : P1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
8,650	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
987	80	>75% Grass cover, Good, HSG D
12,637		Weighted Average
987	80	7.81% Pervious Area
11,650	98	92.19% Impervious Area
8,650		74.25% Unconnected

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

Summary for Subcatchment S12: S12

Runoff = 0.916 cfs @ 12.13 hrs, Volume= 3,538 cf, Depth= 2.90"
Routed to Pond P2 : P2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
11,080	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
580	80	>75% Grass cover, Good, HSG D
14,660		Weighted Average
580	80	3.96% Pervious Area
14,080	98	96.04% Impervious Area
11,080		78.69% Unconnected

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

Summary for Subcatchment S13: S13

Runoff = 1.252 cfs @ 12.13 hrs, Volume= 4,821 cf, Depth= 2.82"
Routed to Pond P3 : P3

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
12,690	98	Unconnected pavement, HSG D
6,000	98	Roofs, HSG D
1,847	80	>75% Grass cover, Good, HSG D
20,537		Weighted Average
1,847	80	8.99% Pervious Area
18,690	98	91.01% Impervious Area
12,690		67.90% Unconnected

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

Summary for Subcatchment S14: S14

Runoff = 1.570 cfs @ 12.13 hrs, Volume= 5,968 cf, Depth= 2.58"
Routed to Pond P4 : UDSF1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
21,050	98	Unconnected pavement, HSG D
0	98	Roofs, HSG D
6,710	80	>75% Grass cover, Good, HSG D
27,760		Weighted Average
6,710	80	24.17% Pervious Area
21,050	98	75.83% Impervious Area
21,050		100.00% Unconnected

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

Summary for Subcatchment S21: S21

Runoff = 1.844 cfs @ 12.42 hrs, Volume= 12,047 cf, Depth= 1.34"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.19"

Area (sf)	CN	Adj	Description
2,603	98	98	Unconnected pavement, HSG D
6,000	98	98	Unconnected roofs, HSG D
0	80		>75% Grass cover, Good, HSG D
98,883	77	77	Woods, Good, HSG D
107,486			Weighted Average
98,883	77	77	92.00% Pervious Area
8,603	98	98	8.00% Impervious Area
8,603			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
7.1	300	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
29.3	400	Total			

Summary for Pond P1: P1

Inflow Area = 12,637 sf, 92.19% Impervious, Inflow Depth = 2.84" for 2-Year event
Inflow = 0.775 cfs @ 12.13 hrs, Volume= 2,986 cf
Outflow = 0.049 cfs @ 11.40 hrs, Volume= 2,988 cf, Atten= 94%, Lag= 0.0 min
Discarded = 0.049 cfs @ 11.40 hrs, Volume= 2,988 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 128.23' @ 13.67 hrs Surf.Area= 4,200 sf Storage= 1,063 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 167.0 min (931.7 - 764.7)

Volume	Invert	Avail.Storage	Storage Description
#1	127.60'	5,040 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 12,600 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.60	4,200	0	0
130.60	4,200	12,600	12,600

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 129.00' / 128.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	130.10'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	127.60'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.049 cfs @ 11.40 hrs HW=127.63' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.049 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=127.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P2: P2

Inflow Area = 14,660 sf, 96.04% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.916 cfs @ 12.13 hrs, Volume= 3,538 cf
Outflow = 0.067 cfs @ 10.95 hrs, Volume= 3,541 cf, Atten= 93%, Lag= 0.0 min
Discarded = 0.067 cfs @ 10.95 hrs, Volume= 3,541 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 129.92' @ 13.51 hrs Surf.Area= 5,523 sf Storage= 1,175 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 129.4 min (892.0 - 762.6)

Volume	Invert	Avail.Storage	Storage Description
#1	129.40'	6,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 15,000 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.40	5,800	0	0
132.40	4,200	15,000	15,000

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	129.40'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.067 cfs @ 10.95 hrs HW=129.40' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.067 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=129.40' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P3: P3

Inflow Area = 20,537 sf, 91.01% Impervious, Inflow Depth = 2.82" for 2-Year event
Inflow = 1.252 cfs @ 12.13 hrs, Volume= 4,821 cf
Outflow = 0.087 cfs @ 11.55 hrs, Volume= 4,826 cf, Atten= 93%, Lag= 0.0 min
Discarded = 0.087 cfs @ 11.55 hrs, Volume= 4,826 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 129.39' @ 13.53 hrs Surf.Area= 7,500 sf Storage= 1,630 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 136.8 min (902.2 - 765.4)

Volume	Invert	Avail.Storage	Storage Description
#1	128.85'	9,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 22,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
128.85	7,500	0	0
131.85	7,500	22,500	22,500

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.00' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.35'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	128.85'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.087 cfs @ 11.55 hrs HW=128.88' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.087 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=128.85' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P4: UDSF1

Inflow Area = 27,760 sf, 75.83% Impervious, Inflow Depth = 2.58" for 2-Year event
Inflow = 1.570 cfs @ 12.13 hrs, Volume= 5,968 cf
Outflow = 1.746 cfs @ 12.16 hrs, Volume= 5,970 cf, Atten= 0%, Lag= 2.1 min
Primary = 0.064 cfs @ 12.16 hrs, Volume= 4,483 cf
Routed to Link POA1 : Point of Analysis #1
Secondary = 1.682 cfs @ 12.16 hrs, Volume= 1,487 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Peak Elev= 130.61' @ 12.16 hrs Surf.Area= 1,153 sf Storage= 1,508 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 167.4 min (942.3 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	129.00'	2,688 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.00	700	0	0
130.00	1,000	850	850
131.00	1,250	1,125	1,975
131.50	1,600	713	2,688

Device	Routing	Invert	Outlet Devices
#1	Primary	126.00'	**12.0" Round Culvert** L= 20.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.00' / 125.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	129.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Secondary	130.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.064 cfs @ 12.16 hrs HW=130.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.064 cfs of 7.656 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.064 cfs)

Secondary OutFlow Max=1.480 cfs @ 12.16 hrs HW=130.60' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 1.480 cfs @ 0.74 fps)

Summary for Link POA1: Point of Analysis #1

Inflow Area = 183,080 sf, 40.46% Impervious, Inflow Depth = 1.18" for 2-Year event
Inflow = 2.661 cfs @ 12.17 hrs, Volume= 18,017 cf
Primary = 2.661 cfs @ 12.17 hrs, Volume= 18,017 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S11: S11 Runoff Area=12,637 sf 92.19% Impervious Runoff Depth=4.39"
Tc=6.0 min CN=WQ Runoff=1.181 cfs 4,623 cf

Subcatchment S12: S12 Runoff Area=14,660 sf 96.04% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=WQ Runoff=1.387 cfs 5,450 cf

Subcatchment S13: S13 Runoff Area=20,537 sf 91.01% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=WQ Runoff=1.912 cfs 7,476 cf

Subcatchment S14: S14 Runoff Area=27,760 sf 75.83% Impervious Runoff Depth=4.09"
Tc=6.0 min CN=WQ Runoff=2.461 cfs 9,459 cf

Subcatchment S21: S21 Runoff Area=107,486 sf 8.00% Impervious Runoff Depth=2.60"
Flow Length=400' Slope=0.0200 '/' Tc=29.3 min UI Adjusted CN=WQ Runoff=3.662 cfs 23,289 cf

Pond P1: P1 Peak Elev=128.80' Storage=2,013 cf Inflow=1.181 cfs 4,623 cf
Discarded=0.049 cfs 4,315 cf Primary=0.000 cfs 0 cf Outflow=0.049 cfs 4,315 cf

Pond P2: P2 Peak Elev=130.41' Storage=2,241 cf Inflow=1.387 cfs 5,450 cf
Discarded=0.067 cfs 5,451 cf Primary=0.000 cfs 0 cf Outflow=0.067 cfs 5,451 cf

Pond P3: P3 Peak Elev=129.88' Storage=3,102 cf Inflow=1.912 cfs 7,476 cf
Discarded=0.087 cfs 7,479 cf Primary=0.000 cfs 0 cf Outflow=0.087 cfs 7,479 cf

Pond P4: UDSF1 Peak Elev=130.64' Storage=1,538 cf Inflow=2.461 cfs 9,459 cf
Primary=0.064 cfs 5,299 cf Secondary=2.374 cfs 4,086 cf Outflow=2.438 cfs 9,385 cf

Link POA1: Point of Analysis #1 Inflow=4.265 cfs 32,674 cf
Primary=4.265 cfs 32,674 cf

Total Runoff Area = 183,080 sf Runoff Volume = 50,295 cf Average Runoff Depth = 3.30"
59.54% Pervious = 109,007 sf 40.46% Impervious = 74,073 sf

Summary for Subcatchment S11: S11

Runoff = 1.181 cfs @ 12.13 hrs, Volume= 4,623 cf, Depth= 4.39"
Routed to Pond P1 : P1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
8,650	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
987	80	>75% Grass cover, Good, HSG D
12,637		Weighted Average
987	80	7.81% Pervious Area
11,650	98	92.19% Impervious Area
8,650		74.25% Unconnected

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

Summary for Subcatchment S12: S12

Runoff = 1.387 cfs @ 12.13 hrs, Volume= 5,450 cf, Depth= 4.46"
Routed to Pond P2 : P2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
11,080	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
580	80	>75% Grass cover, Good, HSG D
14,660		Weighted Average
580	80	3.96% Pervious Area
14,080	98	96.04% Impervious Area
11,080		78.69% Unconnected

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

Summary for Subcatchment S13: S13

Runoff = 1.912 cfs @ 12.13 hrs, Volume= 7,476 cf, Depth= 4.37"
Routed to Pond P3 : P3

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
12,690	98	Unconnected pavement, HSG D
6,000	98	Roofs, HSG D
1,847	80	>75% Grass cover, Good, HSG D
20,537		Weighted Average
1,847	80	8.99% Pervious Area
18,690	98	91.01% Impervious Area
12,690		67.90% Unconnected

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

Summary for Subcatchment S14: S14

Runoff = 2.461 cfs @ 12.13 hrs, Volume= 9,459 cf, Depth= 4.09"
Routed to Pond P4 : UDSF1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
21,050	98	Unconnected pavement, HSG D
0	98	Roofs, HSG D
6,710	80	>75% Grass cover, Good, HSG D
27,760		Weighted Average
6,710	80	24.17% Pervious Area
21,050	98	75.83% Impervious Area
21,050		100.00% Unconnected

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

Summary for Subcatchment S21: S21

Runoff = 3.662 cfs @ 12.41 hrs, Volume= 23,289 cf, Depth= 2.60"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Adj	Description
2,603	98	98	Unconnected pavement, HSG D
6,000	98	98	Unconnected roofs, HSG D
0	80		>75% Grass cover, Good, HSG D
98,883	77	77	Woods, Good, HSG D
107,486			Weighted Average
98,883	77	77	92.00% Pervious Area
8,603	98	98	8.00% Impervious Area
8,603			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
7.1	300	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
29.3	400	Total			

Summary for Pond P1: P1

Inflow Area = 12,637 sf, 92.19% Impervious, Inflow Depth = 4.39" for 10-Year event
Inflow = 1.181 cfs @ 12.13 hrs, Volume= 4,623 cf
Outflow = 0.049 cfs @ 10.65 hrs, Volume= 4,315 cf, Atten= 96%, Lag= 0.0 min
Discarded = 0.049 cfs @ 10.65 hrs, Volume= 4,315 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 128.80' @ 14.97 hrs Surf.Area= 4,200 sf Storage= 2,013 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 294.7 min (1,050.7 - 756.0)

Volume	Invert	Avail.Storage	Storage Description
#1	127.60'	5,040 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 12,600 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.60	4,200	0	0
130.60	4,200	12,600	12,600

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 129.00' / 128.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	130.10'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	127.60'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.049 cfs @ 10.65 hrs HW=127.63' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.049 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=127.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P2: P2

Inflow Area = 14,660 sf, 96.04% Impervious, Inflow Depth = 4.46" for 10-Year event
Inflow = 1.387 cfs @ 12.13 hrs, Volume= 5,450 cf
Outflow = 0.067 cfs @ 10.05 hrs, Volume= 5,451 cf, Atten= 95%, Lag= 0.0 min
Discarded = 0.067 cfs @ 10.05 hrs, Volume= 5,451 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 130.41' @ 14.79 hrs Surf.Area= 5,260 sf Storage= 2,241 cf

Plug-Flow detention time= 294.7 min calculated for 5,442 cf (100% of inflow)
Center-of-Mass det. time= 294.9 min (1,048.6 - 753.7)

Volume	Invert	Avail.Storage	Storage Description
#1	129.40'	6,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 15,000 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.40	5,800	0	0
132.40	4,200	15,000	15,000

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	129.40'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.067 cfs @ 10.05 hrs HW=129.40' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.067 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=129.40' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P3: P3

Inflow Area = 20,537 sf, 91.01% Impervious, Inflow Depth = 4.37" for 10-Year event
Inflow = 1.912 cfs @ 12.13 hrs, Volume= 7,476 cf
Outflow = 0.087 cfs @ 10.90 hrs, Volume= 7,479 cf, Atten= 95%, Lag= 0.0 min
Discarded = 0.087 cfs @ 10.90 hrs, Volume= 7,479 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 129.88' @ 14.71 hrs Surf.Area= 7,500 sf Storage= 3,102 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 296.5 min (1,053.2 - 756.7)

Volume	Invert	Avail.Storage	Storage Description
#1	128.85'	9,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 22,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
128.85	7,500	0	0
131.85	7,500	22,500	22,500

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.00' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.35'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	128.85'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.087 cfs @ 10.90 hrs HW=128.88' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.087 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=128.85' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P4: UDSF1

Inflow Area = 27,760 sf, 75.83% Impervious, Inflow Depth = 4.09" for 10-Year event
Inflow = 2.461 cfs @ 12.13 hrs, Volume= 9,459 cf
Outflow = 2.438 cfs @ 12.14 hrs, Volume= 9,385 cf, Atten= 1%, Lag= 0.8 min
Primary = 0.064 cfs @ 12.14 hrs, Volume= 5,299 cf
Routed to Link POA1 : Point of Analysis #1
Secondary = 2.374 cfs @ 12.14 hrs, Volume= 4,086 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Peak Elev= 130.64' @ 12.14 hrs Surf.Area= 1,159 sf Storage= 1,538 cf

Plug-Flow detention time= 136.8 min calculated for 9,369 cf (99% of inflow)
Center-of-Mass det. time= 132.0 min (898.6 - 766.5)

Volume	Invert	Avail.Storage	Storage Description
#1	129.00'	2,688 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.00	700	0	0
130.00	1,000	850	850
131.00	1,250	1,125	1,975
131.50	1,600	713	2,688

Device	Routing	Invert	Outlet Devices
#1	Primary	126.00'	**12.0" Round Culvert** L= 20.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.00' / 125.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	129.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Secondary	130.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.064 cfs @ 12.14 hrs HW=130.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.064 cfs of 7.689 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.064 cfs)

Secondary OutFlow Max=2.309 cfs @ 12.14 hrs HW=130.63' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 2.309 cfs @ 0.86 fps)

Summary for Link POA1: Point of Analysis #1

Inflow Area = 183,080 sf, 40.46% Impervious, Inflow Depth > 2.14" for 10-Year event
Inflow = 4.265 cfs @ 12.38 hrs, Volume= 32,674 cf
Primary = 4.265 cfs @ 12.38 hrs, Volume= 32,674 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment S11: S11 Runoff Area=12,637 sf 92.19% Impervious Runoff Depth=5.62"
Tc=6.0 min CN=WQ Runoff=1.500 cfs 5,915 cf

Subcatchment S12: S12 Runoff Area=14,660 sf 96.04% Impervious Runoff Depth=5.69"
Tc=6.0 min CN=WQ Runoff=1.756 cfs 6,955 cf

Subcatchment S13: S13 Runoff Area=20,537 sf 91.01% Impervious Runoff Depth=5.59"
Tc=6.0 min CN=WQ Runoff=2.431 cfs 9,573 cf

Subcatchment S14: S14 Runoff Area=27,760 sf 75.83% Impervious Runoff Depth=5.29"
Tc=6.0 min CN=WQ Runoff=3.166 cfs 12,244 cf

Subcatchment S21: S21 Runoff Area=107,486 sf 8.00% Impervious Runoff Depth=3.67"
Flow Length=400' Slope=0.0200 '/' Tc=29.3 min UI Adjusted CN=WQ Runoff=5.183 cfs 32,878 cf

Pond P1: P1 Peak Elev=129.31' Storage=2,868 cf Inflow=1.500 cfs 5,915 cf
Discarded=0.049 cfs 4,531 cf Primary=0.000 cfs 0 cf Outflow=0.049 cfs 4,531 cf

Pond P2: P2 Peak Elev=130.89' Storage=3,229 cf Inflow=1.756 cfs 6,955 cf
Discarded=0.067 cfs 5,615 cf Primary=0.000 cfs 0 cf Outflow=0.067 cfs 5,615 cf

Pond P3: P3 Peak Elev=130.33' Storage=4,433 cf Inflow=2.431 cfs 9,573 cf
Discarded=0.087 cfs 7,947 cf Primary=0.000 cfs 0 cf Outflow=0.087 cfs 7,947 cf

Pond P4: UDSF1 Peak Elev=130.66' Storage=1,568 cf Inflow=3.166 cfs 12,244 cf
Primary=0.065 cfs 5,598 cf Secondary=3.079 cfs 6,441 cf Outflow=3.144 cfs 12,039 cf

Link POA1: Point of Analysis #1 Inflow=5.957 cfs 44,917 cf
Primary=5.957 cfs 44,917 cf

Total Runoff Area = 183,080 sf Runoff Volume = 67,566 cf Average Runoff Depth = 4.43"
59.54% Pervious = 109,007 sf 40.46% Impervious = 74,073 sf

Summary for Subcatchment S11: S11

Runoff = 1.500 cfs @ 12.13 hrs, Volume= 5,915 cf, Depth= 5.62"
Routed to Pond P1 : P1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
8,650	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
987	80	>75% Grass cover, Good, HSG D
12,637		Weighted Average
987	80	7.81% Pervious Area
11,650	98	92.19% Impervious Area
8,650		74.25% Unconnected

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

Summary for Subcatchment S12: S12

Runoff = 1.756 cfs @ 12.13 hrs, Volume= 6,955 cf, Depth= 5.69"
Routed to Pond P2 : P2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
11,080	98	Unconnected pavement, HSG D
3,000	98	Roofs, HSG D
580	80	>75% Grass cover, Good, HSG D
14,660		Weighted Average
580	80	3.96% Pervious Area
14,080	98	96.04% Impervious Area
11,080		78.69% Unconnected

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

Summary for Subcatchment S13: S13

Runoff = 2.431 cfs @ 12.13 hrs, Volume= 9,573 cf, Depth= 5.59"
Routed to Pond P3 : P3

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
12,690	98	Unconnected pavement, HSG D
6,000	98	Roofs, HSG D
1,847	80	>75% Grass cover, Good, HSG D
20,537		Weighted Average
1,847	80	8.99% Pervious Area
18,690	98	91.01% Impervious Area
12,690		67.90% Unconnected

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

Summary for Subcatchment S14: S14

Runoff = 3.166 cfs @ 12.13 hrs, Volume= 12,244 cf, Depth= 5.29"
Routed to Pond P4 : UDSF1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

Area (sf)	CN	Description
0	77	Brush, Fair, HSG D
21,050	98	Unconnected pavement, HSG D
0	98	Roofs, HSG D
6,710	80	>75% Grass cover, Good, HSG D
27,760		Weighted Average
6,710	80	24.17% Pervious Area
21,050	98	75.83% Impervious Area
21,050		100.00% Unconnected

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

Summary for Subcatchment S21: S21

Runoff = 5.183 cfs @ 12.41 hrs, Volume= 32,878 cf, Depth= 3.67"
Routed to Link POA1 : Point of Analysis #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.01"

Area (sf)	CN	Adj	Description
2,603	98	98	Unconnected pavement, HSG D
6,000	98	98	Unconnected roofs, HSG D
0	80		>75% Grass cover, Good, HSG D
98,883	77	77	Woods, Good, HSG D
107,486			Weighted Average
98,883	77	77	92.00% Pervious Area
8,603	98	98	8.00% Impervious Area
8,603			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0200	0.08		**Sheet Flow, A-B Sheet** Woods: Light underbrush n= 0.400 P2= 3.00"
7.1	300	0.0200	0.71		**Shallow Concentrated Flow, B-C Shallow** Woodland Kv= 5.0 fps
29.3	400	Total			

Summary for Pond P1: P1

Inflow Area = 12,637 sf, 92.19% Impervious, Inflow Depth = 5.62" for 25-Year event
Inflow = 1.500 cfs @ 12.13 hrs, Volume= 5,915 cf
Outflow = 0.049 cfs @ 9.90 hrs, Volume= 4,531 cf, Atten= 97%, Lag= 0.0 min
Discarded = 0.049 cfs @ 9.90 hrs, Volume= 4,531 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 129.31' @ 16.33 hrs Surf.Area= 4,200 sf Storage= 2,868 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 264.8 min (1,016.5 - 751.7)

Volume	Invert	Avail.Storage	Storage Description
#1	127.60'	5,040 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 12,600 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.60	4,200	0	0
130.60	4,200	12,600	12,600

Device	Routing	Invert	Outlet Devices
#1	Primary	129.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 129.00' / 128.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	130.10'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	127.60'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.049 cfs @ 9.90 hrs HW=127.63' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.049 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=127.60' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P2: P2

Inflow Area = 14,660 sf, 96.04% Impervious, Inflow Depth = 5.69" for 25-Year event
Inflow = 1.756 cfs @ 12.13 hrs, Volume= 6,955 cf
Outflow = 0.067 cfs @ 9.35 hrs, Volume= 5,615 cf, Atten= 96%, Lag= 0.0 min
Discarded = 0.067 cfs @ 9.35 hrs, Volume= 5,615 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 130.89' @ 16.19 hrs Surf.Area= 5,003 sf Storage= 3,229 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 268.2 min (1,017.6 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1	129.40'	6,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 15,000 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.40	5,800	0	0
132.40	4,200	15,000	15,000

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	129.40'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.067 cfs @ 9.35 hrs HW=129.40' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.067 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=129.40' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P3: P3

Inflow Area = 20,537 sf, 91.01% Impervious, Inflow Depth = 5.59" for 25-Year event
Inflow = 2.431 cfs @ 12.13 hrs, Volume= 9,573 cf
Outflow = 0.087 cfs @ 10.20 hrs, Volume= 7,947 cf, Atten= 96%, Lag= 0.0 min
Discarded = 0.087 cfs @ 10.20 hrs, Volume= 7,947 cf
Primary = 0.000 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 130.33' @ 15.66 hrs Surf.Area= 7,500 sf Storage= 4,433 cf

Plug-Flow detention time= 360.8 min calculated for 7,933 cf (83% of inflow)
Center-of-Mass det. time= 276.3 min (1,028.8 - 752.4)

Volume	Invert	Avail.Storage	Storage Description
#1	128.85'	9,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 22,500 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
128.85	7,500	0	0
131.85	7,500	22,500	22,500

Device	Routing	Invert	Outlet Devices
#1	Primary	130.00'	**12.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.00' / 129.00' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	131.35'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	128.85'	**0.500 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.087 cfs @ 10.20 hrs HW=128.88' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.087 cfs)

Primary OutFlow Max=0.000 cfs @ 0.00 hrs HW=128.85' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.000 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.000 cfs)

Summary for Pond P4: UDSF1

Inflow Area = 27,760 sf, 75.83% Impervious, Inflow Depth = 5.29" for 25-Year event
Inflow = 3.166 cfs @ 12.13 hrs, Volume= 12,244 cf
Outflow = 3.144 cfs @ 12.14 hrs, Volume= 12,039 cf, Atten= 1%, Lag= 0.8 min
Primary = 0.065 cfs @ 12.14 hrs, Volume= 5,598 cf
Routed to Link POA1 : Point of Analysis #1
Secondary = 3.079 cfs @ 12.14 hrs, Volume= 6,441 cf
Routed to Link POA1 : Point of Analysis #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Peak Elev= 130.66' @ 12.14 hrs Surf.Area= 1,166 sf Storage= 1,568 cf

Plug-Flow detention time= 117.6 min calculated for 12,019 cf (98% of inflow)
Center-of-Mass det. time= 107.0 min (869.1 - 762.1)

Volume	Invert	Avail.Storage	Storage Description
#1	129.00'	2,688 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
129.00	700	0	0
130.00	1,000	850	850
131.00	1,250	1,125	1,975
131.50	1,600	713	2,688

Device	Routing	Invert	Outlet Devices
#1	Primary	126.00'	**12.0" Round Culvert** L= 20.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 126.00' / 125.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	129.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Secondary	130.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.065 cfs @ 12.14 hrs HW=130.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.065 cfs of 7.713 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.065 cfs)

Secondary OutFlow Max=2.989 cfs @ 12.14 hrs HW=130.66' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 2.989 cfs @ 0.94 fps)

Summary for Link POA1: Point of Analysis #1

Inflow Area = 183,080 sf, 40.46% Impervious, Inflow Depth > 2.94" for 25-Year event
Inflow = 5.957 cfs @ 12.38 hrs, Volume= 44,917 cf
Primary = 5.957 cfs @ 12.38 hrs, Volume= 44,917 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

APPENDIX C

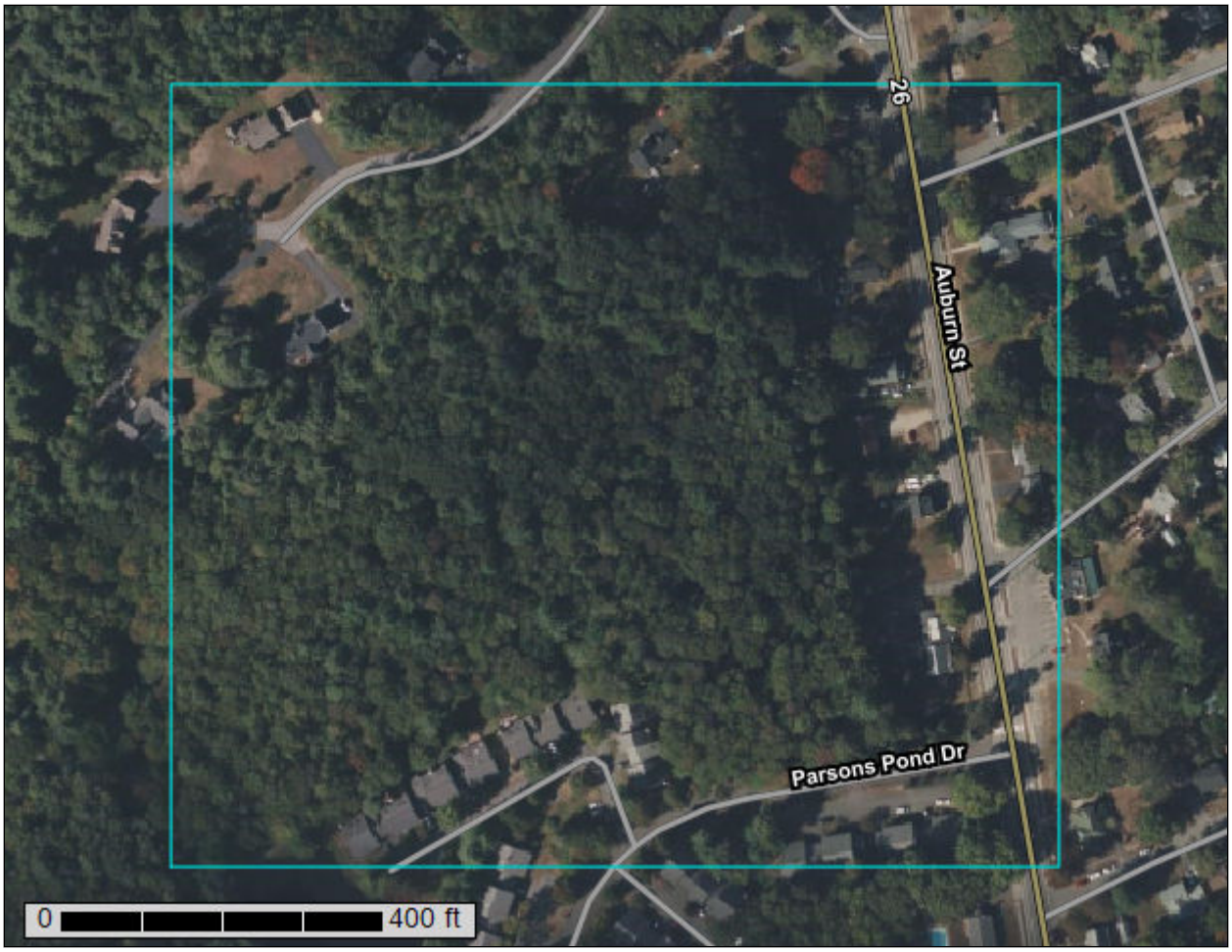
SOIL REPORT

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 Cumberland County and Part of Oxford County, Maine



August 6, 2024

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.

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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: 1:2,510 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

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 1:24,000.

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: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

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

MAP LEGEND	MAP INFORMATION
	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
Au	Au Gres loamy sand	15.1	60.9%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	4.3	17.2%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	3.8	15.5%
So	Scarboro sandy loam	0.7	3.0%
Wg	Whately fine sandy loam	0.9	3.5%
Totals for Area of Interest		**24.8**	**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.

