Town of Kittery
Planning Board Meeting
February 22, 2024

ITEM 2—283 US Route 1—Master Site Plan — Final Review

Action: Approve plan or continue review. Neil Hansen, on behalf of owner/applicant Two International Group, is proposing a multi-phase project to re-develop existing commercial retail facilities into a 107-unit housing complex, 119-room hotel, and 6,000 square foot commercial building intended for a restaurant, along with associated parking and utilities, located on the property of 283 US Route 1, Map 30 Lot 44, in the Route 1 Commercial (C-1) Zone.

PROCESS SUMMARY

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan Acceptance/Approval	5/25/23	Accepted
YES	Planning board determination of completeness	10/26/23	Accepted
NO	Site Visit	11/9/23	Held
YES	Public Hearing	11/16/23	Held
YES	Preliminary Plan Approval	1/11/24	Approved
YES	Final Plan Review and Decision	Scheduled for 2/22/24	Pending
Applicant: Prior to the signing of the approved Plan any **Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS.** As per Section 16.4.4.L - Grading/Construction Final Plan Required. - Grading or construction of roads, grading of land or lots, or construction of buildings is prohibited until the original copy of the approved final plan endorsed has been duly recorded in the York County registry of deeds when applicable.			

OTHER PERMITS AND REQUIREMENTS

- DOT Traffic movement pattern.
- State Fire Marshal NFPA #13 fire protection system approval.
- DEP construction permitting and site review.
- State Health Inspector approval for proposed indoor pool.
- Site Location of Development Act (SLOTA) permit

PROJECT INTRODUCTION

This is the final review for a master site development project on a single parcel containing three existing strip retail buildings and paved parking. 283 Route 1 is a corner lot along the I-95 Interstate highway, with the property abutting the Kittery Trading Post and other commercial outlet buildings.

The development plans are for three phases, one for each of the proposed uses. The first phase of the project would be to develop a 119-room hotel. The second phase would be the development of a 5-story apartment totaling 107 units, 11 of which would be affordable. The third phase is for the development of a 6,000 square foot commercial building with the intention to house a food and beverage facility with a yet to be determined tenant.

Public water and wastewater transmission facilities have been reviewed and are found not to require upgrades to support all phases of this project. Access to the site would be provided via existing driveways on Wilson and Old Wilson Road, with the curb cut on the Route 1 Bypass to be closed. In addition to parking and utilities, the applicant is proposing a dog park along a portion of the property facing the turnpike.

Since sketch plan acceptance, the size of the proposed commercial area has been reduced from ~10,000 sq ft to 6,000 sq ft. The applicant has confirmed their intention to seek a restaurant as a tenant for the proposed commercial space should the plan be approved. The applicant has also increased the number of proposed parking spaces, including ground-level spaces in the multi-family dwelling to provide parking for residents. At the sketch review, the applicant was uncertain whether they would be subdividing the parcel; they have since confirmed they plan to keep a single property and move forward with a site plan application.

The planning board voted to accept the preliminary site plan application as complete on October 26th, on the condition that a full traffic study would be provided before approval. A site walk was held on November 9th, and a public hearing on November 16th. On January 11th, the planning board granted preliminary approval, and provided a tentative sense of the board indicating they would be amenable to the requested waivers (listed below).

Since preliminary approval, the applicant has submitted a plan detailing what would be constructed as part of each phase. A third-party engineer review by CMA was completed on February 12th. The review engineer identified all issues as minor, and suggested a final approval on the condition that all issues are addressed before the plan is recorded with the York County Registry of Deeds. **Staff recommend final approval at this time, and believe all requested waivers are reasonable and within the authority of the planning board.**

WAIVERS REQUESTED

1. Modification to landscape planter strip along public road: The applicant is requesting to reduce the depth of the planter strip along the Route 1 right-of-way from 30 feet. The proposed front yard landscape strip varies from a minimum of 12 feet to a maximum of 15.1 feet measured from the Route 1 curb line to the parking lot curb line. The maximum front setback in the C-1 zone is 15 feet, but the minimum planter strip depth required along the ROW is 30 feet. The applicant cannot meet both standards as they directly conflict with each other, and the current front yard setback is meant to provide parking and site access for emergency vehicles. Per **§16.4.19.E.(3).(c).[5].[b],** the planning board has the authority to modify the width of the vegetative strip to the extent necessary to achieve the objective of the proposed project.
    a. The vegetative planter strip is between both a proposed parking lot and a required 6-foot concrete sidewalk along Route 1. When accounting for the sidewalk, the minimum distance between the road and parking area is actually 18 feet, and the maximum is 21.1.
2. Modification to maximum front yard setback: The applicant is requesting to increase the maximum front yard setback to the property line from 15 feet to a maximum of 48.5 feet. As stated above, it is impossible to meet the 15-foot maximum setback and the minimum 30-foot planter strip, while also providing sidewalks along the property line. Per **§16.4.19.E.(2).(c),**

the planning board may allow a greater setback when public amenities are proposed, "such as benches, pocket parks…or seating areas." The applicant is providing a pocket park with seating along the frontage to Route 1, and a path to connect to the proposed sidewalks.
    a. The location of the parking spaces directly in front of the hotel building is due to direct feedback from the planning board and fire chief during sketch review. The fire chief was most comfortable with the current design as it would provide ample emergency vehicle access to the front of the building.
3. Parking space design minimum modification: the applicant is requesting to reduce the length of the parking spaces along the Route 1 ROW from 19 feet to 18 feet, to allow for more vegetative screening as requested during the public hearing.
4. Modification to minimum drainage pipe size: the applicant is requesting to reduce the size of the 12" drainage pipes on the roof leaders to 10". The site proposes Tree Box Filters to function based on specific outlet pipe sizing, meaning they require smaller sizing. This modification is only for roof leaders and outlets from Tree Box Filters: all other drainage pipes on site are a minimum of 12".

STAFF COMMENTS

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

1. At the preliminary review, the planning board, applicant, and staff agreed upon a condition of approval stating that a major plan modification (reviewed by the planning board) for phase 2 would be required if it is not started within one year of completing phase 1. The same condition of approval will be set for phase 3.
2. As part of the final plan submission, the applicant has submitted a full phasing plan detailing what parts of the project would be built in each phase. Staff have confirmed that all the required infrastructure required for the hotel has been included in phase 1, and all the required infrastructure required for the apartment has been included in phase 2.
    a. A phase 3 has not been provided. In their cover letter, the applicant noted that the development of the restaurant will be driven by the to-be-determined tenant. All infrastructure for the development (except for a small parking lot directly north of the proposed restaurant) is proposed to be built as part of phases 1 and 2. Because of this, staff find the phasing plan acceptable, with the understanding that the applicant will likely return to the planning board when they are ready to build the restaurant.
    b. Staff suggest a condition of approval on the plan stating that the area of the proposed restaurant be loamed and seeded, to ensure the area is vegetated to prevent sediment runoff.
3. Police and Public Works staff both requested the applicant remove the crosswalk connecting the property to the abutting Kittery Trading Post, as long as sidewalks are built along Wilson Road to guide pedestrians to the intersection at the southeast corner of the lot. For liability reasons, public works believe the crosswalk should be removed as part of Phase 1; otherwise, the sidewalks should contain some type of curbing or screening preventing access from the proposed sidewalk along Wilson Road.
    a. The applicant has stated their intent to remove this crosswalk as part of Phase 1.

4. The Assessing Department has stated their preference that Old Wilson Road be renamed before development of the apartment (phase 2), to avoid confusion with the abutting Wilson Road.
    a. The Old Wilson ROW is currently Town-owned, meaning a change of street name would require Council approval. For a private ROW, an applicant must submit a street-naming permit through the Assessing Department.
5. The traffic impact study states collision history compiled from the Maine Public Crash Query Tool does not indicate a significant history of intersection crashes.
6. The proposed project is expected to generate a total of 191 new trips during the morning peak, 153 trips in the weekday afternoon peak, and 91 trips during the Saturday midday peak hour.
    a. Existing retail trips were quantified based on existing turning movement count data and credited towards site trip generation.
    b. The applicant has stated the commercial building will likely be a restaurant. The traffic study estimated trips for the commercial building using a "high-turnover sit-down restaurant" use.
7. The applicant has a note in the top-right corner regarding a "potential drainage easement" with the Town to reroute existing off-site drainage. This details of the easement will be solidified before plan recording, in conjunction with all other final revisions.
8. The traffic analysis appears to show the intersections around 283 Route 1 will continue to operate under the same standard after construction, except the Adams Road approach to Route 101 (Wilson Road), increasing the average delay of ~5 seconds.
    a. The applicant states the removal of the driveway entrance along route 1 will act as a mitigation effort to this impact.
    b. The traffic analysis claims planned traffic signal improvements by MDOT at the intersection of US Route 1 and Route 101 (Wilson Road) will result in an improved level of service and/or reduction in delay overall compared to existing 2023 conditions.
9. Following feedback from the planning board, the applicant has moved the snow storage areas away from the Route 1 ROW. Note #18 on the site plan details snow removal and storage procedure.
    a. There is a second "Note #13" also detailing snow removal on the site plan. This appears to be a typo and should be removed before final plan recording.
10. Following feedback from the planning board, the landscaping plan now shows the proposed improvements and vegetation for the dog park.
11. Public works request a note on the landscaping plan stating that all landscaping shown on the plan will be maintained by the private property owner, including all landscaping within the public right-of-way.
    a. The planning board also requested a note dictating that plantings will be replaced "in perpetuity."
12. One of the 5 stories in the multi-family dwelling is a ground-level parking area. Following feedback from Fire staff and the planning board, the applicant does not plan to install electric vehicle charging stations in the ground-level parking area as part of this plan.
13. The affordable housing narrative states their intent to provide 11 units of their housing as affordable, which exceeds the 10% minimum. The units will be tied to 80% of regional annual median income (AMI).
    a. The applicant has stated that the affordable units will disperse uniformly throughout the apartment to prevent segregation based on income. Staff suggest this be added as a condition of approval to the final site plan.
    b. Per **§16.5.4.I.(2),** an approximate rental rate is not required before preliminary approval, so long as the target AMI percentage is provided. Staff note that Maine

Housing income eligibility limit worksheets estimate the maximum gross rent for a single bedroom in Kittery tied at 80% AMI to be $1,775, and the maximum allowable for a two bedroom to be $2,130. This is before deduction of utility costs, which is a requirement of the ordinance.

14. The architectural elevations appear to say the proposed multifamily dwelling is 75 feet tall. This is misleading, as that height includes elevation above sea level. The definition of building height in **§16.3** requires an engineer determine the vertical measurement between the average natural grade of the land within the building footprint (notated in the elevations as "average adjacent natural grade"), to the highest point of the roof beams in a flat roof. According to the definition, the actual building height is 50 feet.
    a. The elevations also show the tops of the parapets jutting above the "top of structure" line. Parapets are excluded from height calculations, as they are above the roof beams of the building.

PROJECT ANALYSIS

Staff reviewed the application and provided materials and have provided their determination on the requirements and standards below. All requirements that have not been met or require further discussion are highlighted.

Code Ref.	§16.4 Land Use Zone Standards	
	Standard	Determination
§16.4.19.B/C.	Permitted/Special Exception Uses	The proposed commercial uses are permitted. The proposed multi-family dwelling is a special exception use in this zone.
§16.4.19.E.(2).(a).	Lot size: 40,000 sq ft. minimum	It appears the standard is satisfied.
§16.4.19.E.(2).(b).	Street frontage: no requirements in C-1 Zone	It appears the standard is satisfied.
§16.4.19.E.(2).(c).	Front setback: 15 ft maximum NOTE: The Planning Board may, at its discretion, allow a greater setback when public amenities such as benches, pocket parks, outdoor dining or seating areas are proposed.	The applicant is requesting a modification to the maximum setback, detailed above.
§16.4.19.E.(2).(d).	Rear and side setbacks: 10 ft minimum.	It appears the standard is satisfied.
§16.4.19.E.(2).(e).	Building height: 40 ft maximum NOTE: the maximum is 50 ft for multifamily dwellings on the west side of Route 1	It appears the standard is satisfied.

§16.4.19.E.(2).(f).	Imperious surface: 70% maximum for currently developed lots	It appears the standard is satisfied.
§16.4.19.E.(2).(g).	Water body setback for water-dependent uses: 0 ft minimum	Not applicable.
§16.4.19.E.(2).(k).	For 107 residential units, one of the following options are required: • 10 affordable units and a $70,000 payment in-lieu • 11 affordable units	This standard appears to be satisfied, see note **§16.5.4** below for more detail.
§16.4.19.E.(2).(l)..	Mixed-use buildings must have nonresidential uses comprising at least 50% of the street-facing first floor	None of the buildings in the proposal are mixed-use. It appears the standard is satisfied.
§16.4.19.E.(2).(m)..	Underground utilities are required	It appears the standard is satisfied
§16.4.19.E.(3).(a).	Parking standards: parking areas must be visually screened when abutting residential properties.	The proposal does not abut any residential properties. It appears the standard is satisfied.
§16.4.19.E.(3).(a).[2]	Parking space dimensions: minimum 19' x 9'	The applicant is requesting a modification to parking space size, described above. If approved, the final draft of the plan set should be amended to reflect the 19' x 8' parking spaces.
§16.4.19.E.(4).(c).	Parking must be on-site unless meeting requirements is determined impractical. 20% of parking associated for multifamily dwellings may be designated for compact cars (if at least 10 spaces are required)	All parking is located on-site. It appears the standard is satisfied.
§16.4.19.E.(3).(b).	The proposal must meet Kittery's building design standards.	The proposed developments appear to meet the design handbook guidelines.

§16.4.19.E.(3).(c)	Landscaping improvements: • minimum 30 ft vegetated landscape planter strips between the lot and adjacent all rights-of-way. • One street tree for every 25 feet of street frontage • 10 plants per 40 linear feet of street frontage unless existing woodlands or being retained. NOTE: per **§16.4.19.E.(4).(d),** for surface parking lots that service a multi-family dwelling and abut a street, the following conditions also apply: • street trees must be backed by a fence. • 50% of trees and shrubs must be evergreen species • A minimum of 10% of parking area must be landscaped	The applicant is requesting a modification of the minimum vegetative planter strip width, described above. Otherwise, standards appear to be met.
§16.4.19.E.(3).(d).	Traffic circulation standards: sidewalks are required along the entire portion of the lot facing Route 1, Wilson Road, and Old Wilson Road.	The standard appears to be satisfied.
§16.4.19.E.(3).(e).	Open Space standards: 25% minimum. NOTE: For multi-family dwellings, the minimum is 15%.	The plan meets the strictest minimum requirement of 25%. It appears the standard is satisfied.
§16.4.19.E.(4).(a).[1].	Sidewalks must be installed within the right-of-way	It appears the standard is satisfied.
§16.4.19.E.(4).(a).[2].	Housing development must be connected to new and existing commercial areas through sidewalks or walkways	The site plan shows sidewalks connecting the multi-family dwelling to the proposed hotel, restaurant, and dog park. It appears the standard is satisfied
§16.4.19.E.(4).(a).[3].	On-street parking is encouraged and can be considered a part of a joint use parking plan	On-street parking is not encouraged due to the property's location to the highway. All parking requirements are met on-site
§16.4.19.E.(4).(a).[4].	Areas for services such as dumpsters and generators must be screened by a fence at least 6 feet tall	All indicated dumpster pads are proposed to have a fenced enclosure.

		The standard appears to be satisfied.
§16.4.19.E.(4).(a).[5].	Parking for residential units must be located so they do not face streets	283 Route 1 is a corner lot. Parking associated with the multi-family dwelling are located away from both roads to the greatest practical extent. It appears the standard is satisfied.
§16.4.19.E.(4).(a).[6].	Fixtures in a lighting plan must be cut off to prevent light trespass and meet all other photometric requirements	A photometric plan has been provided.
§16.4.19.E.(4).(e).	10 ft buffers, with a fence at least 6 feet high, are required between the following: • New residential uses and existing nonresidential uses • New residential uses and existing single-family uses	The applicant is providing vegetative screening between the proposed apartment and existing Kittery Trading Post building across Wilson Road to the greatest practical extent. Adding further buffering would require removal of existing mature trees. The standard appears to be satisfied.
Code Ref.	§16.5 Performance Standards	
	Standard	Determination
§16.5.14.C	Corner Lots	The property is considered a corner lot between Route 1 and Wilson Road. Access will be through a driveway along Old Wilson Road, meaning this is the road it "fronts."
§16.5.10	Essential Services	Wastewater and Water District staff have both confirmed sufficient capacity for the entire proposed development.
§16.5.25	Sprinkler Systems are required in all hotels and buildings of three or more stories	Sprinkler systems must meet NFPA standards.
§16.5.27	Street Standards: sidewalks are required along the entire ROW for the Route 1 Bypass and Wilson Road	The plan proposes sidewalks connecting the lot to the abutting intersection.

§16.5.4	Affordable housing requirements	The applicant has expressed their intent to provide 11 affordable housing units rather than pay any in-lieu fee. A housing narrative has been submitted confirming this.
§16.7.11.F.(e).	A minimum of 276 parking spaces are required	The plan proposes a total of 316 parking spaces, including below ground spaces specifically servicing the residential property. The plan appears to meet ADA space requirements. There is a parking area directly right of the hotel that says it contains 15 spaces, but actually has 19. This minor edit should be revised in the final draft.
Code Ref.	§16.6 Preliminary Master Site Plan Requirements	
	Standard	Determination
§16.6.1	Applicability for Master site plan: • The cumulative lot area is one acre or larger. • The site is designed as a cohesive development consisting of multiple buildings	The standard appears to be met
§16.6.2.B.(5).	Preliminary master site plan must follow requirements of Site Plan review in §16.7	The standard appears to be met
§16.6.3.A	Any applicable approval from Maine DEP, DOT, and Army Corps of engineers must be obtained or in the process of obtaining	The applicant will receive full approval from DEP and DOT before construction may begin
§16.6.3.B.	Improvements to infrastructure, including sidewalks, streetlights, and guard rails, must be consistent in construction details	The standard appears to be satisfied

§16.6.3.C.	Each phase of the project must include stormwater treatment adequate to treat that phase of the project.	A full phasing plan has been submitted and confirms adequate stormwater infrastructure for each phase. Staff suggest a condition of approval stating the area of the proposed restaurant will be vegetated prior to construction, to prevent sediment runoff in the interim.
§16.6.3.D.	New streets in the master site plan will include provisions for adequate turnaround between project phases.	A phasing narrative was submitted to confirm adequate parking and turning capacity for each phase.
Code Ref.	§16.7.10 Preliminary Site Plan Requirements	
	Standard	Determination
§16.7.10.C.(4).(a-i).	• Paper plan sheets no smaller than 11" x 17" • Scale of drawing no greater than 1 inch = 30 feet • Code block in right-hand corner • Standard boundary survey of existing conditions • Compass with arrow pointing true north • Locus map of property • Vicinity map and aerial photograph • Surveyed acreage of parcel(s), rights-of-way, wetlands, and amount of street frontage • Names and addresses of owners of record abutting property	Provided
§16.7.10.C.(4).(j).	Existing conditions survey including all identified structures, natural resources, rights-of-way, and utilities located on and within 100 feet of the property.	Provided

§16.7.10.C.(4).(k).	• Proposed development area including: • Location and detail of proposed structures and signs • Proposed utilities including power, water, and sewer. • Sewage facilities type and placement. • Domestic water source • Lot lines, rights-of-way, and street alignments • Road and other paved area plans • Existing and proposed setbacks • Storage areas for waste or hazardous materials • Topographic contours of existing contours and finished grade elevations • Locations and dimensions of artificial features such as pedestrian ways, sidewalks, curb cuts, driveways, fences, retaining walls,	Provided
§16.7.10.C.(4).(l).	Natural features or site elements to be preserved.	Provided
§16.7.10.C.(4).(m).	Identified property encumbrances.	Provided
§16.7.10.C.(4).(n).	Kittery Water District approval letter.	Provided
§16.7.10.C.(4).(o).	Erosion and sedimentation control plan.	Provided
§16.7.10.C.(4).(p).	Stormwater management plan and drainage analysis.	Provided
§16.7.10.C.(4).(q).	Soil survey.	Provided
§16.7.10.C.(4).(r).	Vehicular traffic report.	Provided
§16.7.10.C.(4).(s).	Traffic impact analysis.	Provided
§16.7.10.C.(4).(t).	Test pit analysis.	Not applicable
§16.7.10.C.(4).(u).	Approval letter from Town sewage.	Provided
§16.7.10.C.(4).(v).	Evaluation of development by Technical Review Committee department heads.	Provided
§16.7.10.C.(4).(w).	Additional submissions as required: • Phasing Plan • Affordable Housing Narrative	Provided
§16.7.10.D.(3).(a-l).	Additional final plan requirements including: • Proposed streets, pedestrian ways, lots, easements, and areas dedicated to public use	Provided

	• Location of any markers or permanent monuments • Location and description of all structures, including signs. • Floor plans and elevations of principal structures • Building materials and colors • Fences, retaining walls, and other artificial features. Stormwater management plan and drainage	
§16.7.10.D.(3).(g).	Outdoor lighting and signage plan showing: • All buildings, parking areas, driveways, services areas, proposed exteriors and snow storage areas • All proposed lighting fixture specifications • Photometric data, including cutoff fixtures and color rendering index • Mounting height of all external lights Lighting analysis of proposed installation to show minimum, maximum, and average luminance	Provided
§16.7.10.D.(3).(g).[1].	Snow storage areas.	Provided
§16.7.10.D.(3).(h).	Locations of machinery in permanently installed locations likely to cause noise along lot lines.	Provided
§16.7.10.D.(3).(i).	Storage areas for materials (raw, finished, or waste), and list of any types of toxic/hazardous materials stored on-site.	Provided
§16.7.10.D.(3).(j).	Location of fences, retaining walls, and other artificial features	Provided
§16.7.10.D.(3).(k).	Landscaping plan including location, size, and type of plan material	Provided
§16.7.10.D.(3).(l).	Stormwater management plan for stormwater and other surface water drainage	Provided

DISCUSSION, NEXT STEPS, AND RECOMMENDATIONS

The purpose of final review is for the planning board to see an application in its entirety, incorporate feedback from the public, and further solidify their stance on any requested modifications to standards. Staff believe the conflicting requirements regarding maximum front setback and minimum planter strip width create a significant enough constraint to warrant both modification requests. As the review engineer has signed off on the plan in its current form, staff believe approval is warranted at this time, on the condition that all issues raised in the peer review are addressed before final plan recording.

RECOMMENDED MOTIONS

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

Motion to conditionally approve the application.

Move to approve (with conditions listed above) the final site plan by Neil Hansen, on behalf of owner/applicant Two International Group.

Kittery Planning Board
Findings of Fact
For 283 US Route 1
Site Plan Review

DRAFT
M 30 L 44

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

WHEREAS: Neil Hansen, on behalf of owner/applicant Two International Group, is proposing a multi-phase project to re-develop existing commercial retail facilities into a 107-unit housing complex, 119-room hotel, and 6,000 square foot commercial building intended for a restaurant, along with associated parking and utilities, located on the property of 283 US Route 1, Map 30 Lot 44, in the Route 1 Commercial (C-1) Zone.

Pursuant to the Plan Review meetings conducted by the Planning Board as noted in the Plan Review Notes dated 2/22/24.

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan	5/25/23	Accepted
YES	Completeness/Acceptance	10/26/23	Accepted
YES	Public Hearing	11/16/23	Held
NO	Site Visit	11/9/23	Held
YES	Preliminary Plan Approval	1/11/24	Approved
YES	Final Plan Approval	2/22/24	Approved

Pursuant to the application and plan and other documents considered to be a part of a plan review decision by the Planning Board in this Finding of Fact consisting of the following (hereinafter the "Plan"):

1. Final site plan application received 1/25/24 from Neil Hanson of Tighe and Bond
2. Stormwater Management Report received 1/25/24 from Neil Hanson of Tighe and Bond

NOW THEREFORE, based on the entire record before the Planning Board and pursuant to the applicable standards in the Land Use and Development Code, the Planning Board makes the following factual findings and conclusions:

Chapter 16.7 GENERAL DEVELOPMENT REQUIREMENTS

16.7.10.D.(5).(b). Findings of Fact

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

[1] Development Conforms to Local Ordinances.

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

Finding: The proposed development conforms to the requirements listed in Title 16 For the Commercial-1 Zone.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[2] Water Supply Sufficient.

Standard: *The proposed development has sufficient water available for the reasonably foreseeable needs of the development.*

Finding: The proposed development has received confirmation from Kittery Water District that sufficient capacity exists to service all water and fire suppression needs.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[3] Sewage Disposal Adequate.

Standard: *The proposed development will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services if they are utilized.*

Finding: The proposed development has received confirmation from the Town Wastewater Department confirming sufficient capacity for anticipated wastewater needs..

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[4] Stormwater Managed.

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

Finding: The proposed development necessitated a stormwater management system which was reviewed by the Town's peer review engineering firm and found to be satisfactory. As the development proposes a multi-phase project, the applicant has shown each development will meet the proportional infrastructure needs at each phase.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[5] Traffic Managed.

Standard: *The proposed development will:*

[a] Not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed; and

[b] Provide adequate traffic circulation, both on-site and off-site.

Finding: The proposed development generated enough traffic to require a relevant impact study. The study proposed mitigation methods to ensure the property would not have an adverse impact to traffic to the abutting rights-of-way.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[6] Parking and Loading.

Standard: *Provisions have been made for safe internal vehicular circulation, loading and service areas, and parking associated with the proposed development.*

Finding: The proposed development has submitted a fire truck turning plan and exceeds parking requirements. As the development proposes a multi-phase project, the applicant has shown each development will meet the proportional infrastructure needs at each phase.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[7] Utilities.

Standard: *The size, type, and locations of all public utilities and private utilities to serve the proposed development will be installed per accepted engineering practices*

Finding: Public and private utility infrastructure have adequate capacity to service the entire proposed development. The utility plan has been found satisfactory after third-party engineer review.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[8] Erosion controlled.

Standard: *The proposed development will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results.*

Finding: The proposed development will be required to provide erosion and sedimentation controls during construction and the approved stormwater management system will control the stormwater on-site.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[9] Groundwater protected.

Standard: *The proposed development will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.*

Finding: It appears the proposed development will not cause any unreasonable adverse effects of the quantity or quality of groundwater.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[10] Freshwater wetlands identified.

Standard: *All freshwater wetlands within the project area have been identified on any maps submitted as part of the application, regardless of the size of these wetlands.*

Finding: There are no freshwater wetlands on the site.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[11] River, stream or brook identified.

Standard: *Any river, stream or brook within or abutting the proposed project area has been identified on any maps submitted as part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. § 480-B, subsection 9. Municipal solid waste disposal available. The proposed development will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be used.*

Finding: It appears that a stream does not exist in or abutting the property within 75 feet.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[12] Water body quality and shoreline protected.

Standard: *Whenever situated entirely or partially within 250 feet of any wetland, the proposed development will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water. Flood areas identified and development conditioned. All flood-prone areas within the project area have been identified on maps submitted as part of the application. Water and air pollution minimized. The proposed development will not result in undue water or air pollution. In making this determination, the following must be considered:*

[a] Elevation of the land above sea level and its relation to the floodplains;

[b] Nature of soils and subsoils and their ability to adequately support waste disposal;

[c] Slope of the land and its effect on effluents;

[d] Availability of streams for disposal of effluents;

[e] Applicable state and local health and water resource rules and regulations; and

[f] Safe transportation, disposal and storage of hazardous materials.

Finding: It appears that the proposed development will not adversely affect the quality of any water or wetland body.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[13] Aesthetic, cultural and natural values protected.

Standard: *The proposed development will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries and Wildlife or the municipality, or rare and irreplaceable natural areas, or any public rights for physical or visual access to the shoreline.*

Finding: The proposed development does not appear to have an adverse effect on aesthetic, cultural and natural values as described in the standard.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[14] Environmental considerations.

Standard: *The proposed development will not result in undue levels of lighting, noise, vibrations, smoke, heat, glare, fumes, dust, toxic matter, odors, or electromagnetic interference.*

Finding: The proposed development will not produce any adverse effects that would cause undue environmental degradation. Existing mature vegetation will be preserved to the greatest practical extent, and the owner of the proposed development will accept responsibility of maintaining all landscaping planted within Town rights-of-way.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[15] Utilization of the site.

Standard: *The proposed development does reflect the natural capabilities of the site to support development.*

Finding: It appears that the proposed development is designed in a manner that respects the natural capabilities of the lot.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[16] Developer financially and technically capable.

Standard: *Developer is financially and technically capable to meet the standards of this section.*

Finding: It appears the developer is financially and technically capable to execute the project. A cost estimate and performance guarantee will be provided to Planning Staff prior to any permitting.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

16.7.10.D.(5).(f). Special Exception Criteria

If a special exception use is requested, the board must also determine that the special exception use will:

[1] Maintain Harmony with Adjacent Properties.

Standard: *The special exception use will not prevent the orderly and reasonable use of adjacent properties or of properties in adjacent use zones.*

Finding: The proposed placement of both residential and commercial uses appears to conform to the natural character of the abutting properties.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[2] Maintain Harmony with Adjacent Uses.

Standard: The special exception use will not prevent the orderly and reasonable use of permitted or legally established uses in the zone wherein the proposed use is to be located, or of permitted or legally established uses in adjacent use zones

Finding: By providing pedestrian access from the property to abutting commercial businesses, the proposed development appears to have a positive impact to the adjacent commercial uses.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[3] Maintain Public Safety.

Standard: The special exception must not adversely affect the safety, the health, and the welfare of the Town.

Finding: The applicant has provided traffic mitigation options to prevent an adverse impact to traffic safety.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

[4] Conformance with Title 16

Standard: *The special exception must be in harmony with and promote the general purposes and intent of this title..*

Finding: The proposed development appears to conform to the criteria, purposes, and intent of Title 16.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Based on the foregoing Findings, the Kittery Planning Board finds the applicant has satisfied each of the review standards for approval and, therefore, the Kittery Planning Board hereby grants final approval for the Development at the above referenced property, including any waivers granted or conditions as noted.

Waivers:

1. Modification of landscape planter strip from a maximum depth of 30 feet to a minimum of 12 feet, to ensure adequate access for emergency vehicles and provide relief to a contradicting maximum front yard setback.
2. Modification of the maximum front yard setback from 15 feet to a maximum of 48.5 feet, to allow for adequate access for emergency vehicles and provide relief to a contradiction to the minimum planter strip depth.
3. Modification of the minimum parking space length from 19 feet to 18 feet for spaces along the Route 1 right-of-way, to provide for more room for vegetative screening.
4. Modification of the minimum drainage pipe size on roof leaders and outlets from Tree Box Filters from 12" to 10," as said Tree Box Filters require smaller sizing than 12."

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

1. Without prior approval, no changes, erasures, modifications or revisions may be made to any Planning Board approved final plan.
2. Applicant/contractor will follow Maine DEP Best Management Practices for all work associated with site and building construction to ensure adequate erosion control and slope stabilization.
3. Prior to the commencement of grading and/or construction within a building envelope, as shown on the Plan, the owner and/or developer must stake all corners of the envelope. These markers must remain in place until the Code Enforcement Officer determines construction is completed and there is no danger of damage to areas that are, per Planning Board approval, to remain undisturbed.
4. If Phase 2 of the approved plan does not commence within one year of the completion of Phase 1, the applicant must submit a Major Plan Modification, to be reviewed by the planning board, before issuance of any permit.
5. If Phase 3 of the approved plan does not commence within one year of the completion of Phase 2, the applicant must submit a Major Plan Modification, to be reviewed by the planning board, before issuance of any permit.
6. Prior to the construction of Phase 3, the area of the proposed restaurant use must be loam-and-seeded, or otherwise vegetated, as part of Phase 1, to prevent sediment erosion.
7. All housing units designated as "affordable" on this property will be dispersed uniformly throughout the proposed apartment building. The design, quality, and

materials used in the affordable units will be the same as that used for the market-rate units.

8. All Notices to Applicant contained in the Findings of Fact (dated: 2/22/24).

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

1. Incorporate any plan revisions on the site plan as recommended by Staff, Planning Board, or Peer Review Engineer, and submit for Staff review prior to endorsement and recording of the plan.

Notices to Applicant:

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

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

Vote of _ in favor _ against _ abstaining

APPROVED BY THE KITTERY PLANNING BOARD ON 2/22/24

_____

Dutch Dunkelberger, Planning Board Chair

Per Title 16.2.12.B(1) - An aggrieved party with legal standing may appeal a final decision of the Planning Board to the York County Superior Court in accordance with Maine Rules of Civil Procedures Section 80B, within forty-five (45) days from the date the decision by the Planning Board was rendered.

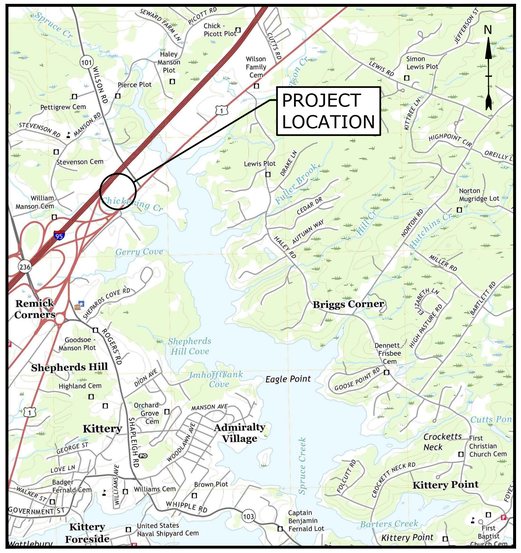
KITTERY MIXED-USE DEVELOPMENT

283 US ROUTE 1
KITTERY, MAINE
PERMIT DRAWINGS

OCTOBER 5, 2023

LAST REVISED: JANUARY 25, 2024

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	01/25/2024
NO. 1	BOUNDARY & TOPOGRAPHIC SURVEY	06/09/2023
C-101	EXISTING CONDITIONS / DEMOLITION PLAN	01/25/2024
C-102	SITE PLAN	01/25/2024
C-103	GRADING, DRAINAGE & EROSION CONTROL PLAN	01/25/2024
C-104	UTILITY PLAN	01/25/2024
C-105	LANDSCAPE PLAN	01/25/2024
C-106	PHOTOMETRIC PLAN	01/25/2024
C-501	EROSION CONTROL NOTES & DETAILS SHEET	01/25/2024
C-502	DETAILS SHEET	01/25/2024
C-503	DETAILS SHEET	01/25/2024
C-504	DETAILS SHEET	01/25/2024
C-505	DETAILS SHEET	01/25/2024
C-506	DETAILS SHEET	01/25/2024
C-601	FIRE TRUCK TURNING PLAN	01/25/2024
A2.00	EXTERIOR ELEVATIONS	11/08/2023
A2.01	EXTERIOR ELEVATIONS	11/08/2023
A2.02	RESIDENTIAL 3D VIEW	11/08/2023
002	PROPOSED EXTERIOR ELEVATIONS	01/25/2024
003	EXTERIOR PERSPECTIVE	01/25/2024



LOCATION MAP
SCALE: 1" = 2,000'

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.

3. TIGHE & BOND. ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:

Tighe&Bond
177 Corporate Drive
Portsmouth, NH 03801

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

APPLICANT:
Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

SURVEY CONSULTANT:
Owen Haskell, Inc.
390 US Route 1, Unit 10
Falmouth, ME 04105

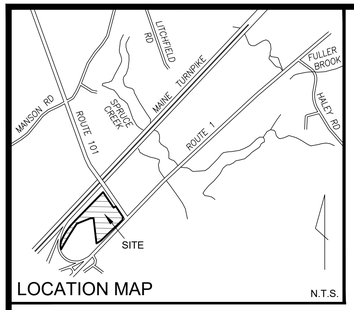
HOTEL ARCHITECT CONSULTANT:
BMA Architectural Group
12 Middle Street
Amherst, NH 03031

RESIDENTIAL ARCHITECT CONSULTANT:
Market Square Architects
104 Congress Street, Suite 203
Portsmouth, NH 03801

811 DigSafe MA-ME-NH-RI-VT

PB SUBMISSION
COMPLETE SET 20 SHEETS

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\TT\5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_CS.dwg Layout Tab: T&B_CS_22x34



LOCATION MAP N.T.S.

GENERAL NOTES

1. OWNER OF RECORD:
   283–360 KITTERY, LLC
   TAX MAP 30 LOT 44
   Y.C.R.D. BOOK 18710 PAGE 790

2. BEARINGS ARE BASED ON2. THE BASIS OF BEARING FOR THIS SURVEY IS GRID PER PLAN REFERENCE 2, AS SHOWN HEREON.

3. SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION C BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 230171, WITH A DATE OF IDENTIFICATION OF JULY 5, 1984, FOR COMMUNITY NO. 4C, IN YORK COUNTY, STATE OF MAINE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED.

4. THE PROPERTY HAS DIRECT ACCESS TO U.S. ROUTE ONE AND ROUTE 101, DEDICATED PUBLIC STREETS OR HIGHWAYS.

5. THE TOTAL NUMBER OF STRIPED PARKING SPACES ON THE SUBJECT PROPERTY IS 316, INCLUDING 11 DESIGNATED HANDICAP SPACES.

6. THE BUILDING HEIGHT, SHOWN HEREON, WAS MEASURED BETWEEN THE HIGHEST POINT OF THE BUILDING AND THE FINISHED FLOOR ELEVATION IN THE APPROXIMATE LOCATION AS DEPICTED ON THE DRAWING.

7. ELEVATIONS ARE BASED ON NAVD88 PER GPS OBSERVATION.

PLAN REFERENCES

1. MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP, STATE HIGHWAY 95, FEDERAL AID PROJECT NO. I-95-1(2) SECTION 4, S.H.C. FILE NO. 16–181, SHEETS 24–25 OF 56, DATED JULY 1967.

2. MAINE TURNPIKE AUTHORITY, MAINE TURNPIKE, PROPERTY PLAN, SECTION 1, KITTERY TO PORTLAND, KITTERY SHEET 1 (AUG. 1946) AND KITTERY SUPPLEMENTAL SHEETS 2 & 3 (DEC. 1946), BY HOWARD, NEEDLES, TAMMEN & BERGENDOFF RECORDED AT YORK COUNTY REGISTRY OF DEEDS PLAN BOOK 16, PAGES 95–97.

3. PLAN OF LAND OF PORTION OF OLD WILSON ROAD, KITTERY, MAINE FOR STANLEY TANGER BY CIVIL CONSULTANTS DATED MAY 19, 1986 RECORDED AT YORK COUNTY REGISTRY OF DEEDS DEED BOOK 5634, PAGE 63.

4. LAND TITLE SURVEY, TANGER OUTLET CENTER 1, ROUTE 1, KITTERY, YORK COUNTY, MAINE PREPARED FOR TANGER PROPERTIES LIMITED PARTNERSHIP DATED FEB. 11, 1999 BY CIVIL CONSULTANTS.

5. ALTA/ACSM LAND TITLE SURVEY, TANGER OUTLET CENTERS, STORE #1, 283 U.S. ROUTE ONE, KITTERY, YORK COUNTY, MAINE MADE FOR SMITH–ROBERTS NATIONAL CORPORATION DATED SEPTEMBER 10, 2019 REVISED SEPTEMBER 21, 2015 BY OWEN HASKELL, INC.

LEGEND

●	IRON PIPE OR ROD FOUND	X—X	FENCE
■	MONUMENT FOUND		STONEWALL
⌀	UTILITY POLE		CURB
○	MANHOLE	OHW	OVERHEAD WIRES
⊠ EM/GM	ELECTRIC/GAS METER	UGE	UNDERGROUND POWER
◉	GAS VALVE	W	WATER LINE
	SIGN	G	GAS LINE
	CATCH BASIN	T	TELEPHONE
	HYDRANT	SD	STORM DRAIN
⊗	WATER VALVE OR SHUTOFF	SS	SANITARY SEWER
☼	LIGHT POLE	100	1' CONTOUR
	DECIDUOUS TREE		WOODS LINE
	CONIFEROUS TREE	IPF/IRF	IRON PIPE/ROD FOUND
		N/F	NOW OR FORMERLY
		000/000	DEED BOOK / PAGE
		L/S	LANDSCAPED AREA
		CONC.	CONCRETE
		EB	ELECTRIC BOX/METER
		TH=	THRESHOLD
		FFE	FINISHED FLOOR ELEVATION

SCALE : 1" = 40'
0' 20' 40' 80'

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

6/9/2023
DATE

SAMUEL D. GLIDDEN, PLS #2520

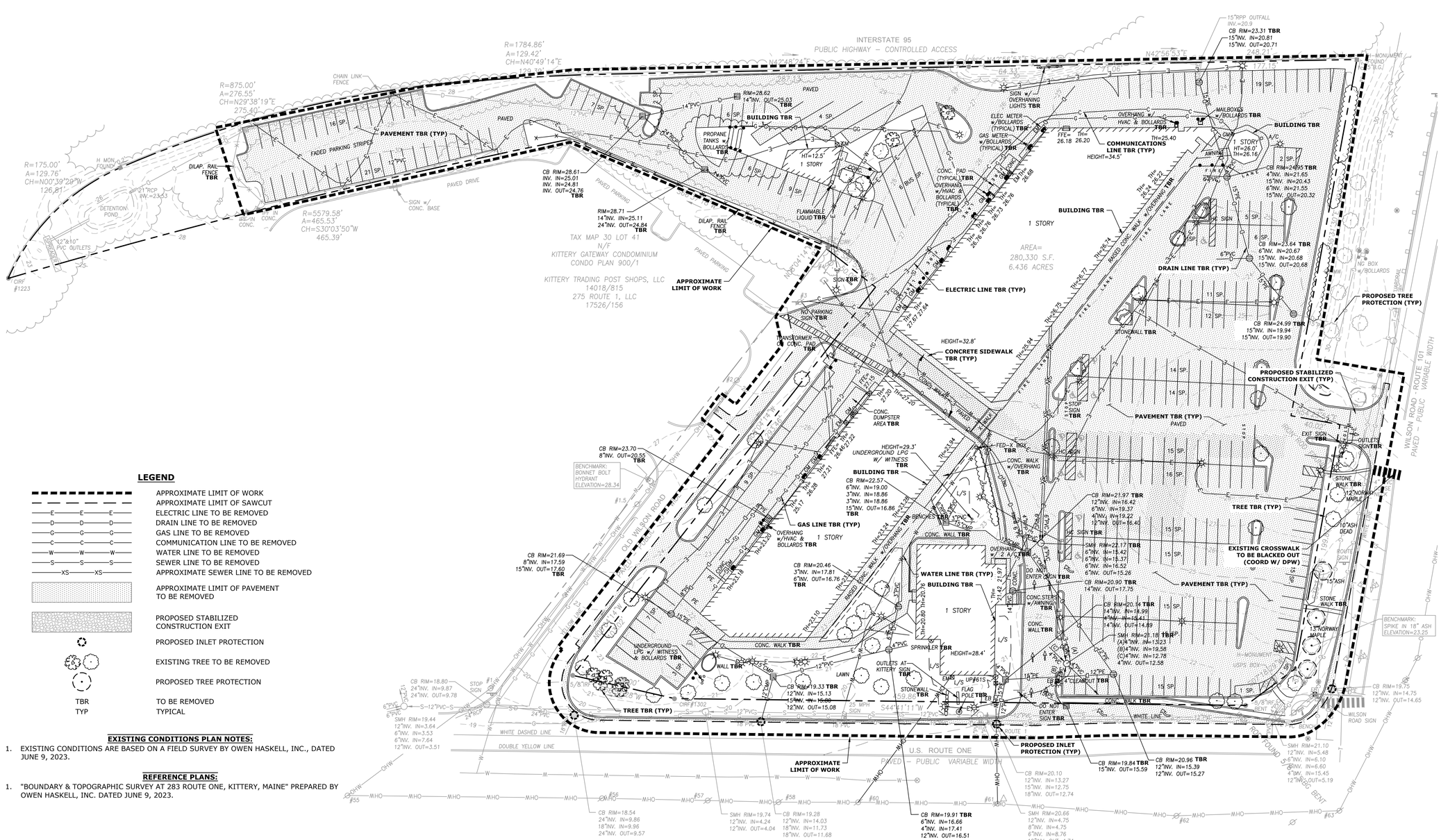
STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

Boundary & Topographic Survey

At
283 Route One, Kittery, Maine
Made for
283 Route 1, LLC
c/o Two International Group
1 New Hampshire Avenue, Suite 123
Portsmouth, New Hampshire

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: JLW	DATE: JUNE 9, 2023	JOB NO. 2023-105 K-Y	
CHECKED BY: SDG	SCALE: 1" = 40'	DRWG. NO. 1	



LEGEND

– – – – –	APPROXIMATE LIMIT OF WORK
— — — — —	APPROXIMATE LIMIT OF SAWCUT
—E—E—E—	ELECTRIC LINE TO BE REMOVED
—D—D—D—	DRAIN LINE TO BE REMOVED
—G—G—G—	GAS LINE TO BE REMOVED
—C—C—C—	COMMUNICATION LINE TO BE REMOVED
—W—W—W—	WATER LINE TO BE REMOVED
—S—S—S—	SEWER LINE TO BE REMOVED
—XS—XS—	APPROXIMATE SEWER LINE TO BE REMOVED
	APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
	PROPOSED STABILIZED CONSTRUCTION EXIT
	PROPOSED INLET PROTECTION
	EXISTING TREE TO BE REMOVED
	PROPOSED TREE PROTECTION
TBR	TO BE REMOVED
TYP	TYPICAL

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY OWEN HASKELL, INC., DATED JUNE 9, 2023.

REFERENCE PLANS:

1. "BOUNDARY & TOPOGRAPHIC SURVEY AT 283 ROUTE ONE, KITTERY, MAINE" PREPARED BY OWEN HASKELL, INC. DATED JUNE 9, 2023.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
4. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
5. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
6. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. SAW CUT AND REMOVE PAVEMENT TWO (2) FEET OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
11. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
12. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
13. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
14. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN AS NEEDED TO COMPLETE THE WORK UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDINGS, FOUNDATION, TREES AND LANDSCAPING.
15. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
16. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
17. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
18. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
19. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. PIPING LEADING FROM SITE TO CATCH BASINS ALONG U.S. ROUTE ONE SHALL BE CUT AND CAPPED AT EXISTING STRUCTURES

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Demo

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

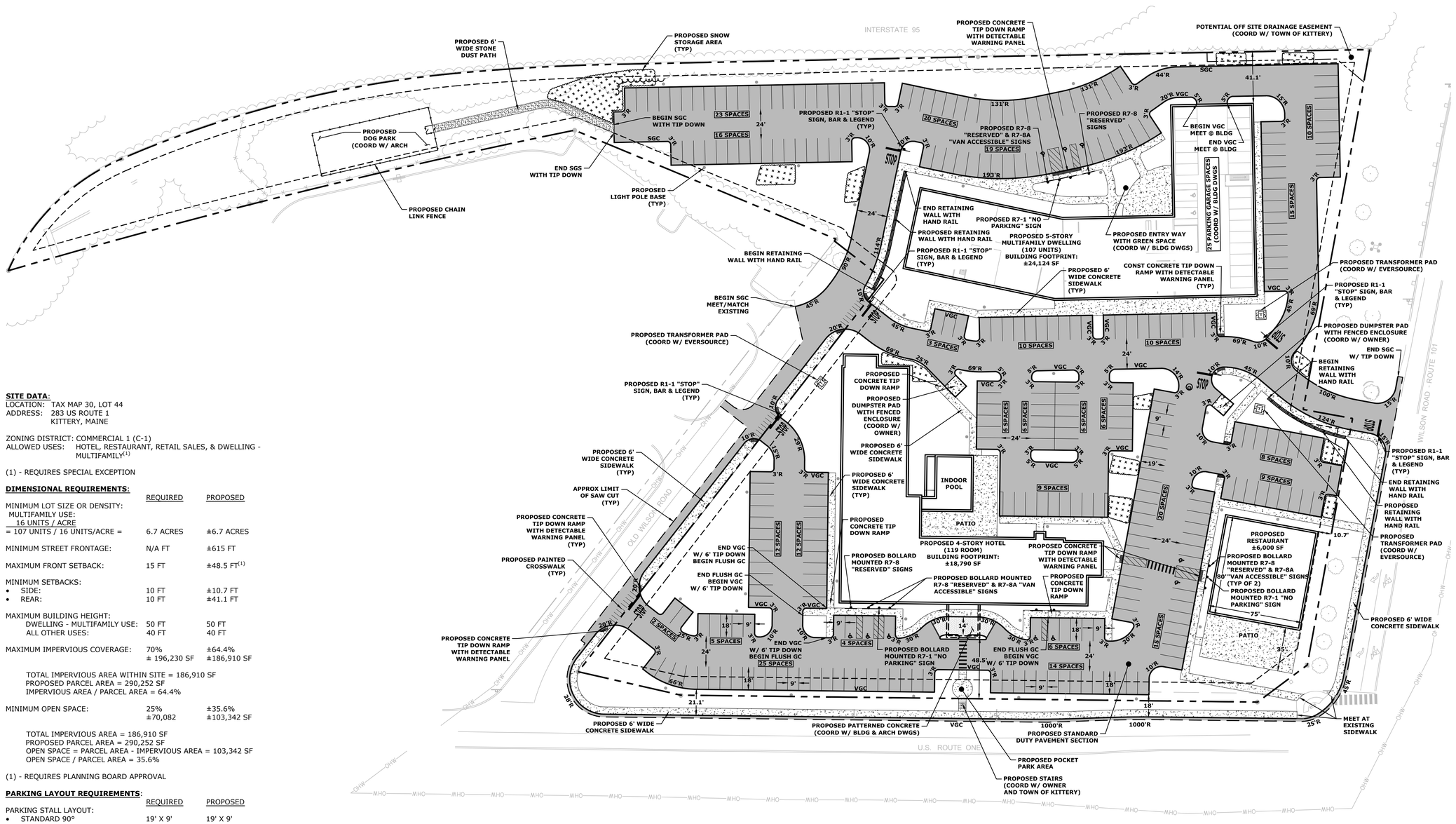
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO: T5037-003
DATE: 10/5/2023
FILE: T5037-003_C-DESIGN.DWG
DRAWN BY: CML
CHECKED: NAH
APPROVED: PMC

EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101



SITE DATA:
LOCATION: TAX MAP 30, LOT 44
ADDRESS: 283 US ROUTE 1
KITTERY, MAINE

ZONING DISTRICT: COMMERCIAL 1 (C-1)
ALLOWED USES: HOTEL, RESTAURANT, RETAIL SALES, & DWELLING - MULTIFAMILY(1)

(1) - REQUIRES SPECIAL EXCEPTION

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE OR DENSITY: MULTIFAMILY USE: 16 UNITS / ACRE = 107 UNITS / 16 UNITS/ACRE =	6.7 ACRES	±6.7 ACRES
MINIMUM STREET FRONTAGE:	N/A FT	±615 FT
MAXIMUM FRONT SETBACK:	15 FT	±48.5 FT(1)
MINIMUM SETBACKS:		
• SIDE:	10 FT	±10.7 FT
• REAR:	10 FT	±41.1 FT
MAXIMUM BUILDING HEIGHT:		
DWELLING - MULTIFAMILY USE:	50 FT	50 FT
ALL OTHER USES:	40 FT	40 FT
MAXIMUM IMPERVIOUS COVERAGE:	70% ± 196,230 SF	±64.4% ±186,910 SF

TOTAL IMPERVIOUS AREA WITHIN SITE = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
IMPERVIOUS AREA / PARCEL AREA = 64.4%

MINIMUM OPEN SPACE:	25% ±70,082	±35.6% ±103,342 SF

TOTAL IMPERVIOUS AREA = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
OPEN SPACE = PARCEL AREA - IMPERVIOUS AREA = 103,342 SF
OPEN SPACE / PARCEL AREA = 35.6%

(1) - REQUIRES PLANNING BOARD APPROVAL

PARKING LAYOUT REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	19' X 9'	19' X 9'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 90° (1-WAY TRAFFIC)	13 FT	14 FT

PARKING SPACE REQUIREMENTS:

	REQUIRED	PROPOSED
MULTIFAMILY DWELLING: 1 SPACE / DWELLING UNIT = 107 UNITS / 1 SPACE/UNIT=	107 SPACES	147 SPACES
HOTEL: 1 SPACE / ROOMS +1 / 100SF OF MEETING ROOM = 119 ROOM / 1 SPACE/ROOM=	119 SPACES	119 SPACES
RESTAURANT: 1 SPACE / 3 SEATS = 150 SEATS / 1 SPACE/3 SEATS=	50 SPACES	50 SPACES
	169 SPACES	169 SPACES
TOTAL:	276 SPACES	316 SPACES

* TEN (10) TOTAL ADA SPACES PROVIDED

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE TOWN OF KITTERY.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
11. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING DRAWINGS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
17. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
18. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND AIRSIDE PAVEMENT AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
19. ALL DUMPSTER PAD ENCLOSURES WILL HAVE FENCE SCREENING
13. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. ONCE DESIGNATED SNOW STORAGE AREAS REACH MAXIMUM CAPACITY, ALL SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.

LEGEND

- PROPOSED CONCRETE
- PROPOSED PAVEMENT SECTION
- PROPOSED SNOW STORAGE AREA
- APPROXIMATE LIMIT OF SAWCUT
- BUILDING SET BACK LINE
- PROPOSED LIGHT POLE BASE
- PROPOSED SIGN
- 45'R — PROPOSED CURB RADIUS
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB

Tighe&Bond

STATE OF MAINE — PATRICK CRIMMINS — 16468 — LICENSED PROFESSIONAL ENGINEER — 1/25/2024

STATE OF MAINE — NEIL A HANSEN — 17550 — LICENSED PROFESSIONAL ENGINEER — 01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO: T5037-003
DATE: 10/5/2023
FILE: T5037-003_C-DESIGN.DWG
DRAWN BY: CML
CHECKED: NAH
APPROVED: PMC

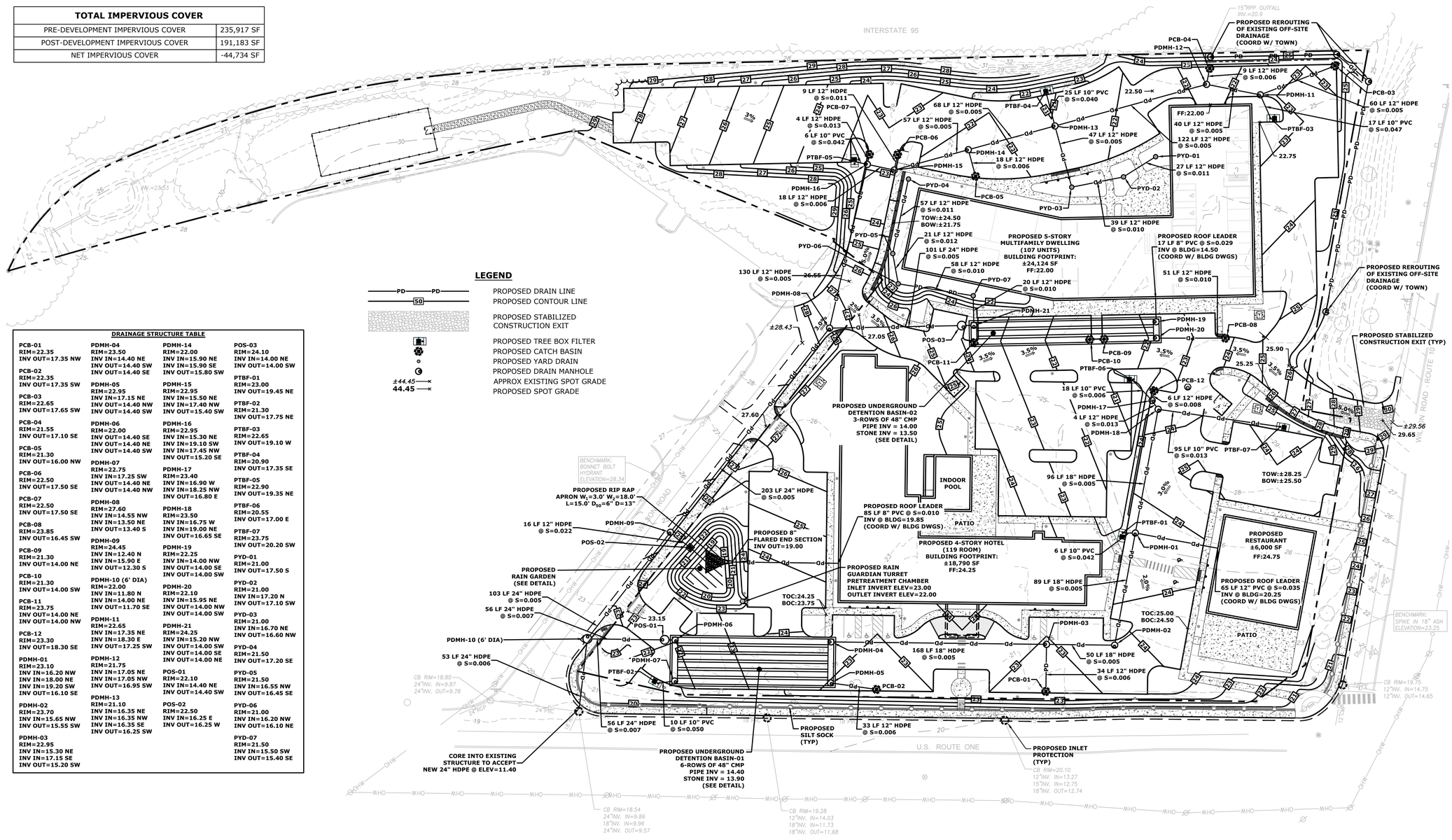
SITE PLAN

SCALE: AS SHOWN

C-102

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
X:\T&B File Location: 3\NT\5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Site

TOTAL IMPERVIOUS COVER	
PRE-DEVELOPMENT IMPERVIOUS COVER	235,917 SF
POST-DEVELOPMENT IMPERVIOUS COVER	191,183 SF
NET IMPERVIOUS COVER	-44,734 SF



LEGEND

- PROPOSED DRAIN LINE
- PROPOSED CONTOUR LINE
- PROPOSED STABILIZED CONSTRUCTION EXIT
- PROPOSED TREE BOX FILTER
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED DRAIN MANHOLE
- APPROX EXISTING SPOT GRADE
- PROPOSED SPOT GRADE

DRAINAGE STRUCTURE TABLE

PCB-01 RIM=22.35 INV OUT=17.35 NW	**PDMH-04** RIM=23.50 INV IN=14.40 NE INV OUT=14.40 SW INV OUT=14.40 SE	**PDMH-14** RIM=22.00 INV IN=15.90 NE INV IN=15.90 SE INV OUT=15.80 SW	**POS-03** RIM=24.10 INV IN=14.00 NE INV OUT=14.00 SW
PCB-02 RIM=22.35 INV OUT=17.35 SW	**PDMH-05** RIM=22.95 INV IN=17.15 NE INV OUT=14.40 NW INV OUT=14.40 SW	**PDMH-15** RIM=22.95 INV IN=15.50 NE INV IN=17.40 NW INV OUT=15.40 SW	**PTBF-01** RIM=23.00 INV OUT=19.45 NE
PCB-03 RIM=22.65 INV OUT=17.65 SW	**PDMH-06** RIM=22.00 INV OUT=14.40 SE INV OUT=14.40 NE INV OUT=14.40 SW	**PDMH-16** RIM=22.95 INV IN=15.30 NE INV IN=19.10 SW INV IN=17.45 NW INV OUT=15.20 SE	**PTBF-02** RIM=21.30 INV OUT=17.75 NE
PCB-04 RIM=21.55 INV OUT=17.10 SE	**PDMH-07** RIM=22.75 INV IN=17.25 SW INV OUT=14.40 NE INV OUT=14.40 NW	**PDMH-17** RIM=23.40 INV IN=16.90 W INV IN=18.25 NW INV OUT=16.80 E	**PTBF-03** RIM=22.65 INV OUT=19.10 W
PCB-05 RIM=21.30 INV OUT=16.00 NW	**PDMH-08** RIM=27.60 INV IN=14.55 NW INV IN=13.50 NE INV OUT=13.40 S	**PDMH-18** RIM=23.50 INV IN=16.75 W INV IN=19.00 NE INV OUT=16.65 SE	**PTBF-04** RIM=20.90 INV OUT=17.35 SE
PCB-06 RIM=22.50 INV OUT=17.50 SE	**PDMH-09** RIM=24.45 INV IN=12.40 N INV IN=15.90 E INV OUT=12.30 S	**PDMH-19** RIM=22.25 INV IN=14.00 NW INV OUT=14.00 SE INV OUT=14.00 SW	**PTBF-05** RIM=22.90 INV OUT=19.35 NE
PCB-07 RIM=22.50 INV OUT=17.50 SE	**PDMH-10 (6' DIA)** RIM=22.00 INV IN=11.80 N INV IN=14.00 NE INV OUT=11.70 SE	**PDMH-20** RIM=22.10 INV IN=15.95 NE INV OUT=14.00 NW INV OUT=14.00 SW	**PTBF-06** RIM=20.55 INV OUT=17.00 E
PCB-08 RIM=23.85 INV OUT=16.45 SW	**PDMH-11** RIM=22.65 INV IN=17.35 NE INV IN=18.30 E INV OUT=17.25 SW	**PDMH-21** RIM=24.25 INV IN=15.20 NW INV OUT=14.00 SW INV OUT=14.00 SE INV OUT=14.00 NE	**PTBF-07** RIM=23.75 INV OUT=20.20 SW
PCB-09 RIM=21.30 INV OUT=14.00 NE	**PDMH-12** RIM=21.75 INV IN=17.05 NE INV IN=17.05 NW INV OUT=16.95 SW	**POS-01** RIM=22.10 INV IN=14.40 NE INV OUT=14.40 SW	**PYD-01** RIM=21.00 INV OUT=17.50 S
PCB-10 RIM=21.30 INV OUT=14.00 SW	**PDMH-13** RIM=21.10 INV IN=16.35 NE INV IN=16.35 NW INV IN=16.35 SE INV OUT=16.25 SW	**POS-02** RIM=22.50 INV IN=16.25 E INV OUT=16.25 W	**PYD-02** RIM=21.00 INV IN=17.20 N INV OUT=17.10 SW
PCB-11 RIM=23.75 INV OUT=14.00 NE INV OUT=14.00 NW			**PYD-03** RIM=21.00 INV IN=16.70 NE INV OUT=16.60 NW
PCB-12 RIM=23.30 INV OUT=18.30 SE			**PYD-04** RIM=21.50 INV OUT=17.20 SE
PDMH-01 RIM=23.10 INV IN=16.20 NW INV IN=18.00 NE INV IN=19.20 SW INV OUT=16.10 SE			**PYD-05** RIM=21.50 INV IN=16.55 NW INV OUT=16.45 SE
PDMH-02 RIM=23.70 INV IN=15.65 NW INV OUT=15.55 SW			**PYD-06** RIM=21.00 INV IN=16.20 NW INV OUT=16.10 NE
PDMH-03 RIM=22.95 INV IN=15.30 NE INV IN=17.15 SE INV OUT=15.20 SW			**PYD-07** RIM=21.50 INV IN=15.50 SW INV OUT=15.40 SE

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
   - BELOW LOAM AND SEED AREAS 90%
   - * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
13. SEE REFERENCE PLAN #1 FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL DEVELOPMENT MUST GENERALLY COMPLY WITH THE PROVISIONS OF THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.