Cumberland County and Part of Oxford County, Maine

Au—Au Gres loamy sand

Map Unit Setting

National map unit symbol: blgr
Elevation: 200 to 1,800 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Au gres and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Au Gres

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: loamy sand
H2 - 10 to 32 inches: loamy sand
H3 - 32 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

DeB—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9
Elevation: 0 to 1,190 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, kames, kame terraces, moraines, eskers, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

So—Scarboro sandy loam

Map Unit Setting

National map unit symbol: bljz
Elevation: 10 to 2,800 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

Oa - 0 to 8 inches: mucky peat
H2 - 8 to 24 inches: mucky sand
H3 - 24 to 65 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144BY301ME - Loamy Till Swamp, F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

Wg—Whately fine sandy loam

Map Unit Setting

National map unit symbol: blk8
Elevation: 10 to 900 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Whately and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Whately

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

Oa - 0 to 2 inches: moderately decomposed plant material
H1 - 2 to 9 inches: fine sandy loam
H2 - 9 to 21 inches: fine sandy loam
H3 - 21 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F144BY301ME - Loamy Till Swamp, F144BY304ME - Wet Clay Flat
Hydric soil rating: Yes

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APPENDIX D

STORMWATER CALCULATIONS

GreenMars Real Estate

30 Exchange Street, Portland, Maine 04101
Tel: 207-205-0208

Project:	Deering Village		
Sheet No.	1	Of	3
Calc by:	TAL	Date:	7.14.25
Check by:		Date:	
Scale:			

Sizing Calculations

Impervious Area:		12000	sf			
Landscaped Area:		2000	sf			
Filter Area:	A =	(5% impervious area)		+	(2% landscaped area)	
	A =	600	sf	+	40	sf
	A =	**640**	sf	Area Provided =	700	sf ✓
Volume:	V =	(1" x impervious area)		+	(0.4" x landscaped area)	
	V =	1000	cf		67	cf
	V =	**1067**	cf	Volume Provided =	1381	cf ✓
					at elev 130.5	

in a 25 year storm the pond detains 1,381 cf of water

Given:	1.0	in/hr, infiltration rate
	700	sf, filter area
	1381	cf, detention volume

Time = volume / rate

Rate	=	area	x	infiltratio rate				
Rate	=	700	x	1.0	=	0.02	cfs	

Time = 1381 / 0.02

Time = 23.7 hr

GreenMars Real Estate

30 Exchange Street, Portland, Maine 04101
Tel: 207-205-0208

Project:	Deering Village		
Sheet No.	2	Of	3
Calc by:	TAL	Date:	7.14.25
Check by:		Date:	
Scale:			

Sizing Calculations

Total site:

Impervious Area:	74070	sf
Landscaped Area:	33500	sf

Treated Area

Impervious Area:	74070	sf
Landscaped Area:	33500	sf

Total Site Volume Calculation

Volume: V = (1" x impervious area) + (0.4" x landscaped area)

V = 6173 cf 1117 cf

V = 7289 cf

Volume Provided = 12098 cf ✓
at 25-year storm event

Multiple of Required = **1.66** **

Treated Area Volume Calculation

Volume: V = (1" x impervious area) + (0.4" x landscaped area)

V = 6173 cf 1117 cf

V = 7289 cf

Volume Provided = 12098 cf ✓
at 25-year storm event

Multiple of Required = **1.66** **

** total peak comblined storage volume of all BMP's = 18,433 cf, or 2.5 times the requirment

GreenMars Real Estate			
	Project:	Deering Village	
	Sheet No.	3	Of 3
	Calc by:	TAL	Date: 7.14.25
30 Exchange Street, Portland, Maine 04101	Check by:		Date:
Tel: 207-205-0208	Scale:		

Linear & Non-Linear Treatment

Linear Portion

				Treatment Requirement		
Total Area =	15900	sf				
Dev Area =	15900	sf		50%	**7950**	sf
Imp Area =	10700	sf		75%	**8025**	sf

Non-Liinear Portion

				Treatment Requirement		
Total Area =	91800	sf				
Dev Area =	91800	sf		80%	**73440**	sf
Imp Area =	63370	sf		95%	**60202**	sf

Total Required Treatment on Site

Dev Area =	**81390**	sf
Imp Area =	**68227**	sf

Total Treated Area

Dev Area =	**107570**	sf	✓
Imp Area =	**74070**	sf	✓

APPENDIX E

INSPECTION AND MAINTENANCE PLAN

STORMWATER SYSTEM

INSPECTION, HOUSKEEPING, and OPERATION & MAINTENANCE PLAN

Deering Village – Auburn, Portland, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation controls as well as stormwater management devices for the project site. Also, this plan outlines several housekeeping requirements that shall be followed during and after construction. These procedures should be followed in order to ensure the intended function of the designed measures and to prevent unreasonable adverse impacts to the surrounding environment.

The procedures outlined in this inspection and maintenance plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.

2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (rainfall).

3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP

requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event. They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Temporary Storm Drain Inlet Protection:

- The inlet protection structure shall be inspected before each rain event and repaired as necessary.
- Sediment shall be removed and the storm drain sediment barrier restored to its original dimensions when the sediment has accumulated to half of the design depth of the trap.
- Structures shall be removed upon permanent stabilization of the tributary area.
- Upon removal of the structure, all accumulated sediments downstream of the structure shall be cleaned from the storm drain system.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

B. Groundwater protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that

prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

C. Fugitive sediment and dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

After Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in all applicable permits, shall conduct the inspections.

2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction.

A. Vegetated Areas:

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

B. Ditches, Swales, and Other Open Channels:

- Inspect ditches, swales and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions

to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.

- Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
- Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.
- Check dams located every 40' in roadside ditches along the steep portion of the driveway shall be inspected, cleaned of accumulated sediment, and repaired as needed to conform to original design detail, Exhibit B.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Catch Basins/Drywells/Outlet Control Structure:

- Inspect and, if required, clean-out catch basins and outlet control structures at least once a year, preferably in early spring.
- Clean out must include the removal and legal disposal of accumulated sediments and debris at the bottom of the basin, at any inlet grates, at any inflow channels to the basin, and at any pipes between basins.
- If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).

3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a

particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

4. **Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system.

GreenMars Real Estate Services
30 Exchange Street, Suite 203
Portland, ME 04101

Att. M

Preservation of Significant Natural Features
Deering Village
410 Auburn Street, Portland, Maine

- **High and moderate value waterfowl and wading habitat:**
  The site assessment indicates that no significant wildlife habitats are identified on the property. This finding assures that the proposed development can proceed without posing a threat to critical wildlife habitats. It underscores the commitment to environmental stewardship, ensuring that the project minimizes its impact on local ecosystems while promoting sustainable land use practices.

- **Aquifers (for Casco Bay Islands): (not applicable)**

- **Waterbodies (including wetlands, watercourses, significant vernal pools, and floodplains):**
  Stringent measures are in place to protect wetlands identified on the site. Preservation areas are designated to safeguard these sensitive habitats. By adhering to determinations from applicable state and federal agencies, the project ensures compliance with regulations governing waterbody protection.

  The wetland report goes into more detail regarding the scope and type of wetlands identified on the property.

- **Proposed preservation areas and protection measures:**
  Preservation areas are identified and protected to safeguard sensitive habitats and waterbodies. In conjunction with this, robust erosion control plans have been implemented to ensure that no detrimental downstream effects will be felt as a result of the development. These measures are designed to prevent erosion and sedimentation, thereby safeguarding critical ecosystems.

- **Documentation from environmental compliance consultants and determinations from applicable state and federal agencies:**
  Documentation from environmental compliance consultants and determinations from state and federal agencies play a crucial role in guiding preservation efforts and protection measures on the site. The absence of prior environmental impacts, as indicated by the Phase 1 environmental report, provides assurance of the site's environmental integrity. Through close collaboration with regulatory bodies and

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adherence to their determinations, the project upholds environmental compliance and ensures the responsible stewardship of natural resources.

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Att. M1

LID Narrative
Deering Village
410 Auburn Street, Portland, Maine

LID Scoring Summary – Stroudwater Commons
This document provides a section-by-section breakdown of how the Stroudwater Commons project meets the Low-Impact Development (LID) scoring criteria. Each section includes a description, maximum possible score, awarded score, and a narrative explaining the basis for the awarded points.

Core Methods: Natural Areas & Habitat
Protect Natural Drainage Paths

- *Required*
- The project site preserves existing natural drainage paths to maintain hydrological continuity. Site design avoids rerouting or channeling water flow, which reduces the need for extensive drainage infrastructure.

Preserve Threatened or Endangered Species Habitat

- *Required*
- The development utilizes Beginning with Habitat maps to confirm the absence of threatened or endangered species habitat. This ensures no disturbance of ecologically sensitive areas.

Protect 30% of Trees Over 10" DBH

- *Required*
- A tree survey was conducted, and development areas were adjusted to retain 44.5% (173 of 389) of mature trees, protecting canopy coverage and biodiversity.

Protect Intact Forests

- *Points Possible: 8 | Points Achieved: 4*
- The project avoids disturbance in areas that have remained forested and undisturbed for over ten years. Development is directed toward previously disturbed, filled or cleared areas, maintaining ecological integrity.

Core Methods: Wetlands, Streams, and Drainage
Protect Wetlands

- *Points Possible: 12 | Points Achieved: 0*
- The site impacts just under 15,000 square feet of wetlands on site and is designed to minimize to the maximum extent.

Protect Streams

- *Points Possible: 12 | Points Achieved: 12*
- No streams are identified on site.

Stream Crossings

- *Points Possible: 12 | Points Achieved: 12*
- No streams are identified on site.

Core Methods: Soils and Slopes

Avoid Steep Slope Disturbance

- *Points Possible: 5 | Points Achieved: 5*
- No steep slopes (15% or greater) are identified on site.

Protect Soils

- *Points Possible: 5 | Points Achieved: 5*
- A soil management plan was prepared using USDA Web Soil Survey data. The plan includes protection of highly permeable soils, erosion mitigation, and construction guidance.

Core Methods: Impervious Area and Stormwater Management

Limit Site Disturbance and Earthwork

- *Points Possible: 8 | Points Achieved: 8*
- Less than 50% of the previously undeveloped site is disturbed. The project maintains significant open space, limiting grading and soil compaction.

Soil Preparation and Minimizing Compaction

- *Points Possible: 6 | Points Achieved: 6*
- Site soils are tilled to a depth of 10 inches prior to revegetation. Organic matter is amended based on soil test results to restore fertility and infiltration capacity.

Low-Impact Landscaping

- *Points Possible: 6 | Points Achieved: 4*
- All landscaped areas utilize native vegetation, species identified in the Portland Technical Manual and locally-sourced materials. This approach enhances habitat compatibility and supports local plant communities.

Reduce Impervious and Increase Permeable Surfaces

- *Points Possible: 10 | Points Achieved: 7*
- The new private street is proposed to have 12 foot wide travel lanes minimizing impervious area to the greatest extent in the ROW.
- Development also reduces driveways from the private road by incorporating larger interconnected parking areas for the residents.
- Three of the four parking areas will incorporate permeable pavement and an extensive underground detention and infiltration system.

Use Green Infrastructure and Natural Stormwater Treatment Systems

- *Points Possible: 12 | Points Achieved: 6*
- No more than 1 acre is directed to each treatment system.

Limit Salt Use

Chloride Management

- *Points Possible: 4 | Points Achieved: 4*
- A winter maintenance agreement will be in place that limits chloride (salt) use. Annual reporting ensures compliance and protects water quality in sensitive watersheds.

Bonus Points

Structured Parking

- *Points Possible: 10 | Points Achieved: 0*
- No structured parking

Green Roof

- *Points Possible: 10 | Points Achieved: 0*

Restoration of Natural Resources

- *Points Possible: 10 | Points Achieved: 0*

BMPs for Impaired Watersheds

- *Points Possible: 10 | Points Achieved: 0*

Connection to City Sewer (Greater Than 200 Feet)

- *Points Possible: 10 | Points Achieved: 10*
- Despite the extended distance to city infrastructure, the development connects to municipal sewer, avoiding septic systems and reducing pollutant loading.

Detention of 1.5 Times Required Volume

- *Points Possible: 6 | Points Achieved: 6*
- Stormwater facilities are designed to detain 1.5 times the required volume, improving flood control and water quality.

Treatment of 1.5 Times Required Water Quality Volume

- *Points Possible: 6 | Points Achieved: 6*
- Stormwater facilities are designed to treat 1.5 times the required volume, improving flood control and water quality.

Innovative LID Site Design or Stormwater Improvement

- *Points Possible: 6 | Points Achieved: 0*

Traffic Demand Management Plan (Under 50,000 SF)

- *Points Possible: 10 | Points Achieved: 0*
- No TDM

Summary

- **Total Possible Points:** 178
- **Total Points Achieved:** 95
- **Minimum Points Required for Approval:** 80
- **Result:** Meets minimum requirements and demonstrates strong adherence to low-impact design principles.

City of Portland ME: Low-Impact Design Requirements

Owner / applicant name:	Deering Village, LLC			
Representative name:	Nate Green			
Project address:	410 Auburn Street			
Project CBL:				
Application ID (if known):	Deering Village			
	Maximum Points	**How to Apply**	**Points Awarded**	**LID Standard / Approach**
CORE METHODS: Wetlands, Streams, & Drainage				
Protect natural drainage paths	Required			
Shoreland Zoning	Required			
Meeting DEP and ACOE standards for stream crossings	Required			
Protect wetlands	**12**	Select one option		Select a site that does not have wetlands or vernal pools = 12pts
				Project maintains a 50' set-back / no-disturb buffer to all wetlands = 10pts
				Project maintains a 25' set-back / no-disturb buffer to all wetlands = 7pts
				Project does not place structures in wetlands and avoids wetlands impacts from construction and stormwater discharges = 5pts
				Project replicates impacted wetlands elsewhere on site or within watershed = 3pt
			0	Project pays wetlands impact fee = 0pts
Permanently protect stream (intermittent and perennial) and riparian buffers *(exclusive of approved stream crossings; must include a no-disturb zone with markers installed and deed restriction recorded at registry of deeds)*	**12**	Select one option	**12**	Select a site with no streams = 12pts
				Permanently protect all 100ft shoreline buffers = 10pts
				Permanently protect all 75ft shoreline buffers = 7pts
				Permanently protect all 50ft shoreline buffers (intermittent streams) = 6pts
				Permanently protect all 50ft shoreline buffers (required minimum for perennial streams) = 5pts
				Permanently protect all 25ft shoreline buffers (required minimum for intermittent streams) = 5pts
Stream crossings	**12**	Select one option	**12**	Select a site with no streams = 12pts
				Avoid any stream crossings = 10pts
				All stream crossings use a bridge or open bottom culvert structure sized at 1.2 times the bank full width of the stream = 10pts
				All stream crossings use Maine Stream Smart Principles to preserve natural pre-development drainage pathways = 6pts
CORE METHODS: Natural Areas & Habitat				
Preserve threatened or endangered species habitat	Required (Beginning with Habitat Maps at a minimum)			
Protect 30% of trees over 10" DBH	Required (Tree survey required)			
Protect intact, contiguous forests and native trees over 10" DBH	**8**	Select one option		All development and land disturbance outside of existing wooded/forested areas (no site clearing in prior 10 years) = 8pts
				Protect 50% of trees over 10" DBH = 6pts
			4	Protect 40% of trees over 10" DBH = 4pt

CORE METHODS: Soils & Slopes				
USDA Web Soil Survey	Required (provide details how soil limitations will be mitigated)			
Avoid steep slope disturbance	5	Select one option	5	Selecting a site without slopes 15% or greater = 5pts
				Maintain >20' undisturbed vegetated buffer to all slopes 15% or greater = 3pts
				Maintain 10-20' undisturbed vegetated buffer to all slopes 15% or greater = 2pts
				Maintain 1-10' undisturbed vegetated buffer to all slopes 15% or greater = 1pt
				Disturbance of any slope 15% or greater = 0pts
Protect soils	5	Select one option		Redevelopment sites = 5pts
			5	Detailed, site-specific soil survey; preparation of a Soil Management and Protection Plan; protect highly permeable soils = 5pts
Limit site disturbance and earthwork	8	Select one option		Redevelopment limits disturbance to existing footprint = 8pts
			8	New development disturbs less than 50% of existing undeveloped site area = 8pts
				New development disturbs less than 75% of existing undeveloped site area = 6pts
				New development disturbs greater than 75% of existing undeveloped site area = 0pts
Soil preparation & minimizing compaction	6	Select all options that apply	3	Till soils to a depth of at least 10" prior to revegetation = 3pts
			3	Organic matter amendments as needed based on soil tests = 3pts
CORE METHODS: Landscaping				
Low-Impact Landscaping	6	Select all options that apply		Redevelopment sites reduce lawn area by 50%, provided no increase in impervious area (lawn becomes landscaping) = 2pt
				New development results in >50% non-impervious developed area is landscaping = 2pt
			2	Use only native vegetation for landscaped areas = 2pts
			2	Using only locally-sourced landscape materials = 2pt
CORE METHODS: Impervious Area & SW Management				
Meeting City's stormwater management standards	Required			
Reduce impervious and increase permeable surfaces	10	Select all options that apply, up to a maximum of 10 points		50% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 6pts
				Minimize parking impervious area by using only the minimum required number of parking spaces, the minimum required parking lot dimensions, maximizing compact spaces and utilizing low-turnover standard parking space width reductions = 4pt
			3	25% or more of proposed hard surfaces are permeable (porous pavers, permeable concrete, porous asphalt) = 3pts
			2	Minimize roadway impervious area by developing roadways and driveways at the minimum width and using minimum number of curb cuts = 2pt
			2	Reducing the number of driveways by using a shared driveway design = 2pt
				Providing transportation alternatives (such as bike share, car share, or similar) = 2pt
Use GI / natural stormwater treatment systems	12	Select all options that apply		Treatment requirements and conveyance achieved through vegetated systems = 6pts
			3	No more than 1-acre of drainage per treatment system = 3pts
			3	Increase time of concentration on site (1" 25 year storm event) = 3pts
Limit / eliminate salt use	4	Select one option	4	Detailed winter maintenance agreement, with annual reporting requirement, limiting chloride use (required in UIS watersheds) = 4pts

Bonus Points				
Bonus points are offered for strategies that may go above and beyond typical approaches; may offer particularly innovative site design or engineering ; or may help achieve the larger goal of low-impact development on a regional scale.	10			Utilizing structured parking = 10pts
	10			Utilizing a green roof for at least 50% of a newly developed or redeveloped building roof = 10pts
	10			Restoration of previously disturbed natural resources (minimum 500 square feet of restoration) = 10pts
	10			BMPs designed for known water quality impairment within watershed = 10pts
	10		10	Connecting to City sewer from a site >200 ft from existing City infrastructure = 10pts
	6		6	Detention of 1.5 times the required volume = 6pts
	6		6	Treatment for 1.5 times the required water quality volume = 6pts
	6			Innovative LID site design and/or stormwater improvement - 6pts
	10			Establishing a Traffic Demand Management plan for projects under 50,000ft = 10pts
	Total Possible Points **178**		**Total Points Awarded** **95**	**Minimum points required for approval of LID strategies and techniques** **80**

Coppi Environmental, LLC
Wetland & Soil Services, Consulting & Permitting
PO BOX 226 Hollis Center, ME 04042
207.756.3245 cjc1829@gmail.com

Att. M3

May 23, 2025

Deer Village LLC, c/o Nate Green
30 Exchange Street
Portland, ME 04101

RE: *Wetland Delineation;* 410 Auburn Street (Rohani parcels), Portland, *MAINE*.

Dear Mr. Green:

At your request, I performed a wetland delineation at the above-mentioned property on May 12th, 2025. The wetland boundary was flagged in blue using alphanumerical labels and was field located using a sub-meter GPS. Attached to this report is the Wetland Delineation Plan illustrating the extent of wetland on the property. Forested wetlands were identified on both sides of the ROW. During the delineation, I did not observe any vernal pools. Wetlands were delineated in accordance with the Army Corps Northeast/Northcentral Wetland Delineation methods. This report is an informal summary of the wetland characteristics and applicable wetland regulations to this property.

Forested wetlands were dominated by overstory Red Maple and Balsam Fir and a Maleberry and Yellow-birch, shrub understory. In the interior of the wetland, soils were very poorly drained, hydric soils with a high-water table up to the surface. At the exterior of the wetland, soils transitioned to poorly drained, hydric soils. Transition to upland, and non-wetland conditions were characterized by a change in vegetation to upland species such as Hemlock, Pine, Beech and Oak in the overstory and Witch Hazel, Hemlock, Beech and Choke Cherry in the understory. In some areas, the wetland edge was dictated by the presence or absence of primary hydrology, namely a high-water table, typically at the exterior edges of the wetland area.

Wetlands are a protected natural resource with the State of Maine under the Natural Resources Protection Act (NRPA). Activities in, on or over the wetlands require review and approval under the NRPA by the Maine Department of Environmental Protection (MDEP). Regulated activities include filling, soil disturbance, clearing of wetland vegetation and the construction of structures.

These forested wetlands are also protected and regulated by the Army Corps of Engineers (federal government) per Section 404 of the Clean Water Act (CWA). The Corps require permits for discharges to wetlands and waterbodies, namely dredging or filling of the wetland. Wetland impacts totaling 5,000 SF or more trigger compensation with the Corps.

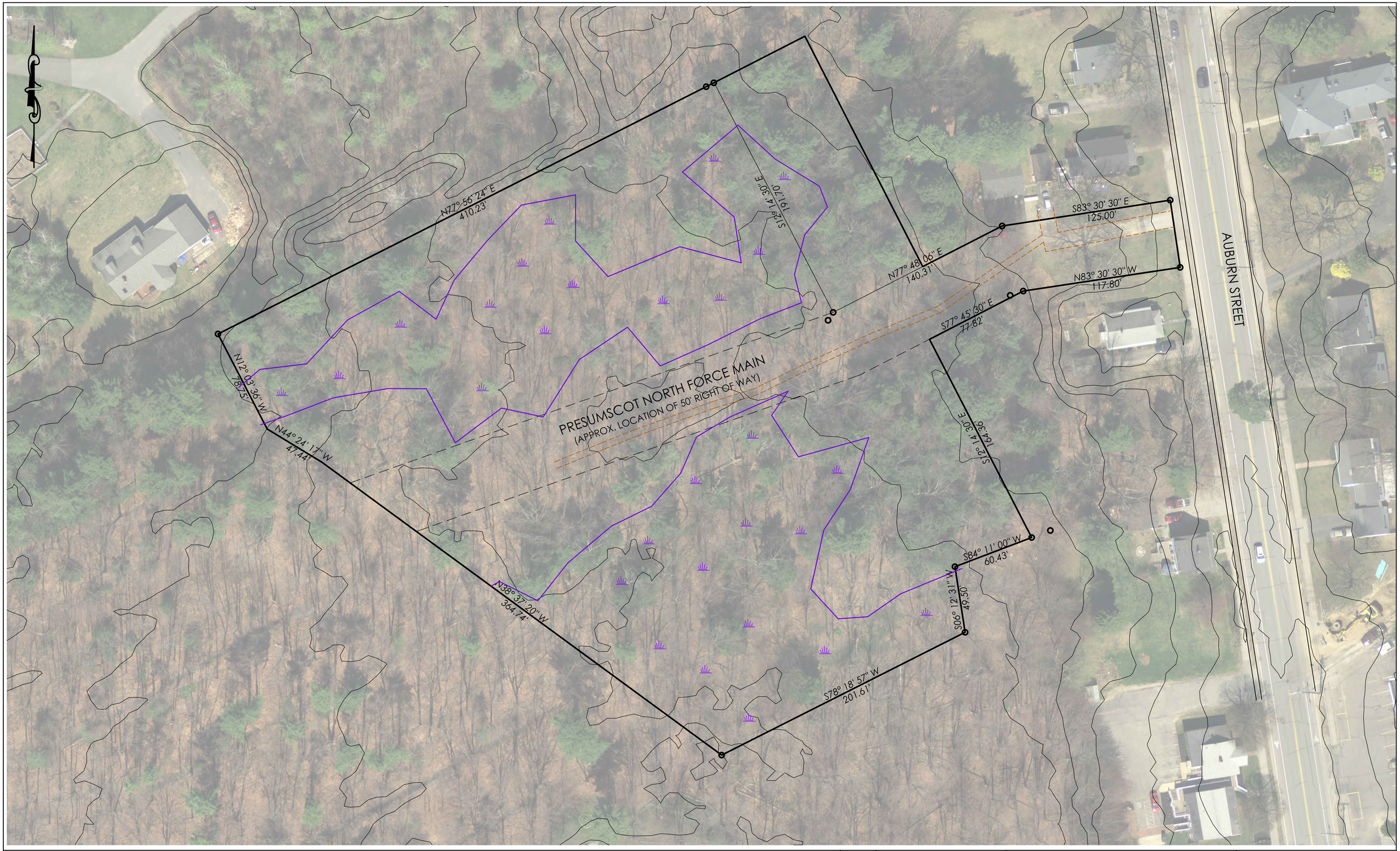
During the delineation, no Wetlands of Special Significance (WOSS's), per Chapter 310 of the NRPA, were observed on the properties. As such, it appears that proposed wetland impacts on the property would be subject to DEP's typical Tier wetland review process. Direct wetland impacts (eg. Fill) exceeding 14,999 SF require compensation.

Wetlands may or may not, be regulated by the City of Portland under certain review projects and if the wetland is located in the Shoreland Zone. Per the City GIS as of May 23rd, 2025, no shoreland zones appear to occur on the property. Please verify with the City of Portland on any wetland regulations outside of the typically shoreland zoning regulations.

If you have any questions or matters for further discussion, please don't hesitate to contact me. I can be reached by phone at 756-3245 or by email at cjc1829@gmail.com.

Sincerely,

Christopher J. Coppi LSS, LSE, CWS
Consulting Wetland and Soil Scientist



GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

MAP COMPILED FROM:
- *TOWN OF PORTLAND TAX MAP
- *SURVEY PLAN BY BH2M DATED JUNE 2024
- *AERIAL PHOTOGRAPH FROM THE MAINE OFFICE OF GIS
- *2' TOPOGRAPHIC CONTOURS FROM THE MAINE OFFICE OF GIS
- *ON SITE LOCATIONS UTILIZING TRIMBLE TDC650 HANDHELD UNIT

LEGEND

FORESTED WETLAND

DATE:	REVISIONS:

Coppi Environmental, LLC
Wetland & Soil Services, Consulting & Permitting
PO BOX 226 Hollis Center, ME 04042
207.756.3245 cjc1829@gmail.com

Drawn By: B.J. | Checked By: C.C.

Date: 5/1/2025 | Scale: 1" = 30'

WETLAND DELINEATION PLAN

PREPARED FOR
DEERING VILLAGE, LLC

410 AUBURN STREET

PORTLAND, MAINE

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Portland, ME 04101

Att. N

Access and Circulation

- **Site Access and Internal Circulation, including ADA Access:**
  The project's primary access point off Congress Street ensures smooth ingress and egress for visitors and employees alike. A well-designed internal circulation plan ensures easy navigation within the site, with special attention given to ADA accessibility. Ramps and pathways are strategically positioned to comply with ADA regulations, guaranteeing that individuals with disabilities can traverse the site comfortably and safely.

- **Drive-Up Features, (not applicable)**

- **Loading and Servicing Needs, Routes, and Geometry:**
  Efficient loading and servicing are critical aspects of the project's functionality, especially considering the presence of a single dead-end turnaround on the site. Meticulous planning has gone into the design of dedicated routes and geometric configurations to facilitate seamless movement for delivery vehicles and service providers within this constrained space. Turning templates have been carefully created to accommodate various vehicle sizes and maneuverability needs, ensuring that loading and servicing operations can be executed with precision and minimal disruption to the site's operations, despite the logistical challenges posed by the dead-end configuration.

- **Sidewalks and Condition Along Street Frontages and Internal Walkways:**
  Sidewalk infrastructure is systematically deployed on one side of the road and within the parking lots to reduce impervious cover on the site while maintaining accessible routes. Precise demarcations and signage placements strategically guide pedestrian traffic, bolstering efficient circulation patterns throughout the site and maximizing accessibility across multiple entry points.

- **Engineered Details for ADA Ramps and Public Sidewalks:**
  Engineered details for ADA ramps and public sidewalks adhere strictly to established standards outlined in the Technical Manual, Section 1. Each aspect of sidewalk design, including materials and construction techniques, is carefully considered to meet policy requirements. ADA ramps are designed with precision to provide accessibility for individuals with disabilities, ensuring compliance with regulations and fostering inclusivity within the built environment.

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Att. O

Availability and Adequacy of Public Utilities

- **Electrical services, including providing underground services:**
  The site's electrical infrastructure is engineered to deliver reliable and resilient power distribution. Underground electric service deployment to all buildings on-site is planned, optimizing safety and minimizing visual clutter. This design approach adheres to modern urban development standards, prioritizing both functionality and aesthetic appeal while ensuring uninterrupted access to electricity, particularly during adverse weather conditions or construction activities.

- **Existing and proposed connections for public utilities and required public utility upgrades:**
  Comprehensive assessments of existing and proposed connections for public utilities are conducted to ensure seamless integration with essential infrastructure, water and sewer services. Preliminary designs are undergoing rigorous scrutiny by utility providers. Addressing necessary upgrades or modifications upfront minimizes potential service disruptions and optimizes construction sequencing. By adhering to regulatory requirements and technical standards, the project streamlines utility integration processes, enhancing operational resilience and minimizing long-term maintenance costs.

- **Sewer line connections:**
  Sewer connections undergo thorough review processes to ensure compliance with regulatory standards and utility guidelines. Proposed within the development are gravity sewer lines, strategically engineered to facilitate efficient wastewater conveyance. Connection points to the public infrastructure have been coordinated with Portland's department of public works. The site will be served by a pump station.

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Att. P

Public Transit

The project integrates seamlessly with existing transit infrastructure while proposing enhancements to public transit accessibility.

A sidewalk connection to Auburn Street is designed to facilitate seamless integration with public transit and accessibility. This connection serves to enhance pedestrian access to the existing bus stops on Auburn Street while promoting pedestrian safety and convenience.

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Att. Q

Solid Waste Management Plan
Deering Village
410 Auburn Street, Portland, Maine

1. Introduction

This Solid Waste Management Plan outlines the strategies and practices for handling solid waste at Stroudwater Commons ensuring compliance with the City of Portland, Maine's standards and regulations. Our goal is to maintain a clean, safe, and environmentally responsible community by implementing effective waste collection, recycling, and disposal methods.

2. Waste Collection System

a. Dumpster Placement

To facilitate efficient waste disposal, dumpsters will be strategically located at the end of each parking lot within the development. These locations are chosen to provide convenient access for residents while minimizing visual impact and ensuring safety.

b. Private Hauler Services

We will engage a licensed private waste hauler to manage the regular collection of solid waste from the dumpsters. The hauler will adhere to all applicable city regulations and collection schedules to ensure timely and efficient service.

3. Recycling Program

In alignment with Portland's commitment to sustainability, a comprehensive recycling program will be implemented:

- **Recycling Containers:** Designated recycling bins will be provided alongside each dumpster to encourage proper sorting of recyclable materials.
- **Educational Materials:** Residents will receive information on acceptable recyclable items and proper sorting techniques to maximize participation and effectiveness.

4. Compliance with City Regulations

Our waste management practices will comply with the City of Portland's solid waste and recycling ordinances, including:

- **Solid Waste Storage:** Ensuring all waste is stored in durable, covered containers to prevent littering and access by pests.
- **Collection Frequency:** Scheduling waste pickups at intervals that prevent overflow and maintain sanitary conditions.
- **Recycling Requirements:** Adhering to the city's mandatory recycling policies to reduce landfill use and promote environmental stewardship.

5. Resident Engagement

To foster community involvement and ensure the success of our waste management plan:

- **Orientation Sessions:** New residents will be briefed on waste disposal procedures and the importance of recycling.
- **Ongoing Communication:** Regular updates and reminders will be provided to keep residents informed about any changes or important information regarding waste services.

6. Monitoring and Improvement

We are committed to continuous improvement of our waste management practices:

- **Regular Assessments:** Periodic evaluations will be conducted to identify areas for enhancement in waste collection and recycling efforts.
- **Resident Feedback:** We will encourage and consider resident suggestions to improve the efficiency and effectiveness of our waste management system.

7. Conclusion

By implementing this Solid Waste Management Plan, Stroudwater Commons aims to provide a clean, sustainable, and compliant living environment. Through strategic planning, resident participation, and adherence to city regulations, we strive to contribute positively to Portland's environmental goals.

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Att. R

Off Street Parking

The proposed vehicular and bicycle parking supply is carefully planned to align with the requirements set forth in Article 19 of the land use code. This comprehensive approach ensures that an adequate number of parking spaces are provided to accommodate both automobiles and bicycles, with a particular emphasis on inclusivity through the provision of ADA-compliant parking spots.

Curb cut separation and parking layout are thoroughly considered in accordance with the guidelines outlined in the Technical Manual, Section 1. By adhering to these standards, the site achieves optimal traffic flow and pedestrian safety, while also maximizing parking efficiency. Thoughtful placement of curb cuts and parking spaces minimizes conflicts between vehicles and pedestrians, enhancing overall site accessibility and functionality.

Construction details for bicycle racks are integrated into the site plan, reflecting a commitment to promoting sustainable transportation options. These racks are strategically positioned within the parking lots, providing secure and convenient storage for cyclists. Each rack is constructed to withstand daily use and adverse weather conditions, ensuring durability and longevity.

A comprehensive management plan for snow storage and removal has been prepared to address the site's limited snow storage capacity. Designated areas for snow storage are identified on the plans, optimizing space utilization without compromising parking availability. Additionally, arrangements will be made for snow removal from the property in the event of larger snowstorms, guaranteeing that all parking spaces remain accessible and operational throughout the winter months.

Despite the site's adjacency to public bus lines, a total of 146 off street parking spaces are proposed to accommodate various transportation needs. Among these, ten spaces are specifically designated as ADA compliant to ensure accessibility for individuals with disabilities. While the site may not mandate parking due to its proximity to public transit, the inclusion of parking spaces reflects a proactive approach to catering to diverse commuting preferences and addressing potential demand from visitors and employees. The distribution and design of these parking spaces are meticulously planned to optimize utilization and accessibility, contributing to the overall functionality and convenience of the site.

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Att. S

Public Safety and Fire Protection

- **Compliance with Crime Prevention through Environmental Design (CPTED) Requirements:**
  The site's design prioritizes compliance with Crime Prevention through Environmental Design (CPTED) requirements as outlined in the Technical Manual, Section 3. Measures such as adequate lighting, clear sightlines, and strategic landscaping are integrated into the layout to enhance security and discourage criminal activity. By fostering a safe and welcoming environment, the design promotes a sense of community and contributes to overall occupant well-being.

- **Emergency Vehicle Access:**
  Emergency vehicle access is a paramount consideration in the site's planning. Wide accessways are carefully positioned throughout the development to ensure unimpeded passage for emergency vehicles. Additionally, a dead-end turnaround is strategically located at the end of the new road, facilitating easy maneuverability for fire trucks and other emergency response vehicles. These provisions are essential for timely emergency response and effectively mitigate potential risks to life and property.

- **Consistency with Public Safety Standards:**
  The project's design adheres to public safety standards outlined in the Technical Manual, Section 3. Installation of sprinkler systems in all buildings ensures comprehensive fire protection, minimizing the risk of fire-related incidents and mitigating potential damage. Furthermore, the proposal for a new public fire hydrant within the development enhances firefighting capabilities, providing reliable access to water resources in the event of an emergency. By aligning with established public safety standards, the project prioritizes the well-being and security of its occupants and surrounding community.

  The sprinkler system installation is vital for fire prevention on the site. Strategically placed throughout all buildings, these systems swiftly suppress fires, minimizing damage and enhancing occupant safety. Regular maintenance ensures their effectiveness, providing readiness for any fire-related emergencies.

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Att. T

Design Narrative
Deering Village
410 Auburn Street, Portland, Maine

1. Introduction

Deering Village is a thoughtfully designed residential community located in Portland, Maine. The project aligns with the City of Portland's Design Manual and reflects a commitment to high-quality urban planning, sustainability, and neighborhood integration. The development emphasizes efficient land use, infrastructure resilience, and environmental stewardship while creating a safe, welcoming environment for residents.

This narrative outlines how Deering Village meets or exceeds the City's Design Manual requirements, incorporating a public roadway, underground stormwater management, trail connectivity, a clubhouse amenity building, off-street parking, rear-building parking placement, and significant integration of open space and pedestrian-oriented features.

---

2. Compliance with the City of Portland Design Manual

Deering Village's design reflects compliance with all applicable sections of the City of Portland Design Manual, supporting safety, accessibility, and sustainability throughout the development.

A. Site Design & Layout

✓ Private Road Infrastructure

- Deering Village introduces a new private roadway built to city standards for width, materials, stormwater drainage, and emergency access.
- The road network ensures smooth circulation for vehicles, pedestrians, and bicycles while preserving the surrounding environment.
- The design includes space for public utilities, street trees, and pedestrian-scale lighting.

✓ Off-Street Parking & Rear-Located Parking

- All residential parking is off-street and located behind buildings to maintain a clean and inviting streetscape.
- Landscaped buffers and lighting are incorporated into parking areas to enhance aesthetics, security, and user comfort.
- The parking configuration meets zoning standards and maximizes efficient land use.

✓ Pedestrian-Friendly Design & Connectivity

- Sidewalks and walkways are integrated throughout the neighborhood, offering safe pedestrian access to homes, the adjacent park, and open spaces.
- The site design includes direct connections to adjacent and regional trail network and public park, encouraging recreation and non-motorized transportation.
- Pedestrian crossings, bike racks, and pathway lighting support active living and community connectivity.

B. Stormwater Management & Environmental Considerations

✓ Underground Stormwater Detention & Treatment System Using Infiltration

- Deering Village includes a subsurface stormwater management system that meets Portland's Stormwater Management Manual and state environmental requirements.
- The majority of Stormwater is detained under the parking lots in large crushed stone reservoirs. From there it will be infiltrated into the existing soils.
- A small soil filter pond and roof dripline filters will treat additional stormwater flows.
- This low-impact system maximizes usable open space and is designed for long-term reliability and low maintenance.
- Overflow from these systems will be directed to stabilized riprapped locations adjacent to the exiting wetlands on site. This flow will be able to flow along natural/existing drainage paths.

✓ Erosion & Sediment Control

- A robust erosion and sediment control plan ensures minimal soil disruption and protection of nearby natural resources during construction.
- Best practices such as silt fencing, phased grading, and sediment basins will be implemented to maintain environmental compliance.

✓ Green Infrastructure & Sustainable Development

- The development incorporates low-impact strategies including native vegetation, and mature tree preservation.
- Landscaping emphasizes drought-tolerant species and natural stormwater filtration to reduce irrigation and promote ecological resilience.

C. Open Space & Community Integration

✓ Strategic Open Space Planning

- Deering Village features open space throughout the site, including a raised boardwalks, walking trails, and green buffers.
- The project connects directly to local and regional trail systems, providing recreational access and promoting an active lifestyle.

✓ Habitat Conservation & Landscaping

- Landscaping includes native and adapted plantings that support pollinators, biodiversity, and seasonal beauty.
- Tree-lined streets, vegetated buffers, and conserved open space areas contribute to community aesthetics and environmental performance.

D. Architectural & Structural Design Compliance

✓ Building Orientation & Streetscape Design

- Homes are oriented to maximize solar access and natural light while maintaining a cohesive, attractive streetscape.
- Building design incorporates architectural elements consistent with Portland's character and residential design guidelines.

✓ Energy Efficiency & Sustainability Features

- Structures meet energy efficiency standards through use of:
  - High-performance building envelopes
  - Energy-efficient HVAC systems and LED lighting
  - Low-flow plumbing fixtures and rainwater collection measures

✓ Outdoor Lighting & Safety Considerations

- Exterior lighting will be dark-sky compliant, minimizing light pollution and preserving nighttime visibility.
- Pedestrian-scale lighting along walkways, roads, and the clubhouse enhances safety and accessibility while maintaining energy efficiency.

3. Conclusion

Deering Village is a forward-thinking, environmentally responsible residential development that aligns with Portland's vision for sustainable and connected neighborhoods. Highlights of the project include:

- A private road network that meets safety and accessibility standards
- An underground stormwater management system with LID treatment
- Integration of pedestrian pathways, public trails, and bike-friendly features
- Energy-efficient homes and resilient infrastructure
- Well-planned open spaces and native landscaping that enrich quality of life

Deering Village offers high-quality housing while preserving and enhancing the surrounding environment. This development strengthens Portland's urban fabric, expands access to outdoor spaces, and reflects a commitment to long-term community resilience.

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Att. U

Landscaping Narrative
Deering Village
410 Auburn Street, Portland, Maine

The project development area currently contains a number of mature trees and a significant amount of forested wetlands. The entire site is currently wooded.

All existing vegetation within the limits of disturbance will be removed and the underlying soils amended to support long-term landscape health. A total of 389 mature trees are identified on the property, 173 (44.5%) of them will be preserved as part of the open space on the property.

In place of these low-quality plantings, the plan introduces a robust, four-season palette of over **100 new trees in addition to shrubs, ornamental grasses, and perennials**. Canopy species such as red maple, American sycamore, and honeylocust will line the new roadway, creating an immediate streetscape identity while providing shade for pedestrians and traffic calming for drivers. Understory dogwoods, serviceberries, and sweeps of native grasses define the edges of the proposed open-space courtyards and parking areas, while evergreen spruce and arborvitae hedges form year-round privacy buffers along the common boundary with adjacent residential properties. In and around the parking lots, landscape islands feature river birch and red-osier dogwood, meeting interior-lot landscaping requirements and capturing stormwater at its source. More than half of all species specified are native to the Northeast, and every selection has been cross-checked against the City's invasive-species list to ensure ecological compatibility.

Central Green Open Space
At the heart of the development, almost two acres of undisturbed open space. The only proposed development within the open space will be a raised boardwalk and a small, paved parking lot consisting of 11 parking spaces.

The parking lot will be a multi-use depending on the season. In the warmer months the lot will be used by the public in order to access the adjacent Public Park, and in the winter, it will be utilized by management for shifting vehicles during snow removal operations. It will be further utilized as overflow parking for residents in the development.

The raised boardwalk will connect to proposed walkways in around the proposed buildings on site giving every resident the ability to quickly access that natural area. The boardwalk will be raised as to limit impact to the wetlands and not cause shade disturbance.

Connectivity to the Regional Trail System
Accessibility and connectivity are key goals of the landscape concept. The open space parking area will be connected to the adjacent park by a raised sidewalk. The sidewalk will provide direct access to the adjacent trail system and be open to all residents in the development along with the public.

These paths, offer residents and the general public seamless access to miles of off-road recreation while preserving the woodland's natural hydrology. Trailheads will be marked with wayfinding signage, bicycle racks, and refuse receptacles to encourage responsible use.

Soil Stabilization, Installation, and Maintenance
All disturbed soils will be stabilized immediately after grading with hydro-seeded native meadow mix or mulch, and irrigation sleeves are provided to facilitate efficient drip-irrigation installation if required. Planting will occur in the spring and early fall windows to optimize establishment.

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Att. V

Landscaping Plan
Deering Village
410 Auburn Street, Portland, Maine

*** Code Reference Key**

- **LUC – City of Portland Land Use Code (Article 13 unless noted)**
- **Technical Manual – City of Portland Technical Manual, Section 4 (Landscaping Standards)**

- **Plant material quality & mix (Technical Manual § 4.1.1 (A)(1)–(5), (9))**
  - Nursery-grown, disease-free stock that meets ANSI Z60.1 —
    Standard is met by specifying #1-grade nursery stock in the plant schedule and including certification notes on the landscape plan.

  - At least 50 % of new trees and shrubs must be native to the Northeast —
    Standard is met by selecting 100% native species such as red maple, white pine, and inkberry holly, clearly tagged "native" in the schedule. Landscaping Note #2 on sheet C104.

  - All species on the City's invasive list—and any "inorganic plants"—are prohibited
    Standard is met by cross-checking the palette against the City invasive list and adding a note that no artificial plants are proposed.

- **Minimum on-site landscaping quantity (LUC § 13.6.2 B(1)(a)-(c))**
  - Provide **1 shade tree** *or* **6 plantings** (1 shrub + 1 ornamental grass + 3 perennials) per **5 000 ft²** of lot area —
    Standard is met by totaling 22 shade trees for the 107,700 ft² site, exceeding the minimum required counts.

  - Existing healthy vegetation may be counted; substitutions allowed when physical constraints are proven —
    The site preserves 44.5% of trees above 10" DBH on the property.

- **Buffers & screening – general (LUC § 13.6.2 B(2)(a)-(d))**
  - Service yards, dumpsters, outdoor storage, and utilities must be fully screened with dense landscaping, fencing, walls, or a combination —
    Standard is met by a 6 ft solid cedar enclosure backed by arborvitae hedging around the dumpster pads.

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- Parking visible from a right-of-way requires dense landscaping, fencing, or walls per Technical Manual standards —
  Standard is met by a 5 ft-wide shrub bed of glossy inkberry and a 4 ft wrought iron fence along the frontage.

- Non-residential sites abutting residential property need a **10 ft-deep, 6 ft-high** evergreen buffer (or equivalent fence + trees) —
  Standard is not applicable to this development.

- **Detailed buffer & parking-lot perimeter design (Technical Manual § 4.1.5 A-C)**
  - Sites within 30 ft of a right-of-way must add a 5 ft planting strip *and* one of the listed screening options —
    No sites are within 30 feet of the ROW.

  - Chain-link must be vinyl-coated and screened; barbed or electric fencing is prohibited —
    Standard is met by eliminating chain-link altogether and using decorative welded-steel fencing instead.

  - Berms or walls may reduce shrub density if they achieve equal opacity —
    Standard is met by integrating a 2.5 ft earth berm that lessens shrub spacing to 6 ft o.c. while maintaining 80 % opacity.

- **Parking-lot interior landscaping (LUC § 13.6.2 B(3)(a)-(c); Technical Manual § 4.1.5 C(3)(b))**
  - Supply **1 tree per 750 ft²** of uncovered pavement —
    Standard is met by providing 63 canopy trees, compared to 53 required (see landscaping plan for species) for 39,500 ft² of pavement.

  - Install landscaped islands at least every 40 spaces; islands must be curbed, **≥ 8 ft** wide, and may serve as bioretention areas —
    Standard is met by providing five 8 ft-wide vegetated islands every 30 spaces, with granite curb and underdrain shown on detail L-5.

- **Non-vehicular hardscape areas (LUC § 13.6.2 B(4))**
  - Paved plazas and paths must use materials with **SRI ≥ 33 (initial) / 28 (aged)** *or* plant **1 tree per 750 ft²** of paving —
    Standard is met by specifying light-colored concrete pavers or approved equal (initial SRI = 39) for the courtyard.

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- **Street-tree frontage requirement (LUC § 13.6.2 B(5)(a)-(c); Technical Manual §§ 4.1.2, 4.1.3)**
  - Plant **1 street tree per 25–35 linear ft** of frontage; coordinate with City Arborist **Standard is met by locating 8 columnar red maples or equivalent at various spacing along the 325 ft frontage, using City-approved species list.**

  - Credit allowed for retaining healthy existing ROW trees or by paying $400 per missing tree to the City Tree Fund **—**
    Standard is met by not taking down any existing ROW trees

- **Tree-well & sidewalk construction details (Technical Standards Manual § IV — Figures IV-4 a–c)**
  - Use granite-border wells, expandable grates, or sloped-curb wells per City figures **—**
    Standard is met by detailing 5 ft × 10 ft granite curbing tree wells with welded-steel grates (Detail L-7).

  - Maintain ≥ 5 ft clear sidewalk; adjust curb offsets where door swings and street parking conflict **—**
    Standard is met by dimensioning a 5 ft clear zone on the plan.

- **Snow-storage landscaping (LUC § 13.6 D(3); Technical Manual § 4.1.5 C(4))**
  - Select species and materials that tolerate plowed snow in designated storage zones **—**
    Standard is met by specifying salt-tolerant red osier dogwood and switchgrass or approved equal within the snow-storage pocket.

  - Snow piles must not block drainage or encroach on sidewalks or adjacent lots **—**
    Standard is met by grading the snow-storage area with a swale to the bioretention cell and detailing a 3 ft setback from the property line.

- **Installation & maintenance timing (Technical Manual § 4.1.5 D(1)-(5))**
  - Plant between **Apr 1 – Jul 1** or **Sep 1 – Nov 1** unless approved by the City Arborist **—**
    Standard is met by scheduling all installation for early May and noting contingency fall dates in the project timeline, see landscaping notes (sheet C104)

  - Stabilize all bare soil before certificate of occupancy; replace dead/damaged plants within one year **—**

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Standard is met by specifying hydroseeding for exposed soils and including a one-year replacement guarantee note.

- Vegetate/mulch 5 %-50 % slopes; > 50 % slopes require biotechnical/structural measures —
  Standard is met by applying coir matting and native meadow mix on 3:1 slopes or steeper

- **Performance guarantee (LUC § 13.10.2; Technical Manual § 4.1.5 D(2))**
  - If landscaping is incomplete at occupancy, provide a bond until installation is finished and inspected —
    Standard is met by posting a landscape bond equal to 125 % of the remaining plant-material cost, as noted on Sheet C104

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Att. W

Snow Removal Plan
Deering Village
410 Auburn Street, Portland, Maine

1 · Purpose
Maintain safe, accessible conditions **before, during, and after every snow event** by outlining clear procedures, equipment deployments, and communication protocols for the Property Manager and all contracted providers.

2 · Site Description
- **Buildings:** 13 residential buildings (130 dwelling units)
- **Parking:** One assigned space per unit
- **Accessory Parking Lot (APL):** 11-space lot reserved as a *snow-staging* lot
- **Roadway:** Private road with turnaround dead end.
- **Walkways/Stairs:** Bituminous walks and exterior stair runs to each entrance
- **Snow Storage Areas (SSA):** Three staked zones (SSA-A, SSA-B, SSA-C) in peripheral green space

3 · Equipment & Materials
- **Skid Steer (8 ft bucket + pusher box)** – *stored off-site* and delivered to the property within 4 h before the forecast snow start; scoops and relocates snow from compact parking bays and cul-de-sac windrows.
- **¾-Ton Pickup w/ 9 ft Angle Plow** – *stored off-site* with the skid steer; plows the private road, drive aisles, and the APL.
- **Two-Stage Snow Blowers (3)** – kept in Shed A; clear walkways and stairs.
- **Hand Tools (shovels, ice-chippers)** – Shed A; detail work at hydrants, meters, entrances.
- **Ice-Melt (pet-safe calcium chloride pellets)** – staged in sealed buckets at each building entry.

4 · Roles & Responsibilities
- **Property Manager (PM):** Sends resident notices, coordinates schedules, verifies compliance, approves vendor invoices.
- **Snow Operations Supervisor (SOS):** Executes this plan, dispatches crews, logs snowfall totals and equipment hours.
- **Skid Steer Operator:** Clears resident stalls post-storm and relocates snow to SSAs.
- **Plow-Truck Driver:** Maintains the private road, drive aisles, and APL before and during storms.

- **Walkway Crew Lead:** Oversees walkway clearing, de-icing, and post-storm safety inspections.

5 · Trigger & Priority Guide

- **Trace – 2 inches** → Pre-treat critical walkways & stairs with ice-melt; close and cone APL (*No Parking*).
- **2 – 6 inches** → Continuously plow private road, drive aisles, and APL; keep walkways passable.
- **More than 6 inches or blizzard (>1 in/hr)** → Increase road-pass frequency; ensure APL remains clear for snow dumping; postpone resident-stall clearing until snowfall ends.

6 · Phase Procedures

6.1 · Pre-Storm (24 – 48 h Before)

- SOS monitors NOAA forecasts and issues a *Readiness Alert* when the probability of ≥ 2 inches reaches 40 %.
- PM cones and signs the APL "No Parking – Snow Staging Lot" 12 h before the forecast start time.
- Resident advisory explains that normal lots remain open during the storm and that vehicles will be asked to rotate into the APL **after** the storm for systematic clearing.
- Verify SSA stakes; fuel off-site equipment; load ice-melt at each entry.

6.2 · Active Storm Operations (Focus on Mobility)

- **Private Road & Drive Aisles:** Plow-truck begins at 2 inches and completes a loop every 60 min, pushing snow to the cul-de-sac.
- **Accessory Parking Lot:** Plow-truck keeps all 11 spaces open every pass; this is the primary dump and staging area.
- **Snow Deposition:** If windrows at the cul-de-sac exceed safe sightlines, the skid steer may shift piles to SSA-C.
- **Walkways & Stairs:** Cleared every 2 inches; ice-melt applied after each pass.
- SOS logs snowfall totals and equipment status hourly; Radio Channel 3 for crew check-ins on the hour.

6.3 · Post-Storm Cleanup (0 – 24 h After Final Flake)

- **Final Road & APL Pass:** Plow-truck widens the road curb-to-curb and confirms the APL is fully clear.
- **Zone-Based Stall Clearing:**
    1. The development is divided into **fourteen zones (~11 stalls each)**.
    2. PM instructs Zone 1 residents to move vehicles into the empty APL within 30 min.
    3. Skid steer clears Zone 1 stalls, hauling snow to the nearest SSA.

4. Residents return to cleared stalls; PM calls for Zone 2 vehicles to occupy the APL.
5. Repeat until all zones are cleared (typically 6 – 8 h total).

- **Windrow Management:** If cul-de-sac piles exceed 4 ft height or encroach more than 3 ft into the travel lane, the skid steer transfers excess to SSA-C.
- **Walkway Detailing:** Chip residual ice; apply calcium chloride.
- PM and SOS conduct a walk-through, photograph key areas, and sign off completion.

7 · Accessory Parking Lot (APL) Snow Storm Protocol

- Capacity: 11 vehicles (equivalent to one zone).
- Designated *Snow Staging Lot* each season (Nov 1 – Apr 15).
- Remains vacant during storms; used only for rotating resident vehicles during post-storm clearing.
- Vehicles found in the APL during a posted closure may be towed at the owner's expense.

8 · Snow Storage Areas (SSA)

- **SSA-A:** Northwest green buffer ~ 1.200 yd^3 – primary early-season pile.
- **SSA-B:** Northeast meadow ~ 1,400 yd^3 – preferred late-season site; no overhead utilities.
- **SSA-C:** Dead-end overflow ~ 900 yd^3 – roadway plow disposal area beyond hammerhead turnaround, accessory capacity for larger storm events.
- All piles kept below 12 ft and at least 10 ft from storm drains.

9 · Safety & Environmental Controls

- Keep a 3 ft clearance around hydrants, gas meters, and egress windows.
- Do not pile snow within 10 ft of stormwater inlets.
- Apply only pet-safe calcium chloride on concrete surfaces.
- All operators must wear high-visibility outerwear, gloves, and eye protection.

10 · Communication Plan

- **Pre-Storm:** Email/SMS to all residents – Readiness Alert and APL closure.
- **Active Storm:** Radio Channel 3 – hourly status reports among field crews and SOS.
- **Post-Storm:** Rolling Email/SMS – "Zone X, please move to the APL now."
- **Completion:** Email with photo log to PM and ownership summarizing labor hours, equipment use, and conditions.

11 · Recordkeeping

- Daily logs of accumulation, start/stop times, and equipment hours.
- Before/after photos of each zone and SSA growth.

- Season summary of labor, material usage, and remaining SSA capacity.

12. Overflow Snow Hauling (Off-Site)

- **Trigger:** When combined SSA volume reaches ~85 % of capacity **or** any single SSA pile exceeds its 12 ft height limit with no safe lateral expansion.
- **Assessment:** SOS measures pile dimensions after every significant snow event and logs capacity on a weekly basis (Monday morning).
- **Authorization:** PM reviews capacity logs and authorizes hauling when thresholds are met or forecast indicates additional heavy snowfall.
- **Logistics:**
  - Contracted tri-axle dump trucks (pre-qualified annually) are mobilized within 24 h of authorization.
  - Skid steer or rented front-end loader loads trucks at the most accessible SSA—preferably SSA-B unless another site offers better staging.
  - Dump trucks haul to an approved municipal snow-dump site or licensed commercial disposal facility (refer to vendor list on file).
- **Sequence:**
  1. Establish traffic control and a spotter at the loading zone.
  2. Load each truck below legal height limits; tarp loads before leaving the site.
  3. Record departing truck ID, estimated cubic yards, and destination in the **Haul Log**; PM signs daily tickets.
- **Post-Haul:**
  - Grade remaining snow pile to a 3 ft maximum slope.
  - Re-stake SSA boundaries and inspect for debris.
- **Budget:** Hauling costs charged to snow-removal budget line-item, tracked separately for season-end review.

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Att. X

Soil Management and Protection Plan
Deering Village
410 Auburn Street, Portland

1. **Introduction** This Soil Management and Protection Plan outlines the strategies and best management practices (BMPs) to ensure soil conservation and minimize environmental impact during the construction and post-construction phases of the proposed residential development. The plan aims to prevent soil erosion, maintain soil quality, and ensure compliance with local, state, and federal regulations.

2. Project Overview

- **Project Name:** Deering Village
- **Location:** 410 Auburn Street, Portland
- **Developer:** GreenMars Real Estate
- **Project Description:** New affordable residential development including 13 new buildings and a total of 130 residential units.

3. Soil Assessment A comprehensive soil assessment was conducted to determine soil composition, structure, and stability. The key findings include:

- **Soil Type(s):** (see attached soil survey)
- **Drainage Characteristics:** Hydrologic Soil Group (D)
- **Erosion Risk:** 0-3+% slope, low erosion risk
- **Compaction Risk:** soils are determined to be usable with correct compaction.

4. Soil Erosion and Sediment Control Measures To mitigate soil erosion and prevent sediment transport, the following BMPs will be implemented:

- **Silt Fencing and Erosion Control Barriers:** Installed around the perimeter of disturbed areas.
- **Vegetative Buffer Strips:** Maintained along waterways and sensitive areas.
- **Mulching and Temporary Seeding:** Applied to stabilize exposed soil surfaces.
- **Check Dams and Sediment Basins:** Used in drainage areas to capture sediment runoff.
- **Construction Entrance Stabilization:** Gravel pads installed at site entrances to reduce off-site sediment tracking.

5. Topsoil Management

- **Topsoil Stripping and Stockpiling:** Stripped topsoil will be stored in designated areas and stabilized with vegetation or erosion control blankets.
- **Topsoil Reuse:** Stockpiled topsoil will be redistributed across landscaped and green areas to maintain soil fertility.

6. Compaction Prevention and Soil Restoration To minimize soil compaction and maintain infiltration capacity:

- **Restricted Equipment Movement:** Designated paths for heavy machinery will be established.
- **Subsoiling and Aeration:** Compacted areas will be loosened post-construction to restore permeability.
- **Organic Amendments:** Compost and other organic materials will be incorporated to improve soil structure.

7. Post-Construction Soil Management

- **Permanent Vegetation and Landscaping:** Native plants and grasses will be established to enhance soil stability and filtration.
- **Long-Term Maintenance:** Regular monitoring and maintenance of landscaped areas to prevent soil degradation.
- **Stormwater Management Integration:** footing underdrains and dewatering drains will be used to ensure building foundations and steep slopes are maintained without slumping after construction.

8. Compliance and Monitoring

- **Regulatory Compliance:** All soil management practices will adhere to applicable environmental and land use regulations.
- **Inspection Schedule:** Routine site inspections will be conducted to ensure BMPs remain effective.
- **Corrective Actions:** Any identified deficiencies will be promptly addressed to prevent soil-related issues.

9. Conclusion This Soil Management and Protection Plan is designed to protect and enhance soil resources while supporting sustainable development practices. By implementing these measures, the proposed residential development will minimize environmental impacts and promote long-term soil health.

Prepared by: Travis Letellier **Date:** October 2, 2025

GreenMars Real Estate Services
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Att. Y

November 11, 2025

Taylor Colbeth
City of Portland Planning Authority
4th Floor, City Hall
389 Congress Street
Portland, ME 04101

Subject: Neighborhood Meeting Certification – [Deering Village at 410 Auburn Street]

Dear Ms. Colbeth,

This letter serves as certification that a neighborhood meeting was held in accordance with the City of Portland's neighborhood meeting requirements.