Tighe&Bond

STATE OF MAINE — PATRICK CRIMMINS — 16468 — LICENSED PROFESSIONAL ENGINEER — 1/25/2024

STATE OF MAINE — NEIL A HANSEN — 17550 — LICENSED PROFESSIONAL ENGINEER — 01/25/2024

SCALE IN FEET 0 40' 80' GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

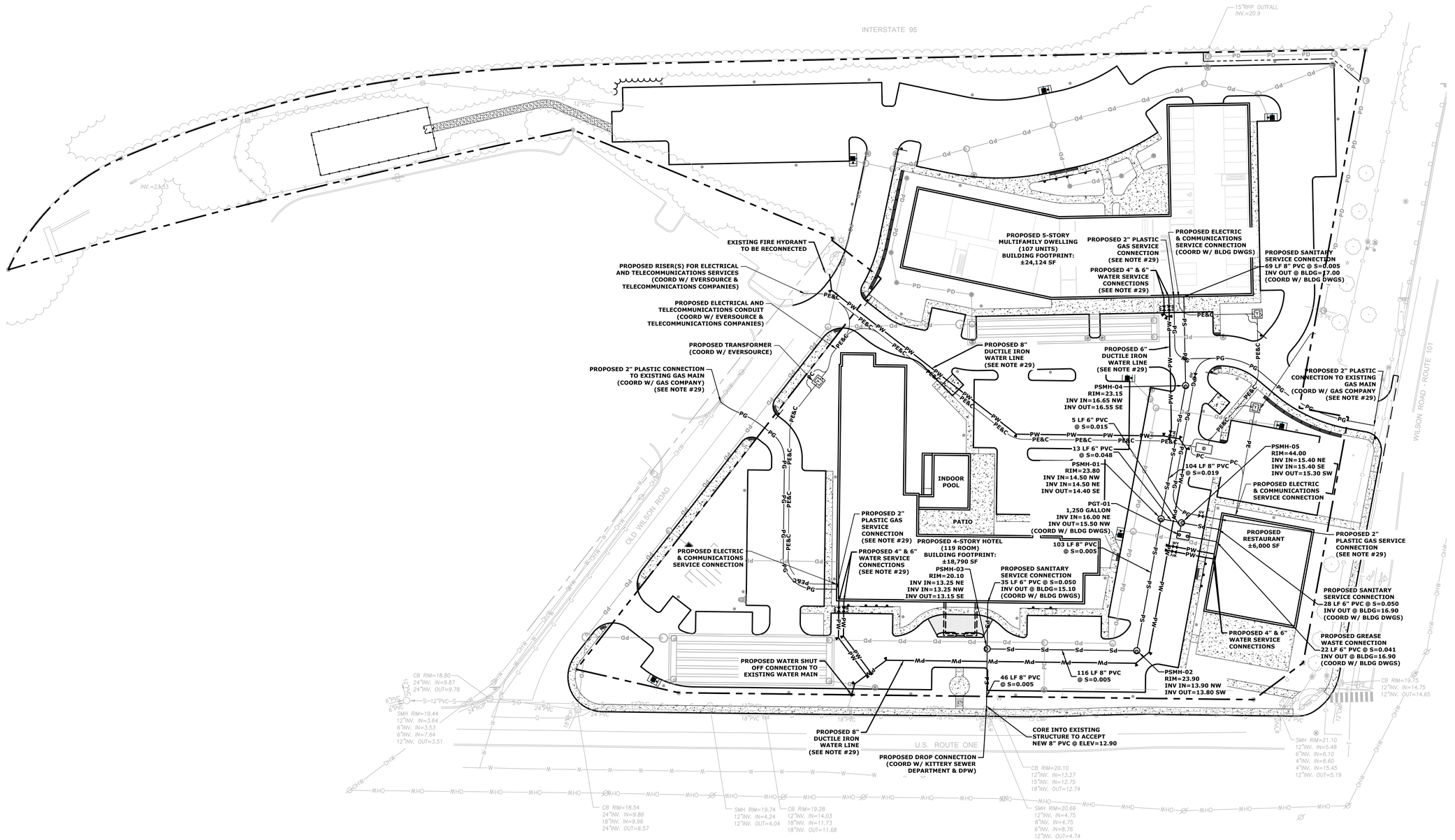
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - KITTERY WATER DISTRICT
   - SEWER - KITTERY SEWER DEPARTMENT
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - XFINITY OR CONSOLIDATED COMMUNICATIONS
3. SEE REFERENCE PLAN #1 FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE KITTERY WATER DISTRICT.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO TOWN OF KITTERY WATER DISTRICT STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS & KITTERY WATER DISTRICT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE KITTERY WATER DISTRICT.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE TOWN OF KITTERY.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAN 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
29. FINAL SIZING FOR BUILDING UTILITY CONNECTIONS TO BE DETERMINED BY PROJECTS MEP ENGINEER

LEGEND

PS—PS	PROPOSED SEWER LINE
PG—PG	PROPOSED GAS LINE
PC—PC	PROPOSED COMMUNICATIONS LINE
PE—PE	PROPOSED ELECTRIC LINE
PE&C—PE&C	PROPOSED ELECTRIC & COMMUNICATIONS LINE
PW—PW	PROPOSED WATER LINE
WV	PROPOSED WATER GATE VALVE
	PROPOSED WATER SHUT OFF
	PROPOSED ELECTRIC MANHOLE
	PROPOSED SEWER MANHOLE
	PROPOSED GREASE TRAP

Tighe&Bond

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B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

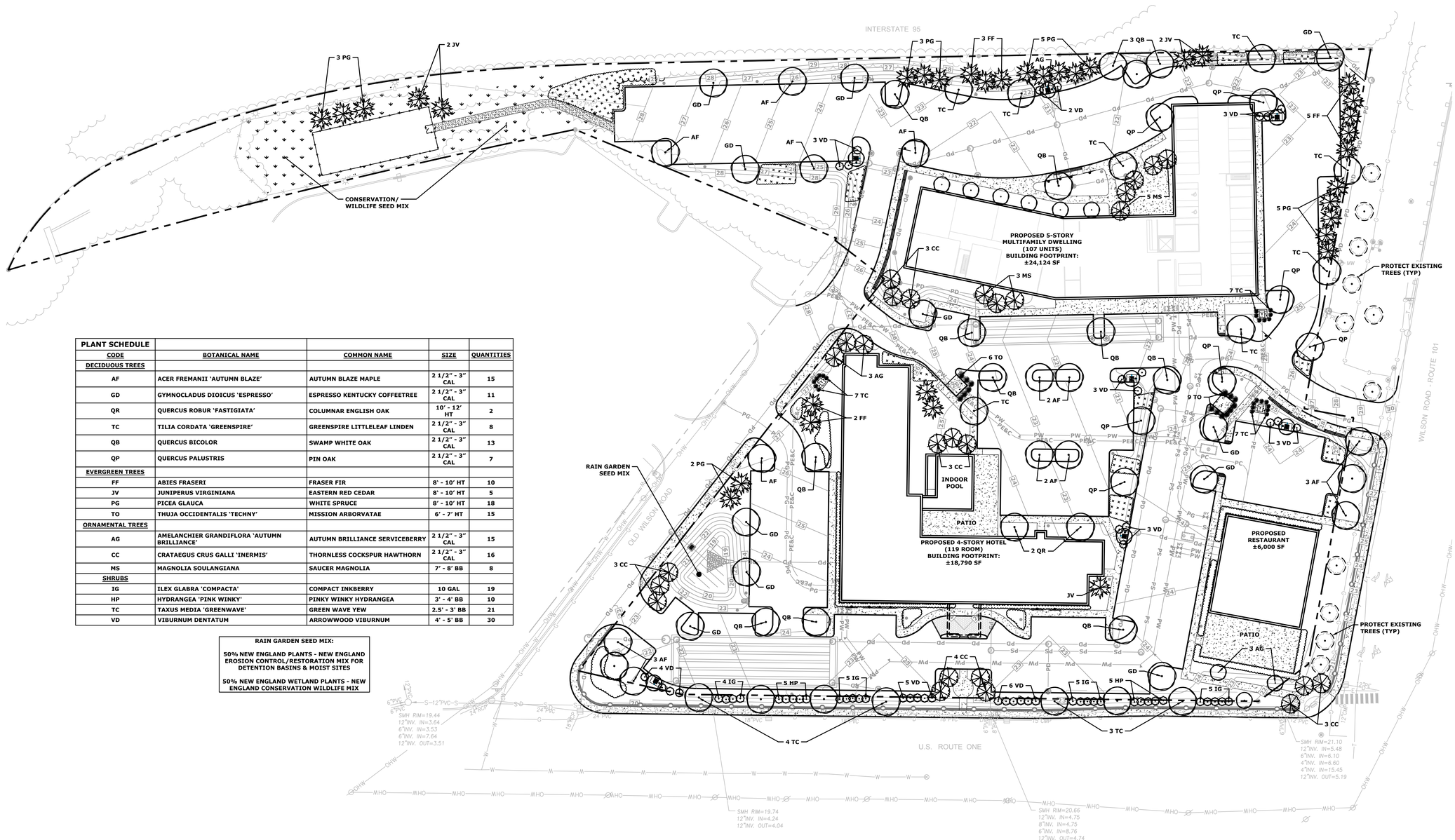
PROJECT NO: T5037-003
DATE: 10/5/2023
FILE: T5037-003_C-DESIGN.DWG
DRAWN BY: CML
CHECKED: NAH
APPROVED: PMC

UTILITY PLAN

SCALE: AS SHOWN

C-104

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Util



PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITIES
DECIDUOUS TREES				
AF	ACER FREMANII 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	2 1/2" - 3" CAL	15
GD	GYMNOCLADUS DIOICUS 'ESPRESSO'	ESPRESSO KENTUCKY COFFEETREE	2 1/2" - 3" CAL	11
QR	QUERCUS ROBUR 'FASTIGIATA'	COLUMNAR ENGLISH OAK	10' - 12' HT	2
TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2" - 3" CAL	8
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2" - 3" CAL	13
QP	QUERCUS PALUSTRIS	PIN OAK	2 1/2" - 3" CAL	7
EVERGREEN TREES				
FF	ABIES FRASERI	FRASER FIR	8' - 10' HT	10
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8' - 10' HT	5
PG	PICEA GLAUCA	WHITE SPRUCE	8' - 10' HT	18
TO	THUJA OCCIDENTALIS 'TECHNY'	MISSION ARBORVATAE	6' - 7' HT	15
ORNAMENTAL TREES				
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 1/2" - 3" CAL	15
CC	CRATAEGUS CRUS GALLI 'INERMIS'	THORNLESS COCKSPUR HAWTHORN	2 1/2" - 3" CAL	16
MS	MAGNOLIA SOULANGIANA	SAUCER MAGNOLIA	7' - 8' BB	8
SHRUBS				
IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	10 GAL	19
HP	HYDRANGEA 'PINK WINKY'	PINKY WINKY HYDRANGEA	3' - 4' BB	10
TC	TAXUS MEDIA 'GREENWAVE'	GREEN WAVE YEW	2.5' - 3' BB	21
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	4' - 5' BB	30

RAIN GARDEN SEED MIX:

50% NEW ENGLAND PLANTS - NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS & MOIST SITES

50% NEW ENGLAND WETLAND PLANTS - NEW ENGLAND CONSERVATION WILDLIFE MIX

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE INCHES (3") OF BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" INCHES OF LOAM AND SEED.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

LEGEND

PROPOSED DECIDUOUS TREE

PROPOSED EVERGREEN TREE

PROPOSED ORNAMENTAL TREE

PROPOSED SHRUBS / GROUND COVERS

PROPOSED TREE PROTECTION

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
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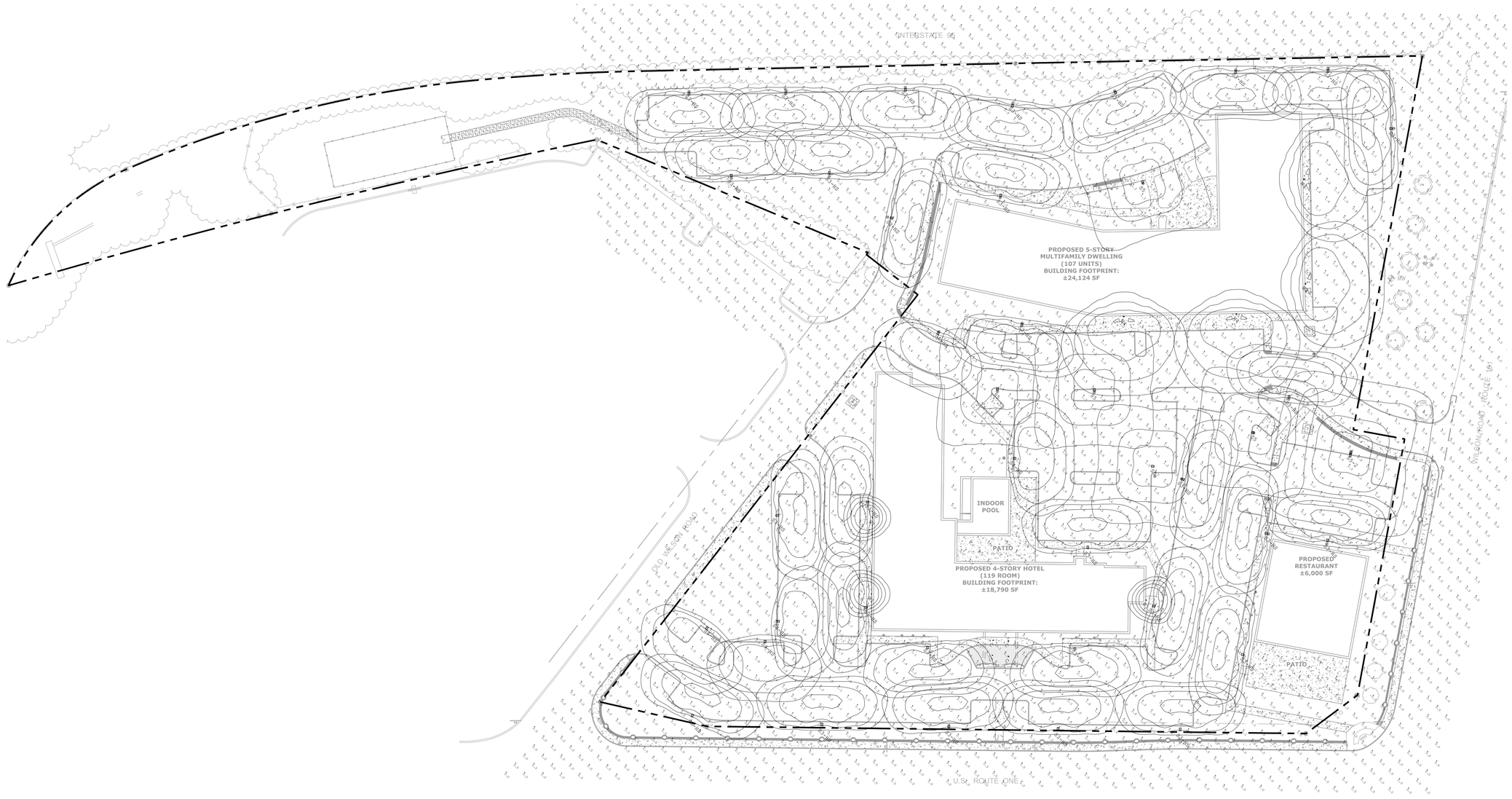
CHECKED:	NAH
APPROVED:	PMC

LANDSCAPE PLAN

SCALE: AS SHOWN

C-105



Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
	4	C	Single	ADL-FS1-6R-HAZ (30-18001m)	LSI INDUSTRIES, INC.
	30	S3-HS	Single	MRS-LED-06L-SIL-3-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	5	S4-HS	Single	MRS-LED-06L-SIL-4-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	5	S5	Single	MRS-LED-06L-SIL-5W-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	1	S5-2	Back-Back	MRS-LED-06L-SIL-5W-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 D180 GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	3	W1	Single	WPSLS-02L-30-CXX / WALL MTD 9.5' AFG	LSI INDUSTRIES, INC.
	4	W4	Single	XWM-4-LED-06L-30-UE-CXX / WALL MTD 20' AFG	LSI INDUSTRIES, INC.

SITE LIGHTING SHALL BE COORDINATED WITH BUILDING DRAWINGS AND PROJECT ELECTRICAL ENGINEER

SLIM WALL PACK (WPSLS)

OVERVIEW	
Lumen Range	1,000 - 4,000
Wattage Range	12 - 40
Efficacy Range (LPW)	98 - 122
Weight lbs(kg)	3.8 (1.7)

MIRANDA SMALL AREA (MRS)
LABEL:S3-HS, S4-HS, S5

OVERVIEW	
Lumen Package	6,000 - 24,000
Wattage Range	41 - 196
Efficacy Range (LPW)	112 - 156
Fixture Weight lbs (kg)	20 (9.1)

MIRANDA MEDIUM WALL SCONCE (XWM)
LABEL:W3 & W4

OVERVIEW	
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, PCI

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
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Two International Group

283 US Route 1
Kittery, Maine

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APPROVED:	PMC

PHOTOMETRIC PLAN

SCALE: AS SHOWN

C-106

GENERAL PROJECT INFORMATION

PROJECT OWNER: 283-360 KITTERY, LLC
1 NEW HAMPSHIRE AVE, SUITE 123
PORTSMOUTH, NH 03801
PROJECT NAME: KITTERY MIXED-USE DEVELOPMENT
PROJECT ADDRESS: 283 US ROUTE 1
KITTERY, MAINE
PROJECT MAP / LOT: MAP 30 / LOT 44
PROJECT LATITUDE: 43°06'39.8"N
PROJECT LONGITUDE: 70°44'12.0"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A MIXED-USE DEVELOPMENT THE WORK IS ANTICIPATED TO START IN SPRING OF 2024, AND BE COMPLETED BY SPRING OF 2025.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY ±5 ACRES.

SOIL CHARACTERISTICS

BASED ON THE NRCS WEB SOIL SURVEY FOR YORK COUNTY - MAINE, THE SOILS ON SITE CONSIST OF LYMAN LOAM, SCANTIC SILT LOAM, AND URBAN LAND SOILS WHICH ARE POOR DRAINING SOILS.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO A CLOSED DRAINAGE SYSTEM AND ULTIMATELY TO SPINNEY CREEK (ELIOT, KITTERY), SPRUCE AND CHAUNCEY CREEKS (KITTERY) (STATE WATERBODY ID: ME010600031001_SB_E).

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
   - CONTROL OF DUST
   - CONSTRUCTION OF ACCESS AND HAUL ROAD
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN 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;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION, ITEM 703.06 TYPE D HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT 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;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER MEDOT ITEM 703.06 TYPE D, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. PERMANENT MEASURES AND PLANTINGS:
   A. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
   B. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
   C. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
   D. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
   E. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
   F. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
   G. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
   H. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	___ LBS/ACRE
TALL FESCUE	___ LBS/ACRE
REDTOP	___ LBS/ACRE

   IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

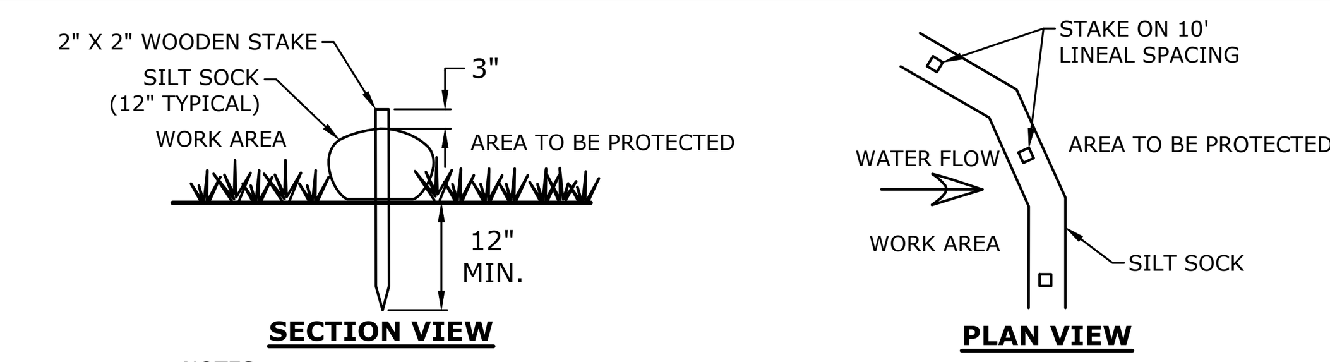
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
         - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
         - SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
         - INSPECT FUEL STORAGE AREAS WEEKLY;
         - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
         - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
         - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
         - THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
           (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
           (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
           (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
           (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
           (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
         - FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE MAINE DEPARTMENT OF ENVIRONMENTAL SERVICES.
      b. FERTILIZERS:
         - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
         - PAINTS:
         - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

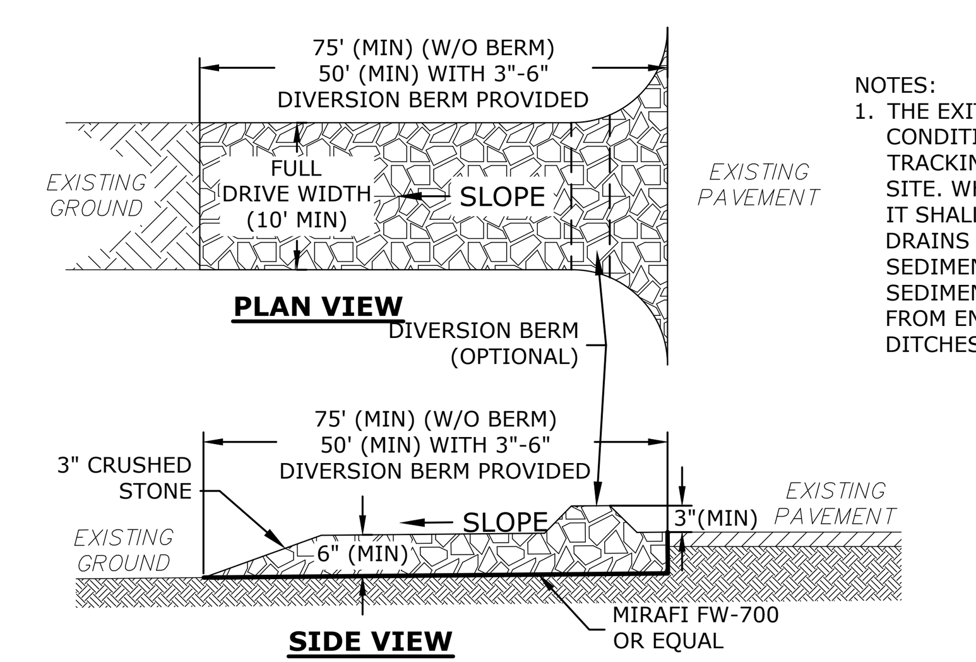
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

1. THIS PROJECT EXCEED ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRE(S) A SWPPP. THE SWPPP SHALL BE PREPARED BY A QUALIFIED ENGINEER. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
   A. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY A QUALIFIED PERSON AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
   B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
   C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
   D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



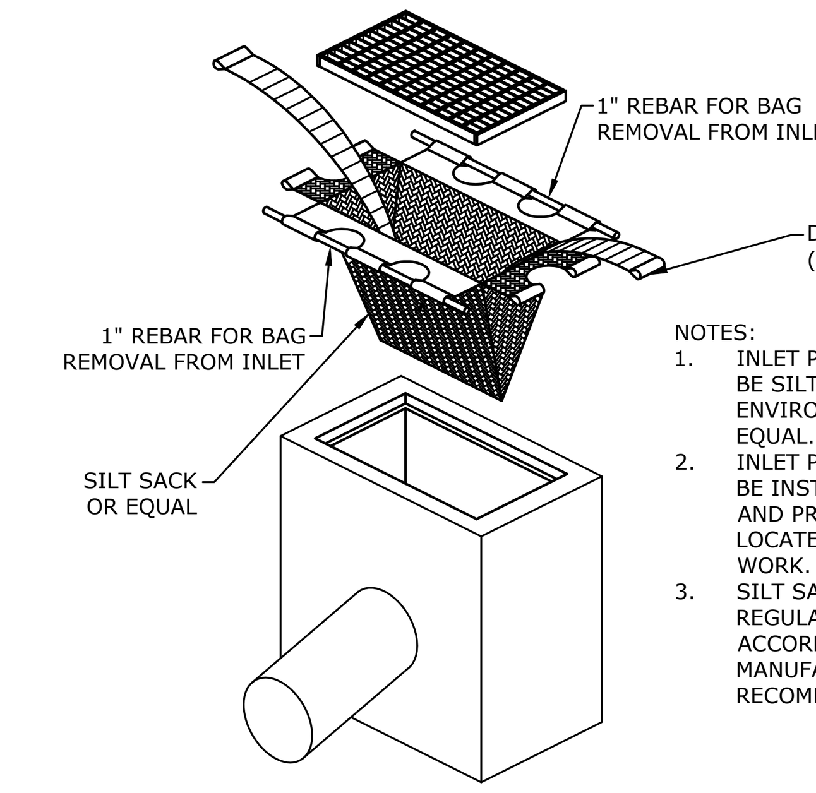
NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. SILT SOCK SHALL BE FILLED WITH FILTERMEDIA BY FILTREXX OR APPROVED EQUAL.
3. WHERE TWO SILT SOCKS ARE JOINED, A MINIMUM OF 2 FEET OF OVERLAP SHALL BE MAINTAINED.
4. SILT SOCKS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

SILT SOCK
NO SCALE



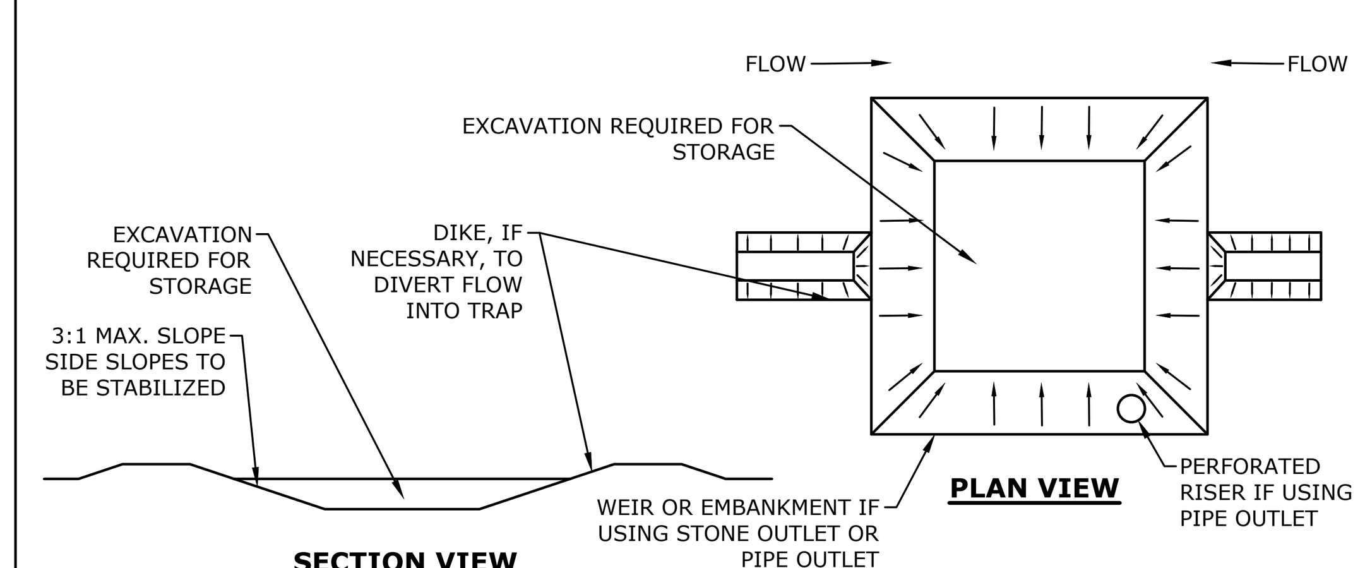
NOTES:
1. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE



NOTES:
1. INLET PROTECTION BARRIER SHALL BE SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL.
2. INLET PROTECTION BARRIER SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS LOCATED WITHIN THE LIMIT OF WORK.
3. SILT SACK SHALL BE INSPECTED REGULARLY AND MAINTAIN IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

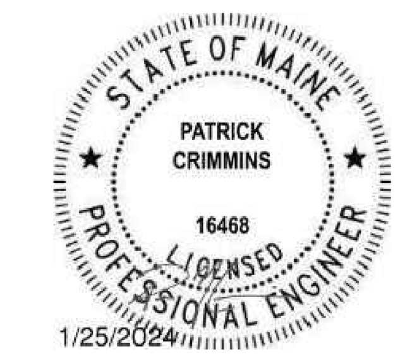
INLET PROTECTION BARRIER
NO SCALE



NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

SEDIMENT TRAP
NO SCALE

Tighe&Bond



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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

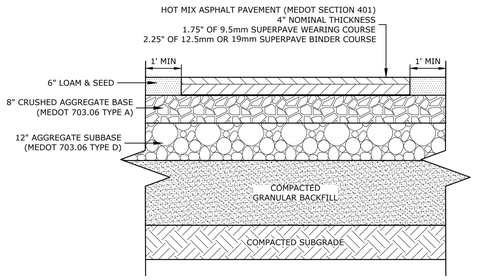
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

EROSION CONTROL NOTES & DETAILS SHEET

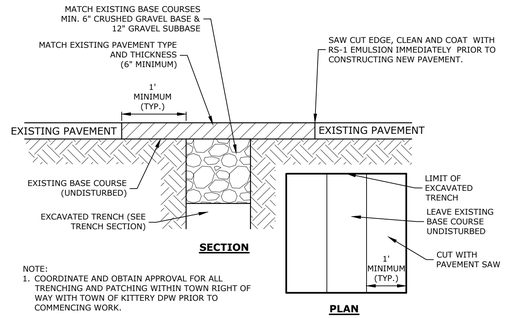
SCALE: AS SHOWN

C-501



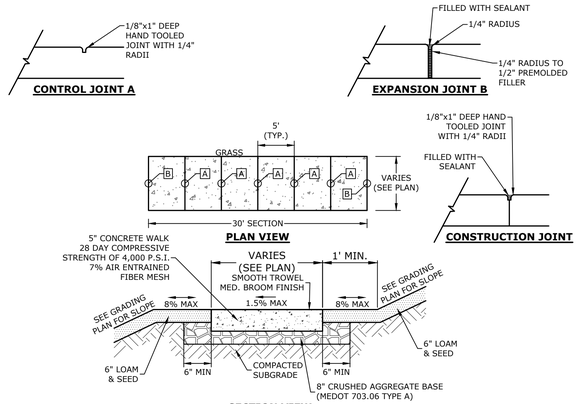
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT SECTION DESIGN SHALL BE APPROVED BY THE PROJECTS GEOTECHNICAL ENGINEER.
5. THE PAVEMENT SECTION SHOULD BE THICKENED AT THE ENTRANCE AND EXIT WAY AREAS OVER A 5' SECTION TO MATCH THE EXISTING ROADWAY PAVEMENT DEPTHS.

TYPICAL STANDARD DUTY PAVEMENT SECTION
NO SCALE



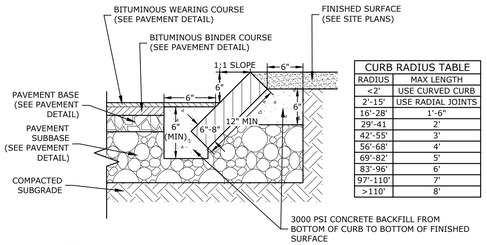
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN TOWN RIGHT OF WAY WITH TOWN OF KITTERY DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE TOWN ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

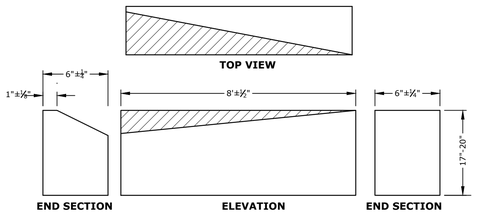
CONCRETE SIDEWALK
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

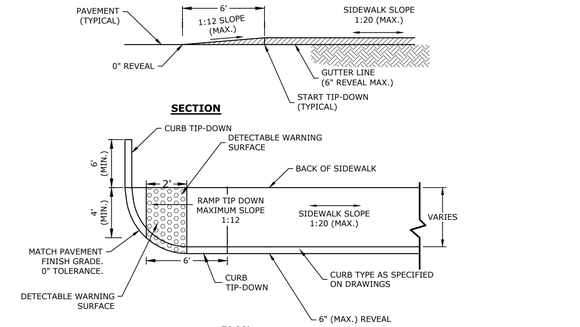
SLOPED GRANITE CURB
NO SCALE



TRANSITION SECTION
GRANITE SLOPE CURB TO VERTICAL GRANITE CURB

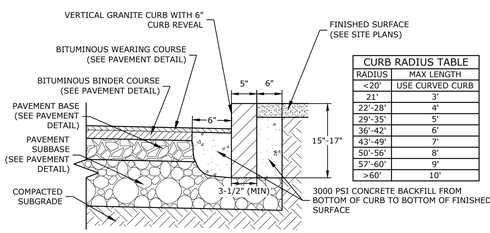
NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN STRAIGHT GRANITE CURB AND SLOPE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE SLOPE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

CURB TRANSITION
NO SCALE



NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. PROVIDE 8" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

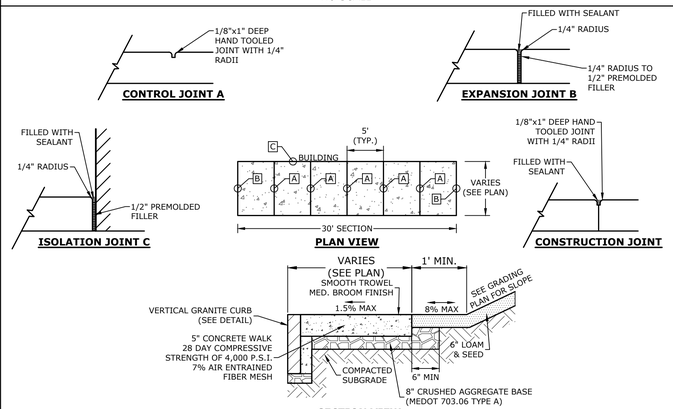
CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

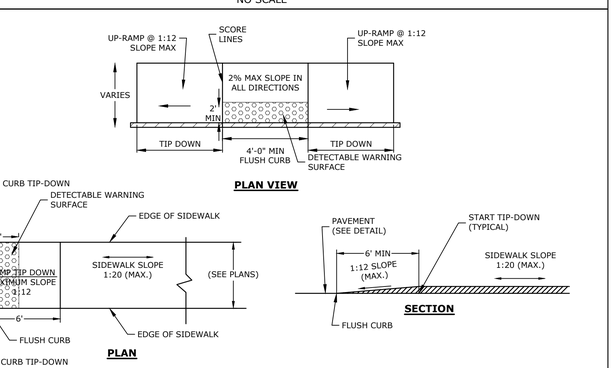
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE TOWN ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 8" COMPACTED CRUSHED GRAVEL BASE (MEDOT 703.06 TYPE A) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON WITH BLACK COATING

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

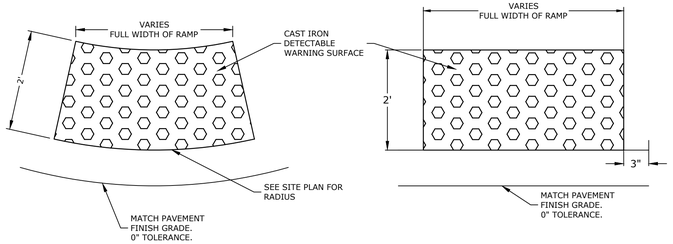
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

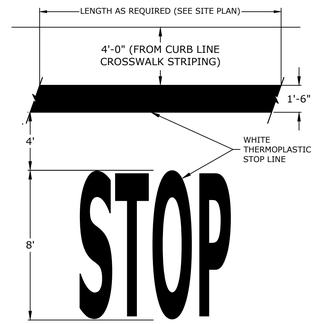
C-502

Last Save Date: January 24, 2024, 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-502



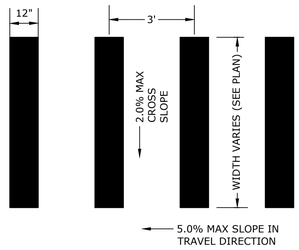
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



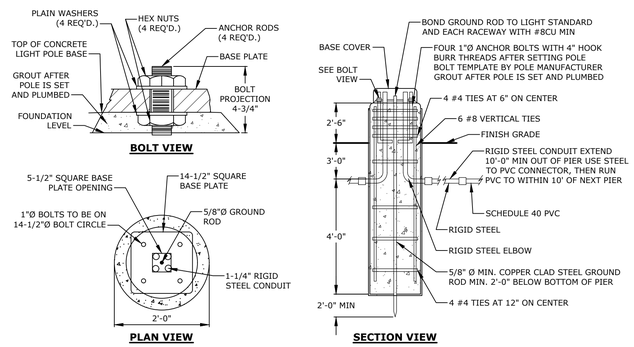
NOTES:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR
NO SCALE



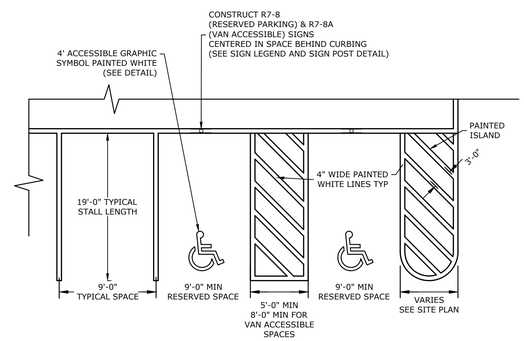
NOTE:
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



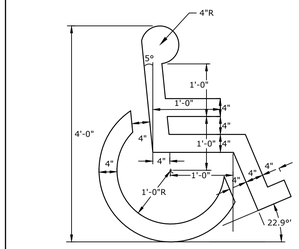
NOTES
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
4. LIGHT POLE BASE DETAIL FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.

TYPICAL LIGHT POLE BASE
NO SCALE



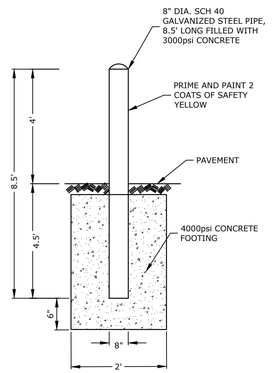
NOTE:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING SPACE STRIPING
NO SCALE

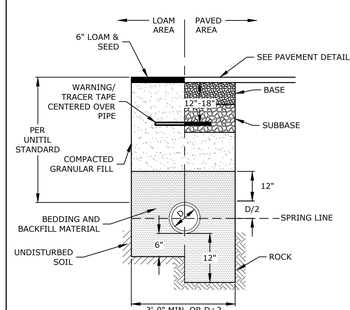


NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL
NO SCALE

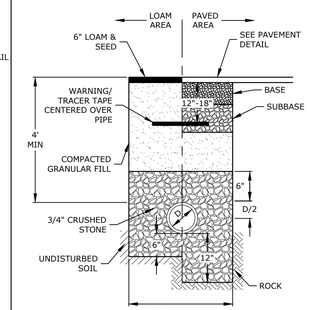


TYPICAL BOLLARD
NO SCALE



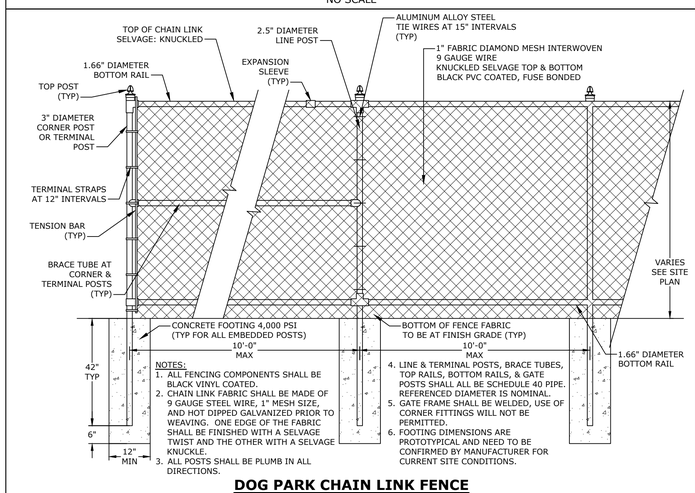
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE TOWN OF KITTERY.

TYPICAL GAS TRENCH
NO SCALE



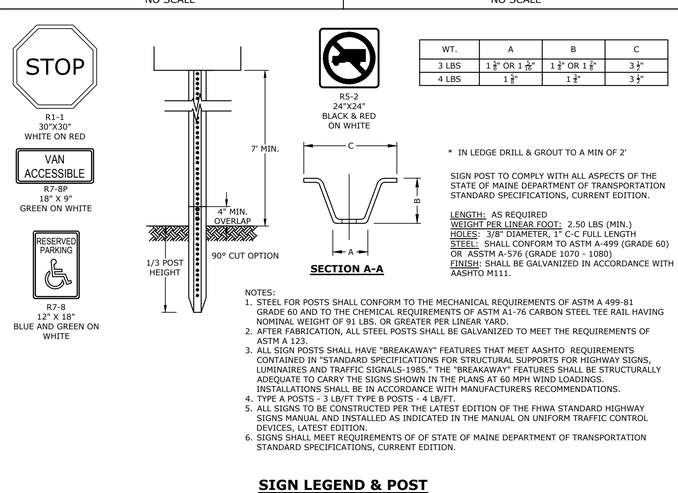
NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.

STORM DRAIN TRENCH
NO SCALE



NOTES:
1. ALL FENCING COMPONENTS SHALL BE BLACK VINYL COATED.
2. CHAIN LINK FABRIC SHALL BE MADE OF 9 GAUGE STEEL WIRE, 1" MESH SIZE, AND HOT DIPPED GALVANIZED PRIOR TO WEAVING. ONE EDGE OF THE FABRIC SHALL BE FINISHED WITH A SELVAGE TWIST AND THE OTHER WITH A SELVAGE KNUCKLE.
3. ALL POSTS SHALL BE PLUMB IN ALL DIRECTIONS.
4. LINE & TERMINAL POSTS, BRACE TUBES, TOP RAILS, BOTTOM RAILS, & GATE POSTS SHALL ALL BE SCHEDULE 40 PIPE. REFERENCED DIAMETER IS NOMINAL.
5. GATE FRAME SHALL BE WELDED, USE OF CORNER FITTINGS WILL NOT BE PERMITTED.
6. FOOTING DIMENSIONS ARE PROTOTYPICAL AND NEED TO BE CONFIRMED BY MANUFACTURER FOR CURRENT SITE CONDITIONS.

DOG PARK CHAIN LINK FENCE
NO SCALE



WT.	A	B	C
3 LBS	1 3/8" OR 1 7/8"	1 3/8" OR 1 5/8"	3 1/4"
4 LBS	1 3/8"	1 3/8"	3 1/4"

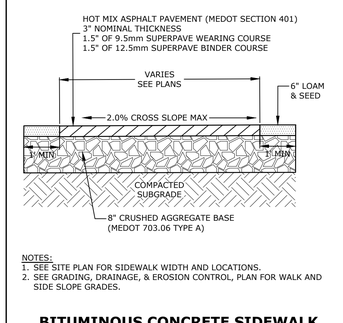
* IN LEDGE DRILL & GROUT TO A MIN OF 2'

SIGN POST TO COMPLY WITH ALL ASPECTS OF THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

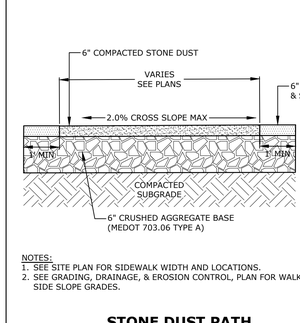
NOTES:
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499-81 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A 123.
3. ALL SIGN POSTS SHALL HAVE "BREAKAWAY" FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS-1985." THE "BREAKAWAY" FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. TYPE A POSTS - 3 LB/FT TYPE B POSTS - 4 LB/FT.
5. ALL SIGNS TO BE CONSTRUCTED PER THE LATEST EDITION OF THE FHWA STANDARD HIGHWAY SIGNS MANUAL AND INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
6. SIGNS SHALL MEET REQUIREMENTS OF OF STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.

SIGN LEGEND & POST
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE, & EROSION CONTROL, PLAN FOR WALK AND SIDE SLOPE GRADES.

BITUMINOUS CONCRETE SIDEWALK
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE, & EROSION CONTROL, PLAN FOR WALK AND SIDE SLOPE GRADES.

STONE DUST PATH
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

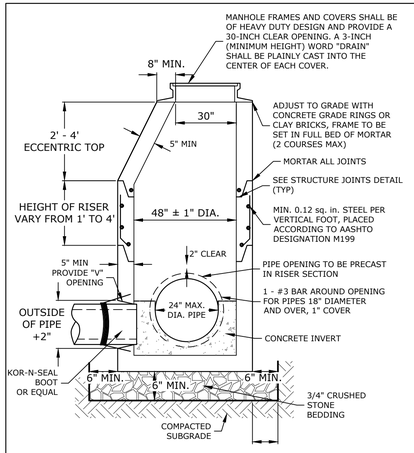
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

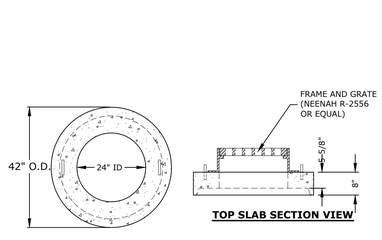
C-503

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-503



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZTNAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
11. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE DRAIN INVERT.
12. INVERT BRICKS SHALL BE LAID ON EDGE.

4' DIAMETER DRAIN MANHOLE
NO SCALE



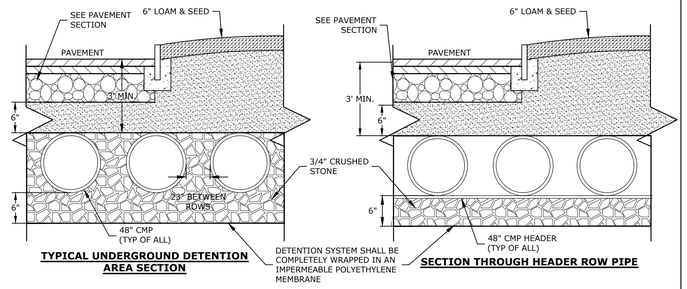
TOP SLAB PLAN VIEW

TOP SLAB SECTION VIEW

BASE

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
3. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.
4. PRECAST CONCRETE YARD DRAINS SHALL BE PHOENIX PRECAST PRODUCTS OR EQUAL.

YARD DRAIN
NO SCALE



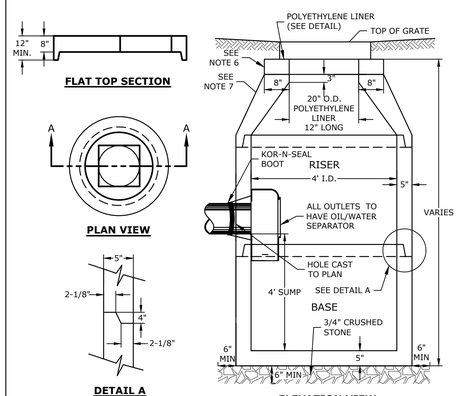
TYPICAL UNDERGROUND DETENTION AREA SECTION

SECTION THROUGH HEADER ROW PIPE

FIELD ELEVATIONS				
	TOP OF STONE ELEV	TOP OF PIPE ELEV	BOTTOM OF PIPE ELEV	BOTTOM OF STONE ELEV
PUD-01	18.40	18.40	14.40	13.90
PUD-02	18.00	18.00	14.00	13.50

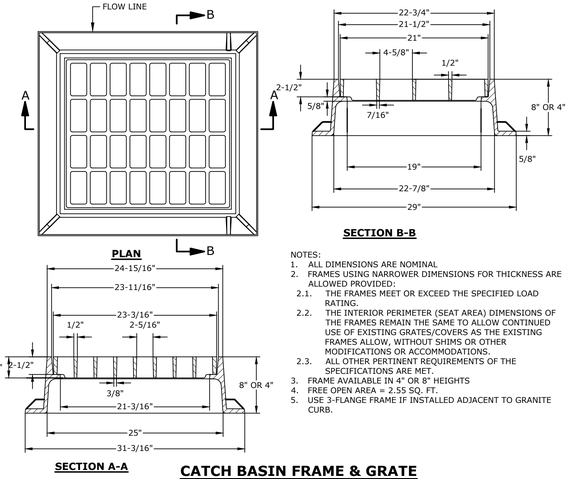
NOTES:
1. UNDERGROUND DETENTION SYSTEMS TO BE 48" CMP PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR APPROVAL.
2. MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.

UNDERGROUND DETENTION SYSTEMS
NO SCALE



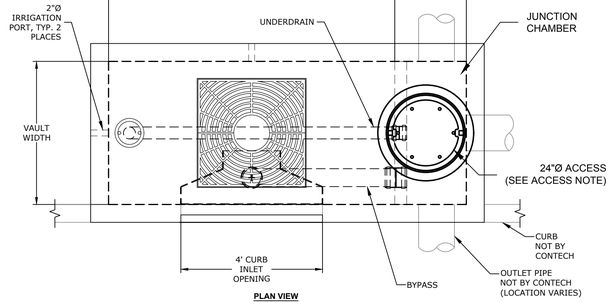
NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCH BASIN
NO SCALE

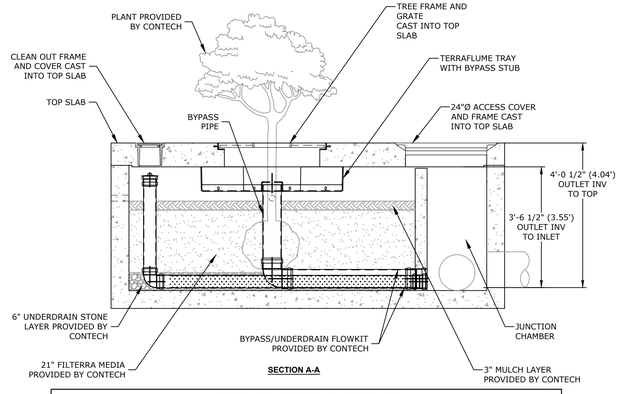


NOTES:
1. ALL DIMENSIONS ARE NOMINAL
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   2.1. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   2.2. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   2.3. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS
4. FREE OPEN AREA = 2.55 SQ. FT.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

CATCH BASIN FRAME & GRATE
NO SCALE



PLAN VIEW

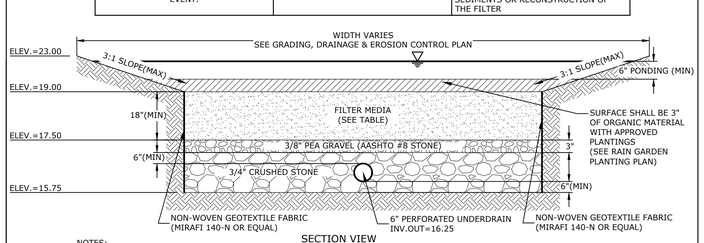


SECTION A-A

FTIBC LONG SIDE CURB INLET							
DESIGNATION	TREE BOX FILTER NUMBER	MEDIA BAY SIZE	VAULT SIZE (L x W)	MAX. OUTLET/BYPASS PIPE DIA.	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF.)	TREE GRATE QTY. & SIZE
FTIBC0806-C	1-9	8' X 6'	10' X 6'	10" SDR 35	2.37	4" SDR 35	(1) 4' X 4'

TYPICAL FILTERRA INTERNAL BYPASS CURB WITH CHAMBER (TREE BOX FILTER)
NO SCALE

RAIN GARDEN INSPECTION/MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	**FREQUENCY**	**ACTION**
MONITOR TO ENSURE THAT RAIN GARDENS FUNCTION EFFECTIVELY AFTER STORMS	TWO (2) TIMES ANNUALLY AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	• TRASH AND DEBRIS TO BE REMOVED • ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED
INSPECT VEGETATION	ANNUALLY	• INSPECT THE CONDITION OF ALL RAIN GARDEN VEGETATION • PRUNE BACK OVERGROWTH • REPLACE DEAD VEGETATION • REMOVE ANY INVASIVE SPECIES
INSPECT DRAWDOWN TIME: • THE SYSTEM SHALL DRAWDOWN WITHIN 48-HOURS FOLLOWING A RAINFALL EVENT.	ANNUALLY	• ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER



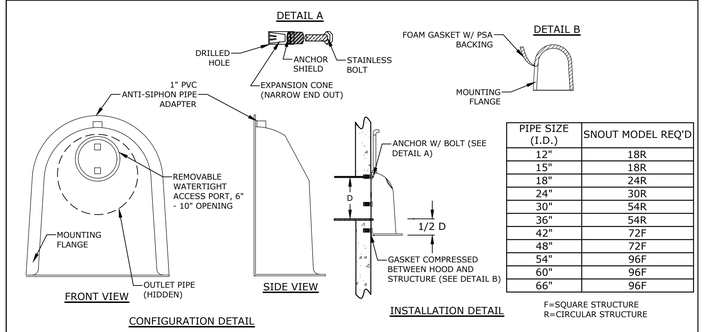
SECTION VIEW

NOTES:
1. BARK MULCH SHALL BE AGED A MINIMUM OF 12 MONTHS AND SHALL NOT FLOAT.
2. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
5. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

FILTER MEDIA COMPOSITION:			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

RAIN GARDEN
NO SCALE



CONFIGURATION DETAIL

PIPE SIZE (I.D.)	SNOUT MODEL REQ'D
12"	18R
15"	18R
18"	24R
24"	30R
30"	54R
36"	54R
42"	72F
48"	72F
54"	96F
60"	96F
66"	96F

F=SQUARE STRUCTURE
R=CIRCULAR STRUCTURE

OIL-WATER-DEBRIS SEPARATOR
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

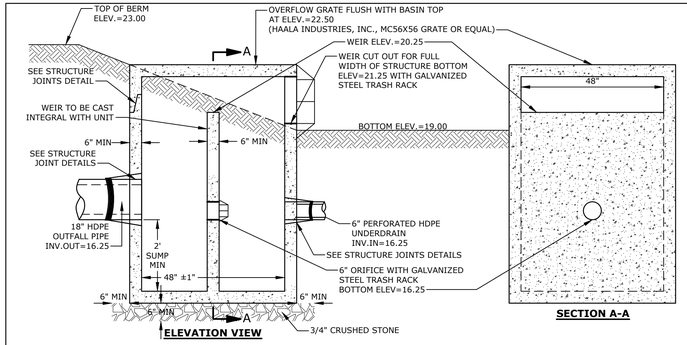
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-504

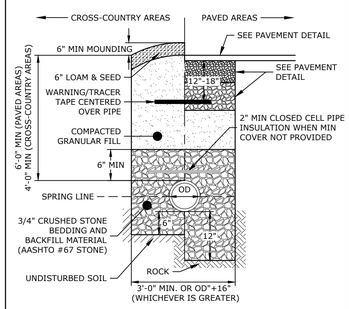


ELEVATION VIEW

SECTION A-A

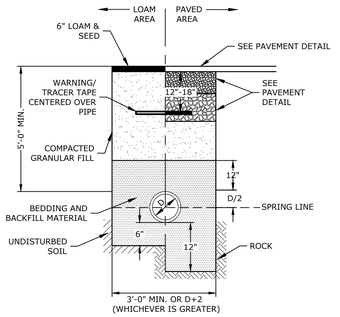
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-02)
NO SCALE



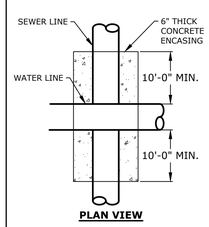
NOTES:
1. 3/4" CRUSHED STONE BEDDING AND BACKFILL MATERIAL FOR FULL WIDTH OF THE TRENCH FROM MINIMUM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO MINIMUM OF 6" OVER THE TOP OF THE PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE TOWN OF KITTERY.

TYPICAL SEWER TRENCH
NO SCALE

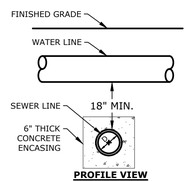


NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER TOWN OF KITTERY STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE KITTERY WATER DISTRICT.

TYPICAL WATER TRENCH
NO SCALE



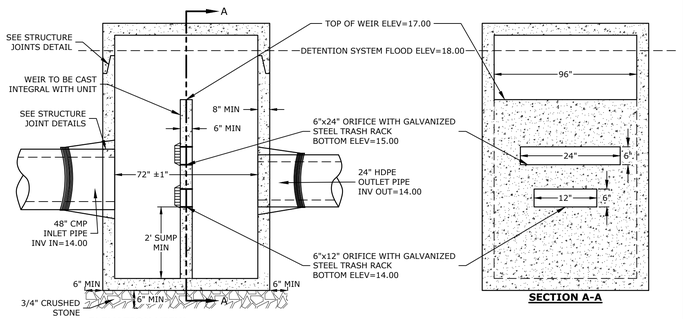
PLAN VIEW



PROFILE VIEW

WATER SEWER CROSSING
NO SCALE

NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
4. WHERE AN 18" VERTICAL SEPARATION CANNOT BE PROVIDED, SEWER PIPE SHALL BE CONSTRUCTED USING A SDR 26 PVC PIPE OR ENCASED CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE LINE BEING CROSSED, AS SHOWN ABOVE.
5. CROSSINGS SHALL CONFORM TO THE TOWN KITTERY DPW STANDARDS AND SPECIFICATIONS.

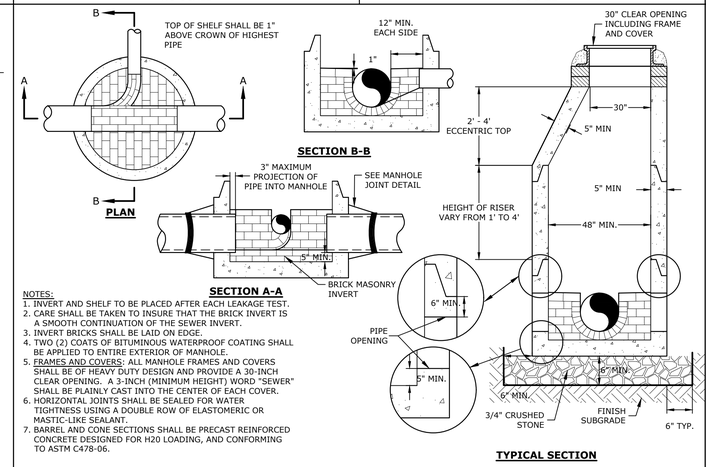


ELEVATION VIEW

SECTION A-A

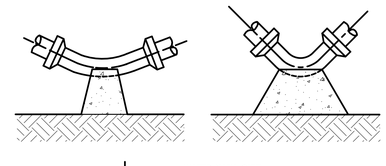
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-03)
NO SCALE

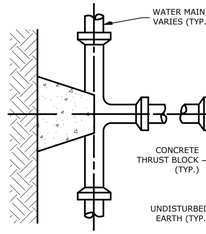


NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: ALL MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE

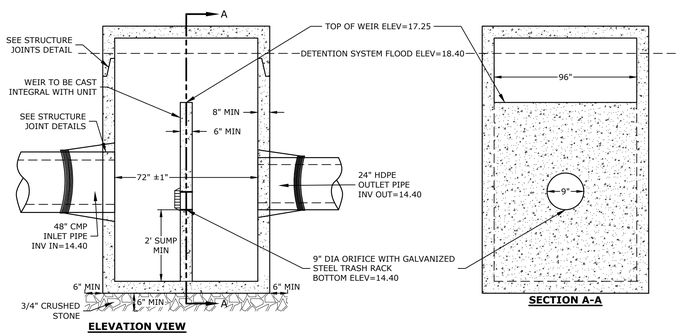


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38



NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH TOWN OF KITTERY WATER DEPARTMENT STANDARDS.

THRUST BLOCKING
NO SCALE

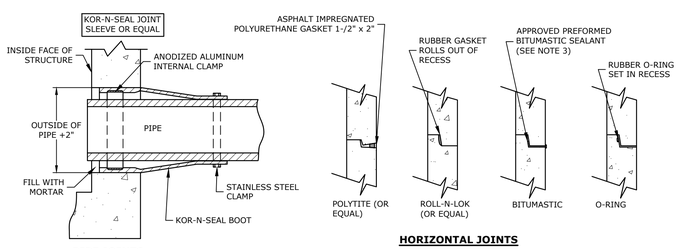


ELEVATION VIEW

SECTION A-A

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-01)
NO SCALE

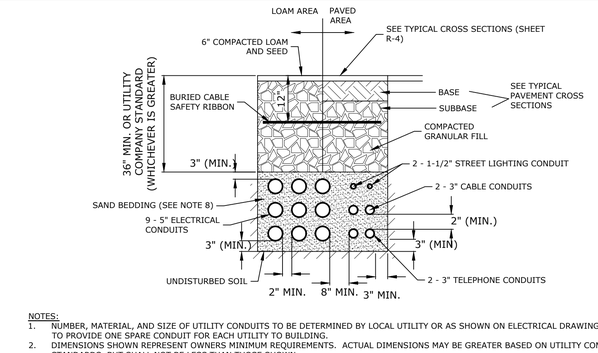


PIPE JOINTS

HORIZONTAL JOINTS

NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER TOWN OF KITTERY DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER TOWN OF KITTERY STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

STRUCTURE JOINTS
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, WHEN WITHIN THE TOWN RIGHT OF WAY, OR WHERE SHOWN ON THE UTILITIES PLAN.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

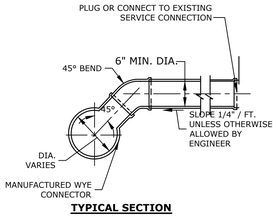
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

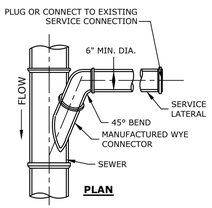
SCALE: AS SHOWN

C-505

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
TBB File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-505



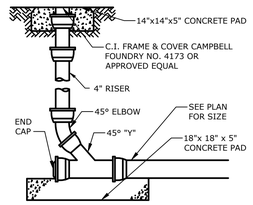
TYPICAL SECTION



PLAN

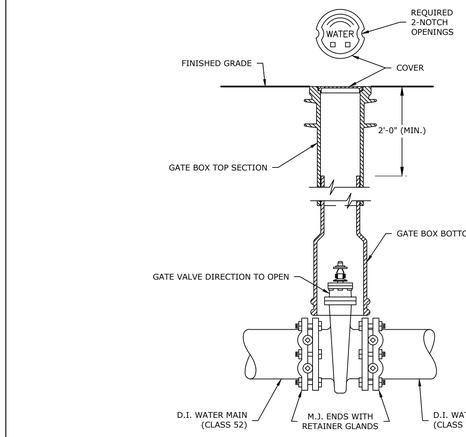
STANDARD SERVICE LATERAL CONNECTION

NO SCALE



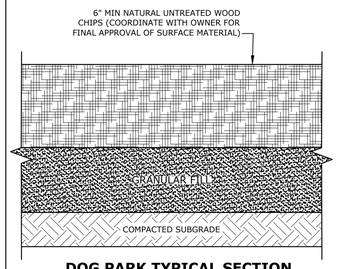
CLEAN-OUT

NO SCALE



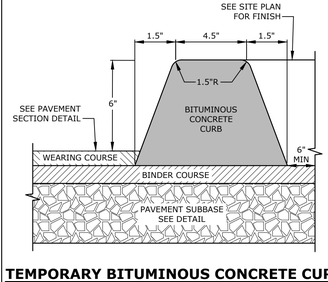
WATER GATE VALVE

NO SCALE



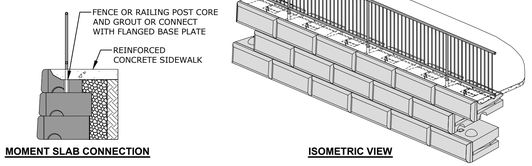
DOG PARK TYPICAL SECTION

NO SCALE



TEMPORARY BITUMINOUS CONCRETE CURB

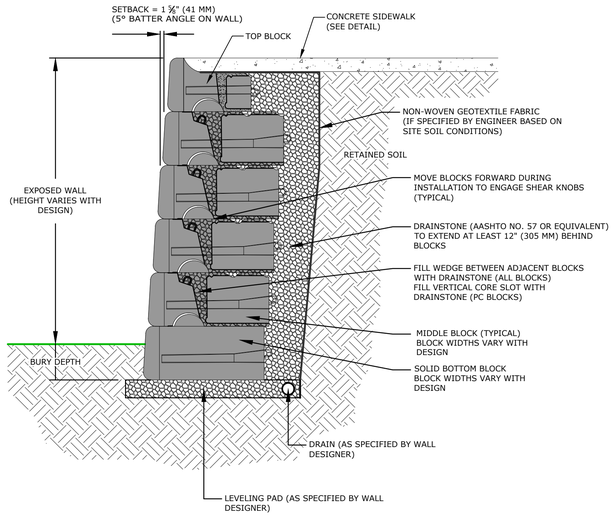
NO SCALE



MOMENT SLAB CONNECTION

ISOMETRIC VIEW

TYPICAL RETAINING WALL FENCE CONNECTION



TYPICAL RETAINING WALL SECTION

NOTES:
1. RETAINING WALL SHALL BE REDI ROCK (BASIS OF DESIGN), VERSA-LOK, MAGNUMSTONE, OR EQUAL.
2. THE CONTRACTOR SHALL SUBMIT DESIGN AND CALCULATIONS FOR THE RETAINING WALL THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARARMETERS:
   - GLOBAL STABILITY FACTOR OF SAFETY = 1.3
   - OVERTURNING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - SLIDING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - GEOGRID PULLOUT FACTOR OF SAFETY = 1.5
   - SEISMIC FACTOR OF SAFETY = 1.1
   - EQUIVALENT FLUID PRESSURE = 40 POUNDS PER CUBIC FOOT (PCF) FOR GRAVITY AND CANTILEVERED WALLS ABOVE GROUNDWATER AND WALLS WITH APPROPRIATE DRAINAGE BEHIND THE WALL.
   - HYDROSTATIC WATER PRESSURE ALONG THE HEIGHT OF THE WALL BELOW GROUNDWATER SHOULD BE INCLUDED IF DRAINAGE IS NOT PROVIDED.

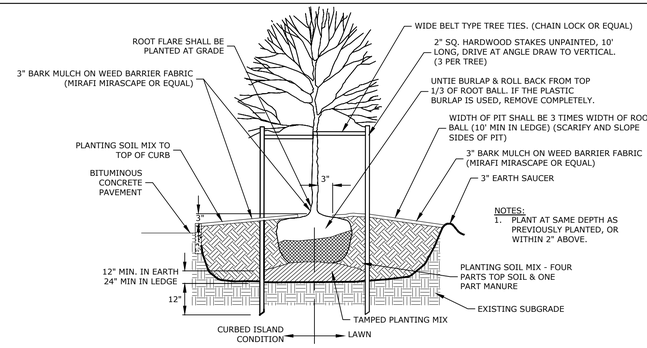
   - WHERE THE CALCULATED EARTH PRESSURE BEHIND THE WALL IS LESS THAN 250 POUNDS PER SQUARE FOOT (PSF), IT SHOULD BE INCREASED TO 250 PSF TO ACCOUNT FOR STRESSES CREATED BY COMPACTION WITHIN 5 FEET OF THE WALL.

   - WALLS SHOULD BE DESIGNED FOR APPROPRIATE SLOPING BACKFILL

   - WALLS SHOULD BE DESIGNED TO RESIST AN EARTHQUAKE FORCE FW EVALUATED IN ACCORDANCE WITH
   - SECTION 1610.2 OF THE MSBC AS FOLLOWS:
   - $FW=0.100\ (SS)(FA)(GT)(H_2)$
     WHERE:
     - SS IS THE SPECTRAL RESPONSE ACCELERATION PARAMETERS AT 0.2-SECOND PERIOD EQUAL TO 0.208
     - FA IS THE SITE COEFFICIENT FROM TABLE 1613.3.3(1) OF 2015 IBC (FA=2.5 FOR SEISMIC SITE CLASS C);
     - G_T IS THE SOIL TOTAL UNIT WEIGHT (G_T=130 PCF FOR COMPACTED GRAVEL BORROW);
     - H IS THE HEIGHT OF THE WALL.
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, GUARDRAIL AND/OR FENCING AS REQUIRED.
5. WALL DESIGN ENGINEER SHALL CONSIDER HEIGHT AND SPECIFY SAFETY RAIL WHERE REQUIRED
6. ALL INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION MANUAL AND THE WALL DESIGN ENGINEER'S DESIGN PLANS AND SPECIFICATIONS.
7. THE WALL DESIGN ENGINEER SHALL COMPLETE SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY WORK IS COMPLETED IN ACCORDANCE WITH DESIGN.
8. CONTRACTOR SHALL DIRECT SURFACE RUNOFF AWAY FROM THE WALL DURING CONSTRUCTION.
9. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT OR OTHER SURFACE TREATMENT SHALL BE INSTALLED IN THE AREA OF THE WALL IMMEDIATELY AFTER THE WALL IS COMPLETE OR OTHER MEASURES SHALL BE TAKEN TO PROTECT THE WALL FROM RUNOFF.
10. CONTRACTOR SHALL SUPPLY SAMPLE TO THE OWNER FOR APPROVAL PRIOR TO WALL CONSTRUCTION.
11. FINAL DESIGN PLANS OF WALL SHOWING FENCING. SHALL BE SUBMITTED WITH THE FINAL DESIGN PLANS.
12. RETAINING WALL DESIGN SHALL BE FROM THE WALL MANUFACTURER AND SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
13. FINAL STRUCTURAL DESIGN TO BE SUBMITTED TO THE ENGINEER WITH ALL CALCULATIONS AND PLANS.
14. STRUCTURAL DESIGN TO BE COMPLETED AND STAMPED BY A MAINE LICENSED STRUCTURAL ENGINEER. DESIGN ENGINEER SHALL INSPECT WALL DURING CONSTRUCTION AND CERTIFY THAT IT HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUBMITTED AS PART OF THE BUILDING PERMIT.
15. AN AS-BUILT PLAN SHOWING WALL LOCATION AND DIMENSIONS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION.
16. THESE DETAILS ARE FOR REFERENCE ONLY. DETERMINATION OF THE SUITABILITY AND/OR MANNER OF USE OF ANY DETAILS CONTAINED IN THIS DOCUMENT IS THE SOLE RESPONSIBILITY OF THE WALL DESIGN ENGINEER OF RECORD. FINAL PROJECT DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE.
17. ANY UNSUITABLE SOIL SUCH AS FROZEN OR ORGANIC SOILS SHOULD BE REMOVED FROM BEHIND THE PROPOSED RETAINING WALLS AND REPLACED WITH FREE DRAINING BACKFILL SUCH AS GRAVEL BORROW.
18. EXISTING FILL SHOULD NOT BE USED WITHIN THREE FEET OF GRAVITY WALLS.