The meeting took place on Wednesday, September 10th, at 6:00 PM at the Allen Avenue Universalist Church, located at 524 Allen Avenue, Portland, Maine. The meeting was organized by GreenMars on behalf of the project team for the proposed Deering Village development.

Approximately fifteen (15) members of the public attended the meeting. The session provided an overview of the proposed development, offered an opportunity for questions and feedback, and fulfilled the City's requirements for neighborhood notification and engagement.

Meeting minutes from the September 10th neighborhood meeting, including a summary of the discussion topics and public feedback received, are available upon request. Please let us know if you would like a copy provided for the record or for inclusion in the project materials, do not hesitate to contact us if any additional information or documentation is needed.

Sincerely,

Travis A. Letellier, P.E.
GreenMars Real Estate Services
travis@greenmars.com
207-205-0208

Community Meeting Deering Village #3

Action Items

- [ ] Submit the project application to the planning board.
- [ ] Schedule a public workshop and public hearing with the planning board.
- [ ] Provide details on the stormwater management and snow removal/salting plans for the site.
- [ ] Evaluate the mix of condos vs. rentals based on market demand.

Outline

Project Overview and Initial Updates

- Speaker 3 welcomes everyone and mentions this is the third meeting for the project.
- Speaker 4 provides a quick overview of the Deering Village project, which consists of 13 buildings with 10 units each, totaling 130 units.
- Half of the units will be affordable, income-restricted to between 80% and 100% AMI, affecting 65 units.
- The site is located at 410 Arbor Street, with a main driveway off Auburn Street.

Timeline and Planning Board Process

- Speaker 4 explains the timeline, noting they have not yet submitted to the planning board and plan to do so in a month or two.
- The planning board process will involve a workshop and another meeting for approval.
- Speaker 3 elaborates on the next steps, including resubmitting the application and the city's review process.
- The planning board will hold a public hearing, and if approved, they will apply for a building permit.

Traffic Impact and Light Discussion

- Speaker 2 inquires about the traffic light at the intersection, and Speaker 3 explains the traffic study based on peak trips.
- The project does not meet the threshold for a traffic light, as it generates fewer than 100 peak trips.

- Speaker 3 mentions the city's review process, including a traffic consultant's recommendations.
- The city's public works department will review the plans and make recommendations.

Wetland Impact and Mitigation

- Speaker 5 questions the project's social responsibility, given the wetland impacts.
- Speaker 3 zooms out on the site plan to show the wetland areas and the project's minimal impact.
- Speaker 6 explains the wetland delineation and the tiered impact system used by the DEP.
- The project is currently under the lowest permitting tier, with plans to mitigate stormwater runoff.

Stormwater Management and Property Management

- Speaker 6 details the stormwater management plan, including large crushed stone detention areas.
- Speaker 3 explains the property management structure, with a condo association managing the property.
- The city will scrutinize the snow storage plan to ensure it meets standards.
- The project will use a product called Magic Salt, which is supposedly safe for the environment.

Building Configuration and Market Demand

- Speaker 3 discusses the building configuration, with windows and doors based on market positions.
- The project aims to meet the demand for starter homes and rentals, given the affordability crisis in Portland.
- The project has been in development for a year and a half, and the market will determine the mix of units.
- Speaker 2 inquires about the use of low-impact salt, and Speaker 3 explains the potential for including it in the contract.

Parking and Traffic Concerns

- Speaker 5 raises concerns about the parking situation, given the narrow streets and potential for traffic issues.
- Speaker 3 explains the parking plan, with 150 spaces including 8 EV charging stations.
- The project will show how parking will be managed around the site, with adequate space for vehicles.
- Speaker 3 mentions the city's parking demand and the potential impact of autonomous vehicles.

Construction Timeline and Phases

- Speaker 2 asks about the construction timeline, and Speaker 3 provides a best-case scenario of 12 to 15 months.
- The project will ideally be built in phases, with the first step being the removal of trees.
- Speaker 3 explains the tree survey and the efforts to avoid cutting trees if possible.
- The project will bring the site up two feet from its current grade, with three-story buildings.

Market Analysis and Comparison

- Speaker 3 compares the project to other developments, noting the affordability crisis and the demand for rental units.
- The project aims to address the need for affordable housing and meet market demands.
- Speaker 3 mentions the outdated website and the efforts to keep the community informed.
- The project will submit plans to the city, which will be open for public review.

Transcript

Keywords

Deering Village, 13 buildings, 130 units, affordable housing, planning board, traffic impact, wetland impact, stormwater management, parking spaces, construction timeline, public comment, building permit, site plan, community meeting, project approval.

Speakers

Speaker 1 (48%), Speaker 2 (15%), Speaker 3 (12%), Speaker 4 (10%), Speaker 5 (5%), Speaker 6 (4%), Speaker 7 (3%), Speaker 8 (3%), Speaker 9 (<1%)

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So All

right, good evening. Everybody. Good to see everybody. Everybody again. Lot of familiar faces. Think this is our third meeting, yeah, this project. Not a whole lot of updates to the project from the last meeting, when we met a couple of months ago, this is going to be a relatively short meeting. Once again, we're here for as many questions as you guys have, and we brought our engineer, Travis tonight, because at the last meeting, we sold miss him, so we're happy to answer any engineering questions. And with that, Jay is going to kick off the presentation.

All right, so kind of just a quick overview. The site is called deer village. It's going to consist of 13 buildings, and each building will have 10 units, so total 130 units across the site. And half of these units are going to be affordable, and they're going to be income restricted to between 80% and 100% AMI, so half the units of 130 would be 65 so, and then those 65 are half 80% and half 100% and Ami, is just a Portland area median income. So pretty much anybody that's making that can live there or that or other, and that's about it. I can show you a mic, sir, anything like a microphone. I don't have a mic. I can talk a little louder, though, all right, yes, sir. So this is the site right here, where you see that pin is 410, Arbor street, and I can show you a site plan after this, it's the access is straight through here and right here. So go down, and then site plan will show you. These are the 13 buildings kind of laid out with the main driveway coming off Auburn street right there. Sorry, yeah, so you can see Auburn street right there 13 buildings, kind of you know, each building has its own parking lot, and that's a site plan. So that's a timeline. Do you want to take that? So timeline wise, we are out to go.

I'm sorry. You want to wait for questions, or you want me to ask you can ask questions that.

There is not there's going to be stop sign there, correct.

So timeline wise, we still have not submitted to the planning board, and we plan on doing in that about a month or two, and you know, you still will have engagement with us through the planning board process, but it's going to be a little bit more formal. It won't be this open dialog like we have right now. There's going to be a workshop and then another meeting after that to get the approval of this project. So

so we did a little bit of there was a delay. Pretty much. We had to have another meeting. And, you know, we want to kind of keep on engaging with you guys, so we are pushing that back. So it's going to be the same meeting. Just push back after this meeting. Yeah, and yeah, after we submit the plans, we'll have those two meetings. And you know, we plan on starting construction after that, once we get a building permit, which comes after the two meetings. So once it's approved, we'll submit for a building permit.

So that's really the main purpose of this meeting. And we wanted to tell you guys where we're at today, the next steps process. So to your point, last time we said, we mentioned we're going to be on the planning board in August, that did not happen. So we still actually have not been to the planning board, we are resubmitting our application because our application was over a year ago now, so we're resubmitting the application here right after this meeting, probably next week. We're just wrapping up some auxiliary items from there, the city reviews the application. They

check that usually takes a few weeks, and then they schedule a workshop, which is a public event, so we go there.

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everybody knows nothing that already is happening. What makes you guys think this is a responsible project at this location? Yeah?

So Jake, Can we zoom out a little bit on the site plan? So if you look at the wetland impacts that we have as part of our site, the original first iteration of this site took over the whole thing, and basically all the open space, which is the white areas in the top and the bottom. Most of that is wetlands. We're not impacting any of that anymore. So the only wetland impact that our site has is you can see the red part. It's a little bit confusing. Yeah, these, these red areas, the shaded red, yeah, yeah, that's a little confusing, but

exactly yeah. And the DEP has different tiers of wetland impact. And as part of this project, we had to do a wetland delineation where somebody comes in and says, Okay, this wetland, and then we impact a certain amount, yeah, so they do it by square foot impact. So Travis, what are we at?

Tier one? So we're here one, no permanent impact would be anything below 4300

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slowing fire down.

And like you think about before the automobile was prolific in the country, roads, roads were skinnier, and ultimately, that's what a lot of people like, historic main streets downtown, things like that. And as the automobile took over, roads got wider, wider, wider. The wider road is, the faster cars go. They just when you're driving on the highway, I know, but I'm getting, I'm getting to that, yeah, so it, it's, it's slightly skinnier than the standard public street, but there's still, what, eight foot wide lands on either side.

Yeah? So we have one.

Yeah? Plenty of room. Like we wanted to make it even smaller.

But, yes, absolutely. But like, the last thing

we want is people rate racing in there, you know, whatever, three miles.

Do that, but there's a 48 inch tree, basically, in our right of way. We have, we have moved the road off center to save that tree,

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Keywords

Deering Village, 13 buildings, 130 units, affordable housing, planning board, traffic impact, wetland impact, stormwater management, parking spaces, construction timeline, public comment, building permit, site plan, community meeting, project approval,

Speakers

Speaker 1 (48%), Speaker 2 (15%), Speaker 3 (12%), Speaker 4 (10%), Speaker 5 (5%), Speaker 6 (4%), Speaker 7 (3%), Speaker 8 (3%), Speaker 9 (<1%)

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So All

right, good evening. Everybody. Good to see everybody. Everybody again. Lot of familiar faces. Think this is our third meeting, yeah, this project. Not a whole lot of updates to the project from the last meeting, when we met a couple of months ago, this is going to be a relatively short meeting. Once again, we're here for as many questions as you guys have, and we brought our engineer, Travis tonight, because at the last meeting, we sold miss him, so we're happy to answer any engineering questions. And with that, Jay is going to kick off the presentation.

All right, so kind of just a quick overview. The site is called deer village. It's going to consist of 13 buildings, and each building will have 10 units, so total 130 units across the site. And half of

these units are going to be affordable, and they're going to be income restricted to between 80% and 100% AMI, so half the units of 130 would be 65 so, and then those 65 are half 80% and half 100% and Ami, is just a Portland area median income. So pretty much anybody that's making that can live there or that or other, and that's about it. I can show you a mic, sir, anything like a microphone. I don't have a mic. I can talk a little louder, though, all right, yes, sir. So this is the site right here, where you see that pin is 410, Arbor street, and I can show you a site plan after this, it's the access is straight through here and right here. So go down, and then site plan will show you. These are the 13 buildings kind of laid out with the main driveway coming off Auburn street right there. Sorry, yeah, so you can see Auburn street right there 13 buildings, kind of you know, each building has its own parking lot, and that's a site plan. So that's a timeline. Do you want to take that? So timeline wise, we are out to go.

I'm sorry. You want to wait for questions, or you want me to ask you can ask questions that.

There is not there's going to be stop sign there, correct.

So timeline wise, we still have not submitted to the planning board, and we plan on doing in that about a month or two, and you know, you still will have engagement with us through the planning board process, but it's going to be a little bit more formal. It won't be this open dialog like we have right now. There's going to be a workshop and then another meeting after that to get the approval of this project. So

so we did a little bit of there was a delay. Pretty much. We had to have another meeting. And, you know, we want to kind of keep on engaging with you guys, so we are pushing that back. So it's going to be the same meeting. Just push back after this meeting. Yeah, and yeah, after we submit the plans, we'll have those two meetings. And you know, we plan on starting construction after that, once we get a building permit, which comes after the two meetings. So once it's approved, we'll submit for a building permit.

So that's really the main purpose of this meeting. And we wanted to tell you guys where we're at today, the next steps process. So to your point, last time we said, we mentioned we're going to be on the planning board in August, that did not happen. So we still actually have not been to the planning board, we are resubmitting our application because our application was over a year ago now, so we're resubmitting the application here right after this meeting, probably next week. We're just wrapping up some auxiliary items from there, the city reviews the application. They check that usually takes a few weeks, and then they schedule a workshop, which is a public event, so we go there.

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yeah, yeah. Ringing here, I

can just show you on the computer.

The Deering Village project, consisting of 13 buildings with 10 units each, will provide 130 units, with 65 being affordable (80-100% AMI). The site is at 410 Arbor Street, with a main driveway off Auburn Street. The project has not yet been submitted to the planning board, aiming for approval in a month or two. The timeline includes a workshop and public hearing, followed by a building permit application. The project will have 150 parking spaces, including 8 EV charging stations. Wetland impacts are minimal, with a Tier 1 permit. Construction is expected to start in 12-15 months, with a total project duration of 18-24 months.

PC1

Kim Gordon via portlandmaine.gov
to planning

To: Portland Planning and Urban Development Dept
Re: Deering Village Proposal, 410 Auburn St

I write as a landowner within 500 ft of the GreenMar Deering Village proposal, with property abutting the North Deering Park. This currently open land acts as a sponge, absorbing rain and snow-melt from the Summit-Auburn St area and slowly releasing it via porous soil and seasonal brooks that cross the Park and eventually reach the Presumpscot River. These small streams and vernal pools are consistent enough to be part of the nesting habits of the local ducks. In a drought-free year, even in summer I sink several inches into the soil along my back property line. The excess water throughout the Park area is evident from the large number of ailing trees - and the ensuing amazing woodpecker population. Fortunately, the moisture also encourages the growth of new replacement trees.

The GreenMar proposal for Deering Village acknowledges covering 13,555 s.f. of wetlands with buildings and a road, excepting two sections that are deemed "wetland open space" and through which some of these brooklets clearly pass. At a public meeting we were told that GreenMar would be backfilling and elevating their construction project two feet above the current grade. The loss of this absorbent land would obviously force all water into the wetland open space channels. Add in the meltwater from snowplow piles on the property and we neighbors (and the Park) would face a significant water impact.

A spokesperson mentioned the possible use of a permeable road surface to help with this problem. Salt or chemicals used on this road in winter would leach into the wildlife area (and eventually the Presumpscot). A coating of sand would defeat the permeability. And even with a two foot elevation, the Deering Village road would be below the grade of Auburn St and susceptible to icing.

Finally, the builders hope to condo-ize the new buildings. If that happens, any agreements reached during construction could be at risk from a newly created condominium board of directors.

I admire several GreenMar projects posted on their web-site and know they are capable of creating good home options. This location is just the wrong place for this project.

Respectfully,

Kim Gordon
6 Cresfield Terrace
Portland

PC2

Donna and Tony Segretario dntsegretario@gmail.com via portlandmaine.gov
to planning, Kim, Donna

SIMPLE : This *needed* project, needs to be scaled back a bit to *consider* the water table run-off issues created at Parson Pond Condos and the just *newly created,* town - open space park".

You are defeating the purposes intended and creating an environmental problem.
Too many units / not enough parking / too much asphalt causing run-off behind / narrow entrance / traffic congestion, etc. This section of town cannot absorb *every* latest situation fix.

Maybe the Park is less needed and that open space *could have, ... should be*, used more effectively.
It's not too late to reconfigure " and plan" this whole area.

PC3

Deering Village Proposal - 410 Auburn St

External Inbox

Bethany Buitenhuys via portlandmaine.gov Nov 4, 2025, 4:46 PM (22 hours ago)
to Bethany, planning

To: Portland Planning and Urban Development Department
Re: 410 Auburn Street Proposed Development

To Whom It May Concern,

I am a landowner within 500 feet of the proposed GreenMar Deering Village development. While I understand the importance of expanding affordable housing options within the City, the proposed development at 410 Auburn poses a number of environmental risks - particularly with regards to the abutting wetlands - that offset the housing benefit.

The proposed plan includes developing 13,500 sf of wetlands to construct 11 four-story buildings and 150+ parking spaces for residents. At an informational meeting hosted by GreenMar, attendees were told that the developers would backfill and elevate their site two feet above the current grade. This "plan" will force/displace water from the development into the abutting wetlands, resulting in significant flooding and irreparable damage to the area. As a 20+ year property owner, I know how wet this area is at different times throughout the year, including after significant rainfall, snow melt, etc. The remaining wetlands will NOT be able to absorb the water displaced from the development, placing the adjacent wetlands and abutting property owners at risk. I've attached a few videos taken during different seasons to show the wetlands behind our property.

In addition and although their plan reflects the development of 13,500 sf of wetlands, GreenMar has underestimated their wetland impact by not taking into account pipe trenches for utilities, snow storage areas and construction vehicle access during the construction. When factoring these elements into their plan, a Tier 2 application with the DEP as well as Army Corps permit for direct impact should be required.

Other concerns include the developer's inability to articulate how they plan to mitigate stormwater runoff - from plowing, salting, sanding, etc. - and what guarantees will be provided to eliminate potential adverse impacts to the adjacent wetlands and wildlife.

Part of the proposed development abuts North Deering Park, a 24 acre parcel acquired in partnership between the City and Trust for Public Land in 2023. This acquisition was viewed by the City as an important step in providing additional green space and equitable access. During the initial acquisition and improvement phases, careful consideration was provided by the City in recognition of the woods and wetlands that serve as habitat for a wide variety of animals, birds and amphibians - including deer wintering habitat. The proposed development at 410 Auburn places the park and wetlands at risk.

Please carefully consider the adverse impacts this development poses to the wetlands area and abutting properties - not just the immediate neighborhoods and homes, but the North Deering Park as well.

Thank you.

Bethany Buitenhuys
4 Cresfield Tr.

From: Faith Johnson <faithajohnson@gmail.com>
Date: Friday, November 7, 2025 at 3:59:14 PM UTC-5
Subject: To: The Portland planning an urban development department
To: planning@portlandmaine.gov <planning@portlandmaine.gov>

To: The Portland planning an urban development department Re: Deering village proposal 410 Auburn St. I understand the need for more housing in Portland, but this project is wrong for Portland and particularly wrong for the very soggy, shady and mold prone area for which it's currently planned . There are many sites in Portland currently for sale that would be perfect. I believe that the biggest problem with this proposal is the lack of a viable plan to deal with the water runoff and the myriad problems that this causes. When asked in presentations, they mentioned using permeable paving, but according to their plan, this will only be used in the parking area. I feel therefore that this was a dishonest response to a valid question presented to them. In addition, this new type of pavement does not work well in winter with much freezing and thawing and requires meticulous care to function properly. Would they hire a grounds crew that would take meticulous care? Not just for the first year but for every year? What if the units were made into condos, would the condo association be required to hire a grounds crew that would take meticulous care? The area surrounding the proposed development is already wetlands and produces streams in the spring and is wet the year round. In addition to this, the report that the group had done said that the soil is 60+% Au Gres which is poorly draining with slow infiltration and high runoff potential. This proposal has not made it clear how they could contain the water on their property, and water runoff would cause harm to the surrounding abutters' properties. Respectfully, Faith Johnson 5 Cresfield Terrace

Subject: Request for Review of Wildlife and Habitat Impacts – Proposed GreenMars Development, 410 Auburn Street, Portland ME 04103

To: Maine Department of Inland Fisheries & Wildlife
Environmental Review Program (Beginning with Habitat)
ifw.meris@maine.gov

[Please see below my letter regarding the proposed GreenMars development at 410 Auburn Street, Portland, ME. I've included the Maine DEP, U.S. Army Corps of Engineers, and Portland Planning Board on copy for transparency and coordination.]

Dear Environmental Review Team,

I am writing as a concerned resident regarding a proposed **residential development at 410–418 Auburn Street in Portland, Maine 04103.** The site, located north of Lambert Street and west of Allen Avenue, contains extensive wetlands, hydric soils, and contiguous forest that serve as critical habitat for a wide range of species commonly observed here, including white-tailed deer, wild turkey, fox, coyote, bobcat, racoon, possum, amphibians like peepers, wood frogs, and birds of prey.

Based on both on-the-ground observation and review of available mapping data from the Maine DEP, U.S. Fish & Wildlife Service, and Beginning With Habitat programs, it appears that this parcel and the adjoining forested wetlands form part of a larger wetland and wildlife corridor connecting the Deering Center and North Deering ecosystems. The area exhibits the structural characteristics of a Deer Wintering Area:—dense softwood cover, proximity to riparian zones, and an interspersed mix of upland and wetland habitats that provide both shelter and browse.

Deer activity in this area is significant and sustained throughout the winter months. I, along with many other neighbors in the immediate area, have a significant amount of photographic and video evidence of large populations of deer (and other wildlife) especially in winter, some of which are included at this link. Please take particular note of the photos of numerous deer bedding together in the winter, where the tree cover prevents deep snow from accumulating in this habitat.

The applicant's site plan which can be found here proposes over 13,000 square feet of direct wetland impact (with likely underestimation of trenching and access impacts), extensive tree clearing, and the construction of boardwalks, roads, and parking spaces through wetland areas. These actions would permanently fragment this habitat, remove essential cover, and disrupt wildlife movement between upland and wetland zones.

Under 38 M.R.S. § 480-B(10) and 06-096 CMR Ch. 310, wetlands that provide significant wildlife habitat, including deer wintering areas and habitat connection areas, are designated Wetlands of Special Significance and must be reviewed accordingly.

As a concerned environmentalist, I respectfully and politely request that MDIFW:

1. Conduct a field verification or GIS review to determine whether the 410 Auburn Street property intersects or connects with a mapped Deer Wintering Area or other Significant Wildlife Habitat, as defined under Chapter 310;

2. Provide a formal comment letter to the Maine DEP and City of Portland Planning Board clarifying these habitat values and recommending full NRPA review; and

3. Advise the City of Portland and DEP that project approval should be withheld until the full extent of wildlife habitat impacts, including wintering habitat and amphibian breeding areas, is assessed and avoided to the maximum extent practicable.

This is one of the last remaining contiguous forested wetland corridors in this part of Portland. Once lost, it cannot be replaced. I urge MDIFW to take a close look at this site and ensure that this ecologically valuable habitat is afforded the protection it clearly warrants under Maine law.

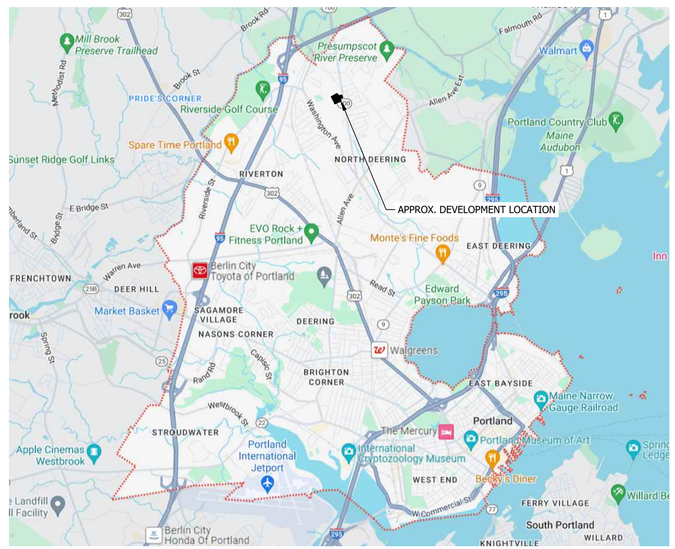
Thank you for your consideration and for your continued work protecting Maine's wildlife and natural resources. I sincerely appreciate your advocacy for Maine's wildlife and natural resources.

Sincerely,
Christopher Griffin
25 Haverty's Way, Portland, ME 04103
christophergriffin618@gmail.com
781.706.4125

CC: Maine DEP – Southern Maine Regional Office; U.S. Army Corps of Engineers; Portland Planning Board

DEERING VILLAGE

410-418 AUBURN STREET
PORTLAND, MAINE 04103



LOCUS MAP
SCALE: 1"=10,000'

SHEET INDEX

C100	COVER/INDEX
C101	BOUNDARY SURVEY PLAN (BH2M)
C103	SUBDIVISION PLAN
C104	SITE/LANDSCAPE PLAN
C105	GRADING AND DRAINAGE PLAN
C106	ROAD PROFILE
C107	UTILITY PLAN
C108	EROSION CONTROL PLAN
C401	EROSION CONTROL NOTES & DETAIL
C501-C508	CONSTRUCTION DETAILS
T101	TREE PLAN

PROJECT DEVELOPMENT TEAM

OWNER:

DEERING VILLAGE, LLC
30 EXCHANGE STREET
PORTLAND, MAINE 04101

APPLICANT:

DEERING VILLAGE, LLC
30 EXCHANGE STREET
PORTLAND, MAINE 04101

CIVIL ENGINEER:

GREENMARS DEVELOPMENT
30 EXCHANGE STREET
PORTLAND, MAINE 04101
TRAVIS LETELLIER, P.E.

ARCHITECT:

INVIVID ARCHITECTURE
631 STEVENS AVE
PORTLAND, MAINE 04103
VIRGINIE STANLEY, ARCHITECT, PRINCIPAL

SURVEYOR:

BH2M
380B MAIN STREET
GORHAM, MAINE 04038
ROBERT LIBBY, PLS

TRAFFIC ENGINEER

BARTON & LOGUIDICE
383 US RT 1, SUITE 2A
SCARBOROUGH, MAINE 04074
WILLIAM J. BRAY, P.E.

SOIL SCIENTIST

COPPI ENVIRONMENTAL
HOLLIS CENTER, ME 04042
CHRISTOPHER COPPI – LSS, LSE, CWS

FOR REVIEW
NOT FOR CONSTRUCTION

STATE OF MAINE — Travis Letellier — 13020 — LICENSED PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:

DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:

DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:

COVER & INDEX

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

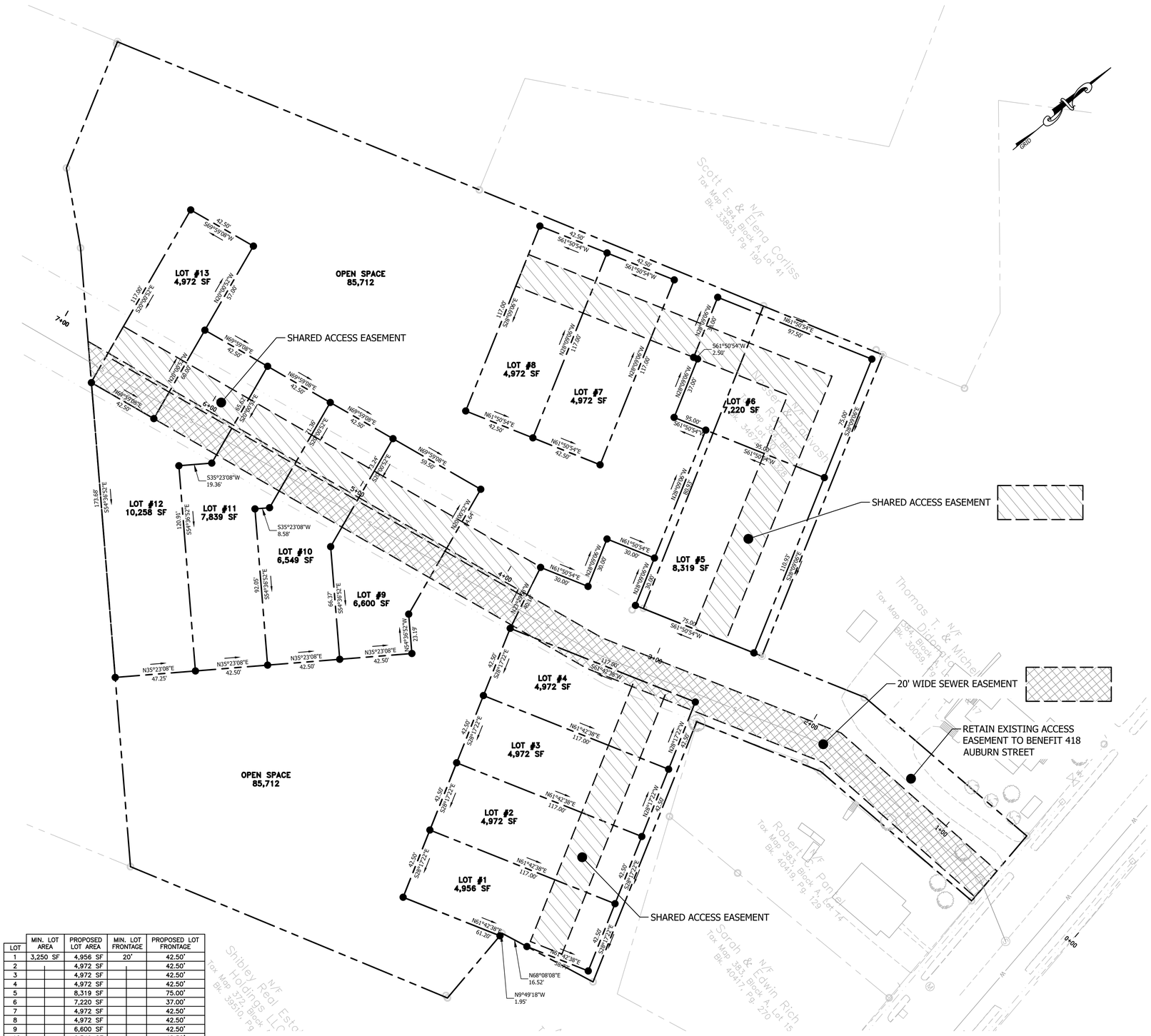
DRAWN: TAL

SCALE: NOTED

DATE: 10/09/2025

SHEET:

C100



LOT	MIN. LOT AREA	PROPOSED LOT AREA	MIN. LOT FRONTAGE	PROPOSED LOT FRONTAGE
1	3,250 SF	4,956 SF	20'	42.50'
2		4,972 SF		42.50'
3		4,972 SF		42.50'
4		4,972 SF		42.50'
5		8,319 SF		75.00'
6		7,220 SF		37.00'
7		4,972 SF		42.50'
8		4,972 SF		42.50'
9		6,600 SF		42.50'
10		6,549 SF		42.50'
11		7,839 SF		42.50'
12		10,256 SF		42.50'
13		4,972 SF		42.50'

CONDITIONS OF APPROVAL

1. [CONDITION 1]
2. [CONDITION 2]

FOR REVIEW
NOT FOR CONSTRUCTION

PLAN REFERENCES

A. "PLAN OF PROPERTY", DATED JUNE 1986, FOR STANLEY MARSTON, BY R.P. TITCOMB ASSOCIATES INC., JOB NUMBER 8521.
B. "BOUNDARY SURVEY", DATED AUGUST 2022, FOR TRUST FOR PUBLIC LAND, BY OWEN HASKELL, INC., AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 223, PAGE 162.
C. "PLAN OF LAND", DATED FEBRUARY 2000, FOR THE HAVERTY ESTATE PROPERTY, BY SEBAGO TECHNICS, AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 187.
D. CITY BLUEPRINTS OF AUBURN STREET, DATED JANUARY 1971, SHEETS 3 & 4, PROVIDED BY THE CITY OF PORTLAND.
E. "RIGHT OF WAY LOCATION, PRESUMPSCOT NORTH FORCE MAIN", DATED MARCH 1963, BY E.C. JORDAN, PROVIDED BY THE CITY OF PORTLAND.
F. "BOUNDARY SURVEY AND DIVISION OF 408 AUBURN STREET", DATED NOVEMBER 2010, FOR MZ PROPERTIES, LLC, BY R.W. EATON ASSOCIATES, PROJECT NUMBER 384.

GENERAL NOTES

1. THE SITE, THREE PARCELS
   1.1. MAP 383, BLOCK A, LOT 1 - BOOK 34504 PAGE 220
   1.2. MAP 384, BLOCK A, LOT 9 - BOOK 34504 PAGE 220
   1.3. MAP 384, BLOCK A, LOT 20 - BOOK 34572 PAGE 328
   1.4. OWNER: DEERING VILLAGE, LLC

2. AREA OF EXISTING LOT = 4.205 ACRES (183,185 S.F.)

3. ZONING REQUIREMENTS: ZONE: RESIDENTIAL 1 (RN-1)

• STREET FRONTAGE	40 FT.
• MIN. FRONT YARD	ADJ. AVG. -5 FT. (20 FT.)
• MIN. REAR YARD	25 FT.
• MIN. SIDE YARD	8 FT.
• MAX. IMPERVIOUS AREA	60%
• MAX. BUILDING HEIGHT	35 FT.
• BASE DENSITY	4 UNITS PER LOT

4. WETLANDS SHOWN ARE DELINEATED FROM AN ON THE GROUND SURVEY BY COPPI ENVIRONMENTAL, LLC IN MAY 2025

5. ALL NEW HOMES IN THE DEERING VILLAGE SUBDIVISION WILL REQUIRE SPRINKLER SYSTEMS.

6. ALL STORMWATER INFRASTRUCTURE, LOCATED OUTSIDE OF THE PROPOSED RIGHT-OF-WAY, SHALL BE THE RESPONSIBILITY OF THE DEERING VILLAGE HOMEOWNERS ASSOCIATION AS DESCRIBED IN THE STORMWATER DRAINAGE SYSTEM MAINTENANCE AGREEMENT TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.

7. RIGHT-OF-WAY MONUMENTS AND COVERS SHOWN SHALL BE SET BY THE CONTRACTOR IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL STANDARDS MANUAL.

   7.1. AN ELEVATION BENCHMARK SHALL BE ESTABLISHED ON AT LEAST ONE OF THE NEW STREET MONUMENTS, AND IT SHALL BE SHOWN AND DESCRIBED ON THE AS-BUILT PLAN FOR THIS PROJECT.

   7.2. AT LEAST TWO OF THE NEW STREET MONUMENTS SHALL BE LABELED WITH STATE PLANE COORDINATES ON A REVISED COPY ON THE SUBDIVISION PLAN.

8. SUBDIVISION IS SUBJECT TO A STORMWATER DRAINAGE SYSTEM MAINTENANCE AGREEMENT AND BY LAWS OF THE DEERING VILLAGE HOMEOWNER'S ASSOCIATION.

9. DEERING VILLAGE WAY HAS BEEN DEDICATED AS A PRIVATE STREET

DIMENSIONAL REQUIREMENT FOR CONSERVATION RESIDENTIAL DEVELOPMENT

• MIN. LOT AREA	3,250 SF
• STREET/OPEN SPACE FRONTAGE	20 FT.
• MIN. FRONT YARD	10 FT.
• MIN. REAR YARD	12.5 FT.
• MIN. SIDE YARD	5 FT.
• MAX. IMPERVIOUS AREA	N/A FOR LOTS UNDER 5,000 SF
• MAX. BUILDING HEIGHT	35 FT.
• MIN. OPEN SPACE	30%

** WHERE A LOT WITHIN THE CONSERVATION RESIDENTIAL DEVELOPMENT ABUTS ADJACENT PROPERTY, MINIMUM SIDE AND REAR SETBACKS ARE REQUIRED IN ACCORDANCE WITH THE STANDARDS OF THE UNDERLYING ZONE

** WHERE A LOT WITHIN THE CONSERVATION RESIDENTIAL DEVELOPMENT ABUTS A STREET AT THE PERIMETER OF THE DEVELOPMENT, MINIMUM FRONT SETBACK AND MINIMUM STREET FRONTAGE IS REQUIRED IN ACCORDANCE WITH THE STANDARDS OF THE UNDERLYING ZONE

LEGEND

- #5 REBAR WITH PLASTIC CAP (PROPOSED)
- SET CITY OF PORTLAND RIGHT-OF-WAY MONUMENT & COVER (PROPOSED)
- FOUND IRON (SIZE & TYPE AS NOTED)
- UTILITY POLE (NUMBER AS NOTED)
- GUY WIRE ANCHOR
- BOUNDARY LINE
- RIGHT-OF-WAY LINE
- ABUTTER LINE
- BUILDING SETBACK
- OVERHEAD UTILITY
- N/F — NOW OR FORMERLY OWNED BY
- 1234/567 — DEED BOOK AND PAGE (CCRD)
- 12-34 — TAX MAP-LOT
- WETLAND

APPROVED BY THE CITY OF PORTLAND PLANNING BOARD

CHAIRPERSON DATE

10/09/25

PREPARED FOR:

DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:

DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:

SUBDIVISION PLAN

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL

SCALE: NOTED

DATE: 10/09/2025

SHEET:

C103

DIMENSIONAL REQUIREMENT FOR CONSERVATION RESIDENTIAL DEVELOPMENT

- MIN. LOT AREA 3,250 SF
- STREET/OPEN SPACE FRONTAGE 20 FT.
- MIN. FRONT YARD 10 FT.
- MIN. REAR YARD 12.5 FT.
- MIN. SIDE YARD 5 FT.
- MAX. IMPERVIOUS AREA N/A FOR LOTS <5,000 SF
- MAX. BUILDING HEIGHT 35 FT.
- MIN. OPEN SPACE 30%

** WHERE A LOT WITHIN THE CONSERVATION RESIDENTIAL DEVELOPMENT ABUTS ADJACENT PROPERTY, MINIMUM SIDE AND REAR SETBACKS ARE REQUIRED IN ACCORDANCE WITH THE STANDARDS OF THE UNDERLYING ZONE

** WHERE A LOT WITHIN THE CONSERVATION RESIDENTIAL DEVELOPMENT ABUTS A STREET AT THE PERIMETER OF THE DEVELOPMENT, MINIMUM FRONT SETBACK AND MINIMUM STREET FRONTAGE IS REQUIRED IN ACCORDANCE WITH THE STANDARDS OF THE UNDERLYING ZONE

GENERAL NOTES

1. THE SITE, THREE PARCELS
   1.1. MAP 383, BLOCK A, LOT 1 - BOOK 34504 PAGE 220
   1.2. MAP 384, BLOCK A, LOT 9 - BOOK 34504 PAGE 220
   1.3. MAP 384, BLOCK A, LOT 20 - BOOK 34572 PAGE 328
   1.4. OWNER: DEERING VILLAGE LLC
2. AREA OF EXISTING LOT = 4.205 ACRES (183,185 S.F.)
3. ZONING REQUIREMENTS: ZONE: RESIDENTIAL 1 (RN-1)
   - STREET FRONTAGE 40 FT.
   - MIN. FRONT YARD AVG. ADJ - 5 FT. (20 FT.)
   - MIN. REAR YARD 25 FT.
   - MIN. SIDE YARD 8 FT.
   - MAX. IMPERVIOUS AREA 60%
   - MAX. BUILDING HEIGHT 35 FT.
   - BASE DENSITY 4 UNITS PER LOT
4. PRIOR TO CONSTRUCTION THE TOWN ENGINEER/DIRECTOR OF PUBLIC WORKS SHALL APPROVE THE CONSTRUCTION DRAWINGS.
5. THE CONTRACTOR SHALL CONFIRM HORIZONTAL AND VERTICAL CONTROL BEFORE BEGINNING WORK.
6. ALL DISTURBED SURFACES NOT COVERED WITH OTHER MATERIALS SHALL RECEIVE 4" TOPSOIL, LOAM, & SEED.
7. CLEARING DEBRIS AND GRUBBINGS SHALL BE REMOVED, OR GROUND UP AND USED IN EROSION CONTROL. WHAT CANNOT BE RE-USED WILL BE SUBJECT TO BURNING, WITH COORDINATION FROM BRUNSWICK FIRE DEPARTMENT
8. THE LIMITS OF CLEARING SHALL BE LOCATED AND MARKED PRIOR TO CUTTING OF TREES.
9. TREES, SHRUBS, AND GROUNDCOVER IN AREAS NOT TO BE DISTURBED SHALL BE PROTECTED.
10. REMOVE DEAD WOOD, PRUNE AND CLEAN UP TRIMMED VEGETATION TO THE CLEARING LIMIT IN WOODED AREAS.
11. INSTALL TEMPORARY EROSION CONTROL BEFORE BEGINNING EARTHWORK. REMOVE WHEN UPSLOPE AREAS ARE STABILIZED
12. SEE PLUMBING AND ELECTRICAL PLANS FOR LOCATION AND INVERTS OF SLEEVES IN FOUNDATIONS.
13. ELECTRIC SERVICE SHALL BE INSTALLED IN CONDUIT UNDER PAVEMENT/CONC.
14. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL SEWER, WATER, ELECTRICAL, AND SANITARY CONDUIT, MANHOLES, TRANSFORMERS, AND FITTINGS FOR APPROVAL.
15. ALL UNDERGROUND UTILITIES LOCATED ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
16. ALL SIGNAGE AND PAVEMENT MARKINGS TO BE IN ACCORDANCE WITH THE MUTCD STANDARDS.
17. ALL ACCESS ROUTES TO BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS.
18. ALL WATER SERVICE WORK TO BE COORDINATED WITH LOCAL WATER DISTRICT STANDARDS.
19. DUCTILE IRON PIPE SHALL MEET THE REQUIREMENTS OF AWWA C150 AND C151, CLASS 52, AND HAVE PUSH ON OR FLANGED JOINTS AS REQUIRED. FITTINGS SHALL HAVE MECHANICAL JOINTS WITH RETAINER GLANDS.
20. SANITARY SEWER PIPE AND FITTINGS TO BE SDR-35 PVC.
21. INSTALL 2" RIGID STYROFOAM INSULATION OVER SANITARY SEWER IN AREAS WHERE THERE IS LESS THAN 4' OF COVER.
22. CONNECTIONS AT MANHOLES/CATCH BASINS SHALL HAVE A FLEXIBLE BOOT CAST ONTO THE BARREL AND SECURED WITH STAINLESS STEEL BANDS.
23. SEE SHEET C105 FOR GRADING, DRAINAGE, STORM DRAIN DATA & EROSION CONTROL MEASURES.

PLANTING SCHEDULE

QUANTITY	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	SYMBOL
25	ACER RUBRUM 'RED SUNSET' [1]	RED SUNSET MAPLE [1]	25'-45'	
70	CARPINUS BETULUS [2]	EUROPEAN HORNBEAM [2]	>25'	
27	THUJA OCCIDENTALIS 'SMARAGD' [3]	EMERALD GREEN ARBORVITAE	12'-35'	

[1] VARY NATIVE SPECIES FROM CITY OF PORTLAND APPROVED TREE LIST (SMALL/MEDIUM STREET TREES)
[2] VARY NATIVE SPECIES FROM CITY OF PORTLAND APPROVED TREE LIST (SMALL ORNAMENTAL OR NATURALIZE)
[3] EXCLUDING PERIMETER BUFFERING VARY SPECIES PER THE CITY OF PORTLAND APPROVED TREE LIST (CONIFERS)

LANDSCAPING NOTES

1. ALL PLANT MATERIAL SHALL BE NURSERY-GROWN, TRUE TO NAME, AND FREE OF PESTS/DISEASE, MEETING ANSI Z60.1 SPECIFICATIONS. (TECH. MANUAL § 4.1.1 A.1-5)
2. ALL PROPOSED TREES AND SHRUBS SHALL BE SPECIES NATIVE TO THE NORTHEASTERN U.S.; NATIVE SELECTIONS ARE FLAGGED "N" IN THE SCHEDULE. (TECH. MANUAL § 4.1.1 A-9)
3. NO SPECIES LISTED BY THE CITY AS INVASIVE—OR ANY ARTIFICIAL/INORGANIC "PLANTS"—SHALL BE INSTALLED. (TECH. MANUAL § 4.1.1 A.3)
4. THE SERVICE YARD/DUMPSTER AREA SHALL BE FULLY SCREENED BY A 6 FT SOLID CEDAR FENCE BACKED BY A STAGGERED ARBORVITAE HEDGE. (LUC § 13.6.2 B.2.A)
5. COURTYARD PAVING SHALL BE LIGHT-COLORED CONCRETE PAVERS OR APPROVED EQUAL WITH AN INITIAL SRI ≥ 39, SATISFYING HARDSCAPE SOLAR-REFLECTANCE REQUIREMENTS. (LUC § 13.6.2 B.4)
6. ALL STREET TREES TO BE SET IN 5 FT × 10 FT GRANITE-CURBED WELLS WITH WELDED-STEEL GRATES PER CITY FIGURE IV-4A. (TECH. STANDARDS MANUAL § IV)
7. THE DESIGNATED SNOW-STORAGE POCKET IS PLANTED WITH SALT-TOLERANT RED-OSIER DOGWOOD AND SWITCHGRASS OR APPROVED EQUAL; GRADING DIRECTS MELTWATER TO THE ADJACENT STORMWATER COLLECTION SYSTEM. (TECH. MANUAL § 4.1.5 C.4)
8. SNOW PILES SHALL NOT IMPEDE DRAINAGE STRUCTURES NOR ENCROACH UPON SIDEWALKS OR PROPERTY LINES; A 3 FT SETBACK IS DIMENSIONED ON THE GRADING PLAN. (LUC § 13.6 D.3)
9. PLANT INSTALLATION SHALL OCCUR APRIL 1 – JULY 1 OR SEPTEMBER 1 – NOVEMBER 1; FALL BACK-UP DATES ARE NOTED IN THE CONSTRUCTION SCHEDULE. (TECH. MANUAL § 4.1.5 D.1)
10. ALL EXPOSED SOILS TO BE HYDRO-SEEDED IMMEDIATELY AFTER FINAL GRADING; SLOPES STEEPER THAN 5 % RECEIVE COIR MATTING AND MEADOW MIX. (TECH. MANUAL § 4.1.5 D.3)
11. CONTRACTOR SHALL REPLACE ANY DEAD, DISEASED, OR DAMAGED PLANT MATERIAL WITHIN ONE YEAR OF INSTALLATION. (TECH. MANUAL § 4.1.5 D.4)
12. A LANDSCAPE PERFORMANCE BOND EQUAL TO 125 % OF REMAINING PLANT-MATERIAL COST SHALL BE POSTED IF LANDSCAPING IS NOT COMPLETE AT ISSUANCE OF THE CERTIFICATE OF OCCUPANCY. (LUC § 13.10.2; TECH. MANUAL § 4.1.5 D.2)

FOR REVIEW
NOT FOR CONSTRUCTION

0 15 30 60 120
SCALE IN FEET

STATE OF MAINE
TROY A. TRAFTON
13008
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
SITE/LANDSCAPE PLAN

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C104

CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE, SEE DETAIL.
2. CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
3. INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
4. GRUB SITE WITHIN GRADING LIMITS.
5. STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES.
6. INSTALL/ADJUST SEDIMENT FENCE, CHECK DAMS, AND HAYBALES, AS REQUIRED.
7. PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM OF UNCOVERED DISTURBED EARTH AT ANY ONE TIME IS FIVE ACRES. THE MAXIMUM LENGTH OF TIME THAT DISTURBED EARTH MAY BE LEFT UNSTABILIZED IS 45 DAYS.
8. BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

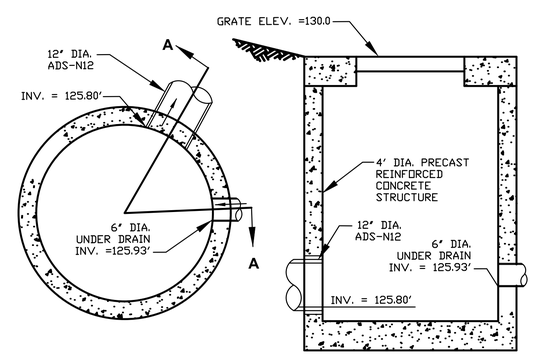
   AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
   D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
9. INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
10. PAVE DRIVEWAY AND PARKING AREAS.
11. PLACE TOPSOIL, SEED AND MULCH.
12. COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.

STRUCTURE SCHEDULE

STRUCTURE	RIM	INVERT IN	INVERT OUT	SUMP
CB-01	130.1		126.5 (SD-01)	123.50
CB-02	128.5	126.5 (SD-01)		123.50
DMH-01	133.2	130.0	130.0	
OCS-1	SEE DETAIL			

PIPE SCHEDULE

PIPE	PIPE DIAMETER	PIPE LENGTH (FT)	PIPE SLOPE (FT/FT)	TYPE
SD-01	12"	6'	FLAT	ADS HP STORM PIPE
SD-02	12"	20'	0.020	ADS HP STORM PIPE



PLAN VIEW
NTS

CROSS SECTION A-A
NTS

OUTLET CONTROL STRUCTURE (OCS-1)
NTS

FOR REVIEW
NOT FOR CONSTRUCTION

0 15 30 60 120
SCALE IN FEET

STATE OF MAINE
TRAVIS A. LINDER
13550
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

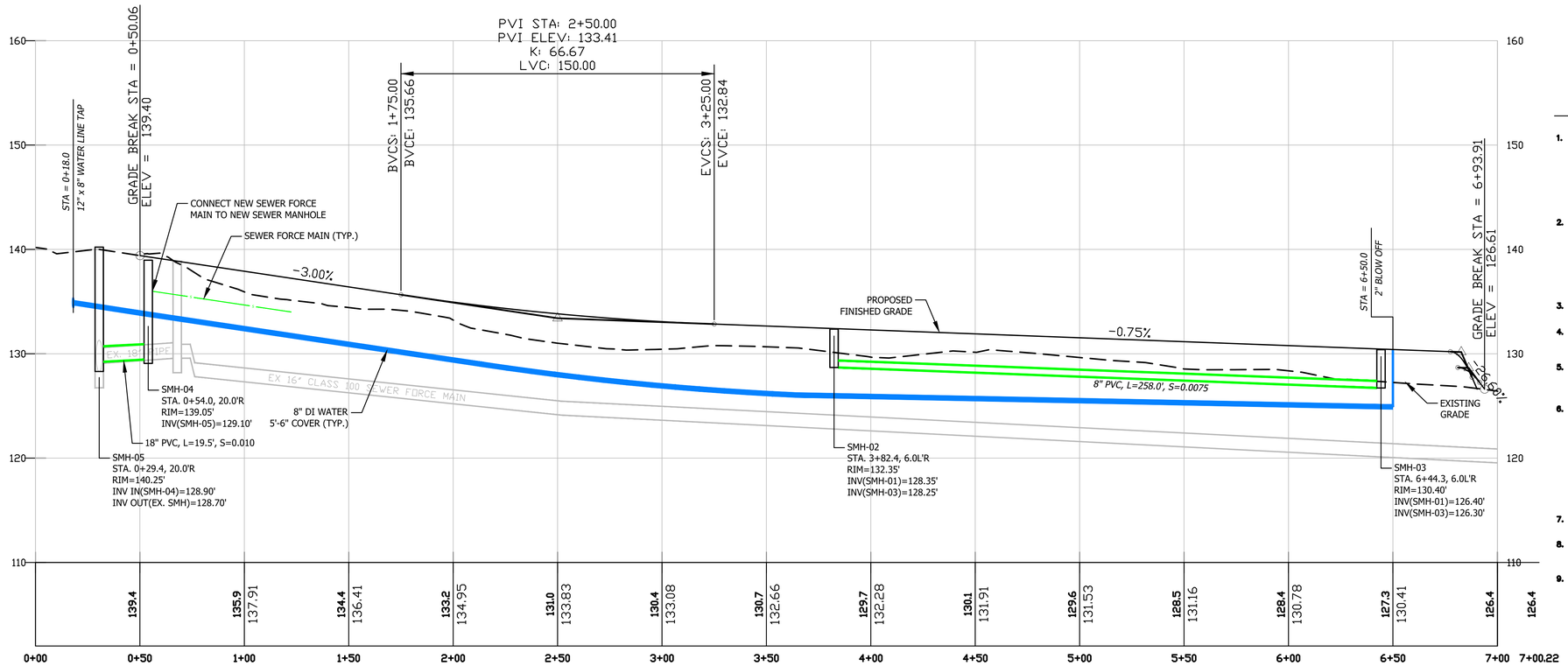
TITLE:
GRADING & DRAINAGE PLAN

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C105

FOR REVIEW
NOT FOR CONSTRUCTION



ROAD PROFILE

HORZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'

0 15 30 60 120
SCALE IN FEET

CONSTRUCTION NOTES

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND HAVE BEEN DETERMINED BY SURFACE EVIDENCE AND/OR PREVIOUSLY GENERATED PLANS. NO GUARANTEE IS MADE THAT ALL UTILITIES ARE SHOWN OR WILL BE FOUND IN LOCATIONS INDICATED. THIS INFORMATION IS PROVIDED FOR REFERENCE AND THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES AND POINTS OF CONNECTION IN THE FIELD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND RESTORATION OF ALL UTILITIES DISTURBED DURING CONSTRUCTION AT NO EXTRA EXPENSE TO THE OWNER.
2. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFORMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK
3. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
4. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND/OR DEVIATIONS OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
5. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSIONS AND CONDITIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
6. ALL SUBSURFACE UTILITY LINES, SHOWN HEREON, ARE BASED SOLELY ON THE FIELD LOCATION OF VISIBLE STRUCTURES, SMH'S, CB'S, HYDRANTS, ETC. IN CONJUNCTION WITH DESIGN AND OR AS-BUILT PLANS SUPPLIED TO GREENMARS BY OTHERS. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, DRILLING ETC. DIG SAFE MUST BE NOTIFIED AND A SITE IDENTIFICATION NUMBER, ALONG WITH A SAFE TO DIG DATE OBTAINED. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION, DEPTH AND MATERIAL OF ALL SUBSURFACE UTILITY LINES SHOWN HEREON, AND ON ANY AND ALL OTHERS LOCATED ON SITE WITHIN THE CONSTRUCTION AREA. CONTACT DIG-SAFE (888) DIG-SAFE PRIOR TO ANY EXCAVATION WORK.
7. COORDINATE ALL ELECTRICAL WORK WITH CENTRAL MAINE POWER PRIOR TO CONSTRUCTION.
8. ALL PAVEMENT MARKINGS AND PAINT STRIPING TO MEET THE STANDARDS OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
9. ALL WATER LINE WORK SHALL MEET PORTLAND WATER DISTRICT STANDARDS (PWD). COORDINATE ALL WORK WITH THE DISTRICT PRIOR TO CONSTRUCTION.

STATE OF MAINE
TRAVIS A. LOMBARD
12820
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
ROAD PROFILE

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C106

STANDARD TRENCH NOTES - SEWER

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.

2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	⅜ INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A ½ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.

4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, AFTER EXCLUDING DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

   TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUNDED TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE

5. SHEETING: ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.

6. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.

7. PIPE INSULATION AT STORM DRAIN CROSSING: INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.

STANDARD TRENCH NOTES - WATER

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.

2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90-100% PASSING	¾ INCH SCREEN
20-55% PASSING	⅜ INCH SCREEN
0-10% PASSING	#4 SIEVE
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3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A ½ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.

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   TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUNDED TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE

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6. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.

7. WATER/SEWER SEPARATION: WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER BY A MINIMUM OF 10 FEET HORIZONTALLY AND A MINIMUM OF 18 INCHES VERTICALLY, WITH THE WATER MAIN ABOVE THE SEWER.

8. PIPE COVER:
   COVER OVER WATER SHALL BE 5.0 FEET MINIMUM IN ALL LOCATIONS.

WATER SUPPLY GENERAL NOTES

1. GENERAL
   BUILD THE WATER SUPPLY SYSTEM IN CONFORMANCE WITH THE *WATER USE RULES, REGULATIONS AND CONSTRUCTION SPECIFICATIONS,* AND THE PORTLAND WATER DISTRICT..

2. PIPE AND FITTING MATERIALS:
   PIPES WITH DIAMETERS GREATER THAN 2 INCHES MUST BE DUCTILE IRON. ALL PIPES MUST HAVE A PRESSURE RATING OF 200 PSI OR GREATER.

3. JOINT RESTRAINT: USE MECHANICALLY RESTRAINED JOINTS FOR THE ENTIRE LENGTH OF THE NEW 6" DI FIRE SERVICE LINE.

4. PRESSURE TESTING: PRESSURE TEST IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT REQUIREMENTS OR ANSI/AWWA C600 IF AHJ DOES NOT HAVE A PREFERRED METHOD OF TESTING. MINIMUM TEST PRESSURE IS 1.5 × MAXIMUM SYSTEM PRESSURE OR 100 PSI, WHICHEVER IS GREATER.

5. DISINFECTION: DISINFECT WATER MAIN AND DOMESTIC SERVICES IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT REQUIREMENTS AND ANSI/AWWA C651.

FOR REVIEW
NOT FOR CONSTRUCTION

0 15 30 60 120
SCALE IN FEET

STATE OF MAINE
TROY A. LAWRENCE
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
UTILITY PLAN

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C107

LEGEND

SF	MULCH BERM/EROSION CONTROL MIX OR SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	EROSION CONTROL MATTING

GENERAL EROSION CONTROL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM

1. CONSIDER FITTING THE BUILDING AND DRIVEWAY TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
2. EXPOSE AREAS OF BARE SOIL TO EROSIVE ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
3. SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
4. LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
5. AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.

B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES

1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION.

1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, REFER TO 'COLD WEATHER SITE STABILIZATION REQUIREMENTS'.

D. INVASIVE SPECIES AND FUGITIVE DUST

1. THE PROJECT SHALL NOT CONTRIBUTE TO THE SPREAD OF INVASIVE SPECIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE WORK AREAS FOR THE PRESENCE OF INVASIVE SPECIES, AND IF FOUND SHALL TAKE NECESSARY MEASURES TO PREVENT THEIR SPREAD IN ACCORDANCE WITH RSA 430:51-57 AND AGR 3800. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES BY INSPECTING AND CLEANING ALL EQUIPMENT ARRIVING ON SITE.
2. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST.
2. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE, SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX.
3. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX.
4. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
5. INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
6. ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
7. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
8. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS.

FOR REVIEW
NOT FOR CONSTRUCTION

0 15 30 60 120
SCALE IN FEET

STATE OF MAINE
TIMOTHY A. LIMOGES
13928
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
EROSION CONTROL PLAN

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C108

EROSION AND SEDIMENTATION CONTROL PLAN

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION FROM THIS PROJECT IS BASED UPON SOUND CONSERVATION PRACTICES, AND ADHERES TO THE STANDARDS DETAILED IN THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED MARCH 2003. THE CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THE AFOREMENTIONED PUBLICATION AND COMPLY WITH THE PRACTICES PRESENTED THEREIN.

THIS REPORT ADDRESSES THE EROSION CONTROL MEASURES TO BE APPLIED TO THE PROPOSED SITE WORK FOR THE PROJECT. REFERENCE IS MADE TO THE EROSION CONTROL EXHIBITS, SHOWING THE LOCATIONS OF PROPOSED MEASURES INCLUDED IN THIS REPORT.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

1. EROSION/SEDIMENT CONTROL DEVICES

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1.1 SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWNGRADIENT EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.

1.2 HAY BALES: PLACE IN DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES.

1.3 RIPRAP: PROVIDE RIPRAP IN AREAS WHERE SLOPES ARE STEEPER THAN 2:1 AND AS SHOWN ON THE PLANS.

1.4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

1.5 JUTE MESH: STRAW AND HAY MULCH; USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH CAN BE USED ON SLOPES LESS THAN 3:1. USE JUTE MESH ON SLOPES IN EXCESS OF 3:1.

1.6 INLET PROTECTION: STRAW BALE DROP INLET STRUCTURE

1.6.1 BALES SHALL BE EITHER WIRE-BOUND OR STRING TIED WITH THE BINDINGS ORIENTATED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.

1.6.2 BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.

1.6.3 THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED AROUND THE INLET THE WIDTH OF A BALE TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
1.6.4 EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.

1.6.5 LOOSE STRAW SHALL BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.

1.7 MAINTENANCE

1.7.1 THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

2. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES
PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

2.1 STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY HAUL TO OR FROM THE SITE.

2.2 SILTATION FENCE ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SILTATION FENCE WILL REMAIN IN PLACE UNTIL THE SITE IS REVEGETATED.

2.3 HAY BALES AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.
2.4 PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:

A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.

B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES.

C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.

D. SURROUND STOCKPILE SOIL WITH SILTATION FENCE.

2.5 ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE IS NOT REQUIRED.