TYPICAL GRAVITY WALL

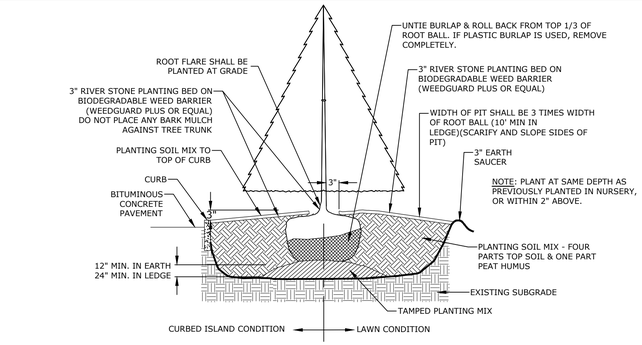
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

DECIDUOUS TREE PLANTING

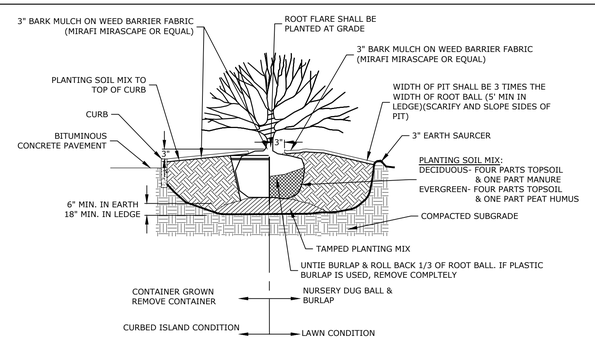
NO SCALE



NOTE: PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

EVERGREEN TREE PLANTING

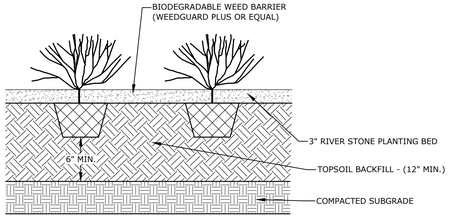
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING

NO SCALE



PERENNIAL PLANTING

NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-506

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-506

INTERSTATE 95

PROPOSED 5-STORY
MULTIFAMILY DWELLING
(107 UNITS)
BUILDING FOOTPRINT:
±24,124 SF

INDOOR
POOL

PATIO

PROPOSED 4-STORY HOTEL
(119 ROOM)
BUILDING FOOTPRINT:
±18,790 SF

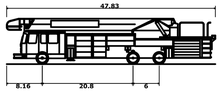
PROPOSED
RESTAURANT
±6,000 SF

PATIO

WILSON ROAD

WILSON ROAD - ROUTE 101

U.S. ROUTE ONE



Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°

LEGEND

FIRE TRUCK WHEEL PATH
FIRE TRUCK BODY ENVELOPE

Portsmouth Fire Truck

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

FIRE TRUCK TURNING PLAN

SCALE: AS SHOWN

C-601

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Fire Truck

1 EAST ELEVATION

SCALE: 1/16" = 1'-0"

2 WEST ELEVATION

SCALE: 1/16" = 1'-0"

3 NORTH ELEVATION

SCALE: 1/16" = 1'-0"

4 SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

PROPOSED MATERIALS

01-BLUE GRANITE

02-CEMENTITIOUS BOARD GREY

03-CEMENTITIOUS BOARD BLUE

04-CEMENTITIOUS CLAPBOARD WHITE

05-DARK WINDOW FRAME

06-AWNING

07-STOREFRONT

06-DARK WINDOW FRAME

MARKET SQUARE ARCHITECTS
104 Congress St., STE 202E
Portsmouth, NH 03801
PH: 603.501.0202

TWO INTERNATIONAL - MULTI-FAMILY

283 US ROUTE 1
KITTERY, ME

NOT FOR CONSTRUCTION

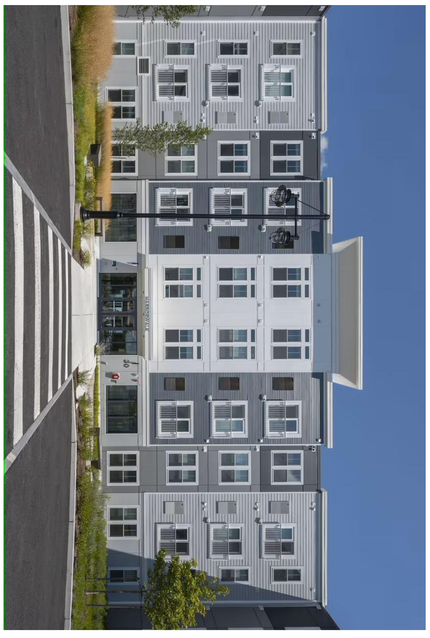
Revisions:
#	Description	Date
	PLANNING BOARD SUBMISSION	23.10.05

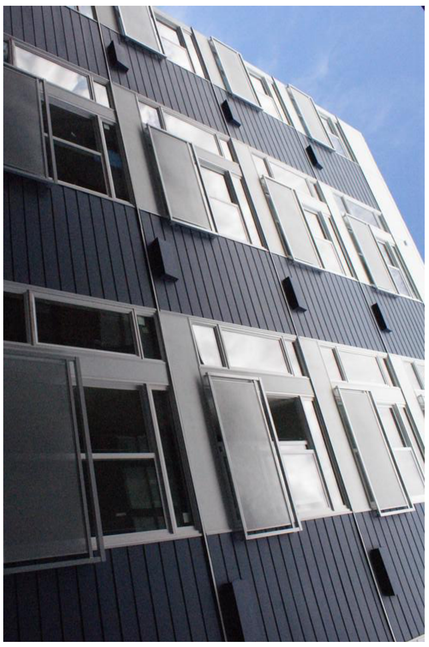
Scale:	1/16" = 1'-0"
Drawn By:	MAL
Checked By:	MAL
Project No.:	2023060
	SCHEMATIC DESIGN
Date:	11/08/23

Title: EXTERIOR ELEVATIONS

A2.00

12/20/2023 2:29:51 PM





PRECEDENT IMAGES

Title: EXTERIOR ELEVATIONS	Scale:	Revisions: # Description Date: 1 PLANNING BOARD SUBMISSION 23.10.05	NOT FOR CONSTRUCTION	TWO INTERNATIONAL - MULTI-FAMILY 283 US ROUTE 1 KITTERY, ME	MARKET SQUARE ARCHITECTS 104 Congress St., STE 203 Portsmouth, NH 03801 PH: 603.501.0202
A2.01	Drawn By: MAL Checked By: MAL Project No.: 2023060 SCHEMATIC DESIGN Date: 11/08/23				

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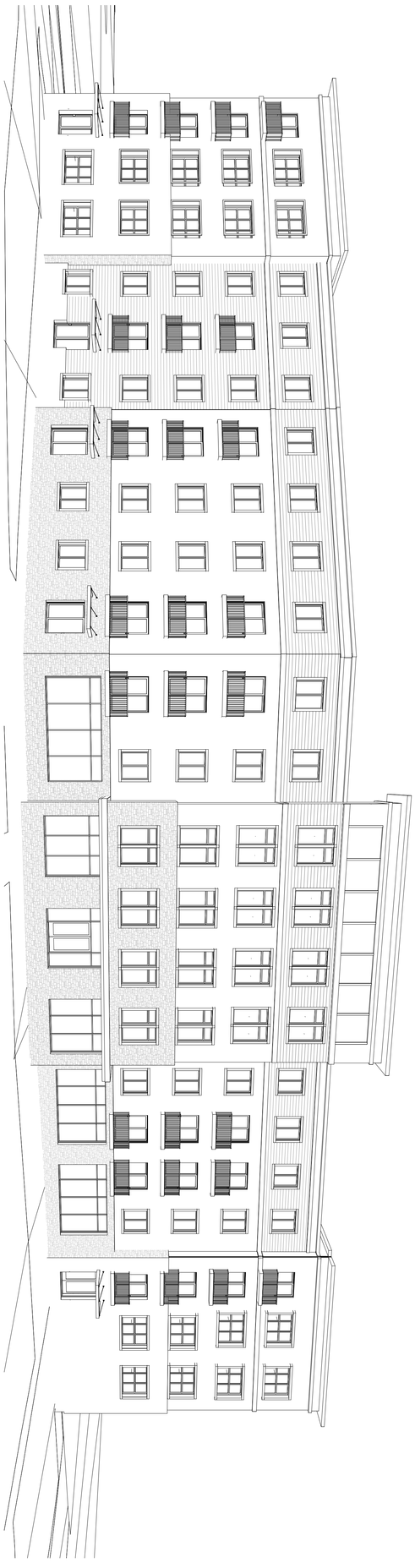
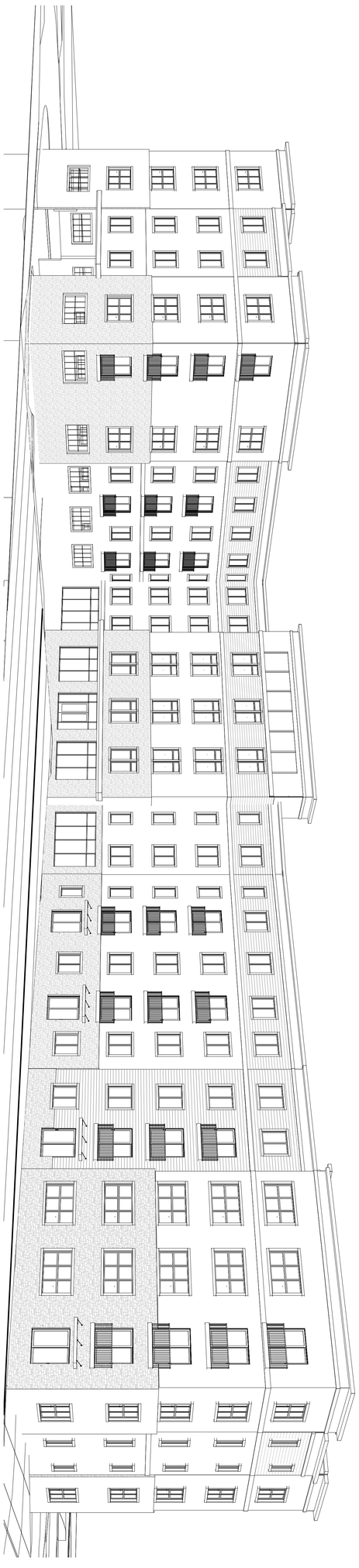




Title:
3D VIEW

A2.02

Scale:
Drawn By: Author
Checked By: Checker
Project No.: 2023060
SCHEMATIC DESIGN
Date: 11/08/23

Revisions:

#	Description	Date
	PLANNING BOARD SUBMISSION	23.10.05

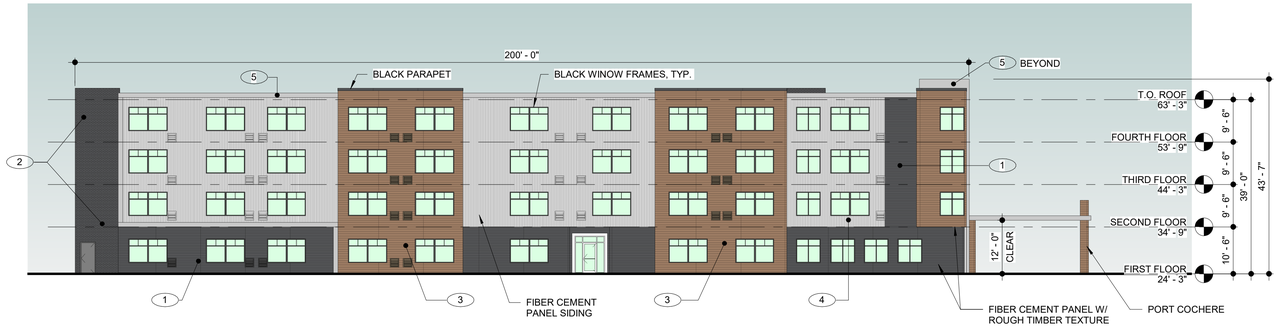
NOT FOR CONSTRUCTION

TWO INTERNATIONAL - MULTI-FAMILY

283 US ROUTE 1
KITTERY, ME

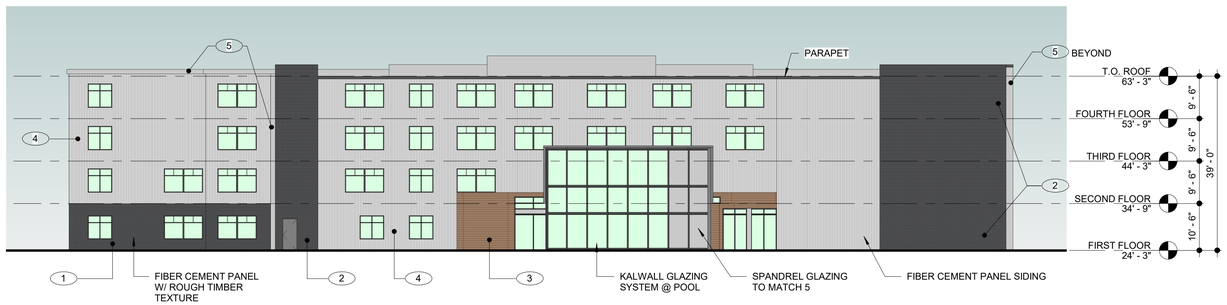
MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603.501.0202

 12/20/2025 2:29:56 PM



4 PROPOSED EXTERIOR ELEVATION - WEST

SCALE: 1/16" = 1'-0"

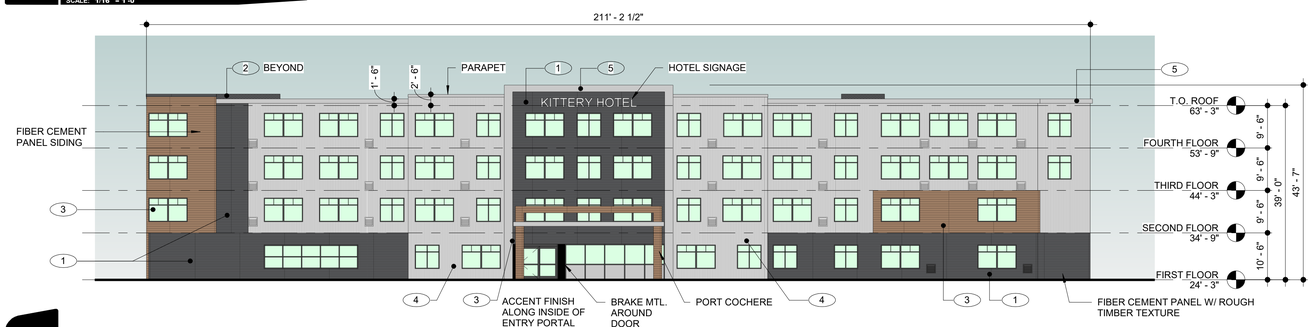


3 PROPOSED EXTERIOR ELEVATION - NORTH

SCALE: 1/16" = 1'-0"

2 PROPOSED EXTERIOR ELEVATION - EAST

SCALE: 1/16" = 1'-0"



1 PROPOSED EXTERIOR ELEVATION - SOUTH

SCALE: 1/16" = 1'-0"

PROPOSED EXTERIOR FINISH PALETTE

5 **FIBER CEMENT PANEL - WHITE**

ACCENT COLOR

4 **FIBER CEMENT PANEL - WHITE VERTICAL PANEL**

UPPER FLOOR FINISH

3 **FIBER CEMENT PANEL - LIGHT WOOD PATTERN**

ACCENT COLOR

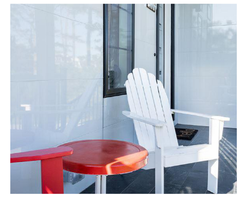
2 **FIBER CEMENT PANEL - DARK BRICK PATTERN**

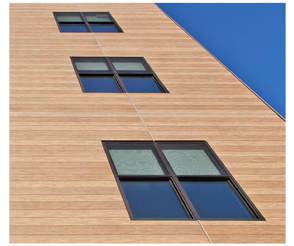
ACCENT BASE COLOR @ FIRST FLOOR + WALL FINISH @ STAIRWELLS

1 **FIBER CEMENT PANEL - DARK WOOD PATTERN**

TYP. BASE COLOR @ FIRST FLOOR U.N.O.

REAL WORLD FINISH EXAMPLES





BMA Architectural Group
12 MIDDLE ST AMHERST, NEW HAMPSHIRE 03031
BMA, PC T: 603 673 1991 WWW.BMAWORLD.COM

TWO INTERNATIONAL GROUP
1 New Hampshire Ave., Suite 123, Portsmouth, NH, 03801

PROPOSED KITTERY, MAINE HOTEL
ADDRESS TBD

NOT FOR CONSTRUCTION

SCHEMATIC DESIGN - 25JAN2024

PROPOSED EXTERIOR ELEVATIONS 002
3201 - PROPOSED KITTERY, MAINE HOTEL

1 EXTERIOR PERSPECTIVE - SOUTH WEST

SCALE:

BMA Architectural Group
12 MIDDLE ST AMHERST, NEW HAMPSHIRE 03031
BMA, PC T: 603 673 1991 WWW.BMAWORLD.COM

TWO INTERNATIONAL GROUP
1 New Hampshire Ave., Suite 123, Portsmouth, NH, 03801

PROPOSED KITTERY, MAINE HOTEL
ADDRESS TBD

NOT FOR CONSTRUCTION

SCHEMATIC DESIGN - 25JAN2024

EXTERIOR PERSPECTIVE
003
3201 - PROPOSED KITTERY, MAINE HOTEL

T5037-003
January 25, 2024

Mr. Jason Garnham, Director of Planning and Development
Town of Kittery Planning Department
200 Rogers Road
Kittery, Maine 03904

Re: Request for Final Site Plan Review
Proposed Mixed Use Development, 283 US Route 1, Kittery, ME

Dear Jason,

On behalf of 283-360 Kittery, LLC (owner) and 283 Route 1, LLC, C/O Two International Group (applicant), we are pleased to submit one (1) set of hard copies and via the online portal the following revised materials to support a request to meet with the Planning Board (PB) for Final Site Plan Review at their next scheduled meeting for the above referenced project:

- One (1) full size & eight (8) half size copies of the Plan Set, last revised January 25, 2024;
- Phasing Plan Set, dated January 25, 2024;
- Drainage Analysis, last revised January 25, 2024;
- Affordable Housing Letter of Intent, dated December 28, 2023;
- Traffic Impact Analysis, dated December 28, 2023;
- Third Party Review Response Letter, dated January, 25, 2024
- Residential Building Renderings

PROJECT SUMMARY

Existing Conditions

The proposed project is located along US Route 1 on property identified as Map 30 Lot 44 on the Town of Kittery Tax Maps. The Project Site is bounded by I-95 to the west, Route 101 (Wilson Road) to the north, Route 1 to the east, and Old Wilson Road and the Hampton Inn to the south. The Site is currently occupied by three buildings accommodating existing retail outlet tenants, with existing parking primarily to the northeast of the building. The property is accessible via one full-access driveway shared with the Hampton Inn & Suites, one full-access driveway on Route 101 (Wilson Road) and one entrance-only driveway from US Route 1.

Proposed Redevelopment

The proposed project includes the construction of three buildings consisting of hotel, restaurant, and residential use. The buildings consist of a 4-story, 119 key hotel along US Route 1, a restaurant building at the corner of US Roue 1 and Wilson Road, and a 5-story, 107 unit residential building to the rear of the site. The project also consists of on-site improvements including driveways, sidewalks, access improvements, stormwater management, lighting, landscaping, and utilities.

While the applicant hopes to develop the entire parcel at once, it is possible the project will be completed in phases. In the event of phasing, it is most likely the first phase would be the

hotel site followed by the apartment building and finally the retail/restaurant. In the event of phasing, it is the applicants hope that the apartment building and hotel would still overlap – which would mean most of the site improvements would be constructed during the same mobilization even if the hotel portion of the site is completed first. The retail/restaurant site could also be completed in the same mobilization, but unlike the hotel and apartment building "Phase 3" is tenant-driven. The stormwater, utilities, parking, and site access have been designed in a way where each of these sites can be constructed in isolation providing adequate stormwater and traffic systems to meet capacity needs for each phase.

LAND-USE PERMIT APPLICATIONS

Town Permitting

The Planning Board voted to accept the Sketch Plan for this project during their May 25, 2023, meeting and voted to grant preliminary site plan approval during their January 11, 2024, meeting. The proposed project will require the following site related approvals from the Planning Board:

- Site Plan Review Permit
- Special Exception Request for Multifamily Dwelling

Waiver and Modification Requests

The proposed project will also require the following four (4) site related waivers and modifications from the Planning Board:

- **Section 16.4.19.E(3)(c)[1] – Landscape planter strip. A vegetated landscape planter strip must be provided a minimum of 30 feet in depth adjacent to the right-of-way of all public roads:** Per Section 16.4.19.E(2)(c) the maximum front setback in the C-1 Zone is 15 feet which would prohibit maintaining the landscape planter strip requirement of 30 feet. Additionally, as part of the Sketch Plan Review process by the Planning Board the current proposed increase in the 15-foot setback was reviewed to allow for parking and site access in front of the hotel. This allows the first-floor hotel rooms to be set back further from Route 1 and provides access for life safety to the front entrance of the hotel. The proposed front yard landscape strip varies from a minimum of 18 feet to a maximum of 21.1 feet measured from the Route 1 curb line to the parking lot curb line.
- **Section 16.4.19.E(2)(c)**

  The planning board may allow a greater setback when public amenities are proposed, "such as benches, pocket parks…or seating areas." The applicant is providing a pocket park with seating and a 6' wide sidewalk along the frontage to Route 1. The location of the parking spaces directly in front of the hotel building is due to direct feedback from the planning board and fire chief during sketch review. The fire chief was most comfortable with the current design as it would provide ample emergency vehicle access to the front of the building.
- **Section 16.7.11 F(4)(b) – Parking Space Design Minimum dimensions:** As discussed at the November 16, 2023 Planning Board meeting the proposed plan has been revised to provide 18' long parking stalls along the Route 1 frontage, and add the additional landscape space to the planting strip along the Route 1 Right of Way.
- **Section 16.7.11.C(3)(a) – The minimum pipe size for any storm drainage pipe must be 12 inches:** The proprietary Tree Box Filters are designed to function based on specific outlet pipe sizing from the manufacturer. The Tree Box Filters are size based on watershed area draining to each system. The required outlet pipe sizes of the proposed units are smaller than 12". Additionally, roof drain connections to the

stormwater system are size based on inflow area by the projects MEP engineer. Final sizes have yet to be coordinated but are anticipated to be smaller than 12”. All other drainage pipes on site are a minimum of 12”.

The applicant respectfully requests to be placed on the February 22, 2024, Planning Board meeting agenda for Final Site Plan Review. If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 769-9471 or by email at nahansen@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

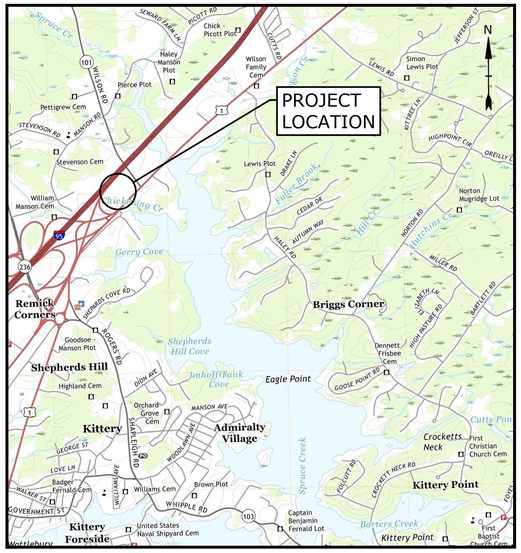
Copy: 283 Route 1, LLC (via email)

KITTERY MIXED-USE DEVELOPMENT

283 US ROUTE 1
KITTERY, MAINE
PHASING DRAWINGS

JANUARY 25, 2024

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	01/25/2024
C-101.1	PHASE 1 – EXISTING CONDITIONS / DEMOLITION PLAN	01/25/2024
C-101.2	PHASE 2 – EXISTING CONDITIONS / DEMOLITION PLAN	01/25/2024
C-102.1	PHASE 1 – SITE PLAN	01/25/2024
C-102.2	PHASE 2 – SITE PLAN	01/25/2024
C-103.1	PHASE 1 – GRADING, DRAINAGE & EROSION CONTROL PLAN	01/25/2024
C-103.2	PHASE 2 – GRADING, DRAINAGE & EROSION CONTROL PLAN	01/25/2024
C-104.1	PHASE 1 – UTILITY PLAN	01/25/2024
C-104.2	PHASE 2 – UTILITY PLAN	01/25/2024
C-105.1	PHASE 1 – LANDSCAPE PLAN	01/25/2024
C-105.2	PHASE 2 – LANDSCAPE PLAN	01/25/2024



LOCATION MAP
SCALE: 1" = 2,000'

PREPARED BY:

Tighe&Bond
177 Corporate Drive
Portsmouth, NH 03801

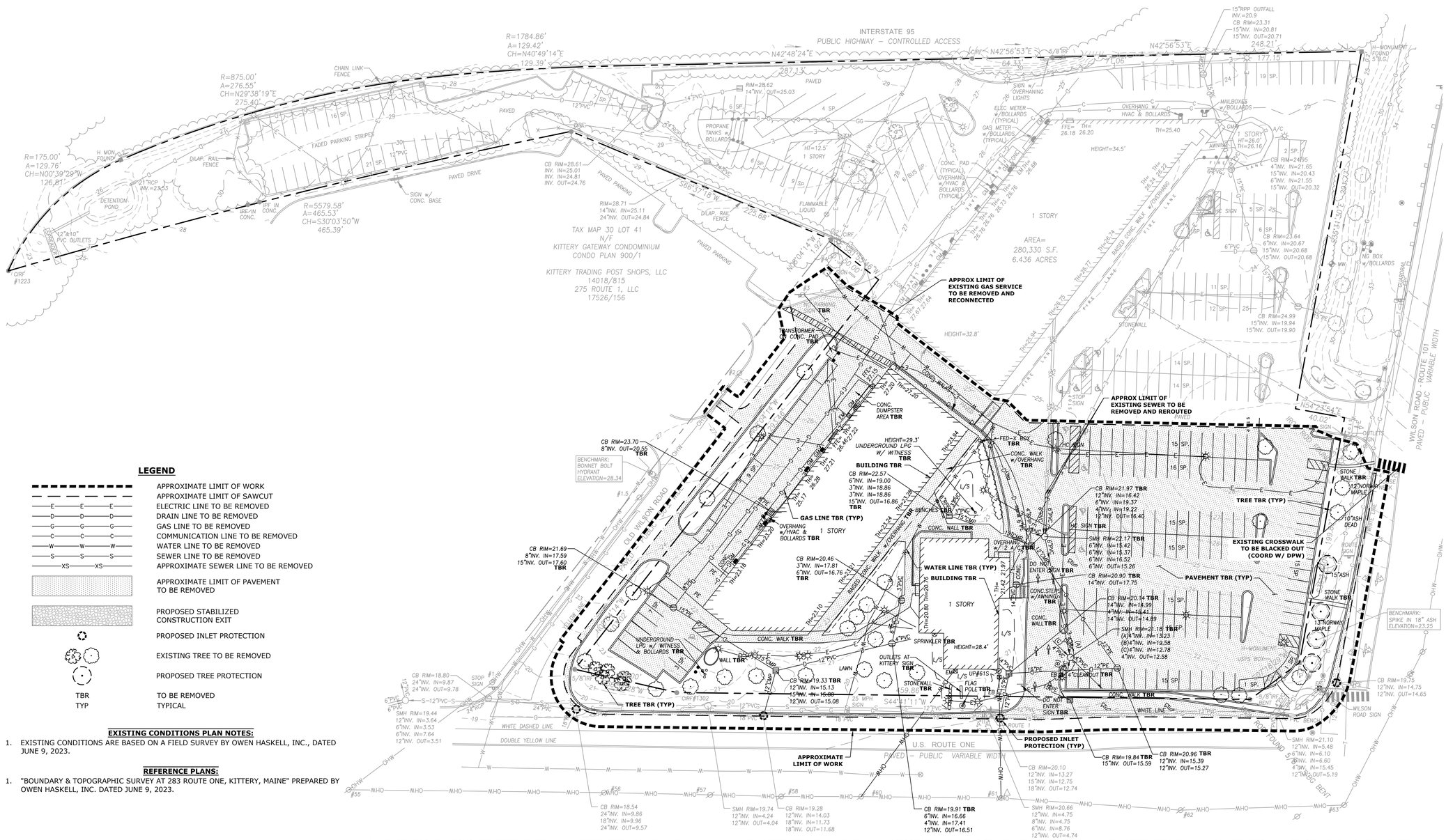
APPLICANT:
Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

SURVEY CONSULTANT:
Owen Haskell, Inc.
390 US Route 1, Unit 10
Falmouth, ME 04105

HOTEL ARCHITECT CONSULTANT:
BMA Architectural Group
12 Middle Street
Amherst, NH 03031

PB SUBMISSION
COMPLETE SET 11 SHEETS

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
TBB File Location: J:\TT\5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003 -CS.dwg Layout Tab: Phasing



LEGEND

- APPROXIMATE LIMIT OF WORK
- APPROXIMATE LIMIT OF SAWCUT
- ELECTRIC LINE TO BE REMOVED
- DRAIN LINE TO BE REMOVED
- GAS LINE TO BE REMOVED
- COMMUNICATION LINE TO BE REMOVED
- WATER LINE TO BE REMOVED
- SEWER LINE TO BE REMOVED
- APPROXIMATE SEWER LINE TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- PROPOSED STABILIZED CONSTRUCTION EXIT
- PROPOSED INLET PROTECTION
- EXISTING TREE TO BE REMOVED
- PROPOSED TREE PROTECTION
- TBR — TO BE REMOVED
- TYP — TYPICAL

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY OWEN HASKELL, INC., DATED JUNE 9, 2023.

REFERENCE PLANS:

1. "BOUNDARY & TOPOGRAPHIC SURVEY AT 283 ROUTE ONE, KITTERY, MAINE" PREPARED BY OWEN HASKELL, INC. DATED JUNE 9, 2023.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
4. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
5. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
6. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. SAW CUT AND REMOVE PAVEMENT TWO (2) FEET OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
11. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
12. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
13. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
14. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN AS NEEDED TO COMPLETE THE WORK UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDINGS, FOUNDATION, TREES AND LANDSCAPING.
15. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
16. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
17. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
18. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
19. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. PIPING LEADING FROM SITE TO CATCH BASINS ALONG U.S. ROUTE ONE SHALL BE CUT AND CAPPED AT EXISTING STRUCTURES

Tighe&Bond

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

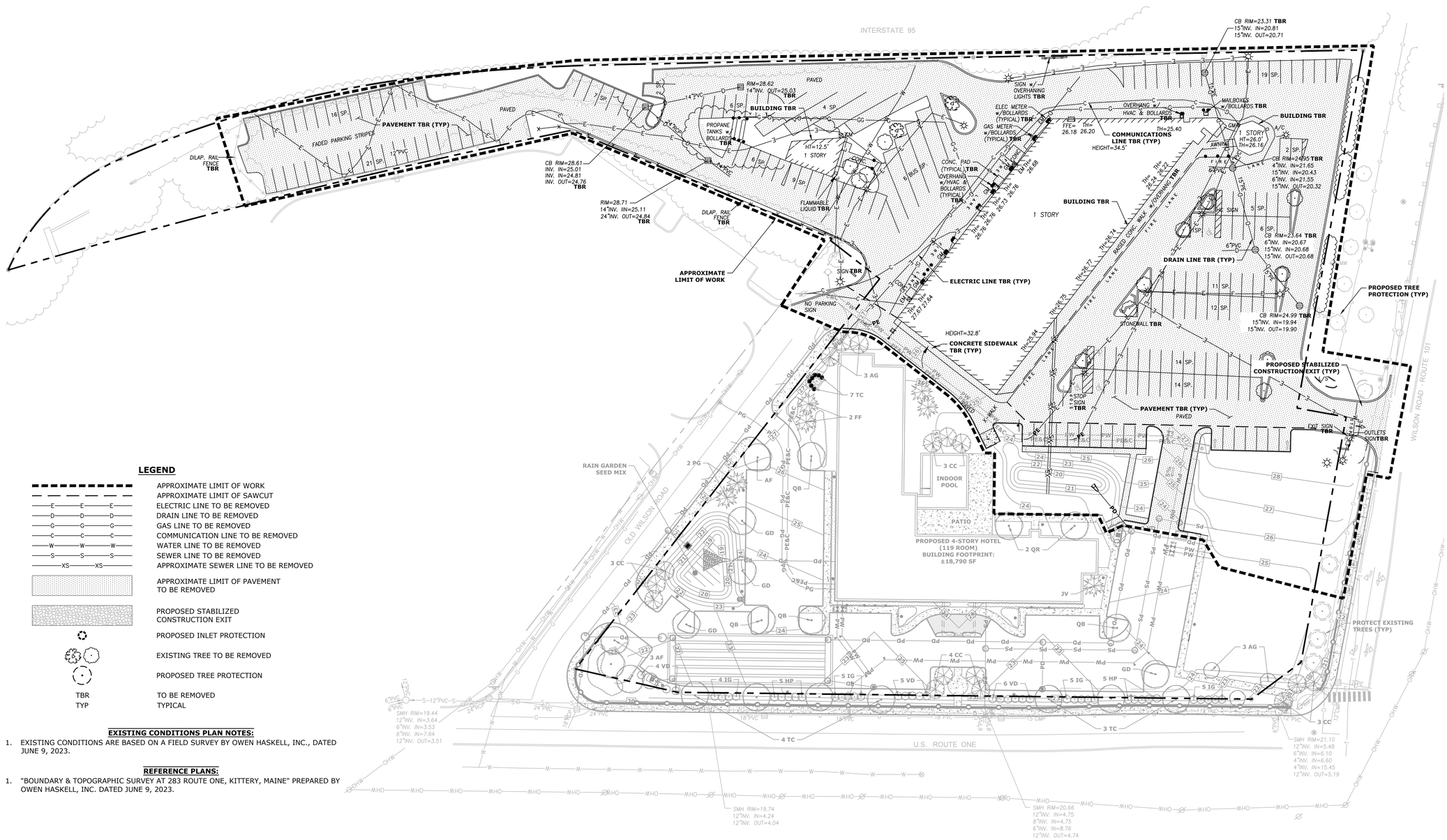
MARK	DATE	DESCRIPTION
A	1/25/2024	Site Plan Review

PROJECT NO:	T5037-003
DATE:	1/25/2024
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHASE 1 – EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101.1



LEGEND

	APPROXIMATE LIMIT OF WORK
	APPROXIMATE LIMIT OF SAWCUT
E E E	ELECTRIC LINE TO BE REMOVED
D D D	DRAIN LINE TO BE REMOVED
G G G	GAS LINE TO BE REMOVED
C C C	COMMUNICATION LINE TO BE REMOVED
W W W	WATER LINE TO BE REMOVED
S S S	SEWER LINE TO BE REMOVED
XS XS	APPROXIMATE SEWER LINE TO BE REMOVED
	APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
	PROPOSED STABILIZED CONSTRUCTION EXIT
	PROPOSED INLET PROTECTION
	EXISTING TREE TO BE REMOVED
	PROPOSED TREE PROTECTION
TBR	TO BE REMOVED
TYP	TYPICAL

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY OWEN HASKELL, INC., DATED JUNE 9, 2023.

REFERENCE PLANS:

1. "BOUNDARY & TOPOGRAPHIC SURVEY AT 283 ROUTE ONE, KITTERY, MAINE" PREPARED BY OWEN HASKELL, INC. DATED JUNE 9, 2023.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
4. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
5. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
6. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. SAW CUT AND REMOVE PAVEMENT TWO (2) FEET OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
11. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
12. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
13. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
14. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN AS NEEDED TO COMPLETE THE WORK UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDINGS, FOUNDATION, TREES AND LANDSCAPING.
15. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
16. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
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Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Demo_PH-2

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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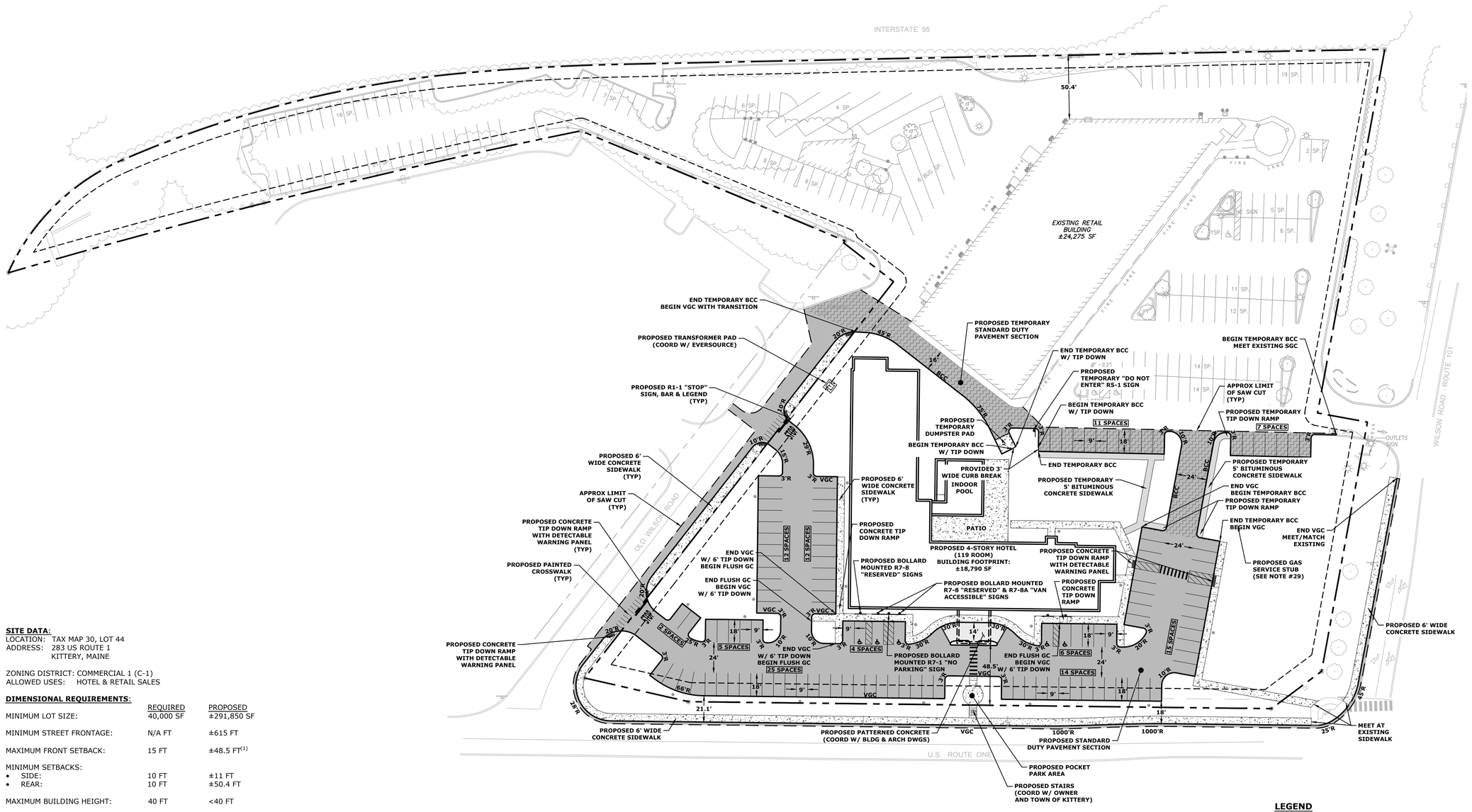
PHASE 2 – EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101.2



SITE DATA:
LOCATION: TAX MAP 30, LOT 44
ADDRESS: 283 US ROUTE 1
KITTERY, MAINE

ZONING DISTRICT: COMMERCIAL 1 (C-1)
ALLOWED USES: HOTEL & RETAIL SALES

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE:	40,000 SF	±291,850 SF
MINIMUM STREET FRONTAGE:	N/A FT	±615 FT
MAXIMUM FRONT SETBACK:	15 FT	±48.5 FT(1)
MINIMUM SETBACKS:		
• SIDE:	10 FT	±11 FT
• REAR:	10 FT	±50.4 FT
MAXIMUM BUILDING HEIGHT:	40 FT	<40 FT
MAXIMUM IMPERVIOUS COVERAGE:	70%	<70%
MINIMUM OPEN SPACE:	25%	>25%

(1) - REQUIRES PLANNING BOARD APPROVAL

PARKING LAYOUT REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	19' X 9'	19' X 9'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 90° (1-WAY TRAFFIC)	13 FT	14 FT MIN

PARKING SPACE REQUIREMENTS:

HOTEL:		
1 SPACE / ROOMS +1 / 100SF OF MEETING ROOM = 119 ROOM / 1 SPACE/ROOM=	119 SPACES	119 SPACES
RETAIL:		
1 SPACE / 175 SF = 24,275 SF / 175 SF / SPACE=	139 SPACES	155 SPACES
TOTAL:	258 SPACES	274 SPACES*

* NINE (9) TOTAL ADA SPACES PROVIDED

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE TOWN OF KITTERY.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
11. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING DRAWINGS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
17. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
18. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND AIRSIDE PAVEMENT AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
19. ALL DUMPSTER PAD ENCLOSURES WILL HAVE FENCE SCREENING
13. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. ONCE DESIGNATED SNOW STORAGE AREAS REACH MAXIMUM CAPACITY, ALL SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.

LEGEND

- PROPOSED CONCRETE
- PROPOSED PAVEMENT SECTION
- PROPOSED TEMPORARY PAVEMENT SECTION
- PROPOSED TEMPORARY BITUMINOUS CONCRETE SIDEWALK
- PROPOSED SNOW STORAGE AREA
- APPROXIMATE LIMIT OF SAWCUT
- BUILDING SET BACK LINE
- PROPOSED LIGHT POLE BASE
- PROPOSED SIGN
- 45'R — PROPOSED CURB RADIUS
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- BCC — BITUMINOUS CONCRETE CURB

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
A	1/25/2024	Site Plan Review

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DRAWN BY: CML
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APPROVED: PMC

PHASE 1 – SITE PLAN

SCALE: AS SHOWN

C-102.1

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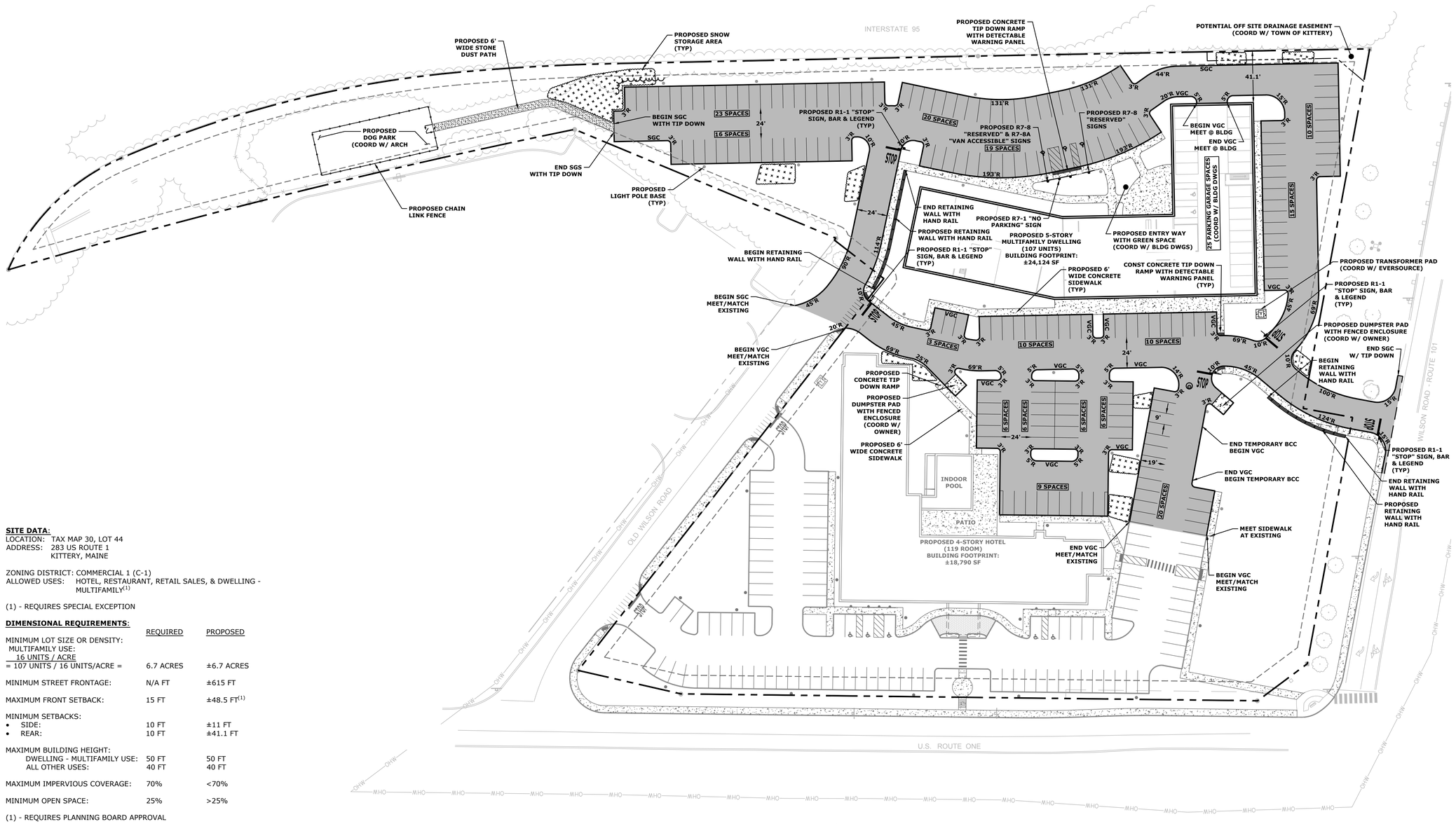

SITE DATA:
LOCATION: TAX MAP 30, LOT 44
ADDRESS: 283 US ROUTE 1
KITTERY, MAINE

ZONING DISTRICT: COMMERCIAL 1 (C-1)
ALLOWED USES: HOTEL, RESTAURANT, RETAIL SALES, & DWELLING - MULTIFAMILY(1)

(1) - REQUIRES SPECIAL EXCEPTION

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE OR DENSITY: MULTIFAMILY USE: 16 UNITS / ACRE = 107 UNITS / 16 UNITS/ACRE =	6.7 ACRES	±6.7 ACRES
MINIMUM STREET FRONTAGE:	N/A FT	±615 FT
MAXIMUM FRONT SETBACK:	15 FT	±48.5 FT(1)
MINIMUM SETBACKS:		
• SIDE:	10 FT	±11 FT
• REAR:	10 FT	±41.1 FT
MAXIMUM BUILDING HEIGHT:		
DWELLING - MULTIFAMILY USE:	50 FT	50 FT
ALL OTHER USES:	40 FT	40 FT
MAXIMUM IMPERVIOUS COVERAGE:	70%	<70%
MINIMUM OPEN SPACE:	25%	>25%

(1) - REQUIRES PLANNING BOARD APPROVAL

PARKING LAYOUT REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	19' X 9'	19' X 9'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 90° (1-WAY TRAFFIC)	13 FT	14 FT

PARKING SPACE REQUIREMENTS:

	REQUIRED	PROPOSED
MULTIFAMILY DWELLING: 1 SPACE / DWELLING UNIT = 107 UNITS / 1 SPACE/UNIT=	107 SPACES	147 SPACES
HOTEL: 1 SPACE / ROOMS +1 / 100SF OF MEETING ROOM = 119 ROOM / 1 SPACE/ROOM=	119 SPACES	152 SPACES
TOTAL:	226 SPACES	299 SPACES

* EIGHT (8) TOTAL ADA SPACES PROVIDED

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
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LEGEND

- PROPOSED CONCRETE
- PROPOSED PAVEMENT SECTION
- PROPOSED SNOW STORAGE AREA
- APPROXIMATE LIMIT OF SAWCUT
- BUILDING SET BACK LINE
- PROPOSED LIGHT POLE BASE
- PROPOSED SIGN
- 45'R PROPOSED CURB RADIUS
- VGC VERTICAL GRANITE CURB
- SGC SLOPED GRANITE CURB

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery, Maine

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PHASE 2 – SITE PLAN

SCALE: AS SHOWN

C-102.2

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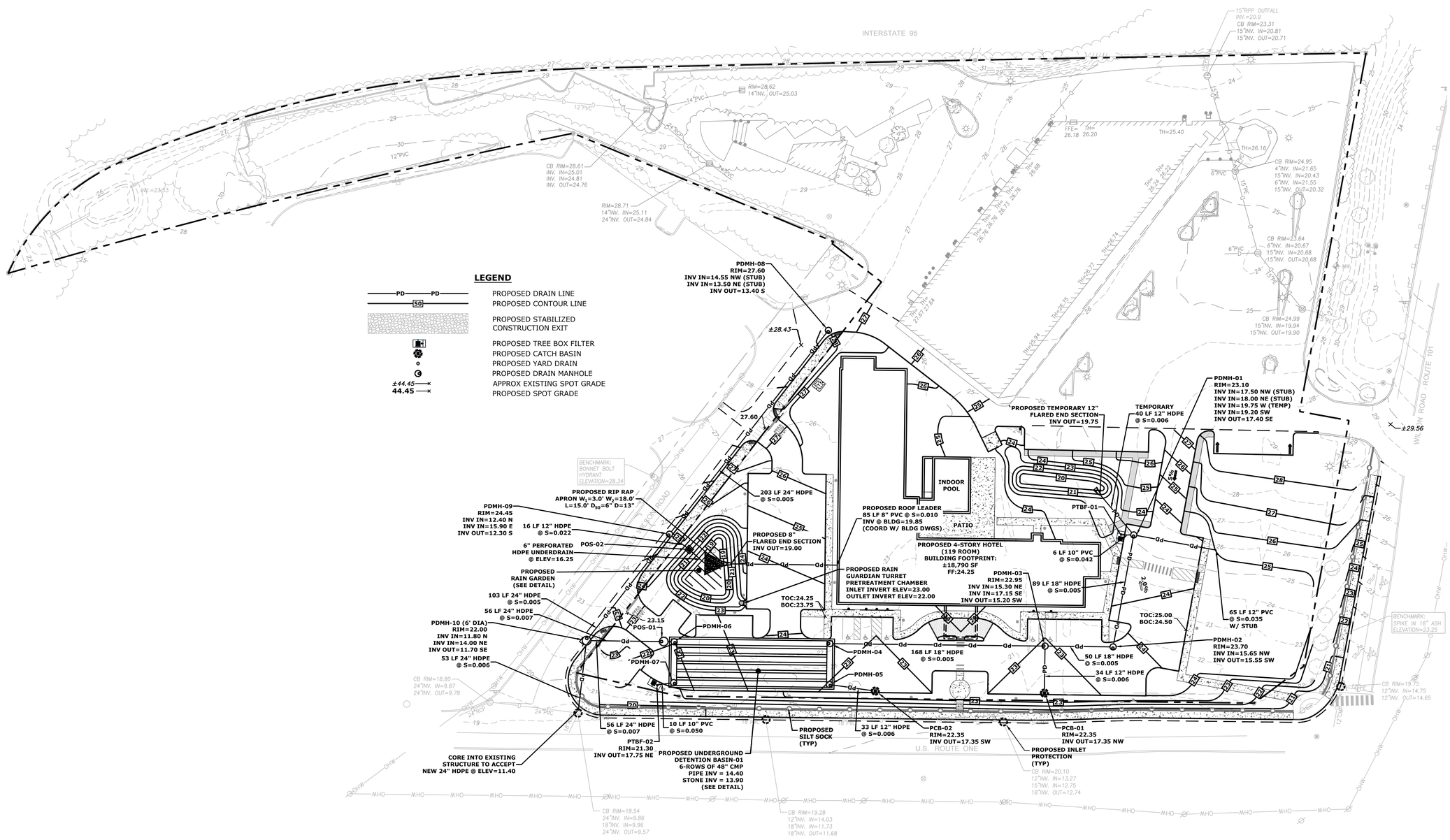

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

   * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
13. SEE REFERENCE PLAN #1 FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL DEVELOPMENT MUST GENERALLY COMPLY WITH THE PROVISIONS OF THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
A	1/25/2024	Site Plan Review

PROJECT NO:	T5037-003
DATE:	1/25/2024
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

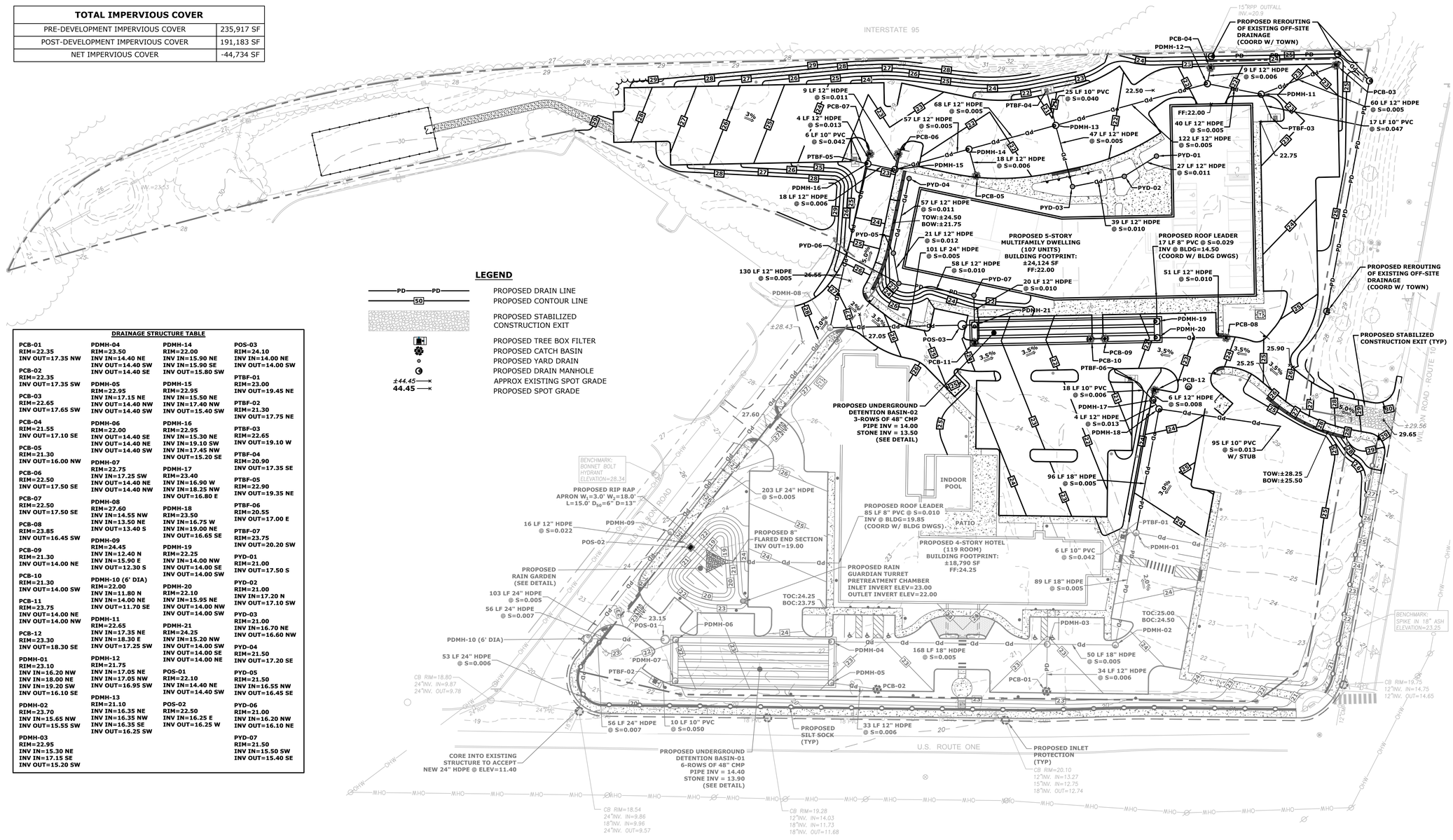
PHASE 1 – GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103.1

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Grade_PH-1

TOTAL IMPERVIOUS COVER	
PRE-DEVELOPMENT IMPERVIOUS COVER	235,917 SF
POST-DEVELOPMENT IMPERVIOUS COVER	191,183 SF
NET IMPERVIOUS COVER	-44,734 SF



LEGEND

- PD PD — PROPOSED DRAIN LINE
- 50 — PROPOSED CONTOUR LINE
- PROPOSED STABILIZED CONSTRUCTION EXIT
- PROPOSED TREE BOX FILTER
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED DRAIN MANHOLE
- ±44.45 — APPROX EXISTING SPOT GRADE
- 44.45 — PROPOSED SPOT GRADE

DRAINAGE STRUCTURE TABLE

PCB-01
RIM=22.35
INV OUT=17.35 NW

PCB-02
RIM=22.35
INV OUT=17.35 SW

PCB-03
RIM=22.65
INV OUT=17.65 SW

PCB-04
RIM=21.55
INV OUT=17.10 SE

PCB-05
RIM=21.30
INV OUT=16.00 NW

PCB-06
RIM=22.50
INV OUT=17.50 SE

PCB-07
RIM=22.50
INV OUT=17.50 SE

PCB-08
RIM=23.85
INV OUT=16.45 SW

PCB-09
RIM=21.30
INV OUT=14.00 NE

PCB-10
RIM=21.30
INV OUT=14.00 SW

PCB-11
RIM=23.75
INV OUT=14.00 NE
INV OUT=14.00 NW

PCB-12
RIM=23.30
INV OUT=18.30 SE

PDMH-01
RIM=23.10
INV IN=16.20 NW
INV IN=18.00 NE
INV IN=19.20 SW
INV OUT=16.10 SE

PDMH-02
RIM=23.70
INV IN=15.65 NW
INV OUT=15.55 SW

PDMH-03
RIM=22.95
INV IN=15.30 NE
INV IN=17.15 SE
INV OUT=15.20 SW

PDMH-04
RIM=23.50
INV IN=14.40 NE
INV OUT=14.40 SW
INV OUT=14.40 SE

PDMH-05
RIM=22.95
INV IN=17.15 NE
INV OUT=14.40 NW
INV OUT=14.40 SW

PDMH-06
RIM=22.00
INV OUT=14.40 SE
INV OUT=14.40 NE
INV OUT=14.40 SW

PDMH-07
RIM=22.75
INV IN=17.25 SW
INV OUT=14.40 NE
INV OUT=14.40 NW

PDMH-08
RIM=27.60
INV IN=14.55 NW
INV IN=13.50 NE
INV OUT=13.40 S

PDMH-09
RIM=24.45
INV IN=12.40 N
INV IN=15.90 E
INV OUT=12.30 S

PDMH-10 (6' DIA)
RIM=22.00
INV IN=11.80 N
INV IN=14.00 NE
INV OUT=11.70 SE

PDMH-11
RIM=22.65
INV IN=17.35 NE
INV IN=18.30 E
INV OUT=17.25 SW

PDMH-12
RIM=21.75
INV IN=17.05 NE
INV IN=17.05 NW
INV OUT=16.95 SW

PDMH-13
RIM=21.10
INV IN=16.35 NE
INV IN=16.35 NW
INV IN=16.35 SE
INV OUT=16.25 SW

PDMH-14
RIM=22.00
INV IN=15.90 NE
INV IN=15.90 SE
INV OUT=15.80 SW

PDMH-15
RIM=22.95
INV IN=15.50 NE
INV IN=17.40 NW
INV OUT=15.40 SW

PDMH-16
RIM=22.95
INV IN=15.30 NE
INV IN=19.10 SW
INV IN=17.45 NW
INV OUT=15.20 SE

PDMH-17
RIM=23.40
INV IN=16.90 W
INV IN=18.25 NW
INV OUT=16.80 E

PDMH-18
RIM=23.50
INV IN=16.75 W
INV IN=19.00 NE
INV OUT=16.65 SE

PDMH-19
RIM=22.25
INV IN=14.00 NW
INV OUT=14.00 SE
INV OUT=14.00 SW

PDMH-20
RIM=22.10
INV IN=15.95 NE
INV OUT=14.00 NW
INV OUT=14.00 SW

PDMH-21
RIM=24.25
INV IN=15.20 NW
INV OUT=14.00 SW
INV OUT=14.00 SE
INV OUT=14.00 NE

POS-01
RIM=22.10
INV IN=14.40 NE
INV OUT=14.40 SW

POS-02
RIM=22.50
INV IN=16.25 E
INV OUT=16.25 W

POS-03
RIM=24.10
INV IN=14.00 NE
INV OUT=14.00 SW

PTBF-01
RIM=23.00
INV OUT=19.45 NE

PTBF-02
RIM=21.30
INV OUT=17.75 NE

PTBF-03
RIM=22.65
INV OUT=19.10 W

PTBF-04
RIM=20.90
INV OUT=17.35 SE

PTBF-05
RIM=22.90
INV OUT=19.35 NE

PTBF-06
RIM=20.55
INV OUT=17.00 E

PTBF-07
RIM=23.75
INV OUT=20.20 SW

PYD-01
RIM=21.00
INV OUT=17.50 S

PYD-02
RIM=21.00
INV IN=17.20 N
INV OUT=17.10 SW

PYD-03
RIM=21.00
INV IN=16.70 NE
INV OUT=16.60 NW

PYD-04
RIM=21.50
INV OUT=17.20 SE

PYD-05
RIM=21.50
INV IN=16.55 NW
INV OUT=16.45 SE

PYD-06
RIM=21.00
INV IN=16.20 NW
INV OUT=16.10 NE

PYD-07
RIM=21.50
INV IN=15.50 SW
INV OUT=15.40 SE

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS — 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL — 95%
   - BELOW LOAM AND SEED AREAS — 90%

   * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
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7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
13. SEE REFERENCE PLAN #1 FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
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9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL DEVELOPMENT MUST GENERALLY COMPLY WITH THE PROVISIONS OF THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
A	1/25/2024	Site Plan Review

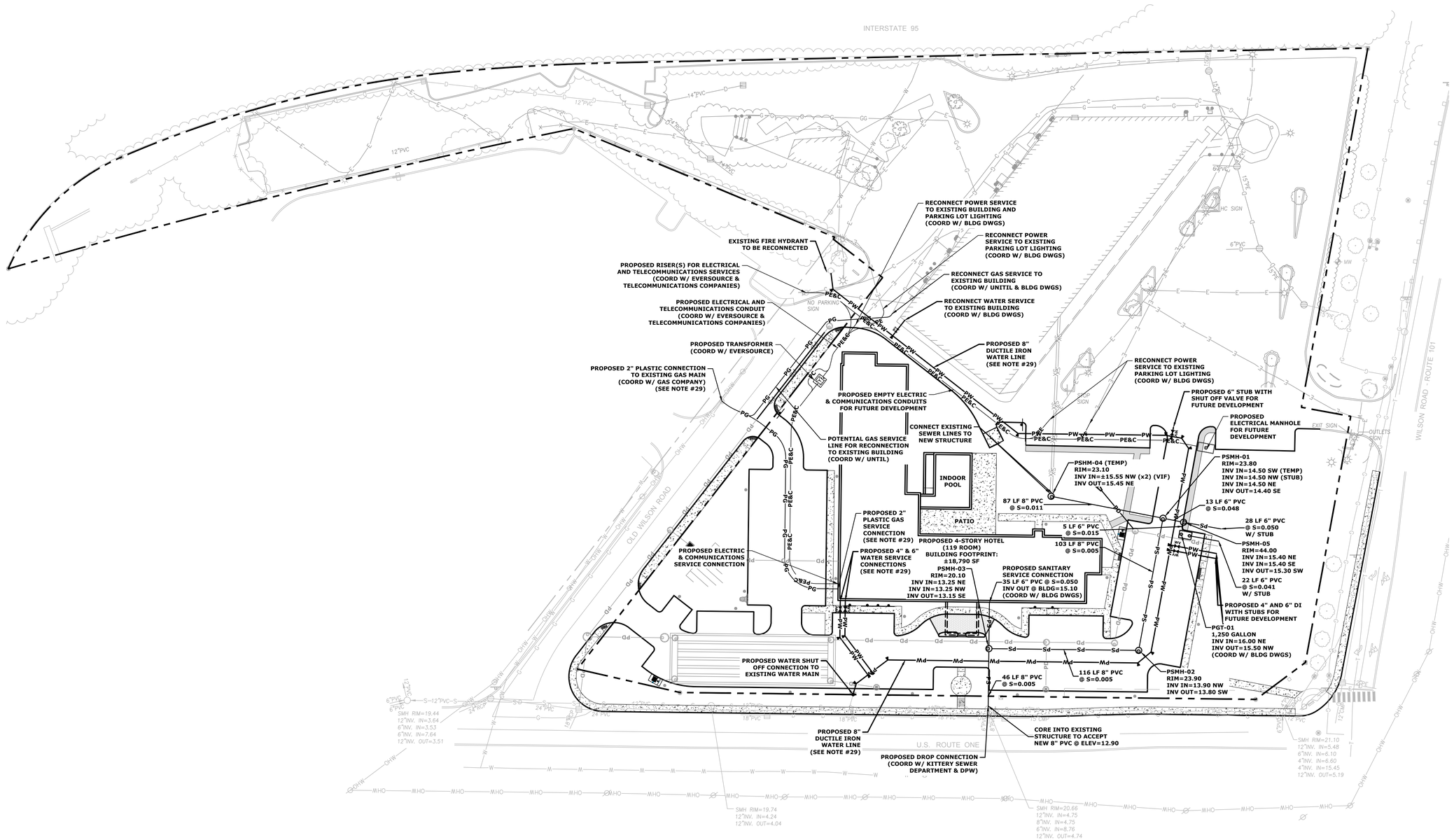
PROJECT NO:	T5037-003
DATE:	1/25/2024
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHASE 2 – GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103.2

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Grade_PH-2



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - KITTERY WATER DISTRICT
   - SEWER - KITTERY SEWER DEPARTMENT
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - XFINITY OR CONSOLIDATED COMMUNICATIONS
3. SEE REFERENCE PLAN #1 FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE KITTERY WATER DISTRICT.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO TOWN OF KITTERY WATER DISTRICT STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS & KITTERY WATER DISTRICT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE KITTERY WATER DISTRICT.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE TOWN OF KITTERY.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAN 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
29. FINAL SIZING FOR BUILDING UTILITY CONNECTIONS TO BE DETERMINED BY PROJECTS MEP ENGINEER

LEGEND

PS — PS	PROPOSED SEWER LINE
PG — PG	PROPOSED GAS LINE
PC — PC	PROPOSED COMMUNICATIONS LINE
PE — PE	PROPOSED ELECTRIC LINE
PE&C — PE&C	PROPOSED ELECTRIC & COMMUNICATIONS LINE
PW — PW	PROPOSED WATER LINE
	PROPOSED WATER GATE VALVE
	PROPOSED WATER SHUT OFF
	PROPOSED ELECTRIC MANHOLE
	PROPOSED SEWER MANHOLE
	PROPOSED GREASE TRAP

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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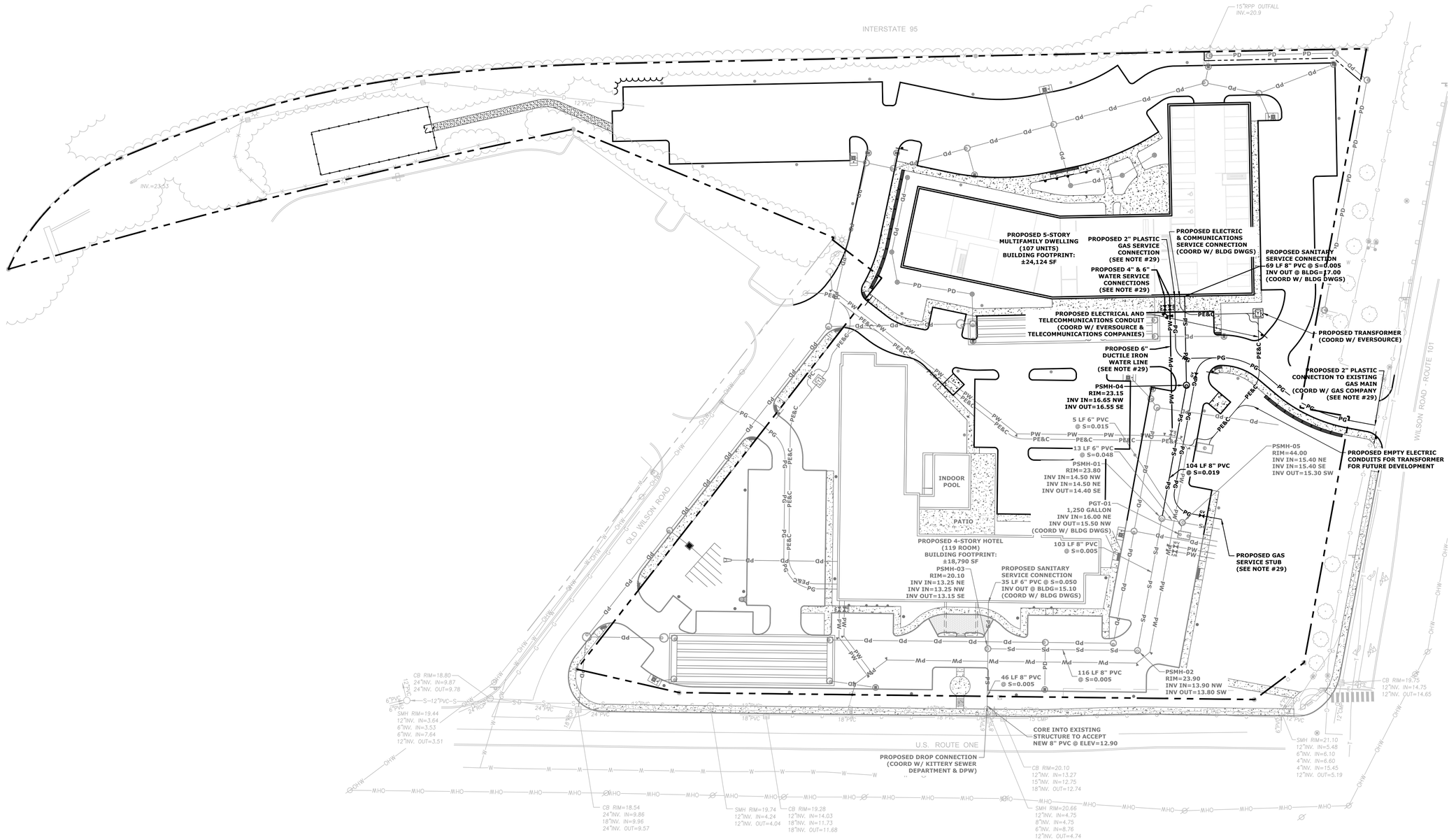
DATE:	1/25/2024
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHASE 1 – UTILITY PLAN

SCALE: AS SHOWN

C-104.1

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Util_Ph1-1



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - KITTERY WATER DISTRICT
   - SEWER - KITTERY SEWER DEPARTMENT
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - XFINITY OR CONSOLIDATED COMMUNICATIONS
3. SEE REFERENCE PLAN #1 FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE KITTERY WATER DISTRICT.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO TOWN OF KITTERY WATER DISTRICT STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS & KITTERY WATER DISTRICT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE KITTERY WATER DISTRICT.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE TOWN OF KITTERY.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAN 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
29. FINAL SIZING FOR BUILDING UTILITY CONNECTIONS TO BE DETERMINED BY PROJECTS MEP ENGINEER

LEGEND

PS—PS	PROPOSED SEWER LINE
PG—PG	PROPOSED GAS LINE
PC—PC	PROPOSED COMMUNICATIONS LINE
PE—PE	PROPOSED ELECTRIC LINE
PE&C—PE&C	PROPOSED ELECTRIC & COMMUNICATIONS LINE
PW—PW	PROPOSED WATER LINE
	PROPOSED WATER GATE VALVE
	PROPOSED WATER SHUT OFF
	PROPOSED ELECTRIC MANHOLE
	PROPOSED SEWER MANHOLE
	PROPOSED GREASE TRAP

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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PHASE 2 – UTILITY PLAN

SCALE: AS SHOWN

C-104.2

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R&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Util PH-2

PLANT SCHEDULE			
CODE	BOTANICAL NAME	COMMON NAME	SIZE
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GD	GYMNOCLADUS DIOICUS 'ESPRESSO'	ESPRESSO KENTUCKY COFFEETREE	2 1/2" - 3" CAL
QR	QUERCUS ROBUR 'FASTIGIATA'	COLUMNAR ENGLISH OAK	10' - 12' HT
TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2" - 3" CAL
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2" - 3" CAL
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IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	10 GAL
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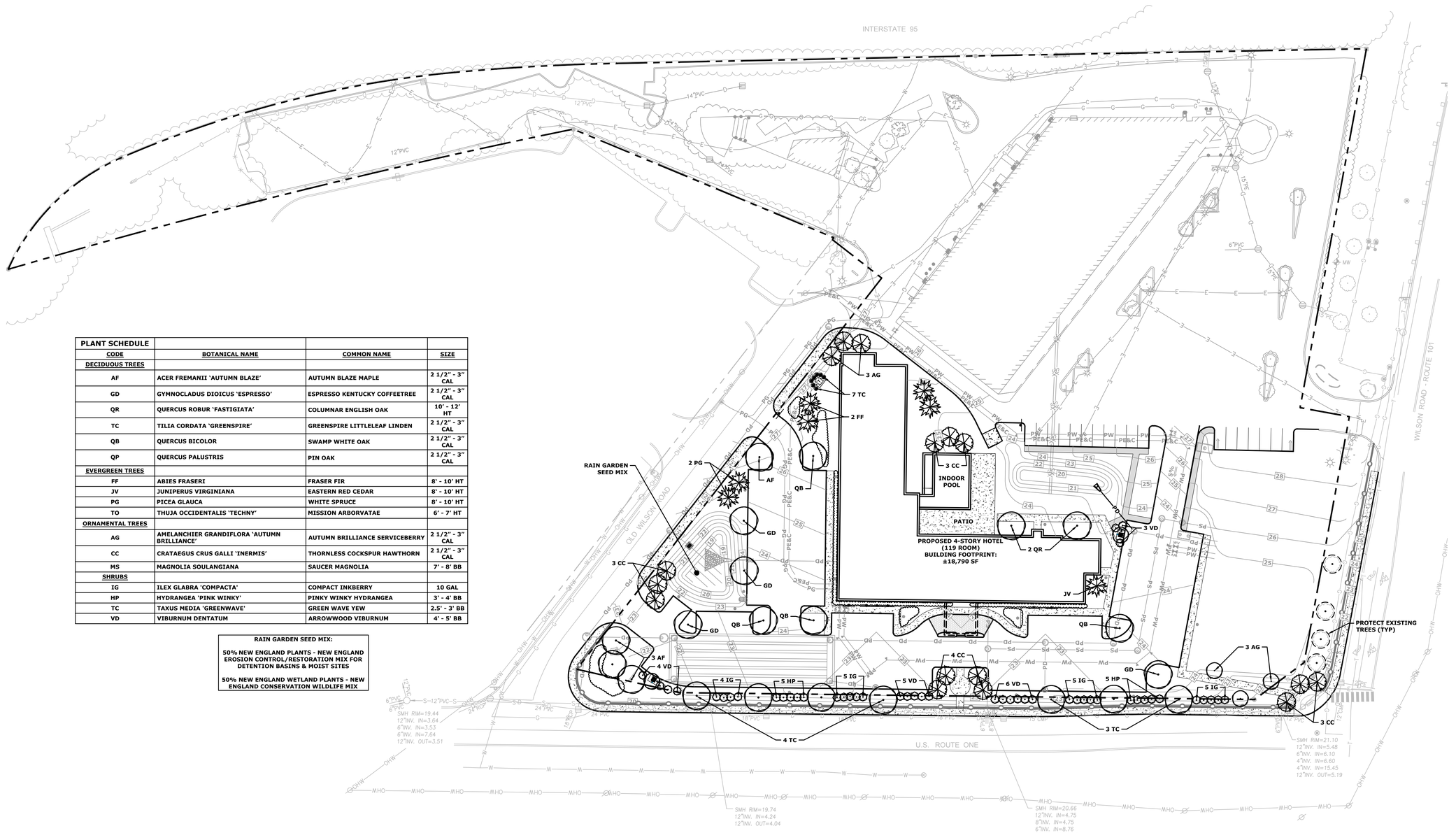
RAIN GARDEN SEED MIX:

50% NEW ENGLAND PLANTS - NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS & MOIST SITES

50% NEW ENGLAND WETLAND PLANTS - NEW ENGLAND CONSERVATION WILDLIFE MIX



LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
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10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
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19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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PHASE 1 – LANDSCAPE PLAN

SCALE: AS SHOWN

C-105.1

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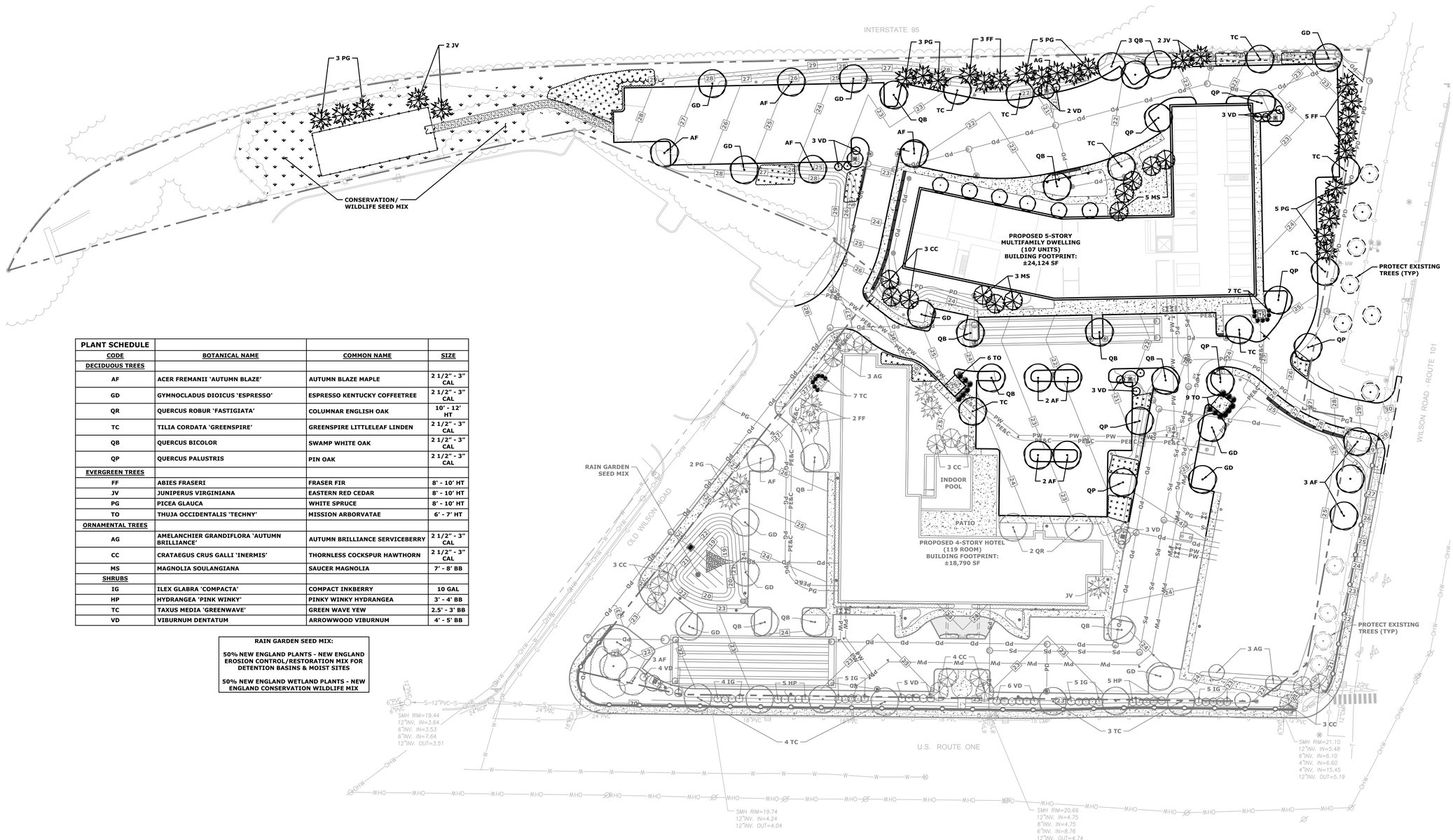

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Tighe&Bond

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PHASE 2 – LANDSCAPE PLAN

SCALE: AS SHOWN

C-105.2

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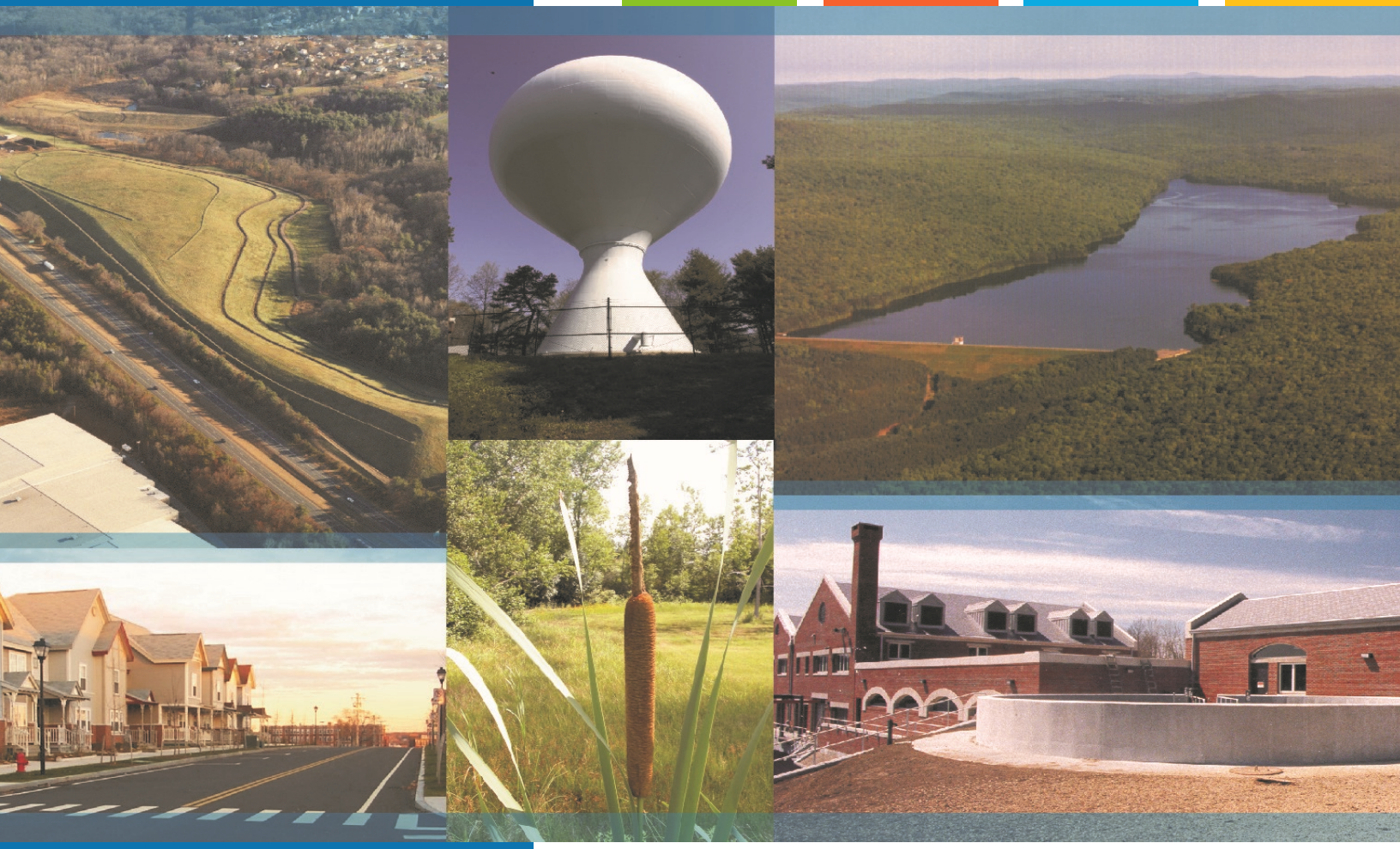


Kittery Mixed-Use Development

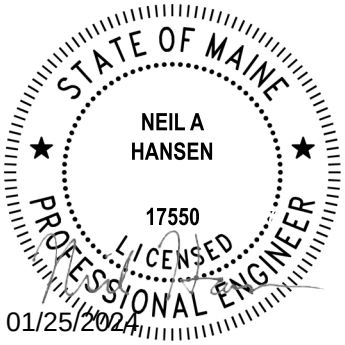
Kittery, Maine

Drainage Analysis

Prepared For:

Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

October 5, 2023
Last Revised: January 25, 2024



01/25/2024

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Section 1 Drainage Analysis

Appendices

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Section 1
Drainage Analysis

The proposed project site is identified as Map 30 Lot 44 of the Town of Kittery's Tax Map. The site is located at 283 US Route 1. The proposed project is for the redevelopment of the site. The existing site is comprised of four (4) former commercial retail buildings and associated parking areas. The proposed redevelopment is to consist of three (3) buildings; a 5-story multi family dwelling, a 4-story hotel, and a restaurant, associated parking facilities, and site improvements consisting of underground utilities, landscaping, lighting, and an upgraded stormwater management system. As part of the proposed redevelopment there will be a reduction of impervious area from the existing condition of approximately 44,734 SF.

The Stormwater Management System was designed in accordance with the redevelopment requirements of the Maine Department of Environmental Protection, Chapter 500 – Stormwater Management, rules and regulations. The system includes deep sump catch basins with oil water separator hoods, a proprietary Rain Guardian Turret pretreatment unit, a rain garden, and proprietary Filterra treatment units (Tree Box Filters).

1.1 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, and 25-year 24-hour Type III duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model. The rainfall data for these storm events was obtained from the data published by the Northeast Regional Climate Center (NRCC) at Cornell University.

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow, and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.

2. Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers, October 2016.

3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

1.2 Pre-Development Conditions

To analyze the Pre-Development condition, the site has been modeled utilizing three (3) watershed areas defined as PRE-1.0, PRE-2.0, & PRE-3.0 with associated points of analysis PA-1, PA-2, & PA-3 respectively. These points of analysis and watersheds are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

The points of analysis and their contributing watershed areas are described below:

Point of Analysis One (PA-1)

Point of analysis 1 (PA-1) is comprised of one (1) watershed area (PRE-1.0). This area includes the majority of the developed site consisting of buildings, parking areas, and minimal landscaped islands. Runoff from this area travels from the rear of the site via overland flow and is then collected in a closed drainage system withing US Route 1. Point of Analysis 1 (PA-1) is the existing drainage structure at the corner of Old Wilson Road and US Route 1.

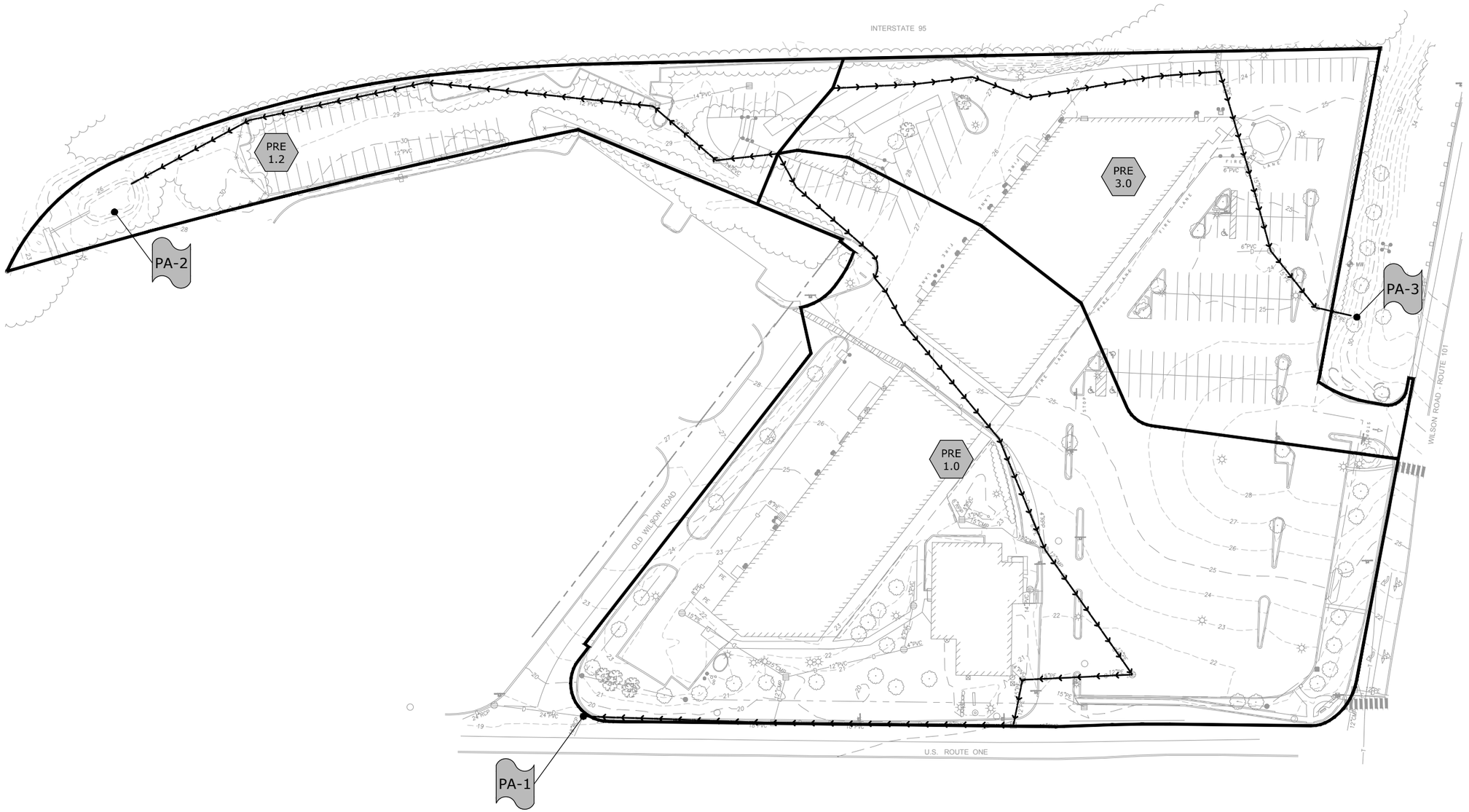
Point of Analysis Two (PA-2)

Point of analysis 2 (PA-2) is comprised of one (1) watershed area (PRE-2.0). This area consists of a small parking area with the rest comprised of grass and wooded areas. Runoff from this area travels from the rear of the site, southwest across the parking area via overland flow and is then collected in a closed drainage system and discharged to an existing detention pond, defined as PA-2.

Point of Analysis Three (PA-3)

Point of Analysis 3 (PA-3) is comprised of one (1) watershed area (PRE-3.0). This area consists of the rear portion of the parking lot and associated landscaped islands along with a portion of the rear existing building runoff. Runoff from this area travels from the rear of the site, northeast across the parking area via overland flow and is then collected in a closed drainage system and discharged to an closed drainage system, defined as PA-3.

1.2.1 Pre-Development Watershed Plan



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

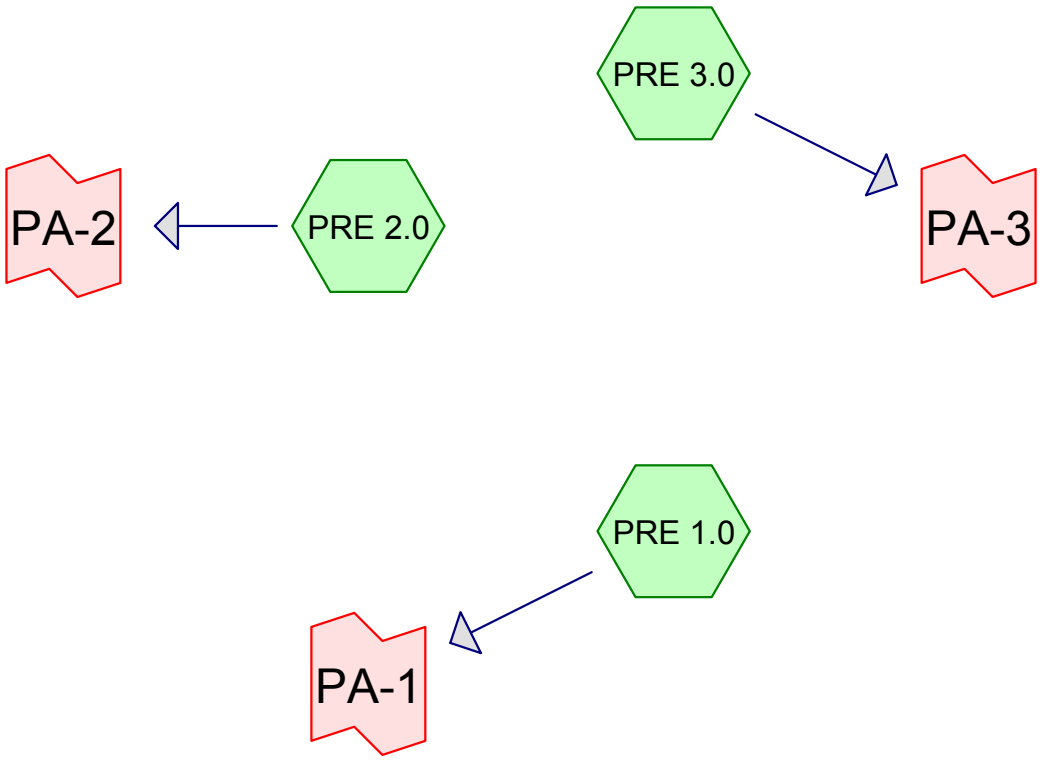
PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Save Date: January 23, 2024 3:34 PM By: CML
Plot Date/Time: Tuesday, January 23, 2024 3:34 PM By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Pre

1.2.2 Pre-Development Calculation



Subcat Reach Pond Link

Routing Diagram for T5037-003_Pre_Rev-1
Prepared by Tighe & Bond, Printed 1/23/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.224	74	>75% Grass cover, Good, HSG C (PRE 1.0, PRE 3.0)
4.252	98	Paved parking, HSG C (PRE 1.0, PRE 2.0, PRE 3.0)
1.164	98	Roofs, HSG C (PRE 1.0, PRE 3.0)
0.421	72	Woods/grass comb., Good, HSG C (PRE 2.0)
7.061	**92**	**TOTAL AREA**

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=2.34"
Tc=4.0 min CN=92 Runoff=11.21 cfs 0.777 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=1.91"
Tc=4.0 min CN=87 Runoff=2.36 cfs 0.160 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=2.64"
Flow Length=537' Tc=3.0 min CN=95 Runoff=6.55 cfs 0.455 af

Link PA-1: Inflow=11.21 cfs 0.777 af
Primary=11.21 cfs 0.777 af

Link PA-2: Inflow=2.36 cfs 0.160 af
Primary=2.36 cfs 0.160 af

Link PA-3: Inflow=6.55 cfs 0.455 af
Primary=6.55 cfs 0.455 af

Total Runoff Area = 7.061 ac Runoff Volume = 1.392 af Average Runoff Depth = 2.37"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 2.34" for 2-yr event
Inflow = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af
Primary = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 1.91" for 2-yr event
Inflow = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af
Primary = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af
Primary = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=3.92"
Tc=4.0 min CN=92 Runoff=18.30 cfs 1.302 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=3.41"
Tc=4.0 min CN=87 Runoff=4.15 cfs 0.285 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=4.25"
Flow Length=537' Tc=3.0 min CN=95 Runoff=10.28 cfs 0.734 af

Link PA-1: Inflow=18.30 cfs 1.302 af
Primary=18.30 cfs 1.302 af

Link PA-2: Inflow=4.15 cfs 0.285 af
Primary=4.15 cfs 0.285 af

Link PA-3: Inflow=10.28 cfs 0.734 af
Primary=10.28 cfs 0.734 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.322 af Average Runoff Depth = 3.95"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 3.92" for 10-yr event
Inflow = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af
Primary = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 3.41" for 10-yr event
Inflow = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af
Primary = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 4.25" for 10-yr event
Inflow = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af
Primary = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=5.19"
Tc=4.0 min CN=92 Runoff=23.81 cfs 1.722 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=4.63"
Tc=4.0 min CN=87 Runoff=5.56 cfs 0.388 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=5.53"
Flow Length=537' Tc=3.0 min CN=95 Runoff=13.18 cfs 0.955 af

Link PA-1: Inflow=23.81 cfs 1.722 af
Primary=23.81 cfs 1.722 af

Link PA-2: Inflow=5.56 cfs 0.388 af
Primary=5.56 cfs 0.388 af

Link PA-3: Inflow=13.18 cfs 0.955 af
Primary=13.18 cfs 0.955 af

Total Runoff Area = 7.061 ac Runoff Volume = 3.065 af Average Runoff Depth = 5.21"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af, Depth= 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 5.19" for 25-yr event
Inflow = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af
Primary = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 4.63" for 25-yr event
Inflow = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af
Primary = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 5.53" for 25-yr event
Inflow = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af
Primary = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

1.3 Post-Development Conditions

The post-development drainage condition is characterized by two (2) overall watershed areas which are comprised of sub-watershed areas for the purpose of sizing the treatment BMPS. These area consists of POST-1.0 to POST-1.13 and POST-2.0 all modeled at the same points of analysis as the pre-development condition. These points of analysis and watersheds are depicted on the plan entitled "Post Development Watershed Plan", Sheet C-802.

The points of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis 1, PA-1 is comprised of fourteen (14) sub watershed areas, POST-1.0 to POST-1.13. These sub watershed areas are made up of all the proposed impervious areas within the limits of the project. These areas were broken out to determine flows to each of the proposed Filterra Tree Box Filters, the sizing of the proposed Rain Garden, and the sizing the two (2) underground detention systems. Ultimately, the runoff from these areas are collected in the proposed closed drainage system and directed to Point of Analysis 1 (PA-1), via a proposed inlet connection in the existing drainage structure at the corner of Old Wilson Road and US Route 1.

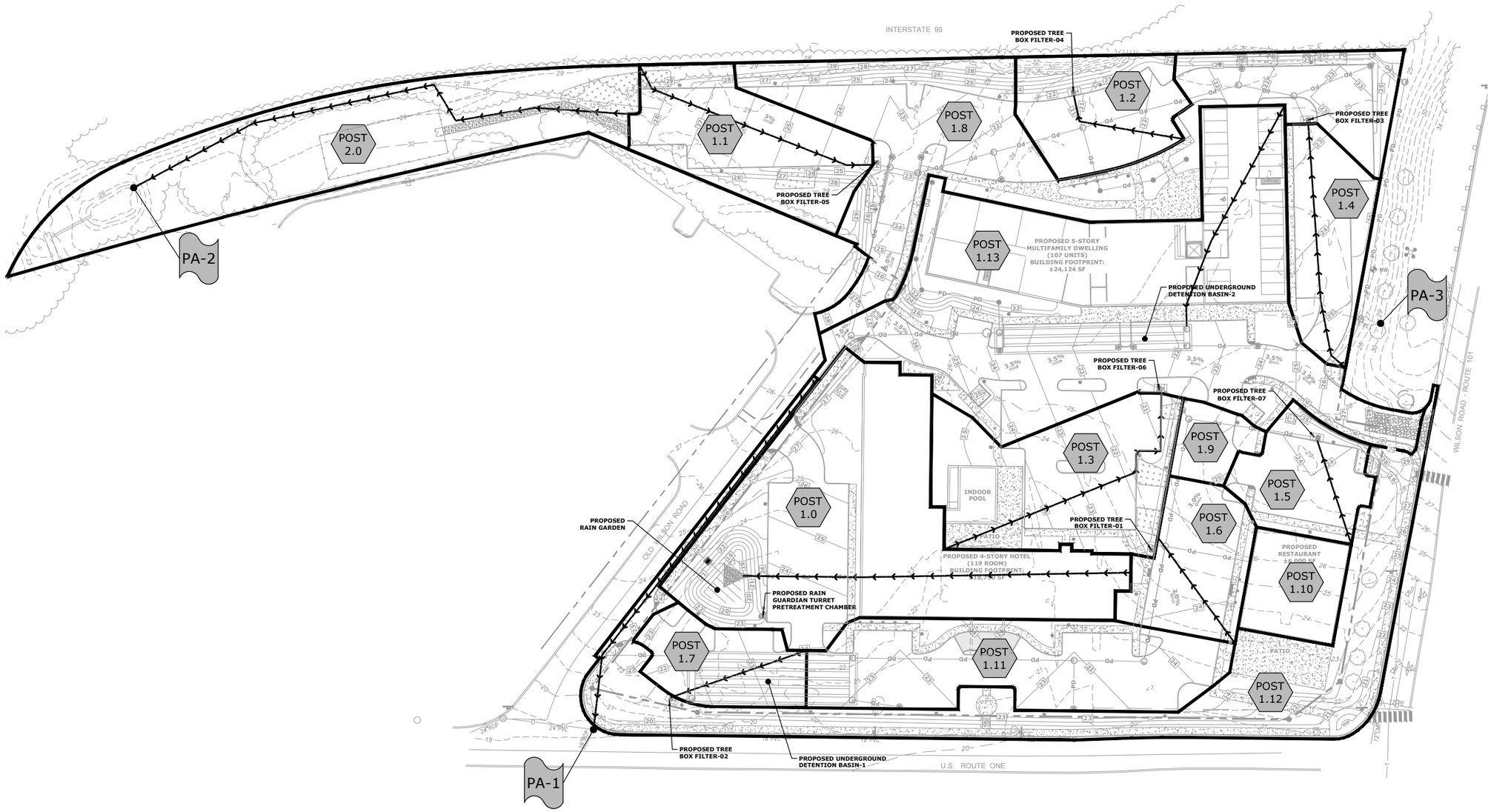
Point of Analysis Two (PA-2)

Point of analysis 2 (PA-2) is comprised of one (1) watershed area (POST-2.0). This area consists of a small parking lot that is to be removed and converted to green space. Runoff from this area travels from the rear of the site, southwest across the green area via overland flow and is then collected in a closed drainage system and discharged to the existing detention pond, defined as PA-2.

Point of Analysis Three (PA-3)

In the post development condition, all onsite runoff to Point of Analysis 3 (PA-3) has been removed and redirected to either PA-1 or PA-2. The existing offsite drainage that was directed through the proposed site has been rerouted to along the perimeter of the site.

1.3.1 Post-Development Watershed Plan



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

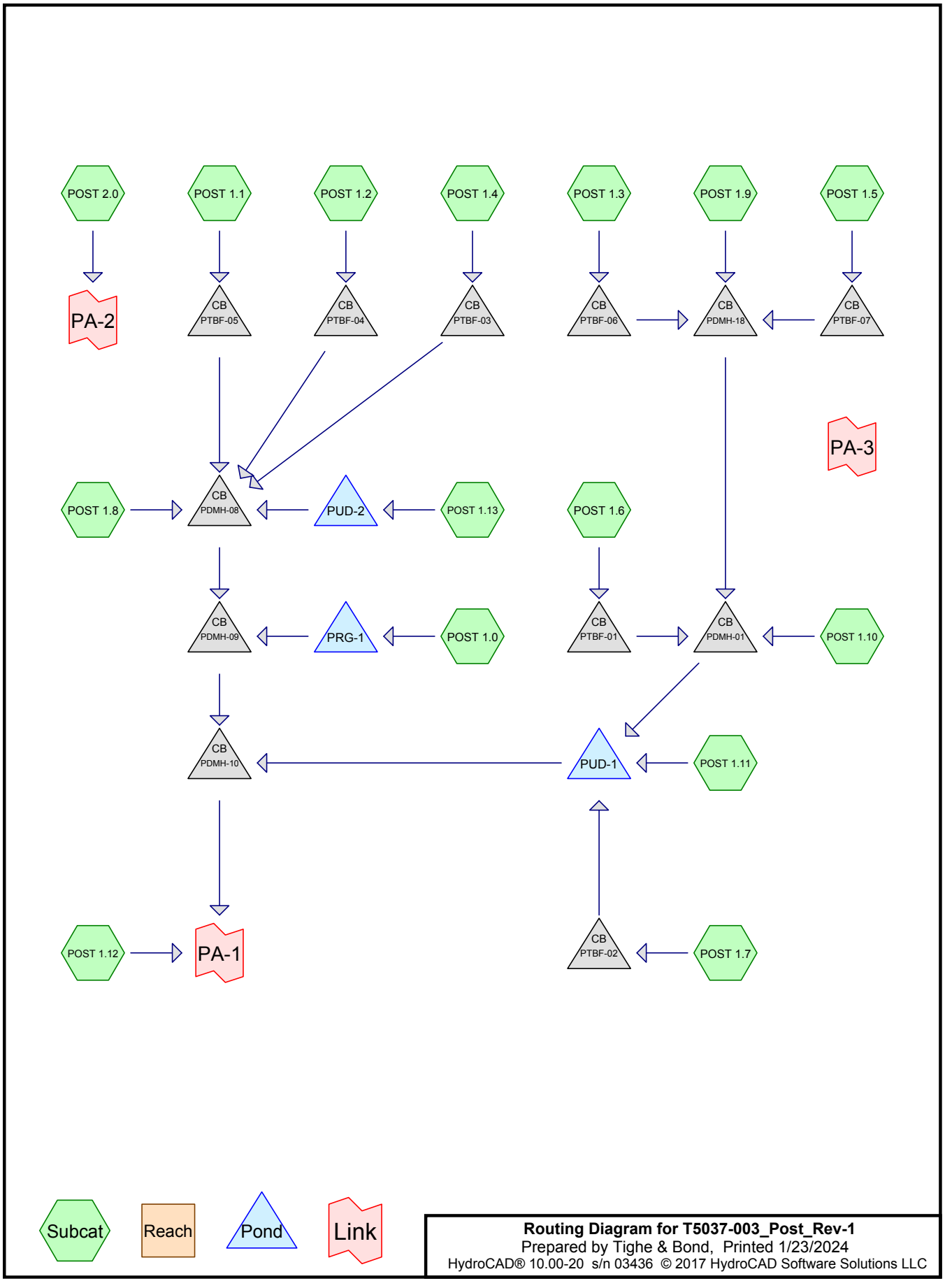
POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Save Date: January 23, 2024 3:34 PM By: CML
Plot Date: January 23, 2024 3:34 PM By: Christopher M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Post

1.3.2 Post-Development Calculation



Routing Diagram for T5037-003_Post_Rev-1
Prepared by Tighe & Bond, Printed 1/23/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.971	74	>75% Grass cover, Good, HSG C (POST 1.0, POST 1.1, POST 1.11, POST 1.12, POST 1.13, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7, POST 1.8, POST 1.9)
3.221	98	Paved parking, HSG C (POST 1.0, POST 1.1, POST 1.11, POST 1.12, POST 1.13, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7, POST 1.8, POST 1.9)
1.168	98	Roofs, HSG C (POST 1.0, POST 1.10, POST 1.13, POST 1.3)
0.701	72	Woods/grass comb., Good, HSG C (POST 2.0)
7.061	**89**	**TOTAL AREA**

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=2.34"
Tc=4.0 min CN=92 Runoff=2.57 cfs 0.178 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=1.99"
Tc=4.0 min CN=88 Runoff=0.81 cfs 0.055 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=2.96"
Tc=4.0 min CN=98 Runoff=0.45 cfs 0.034 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=1.44 cfs 0.103 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=1.67"
Tc=10.0 min CN=84 Runoff=1.27 cfs 0.105 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=2.53"
Tc=4.0 min CN=94 Runoff=3.98 cfs 0.281 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=2.16"
Tc=4.0 min CN=90 Runoff=0.63 cfs 0.043 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=2.16"
Tc=4.0 min CN=90 Runoff=1.16 cfs 0.079 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=2.44"
Tc=4.0 min CN=93 Runoff=0.67 cfs 0.047 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=2.53"
Tc=4.0 min CN=94 Runoff=0.56 cfs 0.039 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=0.67 cfs 0.048 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=2.74"
Tc=4.0 min CN=96 Runoff=0.54 cfs 0.040 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=1.67"
Tc=4.0 min CN=84 Runoff=1.78 cfs 0.120 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=0.23 cfs 0.016 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=0.92"
Tc=4.0 min CN=72 Runoff=0.73 cfs 0.054 af

Pond PDMH-01: Peak Elev=18.28' Inflow=3.06 cfs 0.217 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=3.06 cfs 0.217 af

Pond PDMH-08: Peak Elev=15.07' Inflow=6.10 cfs 0.547 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=6.10 cfs 0.547 af

Pond PDMH-09: Peak Elev=14.63' Inflow=7.65 cfs 0.725 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=7.65 cfs 0.725 af

Pond PDMH-10: Peak Elev=13.36' Inflow=9.66 cfs 1.084 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=9.66 cfs 1.084 af

Pond PDMH-18: Peak Elev=18.33' Inflow=1.94 cfs 0.135 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=1.94 cfs 0.135 af

Pond PRG-1: Peak Elev=19.28' Storage=844 cf Inflow=2.57 cfs 0.178 af
Outflow=1.57 cfs 0.178 af

Pond PTBF-01: Peak Elev=19.89' Inflow=0.67 cfs 0.048 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=0.67 cfs 0.048 af

Pond PTBF-02: Peak Elev=18.14' Inflow=0.54 cfs 0.040 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=0.54 cfs 0.040 af

Pond PTBF-03: Peak Elev=19.54' Inflow=0.67 cfs 0.047 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=0.67 cfs 0.047 af

Pond PTBF-04: Peak Elev=17.78' Inflow=0.63 cfs 0.043 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=0.63 cfs 0.043 af

Pond PTBF-05: Peak Elev=19.85' Inflow=0.81 cfs 0.055 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=0.81 cfs 0.055 af

Pond PTBF-06: Peak Elev=18.41' Inflow=1.16 cfs 0.079 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=1.16 cfs 0.079 af

Pond PTBF-07: Peak Elev=20.60' Inflow=0.56 cfs 0.039 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=0.56 cfs 0.039 af

Pond PUD-1: Peak Elev=15.83' Storage=0.056 af Inflow=5.04 cfs 0.359 af
Outflow=2.19 cfs 0.359 af

Pond PUD-2: Peak Elev=15.35' Storage=0.028 af Inflow=3.98 cfs 0.281 af
Outflow=2.63 cfs 0.281 af

Link PA-1: Inflow=10.82 cfs 1.189 af
Primary=10.82 cfs 1.189 af

Link PA-2: Inflow=0.73 cfs 0.054 af
Primary=0.73 cfs 0.054 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 1.243 af Average Runoff Depth = 2.11"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 2.57 cfs @ 12.06 hrs, Volume= 0.178 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.45 cfs @ 12.06 hrs, Volume= 0.034 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 1.44 cfs @ 12.06 hrs, Volume= 0.103 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 1.27 cfs @ 12.15 hrs, Volume= 0.105 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 3.98 cfs @ 12.06 hrs, Volume= 0.281 af, Depth= 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af, Depth= 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 1.78 cfs @ 12.06 hrs, Volume= 0.120 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.23 cfs @ 12.06 hrs, Volume= 0.016 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Depth= 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 2.46" for 2-yr event
Inflow = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af
Outflow = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af, Atten= 0%, Lag= 0.0 min
Primary = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.28' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.97 cfs @ 12.06 hrs HW=18.26' TW=15.54' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.97 cfs @ 4.06 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 2.19" for 2-yr event
Inflow = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.07' @ 12.11 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.51 cfs @ 12.09 hrs HW=15.04' TW=14.62' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.51 cfs @ 2.72 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 2.22" for 2-yr event
Inflow = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af
Outflow = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min
Primary = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.63' @ 12.09 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.45 cfs @ 12.09 hrs HW=14.62' TW=13.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.45 cfs @ 5.33 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 2.32" for 2-yr event
Inflow = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af
Outflow = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af, Atten= 0%, Lag= 0.0 min
Primary = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.36' @ 12.09 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.58 cfs @ 12.09 hrs HW=13.35' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 9.58 cfs @ 4.69 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 2.31" for 2-yr event
Inflow = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af
Outflow = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.33' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=18.24' TW=18.26' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 2.34" for 2-yr event
Inflow = 2.57 cfs @ 12.06 hrs, Volume= 0.178 af
Outflow = 1.57 cfs @ 12.16 hrs, Volume= 0.178 af, Atten= 39%, Lag= 5.8 min
Primary = 1.57 cfs @ 12.16 hrs, Volume= 0.178 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.28' @ 12.16 hrs Surf.Area= 3,125 sf Storage= 844 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 11.1 min calculated for 0.178 af (100% of inflow)
Center-of-Mass det. time= 11.3 min (807.4 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.57 cfs @ 12.16 hrs HW=19.27' TW=14.54' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.57 cfs of 12.68 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.57 cfs @ 8.01 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af
Outflow = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.89' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.65 cfs @ 12.06 hrs HW=19.89' TW=18.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.65 cfs @ 2.25 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 2.74" for 2-yr event
Inflow = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af
Outflow = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.14' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.53 cfs @ 12.06 hrs HW=18.14' TW=15.54' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.53 cfs @ 2.12 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 2.44" for 2-yr event
Inflow = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af
Outflow = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.54' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.65 cfs @ 12.06 hrs HW=19.53' TW=14.97' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.65 cfs @ 2.25 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 2.16" for 2-yr event
Inflow = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af
Outflow = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.78' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.61 cfs @ 12.06 hrs HW=17.77' TW=14.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.61 cfs @ 2.21 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 1.99" for 2-yr event
Inflow = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af
Outflow = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.85' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.79 cfs @ 12.06 hrs HW=19.84' TW=14.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.79 cfs @ 2.38 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 2.16" for 2-yr event
Inflow = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af
Outflow = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.41' @ 12.14 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.36 cfs @ 12.06 hrs HW=18.26' TW=18.24' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.36 cfs @ 0.66 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af
Outflow = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.60' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.54 cfs @ 12.06 hrs HW=20.59' TW=18.24' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.54 cfs @ 2.14 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 2.54" for 2-yr event
Inflow = 5.04 cfs @ 12.06 hrs, Volume= 0.359 af
Outflow = 2.19 cfs @ 12.22 hrs, Volume= 0.359 af, Atten= 57%, Lag= 9.8 min
Primary = 2.19 cfs @ 12.22 hrs, Volume= 0.359 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.83' @ 12.22 hrs Surf.Area= 0.122 ac Storage= 0.056 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 6.8 min (789.3 - 782.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.18 cfs @ 12.22 hrs HW=15.83' TW=13.15' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.18 cfs of 8.14 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 2.18 cfs @ 4.94 fps)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 3.98 cfs @ 12.06 hrs, Volume= 0.281 af
Outflow = 2.63 cfs @ 12.13 hrs, Volume= 0.281 af, Atten= 34%, Lag= 4.0 min
Primary = 2.63 cfs @ 12.13 hrs, Volume= 0.281 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.35' @ 12.15 hrs Surf.Area= 0.069 ac Storage= 0.028 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.0 min (788.3 - 785.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert**
			L= 101.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.57 cfs @ 12.13 hrs HW=15.34' TW=15.03' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.57 cfs of 4.18 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.32 cfs @ 2.64 fps)
3=Orifice/Grate (Orifice Controls 1.25 cfs @ 1.85 fps)
4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 2.24" for 2-yr event
Inflow = 10.82 cfs @ 12.10 hrs, Volume= 1.189 af
Primary = 10.82 cfs @ 12.10 hrs, Volume= 1.189 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 0.92" for 2-yr event
Inflow = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af
Primary = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=3.92"
Tc=4.0 min CN=92 Runoff=4.20 cfs 0.299 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=3.51"
Tc=4.0 min CN=88 Runoff=1.41 cfs 0.097 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=4.59"
Tc=4.0 min CN=98 Runoff=0.68 cfs 0.053 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=2.26 cfs 0.166 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=3.12"
Tc=10.0 min CN=84 Runoff=2.35 cfs 0.195 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=4.14"
Tc=4.0 min CN=94 Runoff=6.33 cfs 0.460 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=3.71"
Tc=4.0 min CN=90 Runoff=1.05 cfs 0.074 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=3.71"
Tc=4.0 min CN=90 Runoff=1.95 cfs 0.136 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=4.03"
Tc=4.0 min CN=93 Runoff=1.07 cfs 0.077 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=4.14"
Tc=4.0 min CN=94 Runoff=0.89 cfs 0.064 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=1.05 cfs 0.077 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=4.36"
Tc=4.0 min CN=96 Runoff=0.84 cfs 0.063 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=3.12"
Tc=4.0 min CN=84 Runoff=3.29 cfs 0.224 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=0.36 cfs 0.026 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=2.07"
Tc=4.0 min CN=72 Runoff=1.76 cfs 0.121 af

Pond PDMH-01: Peak Elev=18.57' Inflow=4.91 cfs 0.357 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=4.91 cfs 0.357 af

Pond PDMH-08: Peak Elev=15.66' Inflow=10.83 cfs 0.932 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=10.83 cfs 0.932 af

Pond PDMH-09: Peak Elev=15.10' Inflow=12.49 cfs 1.231 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=12.49 cfs 1.231 af

Pond PDMH-10: Peak Elev=13.96' Inflow=14.92 cfs 1.817 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=14.92 cfs 1.817 af

Pond PDMH-18: Peak Elev=18.69' Inflow=3.19 cfs 0.227 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=3.18 cfs 0.227 af

Pond PRG-1: Peak Elev=20.06' Storage=1,858 cf Inflow=4.20 cfs 0.299 af
Outflow=1.78 cfs 0.299 af

Pond PTBF-01: Peak Elev=20.03' Inflow=1.05 cfs 0.077 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=1.05 cfs 0.077 af

Pond PTBF-02: Peak Elev=18.26' Inflow=0.84 cfs 0.063 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=0.84 cfs 0.063 af

Pond PTBF-03: Peak Elev=19.69' Inflow=1.07 cfs 0.077 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=1.07 cfs 0.077 af

Pond PTBF-04: Peak Elev=17.93' Inflow=1.05 cfs 0.074 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=1.05 cfs 0.074 af

Pond PTBF-05: Peak Elev=20.06' Inflow=1.41 cfs 0.097 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=1.41 cfs 0.097 af

Pond PTBF-06: Peak Elev=18.96' Inflow=1.95 cfs 0.136 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=1.94 cfs 0.136 af

Pond PTBF-07: Peak Elev=20.72' Inflow=0.89 cfs 0.064 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=0.89 cfs 0.064 af

Pond PUD-1: Peak Elev=16.61' Storage=0.110 af Inflow=8.01 cfs 0.586 af
Outflow=2.88 cfs 0.586 af

Pond PUD-2: Peak Elev=15.93' Storage=0.049 af Inflow=6.33 cfs 0.460 af
Outflow=4.15 cfs 0.460 af

Link PA-1: Inflow=16.74 cfs 2.012 af
Primary=16.74 cfs 2.012 af

Link PA-2: Inflow=1.76 cfs 0.121 af
Primary=1.76 cfs 0.121 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.132 af Average Runoff Depth = 3.62"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 4.20 cfs @ 12.06 hrs, Volume= 0.299 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.68 cfs @ 12.06 hrs, Volume= 0.053 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 2.26 cfs @ 12.06 hrs, Volume= 0.166 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 2.35 cfs @ 12.14 hrs, Volume= 0.195 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 6.33 cfs @ 12.06 hrs, Volume= 0.460 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 1.95 cfs @ 12.06 hrs, Volume= 0.136 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af, Depth= 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 3.29 cfs @ 12.06 hrs, Volume= 0.224 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.36 cfs @ 12.06 hrs, Volume= 0.026 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 4.05" for 10-yr event
Inflow = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af
Outflow = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min
Primary = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.57' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.78 cfs @ 12.06 hrs HW=18.55' TW=16.07' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.78 cfs @ 4.54 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 3.73" for 10-yr event
Inflow = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af
Outflow = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af, Atten= 0%, Lag= 0.0 min
Primary = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.66' @ 12.09 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.79 cfs @ 12.06 hrs HW=15.61' TW=15.08' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.79 cfs @ 3.16 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 3.78" for 10-yr event
Inflow = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af
Outflow = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af, Atten= 0%, Lag= 0.0 min
Primary = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.10' @ 12.08 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.17 cfs @ 12.06 hrs HW=15.08' TW=13.92' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.17 cfs @ 5.37 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 3.89" for 10-yr event
Inflow = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af
Outflow = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af, Atten= 0%, Lag= 0.0 min
Primary = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.96' @ 12.06 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.52 cfs @ 12.06 hrs HW=13.91' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 14.52 cfs @ 5.21 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 3.88" for 10-yr event
Inflow = 3.19 cfs @ 12.06 hrs, Volume= 0.227 af
Outflow = 3.18 cfs @ 12.06 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min
Primary = 3.18 cfs @ 12.06 hrs, Volume= 0.227 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.69' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.92 cfs @ 12.06 hrs HW=18.56' TW=18.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.92 cfs @ 0.53 fps)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 3.92" for 10-yr event
Inflow = 4.20 cfs @ 12.06 hrs, Volume= 0.299 af
Outflow = 1.78 cfs @ 12.23 hrs, Volume= 0.299 af, Atten= 57%, Lag= 10.1 min
Primary = 1.78 cfs @ 12.23 hrs, Volume= 0.299 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.06' @ 12.23 hrs Surf.Area= 3,461 sf Storage= 1,858 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 12.7 min calculated for 0.299 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (793.9 - 782.0)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 12.23 hrs HW=20.06' TW=14.81' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.78 cfs of 14.89 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.78 cfs @ 9.09 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 4.25" for 10-yr event
Inflow = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af
Outflow = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.03' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.02 cfs @ 12.06 hrs HW=20.02' TW=18.55' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.02 cfs @ 2.57 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 4.36" for 10-yr event
Inflow = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af
Outflow = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.26' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.82 cfs @ 12.06 hrs HW=18.25' TW=16.06' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.82 cfs @ 2.41 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 4.03" for 10-yr event
Inflow = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af
Outflow = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.69' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.04 cfs @ 12.06 hrs HW=19.68' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.04 cfs @ 2.59 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af
Outflow = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.93' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.03 cfs @ 12.06 hrs HW=17.92' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.03 cfs @ 2.57 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 3.51" for 10-yr event
Inflow = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af
Outflow = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.06' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.37 cfs @ 12.06 hrs HW=20.04' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.37 cfs @ 2.83 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 1.95 cfs @ 12.06 hrs, Volume= 0.136 af
Outflow = 1.94 cfs @ 12.06 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.06 hrs, Volume= 0.136 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.96' @ 12.11 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.37 cfs @ 12.06 hrs HW=18.83' TW=18.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.37 cfs @ 2.51 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af
Outflow = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.72' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.86 cfs @ 12.06 hrs HW=20.71' TW=18.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.86 cfs @ 2.44 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 8.01 cfs @ 12.06 hrs, Volume= 0.586 af
Outflow = 2.88 cfs @ 12.29 hrs, Volume= 0.586 af, Atten= 64%, Lag= 13.8 min
Primary = 2.88 cfs @ 12.29 hrs, Volume= 0.586 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.61' @ 12.29 hrs Surf.Area= 0.122 ac Storage= 0.110 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.8 min (781.5 - 770.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.88 cfs @ 12.29 hrs HW=16.61' TW=13.49' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.88 cfs of 15.24 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 2.88 cfs @ 6.51 fps)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 6.33 cfs @ 12.06 hrs, Volume= 0.460 af
Outflow = 4.15 cfs @ 12.22 hrs, Volume= 0.460 af, Atten= 34%, Lag= 9.6 min
Primary = 4.15 cfs @ 12.22 hrs, Volume= 0.460 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.93' @ 12.16 hrs Surf.Area= 0.069 ac Storage= 0.049 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.7 min (776.3 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert** L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=4.80 cfs @ 12.22 hrs HW=15.81' TW=15.35' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.80 cfs of 7.75 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.63 cfs @ 3.26 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 3.17 cfs @ 3.17 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 3.80" for 10-yr event
Inflow = 16.74 cfs @ 12.07 hrs, Volume= 2.012 af
Primary = 16.74 cfs @ 12.07 hrs, Volume= 2.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 2.07" for 10-yr event
Inflow = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af
Primary = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=5.19"
Tc=4.0 min CN=92 Runoff=5.46 cfs 0.395 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=4.74"
Tc=4.0 min CN=88 Runoff=1.88 cfs 0.132 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=5.88"
Tc=4.0 min CN=98 Runoff=0.87 cfs 0.068 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=2.90 cfs 0.216 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=4.31"
Tc=10.0 min CN=84 Runoff=3.22 cfs 0.269 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=5.42"
Tc=4.0 min CN=94 Runoff=8.15 cfs 0.602 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=4.96"
Tc=4.0 min CN=90 Runoff=1.39 cfs 0.099 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=4.96"
Tc=4.0 min CN=90 Runoff=2.56 cfs 0.182 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=5.30"
Tc=4.0 min CN=93 Runoff=1.39 cfs 0.101 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=5.42"
Tc=4.0 min CN=94 Runoff=1.14 cfs 0.084 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=1.34 cfs 0.100 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=5.65"
Tc=4.0 min CN=96 Runoff=1.08 cfs 0.082 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=4.31"
Tc=4.0 min CN=84 Runoff=4.50 cfs 0.310 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=0.46 cfs 0.034 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=3.09"
Tc=4.0 min CN=72 Runoff=2.66 cfs 0.180 af

Pond PDMH-01: Peak Elev=18.80' Inflow=6.37 cfs 0.468 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=6.37 cfs 0.468 af

Pond PDMH-08: Peak Elev=16.23' Inflow=13.25 cfs 1.243 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=13.25 cfs 1.243 af

Pond PDMH-09: Peak Elev=15.44' Inflow=15.01 cfs 1.638 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=15.01 cfs 1.638 af

Pond PDMH-10: Peak Elev=14.48' Inflow=17.77 cfs 2.405 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=17.77 cfs 2.405 af

Pond PDMH-18: Peak Elev=19.01' Inflow=4.16 cfs 0.301 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=4.16 cfs 0.301 af

Pond PRG-1: Peak Elev=20.48' Storage=2,505 cf Inflow=5.46 cfs 0.395 af
Outflow=3.29 cfs 0.395 af

Pond PTBF-01: Peak Elev=20.13' Inflow=1.34 cfs 0.100 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=1.34 cfs 0.100 af

Pond PTBF-02: Peak Elev=18.34' Inflow=1.08 cfs 0.082 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=1.08 cfs 0.082 af

Pond PTBF-03: Peak Elev=19.80' Inflow=1.39 cfs 0.101 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=1.39 cfs 0.101 af

Pond PTBF-04: Peak Elev=18.05' Inflow=1.39 cfs 0.099 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=1.39 cfs 0.099 af

Pond PTBF-05: Peak Elev=20.28' Inflow=1.88 cfs 0.132 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=1.88 cfs 0.132 af

Pond PTBF-06: Peak Elev=19.55' Inflow=2.56 cfs 0.182 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=2.56 cfs 0.182 af

Pond PTBF-07: Peak Elev=20.81' Inflow=1.14 cfs 0.084 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=1.14 cfs 0.084 af

Pond PUD-1: Peak Elev=17.28' Storage=0.158 af Inflow=10.35 cfs 0.766 af
Outflow=3.45 cfs 0.766 af

Pond PUD-2: Peak Elev=16.56' Storage=0.074 af Inflow=8.15 cfs 0.602 af
Outflow=5.38 cfs 0.602 af

Link PA-1: Inflow=20.04 cfs 2.674 af
Primary=20.04 cfs 2.674 af

Link PA-2: Inflow=2.66 cfs 0.180 af
Primary=2.66 cfs 0.180 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.854 af Average Runoff Depth = 4.85"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 5.46 cfs @ 12.06 hrs, Volume= 0.395 af, Depth= 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af, Depth= 4.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.87 cfs @ 12.06 hrs, Volume= 0.068 af, Depth= 5.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 2.90 cfs @ 12.06 hrs, Volume= 0.216 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 3.22 cfs @ 12.14 hrs, Volume= 0.269 af, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 8.15 cfs @ 12.06 hrs, Volume= 0.602 af, Depth= 5.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af, Depth= 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af, Depth= 5.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 4.50 cfs @ 12.06 hrs, Volume= 0.310 af, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.46 cfs @ 12.06 hrs, Volume= 0.034 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 5.32" for 25-yr event
Inflow = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af
Outflow = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min
Primary = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.80' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.21 cfs @ 12.06 hrs HW=18.77' TW=16.49' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.21 cfs @ 4.80 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 4.98" for 25-yr event
Inflow = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af
Outflow = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.0 min
Primary = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.23' @ 12.07 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.26 cfs @ 12.05 hrs HW=16.18' TW=15.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.26 cfs @ 3.58 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 5.03" for 25-yr event
Inflow = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af
Outflow = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af, Atten= 0%, Lag= 0.0 min
Primary = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.44' @ 12.09 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.16 cfs @ 12.05 hrs HW=15.38' TW=14.46' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.16 cfs @ 4.86 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 5.14" for 25-yr event
Inflow = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af
Outflow = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af, Atten= 0%, Lag= 0.0 min
Primary = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.48' @ 12.05 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=17.36 cfs @ 12.06 hrs HW=14.44' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 17.36 cfs @ 5.52 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 5.14" for 25-yr event
Inflow = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af
Outflow = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min
Primary = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.01' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.27 cfs @ 12.06 hrs HW=18.86' TW=18.77' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.27 cfs @ 1.28 fps)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 5.19" for 25-yr event
Inflow = 5.46 cfs @ 12.06 hrs, Volume= 0.395 af
Outflow = 3.29 cfs @ 12.17 hrs, Volume= 0.395 af, Atten= 40%, Lag= 6.5 min
Primary = 3.29 cfs @ 12.17 hrs, Volume= 0.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.48' @ 12.17 hrs Surf.Area= 3,659 sf Storage= 2,505 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 11.7 min calculated for 0.395 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (786.6 - 774.7)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.14 cfs @ 12.17 hrs HW=20.46' TW=15.30' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.14 cfs of 15.83 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.88 cfs @ 9.58 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.26 cfs @ 1.51 fps)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 5.53" for 25-yr event
Inflow = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af
Outflow = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.13' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.31 cfs @ 12.06 hrs HW=20.12' TW=18.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.31 cfs @ 2.79 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 5.65" for 25-yr event
Inflow = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af
Outflow = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.34' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.05 cfs @ 12.06 hrs HW=18.33' TW=16.48' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.05 cfs @ 2.59 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 5.30" for 25-yr event
Inflow = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af
Outflow = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.80' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.35 cfs @ 12.06 hrs HW=19.79' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.35 cfs @ 2.82 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 4.96" for 25-yr event
Inflow = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af
Outflow = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.05' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.35 cfs @ 12.06 hrs HW=18.04' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.35 cfs @ 2.82 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 4.74" for 25-yr event
Inflow = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af
Outflow = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.28' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.83 cfs @ 12.06 hrs HW=20.25' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.83 cfs @ 3.35 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 4.96" for 25-yr event
Inflow = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af
Outflow = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min
Primary = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.55' @ 12.10 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.95 cfs @ 12.06 hrs HW=19.41' TW=18.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.95 cfs @ 3.57 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 5.42" for 25-yr event
Inflow = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af
Outflow = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.81' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.11 cfs @ 12.06 hrs HW=20.80' TW=18.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.11 cfs @ 2.64 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 5.41" for 25-yr event
Inflow = 10.35 cfs @ 12.06 hrs, Volume= 0.766 af
Outflow = 3.45 cfs @ 12.32 hrs, Volume= 0.766 af, Atten= 67%, Lag= 15.4 min
Primary = 3.45 cfs @ 12.32 hrs, Volume= 0.766 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.28' @ 12.32 hrs Surf.Area= 0.122 ac Storage= 0.158 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 13.6 min (778.2 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.43 cfs @ 12.32 hrs HW=17.27' TW=13.76' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 3.43 cfs of 19.19 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 3.36 cfs @ 7.61 fps)
—**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.07 cfs @ 0.50 fps)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 5.42" for 25-yr event
Inflow = 8.15 cfs @ 12.06 hrs, Volume= 0.602 af
Outflow = 5.38 cfs @ 12.25 hrs, Volume= 0.602 af, Atten= 34%, Lag= 11.5 min
Primary = 5.38 cfs @ 12.25 hrs, Volume= 0.602 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.56' @ 12.17 hrs Surf.Area= 0.069 ac Storage= 0.074 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.5 min (770.6 - 766.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert**
			L= 101.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=5.50 cfs @ 12.25 hrs HW=16.35' TW=15.77' (Dynamic Tailwater)
↑**1=Culvert** (Passes 5.50 cfs of 11.37 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 3.67 fps)
3=Orifice/Grate (Orifice Controls 3.67 cfs @ 3.67 fps)
4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 5.04" for 25-yr event
Inflow = 20.04 cfs @ 12.05 hrs, Volume= 2.674 af
Primary = 20.04 cfs @ 12.05 hrs, Volume= 2.674 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af
Primary = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

1.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates from the 1-year, 2-year, 10-year, and 25-year storm events at each point of analysis.

Table 1.4 – Comparison of Pre- and Post-Development Flows (CFS)

Point of Analysis	2-Year Storm	10-Year Storm	25-Year Storm
Pre-Development Watershed (PA-1)	11.21	18.30	23.81
Post-Development Watershed (PA-1)	10.82	16.74	20.04
Pre-Development Watershed (PA-2)	2.36	4.15	5.56
Post-Development Watershed (PA-2)	0.73	1.76	2.66
Pre-Development Watershed (PA-3)	6.55	10.28	13.18
Post-Development Watershed (PA-3)	0.00	0.00	0.00

As shown in Table 1.4 the Post-Development flows are decreased from the Pre-Development conditions at both points of analysis.

1.5 Mitigation Description

1.5.1 Mitigation Calculations

The proposed project area has been designed to provide stormwater treatment in accordance with the redevelopment standards of the Maine Department of Environmental Protection, Chapter 500 – Stormwater Management, rules and regulations. These calculations have been provided in appendix F of this report.

1.5.2 Pre-Treatment Methods for Protecting Water Quality

Pretreatment methods for protecting water quality on this site include offline deep sump catch basins with oil water separator hoods and a proprietary Rain Guardian Turret pretreatment unit.

Table 1.5 – Pollutant Removal Efficiencies		
BMP	Total Suspended Solids	Total Phosphorus
Deep Sump Catch Basin w/Hood[1]	15%	5%
BMP	Sediment Capture	Gross Solids Capture
Rain Guardian Turret[2]	75% - 90%	60% - 85%

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.
2. Pollutant removal efficiencies Erickson, A.J., M.A. Hernick, and J.D. Marr. (2018). "Capture of Gross Solids and Sediment by Pretreatment Practices for Bioretention." University of Minnesota St. Anthony Falls Laboratory Project Report No. 586.

1.5.3 Treatment Methods for Protecting Water Quality

The runoff from a majority of the proposed impervious areas will be directed to one of the seven (7) proposed Tree Box Filters or the proposed Rain Garden to be treated.

Table 1.6 below, shows design pollutant removal efficient for the proposed Filterra Tree Box Filters and the proposed Rain Garden.

Table 1.6 – Pollutant Removal Efficiencies		
BMP	Total Suspended Solids	Total Phosphorus
Filttera Tree Box Filter[1]	86%	70%
Rain Garden[2]	90%	65%

1. Pollutant removal efficiencies per Contech Engineered Solutions Filterra Performance Testing Results.
2. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

APPENDIX A

APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Metadata for Point	
Smoothing	Yes
State	Maine
Location	Maine, United States
Latitude	43.111 degrees North
Longitude	70.737 degrees West
Elevation	0 feet
Date/Time	Tue Oct 03 2023 13:13:42 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.21	1.55	2.02	2.64	2.90	**1yr**	2.34	2.79	3.20	3.92	4.52	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.19	3.55	**2yr**	2.82	3.42	3.92	4.66	5.30	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.60	**5yr**	1.08	1.47	1.88	2.42	3.12	4.04	4.55	**5yr**	3.57	4.38	5.01	5.90	6.66	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.72	2.22	2.88	3.73	4.83	5.49	**10yr**	4.27	5.28	6.04	7.05	7.92	**10yr**
25yr	0.48	0.76	0.97	1.33	1.77	2.33	**25yr**	1.53	2.14	2.77	3.62	4.71	6.12	7.05	**25yr**	5.41	6.78	7.74	8.94	9.96	**25yr**
50yr	0.53	0.86	1.10	1.54	2.07	2.75	**50yr**	1.79	2.52	3.28	4.30	5.62	7.32	8.52	**50yr**	6.48	8.19	9.34	10.70	11.86	**50yr**
100yr	0.59	0.96	1.24	1.77	2.42	3.25	**100yr**	2.08	2.97	3.89	5.13	6.72	8.76	10.30	**100yr**	7.75	9.90	11.28	12.81	14.12	**100yr**
200yr	0.67	1.10	1.43	2.04	2.82	3.83	**200yr**	2.44	3.51	4.60	6.10	8.02	10.49	12.45	**200yr**	9.28	11.97	13.62	15.35	16.83	**200yr**
500yr	0.80	1.31	1.71	2.48	3.47	4.76	**500yr**	3.00	4.37	5.75	7.66	10.13	13.32	16.00	**500yr**	11.79	15.39	17.49	19.50	21.22	**500yr**

Lower Confidence Limits

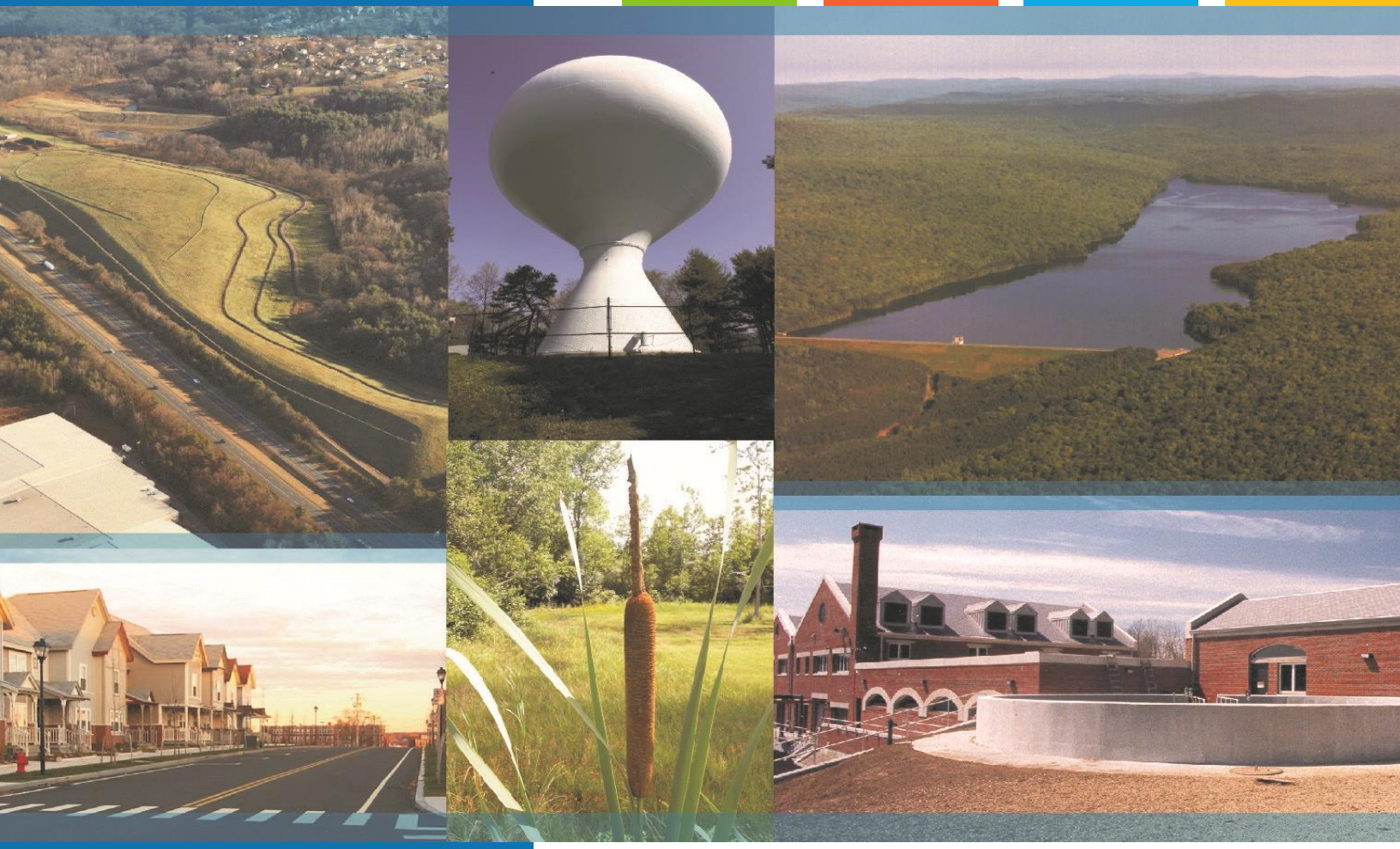
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.93	1.33	1.69	2.22	2.42	**1yr**	1.96	2.33	2.85	3.20	3.86	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.36	1.82	2.34	3.04	3.42	**2yr**	2.69	3.29	3.79	4.51	5.06	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.75	4.14	**5yr**	3.32	3.98	4.68	5.47	6.17	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.32	4.78	**10yr**	3.82	4.60	5.35	6.31	7.09	**10yr**
25yr	0.44	0.66	0.83	1.18	1.55	1.90	**25yr**	1.34	1.86	2.10	2.76	3.54	4.67	5.77	**25yr**	4.13	5.54	6.50	7.63	8.53	**25yr**
50yr	0.48	0.73	0.91	1.30	1.75	2.16	**50yr**	1.51	2.11	2.34	3.07	3.93	5.27	6.63	**50yr**	4.66	6.38	7.51	8.81	9.81	**50yr**
100yr	0.53	0.80	1.00	1.45	1.99	2.46	**100yr**	1.72	2.41	2.62	3.42	4.34	5.91	7.62	**100yr**	5.23	7.33	8.68	10.20	11.30	**100yr**
200yr	0.58	0.88	1.11	1.61	2.25	2.81	**200yr**	1.94	2.75	2.93	3.78	4.78	6.60	8.75	**200yr**	5.84	8.42	9.99	11.82	13.04	**200yr**
500yr	0.67	1.00	1.29	1.88	2.67	3.36	**500yr**	2.30	3.28	3.40	4.32	5.43	7.65	10.51	**500yr**	6.77	10.11	12.04	14.39	15.75	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.96	3.16	**1yr**	2.62	3.04	3.55	4.36	5.00	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.40	3.70	**2yr**	3.01	3.56	4.09	4.82	5.60	**2yr**
5yr	0.40	0.62	0.76	1.05	1.33	1.62	**5yr**	1.15	1.58	1.88	2.54	3.26	4.32	4.97	**5yr**	3.82	4.78	5.36	6.37	7.14	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.97	**10yr**	1.39	1.93	2.28	3.11	3.97	5.31	6.22	**10yr**	4.70	5.98	6.86	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.55	2.05	2.57	**25yr**	1.77	2.51	2.96	4.08	5.17	7.73	8.39	**25yr**	6.84	8.07	9.25	10.35	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.01	6.35	9.68	10.55	**50yr**	8.56	10.15	11.61	12.74	13.98	**50yr**
100yr	0.79	1.19	1.50	2.16	2.96	3.81	**100yr**	2.56	3.72	4.38	6.16	7.81	12.11	13.25	**100yr**	10.72	12.75	14.58	15.73	17.12	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.54	5.35	7.59	9.60	15.20	16.67	**200yr**	13.45	16.03	18.35	19.42	20.97	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.03	**500yr**	3.92	5.90	6.95	10.03	12.65	20.54	22.59	**500yr**	18.18	21.72	24.87	25.65	27.43	**500yr**

Powered by ACIS Northeast Regional Climate Center

APPENDIX C



Kittery Mixed Use Development
283 US Route 1
Kittery, ME

Long-Term Operation & Maintenance Plan

Two International Group

December 28, 2023

Tighe&Bond

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Tighe&Bond

Section 1
Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

1.1 Contact/Responsible Party

283 Route 1, LLC
C/O Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

1.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catchbasin Cleaning
- Pavement Sweeping
- Rain Garden
- Filterra Tree Box Filter

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

1.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance
Litter/Debris Removal	Weekly
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Annually
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring
Catch Basin (CB) Cleaning - CB to be cleaned of solids and oils.	Annually
Rain Garden - Trash and debris to be removed. - Any required maintenance shall be addressed.	Twice annually
Filterra Tree Box Filter	In accordance with Manufacturer's Recommendations (See section 1.4)
Rain Guardian	In accordance with Manufacturer's Recommendations (See section 1.6)

1.3.1 Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Rain Garden Maintenance Requirements

Rain Garden Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor to ensure that Rain Gardens function effectively after storms	Two (2) times annually and after any rainfall event exceeding 2.5" in a 24-hr period	- Trash and debris to be removed - Any required maintenance shall be addressed
Inspect Vegetation	Annually	- Inspect the condition of all Rain Garden vegetation - Prune back overgrowth - Replace dead vegetation - Remove any invasive species
Inspect Drawdown Time - The system shall drawdown within 48-hours following a rainfall event.	Annually	- Assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.