2.6 IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

2.7 TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

3. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

3.1 STORMWATER RUNOFF GENERATED BY THE DEVELOPMENT OF THIS SITE WILL BE COLLECTED IN A CLOSED DRAINAGE SYSTEM.

3.2 ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SODDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

3.3 SLOPES GREATER THAN 2:1 WILL BE TREATED WITH RIPRAP.

4. CONSTRUCTION PHASE
THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

4.1 ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS. SEE ITEM NO. 4.4

4.2 PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.

4.3 TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:

A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).

B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.

STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE ENCIRCLED WITH HAY BALES OR SILT FENCE AT THE TOE OF THE PILE.

4.4 ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE EITHER:

A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR

B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.

4.5 ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)

4.6 CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE PROPOSED ROADWAY SYSTEM. ANY AREAS SUBJECT TO RUTTING WILL BE STABILIZED IMMEDIATELY. THE ENTRANCE WILL BE SWEPT WEEKLY, SHOULD MUD BE TRACKED ONTO IT.

5. POST-CONSTRUCTION
REVEGETATION
THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

5.1 A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE
WILL
BE PLACED ON SLOPES TO STABILIZE SURFACES.
5.2 IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

KENTUCKY BLUEGRASS 0.46 LBS/1000 SF. CREEPING RED FESCUE 0.46
CREEPING RED FESCUE 0.46 LBS/1000 SF. LBS/1000 SF RED TOP 0.05
PERENNIAL RYEGRASS 0.11 LB/1000 SF. LBS/1000 SF. TALL FESCUE 0.46 LBS/1000 SF.

5.3 AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IT HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO- MULCH OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.

A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER:

I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.

II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.

B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.

5.5 CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED.

A. ONLY UNFROZEN LOAM SHALL BE USED.

B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.

C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.

D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.

E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/ BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5.6 FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 80% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

6. MONITORING SCHEDULE

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.

MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:
6.1 HAY BALE BARRIERS AND SILT FENCE SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SILT FENCE BEHIND THE HAY BALES.

6.2 VISUALLY INSPECT RIP RAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.

6.3 REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OR DRAINAGE COARSE.

7. EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED, GRAVEL, OR IF 80% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

7.1 HAY BALES AND SILT FENCE THE HAY BALES AND SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE:

A. DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING.

B. GRADED IN AN AESTHETIC MANNER TO CONFORM TO THE TOPOGRAPHY, FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

7.2 MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES, THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED,THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY) FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

8. WINTER CONSTRUCTION

8.1 WINTER CONSTRUCTION: CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 1 AND APRIL 15 OF ANY YEAR SHALL BE CONSIDERED "WINTER CONSTRUCTION," AND SHALL CONFORM TO THE FOLLOWING CRITERIA.

8.2 MAXIMUM AREAS WITHOUT STABILIZATION: WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. EXPOSED AREAS SHALL BE LIMITED TO THE AREA THAT CAN BE MULCHED IN ONE DAY, PRIOR TO ANY SNOW EVENT. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED WITH EROSION CONTROL PROTECTION.

9. STABILIZATION

9.1 AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 100 LB PER 1,000 SF. (WITH OR WITHOUT SEEDING), OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT THE SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.

9.2 LOAM OR SEED WILL NOT BE REQUIRED BETWEEN THE DATES OF OCTOBER 15, AND APRIL 15. DURING PERIODS WHEN TEMPERATURES ARE ABOVE FREEZING, EXPOSED SLOPES SHALL BE FINE-GRADED AND PROTECTED WITH MULCH, OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. AFTER NOVEMBER 1, ANY LOAMED, SMOOTH, FINAL GRADED AREAS MAY BE DORMANT SEEDED AT A RATE OF 200% TO 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED, AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING TEMPERATURES, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING, AND THE SURFACE SHALL BE PROTECTED TEMPORARILY FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED DURING THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF HAY BALES OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.

9.3 MULCH ANCHORING: MULCH ANCHORING SHALL BE INSTALLED ACCORDING TO THE FOLLOWING CRITERIA:

A. BETWEEN NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR TRACK OR WOOD CELLULOSE FIBER.

B. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS, AND FOR ALL OTHER SLOPES GREATER THAN 5%.

C. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 5%.

9.4 DAILY PROTECTION: DURING THE PERIOD OF OCTOBER 1 TO APRIL 15, ALL BARE AND EXPOSED EARTH SHALL BE TREATED WITH A DORMANT SEEDING, MULCHED AND ANCHORED AT THE END OF EACH WORKING DAY.

9.5 SNOW REMOVAL: SNOW SHALL BE REMOVED PRIOR TO THE APPLICATION OF SEED AND MULCH.

10. LIMITS OF CONSTRUCTION

10.1 LIMIT OF CONSTRUCTION: THE LIMIT OF CONSTRUCTION FOR THE SITE SHALL BE AS INDICATED ON THE PLANS. NO DISTURBANCE OF SOILS, VEGETATION, OR WETLANDS WILL BE PERMITTED BEYOND THE LIMIT OF DISTURBANCE, EXCEPT IN THE AREAS OF STORMWATER DITCHES, CULVERTS, AND DISCHARGE APRONS.

10.2 CONSTRUCTION STAGING AREAS: THE CONSTRUCTION AND STAGING AREAS FOR THE SITE SHALL BE LOCATED IN WITHIN THE LIMIT OF DISTURBANCE. SILT FENCING SHALL BE PLACED ALL AROUND THE PERIMETER OF THE STAGING/STORAGE AREAS.

10.3 SCHEDULE: THE ANTICIPATED CONSTRUCTION SCHEDULE IS DURING THE YEAR OF 2014, AND WILL BEGIN WITH THE INSTALLATION OF EROSION CONTROL SYSTEMS TO PROTECT DRAINAGE WAYS AND AREAS OUTSIDE THE CONSTRUCTION LIMITS. SILT FENCING AND DITCH PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE IN THE CONTRIBUTING DRAINAGE AREA. AS SOON AS CONTROL MEASURES ARE IN PLACE, AND PRIOR TO COMMENCING SOIL DISTURBANCE ACTIVITIES, THE CONSTRUCTION ROAD SHALL BE INSTALLED. IT IS IMPERATIVE THAT DISTURBANCES TO VEGETATION BE LIMITED ONLY TO THOSE AREAS, WHICH ARE NECESSARY TO ACCOMPLISH THE WORK.

10.4 THE FINE AND VERY FINE SANDY LOAMS THAT WILL BE EXPOSED DURING SITE PREPARATION MAY BE SUSCEPTIBLE TO EROSION, AND CAN UNDERGO STRENGTH LOSS WHEN SUBJECTED TO CONSTRUCTION TRAFFIC AND EXCAVATION ACTIVITIES, PARTICULARLY DURING PERIODS OF PRECIPITATION AND HIGH GROUND WATER LEVELS. THEREFORE, CARE WILL BE EXERCISED DURING CONSTRUCTION TO MINIMIZE DISTURBANCE OF THE BEARING SOILS. ALL TOPSOIL, ORGANIC AND LOOSE SURFACE SOIL WILL BE STRIPPED AND STORED FOR REUSE LATER. SHOULD THE SUBGRADE BECOME SOFT OR DIFFICULT TO WORK AND/OR WHEREVER SUBSURFACE DRAINAGE CAVITIES ARE ENCOUNTERED, THE SUBGRADE WILL BE OVER EXCAVATED AS REQUIRED, AND BACKFILLED WITH GRANULAR FILL OR CRUSHED STONE.

11 HOUSEKEEPING

11.1 SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.

11.2 GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN, OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

11.3 FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.

11.4 DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

11.5 TRENCH OR FOUNDATION DE-WATERING: TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

11.6 NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.

11.7 STREET SWEEPING: ANY SOIL MATERIAL TRACKED ONTO THE PUBLIC ROADWAY SHALL BE SWEPT ON A DAILY BASIS.

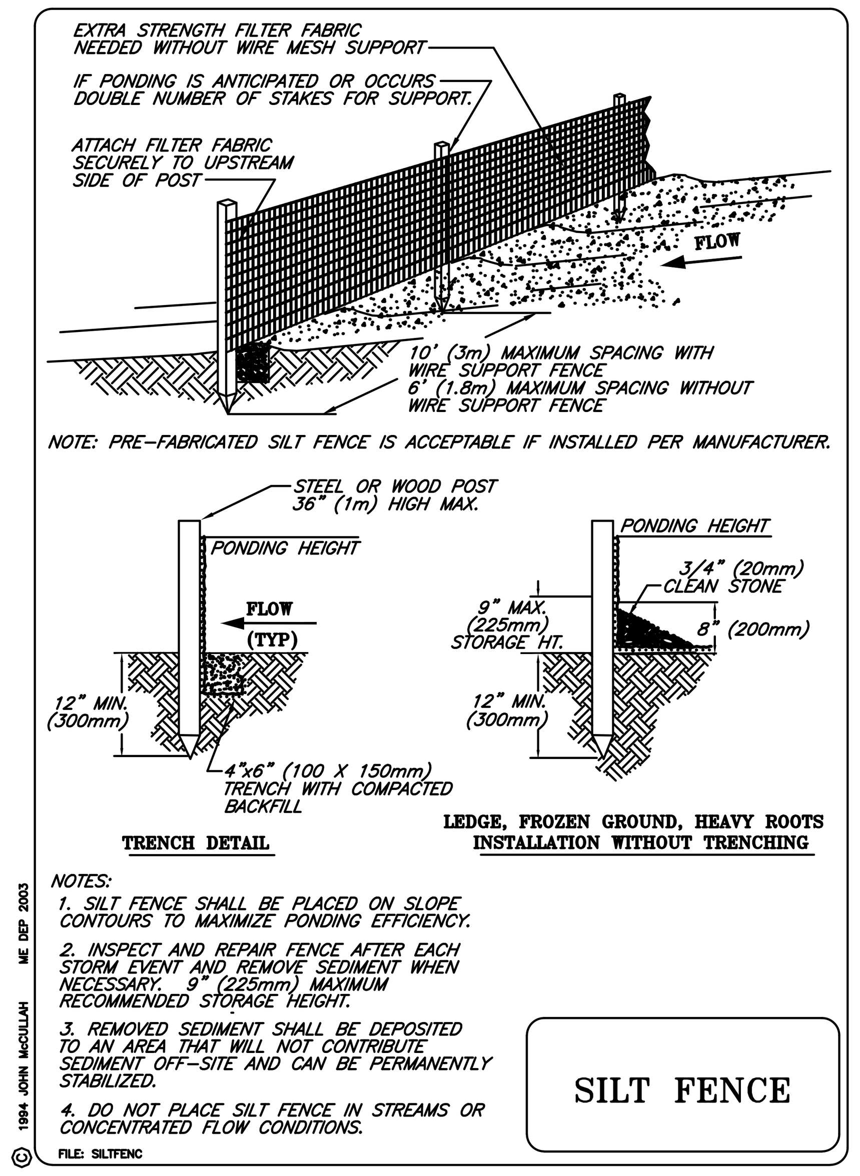
11.8 ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

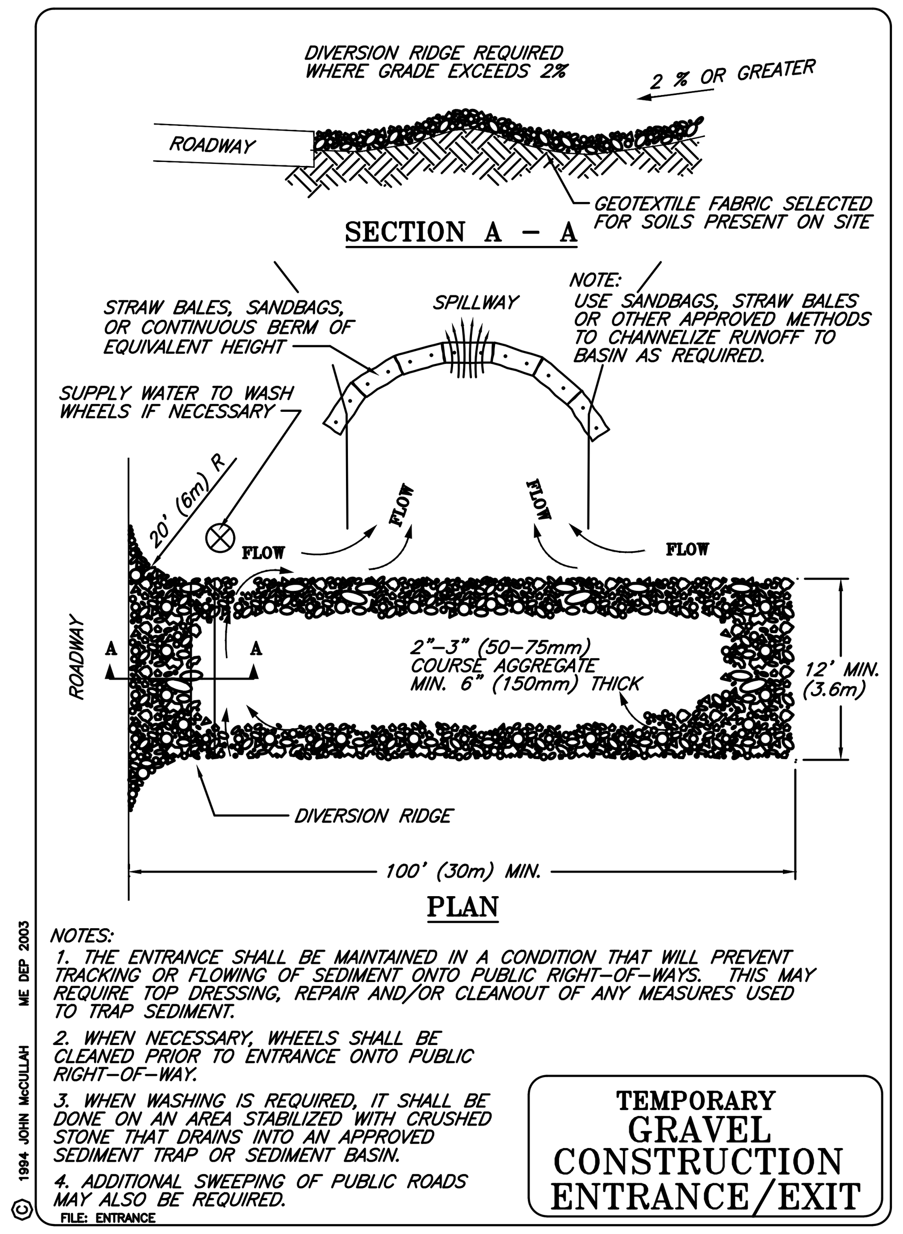
BASIC STANDARDS – EROSION CONTROL MEASURES:

MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

GENERAL NOTE:

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET MDOT ITEM 656.



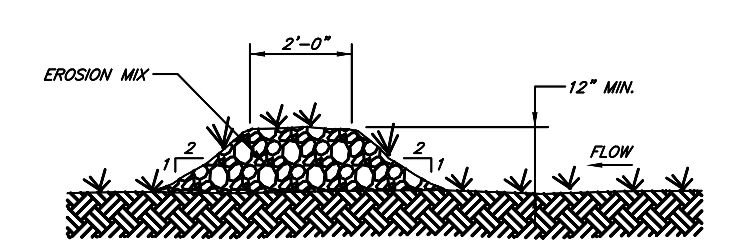


EROSION CONTROL MIX BERMS
EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

COMPOSITION
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:

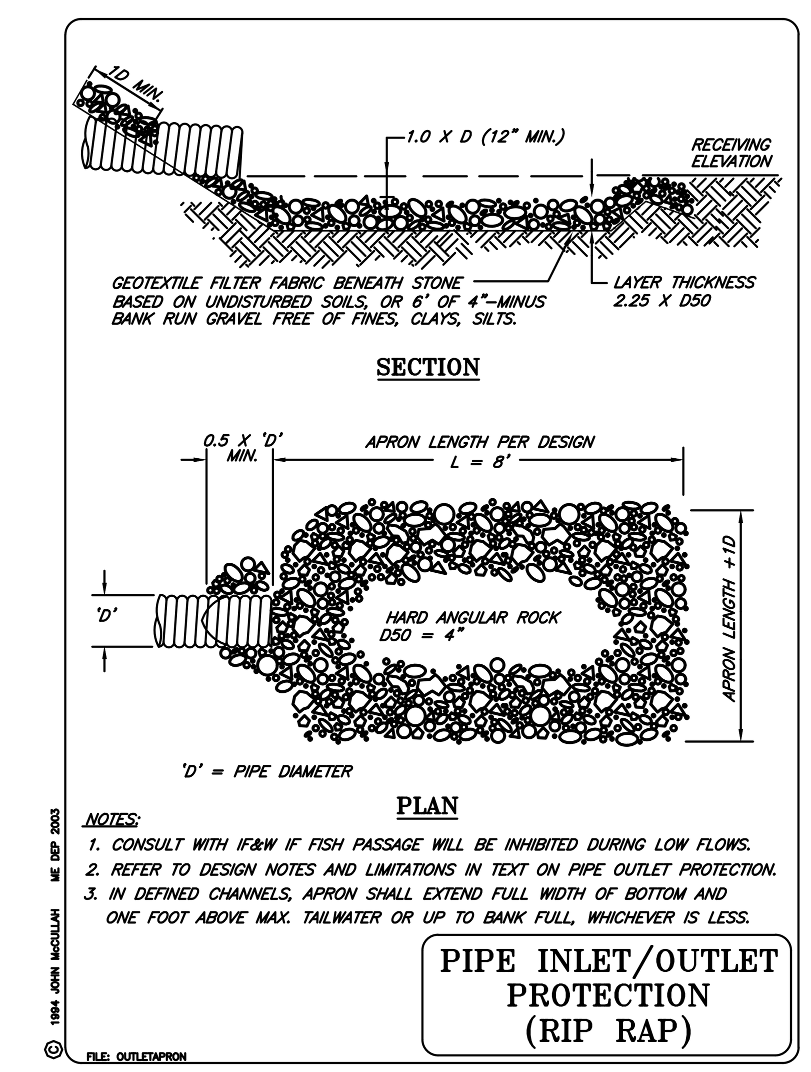
- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100%, DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100 % PASSING A 6" SCREEN AND A MINIMUM OF 70 %, MAXIMUM OF 85%, PASSING A 0.75" SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 MMHOS/CM.
- THE PH SHOULD FALL BETWEEN 5.0 AND 8.0.

INSTALLATION
- THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
- ON SLOPES LESS THAN 5 % *OR* AT THE BOTTOM OF STEEPER SLOPES (<2:1) UP TO 20 FEET LONG, THE BARRIER MUST BE *A MINIMUM OF* 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, *AND A MINIMUM* OF TWO FEET WIDE. *ON LONGER OR STEEPER SLOPES,* THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
- FROZEN GROUND, OUTCROPS OF BEDROCK AND VERY ROOTED FORESTED AREAS ARE LOCATIONS WHERE BERMS OF EROSION CONTROL MIX ARE MOST PRACTICAL AND EFFECTIVE.
- OTHER BMPS SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (I.E., A LARGE UP GRADIENT CONTRIBUTING WATERSHED).



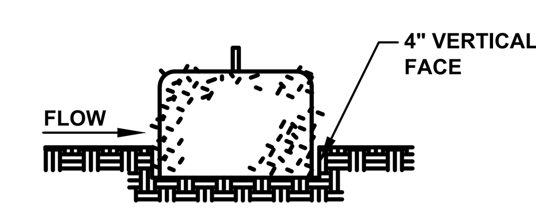
*** FOR USE AS REINFORCED MULCH BERM 2 ROWS OF EROSION MIX MUST BE INSTALLED SUPPORTED BY A MINIMUM OF 1 ROW OF HAY BALES UPSTREAM.**

MULCH BERM

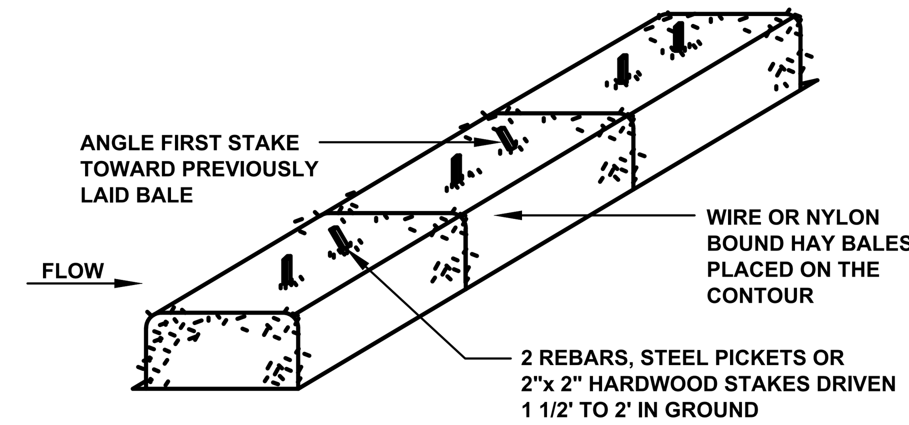


NOTES:

1. **BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.**
2. **EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".**
3. **BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.**
4. **INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS DIRECTED BY PROJECT ENGINEER.**
5. **BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.**



EMBEDDING DETAIL



ANCHORING DETAIL

HAY BALE SEDIMENT BARRIER

NOT TO SCALE

FOR REVIEW
NOT FOR CONSTRUCTION

10/09/25

PREPARED FOR:
[illegible]
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
EROSION CONTROL NOTES & DETAILS

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

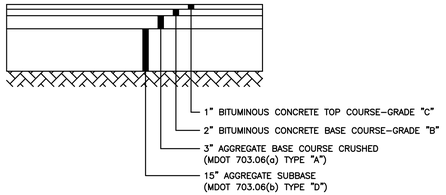
DRAWN: TAL

SCALE: NOTED

DATE: 10/09/2025

SHEET:

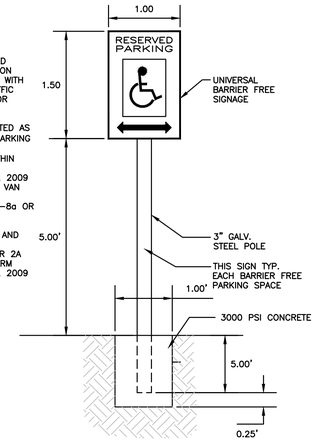
C401



NOTE:
1. COMPACT GRAVEL SUB–BASE, BASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUB–BASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

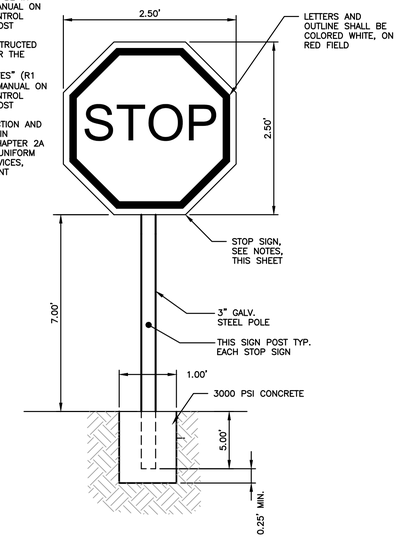
TYPICAL PAVEMENT SECTION
NOT TO SCALE

NOTES:
1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7–8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7–8a OR R7–8b.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

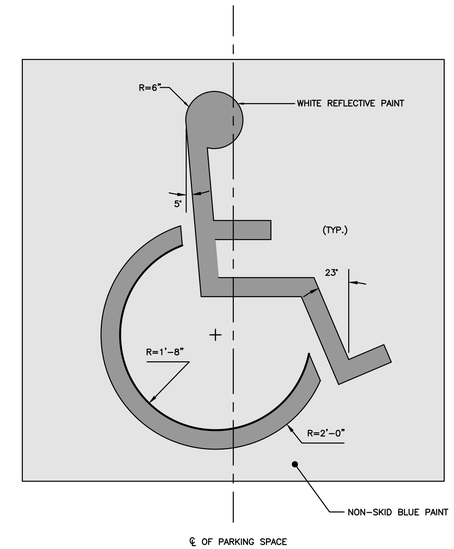


BARRIER FREE PARKING SIGN
NOT TO SCALE

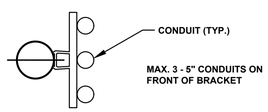
NOTES:
1. ALL ASPECTS OF STOP SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
2. SIGN SHALL BE CONSTRUCTED AS SIGN R1–1 UNDER THE "REGULATORY SIGNS, BARRICADES, AND GATES" (R1 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.



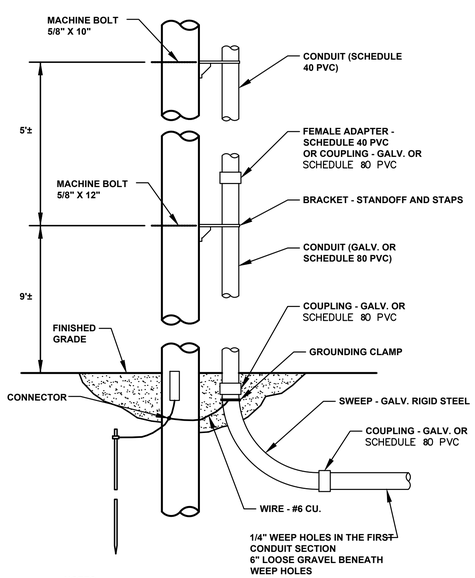
TRAFFIC SIGN DETAIL
NOT TO SCALE



INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



PLAN



NOTES:
1. LOCATE RISER ON POLE AWAY FROM TRAFFIC.
2. BOND GALVANIZED CONDUIT TO GROUND.
3. LEAVE TOP OF CONDUIT OPEN.
4. FIRST SECTION OF RISER SHALL BE GALVANIZED RIGID STEEL OR SCHEDULE 80 PVC.
5. SWEEP SHALL BE GALVANIZED RIGID STEEL.

TYPICAL RISER DETAIL
NOT TO SCALE

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R7-8	18"	12"	RESERVED PARKING	2
R7-8a	9"	18"	VAN ACCESSIBLE	2

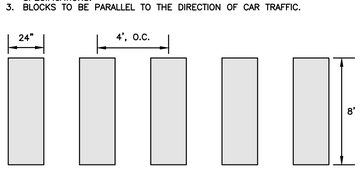
NOTES:
1. ALL SIGNS SHALL BE PER "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. ALL FREE STANDING SIGNS TO BE MOUNTED AT A MINIMUM HEIGHT OF 7' FROM THE EXISTING GRADE TO THE BOTTOM OF THE SIGN

SIGN SCHEDULE
NOT TO SCALE

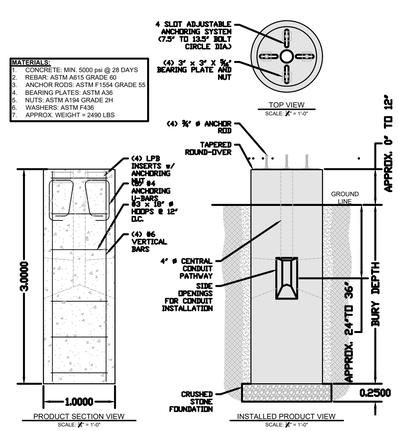
SCHEDULE		
HEIGHT OF POLE	MIN DIAMETER	MIN EMBEDMENT
<20'	18"	5'
20'–40'	2'	6'
>40'	3'	8'

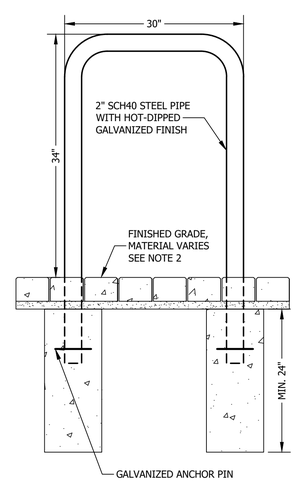
REVEALS	
APPLICATIONS	REVEAL
STREET/SIDEWALK	4"
OTHER PED HARDSCAPE	FLUSH
PEDESTRIAN LAWN/MULCH	4"
PARKING AREAS (OPEN TRAFFIC)	24–36"

NOTE:
1. CROSSWALKS TO BE BUILT IN CONFORMANCE WITH MUTCD STANDARDS, LATEST EDITION.
2. CROSSWALKS ARE TO BE PAINTED WHITE MEETING MAINE DOT SPECIFICATIONS.
3. BLOCKS TO BE PARALLEL TO THE DIRECTION OF CAR TRAFFIC.



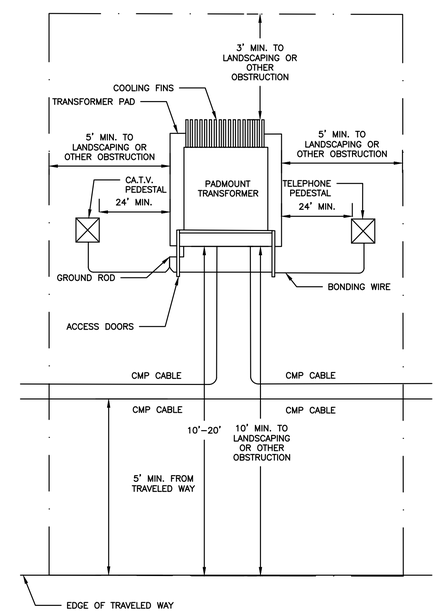
BLOCK CROSSWALK
NOT TO SCALE





NOTES:
1. ALL BICYCLE STANDS MUST BE MADRAX UX238-IG-G OR UX238-SF-G, OR APPROVED EQUAL.
2. ALL BICYCLE STANDS MUST BE IN-GROUND MOUNTED UNLESS THEY WILL BE MOUNTED TO AN EXISTING CONCRETE SLAB THAT MEETS MADRAX REQUIREMENTS FOR SURFACE MOUNTING.

SHEFFIELD BICYCLE STAND DETAIL
NOT TO SCALE



PAD MOUNTED TRANSFORMER
NOT TO SCALE

FOR REVIEW
NOT FOR CONSTRUCTION

STATE OF MAINE
Frank Anthony Miller
13020
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

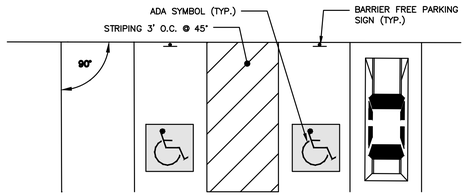
TITLE:
CONSTRUCTION DETAILS

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

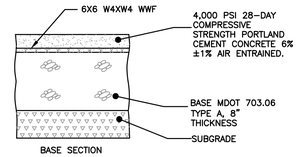
SHEET:
C501



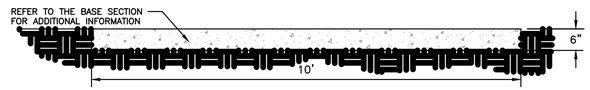
PARKING SPACE DIMENSIONS
NOT TO SCALE

NOTES:

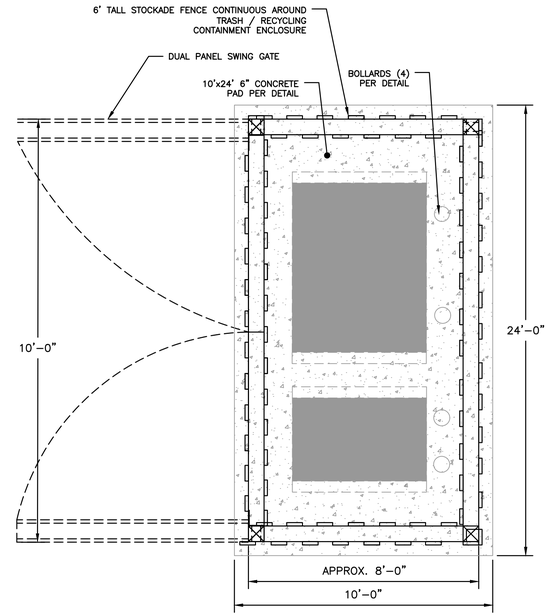
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. FINISH WITH A STIFF, COARSE, FIBER BROOM.



BASE SECTION

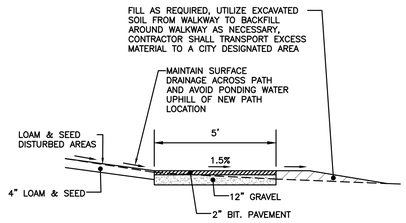


CONCRETE PAD DETAIL
NOT TO SCALE



PLAN VIEW

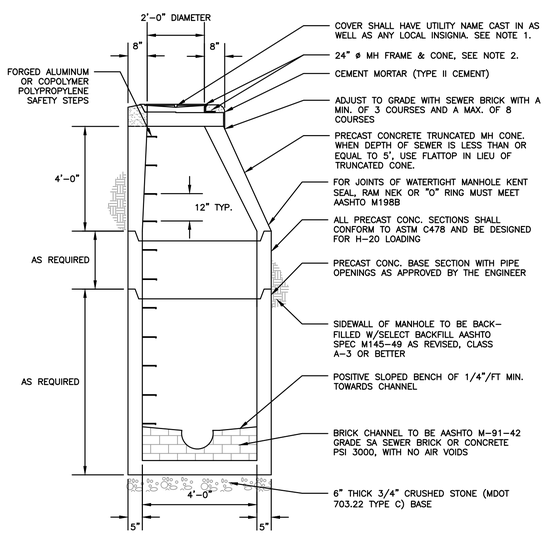
TRASH ENCLOSURE DETAIL
NOT TO SCALE



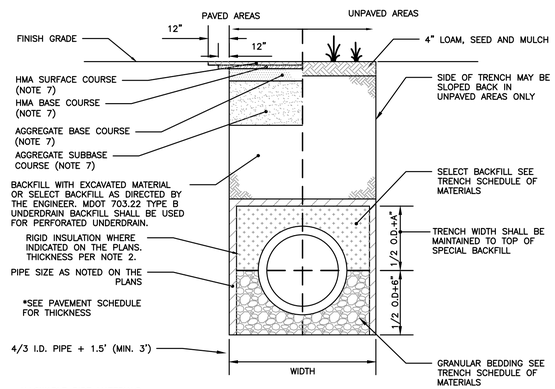
5' WIDE PAVED WALKWAY
NOT TO SCALE

NOTES:

1. MANHOLE COVER FOR SEWER MANHOLE SHALL BE ENGRAVED "SEWER", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960002 AS MANUFACTURED BY NEENAH FOUNDRY. MANHOLE COVER FOR STORM SEWER SHALL BE ENGRAVED "DRAIN", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960003 AS MANUFACTURED BY NEENAH FOUNDRY.
2. MANHOLE FRAME SHALL BE EITHER ITEM # 14960001, AS MANUFACTURED BY NEENAH FOUNDRY, OR ITEM # 1960Z, AS MANUFACTURED BY EAST JORDAN CO.
3. WITHIN CITY OF PORTLAND ROW, STORM DRAIN MANHOLE SHALL CONFORM WITH "STANDARD PRECAST SEWER MANHOLE DETAIL", WITH THE EXCEPTION THAT THE COVER SHALL BE MARKED AS "DRAIN". REFER TO CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 – SANITARY SEWER AND STORM DRAIN, FIGURE II-1
4. SUBMITTAL REQUIRED FOR MANHOLES, MANHOLE FRAMES & MANHOLE COVERS



STANDARD PRECAST SEWER MANHOLE
NOT TO SCALE



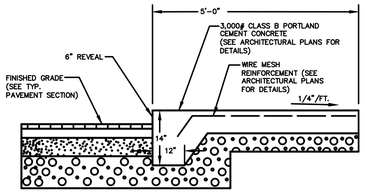
ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
   - 4.1. 2'-0" – STORM DRAIN
   - 4.2. 5'-0" – SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF PORTLAND ROW.
7. THICKNESS AS NOTED BY SURFACE DETAILS

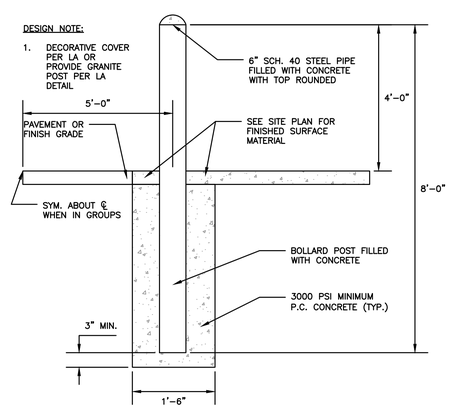
INTERNAL STORM DRAIN TYPICAL TRENCH SECTION
NOT TO SCALE



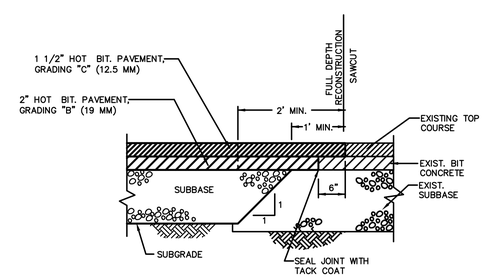
PCC SIDEWALK DETAIL
NOT TO SCALE

DESIGN NOTE:

1. DECORATIVE COVER PER LA OR PROVIDE GRANITE POST PER LA DETAIL



PIPE BOLLARD
NOT TO SCALE



SAWCUT & PAVEMENT MATCH DETAIL
N.T.S.

FOR REVIEW
NOT FOR CONSTRUCTION

STATE OF MAINE
Trent Allen Tarbox
13828
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
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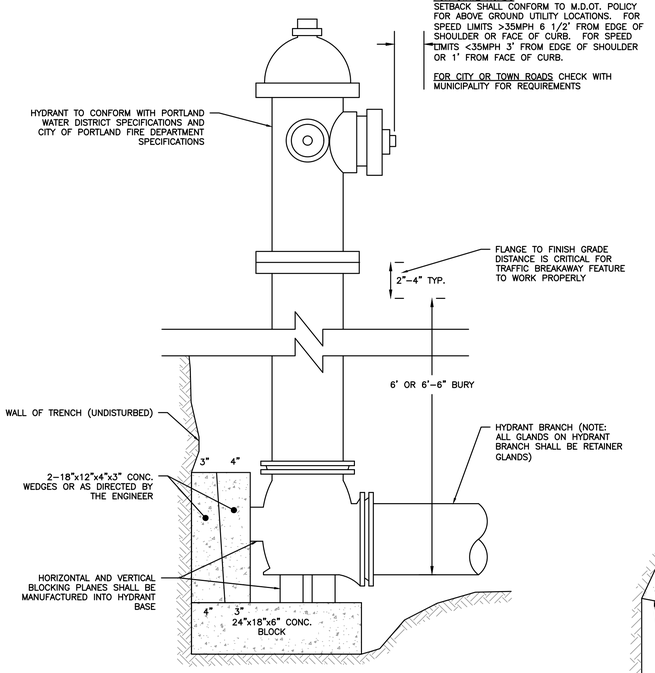
SHEET:
C502

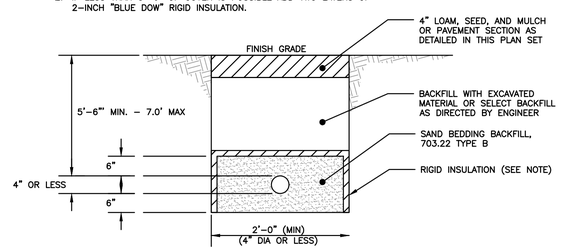


TYPICAL HYDRANT INSTALLATION DETAIL

NOT TO SCALE

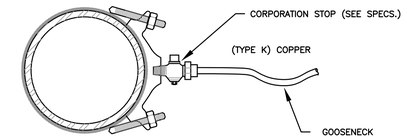
NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'–6" OF COVER IS POSSIBLE ADD TWO LAYERS OF 2–INCH "BLUE DOW" RIGID INSULATION.



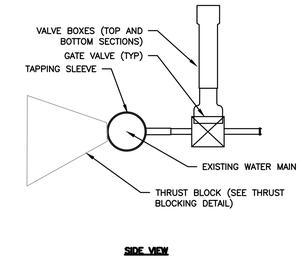
WATER SERVICE TRENCH SECTION DETAIL

NOT TO SCALE



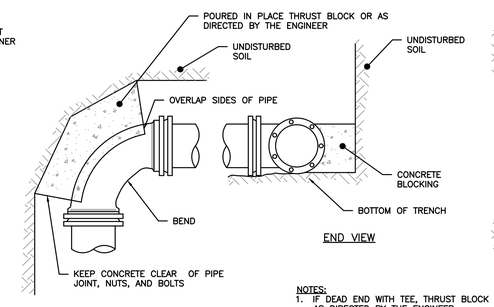
SERVICE SADDLE: 4" C.C. THREAD

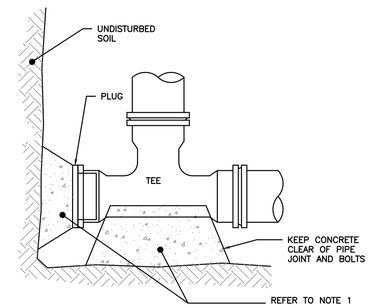
NOT TO SCALE



TAPPING SLEEVE AND VALVE

NOT TO SCALE





NOTES:

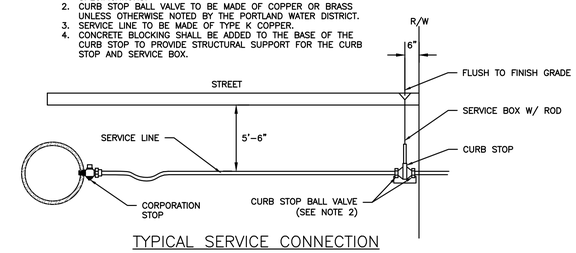
1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED ON BENDS AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

THRUST BLOCKING: REGULAR BEND

NOT TO SCALE

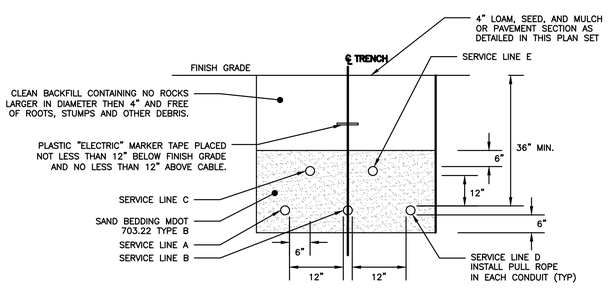
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE BRUNSWICK AND TOPSHAM WATER DISTRICT SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.



TYPICAL SERVICE CONNECTION

NOT TO SCALE



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	2–4"	SCHEDULE 40 PVC	COMMUNICATION	–
D	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTE 1
E	2–4"	SCHEDULE 40 PVC	CABLE	–

NOTES:

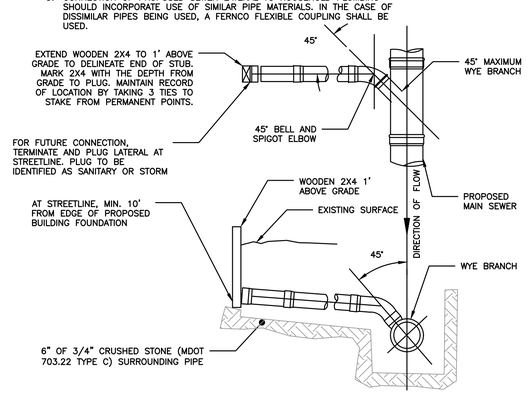
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE TOWN RIGHT–OF–WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

NOTES:

1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.

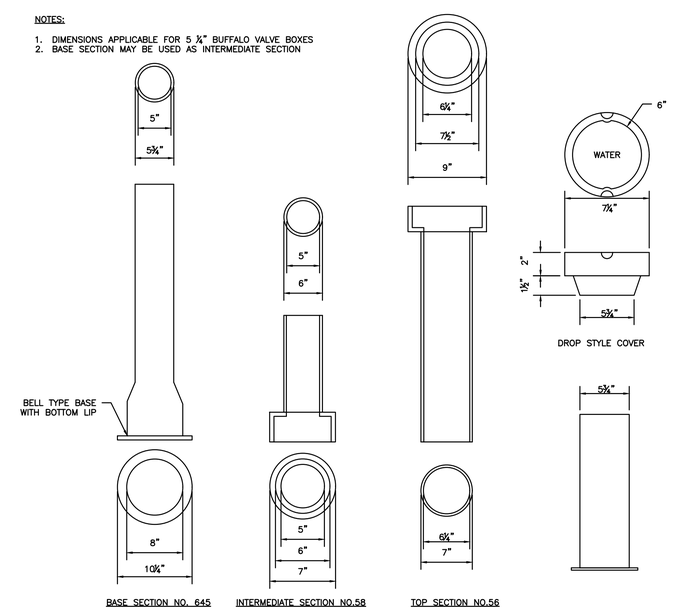


SEWER TEE/WYE CONNECTION DETAIL

NOT TO SCALE

NOTES:

1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION



VALVE BOX & COVER

NOT TO SCALE

FOR REVIEW
NOT FOR CONSTRUCTION

STATE OF MAINE
TAL
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:

DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:

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DRAWN: TAL

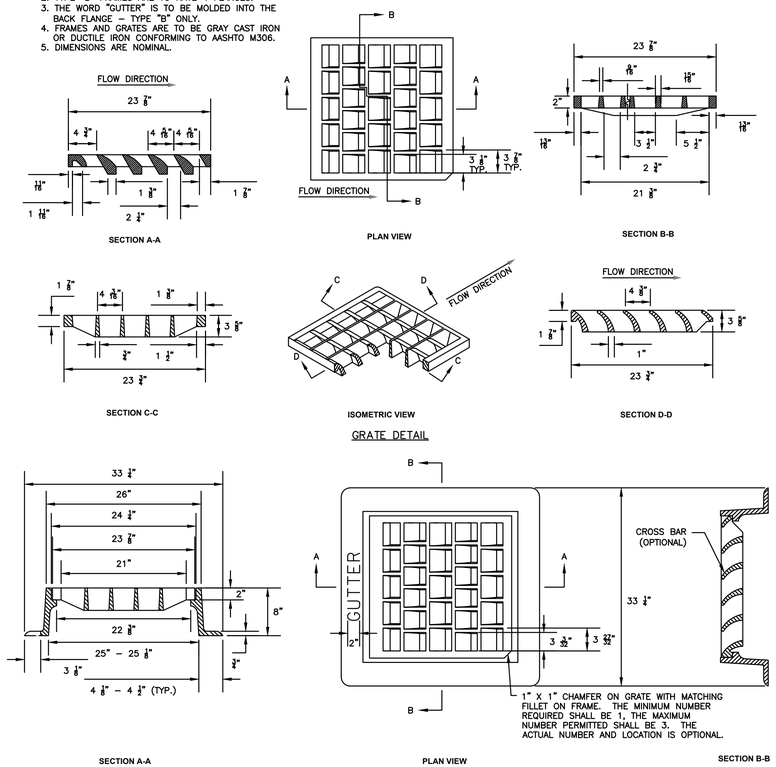
SCALE: NOTED

DATE: 10/09/2025

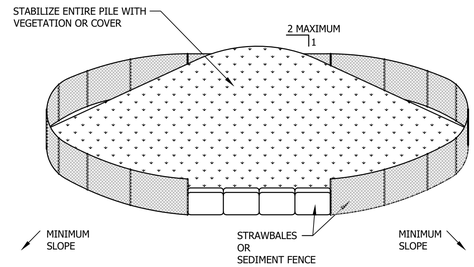
SHEET:

C503

NOTES:
1. TYPE "A" FRAMES ARE TO HAVE 3 FLANGES.
2. TYPE "B" FRAMES ARE TO HAVE 4 FLANGES.
3. THE WORD "GUTTER" IS TO BE MOLDED INTO THE BACK FLANGE – TYPE "B" ONLY.
4. FRAMES AND GRATES ARE TO BE GRAY CAST IRON OR DUCTILE IRON CONFORMING TO AASHTO M306.
5. DIMENSIONS ARE NOMINAL.



CATCH BASIN FRAME & GRATE – SQUARE
NOT TO SCALE



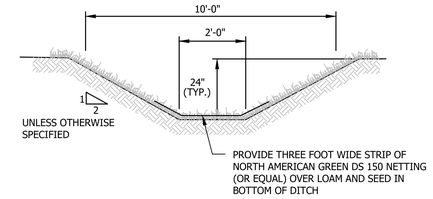
SOIL STOCKPILING IS TO BE USED WHERE TOPSOIL IS NECESSARY FOR REGRADING AND VEGETATING DISTURBED AREAS.

TEMPORARY STOCKPILE STABILIZATION MEASURES INCLUDE VEGETATIVE COVERS, MULCH, NON-VEGETATIVE COVERS, AND PERIPHERAL SEDIMENT TRAPPING BARRIERS. THE STABILIZATION MEASURE(S) SELECTED SHOULD BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND REQUIRED PERIOD OF USE.

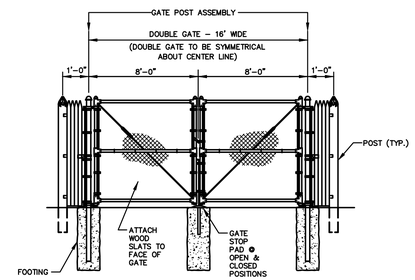
INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES AND THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILING DETAIL
NOT TO SCALE



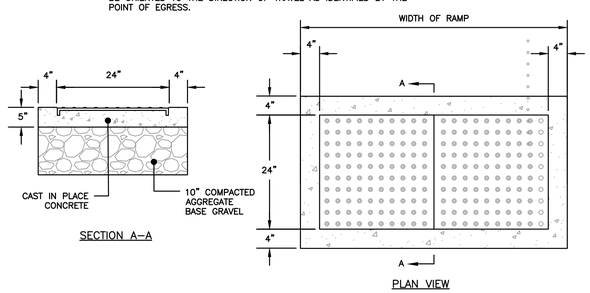
GRASS LINED DITCH DETAIL
NOT TO SCALE



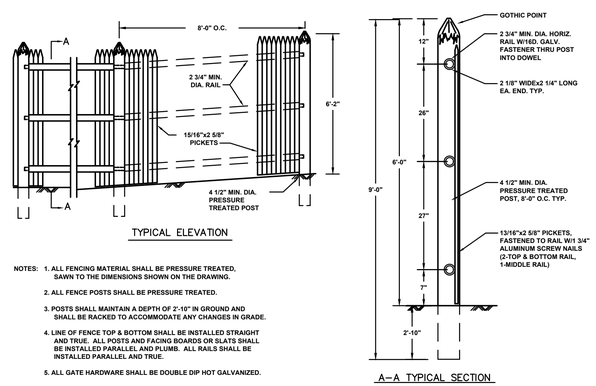
GATE
N.T.S.

NOTES:

1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FORM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE



NOTES:
1. ALL FENCING MATERIAL SHALL BE PRESSURE TREATED, SAWN TO THE DIMENSIONS SHOWN ON THE DRAWING.
2. ALL FENCE POSTS SHALL BE PRESSURE TREATED.
3. POSTS SHALL MAINTAIN A DEPTH OF 2'-10" IN GROUND AND SHALL BE RACKED TO ACCOMMODATE ANY CHANGES IN GRADE.
4. LINE OF FENCE TOP & BOTTOM SHALL BE INSTALLED STRAIGHT AND TRUE. ALL POSTS AND FACING BOARDS OR SLATS SHALL BE INSTALLED PARALLEL AND PLUMB. ALL RAILS SHALL BE INSTALLED PARALLEL AND TRUE.
5. ALL GATE HARDWARE SHALL BE DOUBLE DIP HOT GALVANIZED.

STOCKADE FENCE DETAIL
N.T.S.

FOR REVIEW
NOT FOR CONSTRUCTION

STATE OF MAINE
TODD A. LIVESAY
13928
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
CONSTRUCTION DETAILS

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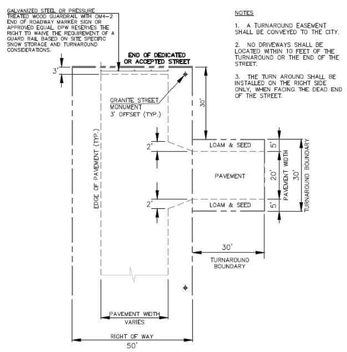
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C504



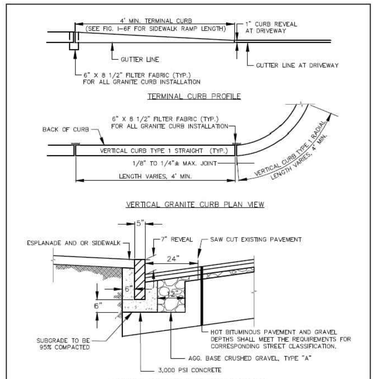
NOTES

1. A TURNAROUND EASEMENT SHALL BE CONVEYED TO THE CITY.
2. NO DRIVEWAYS SHALL BE LOCATED WITHIN 10 FEET OF THE TURNAROUND OR THE END OF THE STREET.
3. THE TURN AROUND SHALL BE INSTALLED ON THE RIGHT SIDE ONLY, WHEN FACING THE DEAD END OF THE STREET.

TURNAROUND ON DEAD END STREET

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	TURNAROUND ON DEAD END STREET		I-5



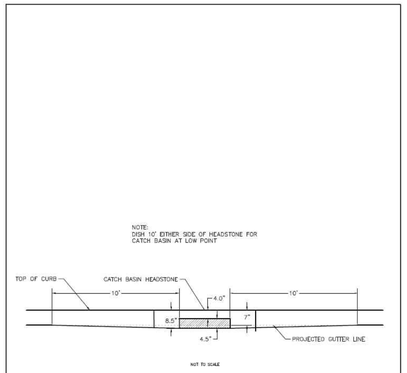
NOTES:

1. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
2. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10-INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
3. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. WOODEN SHIMS MAY BE USED TO SET CURB.

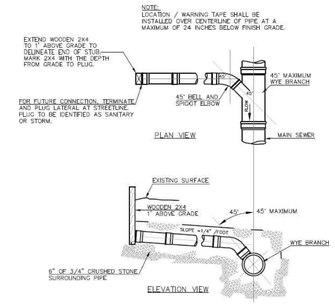
VERTICAL GRANITE CURB

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	VERTICAL GRANITE CURB		I-12



DATE: AUG 2009 REVISED: DEC 2024	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION VI	FIGURE:
	TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS		VI-10

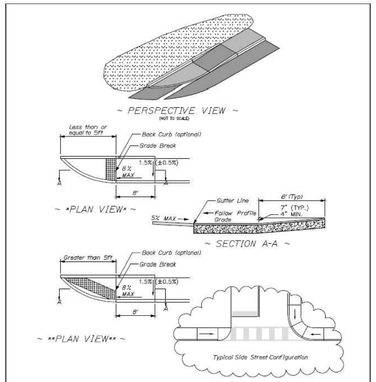


TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

DATE: AUGUST 2009 REVISED: DECEMBER 2024	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION VI	FIGURE:
	TYPICAL HOUSE LATERAL TEE/WYE CONNECTION		VI-17

FOR REVIEW
NOT FOR CONSTRUCTION



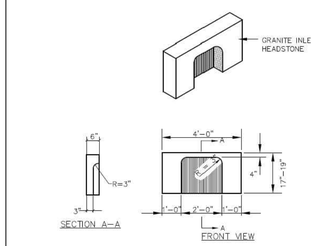
NOTES:

1. FOR USE ONLY WHEN NO SIDEWALK IS PRESENT ON THE SIDE ROAD.
2. USE "THIS" DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS LESS THAN OR EQUAL TO 5 FEET.
2. USE "THAT" DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS GREATER THAN 5 FEET.
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

SIDE STREET RAMP
WITH OR WITHOUT ESPLANADE

NOT TO SCALE

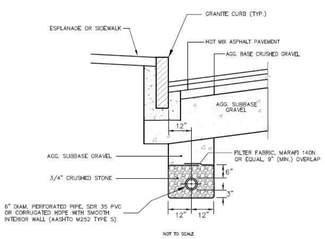
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	SIDE STREET RAMP WHEN NO INTERSECTING SIDEWALK IS PRESENT		I-6E



4' GRANITE HEADSTONE FOR CATCH BASIN INLET

NOT TO SCALE

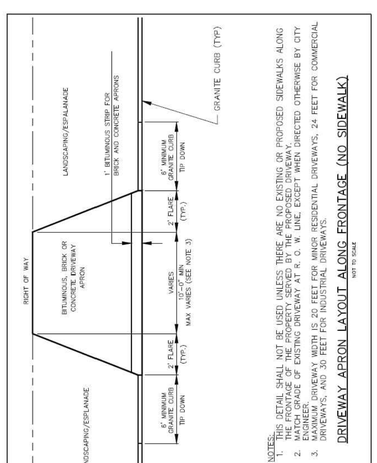
DATE: DEC 2009 REVISED: DEC 2024	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION VI	FIGURE:
	4' GRANITE HEADSTONE FOR CATCH BASIN INLET		VI-11



NOTES

1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

DATE: AUGUST 2009 REVISED: DECEMBER 2024	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION VI	FIGURE:
	TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A		VI-22



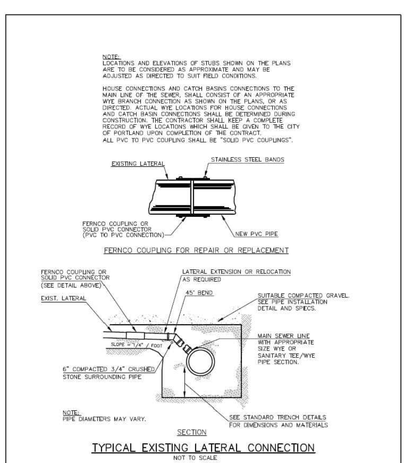
NOTES:

1. THIS DETAIL SHALL NOT BE USED UNLESS THERE ARE NO EXISTING OR PROPOSED SIDEWALKS ALONG THE STREET FRONTAGE AS DETERMINED BY THE DPW DIRECTOR OR DESIGNEE.
2. WATER GRADE OF EXISTING DRIVEWAY AT R.O.W. LINE EXCEPT WHEN DIRECTED OTHERWISE BY CITY ENGINEER.
3. MAXIMUM DRIVEWAY WIDTH IS 20 FEET FOR MINOR RESIDENTIAL DRIVEWAYS, 24 FEET FOR COMMERCIAL DRIVEWAYS, AND 30 FEET FOR INDUSTRIAL DRIVEWAYS.

DRIVEWAY APRON LAYOUT ALONG FRONTAGE (NO SIDEWALK)

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	DRIVEWAY APRON LAYOUT ALONG STREET FRONTAGE (NO SIDEWALK)		I-9D



DATE: DEC. 2009 REVISED: DEC. 2024	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION VI	FIGURE:
	TYPICAL EXISTING LATERAL CONNECTION		VI-16

10/09/25

PREPARED FOR:

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PORTLAND, MAINE 04101

PROJECT:

DEERING VILLAGE
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TITLE:

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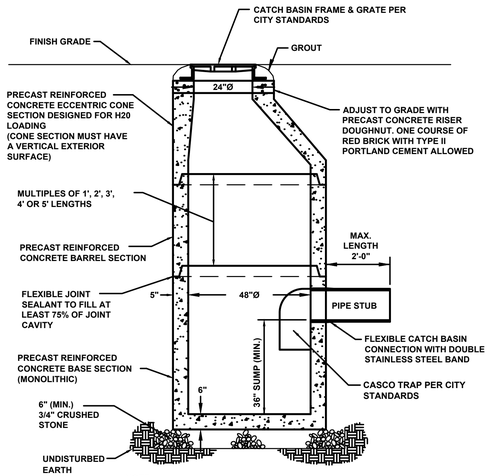
DATE: 10/09/2025

SHEET:

C505

FOR REVIEW
NOT FOR CONSTRUCTION



NOTE:
CATCH BASIN, FRAME AND GRATE SHALL BE DESIGNED TO WITHSTAND HS-20 LOADING.