1.5 Filterra Tree Box Filter Maintenance Requirements

Filterra Owner's Manual

filterra®

Bioretention Systems

CONTECH®
ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault.

filterra®
Bioretention Systems

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CONTECH®
ENGINEERED SOLUTIONS

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and 1-year of routine maintenance (mulch replacement, debris removal, and pruning of vegetation) up to twice during the first year after activation.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

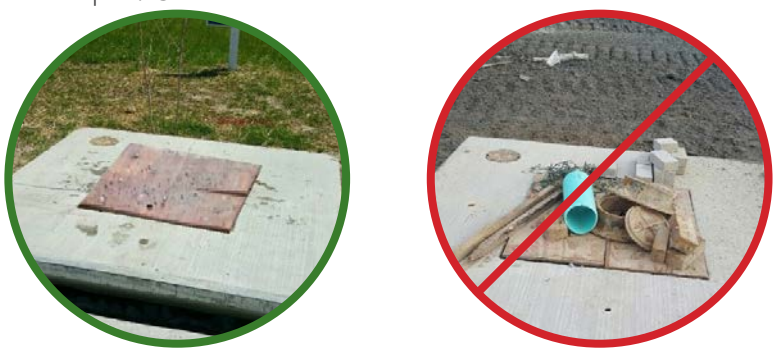
- Removal of construction runoff protection devices
- Planting of the system's vegetation
- Placement of pretreatment mulch layer using mulch certified for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch certified for use in Filterra systems.

Minimum Requirements

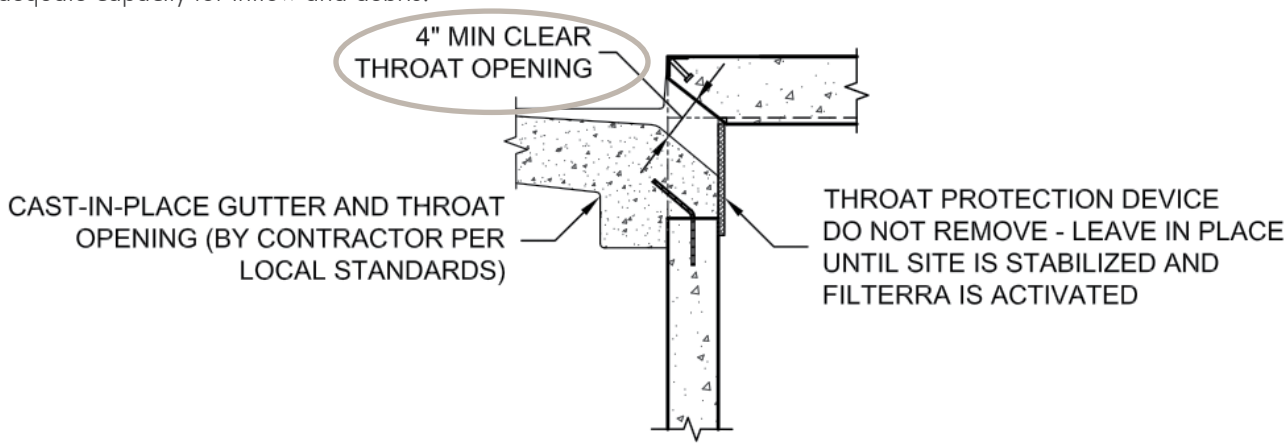
The minimum requirements for Filterra Activation are as follows:

1. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.



2. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

3. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



An Activation Checklist is included on page 12 to ensure proper conditions are met for Contech to perform the Activation services. A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

The "Planting Requirements for Filterra Systems" document is included as an appendix and discusses proper selection and care of the plants within Filterra systems.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Maintenance services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are typically scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate (where applicable) and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates, where applicable (up to 170 lbs each). If tree grate opening expansion is necessary, safety glasses/goggles and a 3lb or greater mini sledgehammer are required. Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Media Bay Length	Media Bay Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.

1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate (if applicable)	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).

2. Removal of tree grate (if applicable) and erosion control stones

- Remove cast iron grates for access into Filterra box (if applicable).
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____

- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____

4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates (if applicable) correctly using appropriate lifting or moving tools, taking care not to damage the plant.
- Where applicable, if 6" tree grate opening is too close to plant trunk, the grate opening may be expanded to 12" using a mini sledgehammer. Refer to instructions in Appendix 3.

5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above top of Filterra Unit	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no

6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.

7. Complete paperwork

- Deliver Maintenance Report and photographs to appropriate location (normally Contech during maintenance contract period).
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____**Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Top of Vault	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3"*	*Lowe's Premium Brown Mulch*	*4'*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Activation Checklist

Project Name: ______________________ Company: ______________________

Site Contact Name: ______________________ Site Contact Phone/Email: ______________________

Site Owner/End User Name: ______________________ Site Owner/End User Phone/Email: ______________________

Preferred Activation Date: ______________________ (provide 2 weeks minimum from date this form is submitted)

Site Designation	System Size	Final Pavement / Top Coat Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height	Plant Species Requested
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	

Attach additional sheets as necessary.

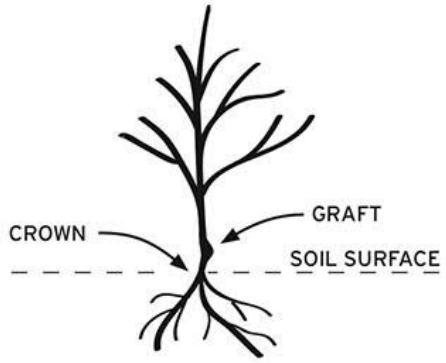
NOTE: A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized Activations will void the system warranty and waive manufacturer supplied Activation and 1st Year Maintenance.

______________________ ______________________

Signature Date

Appendix 2 – Planting Requirements for Filterra® Systems

Plant Material Selection



- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6" above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21" media depth, a 7 – 15 gallon container size shall be used. Media less than 21" (Filterra boxes only) may require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some with a tree grate of the faster growing species, or species known to produce basal sprouts.

Plant Installation

- During transport protect the plant foliage from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that meets Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the top/tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6' Filterra approximately 20-60 gallons of water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate then calculate the time needed to irrigate the Filterra. For example, if the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6' by 6' filter.

Appendix 3 – Filterra® Tree Grate Opening Expansion Procedure

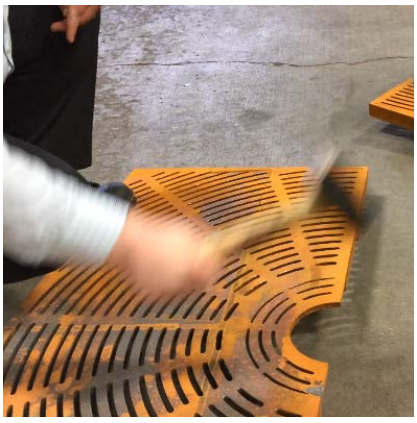
The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:

1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.

3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.

1.6 Rain Guardian Maintenance Requirements

RAIN GUARDIAN
U.S. PATENT NO. 8,501,016

PRETREATMENT FOR BIORETENTION

Rain Gardens • Swales • Filtration Basins • Infiltration Basins


COMMERCIAL/INDUSTRIAL


RESIDENTIAL

Maintenance Guide

Rain Guardian pretreatment chambers simplify bioretention maintenance by collecting sand, leaves, grass clippings, and other debris in an easy to clean, confined location. Regularly maintaining the Rain Guardian sustains its functionality by maximizing storage and filtration capacities. Maintenance frequency is variable and depends on many factors such as rainfall frequency, drainage area size and land use type, and season of the year. The general cleaning process is identical for the Rain Guardian Turret and Rain Guardian Bunker.

Following rain events, inspect the pretreatment chamber for debris on the top metal grate, within the chamber, and on the vertical, drop-in filter wall. The maintenance steps described below should be completed if areas of the top metal grate are clogged, the chamber is >75% full, or the vertical filter wall is clogged. Maintenance should be completed when stormwater has completely drained from the bioretention practice. The filter wall allows the chamber to dry between rain events, which further simplifies maintenance by ensuring removed debris is largely dry. Ensure all debris collected during cleaning of the chamber is completely removed from the site and properly disposed of according to local environmental rules. Once cleaning is complete, reinstall the filter wall with filter fabric facing the inside of the chamber and replace the top metal grate.


Clear Debris from Top Metal Grate

- Leaf litter and garbage commonly accumulate on the top metal grate
- Simply remove and dispose of debris by hand or with a shovel prior to removing top grate


Remove Debris from Inside Chamber

- Remove top metal grate and place on paved inlet to avoid damage to nearby plants
- Remove and dispose of accumulated debris within chamber using a shovel


Clean Filter Wall

- Remove drop-in filter by lifting vertically
- Clean filter wall with a stiff bristled broom or rinse clean with pressurized water

www.RainGuardian.biz

ANOKA CONSERVATION DISTRICT
1318 McKay Dr. NE, Suite 300
Ham Lake, MN 55304
(763) 434-2030 (M-F 8:00-4:30)

1.7 Snow & Ice Management for Standard Asphalt and Walkways

There is a snow storage area on site. The property manager will be responsible for timely snow removal from all private sidewalks, driveways, and parking areas. Once the snow storage area has reached capacity, all additional snow will be hauled off-site and legally disposed of. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical.

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

Section 2
Invasive Species

The project is to be managed in a manner that meets the requirements and intent of the Maine Department of Agriculture, Conservation & Forestry (DACF), Division of Plant and Health chapter 273 relative to invasive species.

Section 3
Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including MaineDEP.

Copies of the Stormwater Maintenance report shall be submitted to the Town of Kittery on an annual basis.

Stormwater Management Report						
Kittery Mixed-Use Development		**283 US Route 1 – Map 30 Lot 44**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Rain Garden			❑Yes ❑No			
Filterra Tree Box Filter 1			❑Yes ❑No			
Filterra Tree Box Filter 2			❑Yes ❑No			
Filterra Tree Box Filter 3			❑Yes ❑No			
Filterra Tree Box Filter 4			❑Yes ❑No			
Filterra Tree Box Filter 5			❑Yes ❑No			
Filterra Tree Box Filter 6			❑Yes ❑No			
Filterra Tree Box Filter 7			❑Yes ❑No			
Rain Guardian			❑Yes ❑No			

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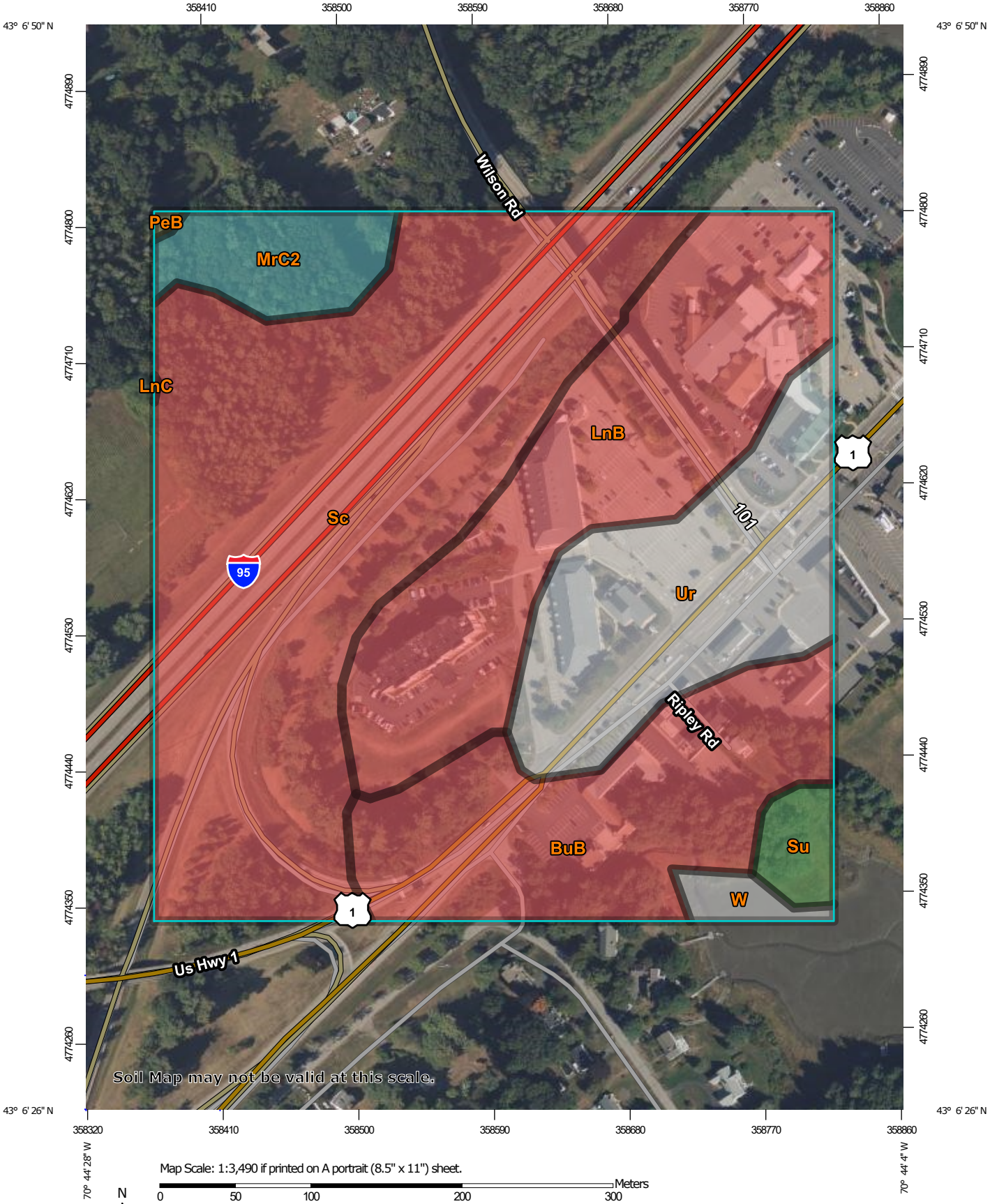
APPENDIX D



Map Scale: 1:3,490 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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 Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 22, 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 imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Buxton silt loam, 3 to 8 percent slopes	D	8.5	16.2%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	11.0	20.9%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	D	0.0	0.0%
MrC2	Marlow fine sandy loam, 8 to 15 percent slopes	C	2.3	4.4%
PeB	Peru fine sandy loam, 3 to 8 percent slopes	C/D	0.1	0.1%
Sc	Scantic silt loam, 0 to 3 percent slopes	D	21.5	41.0%
Su	Pemaquid, Todds point, and Damariscotta soils, 0 to 2 percent slopes	A/D	0.9	1.7%
Ur	Urban land		7.6	14.5%
W	Water bodies		0.6	1.1%
Totals for Area of Interest			**52.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX E

REDEVELOPMENT STORMWATER TREATMENT REQUIREMENT CALCULATION SHEET		
TOTAL WATERSHED AREA (AC)	7.06	

EXISTING CONDITIONS		
LAND USE POLLUTANT RANKING # (SEE TABLE 2) Column-1	LAND USE AREA (AC) Column-2	RANKING# = Column-1 x Column-2
5	-	-
4	4.03	16.13
3	-	-
2	1.16	2.33
1	1.86	1.86
0	-	-
TOTAL EXISTING IMPACT RATING		**20.32**
RATING / REDEVELOPMENT AREA		**2.88**

PROPOSED DEVELOPMENT CONDITIONS		
LAND USE POLLUTANT RANKING # (SEE TABLE 2) Column-1	LAND USE AREA (AC) Column-2	RANKING# Column-1 x Column-2
5	-	-
4	2.76	11.05
3	-	-
2	2.17	4.34
1	2.13	2.13
0	-	-
PROPOSED IMPACT RATING		17.52
RATING / REDEVELOPMENT AREA		**2.48**
RANKED IMPACK CHANGE DUE TO REDEVELOPMENT (PROPOSED RATING - EXISTING RATING)		**(0.40)**

TOTAL PROPOSED IMPREVIOUS AREA (SF)	197,764
PERCENT OF DEVELOPMENT TO BE TREATED	50%
AREA REQUIRED TO BE TREATED (SF)	98,882
PROPOSED AREA TO BE TREATED (SF)	118,952
PERCENT OF DEVELOPMENT AREA TREATED	**60.1%**

Table 2
Pollutant Impact Rankings of Various Redevelopment Land Uses

Land Use	Pollutant Ranking
Roads where idling may occur periodically due to traffic volume and intersections; High use parking lots	5
Other roads; Medium use parking lots	4
Other parking lots and driveways; Flat asphalt rooftops; Roofs on an industrial facility	3
Other rooftops; Bikeways; Grassed areas mowed more than twice per year; Walkways/foot traffic-only pavement	2
Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers)	1
Forest; Meadow mowed no more than twice per year;	0

Table 3
Treatment Levels for Redevelopment Projects

Ranked Impact Change Due to Redevelopment	Percentage of Developed Area that Must be Treated
0.0 or less	0% (Stormwater projects) 50% (Site projects)
≥ 0.0 to ≤ 1.0	60%
> 1.0 to ≤ 2.0	70%
> 2.0 to ≤ 3.0	80%
> 3.0	Same treatment level as for new development

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APPENDIX F

Tighe&Bond

Project: Kittery Mixed-Use Development
Location: Kittery, Maine
T&B #: T5037-003
Calculations By: CML
Checked By: NAH
Date: 10/3/2023

APRON DESIGN

Terms: FES 1

length of apron (ft.)	L_a	
discharge from pipe (cfs)	Q	(10 YR STORM EVENT)
pipe dia. or channel width (ft.)	Do	
tailwater depth (ft.)	T_w	
width of apron (at outlet)(ft)	W1	
width of apron (downstream)(ft)	W2	
median stone diameter (ft.)	d_{50}	

Equations Used:

Length of Apron (L_a)

when Tw < .5*Do $L_a = \frac{1.8(Q)}{Do^{(3/2)}} + 7Do$

when Tw >= .5*Do $L_a = \frac{3(Q)}{Do^{(3/2)}} + 7Do$

Width of Apron (W1)

$W1 = 3Do$

Width of Apron (W2)

when Tw < .5*Do $W2 = 3Do + La$

when Tw >= .5*Do $W2 = 3Do + 0.4La$

Median Diameter $d_{50} = \frac{0.02 * Q^{(1.3)}}{(Tw * Do)}$

Input:

Q (cfs)	4.20	cfs
Do (ft.)	1.00	ft
T_w (ft.)	0.40	ft

Output:

Width of Apron (W1)	3	ft.
Width of Apron (W2)	18	ft.
Length of Apron (L_a)	15	ft.
Median Diameter	0.50	ft.
Riprap min. depth	1.13	ft.

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T5037-003
December 28, 2023

Mr. Jason Garnham, Director of Planning and Development
Town of Kittery Planning Department
200 Rogers Road
Kittery, Maine 03904

Re: Affordable Housing Letter of Intent
Proposed Mixed Use Development, 283 US Route 1, Kittery, ME

Dear Jason,

On behalf of 283 Route 1, LLC, (applicant), we are pleased to submit this Letter of Intent for declaration of Affordable Housing in accordance with 16.5.4(I) Supplemental Standards for Approval.

Applicability

This project is subject to the Affordable Housing provisions under SS16.5.4.B(1)(a) as a development involving three or more new dwelling units.

Incentives Sought

The applicant is seeking incentives as follows:

- A 10% reduction in permitting costs per 16.5.4(E)(2)(a)

Target Median Income Percentage for Affordable Units

The developer plans to provide 10% of the units as Affordable Housing. The project includes 107 total units. 10% of that would be 10.7 Units. The developer plans to provide 11 affordable units to meet this requirement. The developer plans to provide a target median income percentage of 80% AMI for the affordable units.

Proposed Location of Affordable Units

It is the developer's preference to not identify specific units within the building as affordable. All 107 proposed units will be located in a single 5-story building. The 11 affordable units will be distributed throughout the proposed building and include a variety of unit types and locations.

Standards Satisfied

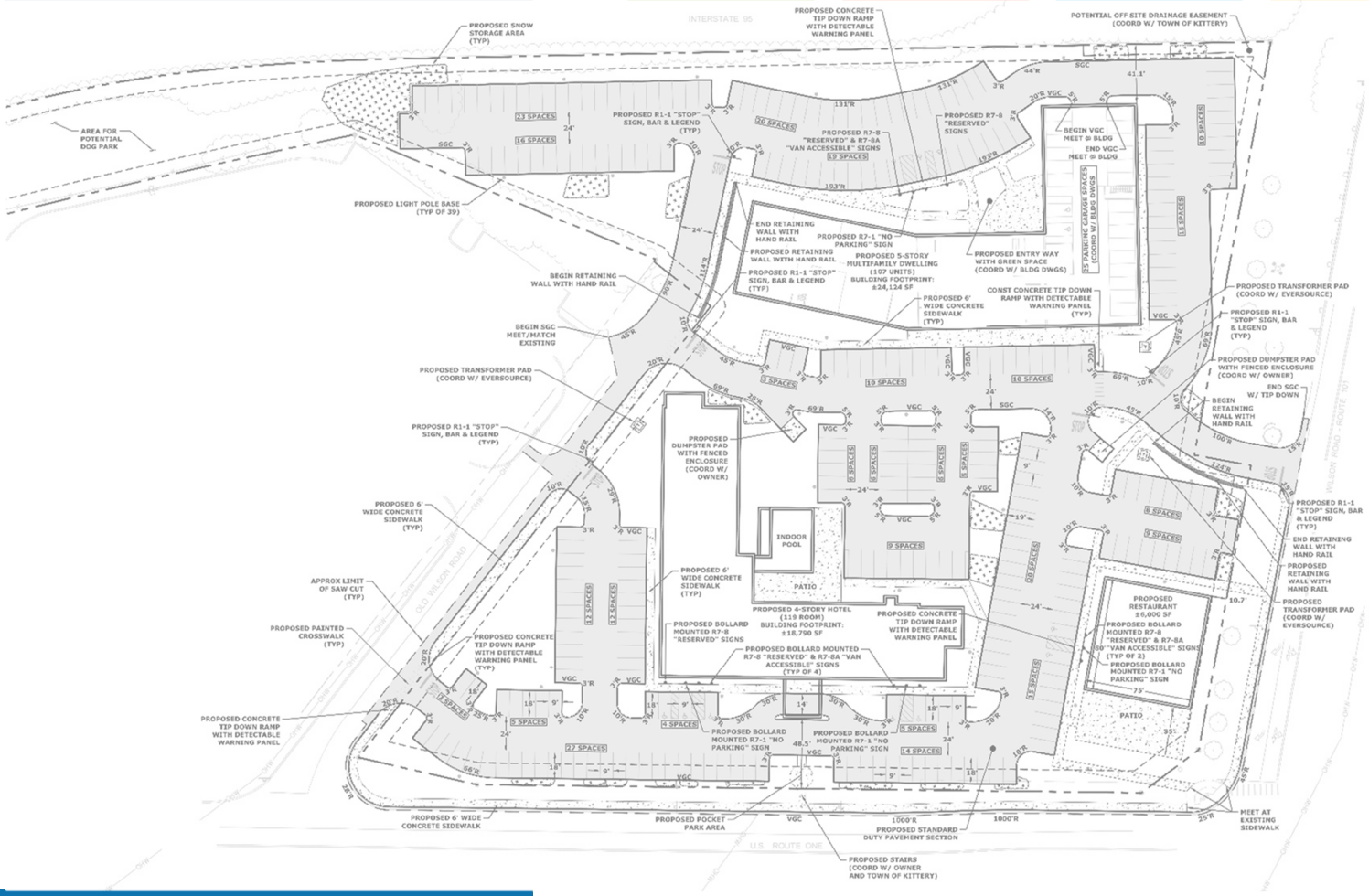
SS16.5.4(C)(1) requires that for projects proposing five (5) or more dwelling units, at least 10% of the units, rounded down to the nearest whole number, must be affordable housing units, as defined by this code. Any fractional unit obligation left after the rounding results in a proportional payment-in-lieu. This standard has been satisfied as the applicant proposes to provide 11 affordable units (out of 107).

We look forward to your review. Please contact us with any questions.

Sincerely,
TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Copy: 283 Route 1, LLC (via email)



283 US Route 1 Mixed-Use Development
Kittery, Maine

TRAFFIC IMPACT ASSESSMENT

Two International Group

December 29, 2023

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Table of Contents

Technical Appendices (Available Upon Request Under Separate Cover)

Executive Summary

This Traffic Impact Assessment (TIA) evaluates the potential traffic impact of the proposed mixed-use redevelopment of the existing Outlets at Kittery located at 283 US Route 1 in Kittery, ME. The TIA was prepared in accordance with Maine Department of Transportation (MaineDOT) and industry standards.

The project proposes to demolish the existing Outlets at Kittery and construct a 119-room hotel, 107-unit residential building, and 6,000 square foot restaurant. The proposed development is expected to be constructed and occupied in 2025.

The following summarizes the study methodology, analyses, and conclusions:

1. Traffic Data: Traffic volume data was compiled from historical weekday data available from MaineDOT for July 2022, and newly collected weekday and Saturday data for September 2023. Data was adjusted as appropriate based on factors maintained by MaineDOT to create the 2023 Existing volumes.

2. Collision History: Vehicle collision history compiled from the Maine Public Crash Query Tool does not indicate a significant history of intersection crashes.

3. Critical rate factor (CRF): Calculations indicate CRFs exceeding 1.0 for roadway links on US Route 1 and Route 101 (Wilson Road). The Route 101 link has fewer than eight crashes over a three year period and does not meet MaineDOT criteria for a high crash location. The US Route 1 link from Adams Drive to Route 101 has a CRF of 1.15 and meets the threshold as a high crash location; the elimination of the existing entrance only driveway within this segment is expected to reduce crash frequency and improve safety.

4. Site Access: Access to the site will be provided via four access points via the shared access road with the Hampton Inn to remain (Old Wilson Road) and by retaining the existing site access drive to Route 101 (Wilson Road). The site is well connected via existing and proposed sidewalk connections to existing land uses.

5. Trip Generation: The proposed project is expected to generate a total of 191 new trips (92 entering, 99 exiting) during the weekday morning peak hour, 153 new trips (107 entering, 46 exiting) during the weekday afternoon peak hour, and 91 new trips (67 entering, 24 exiting) during the Saturday midday peak hour, respectively. Existing retail trips were quantified based on existing turning movement count data and credited towards site trip generation.

6. Capacity Analyses: Analyses show that the study area intersections will continue to operate at the same LOS under Build Conditions as in No-Build Conditions, except for the Adams Road approach to US Route 1 which degrades from LOS D to LOS E in the weekday afternoon peak hour, with an increase in average delay of fewer than 5 seconds.

Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the additional traffic expected to be generated by the proposed mixed-use development at 283 US Route 1 in Kittery is not expected to have a significant impact to traffic operations within the study area.

Section 1
Study Overview

This Traffic Impact Assessment (TIA) evaluates the potential traffic impact of the proposed mixed-use redevelopment of the existing Outlets at Kittery located at 283 US Route 1 in Kittery, ME. The TIA was prepared in accordance with Maine Department of Transportation (MaineDOT) and industry standards. The Project Site is bounded by I-95 to the west, Route 101 (Wilson Road) to the north, Route 1 to the east, and Old Wilson Road and the Hampton Inn to the south. The Site location is shown in Figure 1.

The project proposes to demolish the existing Outlets at Kittery and construct a 119-room hotel, 107-unit residential building, and 6,000 square foot restaurant. The proposed Site Plan Layout is enclosed in Appendix G. The proposed development is expected to be constructed and occupied in 2025.

Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the additional traffic expected to be generated by the proposed mixed-use development at 283 US Route 1 in Kittery is not expected to have a significant impact to traffic operations within the study area. Signalization improvements planned by MaineDOT at the US Route 1/ Route 101 (Wilson Road) intersection result in operational improvements in the 2028 design year both with and without the proposed development when compared to the existing condition. Elimination of the existing entrance only site drive will improve safety along US Route 1.

Section 2
Existing Conditions

The Site is currently occupied by three buildings accommodating existing retail outlet tenants, with existing parking primarily to the northeast of the building. The property is accessible via one full-access driveway shared with the Hampton Inn & Suites, one full-access driveway on Route 101 (Wilson Road) and one entrance-only driveway from US Route 1. The site is located within the Commercial 1 (C-1) zoning district, consistent with other uses along the US Route 1 corridor.

2.1 Roadways

The following sections provide details on the adjacent roadways within the study area.

2.1.1 US Route 1

US Route 1 runs essentially parallel to I-95 throughout New England and along the southern Maine coast, and is classified as an urban minor arterial within the project area. In Kittery, US Route 1 connects to the Memorial Bridge that crosses the Piscataqua River between Kittery and Portsmouth, NH, the easternmost of the three primary river crossings to Portsmouth.

Within the project area, the roadway is a four-lane road with 12-foot lanes and no shoulders. A 5-foot sidewalk is provided from Adams Drive along the of the east side of the road and terminating beyond the northern project limits. A 5-foot sidewalk is provided on the west side of the road starting at the Outlets at Kittery entrance driveway and continuing past the northern project limits.

The roadway is posted at 25 miles per hour (mph) within the project area. Land use along US Route 1 is primarily commercial. In the vicinity of the project site, US Route 1 provides access to the Hampton Inn and Suites, the Maine Outlet Shopping Center, the Kittery Outlets, the Outlets at Kittery, and the Kittery Trading Post.

2.1.2 Route 101 (Wilson Road)

Route 101 is an urban major collector and follows a southeast-northwest trajectory, signed as a north-south route. In this report, it will be referred to as east-west to differentiate it from US Route 1 which is also signed as a north-south route. Route 101 begins at an intersection with US Route 1 and runs through Kittery into Eliot and South Berwick, ending at the Maine-New Hampshire state line at a bridge crossing the Salmon Falls River, and continuing as Gulf Road into Dover, NH. Within the project area, Route 101 is a two-lane road with 12-foot lanes and 5-foot shoulders. A 5-foot sidewalk is provided on the north side of the roadway only from the Outlets at Kittery driveway to the Route 1 intersection.

The posted speed limit is 35 mph in the project area. Land use is primarily commercial within the project area with driveways to the Outlets at Kittery and the Kittery Trading Post, but is primarily rural residential west of the Route 101 overpass of I-95.

2.1.3 Adams Drive

Adams Drive is an urban local road that runs parallel to US Route 1 before turning to intersect it to the north of the I-95 and Route 1 Bypass interchange. The road is a dead-

end street with no pavement markings. The roadway is approximately 25 feet wide and allows for two-way traffic. There is no posted speed limit for Adams Drive. Land use along the roadway is exclusively residential.

2.2 Study Area Intersections

2.2.1 US Route 1 at Route 101 (Wilson Road)

Route 101 (Wilson Road) and the Kittery Premium Outlets driveway intersect US Route 1 from the west and east, respectively, to form a four-way signalized intersection. US Route 1 provides a three-lane cross section with dedicated left-turn lane, through, and shared through/ right lane in both the northbound and southbound directions. The southbound Route 101 approach provides a dedicated right-turn lane and shared through/ left-turn lane. The northbound approach provides a dedicated left-turn lane and shared through/ right-turn lane with a raised median island separating the opposing travel lanes. Marked crosswalks and curb ramps are provided on all intersection approaches.

Left turn movements from US Route 1 are controlled with exclusive signal phases, followed by a phase for through movements on US Route 1 in both directions and a phase for Route 101 and the Kittery Premium Outlets driveway. Pedestrians are accommodated by an exclusive, pushbutton-actuated pedestrian phase.

2.2.2 US Route 1 at Adams Drive

Adams Drive intersects US Route 1 from the east to form a three way, T-type intersection. US Route 1 provides two lanes in each direction. US Route 1 splits just south of the intersection to provide a raised median prior to the interchange with I-95 and US Route 1 Bypass. Adams Drive provides one all-purpose lane under stop control. No shoulders or pedestrian accommodations are provided at the intersection.

2.2.3 US Route 1 at Hampton Inn/ Outlets at Kittery Driveway (Old Wilson Road)

The driveway from the Hampton Inn/ Outlets at Kittery intersects Route 1 from the west to form a three way, T-type intersection approximately 200 feet east of the intersection with Adams Drive. US Route 1 provides two lanes of travel in each direction. The driveway provides one all-purpose lane under stop control. No shoulders or pedestrian accommodations are provided along the driveway. US Route 1 has no shoulders and provides a sidewalk along the east side of the roadway.

2.2.4 Route 101 (Wilson Road) at Kittery Trading Post Driveway

Route 101 (Wilson Road) runs east-west and is intersected from the north by the Kittery Trading Post Driveway at a T-type intersection. The intersection is located approximately 125 feet west of the stop line for Route 101 at US Route 1. Both the westbound and eastbound approaches have one all-purpose lane, with the eastbound lane widening to a two lane approach with a dedicated right-turn lane and a shared through/ right lane at US Route 1. The Kittery Trading Post driveway approach provides one all-purpose lane under presumed stop control although no stop sign is provided.

No shoulders are provided on either roadway. A sidewalk is located on the north side of Wilson Road and a crosswalk is provided across the Kittery Trading Post driveway. A

crosswalk across Wilson Road is located approximately 55 feet west of the center of the intersection.

2.2.5 Route 101 (Wilson Road) at Outlets at Kittery Driveway

Route 101 (Wilson Road) runs east-west and is intersected from the south by the Kittery Outlets driveway at a T-type intersection. The intersection is located approximately 90 feet west of the Route 101 at Kittery Trading Post intersection. Wilson Road provides one lane of travel in both directions and shoulders are provided only to the west of the intersection. All approaches provide one all-purpose lane. The Outlets at Kittery driveway is stop controlled.

A sidewalk is provided on the north side of Wilson Road east of the intersection. A crosswalk is provided from the sidewalk across the east leg of the intersection to a stone walkway that leads to the Kittery Outlets parking lot.

2.3 Traffic Volumes

A mix of historical turning movement counts (TMCs) maintained by MaineDOT and new TMCs collected in September 2023 were utilized for the weekday morning (7:00 AM to 9:00 AM), weekday afternoon (4:00 PM to 6:00 PM), and Saturday midday (11:00 AM to 2:00 PM) peak periods, as summarized in Table 1.

TABLE 1

Traffic Volume Data Source Summary

Intersection	Data Date	
	Weekday (AM and PM)	Saturday Midday
US Route 1 at Route 101 (Wilson Dr)	Wed 7/20/2022	Sat 9/16/2023
US Route 1 at Adams Dr	Tue 7/26/2022	Sat 9/16/2023
US 1 at Hampton Inn/Outlets at Kittery	Tue 7/26/2022	Sat 9/16/2023
Rte 101 (Wilson Rd) at Outlets at Kittery	Wed 9/13/2023	Sat 9/16/2023
Rte 101 (Wilson Rd) at Kittery Trading Post	Wed 9/13/2023	Sat 9/16/2023

Traffic data collected during time periods other than the summer months of July and August require adjustment to reflect "peak" travel conditions. In this case, weekday data from both July and September were utilized, with September data balanced to match July data. For this reason, no adjustment to peak was made for weekday data. Saturday data was entirely collected in September 2023, and as such were adjusted to peak conditions. MaineDOT provides factors for adjustment utilizing highway classifications of I, II, or II for all State and Local roadways. Group I roadways are defined as urban roadways which typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways are those that see a combination of commuter and recreational traffic and, therefore, experience moderate fluctuations during the year. Group III roadways are typically used for recreational purposes and experience significant seasonal fluctuations in volume. MaineDOT has designated US Route 1 in the study area as a Group II & III roadway, which requires an adjustment factor of 1.14 to approximate "peak" summer travel conditions for data collected in September. Saturday data was adjusted using this factor, and balanced as appropriate.

The 2023 existing traffic volumes for the weekday morning, weekday afternoon, and Saturday midday peak hours are shown in Figure 2.

Automatic Traffic Recorder (ATR) counts were conducted on US Route 1, south of Route 101 (Wilson Road) during a 96-hour period from Wednesday September 13 through Saturday, September 16 to record hourly traffic volumes and vehicular speeds. Weekday and Saturday daily volumes were similarly adjusted by a factor of 1.14 to approximate AADT for a Group II & III roadway. The calculated AADT is approximately 21,400 vehicles per day (vpd), with 1,180 vehicles in the weekday morning peak hour and 1,760 vehicles in the weekday afternoon peak hour. Saturday traffic was approximately 21,100 vpd with 2,100 vehicles during the Saturday midday peak period. The raw TMC data and ATR data are provided in Appendix A.

2.4 Capacity and Queue Analyses - Existing Conditions

Capacity and queue analyses were performed for the study intersections for the 2023 Existing Conditions during the weekday morning, weekday afternoon, and Saturday midday peak hours. Capacity analyses were conducted using Trafficware Synchro Studio 11 software, which conducts the analysis based on *Highway Capacity Manual (HCM)* methodology. The analysis results are categorized in terms of Level of Service (LOS), which describes the qualitative intersection operational conditions based on the calculated average delay per vehicle. A summary of the HCM capacity analysis methodology and a detailed definition of LOS is provided in Appendix C. Queue analyses were conducted using Trafficware SimTraffic software, which summarizes queues based upon the length of vehicle queueing on an intersection approach. For unsignalized intersections, queues are quantified for 95th percentile (design queues). For signalized intersections, queues are quantified by 95th percentile (design) and 50th percentile (average) queues. Tables 2 and 3 in Section 7 summarize the capacity and queue analyses results, respectively. Analysis worksheets align approach directions with the closest cardinal direction, which results in US Route 1 being analyzed as an east/west roadway. For clarity, report text will specify the direction matching Tables 2 and 3, and include the assumed cardinal direction (e.g., US Route 1 eastbound (northbound). Capacity and queue analysis worksheets with full inputs, settings, and results are provided in Appendix D.

As shown in Table 2, the majority of the overall intersections and individual intersection approaches operate acceptably at LOS D or better during the peak hours with the exception of the following individual movements:

- **US Route 1 at Route 101 (Wilson Road):** The US Route 1 eastbound (northbound) shared through/ left, westbound left, and Route 101 southbound (eastbound) shared through/ left movements operate at LOS E during the Saturday midday peak period.

A review of the queuing results in Table 3 shows that the majority of the design queues are accommodated within available storage between intersections. The following queues extend more than one car length beyond available storage:

- **US Route 1 at Route 101 (Wilson Road):**
    - The US Route 1 eastbound (northbound) left movement design queues exceeds available storage by two car lengths during the weekday afternoon peak hour.

- The US Route 1 eastbound (northbound) left, westbound left, and northbound left movements design queues exceed the available storage by approximately two car lengths during the Saturday midday peak.

2.5 Collision History

Vehicle collision history from January 2020 through December 2022 was collected from the Maine Public Crash Query Tool at the study area intersections. Table 4 provides a summary of collisions within the study area, including type and severity of the collisions. Table 3 summarizes crashes by study area intersection and segment, while Table 4 summarizes Critical Rate Factor (CRF) for the segment links and for the US Route 1/ Route 101 intersection. Appendix E includes detailed collision summaries for each of the intersections.

TABLE 4

Study Area Collision History Summary

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	2	4	6	**12**	**48.0%**
Rear End / Sideswipe	3	6	4	**13**	**52.0%**
TOTAL	**5**	**10**	**10**	**25**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	5	10	10	**25**	**100.0%**
TOTAL	**5**	**10**	**10**	**25**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Personal Injury	0	0	1	**1**	**4.0%**
Property Damage Only (PDO)	5	10	9	**24**	**96.0%**
TOTAL	**5**	**10**	**10**	**25**	**100%**

DAY & TIME

	2020	2021	2022	Total	Percent
Weekday 3-6 P.M.	1	0	3	**4**	**16.0%**
Weekday Off-Peak	2	4	4	**10**	**40.0%**
Saturday 11 A.M. - 2 P.M.	1	4	1	**6**	**24.0%**
Weekend Off-Peak	1	2	2	**5**	**20.0%**
TOTAL	**5**	**10**	**10**	**25**	**100%**

TABLE 5
Crashes by Study Area Intersection or Roadway Segment

	2020	2021	2022	Total	Percent
Route 1 at Route 101 (Wilson Road)	1	2	1	**4**	**16.0%**
Route 1 at Adams Drive	3	1	1	**5**	**20.0%**
Route 1 at Hampton Inn/ Outlets at Kittery Driveway	1	1	1	**3**	**12.0%**
Wilson Road at Kittery Trading Post Driveway	0	1	2	**3**	**12.0%**
Wilson Road at Kittery Outlets Driveway	0	0	1	**1**	**4.0%**
US Route 1	0	5	4	**9**	**36.0%**
TOTAL	**5**	**10**	**10**	**25**	**100%**

There were twenty-five (25) reported motor vehicle collisions within the study area in the period analyzed. The most frequent type of collision was Rear End/Sideswipe (52% of the collisions); the second most frequent type was Intersection Movement (48% of the collisions). Rear End/Sideswipe and Intersection Movement were the only types of collision recorded at the study intersections.

Throughout the period analyzed, there were no fatalities, with only 4% of the collisions reporting injuries (one reported collision). The remaining 96% of the collisions reported property damage only.

As shown in Table 5, Route 1 at Adams Drive experienced the most collisions of the study area intersections, with 5 total crashes (20% of the total crashes). The intersection of Route 1 at Route 101 (Wilson Road) had the second most collisions with 4 total crashes (16%). The highest percentage of crashes occurred along the US Route 1 corridor (9 total crashes at 36%) and were not attributed to a specific study intersection.

The crash rate for each link and node was calculated according to the MaineDOT standards and compared to the crash rates published in *State of Maine Highway Crash Statistics (2022 Edition)* to find the CRF. The statewide crash rate for urban minor arterials is 289.16 and urban major collectors is 251.91, applying to US Route 1 and Route 101 (Wilson Road), respectively. The statewide crash rate for signalized intersections is 0.64. To be considered a high crash location, a road segment or intersection must have 8 or more crashes occurring in a 3 year period and a critical rate factor greater than 1.0.

As shown in Table 6 below, both links have a CRF greater than one (1.0), however, only US Route 1 experiences greater than 8 crashes over the three year study period (2020-2022).

TABLE 6
Critical Rate Factor (CRF) Summary Table

NODES	Total Crashes	Average per Year	Crash Rate (Crashes/MEV[1])	CRF
US Route 1 at Route 101	5	1.67	0.19	**0.29**
LINKS	**Total Crashes**	**Average per Year**	**Crash Rate (Crashes/HMVM[2])**	**CRF**
US Route 1 (Adams Drive to Wilson Road)	15	5.00	331.60	**1.15**
Route 101 (Wilson Road) (US Route 1 to Kittery Outlets Driveway)	4	1.33	429.87	**1.71**

[1]MEV: million entering vehicles
[2]HMVM: hundred million vehicle miles

2.6 Alternative Travel Modes

The project site is well connected via sidewalks to the adjacent land uses. Sidewalks are provided on the eastern site frontage along US Route 1 and on the northern side of Route 101, providing connection to the protected crossings at the US Route 1/ Route 101 intersection. Beyond the site, sidewalks are provided on both sides of US Route 1 between the entrance only driveway to the south and Route 101. No sidewalk is provided on the south side of Route 101 along the site frontage.

On-road bicycle facilities and public transit services are not provided within the study area.

Section 3
No-Build Conditions

The No-Build Condition represents the projection of traffic volumes and operating conditions without the anticipated additional site generated traffic. The study area is analyzed for a design year of 2028, reflecting a five-year planning horizon. This section describes the growth and development considerations included in the 2028 No-Build traffic volumes.

3.1 Background Traffic Volumes

To develop the traffic volumes for the 2028 No-Build Condition, the 2023 Existing traffic volumes were grown by one percent per year to represent the general growth of traffic on the study area roadways. As noted previously, July 2022 and September 2023 TMC data were found to be similar within the study area, suggesting that 2023 data accurately represents a post-COVID condition and that a more aggressive growth rate would be inappropriate for the study area.

During coordination with the Town of Kittery, no specific developments were identified which would add measurable traffic to the study area. It is assumed that any smaller developments or vacancies in existing developments are captured by the background traffic growth rate.

The 2028 No-Build traffic volumes for the weekday morning and weekday evening peak hours are shown in Figure 3.

3.2 Capacity and Queue Analyses – No-Build Conditions

Capacity and queue analyses were conducted for the 2028 No-Build Conditions traffic volumes for each peak period using the methodology described in Section 2.4. Tables 2 and 3 in Section 7 summarize the capacity and queue results, respectively. Capacity and queue analysis worksheets with full inputs, settings, and results are provided in Appendix D.

The increase in expected future traffic based on the one percent per year compounded growth rate that was added to the future 2028 No-Build Conditions traffic volumes result in some degradation of operations when compared to existing conditions. Operations improve at the intersection of US Route 1 at Route 101 during the Saturday midday peak period due to the change to concurrent pedestrian phasing as part of planned improvements by MaineDOT described further in Section 3.2. The following identifies intersections and approaches which predict a degradation of LOS or increased delay exceeding available storage between the 2023 Existing and 2028 No-Build Conditions:

- **US Route 1 at Adams Drive:** The northbound approach experiences a degradation in LOS from D to LOS E during the Saturday midday peak period.

Minimal increases in design queues were experienced at all intersection movements as a result of the background traffic volume growth.

Section 4
Proposed Conditions

The proposed redevelopment includes the redevelopment of the existing Outlets at Kittery to demolish the existing retail outlet buildings and construct a 119-room hotel, 107-unit residential building, and 6,000 square foot restaurant. The project will include approximately 316 parking spaces shared between the uses. The project is expected to be completed in 2025. The Site Layout Plan is presented in Appendix G.

4.1 Site Access

Access to the site will be provided via four access points along the modified shared access driveway (Old Wilson Road) between the existing Hampton Inn to remain and the project site, and via the existing full access, unsignalized driveway with Route 101 (Wilson Road). The existing enter-only driveway on Route 1 will be eliminated as part of the project. Access points along Old Wilson Road include three driveways to internal site parking areas, and a final access point that extends the roadway to terminate at site parking areas both north and south of the Old Wilson Road terminus.

Stopping sight distance was reviewed at the existing driveway along Route 101 (Wilson Road) and reconfigured driveways along Old Wilson Road in accordance with criteria set forth in the AASHTO publication *A Policy on the Geometric Design of Highways and Streets*, 7th Edition, 2018. Available site distances were estimated based on the site layout plan and available aerial mapping. The posted speed of 35 miles per hour on Route 101 and an assumed operating speed of 25 mph on Old Wilson Road was used as a basis for the analysis.

Based on AASHTO guidelines and the posted speed of the roadway, the available sight distance exceeds the 250-foot stopping sight distance requirement. Stopping sight distance is not met for vehicles traveling northbound toward the southernmost site driveway on Old Wilson Road based on the 25 mph design speed due to the proximity of the driveway to Route 1. However, it is reasonable to assume that vehicles turning onto Old Wilson Road will be traveling at a lower rate of speed after completing their turning movement. Based on an assumed 15 mph design speed for northbound vehicles, the stopping sight distance requirement of 80 feet is met.

4.2 Proposed Roadway & Traffic Improvements

MaineDOT is planning a full traffic signal replacement at the intersection of US Route 1 at Route 101 (Wilson Road) as part of Work Plan ID 025435. The proposed work includes complete traffic signal replacement and accessibility improvements. The intersection lane arrangements will remain the same as compared to existing, while traffic signal phasing will be modified to include concurrent pedestrian signal phasing. The project is scheduled to be completed in 2024 and has been incorporated into the future year analyses. The project plans are enclosed in Appendix H.

4.3 Trip Generation

Site generated traffic volumes for the proposed development were estimated using rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, 2021. Hotel (LUC 310), Residential - Multifamily Housing (Mid-Rise) (LUC 221),

and High-Turnover (Sit-Down) Restaurant (LUC 932) were used to estimate vehicle trips expected to be generated by the development based on the currently proposed development program. For the purposes of determining if a Traffic Movement Permit (TMP) will be required by MaineDOT, and to present a conservative analysis, the higher of the peak hour of adjacent street and the peak hour of the generator were used as a basis for the trip generation estimate.

In addition to the trips expected to be generated by the proposed uses, trip characteristics of the existing retail outlet use were quantified using available data for the purpose of applying a credit to account for existing trips to be replaced by the proposed redevelopment. Existing trips were credited based on turning movement counts compiled from July 2022 and September 2023 for the US Route 1/ Hampton Inn/ Outlets at Kittery driveway (Old Wilson Road) and for the Route 101 (Wilson Road) at Outlets at Kittery driveway. Data from both access points was reviewed to conservatively estimate trips for the existing Hampton Inn to remain and potential cut-through vehicles between Route 101 and US Route 1; the remainder of trips were assumed to be generated by the existing retail outlets and are summarized in the site-generated traffic summary shown in Table 7. Based on a review of existing tenants and operating hours, no credit was taken for trips in the weekday morning peak hour, as most businesses open after the conclusion of the morning peak period.

LUC 221 Residential - Multifamily Housing (Mid-Rise) was determined to be appropriate for the proposed residential use. ITE defines "low-rise" as two to three floors; "mid-rise" as between four and ten floors; and "high-rise" as ten floors or greater. The proposed five-story structure meets the "mid-rise" criteria. Table 7 summarizes the net new trips expected to be generated by the proposed redevelopment. It is estimated that the proposed development may generate a total of 191 new trips (92 entering, 99 exiting) during the weekday morning peak hour, 153 new trips (107 entering, 46 exiting) during the weekday afternoon peak hour, and 91 new trips (67 entering, 24 exiting) during the Saturday midday peak hour, respectively.

4.4 Arrival and Departure Distribution

The distribution of the proposed site generated traffic entering and exiting the site was based on varied methods for the varied land uses proposed for the project. The distribution of residential uses was determined based on a review of Journey-to-Work data obtained from the US Census. Journey-to-Work data is provided in Appendix F. Data was refined based on existing travel patterns within the study area.

Arrive and distribution patterns for the residential component are shown in Figure 4 and are as follows:

- 40% to/ from the South via I-95
- 15% to/ from the North via US Route 1
- 15% to/ from the South via US Route 1 Bypass
- 10% to/ from the Northwest via Route 101
- 5% to/ from the North via I-95
- 5% to/ from the South via US Route 1
- 5% to/ from the Northwest via Route 236

- 5% to/ from the South via Route 236

Arrive and distribution patterns for the development for the hotel and restaurant uses are shown in Figure 5 and are as follows:

- 25% to/ from the North via US Route 1
- 25% to/ from the South via US Route 1 Bypass
- 15% to/from the Northwest via Route 101
- 10% to/ from the South via I-95
- 10% to/ from the South via US Route 1
- 5% to/ from the North via I-95
- 5% to/ from the Northwest via Route 236
- 5% to/ from the South via Route 236

Figures 6 and 7 show the proposed site generated traffic distributed to the study area roadways for the weekday morning, weekday afternoon, and Saturday midday peak hours for the residential and hotel/restaurant uses, respectively.

Section 5
Build Conditions

The anticipated site generated traffic volumes associated with the proposed development were added to the 2028 No-Build Conditions traffic volumes to develop the 2028 Build Conditions traffic volumes, which are presented in Figure 8.

5.1 Capacity and Queue Analyses - Build Condition

Capacity and queue analyses were conducted for the 2028 Build Conditions for the peak hours using the methodology described in Section 2.4. Tables 2 and 3 in Section 7 summarize the capacity and queue results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix D.

The majority of the study area intersections will continue to operate with the same overall LOS under 2028 Build Conditions as in the 2028 No-Build Conditions. All intersections will operate at overall LOS D or better in the peak periods.

Similarly, intersection movements and approaches continue to operate at 2028 No-Build Conditions LOS with those realizing a deterioration in LOS operating acceptably at LOS D or better, with the exception of the following:

- **US Route 1 at Adams Drive:** The northbound movement degrades from LOS D to LOS E, an increase in delay of less than 5 seconds per vehicle, during the weekday afternoon peak hour.

Nominal increases in design queues were experienced on all intersection approaches that had shown queues exceeding available storage by more than one vehicle previously as compared to the 2028 No-Build Conditions. All other intersection movement design queues predicted under the 2028 Build Conditions are accommodated within available storage.

5.2 Discussion of Project Impacts

Operational analyses indicate minimal increases in delay, and no unsatisfactory levels of service or operating capacity. Planned traffic signal improvements by MaineDOT at the intersection of US Route 1 and Route 101 (Wilson Road) generally result in improved level of service and/or reduction in delay overall and for individual intersection improvements in both the 2028 No-Build and Build Conditions compared to the 2023 Existing Condition.

As noted in Section 2.5, the roadway link of US Route 1 from Adams Drive to Route 101 (Wilson Drive) has a critical rate factor (CRF) of 1.15 with 15 crashes over the 3 year study period, which meets MaineDOT thresholds for a high crash location, and per Town of Kittery regulations requires improvement to address deficiencies. This roadway segment features two commercial driveways on the west side of US Route 1 and four commercial driveways on the east side of US Route 1 within a four lane undivided section, resulting in conflict between turning vehicles entering and exiting the existing retail, hotel, and gas/convenience store uses along this roadway segment. One of the two driveways on the west side is an entrance only driveway to the existing Outlets at Kittery site, which will be eliminated by the proposed redevelopment. The elimination of

an access point within this segment will reduce vehicle conflicts and therefore can be expected to reduce crash frequency.

Section 6
Conclusions & Recommendations

1. The proposed mixed-use development proposes to demolish the existing Outlets at Kittery located at 283 US Route 1 and construct a 119-room hotel, 107-unit residential building, and 6,000 square foot restaurant. The project will provide approximately 316 parking spaces including 12 accessible spaces. The project is expected to be completed in 2025.

2. Access to the site will be provided via four access points via the shared access road with the Hampton Inn to remain (Old Wilson Road) and by retaining the existing site access drive to Route 101 (Wilson Road). The site is well connected via existing and proposed sidewalk connections to existing land uses.

3. Vehicle collision history compiled from the Maine Public Crash Query Tool does not indicate a significant history of intersection crashes. Critical rate factor (CRF) calculations indicate CRFs exceeding 1.0 for roadway links on US Route 1 and Route 101 (Wilson Road). The Route 101 link has fewer than eight crashes over a three year period and does not meet MaineDOT criteria for a high crash location. The US Route 1 link from Adams Drive to Route 101 has a CRF of 1.15 and meets the threshold as a high crash location; the elimination of the existing entrance only driveway within this segment is expected to reduce crash frequency and improve safety.

4. The proposed project is expected to generate a total of 191 new trips (92 entering, 99 exiting) during the weekday morning peak hour, 153 new trips (107 entering, 46 exiting) during the weekday afternoon peak hour, and 91 new trips (67 entering, 24 exiting) during the Saturday midday peak hour, respectively. Existing retail trips were quantified based on existing turning movement count data and credited towards site trip generation.

5. The capacity analyses shown that the study area intersections will continue to operate at the same LOS under Build Conditions as in No-Build Conditions, except for the Adams Road approach to US Route 1 which degrades from LOS D to LOS E in the weekday afternoon peak hour, with an increase in average delay of fewer than 5 seconds.

6. Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the additional traffic expected to be generated by the proposed mixed-use development at 283 US Route 1 in Kittery is not expected to have a significant impact to traffic operations within the study area. Signalization improvements planned by MaineDOT at the US Route 1/ Route 101 (Wilson Road) intersection result in operational improvements in the 2028 design year both with and without the proposed development when compared to the existing condition.

Section 7
Tables

TABLE 2
Intersection Operation Summary - Capacity

	Lane Use	Weekday Morning Peak Hour									Weekday Afternoon Peak Hour									Saturday Midday Peak Hour								
		2023 Existing			2028 No-Build			2028 Build			2023 Existing			2028 No-Build			2028 Build			2023 Existing			2028 No-Build			2028 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - US Route 1 at Route 101 (Wilson Road)																												
Overall		**B**	**14.7**	**0.52**	**B**	**12.0**	**0.51**	**B**	**12.9**	**0.54**	**B**	**16.1**	**0.66**	**B**	**16.6**	**0.67**	**B**	**17.1**	**0.68**	**C**	**34.4**	**0.83**	**C**	**29.2**	**0.80**	**C**	**30.0**	**0.81**
US Route 1	EBL	C	29.2	0.32	C	23.9	0.31	C	25.6	0.33	C	28.9	0.53	C	30.8	0.57	C	32.4	0.59	E	71.4	0.83	E	60.5	0.80	E	62.4	0.81
	EBTR	B	10.4	0.25	A	7.9	0.25	A	8.1	0.26	A	6.6	0.30	A	6.6	0.31	A	6.8	0.32	C	27.4	0.59	C	20.2	0.55	C	21.4	0.58
	WBL	C	33.0	0.01	C	25.0	0.01	C	26.0	0.01	C	31.8	0.11	C	32.3	0.12	C	33.6	0.12	E	61.9	0.56	D	52.9	0.56	D	53.7	0.56
	WBTR	B	19.1	0.52	B	15.8	0.51	B	16.3	0.54	B	20.0	0.66	B	20.0	0.67	C	20.3	0.68	C	33.5	0.76	C	27.8	0.76	C	28.1	0.77
Kittery Outlets Driveway	NBL	C	23.4	0.03	B	16.8	0.03	B	18.0	0.03	C	27.7	0.21	C	28.5	0.23	C	28.8	0.22	D	40.0	0.24	C	32.3	0.24	C	32.6	0.24
	NBTR	C	23.3	0.01	B	16.7	0.01	B	17.7	0.01	B	14.8	0.14	B	14.9	0.15	B	15.0	0.15	B	12.6	0.21	B	10.2	0.21	B	10.2	0.21
Route 101 (Wilson Road)	SBLT	C	28.5	0.45	C	22.5	0.42	C	25.2	0.50	C	33.1	0.45	C	34.9	0.49	D	36.0	0.51	E	56.7	0.77	D	50.5	0.78	D	51.6	0.79
	SBR	A	2.7	0.33	A	3.1	0.32	A	4.0	0.34	A	3.0	0.17	A	5.3	0.18	A	5.6	0.18	A	3.0	0.29	B	13.8	0.32	B	14.1	0.33
Unsignalized TWSC - US Route 1 at Adams Drive																												
Adams Drive	NB	B	14.4	0.03	C	15.0	0.03	C	16.4	0.04	D	29.8	0.12	D	33.1	0.14	E	37.7	0.15	D	31.3	0.07	E	35.0	0.08	E	37.7	0.08
US Route 1	WB	A	8.4	0.00	A	8.5	0.00	A	8.7	0.00	A	10.0	0.00	B	10.2	0.00	B	10.5	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Unsignalized TWSC - US Route 1 at Hampton Inn/Outlets Driveway																												
US Route 1	EB	A	9.4	0.01	A	9.5	0.01	A	10.0	0.09	B	10.3	0.05	B	10.5	0.06	B	11.2	0.16	B	10.6	0.03	B	10.9	0.03	B	11.4	0.11
Hampton Inn/Outlets Driveway	SB	B	12.1	0.02	B	12.4	0.02	B	14.7	0.29	C	19.2	0.14	C	20.5	0.15	D	25.6	0.34	C	20.1	0.13	C	21.7	0.15	D	25.4	0.25
Unsignalized TWSC - Route 101 (Wilson Road) at Kittery Trading Post																												
Kittery Trading Post Driveway	WB	B	11.8	0.02	B	12.0	0.02	B	12.4	0.02	B	13.5	0.21	B	14.0	0.23	B	14.5	0.24	C	22.1	0.48	C	24.9	0.53	D	25.7	0.55
Route 101 (Wilson Road)	SB	A	7.5	0.01	A	7.5	0.01	A	7.6	0.01	A	8.0	0.02	A	8.0	0.02	A	8.1	0.02	A	8.1	0.05	A	8.2	0.05	A	8.2	0.05
Unsignalized TWSC - Route 101 (Wilson Road) at Kittery Outlets Driveway																												
Route 101 (Wilson Road)	NB	A	8.0	0.00	A	8.0	0.00	A	8.1	0.02	A	7.6	0.01	A	7.6	0.01	A	7.7	0.03	A	7.9	0.04	A	8.0	0.04	A	8.0	0.05
Kittery Outlet Driveway	EB	B	11.0	0.02	B	11.2	0.02	B	11.9	0.12	B	11.8	0.14	B	12.1	0.15	B	12.8	0.19	B	12.1	0.18	B	12.5	0.20	B	12.8	0.21

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 3
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Weekday Morning Peak Hour						Weekday Afternoon Peak Hour						Saturday Midday Peak Hour					
			2023 Existing		2028 No-Build		2028 Build		2023 Existing		2028 No-Build		2028 Build		2023 Existing		2028 No-Build		2028 Build	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Traffic Signal - US Route 1 at Route 101 (Wilson Road)																				
US Route 1	EBL	105	38	75	36	75	40	79	92	137	94	140	102	146	121	155	120	144	120	150
	EBT	560	44	81	54	106	47	87	75	167	82	173	90	202	265	453	201	385	218	396
	EBTR	560	27	64	36	81	32	76	58	121	61	124	67	146	231	411	179	345	190	356
	WBL	115	9	4	1	9	1	8	12	43	16	59	14	48	81	163	80	160	76	153
	WBT	350	94	157	93	151	96	153	127	194	135	199	139	204	200	322	185	281	192	298
	WBTR	350	49	115	47	104	57	115	81	152	91	166	92	169	160	277	147	234	153	256
Kittery Outlets Driveway	NBL	30	4	20	3	18	4	21	22	49	23	53	19	49	29	63	27	62	31	65
	NBTR	80	2	12	3	17	2	14	18	45	19	52	18	46	39	73	39	76	39	76
Route 101 (Wilson Road)	SBLT	175	37	75	38	74	45	83	42	80	44	83	52	97	85	130	82	123	87	126
	SBR	100	60	104	61	104	55	95	44	87	45	88	49	95	67	116	67	113	70	115
Unsignalized TWSC - US Route 1 at Adams Drive																				
US Route 1	EBT	625	0	0	0	0	0	0	0	3	1	14	5	37	5	42	2	18	8	55
	EBTR	625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	36
	WBLT	165	1	11	1	7	0	4	1	12	3	21	3	24	0	0	0	0	0	0
	WBT	165	0	0	0	0	0	0	0	7	0	10	0	0	0	0	0	0	0	0
Adams Drive	NB	155	9	30	6	26	6	26	9	34	11	37	35	35	9	30	9	32	11	39
Unsignalized TWSC - US Route 1 at Hampton Inn/Outlets Driveway																				
US Route 1	EBLT	160	2	18	2	15	35	87	36	109	36	108	80	170	29	116	26	102	65	168
	EBT	160	0	0	0	0	1	12	3	30	6	46	23	102	7	53	7	52	17	90
	WBT	555	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	WBTR	555	0	0	0	0	0	3	0	0	0	3	1	8	0	0	0	0	0	3
Hampton Inn/Outlets Driveway	SB	390	6	27	5	24	32	53	21	46	20	48	34	70	22	52	24	62	37	74
Unsignalized TWSC - Route 101 (Wilson Road) at Kittery Trading Post																				
Kittery Trading Post Driveway	WB	100	5	28	5	25	3	21	36	64	41	71	40	69	56	93	56	91	57	92
Route 101 (Wilson Road)	NB	85	1	10	1	7	2	21	5	31	6	33	14	56	27	84	36	94	29	84
	SB	500	3	21	3	22	3	18	5	24	6	26	7	30	24	51	20	49	24	51
Unsignalized TWSC - Route 101 (Wilson Road) at Kittery Outlets Driveway																				
Kittery Outlets Driveway	EB	100	5	22	6	25	21	47	31	60	32	58	35	62	39	73	37	67	41	73
Route 101 (Wilson Road)	NB	175	0	7	1	8	8	32	4	21	3	19	9	35	13	40	14	42	14	41
	SB	500	2	17	4	28	3	22	1	14	2	13	3	21	33	98	24	74	29	79

Legend

50th & 95th - 50th and 95th percentile queue lengths in feet

Note: Queues presented in this table are based on SimTraffic results

TABLE 7
Site-Generated Traffic Summary

Existing Retail Trips[1] **Peak Hour Period**	**Enter**	**Exit**	**Total**
Weekday Morning	0	0	0
Weekday Afternoon	14	52	66
Saturday Midday	38	69	107
Weekday	NO DATA	NO DATA	NO DATA
Saturday	NO DATA	NO DATA	NO DATA

Proposed - 119-Room Hotel **Peak Hour Period**	**Enter**	**Exit**	**LUC 310** **Total**
Weekday Morning (Peak Hour of Generator)	36	33	69
Weekday Afternoon (Peak Hour of Generator)	41	31	72
Saturday Midday (Peak Hour of Generator)	49	39	88
Weekday	476	475	951
Saturday	480	480	960

Proposed - 107 Units Residential **Peak Hour Period**	**Enter**	**Exit**	**LUC 221** **Total**
Weekday Morning (Peak Hour of Adjacent Street)	9	31	40
Weekday Afternoon (Peak Hour of Generator)	30	20	50
Saturday Midday (Peak Hour of Generator)	22	21	43
Weekday	243	243	486
Saturday	255	254	509

Proposed - 6,000 SF Restaurant **Peak Hour Period**	**Enter**	**Exit**	**LUC 932** **Total**
Weekday Morning (Peak Hour of Generator)	47	35	82
Weekday Afternoon (Peak Hour of Generator)	50	48	98
Saturday Midday (Peak Hour of Generator)	34	33	67
Weekday	322	321	643
Saturday	367	367	734

Net Vehicular Trips (Proposed minus Existing Retail Trips) **Peak Hour Period**	**Enter**	**Exit**	**Total**
Weekday Morning	**92**	**99**	**191**
Weekday Afternoon	**107**	**46**	**153**
Saturday Midday	**67**	**24**	**91**
Weekday	**NO DATA**	**NO DATA**	**NO DATA**
Saturday	**NO DATA**	**NO DATA**	**NO DATA**

[1]Existing Kittery Outlets trips based on 2022 and 2023 turning movement count data

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 221 [Residential - Multifamily Housing (Mid-Rise)]
Land Use - 310 [Hotel]
Land Use - 932 [High-Turnover (Sit-Down) Restaurant