PER MDOT ITEM 604.

PRECAST CONCRETE CATCH BASIN DETAIL

N.T.S.

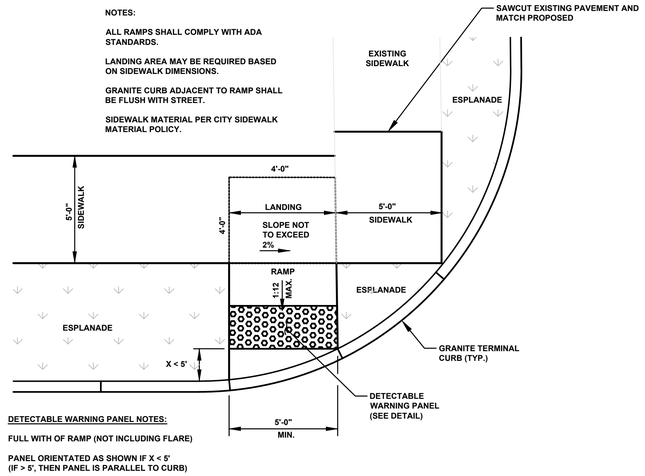
NOTES:

ALL RAMPS SHALL COMPLY WITH ADA STANDARDS.

LANDING AREA MAY BE REQUIRED BASED ON SIDEWALK DIMENSIONS.

GRANITE CURB ADJACENT TO RAMP SHALL BE FLUSH WITH STREET.

SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.



DETECTABLE WARNING PANEL NOTES:

FULL WITH OF RAMP (NOT INCLUDING FLARE)

PANEL ORIENTATED AS SHOWN IF X < 5'
(IF > 5', THEN PANEL IS PARALLEL TO CURB)

SIDEWALK LAYOUT DETAIL

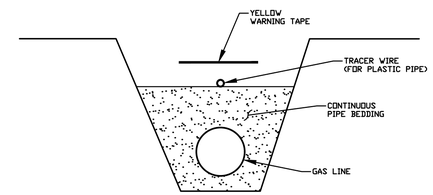
N.T.S.

UNDERGROUND GAS PIPING INSTALLATION NOTE:

COVER DEPTH - SHOULD BE INSTALLED AT LEAST 18" OF COVER. CAN BE 12" IN AREAS WHERE EXTERNAL DAMAGE IS NOT LIKELY. IF LESS THAN 12", PROVIDE A PROTECTIVE CONDUIT OR BRIDGING. ALWAYS USE WARNING TAPE AND TRACER WIRE FIR PLASTIC PIPING.

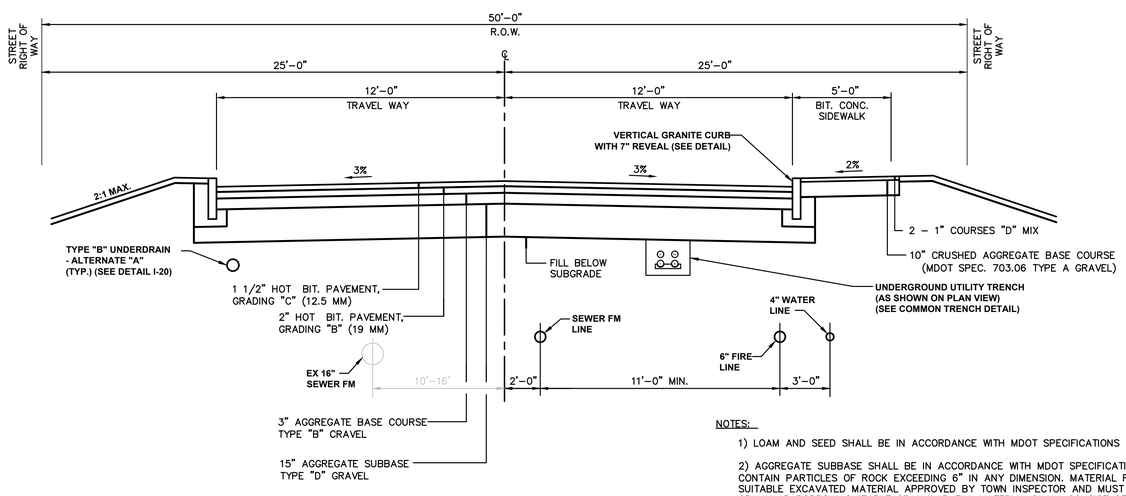
BACK FILLING TRENCHES - PIPE SHOULD HAVE A FIRM, CONTINUOUS BEARING ON TRENCH BOTTOM. WHEN INSTALLING GAS PIPING, ESPECIALLY PLASTIC, IN A FLOODED TRENCH, CARE SHOULD BE TAKEN TO PREVENT THE PIPE FROM FLOATING UP IN THE TRENCH DURING BACK FILLING OPERATIONS.

COORDINATE ALL INSTALLATIONS WITH UNITIL.



GAS LINE TRENCH DETAIL

NOT TO SCALE



TYPICAL ROAD CROSS SECTION

NOT TO SCALE

NOTES:

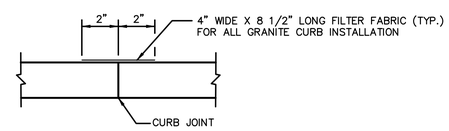
1) LOAM AND SEED SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS 615 AND 618, METHOD #1.

2) AGGREGATE SUBBASE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS, SECTION 403 AND SHALL NOT CONTAIN PARTICLES OF ROCK EXCEEDING 6" IN ANY DIMENSION. MATERIAL FOR ROAD EMBANKMENT SHALL BE SUITABLE EXCAVATED MATERIAL APPROVED BY TOWN INSPECTOR AND MUST MEET MDOT SPECIFICATION 703.19 GRANULAR BORROW. SUITABLE GRANULAR FILL MATERIAL SHALL CONSIST OF HARD DURABLE MINERALS LESS VERY FINE SANDS, SILT, CLAY OR ORGANIC MATERIALS. MATERIAL IS TO BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES. COMPACTION SHALL BE ACHIEVED BY MECHANICAL MEANS OF A "DYNAPAC", RIDING ROLLER, OR TRACKING WITH HEAVY EQUIPMENT.

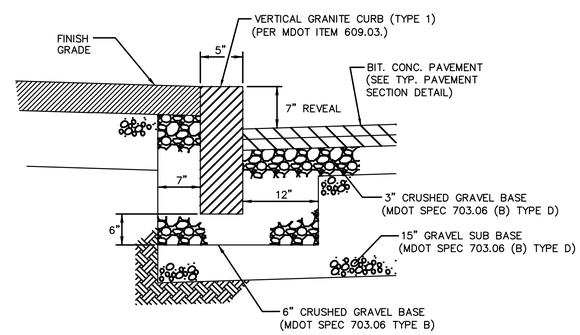
3) ENTIRE WIDTH OF ROAD AND SHOULDERS IS TO BE STRIPPED AND GRUBBED OF TOP SOIL, ORGANICS AND ALL DELETERIOUS MATERIAL. ALL STUMPS AND UNSUITABLE MATERIAL (IF ANY) SHALL BE REMOVED IF WITHIN 5 FEET OF FINISHED GRADE UNDER PAVED AREAS.

4) SEE GRADING PLAN & PROFILE FOR GRADING INTENT.

5) ALL PROPOSED INFRASTRUCTURE LOCATED WITHIN THE ROAD RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.



PLAN VIEW



NOTE: PER MDOT ITEM 703.06 (B) TYPE D

VERTICAL GRANITE CURB DETAIL

N.T.S.

STATE OF MAINE
Troy
Lindholm
13529
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

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C506

FOR REVIEW
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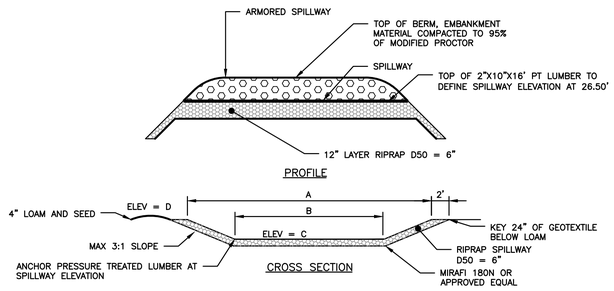
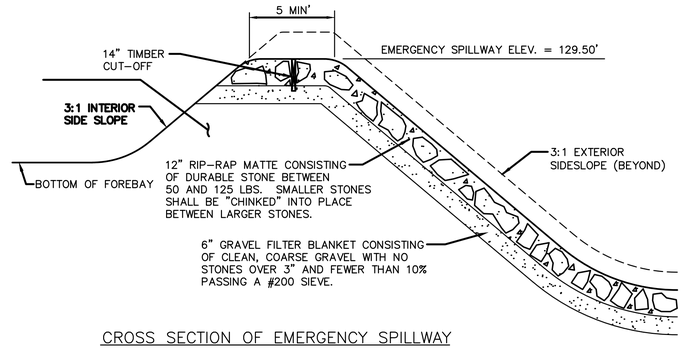
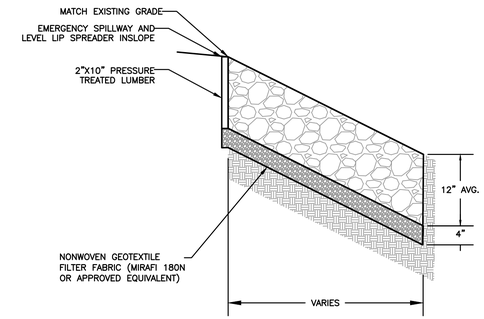


SCHEDULE	
ITEM	DIMENSION/ELEVATION
A SPILLWAY WIDTH (TOP)	26'
B SPILLWAY WIDTH (BOT)	20'
C SPILLWAY INVERT ELEV.	129.50'
D TOP OF BERM ELEV.	130.50'

OVERFLOW SPILLWAY DETAIL
NOT TO SCALE



CROSS SECTION OF EMERGENCY SPILLWAY
NOT TO SCALE



RIPRAP CROSS-SECTION
NOT TO SCALE

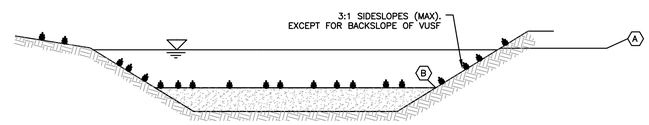
6" SOIL FILTER BED – LOAM TOPSOIL SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75–95
#10	60–90
#40	35–85
#200	20–70
1. CLAY FRACTION <2% PASSING THE #200 SIEVE. 2. LOAM SHALL BE LOOSE AND FRIABLE AND SHALL BE FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS OR ROOTS OR RHIZOMES OR "WITCH GRASS" OR OTHER UNDESIRABLE GRASSES.	

SOIL FILTER BED – SUPERHUMUS OR EQUIV. SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0–5
MINIMAL CLAY CONTENT, NO MORE THAN 3–5% PASSING #200 SIEVE	

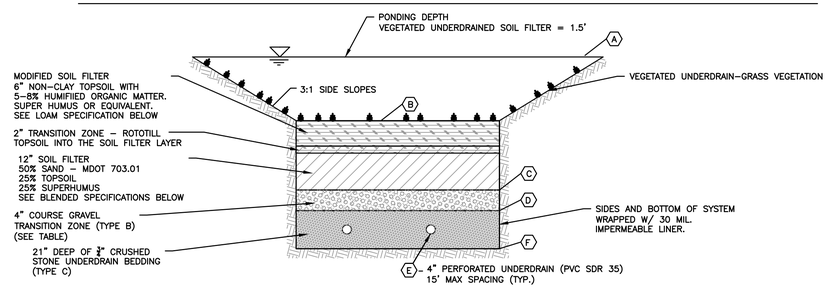
12" SOIL FILTER BED – BLENDED SAND, LOAM, SUPERHUMUS SIEVE ANALYSIS	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85–100
#20	70–100
#60	15–40
#200	8–15
1. CLAY FRACTION <2% PASSING THE #200 SIEVE. 2. SUPERHUMUS OR EQUIVALENT	

SOIL FILTER BED – TRANSISTION ZONE (TYPE B)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90–100
1/2"	75–100
#4	50–100
#20	15–80
#50	0–15
#200	0–5

SOIL FILTER BED – UNDERDRAIN BEDDING (TYPE C)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90–100
3/8"	0–75
#4	0–25
#10	0–5



CROSS SECTION



SIDE VIEW

NOTES:

1. THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX. THE BOTTOM OF THE VEGETATED UNDERDRAIN SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX
2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.
3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.
4. THE SEDIMENT FOREBAY SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE SOIL FILTER AND INSPECTED AND MAINTAINED DURING CONSTRUCTION. MAINTENANCE SHALL INCLUDE REMOVAL OF ANY ACCUMULATED SEDIMENT.
5. A LANDSCAPE DESIGNER OR ARCHITECT SHOULD BE INVOLVED TO TO SELECT THE APPROPRIATE PLANTS FOR THE BIORETENTION CELL AND FOR THE SITE CONDITIONS. PLANTING PLAN BY OTHERS.
6. MINIMUM UNDERDRAIN SLOPE 0.0025 FT/FT TOWARDS THE OUTLET.
7. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MAINE DEP – TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.

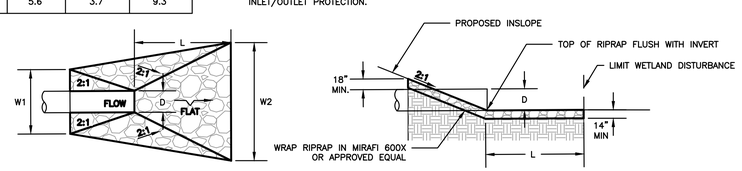
SCHEDULE	
ITEM	ELEV.
(A) OVERFLOW INVERT	118.60'
(B) TOP OF SOIL FILTER	117.10'
(C) TOP OF GRAVEL	115.43'
(D) TOP OF STONE	115.10'
(E) UNDERDRAIN INVERT	114.00'
(F) BOTTOM OF STONE	113.35'

VEGETATED UNDERDRAINED SOIL FILTER DETAIL
NOT TO SCALE

SCHEDULE – SINGLE CULVERT			
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W1)	WIDTH (W2)
D	4.5D	3D	D+L
12"	4.5'	3'	7.5'
15"	5.6'	3.7'	9.3'

NOTES:

1. RIPRAP SHALL BE DESCRIBED BY M.D.O.T. 703.26 EXCEPT SIZE SHALL BE AS SHOWN.
2. REFERENCE FOR ADDITIONAL INFORMATION: BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL – CULVERT INLET/OUTLET PROTECTION.



PLAN VIEW

SECTION VIEW

RIPRAP OUTLET APRON DETAIL
NOT TO SCALE

PREPARED FOR:
DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:
DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:
CONSTRUCTION DETAILS

REVISION:

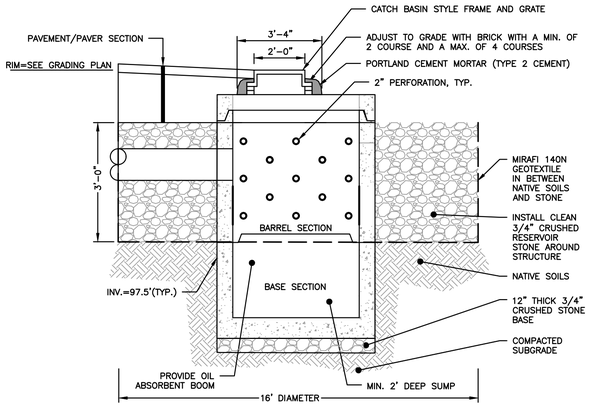
NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL
SCALE: NOTED
DATE: 10/09/2025

SHEET:
C506

STATE OF MAINE
Troy
Allen
13929
LICENSED
PROFESSIONAL ENGINEER
10/09/25

FOR REVIEW
NOT FOR CONSTRUCTION

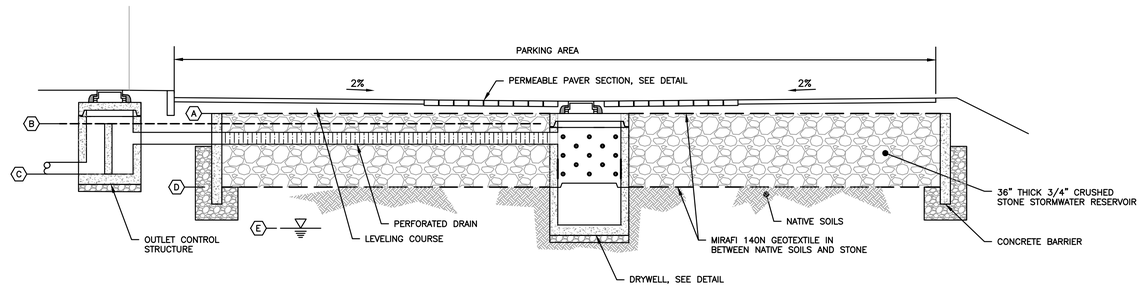


NOTES:

1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF.
5. JOINTS SEALED WITH BUTYL RUBBER.
6. ALL PIPES TO HAVE A WATERTIGHT SEAL.
7. SUBMITTAL OF SHOP DRAWING TO ENGINEER FOR APPROVAL IS REQUIRED
8. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.

4'-0" DIA. PRECAST PERFORATED DRY WELL

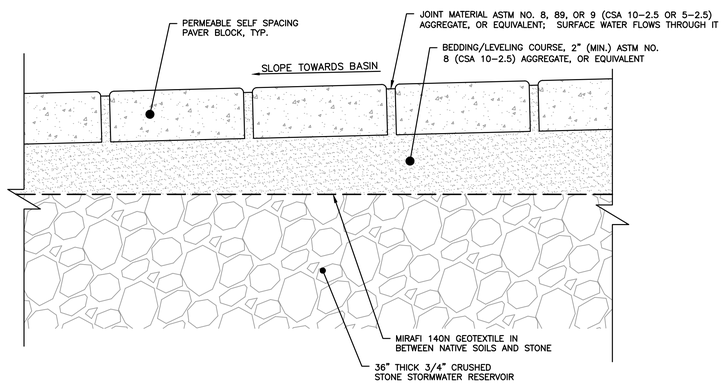
NOT TO SCALE



SCHEDULE			
ITEM	UGSD-1	UGSD-2	UGSD-3
RIM	GD. PLAN	GD. PLAN	GD. PLAN
(A) TOP OF CRUSHED STONE	131.85	132.40	130.60
(B) OVERFLOW ELEVATION	131.35	131.90	130.10
(C) DRAIN OUT	130.00	130.00	129.00
(D) BOT OF CRUSHED STONE	128.85	129.40	127.60'
(E) GROUNDWATER ELEV.	126.0	126.5	125.0

UNDERGROUND STONE DETENTION/INFILTRATION DETAIL

NOT TO SCALE



NOTES:

1. SUBBASE THICKNESS MUST BE DETERMINED BY A QUALIFIED ENGINEER FOR HYDRAULIC AND STRUCTURAL NEEDS.
2. MAINTAIN DISTANCE OF 2 FT (0.6 M) MIN. BETWEEN THE HIGH WATER TABLE AND THE BOTTOM OF THE SUBBASE (OR BASE IF NO SUBBASE), AS PER LOCAL REQUIREMENTS.
3. UNDERDRAIN PIPE REQUIRED WHERE SUBGRADE SOIL INFILTRATION RATE IS LESS THAN 0.5 IN./HR., SIZE AS PER DESIGN ENGINEER.
4. SURFACE SLOPE MUST BE AT LEAST 1% AND NO MORE THAN 5%.

PERMEABLE PAVER DETAIL

NOT TO SCALE

STATE OF MAINE
TRENT A. LEDWITH
13969
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:

DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:

DEERING VILLAGE
PARCEL ID: 383 A001001, 384 A009001 & 384 A020001

TITLE:

CONSTRUCTION DETAILS

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

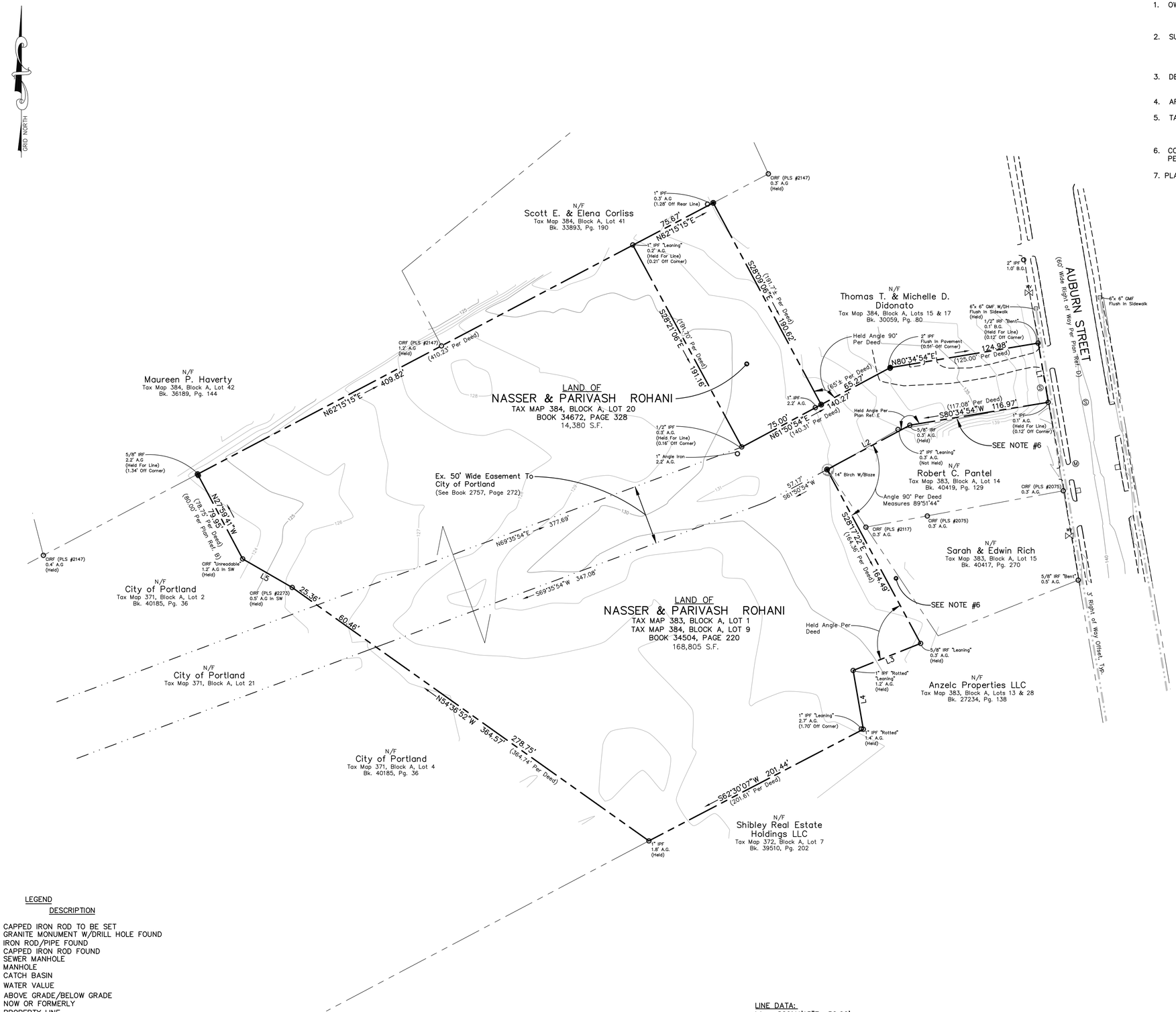
DRAWN: TAL

SCALE: NOTED

DATE: 10/09/2025

SHEET:

C508



NOTES:

1. OWNER: NASSER & PARIVASH ROHANI
555 AUBURN STREET
PORTLAND, ME 04103

2. SURVEYOR: ROBERT C. LIBBY JR. PLS #2190
BH2M
380B MAIN STREET
GORHAM, MAINE

3. DEED REFERENCE: BK. 34504, PG. 220
BK. 34672, PG. 328

4. AREA OF PARCEL: 183,185 S.F. (4.205 AC.)

5. TAX MAP REFERENCE: MAP 383, BLOCK A, LOT 1
MAP 384, BLOCK A, LOT 9
MAP 384, BLOCK A, LOT 20

6. CONFLICTING RECORD BOUNDARIES, ABUTTER'S PROPERTY LINES DEPICTED PER PLAN REFERENCE F.

7. PLAN REFERENCES:
A. "PLAN OF PROPERTY", DATED JUNE 1986, FOR STANLEY MARSTON, BY R.P. TITCOMB ASSOCIATES INC. JOB NUMBER 8521.
B. "BOUNDARY SURVEY", DATED AUGUST 2022, FOR TRUST FOR PUBLIC LAND, BY OWEN HASKELL, INC AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 223, PAGE 162.
C. "PLAN OF LAND", DATED FEBRUARY 2000, FOR THE HAVERTY ESTATE PROPERTY, BY SEBAGO TECHNICS AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 187.
D. CITY BLUEPRINTS OF AUBURN STREET, DATED JANUARY 1971, SHEETS 3 & 4, PROVIDED BY THE CITY OF PORTLAND.
E. "RIGHT OF WAY LOCATION, PRESUMPSCOT NORTH FORCE MAIN", DATED MARCH 1963, BY E.C. JORDAN, PROVIDED BY THE CITY OF PORTLAND.
F. "BOUNDARY SURVEY AND DIVISION OF 408 AUBURN STREET", DATED NOVEMBER 2010, FOR MZ PROPERTIES, LLC, BY R.W. EATON ASSOCIATES, PROJECT NUMBER 384.

LEGEND

SYMBOL	DESCRIPTION
●	CAPPED IRON ROD TO BE SET
GMF W/DH	GRANITE MONUMENT W/DRILL HOLE FOUND
IRF/IRF	IRON ROD/PIPE FOUND
CIRF	CAPPED IRON ROD FOUND
Ⓢ	SEWER MANHOLE
Ⓜ	MANHOLE
	CATCH BASIN
WV	WATER VALUE
A.G./B.G.	ABOVE GRADE/BELOW GRADE
N/F	NOW OR FORMERLY
	PROPERTY LINE
	ABUTTER PROPERTY LINE
	EXISTING EDGE OF PAVEMENT
	EXISTING EDGE OF GRAVEL
130	MAJOR CONTOUR LINE
131	MINOR CONTOUR LINE

Scale: 1" = 40'
40' 0 40' 80'

LINE DATA:
L1 – S09°41'15"E 50.00'
L2 – S61°50'54"W 78.24' (77.82' Per Deed)
L3 – S68°08'08"W 60.57' (60.43' Per Deed)
L4 – S09°49'18"E 49.71' (49.50' Per Deed)
L5 – N60°00'57"W 47.66' (47.44' Per Deed)

I CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS TECHNICAL STANDARDS OF PRACTICE FOR A STANDARD BOUNDARY SURVEY WITH THE FOLLOWING EXCEPTIONS:

1. NO SURVEYORS REPORT

STATE OF MAINE
ROBERT C. LIBBY JR.
PROFESSIONAL LAND SURVEYOR

ROBERT C. LIBBY JR. PLS #2190

NO.	DATE	REVISION DESCRIPTION

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
380B Main Street
Gorham, Maine 04038
Tel. (207) 839-2771
www.bh2m.com

FOR
GreenMars
30 Exchange Street
Portland, Maine

STANDARD BOUNDARY SURVEY PLAN

410 AUBURN STREET
PORTLAND, MAINE

DESIGNED	DATE
T. Taggett	June 2024
DRAWN	SCALE
T. Taggett	1" = 40'
CHECKED	JOB. NO.
R. Libby, Jr.	24039

SHEET
1

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LEGEND

TREE REMOVED

TREE RETAINED

TREE PLANTED

TREE NOTES

DEVELOPMENT SHALL BE DESIGNED TO PROTECT AND INCORPORATE NATURAL FEATURES, ON-SITE & STREET TREES ≥ 10" DBH, AND ALL OTHER EXISTING STANDS OF VEGETATION AND TREES IN ACCORDANCE WITH SECTION 4 OF THE TECHNICAL MANUAL

1. TOTAL TREES >10" DBH = 389
2. TOTAL TREES >10" DBH RETAINED (GREEN) = 173 (44.5%)
3. TOTAL TREES >10" DBH REMOVED (RED) = 216 (55.5%)
4. TOTAL TREES PLANTED (PROPOSED) = 120

FOR REVIEW
NOT FOR CONSTRUCTION

0 15 30 60 120
SCALE IN FEET

STATE OF MAINE
LICENSED
PROFESSIONAL ENGINEER
10/09/25

PREPARED FOR:

DEERING VILLAGE, LLC
30 EXCHANGE STREET, SUITE#3
PORTLAND, MAINE 04101

PROJECT:

DEERING VILLAGE

PARCEL ID: 383 A001001, 384 A001001 & 384 A020001

TITLE:

TREE PLAN

REVISION:

NO.	DATE	APPR.	DESCRIPTION
1	10-09-25	TAL	SUBMIT FOR CITY REVIEW

DRAWN: TAL

SCALE: NOTED

DATE: 10/09/2025

SHEET:

T101

1 of 1

Planning and Urban Development
Andrew Graminski, AICP
Planning & Development Review Manager

To: Chair Mazer & the Portland Planning Board
From: Andrew Graminski, Planning & Development Review Manager, Planning & Urban Development
Re: Tabling Request for 138 Auburn Street
Date: November 12, 2025

Staff is requesting that the Planning Board table the public hearing for the 138 Auburn Street Subdivision Application, submitted by First Lutheran Church of Portland and currently scheduled for November 18, 2025, to a date certain of Tuesday December 9, 2025, or the next scheduled Planning Board meeting.

The applicant failed to post the required public hearing signage on the property within the 10-day timeframe of the scheduled public hearing outlined in Land Use Code Section 14.3.4.

389 Congress Street, Portland, Maine 04101 | ph: 207.874.8430 | kkraft@portlandmaine.gov

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