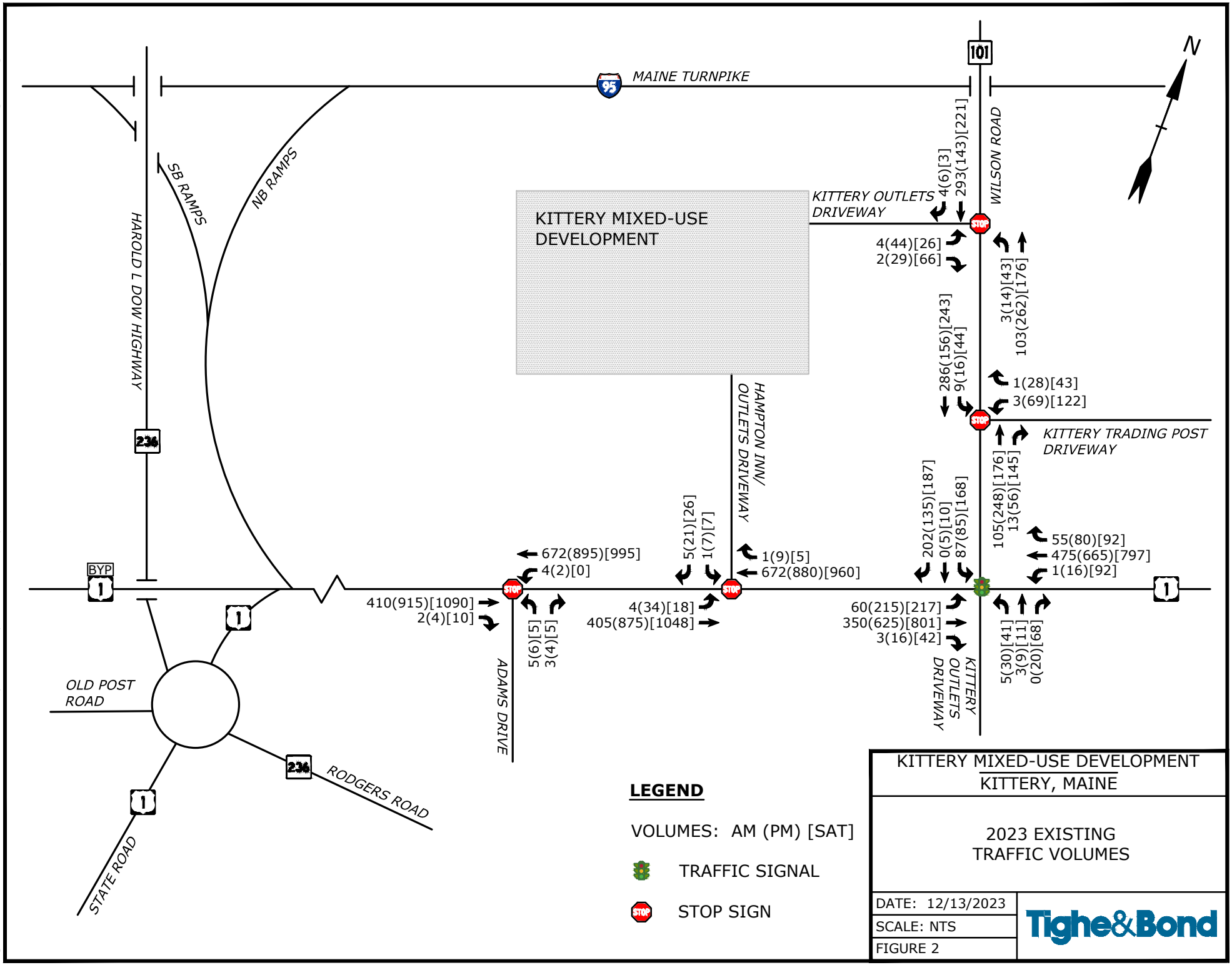
Section 8
Figures

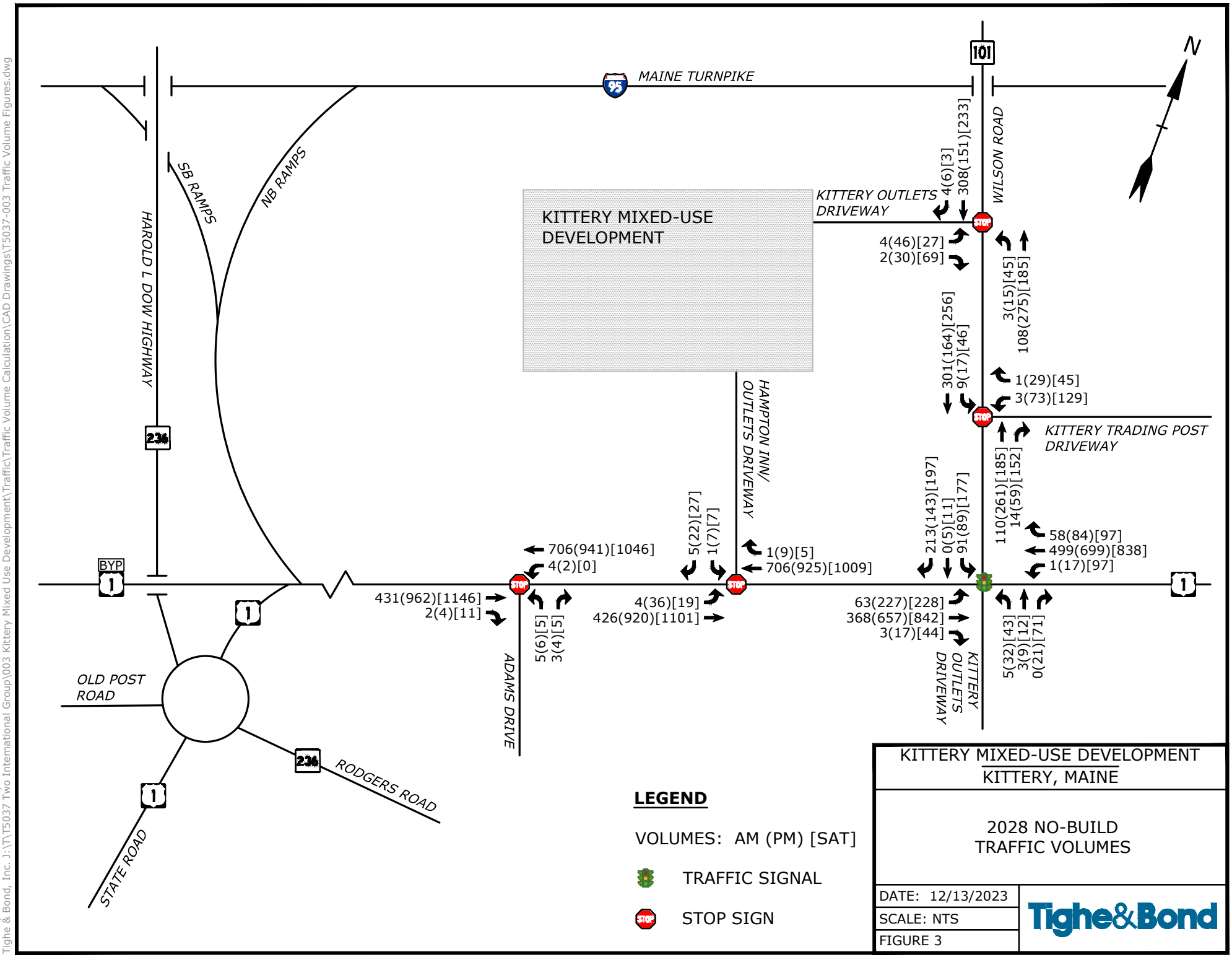
KITTERY MIXED-USE DEVELOPMENT
KITTERY, ME

STUDY AREA

DATE:	10/16/2023
SCALE:	1" = 750'
FIGURE:	1

Tighe&Bond



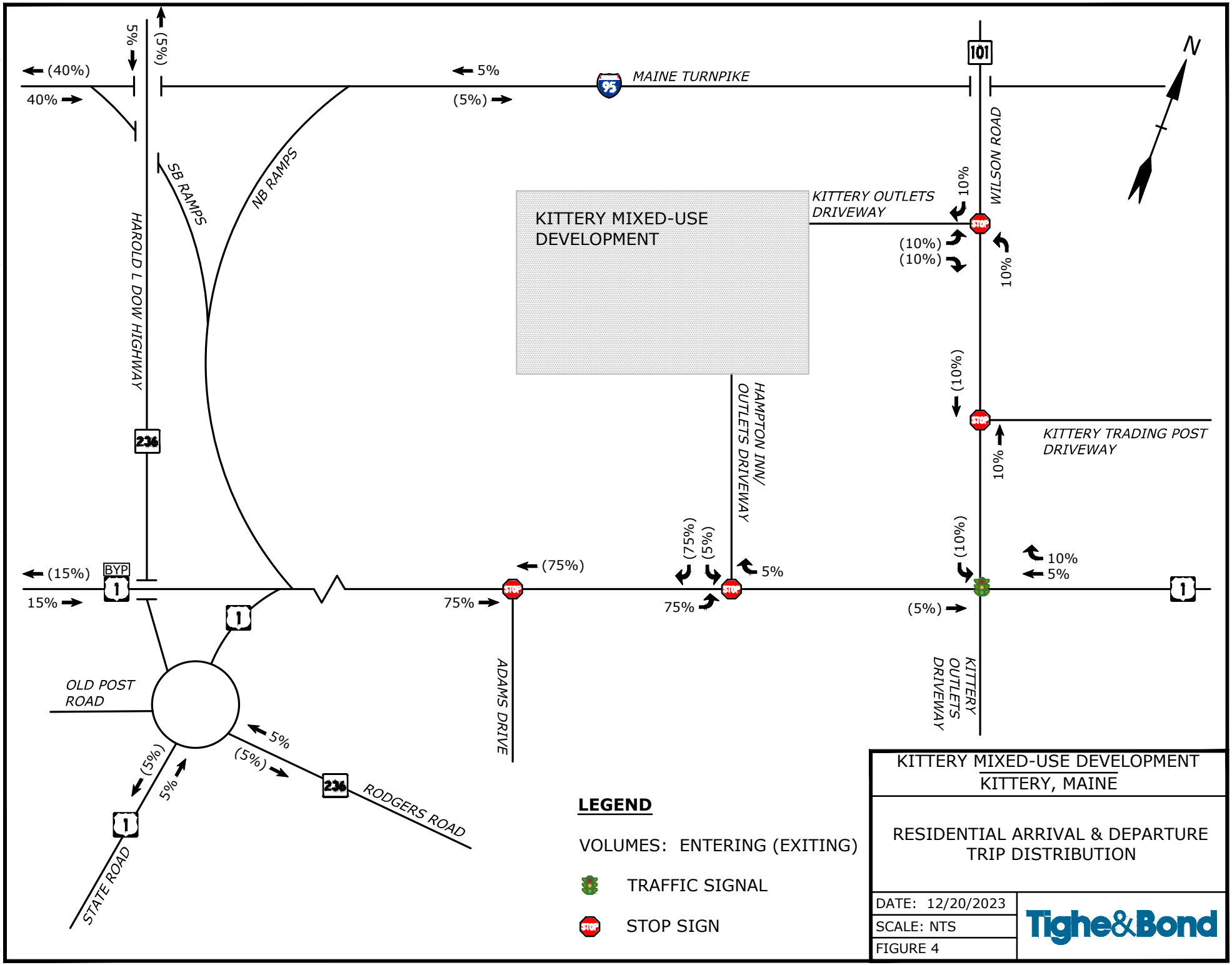


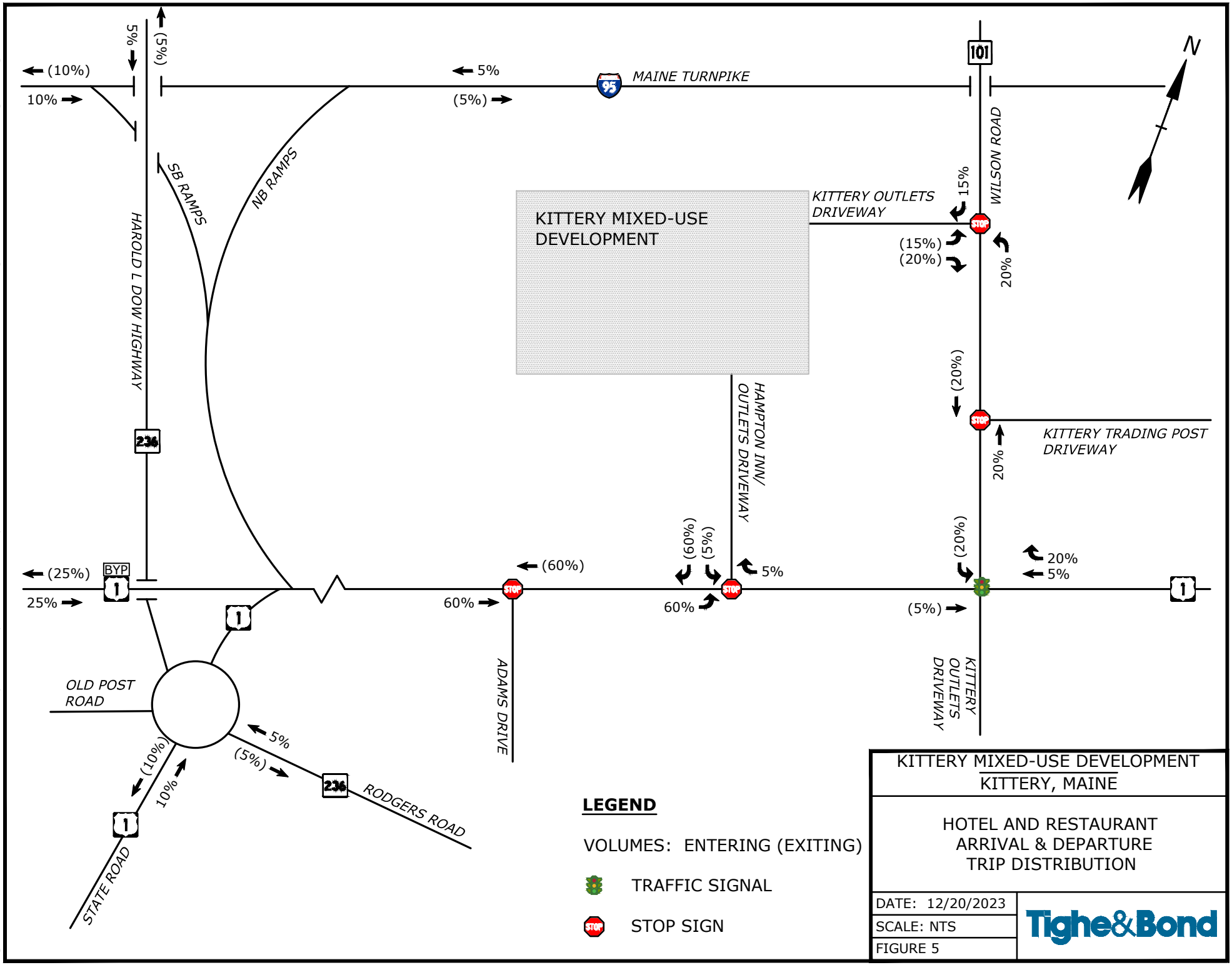
KITTERY MIXED-USE DEVELOPMENT
KITTERY, MAINE

2028 NO-BUILD
TRAFFIC VOLUMES

DATE: 12/13/2023
SCALE: NTS
FIGURE 3

Tighe&Bond



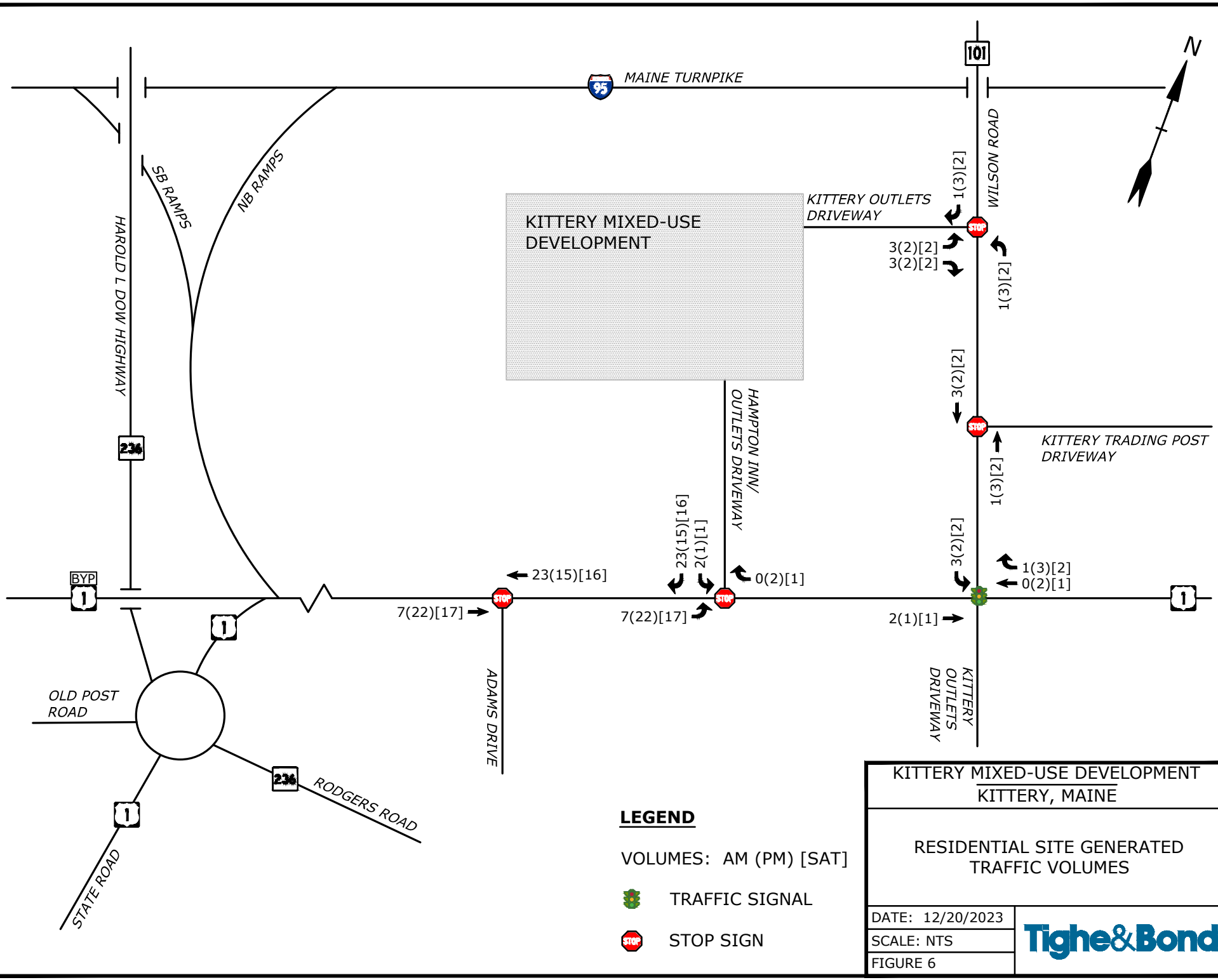


KITTERY MIXED-USE DEVELOPMENT
KITTERY, MAINE

HOTEL AND RESTAURANT
ARRIVAL & DEPARTURE
TRIP DISTRIBUTION

DATE: 12/20/2023
SCALE: NTS
FIGURE 5

Tighe&Bond

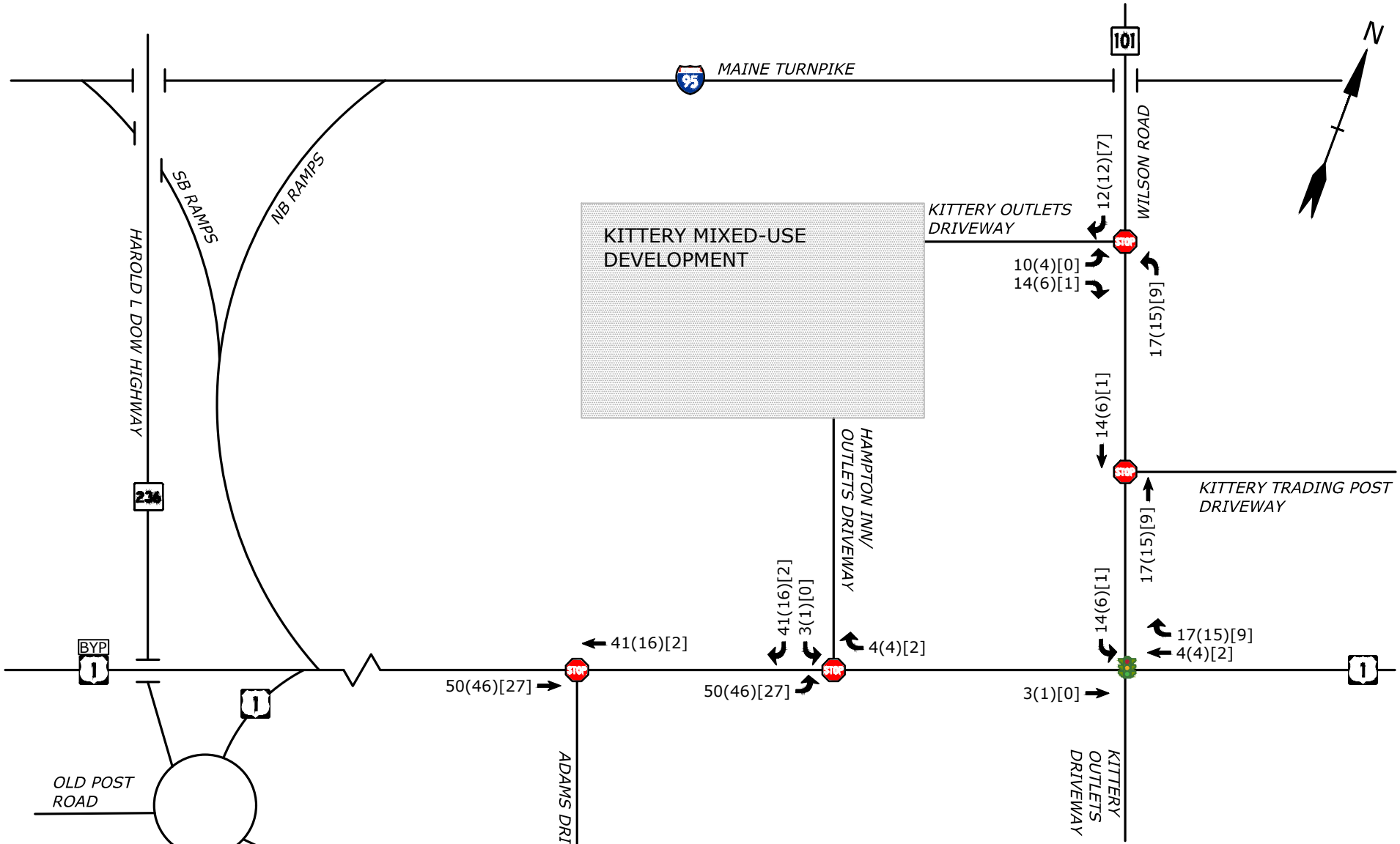


KITTERY MIXED-USE DEVELOPMENT
KITTERY, MAINE

RESIDENTIAL SITE GENERATED TRAFFIC VOLUMES

DATE: 12/20/2023
SCALE: NTS
FIGURE 6

Tighe&Bond

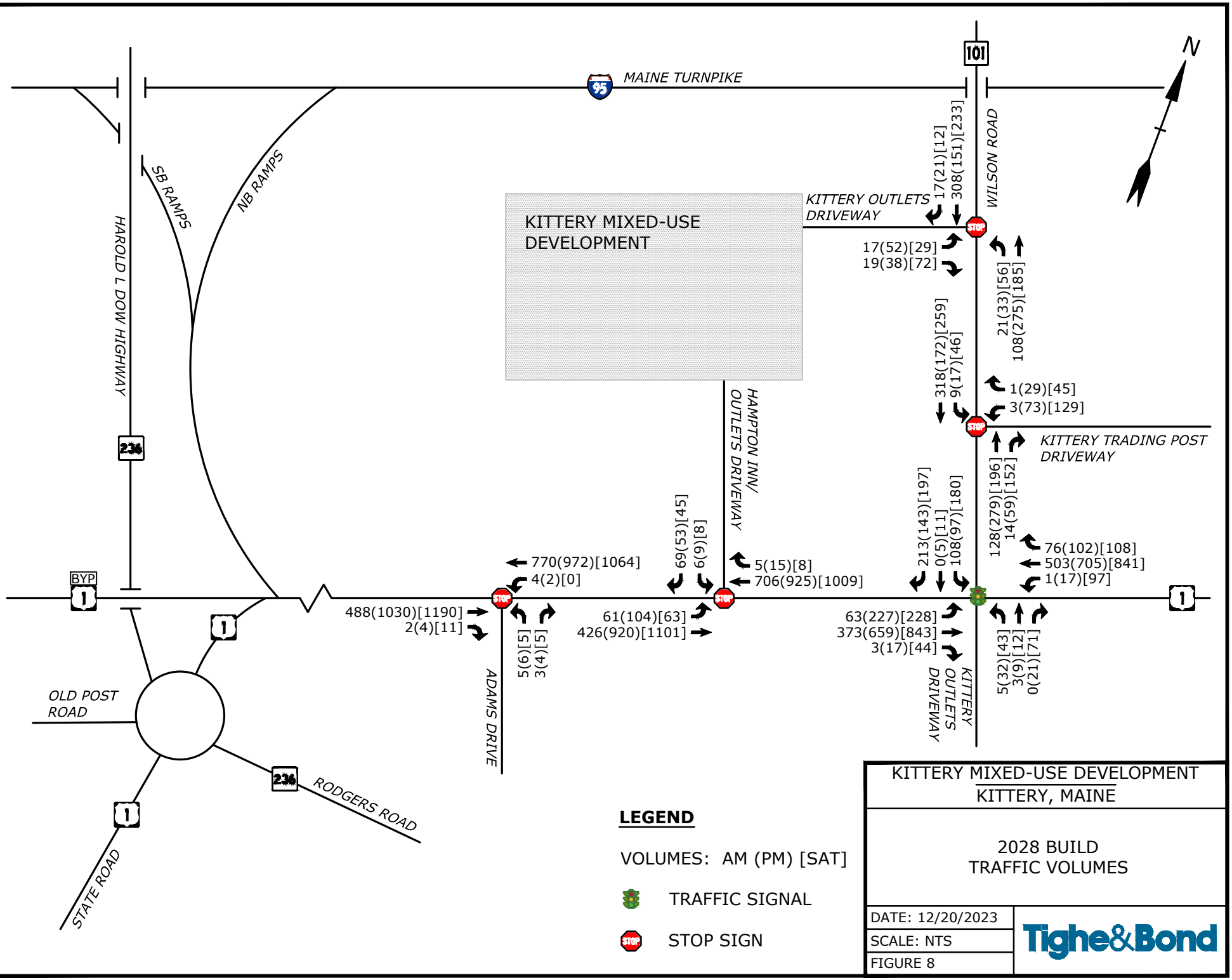


KITTERY MIXED-USE DEVELOPMENT
KITTERY, MAINE

HOTEL AND RESTAURANT
SITE GENERATED
TRAFFIC VOLUMES

DATE: 12/20/2023
SCALE: NTS
FIGURE 7

Tighe&Bond



KITTERY MIXED-USE DEVELOPMENT
KITTERY, MAINE

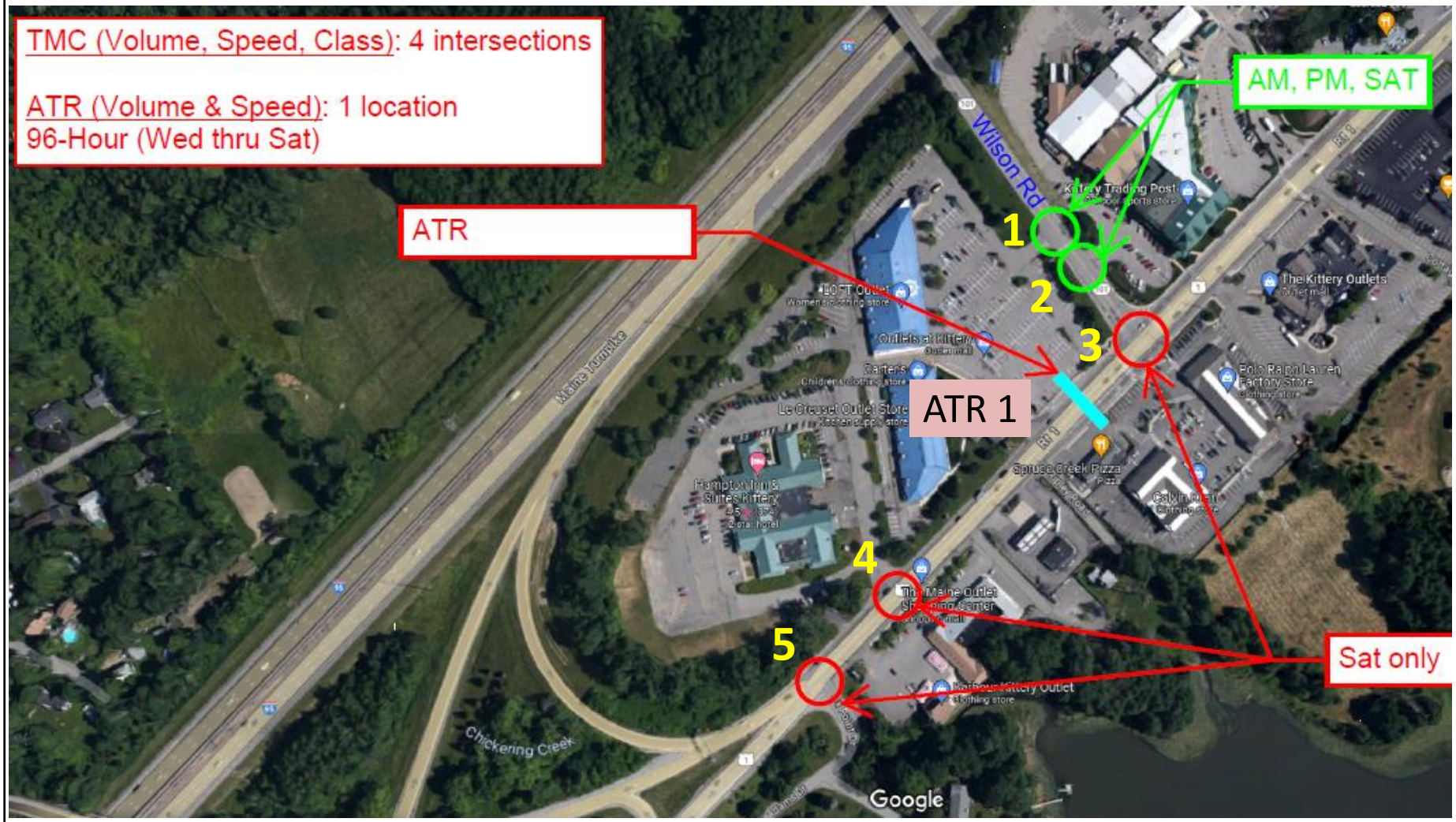
2028 BUILD
TRAFFIC VOLUMES

DATE: 12/20/2023
SCALE: NTS
FIGURE 8

Tighe&Bond

APPENDIX A

Traffic Volume Data



BOSTON TRAFFIC DATA	BTD ID: 1133_2_TB	Kittery, ME	# of TMC's: 05	Client: Tighe & Bond
		Collected on September 13 to 16, 2023	# of ATR's: 01	Contact: Greg Lucas, PE, PTOE, RSP1

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 3
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Wilson Road/Kittery Outlets Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	41	149	4	0	8	148	17	0	20	3	38	0	3	5	10
11:15 AM	0	42	162	16	1	10	183	13	0	30	7	42	0	10	1	6
11:30 AM	0	41	178	9	0	8	185	9	0	30	1	36	0	10	4	9
11:45 AM	0	38	158	7	0	4	146	18	0	48	5	55	0	6	2	15
12:00 PM	0	48	192	10	0	8	166	17	0	36	1	38	0	10	4	16
12:15 PM	0	53	177	7	0	8	183	23	0	26	1	32	0	10	2	13
12:30 PM	0	51	176	13	0	5	204	23	0	37	2	39	0	10	2	16
12:45 PM	0	44	159	8	0	10	145	24	0	35	4	42	0	8	1	16
1:00 PM	0	45	179	16	0	7	184	21	0	30	2	44	0	8	4	12
1:15 PM	0	31	152	9	0	9	184	26	0	31	2	41	0	12	4	17
1:30 PM	0	43	164	4	0	9	195	22	0	38	1	46	0	8	2	9
1:45 PM	0	50	163	6	0	6	163	21	0	47	2	40	0	11	4	16

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
11:45 AM to 12:45 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**190**	**703**	**37**	**0**	**25**	**699**	**81**	**0**	**147**	**9**	**164**	**0**	**36**	**10**	**60**
PHF	**0.93**				**0.87**				**0.74**				**0.88**			
HV %	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 3
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Wilson Road/Kittery Outlets Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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HEAVY VEHICLES

	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	5	0	0	1	0	1	0	0	0	0
11:15 AM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0
11:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
11:00 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.30**				**0.38**				**0.00**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 3
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Wilson Road/Kittery Outlets Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	2	0	1	0	0	1	2	0	0	0	0	0	0	0	2
11:15 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	4
11:30 AM	0	0	1	0	0	1	0	3	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
12:15 PM	0	2	0	0	0	0	0	6	0	1	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3
12:45 PM	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
1:00 PM	0	1	0	0	0	0	0	2	0	0	1	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	0	2	0	1	0	2	0	0	0	0	0	0	0	5
1:45 PM	0	1	0	4	0	0	0	4	0	0	0	0	0	0	0	2

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Wilson Road Eastbound				Kittery Premium Outlets Driveway Westbound			
11:45 AM to 12:45 PM	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	2	0	2	0	0	0	13	0	1	0	0	0	0	0	6

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 5
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Adams Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	202	2	0	1	194	0	0	0	0	0	0	3	0	0
11:15 AM	0	0	218	0	0	0	224	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	230	1	0	1	236	0	0	0	0	0	0	1	0	1
11:45 AM	0	0	233	4	0	0	201	0	0	0	0	0	0	1	0	1
12:00 PM	0	0	251	1	0	0	213	0	0	0	0	0	0	1	0	1
12:15 PM	0	0	238	2	0	0	222	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	234	2	0	0	237	0	0	0	0	0	0	1	0	1
12:45 PM	0	0	225	1	0	0	196	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	241	0	0	1	215	0	0	0	0	0	0	1	0	1
1:15 PM	0	0	207	1	0	0	243	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	227	2	0	1	237	0	0	0	0	0	0	0	0	2
1:45 PM	0	0	223	1	0	0	210	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**956**	**9**	**0**	**0**	**873**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**4**
PHF	**0.96**				**0.92**				**0.00**				**1.00**			
HV %	**0.0%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 5
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Adams Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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HEAVY VEHICLES

	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
11:00 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**1.00**				**0.40**				**0.00**				**0.00**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 5
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Adams Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Route 1 Northbound				Route 1 Southbound				Eastbound				Adams Drive Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 4
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Hampton Inn/Outlets at Kittery Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	2	205	0	0	0	187	1	0	3	0	2	0	0	0	0
11:15 AM	0	4	213	0	0	0	223	0	0	3	0	3	0	0	0	0
11:30 AM	0	1	228	0	0	0	228	0	0	3	0	5	0	0	0	0
11:45 AM	0	1	224	0	0	0	195	0	0	2	0	5	0	0	0	0
12:00 PM	0	4	244	0	0	0	203	2	0	1	0	6	0	0	0	0
12:15 PM	0	8	226	0	0	0	211	2	0	1	0	7	0	0	0	0
12:30 PM	0	3	225	0	0	0	233	0	0	2	0	5	0	0	0	0
12:45 PM	0	3	205	0	0	0	187	1	0	2	0	3	0	0	0	0
1:00 PM	0	4	224	0	0	0	224	1	0	1	0	5	0	0	0	0
1:15 PM	0	7	202	0	0	0	211	1	0	3	0	8	0	0	0	0
1:30 PM	0	1	214	0	0	0	232	0	0	1	0	3	0	0	0	0
1:45 PM	0	4	210	0	0	0	202	1	0	0	0	4	0	0	0	0

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
11:45 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:45 PM	**0**	**16**	**919**	**0**	**0**	**0**	**842**	**4**	**0**	**6**	**0**	**23**	**0**	**0**	**0**	**0**
PHF	**0.94**				**0.91**				**0.91**				**0.00**			
HV %	**0.0%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 4
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Hampton Inn/Outlets at Kittery Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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HEAVY VEHICLES

	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
11:00 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**1.00**				**0.44**				**0.00**				**0.00**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 4
Location:	Kittery, ME
Street 1:	Route 1
Street 2:	Hampton Inn/Outlets at Kittery Drive
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 1 Northbound				Route 1 Southbound				Hampton Inn/Outlets at Kittery Driveway Eastbound				Westbound			
11:45 AM to 12:45 PM	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	1	44	0	0	0	33	0
7:15 AM	0	0	0	0	0	0	0	1	0	3	78	0	0	0	18	1
7:30 AM	0	0	0	0	0	2	0	0	0	0	77	0	0	0	20	0
7:45 AM	0	0	0	0	0	0	0	0	0	5	73	0	0	0	18	6
8:00 AM	0	0	0	0	0	1	0	0	0	1	58	0	0	0	24	3
8:15 AM	0	0	0	0	0	1	0	0	0	1	48	0	0	0	21	3
8:30 AM	0	0	0	0	0	1	0	1	0	4	50	0	0	0	18	3
8:45 AM	0	0	0	0	0	2	0	2	0	5	43	0	0	0	21	9

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	16	0	5	0	4	37	0	0	0	57	11
4:15 PM	0	0	0	0	0	14	0	4	0	5	32	0	0	0	62	12
4:30 PM	0	0	0	0	0	20	0	3	0	7	28	0	0	0	50	17
4:45 PM	0	0	0	0	0	9	0	14	1	2	40	0	0	0	60	13
5:00 PM	0	0	0	0	0	16	0	5	0	5	38	0	0	0	56	9
5:15 PM	0	0	0	0	0	22	0	6	0	1	46	0	0	0	63	13
5:30 PM	0	0	0	0	0	14	0	1	0	1	34	0	0	0	52	7
5:45 PM	0	0	0	0	0	7	0	6	0	3	34	0	0	0	42	8

AM PEAK HOUR	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
7:15 AM	Northbound				Southbound				Eastbound				Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**9**	**286**	**0**	**0**	**0**	**80**	**10**
PHF	**0.00**				**0.50**				**0.91**				**0.83**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**33.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.1%**	**0.0%**	**0.0%**	**0.0%**	**7.5%**	**10.0%**

PM PEAK HOUR	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
4:30 PM	Northbound				Southbound				Eastbound				Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:30 PM	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**28**	**1**	**15**	**152**	**0**	**0**	**0**	**229**	**52**
PHF	**0.00**				**0.85**				**0.89**				**0.92**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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HEAVY VEHICLES

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1
8:00 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

AM PEAK HOUR	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
7:30 AM	Northbound				Southbound				Eastbound				Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**6**	**2**
PHF	**0.00**				**0.25**				**0.58**				**0.50**			

PM PEAK HOUR	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
4:15 PM	Northbound				Southbound				Eastbound				Westbound			
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**
PHF	**0.00**				**0.00**				**0.75**				**0.25**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
	Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1]	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
7:15 AM	Northbound				Southbound				Eastbound				Westbound			
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0

PM PEAK HOUR[1]	Kittery Trading Post Driveway								Wilson Road				Wilson Road			
4:30 PM	Northbound				Southbound				Eastbound				Westbound			
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	19	0	7	0	8	42	0	0	0	31	33
11:15 AM	0	0	0	0	0	33	0	7	0	12	44	0	0	0	28	28
11:30 AM	0	0	0	0	0	21	0	7	0	8	48	0	0	0	24	30
11:45 AM	0	0	0	0	0	33	0	9	0	13	71	0	0	0	30	27
12:00 PM	0	0	0	0	0	19	0	7	0	12	56	0	0	0	36	33
12:15 PM	0	0	0	0	0	22	0	15	0	8	38	0	0	0	41	35
12:30 PM	0	0	0	0	0	33	0	7	0	6	48	0	0	0	46	32
12:45 PM	0	0	0	0	0	35	0	10	0	12	44	0	0	0	39	31
1:00 PM	0	0	0	0	0	27	0	6	0	8	52	0	0	0	37	32
1:15 PM	0	0	0	0	0	33	0	6	0	10	35	0	0	0	41	19
1:30 PM	0	0	0	0	0	30	0	8	0	10	53	0	0	0	42	27
1:45 PM	0	0	0	0	0	39	0	4	0	10	53	0	0	0	43	28

MID PEAK HOUR	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
11:45 AM to 12:45 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**107**	**0**	**38**	**0**	**39**	**213**	**0**	**0**	**0**	**153**	**127**
PHF	**0.00**				**0.86**				**0.75**				**0.90**			
HV %	**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%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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HEAVY VEHICLES

	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
10:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.38**				**0.00**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 2
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Kittery Trading Post Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	9	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	3	0	0	0	9	0	1	0	0
11:30 AM	0	0	0	0	0	0	0	2	0	0	0	3	0	1	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	4	0	0	0	8	0	0	0	4
1:00 PM	0	0	0	0	0	0	0	6	0	0	0	9	0	0	0	9
1:15 PM	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	11	0	0	0	13	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0

MID PEAK HOUR	Northbound				Kittery Trading Post Driveway Southbound				Wilson Road Eastbound				Wilson Road Westbound			
11:45 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
12:45 PM	0	0	0	0	0	0	0	3	0	0	0	16	0	0	0	3

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	0	0	0	0	0	0	0	0	47	1	0	2	31	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	80	1	0	0	19	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	76	1	0	2	18	0
7:45 AM	0	2	0	1	0	0	0	0	0	0	77	0	0	1	17	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	59	2	0	0	23	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	48	1	0	0	18	0
8:30 AM	0	2	0	1	0	0	0	0	0	0	52	1	0	0	18	0
8:45 AM	0	2	0	0	0	0	0	0	0	0	48	0	0	0	24	0

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	12	0	7	0	0	0	0	0	0	30	3	0	4	58	0
4:15 PM	0	11	0	7	0	0	0	0	0	0	32	0	0	0	66	0
4:30 PM	0	16	0	6	0	0	0	0	0	0	28	2	0	2	51	0
4:45 PM	0	12	0	5	0	0	0	0	0	0	38	3	1	6	67	0
5:00 PM	0	9	0	7	0	0	0	0	0	0	36	0	0	3	58	0
5:15 PM	0	7	0	11	0	0	0	0	0	0	36	1	0	2	67	0
5:30 PM	0	9	0	4	0	0	0	0	0	0	32	1	0	2	51	0
5:45 PM	0	4	0	5	0	0	0	0	0	0	31	0	0	2	46	0

AM PEAK HOUR	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
7:15 AM to 8:15 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**292**	**4**	**0**	**3**	**77**	**0**
PHF	**0.50**				**0.00**				**0.91**				**0.87**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.1%**	**0.0%**	**0.0%**	**0.0%**	**7.8%**	**0.0%**

PM PEAK HOUR	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
4:30 PM to 5:30 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**44**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**138**	**6**	**1**	**13**	**243**	**0**
PHF	**0.83**				**0.00**				**0.88**				**0.87**			
HV %	**0.0%**	**0.0%**	**0.0%**	**6.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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HEAVY VEHICLES

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

AM PEAK HOUR 7:30 AM to 8:30 AM	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**6**	**0**
PHF	**0.00**				**0.00**				**0.58**				**0.38**			

PM PEAK HOUR 4:15 PM to 5:15 PM	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**
PHF	**0.25**				**0.00**				**0.50**				**0.25**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/13/2023
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:15 AM to 8:15 AM	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4

PM PEAK HOUR[1] 4:30 PM to 5:30 PM	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	6	0	15	0	0	0	0	0	0	35	0	0	9	31	0
11:15 AM	0	3	0	9	0	0	0	0	0	0	47	0	0	8	25	0
11:30 AM	0	5	0	21	0	0	0	0	0	0	39	2	0	10	20	0
11:45 AM	0	2	0	18	0	0	0	0	0	0	61	1	1	7	31	0
12:00 PM	0	8	0	17	0	0	0	0	0	0	51	1	0	9	35	0
12:15 PM	0	9	0	10	0	0	0	0	0	0	36	1	0	11	45	0
12:30 PM	0	4	0	13	0	0	0	0	0	0	43	0	0	11	42	0
12:45 PM	0	4	0	12	0	0	0	0	0	0	42	2	0	4	44	0
1:00 PM	0	3	0	22	0	0	0	0	0	0	38	2	0	13	31	0
1:15 PM	0	3	0	8	0	0	0	0	0	0	36	1	0	10	35	0
1:30 PM	0	3	0	16	0	0	0	0	0	0	48	0	0	11	39	0
1:45 PM	0	6	0	17	0	0	0	0	0	0	48	1	0	9	39	0

MID PEAK HOUR	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
11:45 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:45 PM	**0**	**23**	**0**	**58**	**0**	**0**	**0**	**0**	**0**	**0**	**191**	**3**	**1**	**38**	**153**	**0**
PHF	**0.81**				**0.00**				**0.78**				**0.86**			
HV %	**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%**	**0.0%**	**0.0%**	**0.0%**

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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HEAVY VEHICLES

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
10:30 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.38**				**0.00**			

Client:	Greg Lucas, PE, PTOE, RSP1
Project #:	1133_2_TB
BTD #:	Location 1
Location:	Kittery, ME
Street 1:	Wilson Road
Street 2:	Outlets at Kittery Driveway
Count Date:	9/16/2023
Day of Week:	Saturday
Weather:	Mostly cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3
12:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
12:45 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	8
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
1:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
1:30 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	16
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

MID PEAK HOUR 11:45 AM to 12:45 PM	Outlets at Kittery Driveway Northbound				Southbound				Wilson Road Eastbound				Wilson Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	16

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Volume Report

Job 1133_2_TB_ATR 1
Area Kittery, ME
Location Route 1, south of Wilson Road

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Wednesday, September 13, 2023

Time	NB Bike	NB Motorcycle	NB Automobile	NB Bus	NB Single-Unit Truck	NB Multi-Unit Truck	NB Total Volume	SB Bike	SB Motorcycle	SB Automobile	SB Bus	SB Single-Unit Truck	SB Multi-Unit Truck	SB Total Volume
0000	0	0	11	0	0	0	11	0	0	1	0	0	0	1
0015	0	1	6	0	0	0	7	0	0	3	0	0	0	3
0030	0	0	4	0	0	0	4	0	0	3	0	0	0	3
0045	0	0	6	0	0	0	6	0	0	1	0	0	0	1
0100	0	0	6	0	0	0	6	0	0	3	0	0	0	3
0115	0	0	2	0	0	0	2	0	0	1	0	0	1	2
0130	0	0	3	0	1	0	4	0	0	1	0	0	0	1
0145	0	0	3	0	0	0	3	0	0	1	0	0	0	1
0200	0	0	8	0	0	0	8	0	0	2	0	0	0	2
0215	0	0	1	0	0	0	1	0	1	3	0	0	0	4
0230	0	1	2	0	0	0	3	0	1	2	0	0	0	3
0245	0	0	1	0	0	0	1	0	0	2	0	0	0	2
0300	0	0	1	0	0	0	1	0	0	2	0	0	0	2
0315	0	0	2	0	1	0	3	0	0	4	0	0	0	4
0330	0	0	2	0	0	0	2	0	0	9	0	1	0	10
0345	1	0	2	0	2	0	5	0	0	8	0	1	0	9
0400	0	0	2	0	1	0	3	0	0	10	0	1	0	11
0415	0	0	0	0	0	1	1	0	0	17	0	1	0	18
0430	0	0	11	0	0	0	11	0	1	23	0	0	0	24
0445	0	0	7	0	0	1	8	0	0	16	0	0	0	16
0500	0	0	13	0	1	0	14	0	1	43	0	1	0	45
0515	0	0	8	0	0	0	8	0	0	36	0	0	0	36
0530	0	0	11	0	0	1	12	0	0	53	0	1	0	54
0545	0	0	21	0	1	0	22	0	3	44	0	1	1	49
0600	0	0	21	0	0	0	21	0	1	62	0	0	1	64
0615	0	0	36	0	2	0	38	0	1	72	0	0	0	73
0630	2	0	24	0	2	0	28	0	0	109	0	3	0	112
0645	0	0	55	0	3	0	58	0	0	125	0	0	0	125
0700	1	0	54	0	3	0	58	0	0	120	1	2	2	125
0715	1	0	68	0	3	1	73	0	0	173	0	6	0	179
0730	1	0	63	2	4	1	71	0	0	188	1	3	0	192
0745	0	0	78	1	4	0	83	0	0	156	2	2	2	162
0800	0	0	75	0	4	3	82	2	0	151	0	4	0	157
0815	0	1	88	0	6	1	96	0	1	135	0	2	0	138
0830	0	0	89	0	8	1	98	0	1	137	1	4	0	143
0845	1	1	96	0	7	3	108	0	0	156	0	4	0	160
0900	0	0	96	0	7	3	106	0	0	128	0	7	0	135
0915	0	0	108	0	3	0	111	0	0	128	0	5	1	134
0930	0	0	127	0	5	2	134	0	1	124	0	6	0	131
0945	1	0	117	0	9	3	130	0	0	139	0	6	0	145
1000	0	1	161	0	3	0	165	1	0	141	0	4	1	147
1015	0	0	163	0	3	0	166	1	1	159	0	5	1	167
1030	2	1	137	0	2	1	143	0	1	155	0	7	2	165
1045	0	0	192	0	8	0	200	0	1	173	0	4	1	179
1100	0	1	157	0	4	0	162	0	0	187	0	12	0	199
1115	1	1	177	0	7	3	189	0	2	186	0	5	1	194
1130	2	3	154	1	1	2	163	0	0	183	0	10	0	193
1145	0	0	200	0	6	2	208	0	1	202	1	4	0	208
1200	0	0	185	0	3	2	190	0	0	182	0	4	2	188
1215	0	0	167	0	3	2	172	0	0	184	0	10	1	195
1230	2	7	189	0	5	0	203	0	1	209	1	7	1	219
1245	0	0	199	0	5	1	205	0	1	200	0	4	1	206
1300	0	1	196	0	5	1	203	0	0	217	0	5	2	224
1315	0	0	198	0	4	2	204	0	0	158	0	4	0	162
1330	0	0	164	0	6	2	172	0	0	165	0	5	0	170
1345	0	1	173	0	6	0	180	0	0	194	0	9	2	205
1400	0	0	180	0	1	1	182	0	0	173	0	2	1	176
1415	0	1	208	1	2	1	213	0	0	217	0	12	0	229
1430	0	0	182	0	1	2	185	0	0	187	0	3	1	191
1445	1	0	188	0	4	2	195	0	0	181	0	2	0	183
1500	1	1	220	0	3	1	226	0	0	216	0	4	0	220
1515	0	1	177	0	2	1	181	0	0	160	0	4	0	164
1530	1	0	191	0	2	1	195	1	14	186	0	4	2	207
1545	0	3	232	1	4	2	242	0	1	198	1	5	4	209
1600	0	1	184	0	3	0	188	0	0	152	3	3	0	158
1615	1	0	190	0	1	0	192	0	0	196	1	3	0	200
1630	0	0	179	0	0	2	181	0	0	186	0	3	2	191
1645	0	0	176	0	0	0	176	0	1	147	0	1	2	151
1700	0	0	192	1	1	0	194	0	0	219	0	2	1	222
1715	0	0	201	0	1	1	203	0	0	169	1	6	1	177
1730	1	0	176	1	3	0	181	0	0	193	0	2	1	196
1745	0	0	144	0	1	0	145	0	0	151	0	0	0	151
1800	0	0	137	0	1	0	138	0	0	171	0	2	0	173
1815	0	0	121	0	1	0	122	0	0	139	0	2	0	141
1830	0	0	118	0	1	0	119	0	0	103	0	2	0	105
1845	0	0	99	0	0	1	100	0	0	92	0	1	0	93
1900	0	0	90	0	1	0	91	0	0	107	0	2	2	111
1915	0	0	90	0	0	0	90	0	0	58	0	1	0	59
1930	0	0	75	0	0	0	75	0	0	69	0	0	0	69
1945	0	0	63	0	0	0	63	0	0	61	0	0	0	61
2000	0	0	66	0	0	0	66	0	0	50	0	1	0	51
2015	0	0	58	0	1	0	59	0	0	42	0	0	0	42
2030	0	0	50	0	0	0	50	0	0	49	0	0	0	49
2045	1	0	40	0	0	0	41	0	0	39	0	0	0	39
2100	0	1	30	0	0	0	31	0	0	27	0	1	0	28
2115	0	0	22	0	0	0	22	0	0	20	0	0	0	20
2130	0	0	23	0	0	0	23	0	0	24	0	0	0	24
2145	0	0	23	0	0	0	23	0	0	23	0	0	0	23
2200	0	0	22	0	0	0	22	0	0	13	0	0	0	13
2215	0	0	24	0	0	0	24	0	0	11	0	1	0	12
2230	1	0	20	0	0	0	21	0	0	11	0	0	0	11
2245	0	0	14	0	0	0	14	0	0	9	0	0	0	9
2300	0	0	9	0	0	0	9	0	0	0	0	0	0	0
2315	0	0	11	0	0	0	11	0	0	0	0	0	0	0
2330	0	0	7	0	0	0	7	0	0	0	0	0	0	0
2345	0	0	6	0	0	0	6	0	0	0	0	0	0	0
Total	**22**	**28**	**8378**	**8**	**182**	**54**	**8672**	**5**	**36**	**9335**	**13**	**229**	**40**	**9658**

Volume Report

Job 1133_2_TB_ATR 1
Area Kittery, ME
Location Route 1, south of Wilson Road

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Thursday, September 14, 2023

Time	NB Bike	NB Motorcycle	NB Automobile	NB Bus	NB Single-Unit Truck	NB Multi-Unit Truck	NB Total Volume	SB Bike	SB Motorcycle	SB Automobile	SB Bus	SB Single-Unit Truck	SB Multi-Unit Truck	SB Total Volume
0000	0	0	4	0	0	0	4	0	0	6	0	0	0	6
0015	0	0	10	0	0	0	10	0	0	1	0	0	0	1
0030	0	0	2	0	0	0	2	0	0	7	0	0	0	7
0045	0	0	9	0	1	0	10	0	0	1	0	0	0	1
0100	0	0	7	0	0	0	7	0	0	2	0	0	0	2
0115	0	0	9	0	0	0	9	0	0	3	0	0	0	3
0130	0	0	1	0	0	0	1	0	0	1	0	0	0	1
0145	0	0	5	0	0	0	5	0	0	2	0	0	0	2
0200	0	0	7	0	0	0	7	0	0	4	0	0	0	4
0215	0	1	3	0	0	1	5	0	0	1	0	0	1	2
0230	0	0	3	0	1	0	4	0	0	2	0	0	2	4
0245	0	0	3	0	0	0	3	0	0	3	0	0	0	3
0300	0	0	5	0	0	0	5	0	0	3	0	0	0	3
0315	0	0	3	0	0	0	3	0	0	3	0	1	0	4
0330	0	0	3	0	1	0	4	0	0	8	0	0	0	8
0345	0	0	2	0	0	0	2	0	0	3	0	1	0	4
0400	0	1	3	0	0	0	4	0	0	11	0	2	0	13
0415	0	0	4	0	0	0	4	0	0	16	0	1	1	18
0430	0	3	5	0	2	1	11	1	2	13	0	0	0	16
0445	0	0	7	0	0	0	7	1	3	24	0	0	0	28
0500	0	0	10	0	1	0	11	2	1	37	0	1	0	41
0515	0	0	6	0	0	0	6	1	1	37	0	0	1	40
0530	0	1	7	0	0	1	9	1	2	53	0	1	1	58
0545	0	0	30	0	0	0	30	3	3	49	0	1	0	56
0600	0	0	18	0	1	0	19	0	1	52	0	0	0	53
0615	0	0	29	0	0	0	29	1	1	74	0	0	1	77
0630	0	1	33	0	1	1	36	0	1	112	0	2	1	116
0645	1	0	49	0	2	1	53	0	0	96	1	1	0	98
0700	0	0	59	0	2	1	62	1	1	148	0	6	0	156
0715	0	0	73	1	2	1	77	2	1	167	0	2	2	174
0730	0	0	87	1	5	0	93	0	1	193	0	1	0	195
0745	0	0	88	1	6	1	96	0	2	167	2	6	1	178
0800	0	0	86	0	6	0	92	0	0	160	0	6	0	166
0815	0	0	102	0	4	1	107	0	0	127	0	5	0	132
0830	0	2	112	0	8	0	122	0	0	147	0	6	1	154
0845	2	0	106	0	7	0	115	0	3	166	1	6	0	176
0900	0	0	109	1	9	1	120	0	1	140	0	8	0	149
0915	0	2	123	0	6	1	132	0	0	126	0	6	0	132
0930	0	2	119	0	8	0	129	0	3	166	0	5	1	175
0945	0	0	160	1	5	2	168	0	0	133	0	6	0	139
1000	0	1	149	0	2	2	154	0	3	134	0	4	0	141
1015	0	0	151	0	2	4	157	0	2	142	0	8	0	152
1030	0	3	164	0	4	2	173	0	0	157	0	3	3	163
1045	0	1	154	0	9	1	165	0	0	181	0	1	0	182
1100	0	1	186	0	2	2	191	0	1	187	0	6	0	194
1115	0	3	199	0	2	1	205	0	1	155	0	5	1	162
1130	0	3	159	0	1	1	164	0	0	184	0	5	0	189
1145	0	0	164	0	6	0	170	0	0	176	0	4	2	182
1200	0	1	169	0	5	0	175	0	3	161	0	5	1	170
1215	0	2	163	0	2	0	167	0	1	162	0	5	2	170
1230	0	1	201	0	4	0	206	0	0	204	0	4	1	209
1245	0	2	210	0	6	0	218	0	0	182	0	5	0	187
1300	0	2	188	0	3	1	194	0	3	198	0	8	0	209
1315	0	1	187	0	4	0	192	0	3	187	0	5	1	196
1330	1	3	199	0	2	1	206	1	1	213	0	6	0	221
1345	0	1	153	0	4	0	158	0	2	200	0	2	1	205
1400	0	4	187	1	3	0	195	0	2	212	1	7	0	222
1415	0	3	198	1	4	0	206	0	0	172	0	1	1	174
1430	6	5	180	0	2	0	193	0	2	197	1	8	0	208
1445	2	3	191	0	2	1	199	0	1	206	0	4	0	211
1500	2	4	199	0	3	0	208	0	2	210	0	5	0	217
1515	1	2	167	0	1	0	171	0	1	209	0	1	1	212
1530	1	4	203	1	4	0	213	0	2	196	0	3	0	201
1545	0	3	206	0	4	1	214	0	3	167	1	3	1	175
1600	1	2	183	0	1	0	187	0	5	200	0	6	0	211
1615	4	6	192	0	1	1	204	1	1	184	2	3	0	191
1630	0	2	189	0	4	0	195	0	3	219	0	1	2	225
1645	0	1	192	0	0	1	194	0	2	167	0	3	1	173
1700	0	3	203	0	3	0	209	1	0	193	0	1	1	196
1715	0	0	212	0	0	0	212	0	6	172	0	2	0	180
1730	0	3	173	1	0	0	177	0	2	174	0	2	0	178
1745	2	1	155	0	2	0	160	0	1	200	0	2	1	204
1800	0	4	129	0	0	0	133	1	3	172	0	0	0	176
1815	0	4	140	0	0	0	144	0	4	174	0	2	0	180
1830	0	1	109	0	1	0	111	3	1	164	0	1	0	169
1845	0	0	102	0	0	0	102	1	2	137	0	0	0	140
1900	0	2	94	0	0	0	96	0	2	120	0	0	0	122
1915	1	3	85	0	0	0	89	0	1	111	0	0	1	113
1930	0	2	69	0	0	0	71	0	1	90	0	0	1	92
1945	0	0	74	0	0	0	74	0	0	65	0	0	0	65
2000	0	1	82	0	1	0	84	0	1	80	0	1	0	82
2015	0	0	82	0	2	0	84	0	0	71	0	1	0	72
2030	0	1	77	0	1	0	79	0	1	55	0	0	0	56
2045	0	2	46	0	1	0	49	1	1	54	0	0	0	56
2100	0	0	39	0	0	0	39	0	0	36	0	1	0	37
2115	0	0	35	0	0	0	35	0	2	30	0	0	0	32
2130	0	1	31	0	0	0	32	0	0	15	0	0	0	15
2145	0	0	29	0	0	0	29	0	0	18	0	0	0	18
2200	0	0	27	0	0	0	27	1	0	14	0	1	0	16
2215	0	0	12	0	0	0	12	0	0	11	0	0	0	11
2230	0	0	12	0	0	0	12	0	1	15	0	0	0	16
2245	0	1	17	0	1	0	19	0	0	4	0	1	0	5
2300	0	0	12	0	0	0	12	0	0	13	0	0	0	13
2315	0	0	12	0	0	0	12	0	0	6	0	0	0	6
2330	0	1	14	0	0	0	15	0	0	8	0	0	0	8
2345	0	1	14	0	0	1	16	0	0	7	0	0	1	8
Total	**24**	**108**	**8670**	**9**	**177**	**33**	**9021**	**23**	**100**	**9835**	**9**	**210**	**36**	**10213**

Volume Report

Job 1133_2_TB_ATR 1
Area Kittery, ME
Location Route 1, south of Wilson Road

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Friday, September 15, 2023

Time	NB Bike	NB Motorcycle	NB Automobile	NB Bus	NB Single-Unit Truck	NB Multi-Unit Truck	NB Total Volume	SB Bike	SB Motorcycle	SB Automobile	SB Bus	SB Single-Unit Truck	SB Multi-Unit Truck	SB Total Volume
0000	0	0	6	0	0	0	6	0	0	5	0	0	1	6
0015	0	1	11	0	0	0	12	0	2	4	0	0	0	6
0030	0	0	10	0	1	0	11	0	0	2	0	0	0	2
0045	0	0	3	0	1	0	4	0	0	2	0	0	0	2
0100	0	0	1	0	0	0	1	0	0	4	0	0	0	4
0115	0	0	6	0	0	0	6	0	0	4	0	0	0	4
0130	0	0	6	0	0	0	6	0	0	2	0	0	0	2
0145	0	0	3	0	0	0	3	0	0	1	0	0	0	1
0200	0	0	4	0	0	0	4	0	0	3	0	0	0	3
0215	0	0	3	0	2	0	5	0	0	3	0	0	0	3
0230	0	0	3	0	0	0	3	0	0	2	0	0	0	2
0245	0	0	2	0	0	0	2	0	0	4	0	0	0	4
0300	0	0	1	0	0	0	1	0	0	6	0	0	0	6
0315	0	0	5	0	0	0	5	0	0	4	0	0	0	4
0330	0	0	0	0	1	0	1	0	0	4	0	0	0	4
0345	0	0	1	0	0	0	1	0	0	5	0	0	0	5
0400	0	0	1	0	0	1	2	0	0	5	0	0	0	5
0415	0	0	4	0	1	0	5	0	0	11	0	1	0	12
0430	0	0	3	0	1	0	4	0	1	21	0	1	0	23
0445	0	0	8	0	0	0	8	0	2	13	0	2	1	18
0500	0	0	6	0	0	0	6	0	0	30	0	0	0	30
0515	0	0	9	0	2	0	11	0	1	33	0	0	0	34
0530	0	0	14	0	0	0	14	0	0	49	0	0	0	49
0545	0	0	21	0	1	0	22	0	7	52	0	0	1	60
0600	1	0	18	0	0	0	19	0	3	52	0	1	0	56
0615	0	0	30	0	2	0	32	2	1	71	0	2	0	76
0630	0	0	43	0	3	2	48	0	1	96	0	2	0	99
0645	1	1	59	0	2	1	64	0	1	115	1	0	1	118
0700	2	0	66	0	2	0	70	1	0	107	0	2	0	110
0715	1	0	58	0	6	1	66	1	1	169	1	3	2	177
0730	0	0	100	2	11	2	115	1	0	149	1	0	1	152
0745	0	0	73	1	3	1	78	0	3	153	2	3	0	161
0800	0	1	81	0	6	0	88	0	0	146	0	6	0	152
0815	1	0	83	0	4	0	88	0	0	142	1	4	0	147
0830	0	0	112	0	7	0	119	1	1	162	0	7	2	173
0845	1	1	120	0	6	1	129	0	0	160	0	5	1	166
0900	0	2	112	0	6	0	120	0	1	135	0	6	0	142
0915	0	1	125	0	7	1	134	0	2	144	0	4	1	151
0930	0	0	144	0	2	0	146	0	1	147	0	10	1	159
0945	1	3	150	0	6	0	160	0	1	148	0	4	0	153
1000	0	1	176	0	7	2	186	0	0	180	0	5	0	185
1015	1	2	180	0	6	0	189	1	2	199	0	10	1	213
1030	1	0	181	0	3	0	185	0	3	193	0	5	0	201
1045	3	0	200	0	4	1	208	1	1	166	1	4	0	173
1100	0	0	232	1	1	0	234	0	3	185	0	4	0	192
1115	0	1	212	0	4	0	217	0	1	180	0	4	0	185
1130	3	0	231	0	9	0	243	0	2	223	0	8	0	233
1145	1	0	216	0	6	1	224	0	1	261	0	6	0	268
1200	0	3	212	0	4	0	219	0	2	204	0	6	0	212
1215	1	0	211	0	3	0	215	0	0	223	0	12	0	235
1230	0	0	222	0	1	0	223	0	0	246	0	9	1	256
1245	0	1	207	0	5	1	214	0	1	252	1	7	0	261
1300	0	1	210	0	1	1	213	0	0	223	0	5	0	228
1315	0	0	228	0	5	2	235	0	4	234	0	6	0	244
1330	1	2	195	0	3	0	201	1	1	248	0	6	0	256
1345	0	2	213	0	3	0	218	0	5	218	0	3	1	227
1400	1	3	206	0	4	0	214	0	0	234	0	5	0	239
1415	0	0	229	1	6	0	236	0	2	241	0	7	0	250
1430	2	3	202	0	8	1	216	0	1	215	0	4	0	220
1445	1	2	220	0	2	0	225	0	2	224	0	4	0	230
1500	1	5	219	0	5	1	231	0	0	228	0	6	0	234
1515	2	3	233	0	4	0	242	0	1	224	0	3	0	228
1530	1	1	196	1	8	0	207	0	0	236	0	3	0	239
1545	2	3	224	1	1	1	232	0	0	230	2	7	0	239
1600	0	2	191	0	2	0	195	0	1	232	1	9	0	243
1615	0	2	207	0	3	1	213	0	1	216	0	2	1	220
1630	0	1	187	0	2	0	190	0	3	172	0	3	1	179
1645	0	1	178	0	2	0	181	0	0	246	0	2	0	248
1700	0	2	178	0	1	0	181	0	1	193	0	1	0	195
1715	0	0	214	0	0	1	215	0	7	211	0	2	1	221
1730	0	1	191	1	1	0	194	1	3	209	0	4	0	217
1745	0	1	162	0	1	1	165	1	3	177	0	2	1	184
1800	0	0	130	0	8	0	138	0	0	176	0	4	0	180
1815	1	0	146	0	0	0	147	0	0	162	0	1	0	163
1830	1	1	116	0	0	1	119	0	0	144	0	2	0	146
1845	0	0	106	0	1	0	107	0	1	136	0	3	0	140
1900	0	1	99	0	1	0	101	0	0	150	0	2	0	152
1915	0	0	96	0	1	0	97	0	0	131	0	0	1	132
1930	0	0	102	0	0	0	102	0	1	96	0	1	0	98
1945	1	2	63	0	0	0	66	0	3	84	0	2	0	89
2000	0	0	76	0	0	0	76	0	2	69	0	0	0	71
2015	0	0	69	0	0	0	69	0	0	96	0	2	0	98
2030	0	0	68	0	0	0	68	0	0	54	0	0	0	54
2045	0	0	49	0	1	0	50	0	3	71	0	0	0	74
2100	0	0	46	0	0	0	46	1	1	50	0	0	1	53
2115	0	1	36	0	0	0	37	0	0	34	0	0	0	34
2130	0	0	37	0	0	0	37	1	2	41	0	0	0	44
2145	1	0	40	0	0	0	41	0	2	34	0	0	0	36
2200	0	0	31	0	0	0	31	0	0	22	0	0	0	22
2215	0	0	33	0	0	0	33	0	0	13	0	0	0	13
2230	0	0	20	0	0	0	20	0	0	13	0	0	0	13
2245	0	0	20	0	0	0	20	0	0	21	0	0	0	21
2300	0	1	25	0	0	0	26	0	2	14	0	0	0	16
2315	0	0	15	0	0	0	15	0	0	13	0	1	0	14
2330	0	0	16	0	0	0	16	0	0	12	0	0	0	12
2345	0	0	15	0	0	0	15	0	0	10	0	0	1	11
Total	**33**	**59**	**9522**	**8**	**210**	**25**	**9857**	**13**	**97**	**10934**	**11**	**245**	**22**	**11322**

Volume Report

Job 1133_2_TB_ATR 1
Area Kittery, ME
Location Route 1, south of Wilson Road

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Saturay, September 16, 2023

Time	NB Bike	NB Motorcycle	NB Automobile	NB Bus	NB Single-Unit Truck	NB Multi-Unit Truck	NB Total Volume	SB Bike	SB Motorcycle	SB Automobile	SB Bus	SB Single-Unit Truck	SB Multi-Unit Truck	SB Total Volume
0000	0	0	7	0	0	0	7	0	0	7	0	1	0	8
0015	0	0	5	0	0	0	5	0	0	4	0	0	0	4
0030	0	1	7	0	0	0	8	0	0	6	0	0	0	6
0045	0	0	8	0	0	0	8	0	0	2	0	0	0	2
0100	0	0	6	0	0	0	6	0	0	5	0	0	0	5
0115	0	0	9	0	0	0	9	0	0	2	0	0	0	2
0130	0	0	3	0	0	0	3	0	0	1	0	0	0	1
0145	0	0	7	0	0	0	7	0	0	1	0	0	0	1
0200	0	0	3	0	0	0	3	0	0	1	0	0	0	1
0215	0	0	0	0	0	0	0	0	0	2	0	0	0	2
0230	0	0	2	0	0	0	2	0	0	4	0	0	0	4
0245	0	0	2	0	1	0	3	0	0	1	0	0	0	1
0300	0	0	7	0	0	0	7	0	0	5	0	0	0	5
0315	0	0	2	0	0	0	2	0	0	2	0	0	0	2
0330	0	0	2	0	0	0	2	0	0	4	0	0	0	4
0345	0	0	0	0	1	0	1	0	0	6	0	0	0	6
0400	0	0	1	0	0	0	1	0	0	2	0	0	0	2
0415	0	0	1	0	0	0	1	0	0	2	0	0	0	2
0430	0	1	0	0	0	0	1	0	0	11	0	1	0	12
0445	0	0	6	0	0	0	6	0	0	10	0	2	0	12
0500	0	0	5	0	0	1	6	0	0	7	0	0	0	7
0515	0	0	3	0	0	0	3	0	0	10	0	1	0	11
0530	0	0	7	0	0	0	7	0	0	11	0	0	0	11
0545	0	0	8	0	0	0	8	0	0	20	0	0	1	21
0600	0	0	4	0	1	1	6	0	0	16	0	0	0	16
0615	0	0	14	0	1	1	16	0	0	23	0	1	0	24
0630	0	0	12	0	0	1	13	0	0	20	0	0	0	20
0645	0	0	21	0	0	0	21	0	0	32	0	0	2	34
0700	0	0	23	0	0	0	23	0	0	38	0	0	0	38
0715	0	0	33	0	1	1	35	0	0	31	0	0	0	31
0730	0	0	39	0	0	0	39	0	0	65	0	1	0	66
0745	0	0	32	0	2	0	34	0	0	62	0	0	2	64
0800	0	0	43	0	3	0	46	0	0	58	0	2	1	61
0815	0	0	47	0	2	0	49	0	0	70	0	1	0	71
0830	0	0	61	0	1	0	62	0	0	72	0	3	0	75
0845	0	0	86	0	1	0	87	1	0	87	0	1	0	89
0900	1	1	99	0	3	0	104	0	0	89	0	1	0	90
0915	0	0	118	0	0	0	118	0	0	129	0	3	0	132
0930	0	0	114	0	0	0	114	0	0	100	0	1	0	101
0945	0	1	141	0	0	0	142	0	0	125	0	0	1	126
1000	0	0	172	0	1	0	173	0	0	131	0	0	0	131
1015	0	0	159	0	1	0	160	0	0	153	0	0	0	153
1030	0	0	188	0	1	0	189	0	0	167	0	0	0	167
1045	3	0	199	0	0	0	202	0	1	189	0	0	0	190
1100	2	0	191	0	0	0	193	0	0	186	0	6	0	192
1115	1	0	218	1	1	0	221	0	0	238	0	1	0	239
1130	1	0	226	0	1	0	228	0	0	240	0	0	0	240
1145	0	0	209	0	1	0	210	0	1	205	0	1	0	207
1200	0	1	245	0	0	0	246	0	0	216	0	0	0	216
1215	2	1	239	0	0	0	242	0	0	225	0	1	0	226
1230	0	0	236	0	1	1	238	0	1	255	0	1	0	257
1245	1	1	208	0	0	0	210	0	0	202	0	0	0	202
1300	1	0	244	0	0	0	245	0	0	240	0	0	0	240
1315	0	0	193	0	1	0	194	1	0	241	0	0	0	242
1330	0	0	211	0	2	1	214	1	0	255	0	1	0	257
1345	0	0	214	0	1	0	215	0	0	218	0	0	0	218
1400	0	0	258	0	4	0	262	0	0	247	1	0	0	248
1415	4	0	222	0	5	0	231	0	0	275	0	3	0	278
1430	0	0	217	0	0	0	217	0	0	304	0	1	1	306
1445	0	0	178	0	3	0	181	0	0	190	0	1	0	191
1500	0	3	208	0	3	0	214	0	0	271	0	0	0	271
1515	0	2	218	1	1	0	222	0	0	266	0	13	0	279
1530	0	0	206	0	1	0	207	0	0	236	1	9	0	246
1545	0	0	202	1	0	0	203	0	4	292	0	2	0	298
1600	0	1	185	0	1	0	187	0	0	266	0	0	0	266
1615	0	5	174	0	0	0	179	0	4	230	2	0	0	236
1630	0	0	221	1	0	0	222	0	0	229	0	1	0	230
1645	0	0	142	0	0	0	142	0	1	238	0	0	0	239
1700	0	1	133	0	0	0	134	0	1	224	0	0	0	225
1715	1	0	156	0	1	0	158	0	2	191	0	1	0	194
1730	0	1	147	0	0	0	148	0	0	179	0	0	0	179
1745	2	1	141	0	0	0	144	0	0	166	0	0	0	166
1800	0	1	118	0	0	0	119	1	1	167	0	0	0	169
1815	0	0	85	0	0	0	85	2	2	168	0	1	0	173
1830	0	0	92	0	0	0	92	0	1	150	0	0	0	151
1845	0	0	85	0	0	0	85	0	0	135	0	0	0	135
1900	0	0	64	0	2	0	66	0	1	120	0	0	0	121
1915	0	0	77	0	0	0	77	0	0	93	0	1	0	94
1930	0	0	64	0	11	0	75	0	0	94	0	1	0	95
1945	0	0	55	0	0	0	55	0	0	84	0	4	0	88
2000	0	0	56	0	0	0	56	0	0	83	0	0	0	83
2015	0	1	44	0	0	0	45	0	0	76	0	0	0	76
2030	0	0	45	0	0	0	45	0	0	50	0	0	0	50
2045	0	0	36	0	4	1	41	0	0	53	0	3	0	56
2100	1	0	33	2	1	0	37	0	1	38	0	5	0	44
2115	0	0	27	0	0	0	27	0	0	43	0	1	0	44
2130	1	1	31	0	2	0	35	0	0	30	0	0	0	30
2145	0	0	25	1	0	0	26	0	0	33	0	0	0	33
2200	0	1	30	0	0	0	31	0	0	20	0	0	0	20
2215	0	2	25	0	0	0	27	0	0	21	0	0	0	21
2230	0	0	14	0	1	0	15	0	0	12	0	2	1	15
2245	0	0	11	0	1	0	12	0	0	21	0	1	0	22
2300	0	0	23	0	0	0	23	0	0	12	0	0	0	12
2315	0	0	14	0	0	0	14	0	0	13	0	0	0	13
2330	0	0	13	0	0	0	13	0	0	6	0	0	0	6
2345	0	0	5	0	0	0	5	0	0	9	0	0	0	9
Total	**21**	**27**	**8420**	**7**	**69**	**8**	**8552**	**6**	**21**	**9839**	**4**	**80**	**9**	**9959**

Cover

MAINE_DOT_TM - 000031130011 - Kittery - US 1, KIttery Premium Outlets 1 Ent, SR - Wednesday, July 20, 2022

Study Name

Kittery - US 1, KIttery Premium Outlets 1 Ent, SR

Study Description

Kittery - US 1, KIttery Premium Outlets 1 Ent, SR 101 (Wilson), 20/07/2022 turning movement

Date of Survey

Wednesday, July 20, 2022

Time Period

06:00 - 18:00

Comments

-

Location

Classes

Mcl
Car
Bus
SUT
Semis
Bicycle

Movements

MAINE_DOT_TM - 000031130011 - Kittery - US 1, KIttery Premium Outlets 1 Ent, SR - Wednesday, July 20, 2022

From: SR 101 (Wilson Rd)

To: SR 101 (Wilson Rd)								To: US 1 (NorthEast)								To: Kittery Premium Outlets 1 Ent								To: US 1 (SouthWest)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0	06:00	0	7	0	0	0	0	7	06:00	0	0	0	0	0	0	0	06:00	4	15	0	0	0	1	20
06:15	0	0	0	0	0	0	0	06:15	0	9	0	0	0	0	9	06:15	0	0	0	0	0	0	0	06:15	1	20	0	0	0	0	21
06:30	0	0	0	0	0	0	0	06:30	0	7	0	0	0	0	7	06:30	0	0	0	0	0	0	0	06:30	0	27	0	0	0	0	27
06:45	0	0	0	0	0	0	0	06:45	0	9	0	0	0	0	9	06:45	0	1	0	0	0	0	1	06:45	0	22	0	0	0	0	22
07:00	0	0	0	0	0	0	0	07:00	0	14	0	0	0	0	14	07:00	0	0	0	0	0	0	0	07:00	0	33	0	0	0	0	33
07:15	0	0	0	0	0	0	0	07:15	0	5	0	0	0	0	5	07:15	0	1	0	0	0	0	1	07:15	2	52	0	0	0	0	54
07:30	0	0	0	0	0	0	0	07:30	0	24	0	1	0	0	25	07:30	0	0	0	0	0	0	0	07:30	1	43	1	0	0	0	45
07:45	0	0	0	0	0	0	0	07:45	0	21	0	0	0	0	21	07:45	0	0	0	0	0	0	0	07:45	1	47	0	0	0	0	48
08:00	0	0	0	0	0	0	0	08:00	0	20	0	0	0	0	20	08:00	0	0	0	0	0	0	0	08:00	1	22	1	1	0	2	27
08:15	0	0	0	0	0	0	0	08:15	0	6	0	0	0	0	6	08:15	0	0	0	0	0	0	0	08:15	2	35	0	1	0	0	38
08:30	0	0	0	0	0	0	0	08:30	0	13	0	0	0	0	13	08:30	0	0	0	0	0	0	0	08:30	0	27	0	1	0	0	28
08:45	0	0	0	0	0	0	0	08:45	0	19	0	2	0	0	21	08:45	0	0	0	0	0	0	0	08:45	0	26	0	0	0	0	26
09:00	0	0	0	0	0	0	0	09:00	0	15	0	0	0	0	15	09:00	0	1	0	0	0	0	1	09:00	0	27	0	1	0	0	28
09:15	0	0	0	0	0	0	0	09:15	0	17	0	1	0	0	18	09:15	0	0	0	0	0	0	0	09:15	0	32	0	1	0	0	33
09:30	0	0	0	0	0	0	0	09:30	0	15	1	0	0	0	16	09:30	0	1	0	0	0	1	2	09:30	0	30	0	2	0	0	32
09:45	0	0	0	0	0	0	0	09:45	0	29	0	0	0	0	29	09:45	0	2	0	1	0	0	3	09:45	1	36	0	0	0	0	37
10:00	0	0	0	0	0	0	0	10:00	0	24	0	1	0	0	25	10:00	0	0	0	0	0	0	0	10:00	0	34	0	0	0	0	34
10:15	0	0	0	0	0	0	0	10:15	2	25	0	0	0	0	27	10:15	0	0	0	0	0	0	0	10:15	0	28	0	1	0	0	29
10:30	0	0	0	0	0	0	0	10:30	0	30	0	1	0	0	31	10:30	0	0	0	0	0	0	0	10:30	0	32	0	2	0	0	34
10:45	0	0	0	0	0	0	0	10:45	0	20	0	0	0	0	20	10:45	0	6	0	0	0	0	6	10:45	1	28	0	0	1	0	30
11:00	0	0	0	0	0	0	0	11:00	0	27	0	1	0	0	28	11:00	0	2	0	0	0	0	2	11:00	2	31	0	1	0	0	34
11:15	0	0	0	0	0	0	0	11:15	0	17	0	1	0	0	18	11:15	0	1	0	0	0	1	2	11:15	1	42	0	0	0	0	43
11:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:30	**0**	**25**	**0**	**0**	**0**	**0**	**25**	11:30	**0**	**2**	**0**	**0**	**0**	**0**	**2**	11:30	**0**	**37**	**0**	**1**	**0**	**0**	**38**
11:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:45	**0**	**37**	**1**	**0**	**0**	**0**	**38**	11:45	**0**	**2**	**0**	**0**	**0**	**0**	**2**	11:45	**0**	**33**	**0**	**0**	**0**	**0**	**33**
12:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:00	**0**	**26**	**1**	**0**	**0**	**0**	**27**	12:00	**0**	**1**	**0**	**0**	**0**	**0**	**1**	12:00	**0**	**29**	**1**	**1**	**0**	**0**	**31**
12:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:15	**1**	**26**	**0**	**1**	**0**	**0**	**28**	12:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:15	**1**	**35**	**0**	**1**	**1**	**0**	**38**
12:30	0	0	0	0	0	0	0	12:30	0	28	0	1	0	0	29	12:30	0	0	0	0	0	0	0	12:30	0	27	0	2	1	0	30
12:45	0	0	0	0	0	0	0	12:45	0	33	0	0	0	0	33	12:45	0	0	0	0	0	0	0	12:45	0	31	0	1	0	0	32
13:00	0	0	0	0	0	0	0	13:00	0	22	0	0	0	0	22	13:00	0	1	0	0	0	0	1	13:00	0	34	0	0	0	0	34
13:15	0	0	0	0	0	0	0	13:15	0	16	0	0	0	0	16	13:15	0	2	0	0	0	0	2	13:15	2	35	0	1	0	0	38
13:30	0	0	0	0	0	0	0	13:30	0	24	0	1	0	0	25	13:30	0	3	0	0	0	0	3	13:30	0	36	1	1	1	0	39
13:45	0	0	0	0	0	0	0	13:45	0	23	0	1	0	0	24	13:45	0	1	0	0	0	0	1	13:45	1	28	0	2	0	0	31
14:00	0	0	0	0	0	0	0	14:00	0	20	0	0	0	0	20	14:00	0	3	0	0	0	0	3	14:00	0	47	0	0	0	0	47
14:15	0	0	0	0	0	0	0	14:15	0	11	0	0	0	0	11	14:15	0	1	0	0	0	0	1	14:15	2	38	0	0	0	0	40
14:30	0	0	0	0	0	0	0	14:30	1	14	0	0	0	0	15	14:30	0	1	0	0	0	0	1	14:30	0	40	0	0	0	0	40
14:45	0	0	0	0	0	0	0	14:45	1	28	0	0	0	0	29	14:45	0	0	0	1	0	0	1	14:45	0	33	0	0	0	0	33
15:00	0	0	0	0	0	0	0	15:00	0	31	0	0	0	0	31	15:00	0	1	0	0	0	0	1	15:00	0	34	0	1	0	0	35
15:15	0	0	0	0	0	0	0	15:15	0	24	0	0	0	0	24	15:15	0	3	0	0	0	0	3	15:15	0	25	0	1	0	0	26
15:30	0	0	0	0	0	0	0	15:30	0	19	0	0	0	0	19	15:30	0	4	0	0	0	0	4	15:30	0	24	0	1	0	2	27
15:45	0	0	0	0	0	0	0	15:45	0	27	0	0	0	1	28	15:45	0	1	0	0	0	0	1	15:45	0	42	0	2	0	0	44
16:00	0	0	0	0	0	0	0	16:00	0	23	0	0	0	0	23	16:00	0	3	0	0	0	0	3	16:00	0	32	0	1	0	0	33
16:15	0	0	0	0	0	0	0	16:15	0	22	0	1	0	0	23	16:15	0	0	0	0	0	0	0	16:15	1	34	0	0	0	0	35
16:30	0	0	0	0	0	0	0	16:30	0	24	0	0	0	0	24	16:30	0	2	0	0	0	0	2	16:30	0	30	0	0	0	0	30
16:45	0	0	0	0	0	0	0	16:45	0	14	0	0	0	0	14	16:45	0	0	0	0	0	0	0	16:45	0	35	0	0	0	0	35
17:00	0	0	0	0	0	0	0	17:00	0	26	0	0	0	0	26	17:00	0	0	0	0	0	0	0	17:00	1	35	0	0	0	0	36
17:15	0	0	0	0	0	0	0	17:15	0	14	0	0	0	0	14	17:15	0	1	0	0	0	0	1	17:15	1	35	0	0	0	0	36
17:30	0	0	0	0	0	0	0	17:30	0	16	0	0	0	0	16	17:30	0	1	0	0	0	0	1	17:30	2	27	0	0	1	0	30
17:45	0	0	0	0	0	0	0	17:45	0	20	0	0	0	0	20	17:45	0	1	0	0	0	0	1	17:45	1	40	0	0	0	0	41
Total	0	0	0	0	0	0	0	Total	5	966	3	13	0	1	988	Total	0	49	0	2	0	2	53	Total	29	1565	4	27	5	5	1635
% of Total	-	-	-	-	-	-	-	% of Total	0.5%	97.8%	0.3%	1.3%	0%	0.1%	100%	% of Total	0%	92.5%	0%	3.8%	0%	3.8%	100%	% of Total	1.8%	95.7%	0.2%	1.7%	0.3%	0.3%	100%
% of Approach	0%	0%	0%	0%	0%	0%	0%	% of Approach	14.7%	37.4%	42.9%	31%	0%	12.5%	36.9%	% of Approach	0%	1.9%	0%	4.8%	0%	25%	2%	% of Approach	85.3%	60.7%	57.1%	64.3%	100%	62.5%	61.1%

From: US 1 (NorthEast)

To: SR 101 (Wilson Rd)								To: US 1 (NorthEast)								To: Kittery Premium Outlets 1 Ent								To: US 1 (SouthWest)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	1	8	0	0	0	0	9	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0	06:00	1	50	0	1	0	0	52
06:15	0	2	0	0	0	0	2	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0	06:15	1	50	0	0	0	0	51
06:30	0	4	0	0	0	0	4	06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0	06:30	4	89	0	0	0	0	93
06:45	0	6	0	0	0	0	6	06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0	06:45	0	83	0	1	1	0	85
07:00	0	7	0	0	0	0	7	07:00	0	0	0	0	0	0	0	07:00	0	1	0	0	0	0	1	07:00	1	88	1	1	2	0	93
07:15	0	5	0	0	0	0	5	07:15	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	07:15	1	87	0	0	1	0	89
07:30	0	13	0	0	1	0	14	07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	07:30	1	123	0	0	2	0	126
07:45	0	18	0	0	0	0	18	07:45	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0	07:45	1	110	0	2	1	0	114
08:00	0	12	0	0	0	0	12	08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	08:00	0	123	0	1	0	2	126
08:15	0	13	0	0	0	0	13	08:15	0	0	0	0	0	0	0	08:15	0	1	0	0	0	0	1	08:15	0	108	0	1	0	0	109
08:30	0	11	0	0	0	0	11	08:30	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0	08:30	0	121	0	3	2	0	126
08:45	0	23	0	0	0	0	23	08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	0	101	0	5	0	0	106
09:00	0	8	0	0	0	0	8	09:00	0	0	0	0	0	0	0	09:00	0	1	0	0	0	0	1	09:00	0	125	0	3	1	0	129
09:15	0	12	0	0	0	0	12	09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	1	90	0	4	1	0	96
09:30	0	12	0	0	0	0	12	09:30	0	0	0	0	0	0	0	09:30	0	2	0	0	0	0	2	09:30	0	137	0	4	1	1	143
09:45	0	10	0	1	0	0	11	09:45	0	0	0	0	0	0	0	09:45	0	2	0	0	0	0	2	09:45	1	101	0	1	1	0	104
10:00	0	21	0	0	0	0	21	10:00	0	0	0	0	0	0	0	10:00	0	3	0	0	0	0	3	10:00	0	115	0	1	1	0	117
10:15	0	11	0	0	0	0	11	10:15	0	0	0	0	0	0	0	10:15	0	2	0	0	0	0	2	10:15	1	129	0	2	1	0	133
10:30	0	23	1	1	0	0	25	10:30	0	0	0	0	0	0	0	10:30	0	1	0	0	0	0	1	10:30	7	142	0	6	0	0	155
10:45	0	17	0	0	0	0	17	10:45	0	0	0	0	0	0	0	10:45	0	4	0	0	0	0	4	10:45	1	144	0	6	2	0	153
11:00	0	21	0	0	0	0	21	11:00	0	0	0	0	0	0	0	11:00	0	2	0	0	0	0	2	11:00	2	166	0	6	0	0	174
11:15	0	14	0	0	0	1	15	11:15	0	0	0	0	0	0	0	11:15	0	9	0	1	0	0	10	11:15	2	162	0	4	0	1	169

11:30	**0**	**20**	**0**	**1**	**0**	**0**	**21**	11:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:30	**0**	**6**	**0**	**0**	**0**	**0**	**6**	11:30	**1**	**137**	**0**	**11**	**1**	**0**	**150**
11:45	**0**	**26**	**0**	**0**	**0**	**0**	**26**	11:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:45	**0**	**8**	**0**	**0**	**0**	**0**	**8**	11:45	**3**	**160**	**0**	**2**	**0**	**0**	**165**
12:00	**1**	**17**	**0**	**0**	**0**	**0**	**18**	12:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:00	**0**	**8**	**0**	**0**	**0**	**0**	**8**	12:00	**0**	**164**	**0**	**4**	**0**	**0**	**168**
12:15	**0**	**28**	**0**	**0**	**0**	**0**	**28**	12:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:15	**0**	**5**	**0**	**0**	**0**	**0**	**5**	12:15	**2**	**169**	**0**	**2**	**0**	**0**	**173**
12:30	0	26	0	0	0	0	26	12:30	0	0	0	0	0	0	0	12:30	0	3	0	0	0	0	3	12:30	1	147	0	5	0	0	153
12:45	0	20	0	0	0	0	20	12:45	0	0	0	0	0	0	0	12:45	0	6	0	0	0	0	6	12:45	0	159	1	0	0	0	160
13:00	0	22	0	1	0	0	23	13:00	0	0	0	0	0	0	0	13:00	0	3	0	0	0	0	3	13:00	4	164	0	1	0	0	169
13:15	0	22	0	0	0	0	22	13:15	0	0	0	0	0	0	0	13:15	0	6	0	0	0	0	6	13:15	3	167	0	4	3	0	177
13:30	0	14	0	0	0	0	14	13:30	0	0	0	0	0	0	0	13:30	0	6	0	0	0	0	6	13:30	2	154	0	5	1	0	162
13:45	1	19	0	0	0	0	20	13:45	0	0	0	0	0	0	0	13:45	0	4	0	0	0	0	4	13:45	1	187	0	6	0	0	194
14:00	0	21	0	0	0	0	21	14:00	0	0	0	0	0	0	0	14:00	0	11	0	0	0	0	11	14:00	6	175	0	4	0	0	185
14:15	2	24	0	0	0	0	26	14:15	0	0	0	0	0	0	0	14:15	0	7	0	0	0	0	7	14:15	2	170	0	1	0	2	175
14:30	0	29	0	0	0	0	29	14:30	0	0	0	0	0	0	0	14:30	0	4	0	0	0	0	4	14:30	2	168	0	1	0	0	171
14:45	0	28	0	0	0	0	28	14:45	0	0	0	0	0	0	0	14:45	0	4	0	0	0	0	4	14:45	3	165	0	2	3	0	173
15:00	0	28	0	0	0	1	29	15:00	0	0	0	0	0	0	0	15:00	0	7	0	0	0	0	7	15:00	5	182	0	4	1	1	193
15:15	0	21	0	1	0	0	22	15:15	0	0	0	0	0	0	0	15:15	0	4	0	0	0	0	4	15:15	1	158	1	3	1	0	164
15:30	0	20	0	0	0	0	20	15:30	0	0	0	0	0	0	0	15:30	0	3	0	0	0	0	3	15:30	2	162	0	3	0	0	167
15:45	0	22	0	1	1	0	24	15:45	0	0	0	0	0	0	0	15:45	0	2	0	0	0	0	2	15:45	1	157	0	2	2	0	162
16:00	0	25	0	0	0	0	25	16:00	0	0	0	0	0	0	0	16:00	0	3	0	0	0	0	3	16:00	0	182	0	0	0	0	182
16:15	0	20	0	0	0	0	20	16:15	0	0	0	0	0	0	0	16:15	0	4	0	0	0	0	4	16:15	2	173	0	0	1	0	176
16:30	0	20	0	0	0	0	20	16:30	0	0	0	0	0	0	0	16:30	0	4	0	0	0	0	4	16:30	0	148	0	0	1	0	149
16:45	0	14	0	0	0	0	14	16:45	0	0	0	0	0	0	0	16:45	0	5	0	0	0	0	5	16:45	0	156	0	1	0	0	157
17:00	0	22	0	0	0	0	22	17:00	0	0	0	0	0	0	0	17:00	0	3	0	0	0	0	3	17:00	1	159	0	3	0	1	164
17:15	0	26	0	0	0	0	26	17:15	0	0	0	0	0	0	0	17:15	0	6	0	0	0	0	6	17:15	1	135	0	1	0	0	137
17:30	0	20	0	0	0	0	20	17:30	0	0	0	0	0	0	0	17:30	1	5	0	0	0	0	6	17:30	4	145	0	0	1	0	150
17:45	0	24	0	0	0	0	24	17:45	0	0	0	0	0	0	0	17:45	0	0	0	0	0	0	0	17:45	1	154	0	0	0	0	155
Total	5	849	1	6	2	2	865	Total	0	0	0	0	0	0	0	Total	1	155	0	1	0	0	157	Total	73	6641	3	117	32	8	6874
% of Total	0.6%	98.2%	0.1%	0.7%	0.2%	0.2%	100%	% of Total	-	-	-	-	-	-	-	% of Total	0.6%	98.7%	0%	0.6%	0%	0%	100%	% of Total	1.1%	96.6%	0%	1.7%	0.5%	0.1%	100%
% of Approach	6.3%	11.1%	25%	4.8%	5.9%	20%	11%	% of Approach	0%	0%	0%	0%	0%	0%	0%	% of Approach	1.3%	2%	0%	0.8%	0%	0%	2%	% of Approach	92.4%	86.9%	75%	94.4%	94.1%	80%	87.1%

From: Kittery Premium Outlets 1 Ent

To: SR 101 (Wilson Rd)								**To: US 1 (NorthEast)**								**To: Kittery Premium Outlets 1 Ent**								**To: US 1 (SouthWest)**							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0
07:00	0	1	0	0	0	0	1	07:00	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	07:00	0	2	0	0	0	0	2
07:15	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	07:15	0	1	0	0	0	0	1
07:30	0	1	0	0	0	0	1	07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	07:30	0	1	0	0	0	0	1
07:45	0	1	0	0	0	0	1	07:45	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0	07:45	0	1	0	0	0	0	1
08:00	0	2	0	0	0	0	2	08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0	08:15	0	1	0	0	0	0	1
08:30	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0	08:30	0	3	0	0	0	0	3
08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0
09:00	0	1	0	0	0	0	1	09:00	0	1	0	0	0	0	1	09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	0	1	0	0	0	0	1
09:30	0	0	0	0	0	0	0	09:30	0	1	0	0	0	0	1	09:30	0	0	0	0	0	0	0	09:30	0	4	0	0	0	0	4
09:45	0	1	0	0	0	0	1	09:45	0	0	0	0	0	0	0	09:45	0	0	0	0	0	0	0	09:45	0	1	0	0	0	0	1
10:00	0	1	0	0	0	0	1	10:00	0	4	0	0	0	0	4	10:00	0	0	0	0	0	0	0	10:00	0	2	0	0	0	0	2
10:15	0	0	0	0	0	0	0	10:15	0	6	0	0	0	0	6	10:15	0	0	0	0	0	0	0	10:15	0	3	0	0	0	0	3
10:30	0	0	0	0	0	0	0	10:30	0	8	0	0	0	1	9	10:30	0	0	0	0	0	0	0	10:30	0	7	0	0	0	0	7
10:45	0	2	0	0	0	0	2	10:45	0	12	0	0	0	0	12	10:45	0	0	0	0	0	0	0	10:45	1	2	0	0	0	0	3
11:00	0	4	0	0	0	0	4	11:00	0	3	0	0	0	1	4	11:00	0	0	0	0	0	0	0	11:00	0	1	0	0	0	0	1
11:15	0	1	0	0	0	0	1	11:15	0	11	0	0	0	0	11	11:15	0	0	0	0	0	0	0	11:15	0	12	0	0	0	0	12
11:30	**0**	**1**	**0**	**0**	**0**	**0**	**1**	11:30	**0**	**8**	**0**	**0**	**0**	**0**	**8**	11:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:30	**0**	**5**	**0**	**1**	**0**	**0**	**6**
11:45	**0**	**2**	**0**	**0**	**0**	**0**	**2**	11:45	**0**	**8**	**0**	**0**	**0**	**0**	**8**	11:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	11:45	**0**	**12**	**0**	**0**	**0**	**0**	**12**
12:00	**0**	**5**	**0**	**0**	**0**	**0**	**5**	12:00	**0**	**6**	**0**	**0**	**0**	**0**	**6**	12:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:00	**0**	**8**	**0**	**1**	**0**	**0**	**9**
12:15	**0**	**3**	**0**	**0**	**0**	**1**	**4**	12:15	**0**	**11**	**0**	**0**	**0**	**0**	**11**	12:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	12:15	**0**	**5**	**0**	**0**	**0**	**0**	**5**
12:30	0	4	0	0	0	0	4	12:30	0	4	0	0	0	0	4	12:30	0	0	0	0	0	0	0	12:30	0	7	0	0	0	0	7
12:45	0	2	0	0	0	0	2	12:45	0	11	0	0	0	1	12	12:45	0	0	0	0	0	0	0	12:45	0	5	0	0	0	0	5
13:00	0	1	0	0	0	0	1	13:00	0	3	0	0	0	0	3	13:00	0	0	0	0	0	0	0	13:00	0	10	0	0	0	0	10
13:15	0	3	0	0	0	0	3	13:15	0	7	0	0	0	0	7	13:15	0	0	0	0	0	0	0	13:15	0	3	0	0	0	0	3
13:30	0	2	0	0	0	0	2	13:30	0	16	0	0	0	0	16	13:30	0	0	0	0	0	0	0	13:30	0	7	0	0	0	0	7
13:45	0	5	0	0	0	0	5	13:45	0	10	0	0	0	0	10	13:45	0	0	0	0	0	0	0	13:45	0	5	0	0	0	0	5
14:00	0	0	0	0	0	0	0	14:00	0	5	0	0	0	0	5	14:00	0	0	0	0	0	0	0	14:00	0	6	0	0	0	0	6
14:15	0	2	0	0	0	1	3	14:15	0	7	0	0	0	0	7	14:15	0	0	0	0	0	0	0	14:15	0	6	0	0	0	0	6
14:30	0	1	0	0	0	0	1	14:30	0	12	0	0	0	0	12	14:30	0	0	0	0	0	0	0	14:30	0	12	0	0	0	0	12
14:45	0	1	0	0	0	0	1	14:45	0	4	0	0	0	0	4	14:45	0	0	0	0	0	0	0	14:45	0	8	0	0	0	0	8
15:00	0	1	0	0	0	0	1	15:00	0	5	0	0	0	0	5	15:00	0	0	0	0	0	0	0	15:00	0	7	0	0	0	0	7
15:15	0	1	0	0	0	0	1	15:15	0	3	0	0	0	0	3	15:15	0	0	0	0	0	0	0	15:15	0	8	0	0	0	0	8
15:30	0	2	0	0	0	0	2	15:30	0	4	0	0	0	0	4	15:30	0	0	0	0	0	0	0	15:30	0	5	0	0	0	0	5
15:45	0	6	0	0	0	0	6	15:45	0	4	0	0	0	0	4	15:45	0	0	0	0	0	0	0	15:45	0	5	0	0	0	0	5
16:00	0	3	0	0	0	0	3	16:00	0	5	0	0	0	0	5	16:00	0	0	0	0	0	0	0	16:00	0	8	0	0	0	0	8
16:15	0	2	0	0	0	0	2	16:15	0	5	0	0	0	0	5	16:15	0	0	0	0	0	0	0	16:15	0	5	0	0	0	0	5
16:30	0	2	0	0	0	0	2	16:30	0	7	0	0	0	0	7	16:30	0	0	0	0	0	0	0	16:30	0	11	0	0	0	0	11
16:45	0	2	0	0	0	0	2	16:45	0	3	0	0	0	0	3	16:45	0	0	0	0	0	0	0	16:45	0	6	0	0	0	0	6
17:00	0	3	0	0	0	0	3	17:00	0	9	0	0	0	0	9	17:00	0	0	0	0	0	0	0	17:00	0	5	0	0	0	0	5
17:15	0	5	0	0	0	0	5	17:15	0	1	0	0	0	0	1	17:15	0	0	0	0	0	0	0	17:15	0	7	0	0	0	0	7
17:30	0	3	0	0	0	0	3	17:30	0	7	0	0	0	0	7	17:30	0	0	0	0	0	0	0	17:30	0	5	0	0	0	0	5
17:45	0	3	0	0	0	0	3	17:45	0	8	0	0	0	0	8	17:45	0	0	0	0	0	0	0	17:45	0	10	0	0	0	0	10
Total	0	80	0	0	0	2	82	Total	0	219	0	0	0	3	222	Total	0	0	0	0	0	0	0	Total	1	223	0	2	0	0	226
% of Total	0%	97.6%	0%	0%	0%	2.4%	100%	% of Total	0%	98.6%	0%	0%	0%	1.4%	100%	% of Total	-	-	-	-	-	-	-	% of Total	0.4%	98.7%	0%	0.9%	0%	0%	100%
% of Approach	0%	15.3%	-	0%	-	40%	15.5%	% of Approach	0%	42%	-	0%	-	60%	41.9%	% of Approach	0%	0%	-	0%	-	0%	0%	% of Approach	100%	42.7%	-	100%	-	0%	42.6%

From: US 1 (SouthWest)

To: SR 101 (Wilson Rd)								To: US 1 (NorthEast)								To: Kittery Premium Outlets 1 Ent								To: US 1 (SouthWest)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	4	0	0	0	0	4	06:00	0	26	0	0	1	1	28	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0
06:15	0	6	0	0	0	0	6	06:15	0	26	0	3	3	1	33	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0
06:30	0	4	0	0	0	0	4	06:30	0	33	0	0	1	0	34	06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0
06:45	0	5	0	0	0	0	5	06:45	1	40	1	0	1	3	46	06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0
07:00	0	8	0	0	0	0	8	07:00	1	42	0	2	2	0	47	07:00	0	1	0	0	0	0	1	07:00	0	0	0	0	0	0	0
07:15	0	6	0	0	0	0	6	07:15	0	63	0	0	0	0	63	07:15	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0
07:30	0	15	0	0	1	0	16	07:30	0	51	0	3	2	1	57	07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0
07:45	0	11	0	2	0	0	13	07:45	0	99	0	4	0	0	103	07:45	0	2	0	0	0	0	2	07:45	0	0	0	0	0	0	0
08:00	0	15	0	1	0	0	16	08:00	1	52	0	7	0	1	61	08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0
08:15	0	9	1	0	0	0	10	08:15	1	75	0	3	1	0	80	08:15	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0
08:30	0	20	0	0	0	0	20	08:30	0	103	0	5	1	1	110	08:30	0	1	0	0	0	0	1	08:30	0	0	0	0	0	0	0
08:45	0	20	0	5	0	0	25	08:45	0	102	0	5	0	0	107	08:45	0	3	0	0	0	0	3	08:45	0	0	0	0	0	0	0
09:00	0	25	0	2	0	0	27	09:00	1	94	0	1	0	0	96	09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0
09:15	0	17	0	1	0	0	18	09:15	6	108	0	3	1	0	118	09:15	0	1	0	0	0	0	1	09:15	0	0	0	0	0	0	0
09:30	0	21	0	0	0	0	21	09:30	0	126	0	2	1	0	129	09:30	0	2	0	0	0	0	2	09:30	0	0	0	0	0	0	0
09:45	0	35	0	1	0	0	36	09:45	0	132	0	2	0	0	134	09:45	0	4	0	0	0	1	5	09:45	0	0	0	0	0	0	0
10:00	0	23	0	2	0	0	25	10:00	3	127	0	8	2	0	140	10:00	0	8	0	0	0	0	8	10:00	0	0	0	0	0	0	0
10:15	1	29	0	0	0	0	30	10:15	1	139	0	4	3	1	148	10:15	0	8	0	0	0	0	8	10:15	0	0	0	0	0	0	0
10:30	1	31	0	0	0	0	32	10:30	1	164	0	3	1	0	169	10:30	0	8	0	0	0	0	8	10:30	0	0	0	0	0	0	0
10:45	1	37	0	0	0	0	38	10:45	0	163	1	1	0	0	165	10:45	0	9	0	0	0	1	10	10:45	0	0	0	0	0	0	0
11:00	0	28	0	0	0	0	28	11:00	0	158	0	1	1	1	161	11:00	0	6	0	0	0	0	6	11:00	0	0	0	0	0	0	0
11:15	0	39	0	0	0	0	39	11:15	0	140	0	2	0	0	142	11:15	0	11	0	0	0	0	11	11:15	0	0	0	0	0	0	0
11:30	**1**	**40**	**0**	**1**	**0**	**0**	**42**	11:30	**3**	**152**	**0**	**4**	**0**	**0**	**159**	11:30	**0**	**8**	**0**	**0**	**0**	**0**	**8**	11:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
11:45	**7**	**41**	**0**	**0**	**0**	**0**	**48**	11:45	**1**	**159**	**1**	**5**	**1**	**0**	**167**	11:45	**0**	**7**	**0**	**0**	**0**	**0**	**7**	11:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:00	**0**	**43**	**0**	**3**	**1**	**0**	**47**	12:00	**3**	**158**	**0**	**2**	**2**	**0**	**165**	12:00	**0**	**5**	**0**	**0**	**0**	**0**	**5**	12:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:15	**2**	**35**	**0**	**1**	**0**	**0**	**38**	12:15	**1**	**134**	**0**	**6**	**0**	**0**	**141**	12:15	**0**	**4**	**0**	**0**	**0**	**0**	**4**	12:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**
12:30	0	24	0	0	0	0	24	12:30	1	142	1	2	0	0	146	12:30	0	4	0	0	0	0	4	12:30	0	1	0	0	0	0	1
12:45	0	35	0	2	0	0	37	12:45	3	140	0	5	0	0	148	12:45	0	8	0	0	0	0	8	12:45	0	0	0	0	0	0	0
13:00	0	29	0	0	0	0	29	13:00	8	160	0	6	2	0	176	13:00	0	2	0	0	0	1	3	13:00	0	0	0	0	0	0	0
13:15	0	32	0	0	0	0	32	13:15	3	154	0	3	0	0	160	13:15	0	2	0	0	0	0	2	13:15	0	0	0	0	0	0	0
13:30	4	31	0	2	0	0	37	13:30	4	166	0	2	0	0	172	13:30	0	6	0	0	0	0	6	13:30	0	0	0	0	0	0	0
13:45	0	38	0	0	0	0	38	13:45	4	137	0	5	3	0	149	13:45	0	5	0	0	0	0	5	13:45	0	0	0	0	0	0	0
14:00	2	34	0	1	0	0	37	14:00	2	142	0	2	1	0	147	14:00	0	6	0	0	0	0	6	14:00	0	0	0	0	0	0	0
14:15	1	38	0	1	0	0	40	14:15	2	141	0	1	0	1	145	14:15	0	3	0	0	0	0	3	14:15	0	0	0	0	0	0	0
14:30	3	51	0	0	0	0	54	14:30	1	138	1	0	0	0	140	14:30	0	4	0	0	0	0	4	14:30	0	0	0	0	0	0	0
14:45	0	43	0	1	0	0	44	14:45	1	129	0	1	2	0	133	14:45	0	6	0	0	0	0	6	14:45	0	0	0	0	0	0	0
15:00	4	40	0	1	0	0	45	15:00	2	131	0	4	0	0	137	15:00	0	3	0	0	0	0	3	15:00	0	0	0	0	0	0	0
15:15	2	52	0	0	0	0	54	15:15	0	140	0	2	1	0	143	15:15	0	4	0	0	0	0	4	15:15	0	0	0	0	0	0	0
15:30	0	49	0	1	0	0	50	15:30	0	144	0	0	0	0	144	15:30	0	4	0	0	0	0	4	15:30	0	0	0	0	0	0	0
15:45	1	40	0	0	0	0	41	15:45	2	134	0	2	0	0	138	15:45	0	5	0	0	0	0	5	15:45	0	0	0	0	0	0	0
16:00	3	47	0	0	0	0	50	16:00	3	169	0	1	0	0	173	16:00	0	4	0	0	0	0	4	16:00	0	0	0	0	0	0	0
16:15	1	60	0	0	0	0	61	16:15	0	150	0	1	1	0	152	16:15	0	5	0	0	0	0	5	16:15	0	0	0	0	0	0	0
16:30	1	45	0	0	0	0	46	16:30	4	121	0	1	0	0	126	16:30	0	5	0	0	0	0	5	16:30	0	0	0	0	0	0	0
16:45	1	55	0	0	0	0	56	16:45	1	170	0	1	0	0	172	16:45	0	2	0	0	0	0	2	16:45	0	0	0	0	0	0	0
17:00	2	53	0	0	0	0	55	17:00	2	151	0	0	0	0	153	17:00	0	5	0	0	0	0	5	17:00	0	0	0	0	0	0	0
17:15	2	46	0	0	0	0	48	17:15	1	135	0	1	0	0	137	17:15	0	4	0	0	0	0	4	17:15	0	0	0	0	0	0	0
17:30	0	44	0	0	0	0	44	17:30	2	118	0	0	1	0	121	17:30	0	3	0	0	0	0	3	17:30	0	0	0	0	0	0	0
17:45	1	30	0	0	0	0	31	17:45	1	116	0	0	1	0	118	17:45	0	3	0	0	0	0	3	17:45	0	1	0	0	0	0	1
Total	41	1483	1	28	2	0	1555	Total	71	5794	5	116	36	11	6033	Total	0	181	0	0	0	3	184	Total	0	2	0	0	0	0	2
% of Total	2.6%	95.4%	0.1%	1.8%	0.1%	0%	100%	% of Total	1.2%	96%	0.1%	1.9%	0.6%	0.2%	100%	% of Total	0%	98.4%	0%	0%	0%	1.6%	100%	% of Total	0%	100%	0%	0%	0%	0%	100%
% of Approach	36.6%	19.9%	16.7%	19.4%	5.3%	0%	20%	% of Approach	63.4%	77.7%	83.3%	80.6%	94.7%	78.6%	77.6%	% of Approach	0%	2.4%	0%	0%	0%	21.4%	2.4%	% of Approach	0%	0%	0%	0%	0%	0%	0%

Cover

MAINE_DOT_TM - 000031130043 - Kittery - US 1, Adams Dr, 26/07/2022 - Tuesday, July 26, 2022

Study Name

Kittery - US 1, Adams Dr, 26/07/2022

Study Description

Kittery - US 1, Adams Dr, 26/07/2022 turning movement

Date of Survey

Tuesday, July 26, 2022

Time Period

06:00 - 18:00

Comments

-

Location

Classes

Mcl
Car
Bus
SUT
Semis
Bicycle

Movements

MAINE_DOT_TM - 000031130043 - Kittery - US 1, Adams Dr, 26/07/2022 - Tuesday, July 26, 2022

From: US 1 (NorthEast)

To: US 1 (NorthEast)								**To: Adams Dr**								**To: US 1 (SouthWest)**							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	1	1	06:00	3	69	0	1	0	0	73
06:15	0	0	0	0	0	0	0	06:15	0	1	0	0	0	0	1	06:15	1	80	0	0	0	0	81
06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0	06:30	2	118	0	0	0	0	120
06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0	06:45	3	104	0	1	0	0	108
07:00	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	07:00	1	113	1	5	1	0	121
07:15	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	07:15	2	125	0	4	0	0	131
07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	07:30	1	136	1	2	0	0	140
07:45	0	0	0	0	0	0	0	07:45	1	0	0	0	0	0	1	07:45	1	133	0	6	1	0	141
08:00	0	0	0	0	0	0	0	08:00	0	2	0	0	0	1	3	08:00	0	144	1	6	1	0	152
08:15	0	0	0	0	0	0	0	08:15	0	1	0	0	0	0	1	08:15	1	143	0	6	0	0	150
08:30	0	0	0	0	0	0	0	08:30	0	1	0	0	0	0	1	08:30	1	148	0	1	0	0	150
08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	1	156	0	3	0	0	160
09:00	0	0	0	0	0	0	0	09:00	0	1	0	0	0	0	1	09:00	0	134	0	4	1	0	139
09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	2	136	0	4	2	0	144
09:30	0	0	0	0	0	0	0	09:30	0	1	0	0	0	0	1	09:30	0	157	0	5	2	3	167
09:45	0	0	0	0	0	0	0	09:45	0	0	0	0	0	0	0	09:45	2	154	0	4	0	0	160
10:00	0	0	0	0	0	0	0	10:00	0	1	0	0	0	0	1	10:00	0	159	0	6	3	0	168
10:15	0	0	0	0	0	0	0	10:15	0	0	0	0	0	0	0	10:15	0	135	0	1	1	0	137
10:30	0	0	0	0	0	0	0	10:30	0	1	0	0	0	1	2	10:30	1	147	1	7	0	1	157
10:45	0	0	0	0	0	0	0	10:45	0	1	0	0	0	0	1	10:45	3	161	0	6	0	0	170
11:00	0	0	0	0	0	0	0	11:00	0	0	0	0	0	0	0	11:00	5	187	0	7	2	0	201
11:15	0	0	0	0	0	0	0	11:15	0	1	0	0	0	0	1	11:15	8	193	0	4	1	0	206
11:30	0	0	0	0	0	0	0	11:30	0	0	0	0	0	0	0	11:30	2	182	0	5	2	0	191
11:45	0	0	0	0	0	0	0	11:45	0	0	0	0	0	0	0	11:45	2	204	1	6	1	0	214
12:00	0	0	0	0	0	0	0	12:00	0	0	0	0	0	0	0	12:00	2	188	2	3	1	0	196
12:15	0	0	0	0	0	0	0	12:15	0	0	0	0	0	0	0	12:15	0	195	0	7	1	0	203
12:30	0	0	0	0	0	0	0	12:30	0	1	0	0	0	0	1	12:30	2	197	0	2	0	0	201
12:45	0	0	0	0	0	0	0	12:45	0	0	0	0	0	0	0	12:45	3	192	1	1	1	0	198
13:00	0	0	0	0	0	0	0	13:00	0	0	0	0	0	0	0	13:00	5	226	0	4	3	0	238
13:15	0	0	0	0	0	0	0	13:15	0	0	0	0	0	0	0	13:15	1	156	1	4	0	0	162
13:30	0	0	0	0	0	0	0	13:30	0	2	0	0	0	0	2	13:30	5	202	0	4	1	0	212
13:45	0	0	0	0	0	0	0	13:45	0	0	0	0	0	0	0	13:45	0	221	1	1	1	0	224
14:00	0	0	0	0	0	0	0	14:00	0	1	0	0	0	0	1	14:00	0	220	0	3	1	0	224
14:15	0	0	0	0	0	0	0	14:15	0	0	0	0	0	0	0	14:15	0	249	0	5	2	0	256
14:30	0	0	0	0	0	0	0	14:30	0	0	0	0	0	0	0	14:30	1	219	0	2	0	0	222
14:45	0	0	0	0	0	0	0	14:45	0	0	0	0	0	0	0	14:45	4	208	0	4	0	0	216
15:00	0	0	0	0	0	0	0	15:00	0	1	0	0	0	0	1	15:00	9	184	1	9	0	0	203
15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:15	**0**	**1**	**0**	**0**	**0**	**0**	**1**	15:15	**3**	**223**	**1**	**2**	**1**	**0**	**230**
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:30	**7**	**222**	**1**	**2**	**0**	**0**	**232**
15:45	**0**	**1**	**0**	**0**	**0**	**0**	**1**	15:45	**0**	**1**	**0**	**0**	**0**	**0**	**1**	15:45	**4**	**215**	**0**	**1**	**0**	**0**	**220**
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:00	**3**	**207**	**1**	**1**	**0**	**0**	**212**
16:15	0	0	0	0	0	0	0	16:15	0	0	0	0	0	0	0	16:15	1	221	0	5	1	0	228
16:30	0	0	0	0	0	0	0	16:30	0	1	0	0	0	1	2	16:30	3	218	0	2	0	1	224
16:45	0	0	0	0	0	0	0	16:45	0	1	0	0	0	0	1	16:45	0	239	0	3	0	0	242
17:00	0	0	0	0	0	0	0	17:00	0	0	0	0	0	0	0	17:00	11	197	0	2	0	0	210
17:15	0	0	0	0	0	0	0	17:15	0	0	0	0	0	1	1	17:15	0	197	0	0	3	0	200
17:30	0	0	0	0	0	0	0	17:30	0	0	0	0	0	0	0	17:30	2	178	0	0	0	0	180
17:45	0	0	0	0	0	0	0	17:45	0	0	0	0	0	0	0	17:45	4	177	0	0	2	0	183
Total	0	1	0	0	0	0	1	Total	1	20	0	0	0	5	26	Total	112	8369	14	161	36	5	8697
% of Total	0%	100%	0%	0%	0%	0%	100%	% of Total	3.8%	76.9%	0%	0%	0%	19.2%	100%	% of Total	1.3%	96.2%	0.2%	1.9%	0.4%	0.1%	100%
% of Approach	0%	0%	0%	0%	0%	0%	0%	% of Approach	0.9%	0.2%	0%	0%	0%	50%	0.3%	% of Approach	99.1%	99.7%	100%	100%	100%	50%	99.7%

From: Adams Dr

To: US 1 (NorthEast)								**To: Adams Dr**								**To: US 1 (SouthWest)**							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	1	0	0	0	0	1	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0
06:30	0	1	0	0	0	0	1	06:30	0	0	0	0	0	0	0	06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0	06:45	0	1	0	0	0	0	1
07:00	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	07:00	0	1	0	0	0	0	1
07:15	0	1	0	0	0	0	1	07:15	0	0	0	0	0	0	0	07:15	0	2	0	0	0	0	2
07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	07:30	0	2	0	0	0	0	2
07:45	0	1	0	1	0	0	2	07:45	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0

08:00	0	1	0	0	0	0	1	08:00	0	0	0	0	0	0	0	08:00	0	1	0	0	0	0	1
08:15	0	1	0	0	0	0	1	08:15	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	1	08:30	0	0	0	0	0	0	0	08:30	0	1	0	0	0	0	1
08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	0	3	0	0	0	0	3
09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0
09:30	0	0	0	1	0	0	1	09:30	0	0	0	0	0	0	0	09:30	0	0	0	0	0	0	0
09:45	0	1	0	1	0	0	2	09:45	0	0	0	0	0	0	0	09:45	0	3	0	0	0	0	3
10:00	0	0	0	0	0	0	0	10:00	0	0	0	0	0	0	0	10:00	0	1	0	0	0	0	1
10:15	0	2	0	0	0	0	2	10:15	0	0	0	0	0	0	0	10:15	0	2	0	0	0	0	2
10:30	0	2	0	1	0	1	4	10:30	0	0	0	0	0	0	0	10:30	0	1	0	0	0	0	1
10:45	0	1	0	0	0	1	2	10:45	0	0	0	0	0	0	0	10:45	0	1	0	0	0	0	1
11:00	0	0	0	0	0	0	0	11:00	0	0	0	0	0	0	0	11:00	0	0	0	0	0	0	0
11:15	0	2	0	0	0	0	2	11:15	0	0	0	0	0	0	0	11:15	0	1	0	0	0	0	1
11:30	0	0	0	0	0	0	0	11:30	0	0	0	0	0	0	0	11:30	0	0	0	0	0	0	0
11:45	0	1	0	0	0	0	1	11:45	0	0	0	0	0	0	0	11:45	0	1	0	0	0	0	1
12:00	0	1	0	0	0	0	1	12:00	0	0	0	0	0	0	0	12:00	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	12:15	0	0	0	0	0	0	0	12:15	0	1	0	0	0	0	1
12:30	0	0	0	0	0	0	0	12:30	0	0	0	0	0	0	0	12:30	0	2	0	0	0	0	2
12:45	0	1	0	0	0	0	1	12:45	0	0	0	0	0	0	0	12:45	0	2	0	0	0	0	2
13:00	0	1	0	0	0	0	1	13:00	0	0	0	0	0	0	0	13:00	0	1	0	0	0	0	1
13:15	0	0	0	0	0	0	0	13:15	0	0	0	0	0	0	0	13:15	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	13:30	0	0	0	0	0	0	0	13:30	0	3	0	0	0	0	3
13:45	0	4	0	0	0	0	4	13:45	0	0	0	0	0	0	0	13:45	0	0	0	0	0	0	0
14:00	0	0	0	0	0	1	1	14:00	0	0	0	0	0	0	0	14:00	0	0	0	0	0	0	0
14:15	0	1	0	0	0	0	1	14:15	0	0	0	0	0	0	0	14:15	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	14:30	0	0	0	0	0	0	0	14:30	0	0	0	0	0	0	0
14:45	0	0	0	0	0	1	1	14:45	0	0	0	0	0	0	0	14:45	0	0	0	0	0	0	0
15:00	0	2	0	0	0	0	2	15:00	0	0	0	0	0	0	0	15:00	0	3	0	0	0	0	3
15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:15	**0**	**1**	**0**	**0**	**0**	**0**	**1**
15:30	**0**	**2**	**0**	**1**	**0**	**0**	**3**	15:30	**0**	**1**	**0**	**0**	**0**	**0**	**1**	15:30	**0**	**1**	**0**	**1**	**1**	**0**	**3**
15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:45	**0**	**1**	**0**	**0**	**0**	**0**	**1**
16:00	**0**	**2**	**0**	**1**	**0**	**0**	**3**	16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:00	**0**	**2**	**0**	**0**	**0**	**0**	**2**
16:15	0	0	0	0	0	0	0	16:15	0	0	0	0	0	0	0	16:15	0	3	0	0	0	0	3
16:30	0	0	0	0	0	0	0	16:30	0	0	0	0	0	0	0	16:30	0	1	0	0	0	0	1
16:45	0	1	0	0	0	0	1	16:45	0	0	0	0	0	0	0	16:45	0	0	0	0	0	0	0
17:00	0	0	0	0	0	1	1	17:00	0	0	0	0	0	0	0	17:00	0	2	0	0	0	0	2
17:15	0	0	0	0	0	0	0	17:15	0	0	0	0	0	0	0	17:15	0	0	0	0	0	0	0
17:30	0	1	0	0	0	0	1	17:30	0	0	0	0	0	0	0	17:30	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	17:45	0	0	0	0	0	0	0	17:45	0	1	0	0	0	0	1
Total	0	32	0	6	0	5	43	Total	0	1	0	0	0	0	1	Total	0	45	0	1	1	0	47
% of Total	0%	74.4%	0%	14%	0%	11.6%	100%	% of Total	0%	100%	0%	0%	0%	0%	100%	% of Total	0%	95.7%	0%	2.1%	2.1%	0%	100%
% of Approach	-	41%	-	85.7%	0%	100%	47.3%	% of Approach	-	1.3%	-	0%	0%	0%	1.1%	% of Approach	-	57.7%	-	14.3%	100%	0%	51.6%

From: US 1 (SouthWest)

To: US 1 (NorthEast)								**To: Adams Dr**								**To: US 1 (SouthWest)**							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	34	0	1	2	0	37	06:00	0	0	0	0	0	0	0	06:00	0	0	0	0	0	0	0
06:15	0	35	0	2	0	0	37	06:15	0	0	0	0	0	0	0	06:15	0	0	0	0	0	0	0
06:30	1	50	0	1	0	0	52	06:30	0	0	0	0	0	0	0	06:30	0	1	0	0	0	0	1
06:45	0	74	1	3	1	0	79	06:45	0	0	0	0	0	0	0	06:45	0	0	0	0	0	0	0
07:00	2	51	0	4	2	0	59	07:00	0	1	0	0	0	0	1	07:00	0	0	0	0	0	0	0
07:15	0	50	0	3	0	0	53	07:15	0	1	0	0	0	0	1	07:15	0	0	0	0	0	0	0
07:30	1	81	0	5	2	1	90	07:30	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0
07:45	0	82	1	9	0	0	92	07:45	0	1	0	1	0	0	2	07:45	0	0	0	0	0	0	0
08:00	3	86	0	6	2	0	97	08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0
08:15	2	84	0	4	0	0	90	08:15	0	0	0	2	0	0	2	08:15	0	0	0	0	0	0	0
08:30	0	97	0	4	0	0	101	08:30	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0
08:45	3	110	0	6	1	0	120	08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0
09:00	1	113	0	4	2	2	122	09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0
09:15	5	143	0	4	4	0	156	09:15	0	1	0	0	0	0	1	09:15	0	0	0	0	0	0	0
09:30	1	138	0	5	0	1	145	09:30	0	0	0	1	0	0	1	09:30	0	0	0	0	0	0	0
09:45	1	167	0	6	3	0	177	09:45	0	0	0	0	0	0	0	09:45	0	0	0	0	0	0	0
10:00	2	160	0	5	3	1	171	10:00	0	1	0	0	0	0	1	10:00	0	0	0	0	0	0	0
10:15	3	165	1	3	1	0	173	10:15	0	2	0	0	0	0	2	10:15	0	0	0	0	0	0	0
10:30	0	201	1	3	2	0	207	10:30	0	2	0	1	0	0	3	10:30	0	0	0	0	0	0	0
10:45	6	216	1	3	0	0	226	10:45	0	1	0	0	0	0	1	10:45	0	0	0	0	0	0	0
11:00	3	193	0	6	3	0	205	11:00	0	0	0	0	0	0	0	11:00	0	0	0	0	0	0	0
11:15	4	198	0	5	2	0	209	11:15	0	2	0	0	0	0	2	11:15	0	0	0	0	0	0	0
11:30	4	219	3	5	2	1	234	11:30	0	2	0	0	0	0	2	11:30	0	0	0	0	0	0	0
11:45	3	220	1	3	2	0	229	11:45	0	3	0	0	0	0	3	11:45	0	0	0	0	0	0	0

12:00	1	200	1	2	0	0	204	12:00	0	0	0	0	0	1	1	12:00	0	0	0	0	0	0	0
12:15	4	210	0	2	0	0	216	12:15	0	2	0	0	0	0	2	12:15	0	0	0	0	0	0	0
12:30	2	185	1	1	1	0	190	12:30	0	1	0	0	0	0	1	12:30	0	0	0	0	0	0	0
12:45	4	198	0	9	0	0	211	12:45	0	1	0	0	0	0	1	12:45	0	0	0	0	0	0	0
13:00	5	220	0	2	3	0	230	13:00	0	4	0	0	0	0	4	13:00	0	0	0	0	0	0	0
13:15	2	194	0	6	1	0	203	13:15	0	0	0	0	0	0	0	13:15	0	0	0	0	0	0	0
13:30	3	198	0	2	1	0	204	13:30	0	2	0	1	0	0	3	13:30	0	0	0	0	0	0	0
13:45	6	201	0	2	1	0	210	13:45	0	3	0	0	0	0	3	13:45	0	0	0	0	0	0	0
14:00	8	187	0	1	0	0	196	14:00	0	2	0	0	0	0	2	14:00	0	0	0	0	0	0	0
14:15	7	194	0	2	1	2	206	14:15	0	1	0	0	0	0	1	14:15	0	0	0	0	0	0	0
14:30	9	189	0	4	1	1	204	14:30	0	0	0	0	0	0	0	14:30	0	0	0	0	0	0	0
14:45	2	235	0	2	1	0	240	14:45	0	2	0	0	0	0	2	14:45	0	0	0	0	0	0	0
15:00	13	211	0	3	0	1	228	15:00	0	1	0	0	0	0	1	15:00	0	0	0	0	0	0	0
15:15	**9**	**224**	**0**	**2**	**3**	**1**	**239**	15:15	**0**	**2**	**0**	**0**	**0**	**0**	**2**	15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:30	**5**	**226**	**0**	**0**	**1**	**1**	**233**	15:30	**0**	**2**	**0**	**2**	**1**	**0**	**5**	15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:45	**5**	**236**	**0**	**4**	**0**	**0**	**245**	15:45	**0**	**2**	**0**	**0**	**0**	**0**	**2**	15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:00	**6**	**228**	**0**	**3**	**1**	**2**	**240**	16:00	**0**	**2**	**0**	**0**	**0**	**0**	**2**	16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:15	4	228	0	2	1	0	235	16:15	0	1	0	0	0	0	1	16:15	0	0	0	0	0	0	0
16:30	4	220	0	1	2	1	228	16:30	0	1	0	0	0	0	1	16:30	0	0	0	0	0	0	0
16:45	6	205	0	2	0	0	213	16:45	0	0	0	0	0	0	0	16:45	0	0	0	0	0	0	0
17:00	0	219	0	2	1	0	222	17:00	0	2	0	0	0	0	2	17:00	0	0	0	0	0	0	0
17:15	2	206	0	0	0	0	208	17:15	0	0	0	0	0	0	0	17:15	0	0	0	0	0	0	0
17:30	2	184	0	1	1	0	188	17:30	0	1	0	0	0	0	1	17:30	0	0	0	0	0	0	0
17:45	3	142	0	1	0	0	146	17:45	0	0	0	0	0	0	0	17:45	0	0	0	0	0	0	0
Total	157	7907	11	156	54	15	8300	Total	0	49	0	8	1	1	59	Total	0	1	0	0	0	0	1
% of Total	1.9%	95.3%	0.1%	1.9%	0.7%	0.2%	100%	% of Total	0%	83.1%	0%	13.6%	1.7%	1.7%	100%	% of Total	0%	100%	0%	0%	0%	0%	100%
% of Approach	100%	99.4%	100%	95.1%	98.2%	93.8%	99.3%	% of Approach	0%	0.6%	0%	4.9%	1.8%	6.2%	0.7%	% of Approach	0%	0%	0%	0%	0%	0%	0%

Cover

MAINE_DOT_TM - 000031130105 - Kittery - US 1, Old Wilson Rd, 26/07/2022 - Tuesday, July 26, 2022

Study Name

Kittery - US 1, Old Wilson Rd, 26/07/2022

Study Description

Kittery - US 1, Old Wilson Rd, 26/07/2022 turning movement

Date of Survey

Tuesday, July 26, 2022

Time Period

06:00 - 18:00

Comments

-

Location

Classes

Mcl
Car
Bus
SUT
Semis
Bicycle

Movements

MAINE_DOT_TM - 000031130105 - Kittery - US 1, Old Wilson Rd, 26/07/2022 - Tuesday, July 26, 2022

From: Old Wilson Rd							
To: Old Wilson Rd							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0
15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:15	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
% of Total	-	-	-	-	-	-	-
% of Approach	0%	0%	-	0%	0%	0%	0%

To: US 1 (NorthEast)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0
06:15	0	1	0	0	0	0	1
06:30	0	1	0	0	0	0	1
06:45	0	1	0	0	0	0	1
07:00	0	2	0	0	0	0	2
07:15	0	2	0	0	0	0	2
07:30	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	1
08:45	0	0	0	0	0	0	0
09:00	0	1	0	0	1	0	2
09:15	0	0	0	0	0	0	0
09:30	0	2	0	0	0	0	2
09:45	0	2	0	0	0	0	2
10:00	0	2	0	0	0	0	2
10:15	0	0	0	0	0	0	0
10:30	0	2	0	0	0	0	2
10:45	0	1	0	0	0	0	1
11:00	0	1	0	0	0	0	1
11:15	0	2	0	0	0	0	2
11:30	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0
12:00	0	1	0	0	0	0	1
12:15	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0
13:00	0	1	0	0	0	0	1
13:15	0	0	0	0	0	0	0
13:30	0	3	0	0	0	0	3
13:45	0	3	0	0	0	0	3
14:00	0	1	0	0	0	0	1
14:15	0	1	0	0	0	0	1
14:30	0	0	0	0	0	0	0
14:45	0	1	0	0	0	0	1
15:00	0	0	0	0	0	0	0
15:15	**0**	**3**	**0**	**0**	**0**	**0**	**3**
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:45	**0**	**1**	**0**	**0**	**0**	**0**	**1**
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:15	0	4	0	0	0	0	4
16:30	0	2	0	0	0	0	2
16:45	0	1	0	0	0	0	1
17:00	0	1	0	0	0	0	1
17:15	0	0	0	0	0	0	0
17:30	0	2	0	0	0	0	2
17:45	0	1	0	0	0	0	1
Total	0	47	0	0	1	0	48
% of Total	0%	97.9%	0%	0%	2.1%	0%	100%
% of Approach	0%	21.9%	-	0%	100%	0%	21.3%

To: US 1 (SouthWest)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	1	1
06:15	0	3	0	0	0	0	3
06:30	0	2	0	0	0	0	2
06:45	0	1	0	0	0	0	1
07:00	0	3	0	0	0	0	3
07:15	0	3	0	0	0	0	3
07:30	0	2	0	0	0	0	2
07:45	0	2	0	0	0	0	2
08:00	0	3	0	0	0	1	4
08:15	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	1
08:45	0	1	0	0	0	0	1
09:00	0	2	0	0	0	0	2
09:15	0	4	0	0	0	0	4
09:30	0	4	0	0	0	0	4
09:45	0	2	0	0	0	0	2
10:00	0	2	0	0	0	0	2
10:15	0	4	0	0	0	0	4
10:30	0	5	0	0	0	0	5
10:45	0	3	0	0	0	0	3
11:00	0	6	0	1	0	0	7
11:15	1	2	0	0	0	0	3
11:30	0	4	0	0	0	0	4
11:45	0	3	0	0	0	0	3
12:00	0	3	0	0	0	0	3
12:15	0	1	0	0	0	0	1
12:30	0	4	0	0	0	0	4
12:45	0	5	0	0	0	0	5
13:00	0	3	0	0	0	0	3
13:15	0	4	0	1	0	0	5
13:30	0	0	0	1	0	0	1
13:45	0	3	0	0	0	0	3
14:00	0	8	0	0	0	0	8
14:15	0	6	0	0	0	0	6
14:30	0	4	0	0	0	0	4
14:45	0	5	0	0	0	1	6
15:00	0	3	0	0	0	0	3
15:15	**0**	**10**	**0**	**0**	**0**	**0**	**10**
15:30	**0**	**2**	**0**	**1**	**0**	**0**	**3**
15:45	**0**	**2**	**0**	**0**	**0**	**0**	**2**
16:00	**1**	**7**	**0**	**0**	**0**	**0**	**8**
16:15	0	6	0	0	0	0	6
16:30	0	4	0	0	0	0	4
16:45	0	3	0	0	0	0	3
17:00	0	9	0	0	0	0	9
17:15	0	6	0	0	0	0	6
17:30	0	4	0	0	0	0	4
17:45	0	4	0	0	0	0	4
Total	2	168	0	4	0	3	177
% of Total	1.1%	94.9%	0%	2.3%	0%	1.7%	100%
% of Approach	100%	78.1%	-	100%	0%	100%	78.7%

From: US 1 (NorthEast)							
To: Old Wilson Rd							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	1	0	0	0	0	1
06:15	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0
07:00	0	1	0	0	0	0	1
07:15	0	1	0	0	0	0	1
07:30	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0

To: US 1 (NorthEast)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0

To: US 1 (SouthWest)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	3	67	0	0	0	0	70
06:15	1	81	0	0	0	0	82
06:30	2	115	0	0	0	0	117
06:45	3	107	0	1	0	0	111
07:00	1	103	1	5	2	0	112
07:15	2	128	0	3	0	0	133
07:30	1	124	1	2	0	0	128
07:45	2	145	0	4	1	0	152

08:00	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	08:00	1	129	1	4	1	1	137
08:15	0	1	0	0	0	0	1	08:15	0	0	0	0	0	0	0	08:15	1	160	0	7	0	0	168
08:30	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0	08:30	2	146	0	1	0	0	149
08:45	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	08:45	1	150	0	4	1	0	156
09:00	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0	09:00	0	125	0	5	0	0	130
09:15	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	09:15	0	141	0	5	2	0	148
09:30	0	0	0	0	0	0	0	09:30	0	0	0	0	0	0	0	09:30	0	152	0	7	1	1	161
09:45	0	1	0	0	0	0	1	09:45	0	0	0	0	0	0	0	09:45	0	153	0	3	0	0	156
10:00	0	0	0	0	0	0	0	10:00	0	0	0	0	0	0	0	10:00	0	161	0	5	2	0	168
10:15	0	1	0	0	0	0	1	10:15	0	0	0	0	0	0	0	10:15	0	124	0	3	1	0	128
10:30	0	0	0	0	0	0	0	10:30	0	0	0	0	0	0	0	10:30	1	145	1	5	0	1	153
10:45	0	0	0	2	0	0	2	10:45	0	0	0	0	0	0	0	10:45	3	145	0	7	0	0	155
11:00	0	0	0	0	0	0	0	11:00	0	0	0	0	0	0	0	11:00	5	197	0	7	2	0	211
11:15	0	1	0	0	0	0	1	11:15	0	0	0	0	0	0	0	11:15	7	179	0	3	1	0	190
11:30	0	1	0	0	0	0	1	11:30	0	0	0	0	0	0	0	11:30	2	192	0	6	2	0	202
11:45	0	0	0	0	0	0	0	11:45	0	0	0	0	0	0	0	11:45	2	200	1	6	1	0	210
12:00	0	0	0	0	0	0	0	12:00	0	0	0	0	0	0	0	12:00	3	184	2	2	1	0	192
12:15	0	0	0	0	0	0	0	12:15	0	0	0	0	0	0	0	12:15	0	192	0	9	1	0	202
12:30	0	1	0	0	0	0	1	12:30	0	0	0	0	0	0	0	12:30	2	190	0	2	0	0	194
12:45	0	2	0	0	0	0	2	12:45	0	0	0	0	0	0	0	12:45	3	195	1	2	2	0	203
13:00	0	1	0	0	0	0	1	13:00	0	0	0	0	0	0	0	13:00	4	208	1	3	3	0	219
13:15	0	2	0	0	0	0	2	13:15	0	0	0	0	0	0	0	13:15	2	168	3	2	0	0	175
13:30	0	4	0	0	0	0	4	13:30	0	0	0	0	0	0	0	13:30	6	201	0	4	1	0	212
13:45	0	3	0	0	0	0	3	13:45	0	0	0	0	0	0	0	13:45	0	217	1	0	1	0	219
14:00	0	2	0	0	0	0	2	14:00	0	0	0	0	0	0	0	14:00	2	199	0	3	1	0	205
14:15	0	2	0	0	0	0	2	14:15	0	0	0	0	0	0	0	14:15	1	226	0	6	2	0	235
14:30	0	0	0	0	0	0	0	14:30	0	0	0	0	0	0	0	14:30	5	229	0	1	1	0	236
14:45	0	1	0	0	0	0	1	14:45	0	0	0	0	0	0	0	14:45	4	202	0	5	0	0	211
15:00	0	4	0	0	0	0	4	15:00	0	0	0	0	0	0	0	15:00	9	181	0	7	1	0	198
15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:15	**4**	**213**	**0**	**3**	**0**	**0**	**220**
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:30	**5**	**214**	**0**	**0**	**0**	**0**	**219**
15:45	**0**	**1**	**0**	**0**	**0**	**0**	**1**	15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:45	**7**	**226**	**0**	**2**	**0**	**0**	**235**
16:00	**0**	**3**	**0**	**0**	**0**	**0**	**3**	16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:00	**2**	**201**	**1**	**1**	**0**	**0**	**205**
16:15	0	1	0	0	0	0	1	16:15	0	0	0	0	0	0	0	16:15	1	195	0	8	1	0	205
16:30	0	2	0	0	0	0	2	16:30	0	0	0	0	0	0	0	16:30	3	227	0	2	0	2	234
16:45	0	3	0	0	0	0	3	16:45	0	0	0	0	0	0	0	16:45	1	233	0	4	0	0	238
17:00	0	2	0	0	0	0	2	17:00	0	0	0	0	0	0	0	17:00	9	194	0	2	0	0	205
17:15	0	2	0	0	0	0	2	17:15	0	0	0	0	0	0	0	17:15	0	191	0	0	3	0	194
17:30	0	1	0	0	0	0	1	17:30	0	0	0	0	0	0	0	17:30	1	175	0	0	0	1	177
17:45	0	2	0	0	0	0	2	17:45	0	0	0	0	0	0	0	17:45	3	163	0	0	2	0	168
Total	0	47	0	2	0	0	49	Total	0	0	0	0	0	0	0	Total	117	8193	14	161	37	6	8528
% of Total	0%	95.9%	0%	4.1%	0%	0%	100%	% of Total	-	-	-	-	-	-	-	% of Total	1.4%	96.1%	0.2%	1.9%	0.4%	0.1%	100%
% of Approach	0%	0.6%	0%	1.2%	0%	0%	0.6%	% of Approach	0%	0%	0%	0%	0%	0%	0%	% of Approach	100%	99.4%	100%	98.8%	100%	100%	99.4%

From: US 1 (SouthWest)

To: Old Wilson Rd								**To: US 1 (NorthEast)**								**To: US 1 (SouthWest)**							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	1	0	0	0	0	1	06:00	0	31	0	2	2	0	35	06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	06:15	0	37	0	2	0	0	39	06:15	0	0	0	0	0	0	0
06:30	0	1	0	0	0	0	1	06:30	1	47	0	1	0	0	49	06:30	0	1	0	0	0	0	1
06:45	0	0	0	0	0	0	0	06:45	0	73	1	2	1	0	77	06:45	0	0	0	0	0	0	0
07:00	0	1	0	0	0	0	1	07:00	2	53	0	3	1	0	59	07:00	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	07:15	0	51	0	3	1	0	55	07:15	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	07:30	1	79	0	4	3	2	89	07:30	0	0	0	0	0	0	0
07:45	0	1	0	0	0	0	1	07:45	0	80	1	8	2	0	91	07:45	0	0	0	0	0	0	0
08:00	0	2	0	0	0	0	2	08:00	0	86	0	6	2	2	96	08:00	0	1	0	0	0	0	1
08:15	0	1	0	0	0	0	1	08:15	2	86	0	2	1	0	91	08:15	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	1	08:30	0	92	0	7	0	0	99	08:30	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	08:45	4	110	0	8	1	0	123	08:45	0	0	0	0	0	0	0
09:00	0	2	0	0	0	0	2	09:00	1	111	0	3	1	2	118	09:00	0	0	0	0	0	0	0
09:15	0	1	0	0	0	0	1	09:15	5	137	0	3	3	0	148	09:15	0	1	0	0	0	0	1
09:30	0	2	0	0	0	0	2	09:30	1	129	0	6	0	0	136	09:30	0	0	0	0	0	0	0
09:45	0	2	0	0	0	0	2	09:45	1	166	0	5	3	0	175	09:45	0	0	0	0	0	0	0
10:00	0	4	0	0	0	0	4	10:00	2	151	0	6	2	1	162	10:00	0	1	0	0	0	0	1
10:15	0	4	0	0	0	0	4	10:15	3	158	1	5	1	0	168	10:15	0	0	0	0	0	0	0
10:30	0	1	0	0	0	0	1	10:30	0	197	1	6	2	1	207	10:30	0	0	0	0	0	0	0
10:45	1	1	0	0	0	0	2	10:45	5	219	1	4	0	1	230	10:45	0	0	0	0	0	0	0
11:00	1	3	0	0	0	0	4	11:00	2	189	0	5	3	0	199	11:00	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	11:15	4	202	0	5	2	0	213	11:15	0	0	0	0	0	0	0
11:30	1	0	0	0	0	0	1	11:30	3	225	3	6	1	1	239	11:30	0	0	0	0	0	0	0
11:45	0	2	0	0	0	0	2	11:45	3	212	1	4	2	0	222	11:45	0	0	0	0	0	0	0

12:00	0	1	0	0	0	0	1	12:00	1	196	1	2	0	0	200	12:00	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	12:15	4	214	0	2	0	0	220	12:15	0	0	0	0	0	0	0
12:30	0	1	0	0	0	0	1	12:30	3	172	1	1	1	0	178	12:30	0	0	0	0	0	0	0
12:45	0	1	0	0	0	0	1	12:45	4	204	0	8	0	0	216	12:45	0	1	0	0	0	0	1
13:00	0	3	0	0	0	0	3	13:00	5	207	0	2	3	0	217	13:00	0	1	0	0	0	0	1
13:15	0	0	0	0	0	0	0	13:15	2	193	0	7	0	0	202	13:15	0	0	0	0	0	0	0
13:30	0	3	0	0	0	0	3	13:30	3	198	0	2	1	0	204	13:30	0	0	0	0	0	0	0
13:45	1	3	0	0	0	0	4	13:45	5	198	0	1	2	0	206	13:45	0	0	0	0	0	0	0
14:00	1	4	0	0	0	1	6	14:00	7	181	0	1	0	0	189	14:00	0	0	0	0	0	0	0
14:15	1	2	0	0	0	0	3	14:15	6	188	0	2	1	2	199	14:15	0	0	0	0	0	0	0
14:30	0	6	0	0	0	0	6	14:30	9	190	0	4	1	1	205	14:30	0	0	0	0	0	0	0
14:45	0	5	0	0	0	0	5	14:45	2	235	0	1	0	0	238	14:45	0	0	0	0	0	0	0
15:00	1	3	0	0	0	1	5	15:00	9	204	0	2	0	1	216	15:00	0	0	0	0	0	0	0
15:15	**1**	**9**	**0**	**0**	**0**	**0**	**10**	15:15	**10**	**218**	**0**	**3**	**3**	**0**	**234**	15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:30	**0**	**13**	**0**	**0**	**0**	**0**	**13**	15:30	**4**	**209**	**0**	**1**	**1**	**2**	**217**	15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:45	**0**	**7**	**0**	**0**	**0**	**0**	**7**	15:45	**3**	**226**	**0**	**3**	**0**	**0**	**232**	15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:00	**0**	**6**	**0**	**0**	**0**	**0**	**6**	16:00	**8**	**225**	**0**	**5**	**1**	**0**	**239**	16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:15	2	10	0	0	0	0	12	16:15	1	214	0	3	1	0	219	16:15	0	0	0	0	0	0	0
16:30	1	10	0	0	0	0	11	16:30	5	210	0	0	2	1	218	16:30	0	1	0	0	0	0	1
16:45	0	5	0	0	0	0	5	16:45	6	205	0	1	0	0	212	16:45	0	0	0	0	0	0	0
17:00	0	5	0	0	0	0	5	17:00	0	213	0	2	1	1	217	17:00	0	0	0	0	0	0	0
17:15	0	5	0	0	0	0	5	17:15	2	202	0	1	0	0	205	17:15	0	0	0	0	0	0	0
17:30	0	5	0	0	0	0	5	17:30	2	178	0	2	0	0	182	17:30	0	0	0	0	0	0	0
17:45	0	5	0	1	0	0	6	17:45	3	132	0	0	0	0	135	17:45	0	0	0	0	0	0	0
Total	11	142	0	1	0	2	156	Total	144	7733	11	162	52	18	8120	Total	0	7	0	0	0	0	7
% of Total	7.1%	91%	0%	0.6%	0%	1.3%	100%	% of Total	1.8%	95.2%	0.1%	2%	0.6%	0.2%	100%	% of Total	0%	100%	0%	0%	0%	0%	100%
% of Approach	7.1%	1.8%	0%	0.6%	0%	10%	1.9%	% of Approach	92.9%	98.1%	100%	99.4%	100%	90%	98%	% of Approach	0%	0.1%	0%	0%	0%	0%	0.1%

APPENDIX B

MaineDOT Traffic Volume Adjustments

2018
Weekly Group Mean Factors
as a Percent of AADT
Average: 2015, 2016, 2017

			Month	Urban	Arterial	Recreational	Group	Group	Group	Year
Month	Start Date	Dates	Week #	Group I	Group II	Group III	I + II	II + III	I + III	Week #
Dec	31	1	1	0.96	0.84	0.73	0.89	0.78	0.83	**1**
Jan	07	2	2	0.97	0.83	0.71	0.89	0.76	0.82	**2**
	14	3	3	0.98	0.84	0.71	0.90	0.77	0.82	**3**
	21	4	4	0.97	0.83	0.71	0.89	0.76	0.82	**4**
	28	5	5	0.90	0.75	0.65	0.82	0.69	0.75	**5**
Feb	04	1	1	0.89	0.75	0.61	0.81	0.67	0.72	**6**
	11	2	2	0.91	0.78	0.64	0.83	0.70	0.75	**7**
	18	3	3	0.98	0.85	0.72	0.91	0.78	0.83	**8**
	25	4	4	1.01	0.85	0.71	0.93	0.78	0.83	**9**
Mar	04	1	1	1.02	0.88	0.74	0.94	0.80	0.85	**10**
	11	2	2	0.97	0.84	0.69	0.90	0.76	0.81	**11**
	18	3	3	0.99	0.85	0.70	0.92	0.77	0.82	**12**
	25	4	4	1.02	0.88	0.75	0.94	0.81	0.86	**13**
Apr	01	1	1	1.03	0.88	0.76	0.95	0.81	0.87	**14**
	08	2	2	1.06	0.92	0.79	0.98	0.85	0.90	**15**
	15	3	3	1.06	0.95	0.85	1.00	0.90	0.94	**16**
	22	4	4	1.06	0.93	0.84	0.99	0.88	0.93	**17**
	29	5	5	1.10	0.96	0.86	1.02	0.91	0.96	**18**
May	06	1	1	1.12	1.01	0.94	1.06	0.97	1.02	**19**
	13	2	2	1.14	1.03	1.00	1.08	1.01	1.06	**20**
	20	3	3	1.14	1.08	1.06	1.10	1.06	1.10	**21**
	27	4	4	1.16	1.08	1.06	1.11	1.06	1.11	**22**
Jun	03	1	1	1.14	1.08	1.05	1.10	1.06	1.09	**23**
	10	2	2	1.16	1.11	1.15	1.14	1.12	1.15	**24**
	17	3	3	1.16	1.14	1.20	1.15	1.16	1.18	**25**
	24	4	4	1.16	1.18	1.30	1.16	1.23	1.22	**26**
Jul	01	1	1	1.18	1.25	1.43	1.20	1.33	1.28	**27**
	08	2	2	1.18	1.22	1.37	1.19	1.28	1.27	**28**
	15	3	3	1.18	1.23	1.41	1.20	1.32	1.28	**29**
	22	4	4	1.18	1.23	1.47	1.20	1.33	1.30	**30**
	29	5	5	1.18	1.27	1.52	1.22	1.37	1.32	**31**
Aug	05	1	1	1.16	1.27	1.54	1.20	1.39	1.32	**32**
	12	2	2	1.18	1.27	1.47	1.22	1.35	1.30	**33**
	19	3	3	1.18	1.25	1.43	1.20	1.33	1.28	**34**
	26	4	4	1.16	1.19	1.28	1.18	1.23	1.22	**35**
Sep	02	1	1	1.16	1.14	1.16	1.15	1.15	1.16	**36**
	09	2	2	1.15	1.12	1.15	1.14	1.14	1.15	**37**
	16	3	3	1.14	1.11	1.10	1.12	1.10	1.11	**38**
	23	4	4	1.14	1.11	1.10	1.12	1.10	1.11	**39**
	30	5	5	1.14	1.14	1.08	1.14	1.10	1.10	**40**
Oct	07	1	1	1.15	1.14	1.08	1.14	1.10	1.11	**41**
	14	2	2	1.12	1.08	1.01	1.10	1.04	1.06	**42**
	21	3	3	1.09	1.01	0.90	1.04	0.95	0.98	**43**
	28	4	4	1.09	0.97	0.86	1.02	0.91	0.96	**44**
Nov	04	1	1	1.09	0.99	0.87	1.03	0.93	0.96	**45**
	11	2	2	1.08	0.97	0.84	1.02	0.90	0.94	**46**
	18	3	3	1.09	1.01	0.84	1.04	0.92	0.94	**47**
	25	4	4	1.06	0.95	0.81	1.00	0.88	0.92	**48**
Dec	02	1	1	1.05	0.90	0.79	0.97	0.84	0.90	**49**
	09	2	2	1.02	0.88	0.75	0.94	0.81	0.86	**50**
	16	3	3	1.06	0.93	0.78	0.99	0.85	0.90	**51**
	23	4	4	0.98	0.90	0.76	0.93	0.82	0.85	**52**

APPENDIX C

Capacity Analysis Methodology

CAPACITY ANALYSIS METHODOLOGY

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the *Highway Capacity Manual* (HCM).[1] The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year. A description of the operating condition under each level of service is provided below:

- *LOS A* describes conditions with little to no delay to motorists.
- *LOS B* represents a desirable level with relatively low delay to motorists.
- *LOS C* describes conditions with average delays to motorists.
- *LOS D* describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.
- *LOS E* represents operating conditions with high delay values. This level is considered by many agencies to be the limit of acceptable delay.
- *LOS F* is considered to be unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.

Signalized Intersections

Levels of service for signalized intersections are also calculated using the operational analysis methodology of the HCM. The methodology for signalized intersections assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on average *control* delay. Control delay is used to establish the operating characteristics for an intersection or an approach to an intersection. Volume-to-capacity (v/c) ratios are also used to help signify the utilization of a lane group's capacity at an intersection. A v/c ratio of ≥1.00 represents conditions when the traffic signal cycle capacity is fully utilized and indicates a capacity failure. The level-of-service criteria for signalized intersections are shown in Table A-1.

[1] *Highway Capacity Manual, 6TH Edition: A Guide for Multimodal Mobility Analysis.* Washington, D.C.: Transportation Research Board, 2016.

Unsignalized Intersections

Levels of service for unsignalized intersections are calculated using the operational analysis methodology of the HCM. The procedure accounts for lane configuration on both the minor and major street approaches, conflicting traffic stream volumes, and the type of intersection control (STOP, YIELD, or all-way STOP control). The definition of level of service for unsignalized intersections is a function of average *control* delay. Control delay at an unsignalized intersection is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

Volume-to-capacity (v/c) ratios are also used to help signify the utilization of a movement's capacity at an intersection. A v/c ratio of ≥1.00 represents conditions when the movement is fully utilized and indicates a capacity failure. The capacity of the movements is based on the distribution of gaps in the major street traffic stream, the selection of gaps to complete the desired movement, and the follow-up headways for each driver in the queue. When an unsignalized intersection is located within 0.25 miles of a signalized intersection, traffic flows may not be random and some platoon structure may exist, thereby affecting the minor street operations. The level-of-service criteria for unsignalized intersections are shown in Table A-1.

TABLE A-1
Level-of-Service Criteria for Intersections

Level of Service	**Signalized Intersection Criteria** Average Control Delay (Seconds per Vehicle)	**Unsignalized Intersection Criteria** Average Control Delay (Seconds per Vehicle)	**V/C Ratio >1.00[a]**
A	≤10	≤10	F
B	>10 and ≤20	>10 and ≤15	F
C	>20 and ≤35	>15 and ≤25	F
D	>35 and ≤55	>25 and ≤35	F
E	>55 and ≤80	>35 and ≤50	F
F	>80	>50	F

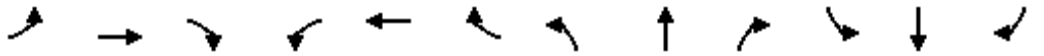
Note: [a]For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Source: *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis.* Washington, D.C.: Transportation Research Board, 2016. Exhibit 19-8, Pg. 19-16.

For signalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to the entire intersection. For unsignalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups on the minor street approaches or to the left turns from the major street approaches.

APPENDIX D

Capacity Analysis Worksheets



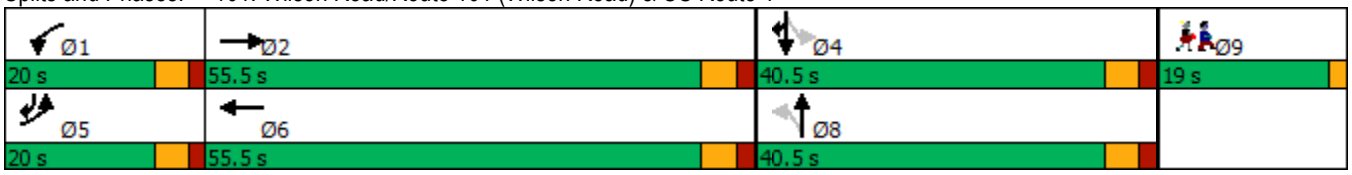
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	350	3	1	475	55	5	3	0	87	0	202
Future Volume (vph)	60	350	3	1	475	55	5	3	0	87	0	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.999			0.984							0.850
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1687	3370	0	1770	3475	0	1745	1837	0	0	1823	1631
Flt Permitted	0.950			0.950			0.679				0.755	
Satd. Flow (perm)	1687	3370	0	1770	3475	0	1247	1837	0	0	1449	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10							281
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.79	0.79	0.79	0.97	0.97	0.97	0.67	0.67	0.67	0.72	0.72	0.72
Heavy Vehicles (%)	7%	7%	7%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	76	443	4	1	490	57	7	4	0	121	0	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	447	0	1	547	0	7	4	0	0	121	281
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	17.5		10.5	10.5		10.5	10.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	14.8%	41.1%		14.8%	41.1%		30.0%	30.0%		30.0%	30.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	7.7	28.3		5.5	16.3		10.1	10.1			10.1	22.6
Actuated g/C Ratio	0.14	0.53		0.10	0.30		0.19	0.19			0.19	0.42
v/c Ratio	0.32	0.25		0.01	0.52		0.03	0.01			0.45	0.33
Control Delay	29.2	10.4		33.0	19.1		23.4	23.3			28.5	2.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	29.2	10.4		33.0	19.1		23.4	23.3			28.5	2.7

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	14%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	B		C	C			C	A
Approach Delay		13.1			19.1			23.4			10.5	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	18	26		0	60		2	1			29	0
Queue Length 95th (ft)	72	118		6	190		11	8			89	10
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	514	3048		539	3143		886	1305			1030	1283
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.15	0.15		0.00	0.17		0.01	0.00			0.12	0.22

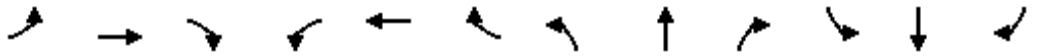
Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 53.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



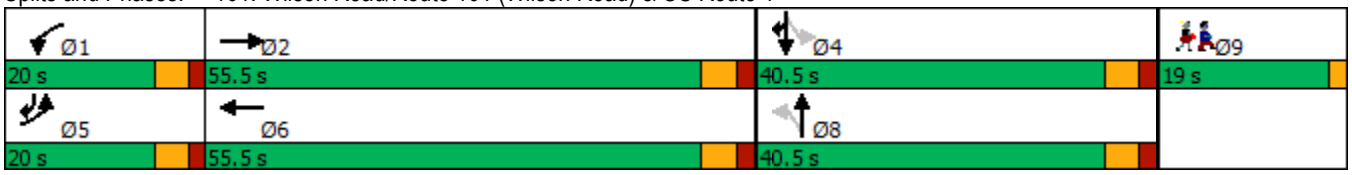
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	625	16	16	665	80	30	9	20	85	5	135
Future Volume (vph)	215	625	16	16	665	80	30	9	20	85	5	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.984			0.896				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3560	0	1805	3552	0	1745	1646	0	0	1850	1647
Flt Permitted	0.950			0.950			0.696				0.709	
Satd. Flow (perm)	1787	3560	0	1805	3552	0	1278	1646	0	0	1374	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11			27				142
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.74	0.74	0.74	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	231	672	17	18	731	88	41	12	27	89	5	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	689	0	18	819	0	41	39	0	0	94	142
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	17.5		10.0	17.5		10.5	10.5		10.5	10.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	14.8%	41.1%		14.8%	41.1%		30.0%	30.0%		30.0%	30.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	15.3	40.4		5.6	22.0		9.6	9.6			9.6	29.9
Actuated g/C Ratio	0.24	0.64		0.09	0.35		0.15	0.15			0.15	0.47
v/c Ratio	0.53	0.30		0.11	0.66		0.21	0.14			0.45	0.17
Control Delay	28.9	6.6		31.8	20.0		27.7	14.8			33.1	3.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	28.9	6.6		31.8	20.0		27.7	14.8			33.1	3.0
LOS	C	A		C	B		C	B			C	A
Approach Delay		12.2			20.2			21.4			15.0	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	14%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	76	44		6	131		14	4			33	0
Queue Length 95th (ft)	#187	135		27	206		35	22			82	28
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	432	2871		436	2867		721	941			775	991
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.53	0.24		0.04	0.29		0.06	0.04			0.12	0.14

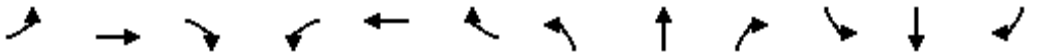
Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 63.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



Lane Group	Ø9
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



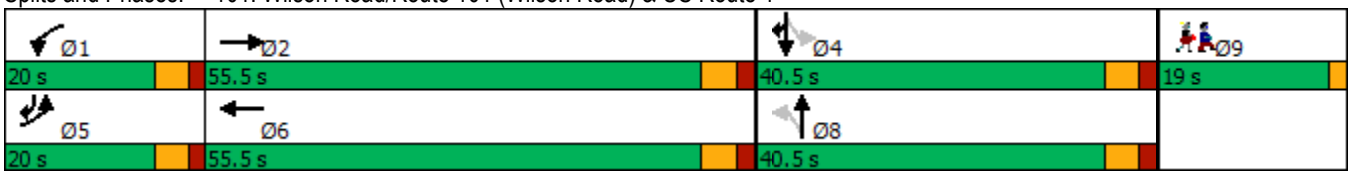
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	801	42	92	797	92	41	11	68	168	10	187
Future Volume (vph)	217	801	42	92	797	92	41	11	68	168	10	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00					
Frt		0.993			0.984			0.872				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3545	0	1787	3517	0	1745	1602	0	0	1869	1663
Flt Permitted	0.950			0.950			0.444				0.674	
Satd. Flow (perm)	1787	3545	0	1787	3517	0	814	1602	0	0	1319	1663
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			10			77				253
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Peds. (#/hr)							2					
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.88	0.88	0.88	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	233	861	45	106	916	106	47	13	77	227	14	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	233	906	0	106	1022	0	47	90	0	0	241	253
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	17.5		10.0	17.5		10.5	10.5		10.5	10.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	14.8%	41.1%		14.8%	41.1%		30.0%	30.0%		30.0%	30.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	16.2	44.3		10.9	39.0		24.4	24.4			24.4	44.4
Actuated g/C Ratio	0.16	0.43		0.11	0.38		0.24	0.24			0.24	0.43
v/c Ratio	0.83	0.59		0.56	0.76		0.24	0.21			0.77	0.29
Control Delay	71.4	27.4		61.9	33.5		40.0	12.6			56.7	3.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	14%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	71.4	27.4		61.9	33.5		40.0	12.6			56.7	3.0
LOS	E	C		E	C		D	B			E	A
Approach Delay		36.4			36.1			22.0			29.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	148	213		65	268		24	6			139	0
Queue Length 95th (ft)	#415	426		147	473		68	50			228	13
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	281	1871		281	1855		299	638			485	875
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.83	0.48		0.38	0.55		0.16	0.14			0.50	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 102.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



Lane Group	Ø9
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	410	2	4	672	5	3
Future Vol, veh/h	410	2	4	672	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	96	96	67	67
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	482	2	4	700	7	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	484	0	841	242
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1068	-	308	765
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1068	-	306	765
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	680	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	-	-	1068	-
HCM Lane V/C Ratio	0.03	-	-	0.004	-
HCM Control Delay (s)	14.4	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	405	672	1	1	5
Future Vol, veh/h	4	405	672	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	83	83	90	90	50	50
Heavy Vehicles, %	7	7	3	3	0	0
Mvmt Flow	5	488	747	1	2	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	748	0	-	0	1002	374
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	4.24	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	824	-	-	-	271	642
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	824	-	-	-	269	642
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	824	-	-	-	521
HCM Lane V/C Ratio	0.006	-	-	-	0.023
HCM Control Delay (s)	9.4	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	1	105	13	9	286
Future Vol, veh/h	3	1	105	13	9	286
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	50	50	83	83	91	91
Heavy Vehicles, %	25	25	8	8	2	2
Mvmt Flow	6	2	127	16	10	314

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	469	135	0	0	143	0
Stage 1	135	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	7.05	6.65	-	-	4.12	-
Critical Hdwy Stg 1	6.05	-	-	-	-	-
Critical Hdwy Stg 2	6.05	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	-	-	2.218	-
Pot Cap-1 Maneuver	487	850	-	-	1440	-
Stage 1	825	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	483	850	-	-	1440	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	541	1440	-
HCM Lane V/C Ratio	-	-	0.015	0.007	-
HCM Control Delay (s)	-	-	11.8	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	3	103	293	4
Future Vol, veh/h	4	2	3	103	293	4
Conflicting Peds, #/hr	0	4	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	50	50	87	87	91	91
Heavy Vehicles, %	0	0	8	8	2	2
Mvmt Flow	8	4	3	118	322	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	448	328	326	0	-	0
Stage 1	324	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-	-
Pot Cap-1 Maneuver	572	718	1201	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	715	1201	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1201	-	611	-	-
HCM Lane V/C Ratio	0.003	-	0.02	-	-
HCM Control Delay (s)	8	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	915	4	2	895	6	4
Future Vol, veh/h	915	4	2	895	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	93	93	50	50
Heavy Vehicles, %	1	1	0	0	10	10
Mvmt Flow	953	4	2	962	12	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	957	0	1440	479
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	485	-
Critical Hdwy	-	-	4.1	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2	-	3.6	3.4
Pot Cap-1 Maneuver	-	-	727	-	115	512
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	727	-	114	512
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	29.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	165	-	-	727	-
HCM Lane V/C Ratio	0.121	-	-	0.003	-
HCM Control Delay (s)	29.8	-	-	10	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	875	880	9	7	21
Future Vol, veh/h	34	875	880	9	7	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	95	95	92	92	70	70
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	36	921	957	10	10	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	967	0	-	0	1495	484
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	533	-
Critical Hdwy	4.1	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	720	-	-	-	137	549
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	720	-	-	-	123	549
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	720	-	-	-	294
HCM Lane V/C Ratio	0.05	-	-	-	0.136
HCM Control Delay (s)	10.3	0.5	-	-	19.2
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	69	28	248	56	16	156
Future Vol, veh/h	69	28	248	56	16	156
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	85	85	92	92	89	89
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	81	33	270	61	18	175

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	513	302	0	0	332	0
Stage 1	302	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.12	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	496	730	-	-	1227	-
Stage 1	730	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	488	729	-	-	1226	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	539	1226	-
HCM Lane V/C Ratio	-	-	0.212	0.015	-
HCM Control Delay (s)	-	-	13.5	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	29	14	262	143	6
Future Vol, veh/h	44	29	14	262	143	6
Conflicting Peds, #/hr	0	4	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	83	83	87	87	88	88
Heavy Vehicles, %	3	3	0	0	1	1
Mvmt Flow	53	35	16	301	163	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	501	172	171	0	-	0
Stage 1	168	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	528	869	1418	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	520	865	1417	-	-	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1417	-	618	-	-
HCM Lane V/C Ratio	0.011	-	0.142	-	-
HCM Control Delay (s)	7.6	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1090	10	0	995	5	5
Future Vol, veh/h	1090	10	0	995	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	100	100
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	1135	10	0	1082	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1145	0	1681	573
Stage 1	-	-	-	-	1140	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	612	-	87	468
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	553	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	612	-	87	468
Mov Cap-2 Maneuver	-	-	-	-	87	-
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	31.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	147	-	-	612	-
HCM Lane V/C Ratio	0.068	-	-	-	-
HCM Control Delay (s)	31.3	-	-	0	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	1048	960	5	7	26
Future Vol, veh/h	18	1048	960	5	7	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	94	94	91	91	91	91
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	19	1115	1055	5	8	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1060	0	-	0	1654	530
Stage 1	-	-	-	-	1058	-
Stage 2	-	-	-	-	596	-
Critical Hdwy	4.12	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	659	-	-	-	109	514
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	659	-	-	-	101	514
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	659	-	-	-	275
HCM Lane V/C Ratio	0.029	-	-	-	0.132
HCM Control Delay (s)	10.6	0.4	-	-	20.1
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	122	43	176	145	44	243
Future Vol, veh/h	122	43	176	145	44	243
Conflicting Peds, #/hr	0	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	86	86	90	90	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	142	50	196	161	59	324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	722	283	0	0	360	0
Stage 1	280	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	366	749	-	-	1210	-
Stage 1	748	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	343	744	-	-	1207	-
Mov Cap-2 Maneuver	343	-	-	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	584	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	399	1207	-
HCM Lane V/C Ratio	-	-	0.481	0.049	-
HCM Control Delay (s)	-	-	22.1	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0.2	-

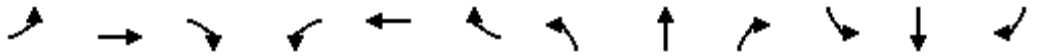
Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	66	43	176	221	3
Future Vol, veh/h	26	66	43	176	221	3
Conflicting Peds, #/hr	0	16	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	81	81	86	86	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	81	50	205	283	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	593	304	290	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	472	740	1283	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	448	727	1280	-	-	-
Mov Cap-2 Maneuver	448	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1280	-	618	-	-
HCM Lane V/C Ratio	0.039	-	0.184	-	-
HCM Control Delay (s)	7.9	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

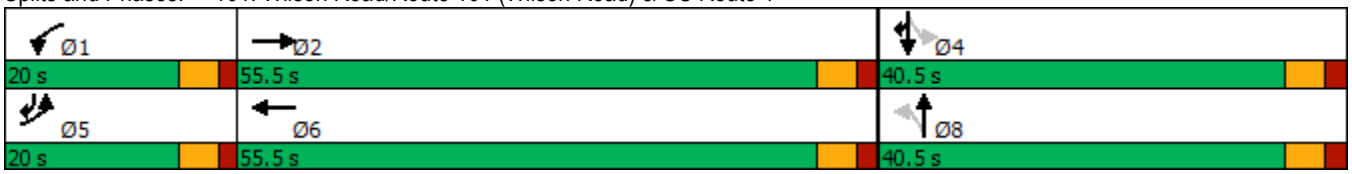


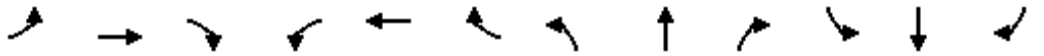
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	368	3	1	499	58	5	3	0	91	0	213
Future Volume (vph)	63	368	3	1	499	58	5	3	0	91	0	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.999			0.984							0.850
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1687	3370	0	1770	3475	0	1745	1837	0	0	1823	1631
Flt Permitted	0.950			0.950			0.676				0.755	
Satd. Flow (perm)	1687	3370	0	1770	3475	0	1242	1837	0	0	1449	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			14							230
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.79	0.79	0.79	0.97	0.97	0.97	0.67	0.67	0.67	0.72	0.72	0.72
Heavy Vehicles (%)	7%	7%	7%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	80	466	4	1	514	60	7	4	0	126	0	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	470	0	1	574	0	7	4	0	0	126	296
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	7.2	26.3		5.2	15.4		9.7	9.7			9.7	22.1
Actuated g/C Ratio	0.15	0.54		0.11	0.32		0.20	0.20			0.20	0.45
v/c Ratio	0.32	0.26		0.01	0.52		0.03	0.01			0.44	0.34
Control Delay	24.7	7.9		25.0	16.0		17.4	17.3			23.5	3.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	24.7	7.9		25.0	16.0		17.4	17.3			23.5	3.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A		C	B		B	B			C	A
Approach Delay		10.4			16.0			17.4			9.7	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	19	27		0	63		2	1			30	9
Queue Length 95th (ft)	55	82		5	134		8	6			63	27
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	535	3185		561	3285		919	1359			1072	1276
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.15	0.15		0.00	0.17		0.01	0.00			0.12	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 48.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1





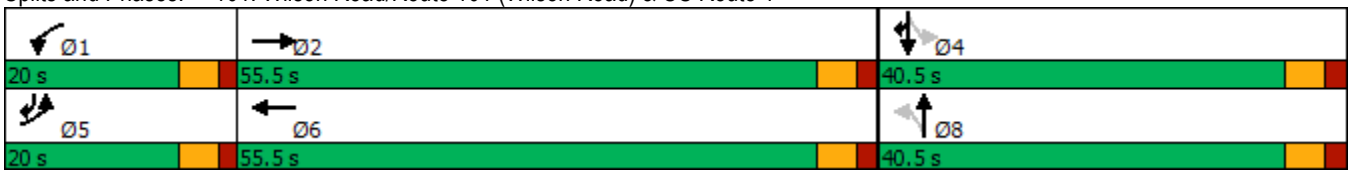
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	657	17	17	699	84	32	9	21	89	5	143
Future Volume (vph)	227	657	17	17	699	84	32	9	21	89	5	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.984			0.895				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3560	0	1805	3552	0	1745	1644	0	0	1850	1647
Flt Permitted	0.950			0.950			0.693				0.708	
Satd. Flow (perm)	1787	3560	0	1805	3552	0	1273	1644	0	0	1372	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			14			28				103
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.74	0.74	0.74	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	244	706	18	19	768	92	43	12	28	94	5	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	724	0	19	860	0	43	40	0	0	99	151
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	15.3	41.4		5.6	23.0		9.5	9.5			9.5	29.8
Actuated g/C Ratio	0.24	0.65		0.09	0.36		0.15	0.15			0.15	0.47
v/c Ratio	0.57	0.31		0.12	0.67		0.23	0.15			0.49	0.18
Control Delay	30.8	6.6		32.3	20.0		28.5	14.9			34.9	5.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	30.8	6.6		32.3	20.0		28.5	14.9			34.9	5.3
LOS	C	A		C	B		C	B			C	A
Approach Delay		12.7			20.2			21.9			17.0	

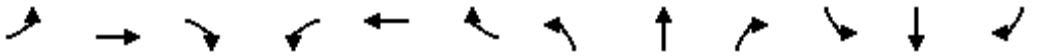
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	82	47		7	139		15	4			35	9
Queue Length 95th (ft)	#207	142		28	219		37	22			87	44
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	425	2830		430	2826		708	927			763	962
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.57	0.26		0.04	0.30		0.06	0.04			0.13	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 64			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



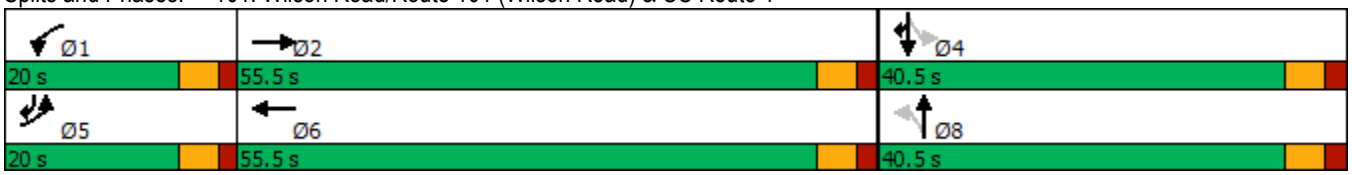


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	842	44	97	838	97	43	12	71	177	11	197
Future Volume (vph)	228	842	44	97	838	97	43	12	71	177	11	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00					
Frt		0.993			0.984			0.872				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3545	0	1787	3517	0	1745	1602	0	0	1869	1663
Flt Permitted	0.950			0.950			0.445				0.671	
Satd. Flow (perm)	1787	3545	0	1787	3517	0	816	1602	0	0	1313	1663
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			13			81				55
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Peds. (#/hr)							2					
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.88	0.88	0.88	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	245	905	47	111	963	111	49	14	81	239	15	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	952	0	111	1074	0	49	95	0	0	254	266
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	15.6	44.4		10.2	36.0		22.4	22.4			22.4	43.2
Actuated g/C Ratio	0.17	0.49		0.11	0.40		0.25	0.25			0.25	0.48
v/c Ratio	0.80	0.55		0.56	0.76		0.24	0.21			0.78	0.32
Control Delay	60.5	20.2		52.9	27.8		32.3	10.2			50.5	13.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.5	20.2		52.9	27.8		32.3	10.2			50.5	13.8
LOS	E	C		D	C		C	B			D	B
Approach Delay		28.5			30.2			17.7			31.7	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	133	200		60	262		22	6			133	68
Queue Length 95th (ft)	#363	353		133	392		59	45			199	115
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	307	2036		307	2024		327	692			527	836
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.80	0.47		0.36	0.53		0.15	0.14			0.48	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 90.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	431	2	4	706	5	3
Future Vol, veh/h	431	2	4	706	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	96	96	67	67
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	507	2	4	735	7	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	509	0	884	255
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1045	-	289	750
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1045	-	287	750
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	373	-	-	1045	-
HCM Lane V/C Ratio	0.032	-	-	0.004	-
HCM Control Delay (s)	15	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	426	706	1	1	5
Future Vol, veh/h	4	426	706	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	83	83	90	90	50	50
Heavy Vehicles, %	7	7	3	3	0	0
Mvmt Flow	5	513	784	1	2	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	785	0	-	0	1052	393
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	4.24	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	798	-	-	-	253	625
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	798	-	-	-	251	625
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	798	-	-	-	501
HCM Lane V/C Ratio	0.006	-	-	-	0.024
HCM Control Delay (s)	9.5	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	1	110	14	9	301
Future Vol, veh/h	3	1	110	14	9	301
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	50	50	83	83	91	91
Heavy Vehicles, %	25	25	8	8	2	2
Mvmt Flow	6	2	133	17	10	331

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	493	142	0	0	150	0
Stage 1	142	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	7.05	6.65	-	-	4.12	-
Critical Hdwy Stg 1	6.05	-	-	-	-	-
Critical Hdwy Stg 2	6.05	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	-	-	2.218	-
Pot Cap-1 Maneuver	470	842	-	-	1431	-
Stage 1	819	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	466	842	-	-	1431	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	525	1431	-
HCM Lane V/C Ratio	-	-	0.015	0.007	-
HCM Control Delay (s)	-	-	12	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	3	108	308	4
Future Vol, veh/h	4	2	3	108	308	4
Conflicting Peds, #/hr	0	4	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	50	50	87	87	91	91
Heavy Vehicles, %	0	0	8	8	2	2
Mvmt Flow	8	4	3	124	338	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	470	344	342	0	-	0
Stage 1	340	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-	-
Pot Cap-1 Maneuver	556	703	1184	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	554	700	1184	-	-	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1184	-	595	-	-
HCM Lane V/C Ratio	0.003	-	0.02	-	-
HCM Control Delay (s)	8	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	962	4	2	941	6	4
Future Vol, veh/h	962	4	2	941	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	93	93	50	50
Heavy Vehicles, %	1	1	0	0	10	10
Mvmt Flow	1002	4	2	1012	12	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1006	0	1514	503
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	510	-
Critical Hdwy	-	-	4.1	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2	-	3.6	3.4
Pot Cap-1 Maneuver	-	-	697	-	102	493
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	546	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	697	-	101	493
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	33.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	-	-	697	-
HCM Lane V/C Ratio	0.135	-	-	0.003	-
HCM Control Delay (s)	33.1	-	-	10.2	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	920	925	9	7	22
Future Vol, veh/h	36	920	925	9	7	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	95	95	92	92	70	70
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	38	968	1005	10	10	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1015	0	-	0	1570	508
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	560	-
Critical Hdwy	4.1	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	691	-	-	-	123	530
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	576	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	691	-	-	-	108	530
Mov Cap-2 Maneuver	-	-	-	-	108	-
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	576	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	20.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	691	-	-	-	273
HCM Lane V/C Ratio	0.055	-	-	-	0.152
HCM Control Delay (s)	10.5	0.6	-	-	20.5
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	29	261	59	17	164
Future Vol, veh/h	73	29	261	59	17	164
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	85	85	92	92	89	89
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	86	34	284	64	19	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	539	317	0	0	349	0
Stage 1	317	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.12	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	477	716	-	-	1210	-
Stage 1	717	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	715	-	-	1209	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	1209	-
HCM Lane V/C Ratio	-	-	0.231	0.016	-
HCM Control Delay (s)	-	-	14	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	46	30	15	275	151	6
Future Vol, veh/h	46	30	15	275	151	6
Conflicting Peds, #/hr	0	4	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	83	83	87	87	88	88
Heavy Vehicles, %	3	3	0	0	1	1
Mvmt Flow	55	36	17	316	172	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	527	181	180	0	-	0
Stage 1	177	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	510	859	1408	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	501	855	1407	-	-	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	710	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1407	-	599	-	-
HCM Lane V/C Ratio	0.012	-	0.153	-	-
HCM Control Delay (s)	7.6	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1146	11	0	1046	5	5
Future Vol, veh/h	1146	11	0	1046	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	100	100
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	1194	11	0	1137	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1205	0	1769	603
Stage 1	-	-	-	-	1200	-
Stage 2	-	-	-	-	569	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	580	-	76	447
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	535	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	580	-	76	447
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	535	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	35
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	130	-	-	580	-
HCM Lane V/C Ratio	0.077	-	-	-	-
HCM Control Delay (s)	35	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	1101	1009	5	7	27
Future Vol, veh/h	19	1101	1009	5	7	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	94	94	91	91	91	91
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	20	1171	1109	5	8	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1114	0	-	0	1738	557
Stage 1	-	-	-	-	1112	-
Stage 2	-	-	-	-	626	-
Critical Hdwy	4.12	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	628	-	-	-	97	494
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	628	-	-	-	88	494
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	21.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	628	-	-	-	253
HCM Lane V/C Ratio	0.032	-	-	-	0.148
HCM Control Delay (s)	10.9	0.5	-	-	21.7
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	45	185	152	46	256
Future Vol, veh/h	129	45	185	152	46	256
Conflicting Peds, #/hr	0	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	86	86	90	90	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	150	52	206	169	61	341

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	757	297	0	0	378	0
Stage 1	294	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	348	735	-	-	1192	-
Stage 1	736	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	325	730	-	-	1189	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.9	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	379	1189	-
HCM Lane V/C Ratio	-	-	0.534	0.052	-
HCM Control Delay (s)	-	-	24.9	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3	0.2	-

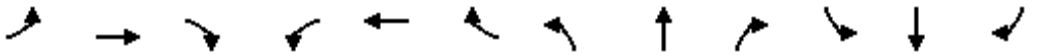
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	69	45	185	233	3
Future Vol, veh/h	27	69	45	185	233	3
Conflicting Peds, #/hr	0	16	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	81	81	86	86	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	85	52	215	299	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	623	320	306	0	-	0
Stage 1	304	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	453	725	1266	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	712	1263	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1263	-	601	-	-
HCM Lane V/C Ratio	0.041	-	0.197	-	-
HCM Control Delay (s)	8	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

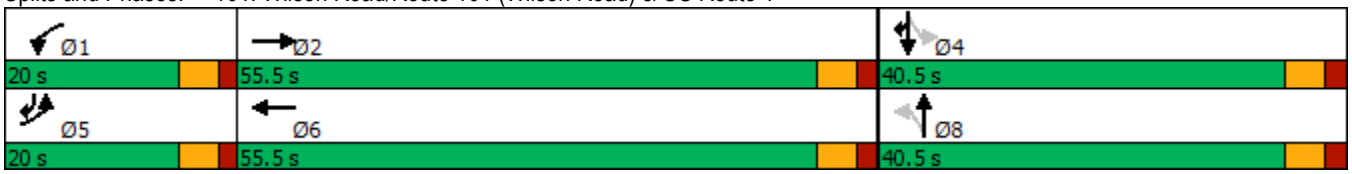


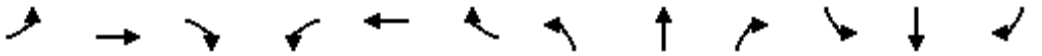
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	373	3	1	503	76	5	3	0	108	0	213
Future Volume (vph)	63	373	3	1	503	76	5	3	0	108	0	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.999			0.980							0.850
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1687	3370	0	1770	3459	0	1745	1837	0	0	1823	1631
Flt Permitted	0.950			0.950			0.662				0.755	
Satd. Flow (perm)	1687	3370	0	1770	3459	0	1216	1837	0	0	1449	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			18							226
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.79	0.79	0.79	0.97	0.97	0.97	0.67	0.67	0.67	0.72	0.72	0.72
Heavy Vehicles (%)	7%	7%	7%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	80	472	4	1	519	78	7	4	0	150	0	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	476	0	1	597	0	7	4	0	0	150	296
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	7.4	27.1		5.2	16.0		10.5	10.5			10.5	23.0
Actuated g/C Ratio	0.15	0.54		0.10	0.32		0.21	0.21			0.21	0.46
v/c Ratio	0.33	0.26		0.01	0.54		0.03	0.01			0.50	0.34
Control Delay	25.6	8.1		26.0	16.3		18.0	17.7			25.2	4.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	25.6	8.1		26.0	16.3		18.0	17.7			25.2	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A		C	B		B	B			C	A
Approach Delay		10.6			16.4			17.9			11.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	20	30		0	68		2	1			37	10
Queue Length 95th (ft)	56	82		5	140		8	6			76	29
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	519	3142		544	3226		872	1319			1040	1243
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.15	0.15		0.00	0.19		0.01	0.00			0.14	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 50.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 47.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



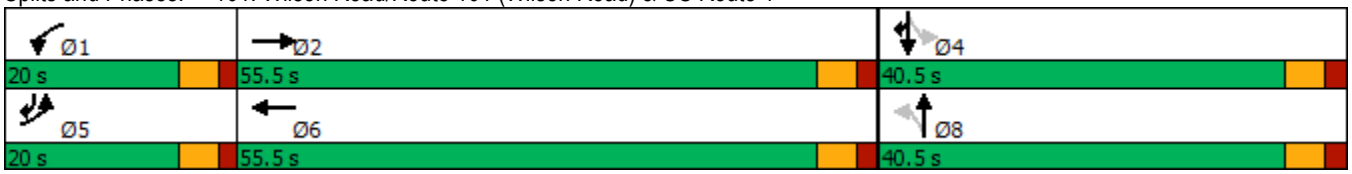


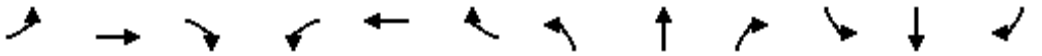
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	659	17	17	705	102	32	9	21	97	5	143
Future Volume (vph)	227	659	17	17	705	102	32	9	21	97	5	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.981			0.895				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3560	0	1805	3541	0	1745	1644	0	0	1850	1647
Flt Permitted	0.950			0.950			0.688				0.707	
Satd. Flow (perm)	1787	3560	0	1805	3541	0	1264	1644	0	0	1370	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			17			28				101
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.74	0.74	0.74	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	244	709	18	19	775	112	43	12	28	102	5	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	727	0	19	887	0	43	40	0	0	107	151
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	15.3	42.4		5.6	23.9		10.1	10.1			10.1	30.5
Actuated g/C Ratio	0.23	0.65		0.09	0.36		0.15	0.15			0.15	0.46
v/c Ratio	0.59	0.32		0.12	0.68		0.22	0.15			0.51	0.18
Control Delay	32.4	6.8		33.6	20.3		28.8	15.0			36.0	5.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	32.4	6.8		33.6	20.3		28.8	15.0			36.0	5.6
LOS	C	A		C	C		C	B			D	A
Approach Delay		13.2			20.6			22.2			18.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	85	49		7	147		15	4			39	10
Queue Length 95th (ft)	#222	148		29	232		37	22			95	47
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	416	2767		420	2755		687	907			745	945
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.59	0.26		0.05	0.32		0.06	0.04			0.14	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 65.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



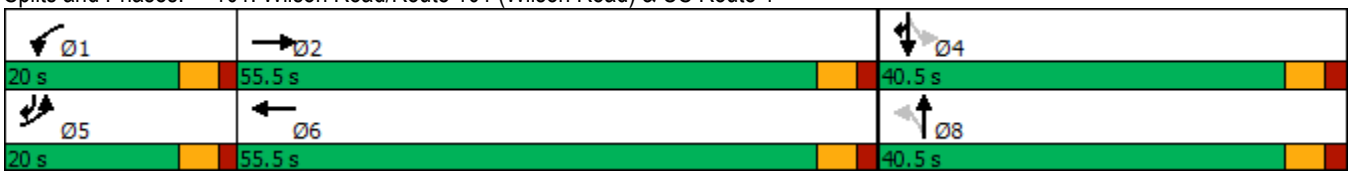


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	843	44	97	841	108	43	12	71	180	11	197
Future Volume (vph)	228	843	44	97	841	108	43	12	71	180	11	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	12	12	12
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	105		0	140		0	40		0	0		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00					
Frt		0.993			0.983			0.872				0.850
Flt Protected	0.950			0.950			0.950				0.955	
Satd. Flow (prot)	1787	3545	0	1787	3513	0	1745	1602	0	0	1869	1663
Flt Permitted	0.950			0.950			0.443				0.670	
Satd. Flow (perm)	1787	3545	0	1787	3513	0	812	1602	0	0	1311	1663
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			15			81				54
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		647			451			291			180	
Travel Time (s)		14.7			10.3			7.9			4.1	
Confl. Peds. (#/hr)							2					
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.88	0.88	0.88	0.74	0.74	0.74
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	245	906	47	111	967	124	49	14	81	243	15	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	953	0	111	1091	0	49	95	0	0	258	266
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	pt+ov
Protected Phases	5	2		1	6			8			4	4 5
Permitted Phases							8			4		
Detector Phase	5	2		1	6		8	8		4	4	4 5
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	20.0	55.5		20.0	55.5		40.5	40.5		40.5	40.5	
Total Split (%)	17.2%	47.8%		17.2%	47.8%		34.9%	34.9%		34.9%	34.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	2.0		1.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.5		5.0	5.5		5.5	5.5			5.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	15.6	42.2		10.2	36.8		22.8	22.8			22.8	43.6
Actuated g/C Ratio	0.17	0.46		0.11	0.40		0.25	0.25			0.25	0.47
v/c Ratio	0.81	0.58		0.56	0.77		0.24	0.21			0.79	0.33
Control Delay	62.4	21.4		53.7	28.1		32.6	10.2			51.6	14.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.4	21.4		53.7	28.1		32.6	10.2			51.6	14.1
LOS	E	C		D	C		C	B			D	B
Approach Delay		29.8			30.5			17.8			32.6	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	139	204		62	272		23	6			139	72
Queue Length 95th (ft)	#363	353		133	401		59	45			203	116
Internal Link Dist (ft)		567			371			211			100	
Turn Bay Length (ft)	105			140			40					
Base Capacity (vph)	303	2009		303	1994		321	683			519	830
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.81	0.47		0.37	0.55		0.15	0.14			0.50	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 91.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 30.0		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1



Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	488	2	4	770	5	3
Future Vol, veh/h	488	2	4	770	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	96	96	67	67
Heavy Vehicles, %	6	6	3	3	0	0
Mvmt Flow	574	2	4	802	7	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	984	288
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	409	-
Critical Hdwy	-	-	4.16	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.23	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	987	-	249	715
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	987	-	247	715
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	327	-	-	987	-
HCM Lane V/C Ratio	0.037	-	-	0.004	-
HCM Control Delay (s)	16.4	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	426	706	5	6	69
Future Vol, veh/h	61	426	706	5	6	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	83	83	90	90	50	50
Heavy Vehicles, %	7	7	3	3	0	0
Mvmt Flow	73	513	784	6	12	138

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	790	0	-	0	1190	395
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	4.24	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.27	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	794	-	-	-	209	623
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	794	-	-	-	182	623
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	794	-	-	-	522
HCM Lane V/C Ratio	0.093	-	-	-	0.287
HCM Control Delay (s)	10	0.5	-	-	14.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.2

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	1	128	14	9	318
Future Vol, veh/h	3	1	128	14	9	318
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	50	50	83	83	91	91
Heavy Vehicles, %	25	25	8	8	2	2
Mvmt Flow	6	2	154	17	10	349

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	532	163	0	0	171	0
Stage 1	163	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Critical Hdwy	7.05	6.65	-	-	4.12	-
Critical Hdwy Stg 1	6.05	-	-	-	-	-
Critical Hdwy Stg 2	6.05	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	-	-	2.218	-
Pot Cap-1 Maneuver	443	818	-	-	1406	-
Stage 1	799	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	818	-	-	1406	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	497	1406	-
HCM Lane V/C Ratio	-	-	0.016	0.007	-
HCM Control Delay (s)	-	-	12.4	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	19	21	108	308	17
Future Vol, veh/h	17	19	21	108	308	17
Conflicting Peds, #/hr	0	4	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	50	50	87	87	91	91
Heavy Vehicles, %	0	0	8	8	2	2
Mvmt Flow	34	38	24	124	338	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	520	352	357	0	-	0
Stage 1	348	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-	-
Pot Cap-1 Maneuver	520	696	1169	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	509	693	1169	-	-	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1169	-	592	-	-
HCM Lane V/C Ratio	0.021	-	0.122	-	-
HCM Control Delay (s)	8.1	0	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1030	4	2	972	6	4
Future Vol, veh/h	1030	4	2	972	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	93	93	50	50
Heavy Vehicles, %	1	1	0	0	10	10
Mvmt Flow	1073	4	2	1045	12	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1077	0	1602	539
Stage 1	-	-	-	-	1075	-
Stage 2	-	-	-	-	527	-
Critical Hdwy	-	-	4.1	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2	-	3.6	3.4
Pot Cap-1 Maneuver	-	-	655	-	89	467
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	535	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	655	-	88	467
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	531	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	37.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	130	-	-	655	-
HCM Lane V/C Ratio	0.154	-	-	0.003	-
HCM Control Delay (s)	37.7	-	-	10.5	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	104	920	925	15	9	53
Future Vol, veh/h	104	920	925	15	9	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	95	95	92	92	70	70
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	109	968	1005	16	13	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1021	0	-	0	1715	511
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	702	-
Critical Hdwy	4.1	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	688	-	-	-	100	528
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	688	-	-	-	66	528
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	25.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	688	-	-	-	262
HCM Lane V/C Ratio	0.159	-	-	-	0.338
HCM Control Delay (s)	11.2	1.6	-	-	25.6
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	29	279	59	17	172
Future Vol, veh/h	73	29	279	59	17	172
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	85	85	92	92	89	89
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	86	34	303	64	19	193

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	336	0	0	368	0
Stage 1	336	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.12	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	458	697	-	-	1191	-
Stage 1	702	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	449	696	-	-	1190	-
Mov Cap-2 Maneuver	449	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	499	1190	-
HCM Lane V/C Ratio	-	-	0.24	0.016	-
HCM Control Delay (s)	-	-	14.5	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	38	33	275	151	21
Future Vol, veh/h	52	38	33	275	151	21
Conflicting Peds, #/hr	0	4	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	83	83	87	87	88	88
Heavy Vehicles, %	3	3	0	0	1	1
Mvmt Flow	63	46	38	316	172	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	577	189	197	0	-	0
Stage 1	185	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	477	850	1388	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	460	846	1387	-	-	-
Mov Cap-2 Maneuver	460	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	680	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1387	-	570	-	-
HCM Lane V/C Ratio	0.027	-	0.19	-	-
HCM Control Delay (s)	7.7	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1190	11	0	1064	5	5
Future Vol, veh/h	1190	11	0	1064	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	100	100
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	1240	11	0	1157	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1251	0	1825	626
Stage 1	-	-	-	-	1246	-
Stage 2	-	-	-	-	579	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	558	-	70	432
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	558	-	70	432
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	37.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	120	-	-	558	-
HCM Lane V/C Ratio	0.083	-	-	-	-
HCM Control Delay (s)	37.7	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	1101	1009	8	8	45
Future Vol, veh/h	63	1101	1009	8	8	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-2	-
Peak Hour Factor	94	94	91	91	91	91
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	67	1171	1109	9	9	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1118	0	-	0	1834	559
Stage 1	-	-	-	-	1114	-
Stage 2	-	-	-	-	720	-
Critical Hdwy	4.12	-	-	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	626	-	-	-	85	493
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	626	-	-	-	59	493
Mov Cap-2 Maneuver	-	-	-	-	59	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	486	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	626	-	-	-	234
HCM Lane V/C Ratio	0.107	-	-	-	0.249
HCM Control Delay (s)	11.4	1.6	-	-	25.4
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	129	45	196	152	46	259
Future Vol, veh/h	129	45	196	152	46	259
Conflicting Peds, #/hr	0	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	2	-	6	-	-	-6
Peak Hour Factor	86	86	90	90	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	150	52	218	169	61	345

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	773	309	0	0	390	0
Stage 1	306	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	340	723	-	-	1180	-
Stage 1	726	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	317	718	-	-	1177	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.7	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	371	1177	-
HCM Lane V/C Ratio	-	-	0.545	0.052	-
HCM Control Delay (s)	-	-	25.7	8.2	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0.2	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	72	56	185	233	12
Future Vol, veh/h	29	72	56	185	233	12
Conflicting Peds, #/hr	0	16	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	6	-6	-
Peak Hour Factor	81	81	86	86	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	89	65	215	299	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	655	326	317	0	-	0
Stage 1	310	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	434	720	1255	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	406	707	1252	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1252	-	583	-	-
HCM Lane V/C Ratio	0.052	-	0.214	-	-
HCM Control Delay (s)	8	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
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	1218	1318	1288	1244	1260	1267
Vehs Exited	1219	1319	1304	1247	1258	1269
Starting Vehs	24	14	29	21	13	20
Ending Vehs	23	13	13	18	15	15
Travel Distance (mi)	411	444	433	419	424	426
Travel Time (hr)	18.1	19.9	18.9	18.5	18.6	18.8
Total Delay (hr)	3.9	4.5	3.9	4.0	3.9	4.0
Total Stops	626	680	656	634	622	644
Fuel Used (gal)	15.0	16.2	15.6	15.3	15.2	15.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1218	1318	1288	1244	1260	1267
Vehs Exited	1219	1319	1304	1247	1258	1269
Starting Vehs	24	14	29	21	13	20
Ending Vehs	23	13	13	18	15	15
Travel Distance (mi)	411	444	433	419	424	426
Travel Time (hr)	18.1	19.9	18.9	18.5	18.6	18.8
Total Delay (hr)	3.9	4.5	3.9	4.0	3.9	4.0
Total Stops	626	680	656	634	622	644
Fuel Used (gal)	15.0	16.2	15.6	15.3	15.2	15.4

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	106	100	92	5	192	154	36	23	93	110
Average Queue (ft)	38	44	27	0	94	49	4	2	37	60
95th Queue (ft)	75	81	64	4	157	115	20	12	75	104
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									1	2
Queuing Penalty (veh)									1	2
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	0	0			1		0	0		
Queuing Penalty (veh)	0	0			0		0	0		

Intersection: 201: Adams Drive & US Route 1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	30
Average Queue (ft)	1	9
95th Queue (ft)	11	30
Link Distance (ft)	180	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	41	36
Average Queue (ft)	2	6
95th Queue (ft)	18	27
Link Distance (ft)	180	256
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	56	19	28
Average Queue (ft)	5	1	3
95th Queue (ft)	28	10	21
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	0		0
Queuing Penalty (veh)	0		1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	28	14	27
Average Queue (ft)	5	0	2
95th Queue (ft)	22	7	17
Link Distance (ft)	91	36	422
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
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	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
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	2172	2179	2194	2111	2128	2157
Vehs Exited	2178	2156	2190	2118	2116	2152
Starting Vehs	34	18	30	35	27	25
Ending Vehs	28	41	34	28	39	31
Travel Distance (mi)	693	683	695	665	673	682
Travel Time (hr)	33.0	32.1	32.7	31.1	31.4	32.0
Total Delay (hr)	9.0	8.5	8.7	8.1	8.1	8.5
Total Stops	1220	1248	1257	1217	1250	1237
Fuel Used (gal)	25.9	25.9	26.1	24.9	25.3	25.6

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

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	2172	2179	2194	2111	2128	2157
Vehs Exited	2178	2156	2190	2118	2116	2152
Starting Vehs	34	18	30	35	27	25
Ending Vehs	28	41	34	28	39	31
Travel Distance (mi)	693	683	695	665	673	682
Travel Time (hr)	33.0	32.1	32.7	31.1	31.4	32.0
Total Delay (hr)	9.0	8.5	8.7	8.1	8.1	8.5
Total Stops	1220	1248	1257	1217	1250	1237
Fuel Used (gal)	25.9	25.9	26.1	24.9	25.3	25.6

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	128	222	170	71	232	191	53	56	95	109
Average Queue (ft)	92	75	58	12	127	81	22	18	42	44
95th Queue (ft)	137	167	121	43	194	152	49	45	80	87
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									0	1
Queuing Penalty (veh)									1	1
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	8	1			4		4	1		
Queuing Penalty (veh)	25	1			1		1	0		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	WB	WB	NB
Directions Served	T	LT	T	LR
Maximum Queue (ft)	4	29	10	55
Average Queue (ft)	0	1	0	9
95th Queue (ft)	3	12	7	34
Link Distance (ft)	532	180	180	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	136	67	44
Average Queue (ft)	36	3	21
95th Queue (ft)	109	30	46
Link Distance (ft)	180	180	256
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	80	62	36
Average Queue (ft)	36	5	5
95th Queue (ft)	64	31	24
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	1	0	1
Queuing Penalty (veh)	0	0	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	79	36	38
Average Queue (ft)	31	4	1
95th Queue (ft)	60	21	14
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 32

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
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	2770	2783	2769	2773	2761	2772
Vehs Exited	2770	2773	2787	2789	2745	2772
Starting Vehs	51	42	61	59	40	48
Ending Vehs	51	52	43	43	56	46
Travel Distance (mi)	831	841	841	844	842	840
Travel Time (hr)	49.0	55.7	52.8	54.3	54.5	53.3
Total Delay (hr)	19.7	26.2	23.2	24.7	25.0	23.8
Total Stops	2156	2440	2311	2335	2316	2314
Fuel Used (gal)	34.2	36.3	35.5	36.0	35.7	35.6

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10

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	3	4	5	Avg
Vehs Entered	2770	2783	2769	2773	2761	2772
Vehs Exited	2770	2773	2787	2789	2745	2772
Starting Vehs	51	42	61	59	40	48
Ending Vehs	51	52	43	43	56	46
Travel Distance (mi)	831	841	841	844	842	840
Travel Time (hr)	49.0	55.7	52.8	54.3	54.5	53.3
Total Delay (hr)	19.7	26.2	23.2	24.7	25.0	23.8
Total Stops	2156	2440	2311	2335	2316	2314
Fuel Used (gal)	34.2	36.3	35.5	36.0	35.7	35.6

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	129	462	430	165	378	324	64	94	113	110
Average Queue (ft)	121	265	231	81	200	160	29	39	85	67
95th Queue (ft)	155	453	411	163	322	277	63	73	130	116
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)					0				13	3
Queuing Penalty (veh)					0				23	6
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	48	9		0	18		9	8		
Queuing Penalty (veh)	193	20		2	16		7	3		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	NB
Directions Served	T	LR
Maximum Queue (ft)	98	30
Average Queue (ft)	5	9
95th Queue (ft)	42	30
Link Distance (ft)	532	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	168	108	65
Average Queue (ft)	29	7	22
95th Queue (ft)	116	53	52
Link Distance (ft)	180	180	256
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	91	99	42
Average Queue (ft)	56	27	24
95th Queue (ft)	93	84	51
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	7	0	9
Queuing Penalty (veh)	0	1	27
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	88	36	147
Average Queue (ft)	39	13	33
95th Queue (ft)	73	40	98
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	3	1	
Queuing Penalty (veh)	0	3	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 304

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
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	1336	1367	1375	1336	1328	1348
Vehs Exited	1331	1364	1372	1323	1324	1344
Starting Vehs	19	17	20	11	11	13
Ending Vehs	24	20	23	24	15	20
Travel Distance (mi)	446	460	461	448	446	452
Travel Time (hr)	19.7	20.0	20.0	19.5	19.3	19.7
Total Delay (hr)	4.2	4.1	4.1	4.0	3.9	4.0
Total Stops	686	668	687	680	710	688
Fuel Used (gal)	16.2	16.5	16.6	16.1	16.0	16.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1336	1367	1375	1336	1328	1348
Vehs Exited	1331	1364	1372	1323	1324	1344
Starting Vehs	19	17	20	11	11	13
Ending Vehs	24	20	23	24	15	20
Travel Distance (mi)	446	460	461	448	446	452
Travel Time (hr)	19.7	20.0	20.0	19.5	19.3	19.7
Total Delay (hr)	4.2	4.1	4.1	4.0	3.9	4.0
Total Stops	686	668	687	680	710	688
Fuel Used (gal)	16.2	16.5	16.6	16.1	16.0	16.3

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	89	134	104	15	195	150	29	29	92	109
Average Queue (ft)	36	54	36	1	93	47	3	3	38	61
95th Queue (ft)	75	106	81	9	151	104	18	17	74	104
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									0	1
Queuing Penalty (veh)									0	2
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	0	0			1		0	0		
Queuing Penalty (veh)	0	0			0		0	0		

Intersection: 201: Adams Drive & US Route 1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	30
Average Queue (ft)	1	6
95th Queue (ft)	7	26
Link Distance (ft)	180	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	27	31
Average Queue (ft)	2	5
95th Queue (ft)	15	24
Link Distance (ft)	180	256
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	41	12	45
Average Queue (ft)	5	1	3
95th Queue (ft)	25	7	22
Link Distance (ft)	76	96	36
Upstream Blk Time (%)			1
Queuing Penalty (veh)			2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	28	13	70
Average Queue (ft)	6	1	4
95th Queue (ft)	25	8	28
Link Distance (ft)	91	36	422
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
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	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
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	2256	2310	2299	2288	2236	2278
Vehs Exited	2256	2312	2309	2290	2235	2280
Starting Vehs	35	44	40	35	35	37
Ending Vehs	35	42	30	33	36	34
Travel Distance (mi)	713	732	729	721	712	722
Travel Time (hr)	33.6	35.3	34.0	34.0	33.5	34.1
Total Delay (hr)	9.0	10.0	8.9	9.1	8.9	9.2
Total Stops	1274	1369	1312	1320	1249	1304
Fuel Used (gal)	26.8	27.8	27.1	27.2	26.5	27.1

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

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	2256	2310	2299	2288	2236	2278
Vehs Exited	2256	2312	2309	2290	2235	2280
Starting Vehs	35	44	40	35	35	37
Ending Vehs	35	42	30	33	36	34
Travel Distance (mi)	713	732	729	721	712	722
Travel Time (hr)	33.6	35.3	34.0	34.0	33.5	34.1
Total Delay (hr)	9.0	10.0	8.9	9.1	8.9	9.2
Total Stops	1274	1369	1312	1320	1249	1304
Fuel Used (gal)	26.8	27.8	27.1	27.2	26.5	27.1

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	129	237	166	121	226	180	55	62	98	102
Average Queue (ft)	94	82	61	16	135	91	23	19	44	45
95th Queue (ft)	140	173	124	59	199	166	53	52	83	88
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									0	0
Queuing Penalty (veh)									0	0
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	8	1			5		4	2		
Queuing Penalty (veh)	26	2			1		1	1		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	WB	WB	NB
Directions Served	T	LT	T	LR
Maximum Queue (ft)	31	47	14	56
Average Queue (ft)	1	3	0	11
95th Queue (ft)	14	21	10	37
Link Distance (ft)	532	180	180	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	166	102	4	57
Average Queue (ft)	36	6	0	20
95th Queue (ft)	108	46	3	48
Link Distance (ft)	180	180	573	256
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	86	59	36
Average Queue (ft)	41	6	6
95th Queue (ft)	71	33	26
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	1	0	1
Queuing Penalty (veh)	0	0	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	67	34	29
Average Queue (ft)	32	3	2
95th Queue (ft)	58	19	13
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 34

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
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	2891	2909	2868	2869	2923	2892
Vehs Exited	2892	2913	2848	2869	2922	2889
Starting Vehs	42	43	41	48	48	42
Ending Vehs	41	39	61	48	49	46
Travel Distance (mi)	880	886	866	862	890	877
Travel Time (hr)	49.1	54.2	49.3	49.9	50.6	50.6
Total Delay (hr)	18.3	23.0	19.0	19.6	19.5	19.9
Total Stops	2165	2379	2138	2201	2120	2201
Fuel Used (gal)	35.3	36.9	35.0	35.3	36.1	35.7

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10

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	3	4	5	Avg
Vehs Entered	2891	2909	2868	2869	2923	2892
Vehs Exited	2892	2913	2848	2869	2922	2889
Starting Vehs	42	43	41	48	48	42
Ending Vehs	41	39	61	48	49	46
Travel Distance (mi)	880	886	866	862	890	877
Travel Time (hr)	49.1	54.2	49.3	49.9	50.6	50.6
Total Delay (hr)	18.3	23.0	19.0	19.6	19.5	19.9
Total Stops	2165	2379	2138	2201	2120	2201
Fuel Used (gal)	35.3	36.9	35.0	35.3	36.1	35.7

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	129	459	398	165	313	264	62	106	113	109
Average Queue (ft)	120	201	179	80	185	147	27	39	82	67
95th Queue (ft)	144	385	345	160	281	234	62	76	123	113
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)		0	0						10	3
Queuing Penalty (veh)		0	0						20	6
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	35	7		0	14		6	7		
Queuing Penalty (veh)	146	16		0	14		5	3		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	EB	NB
Directions Served	T	TR	LR
Maximum Queue (ft)	21	9	38
Average Queue (ft)	2	0	9
95th Queue (ft)	18	6	32
Link Distance (ft)	532	532	224
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	133	86	85
Average Queue (ft)	26	7	24
95th Queue (ft)	102	52	62
Link Distance (ft)	180	180	256
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	1		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	91	101	39
Average Queue (ft)	56	36	20
95th Queue (ft)	91	94	49
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	5	0	6
Queuing Penalty (veh)	0	1	19
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	96	38	110
Average Queue (ft)	37	14	24
95th Queue (ft)	67	42	74
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	1	1	
Queuing Penalty (veh)	0	3	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 234

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
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	1517	1535	1532	1507	1568	1530
Vehs Exited	1532	1533	1546	1517	1564	1538
Starting Vehs	34	27	31	27	21	27
Ending Vehs	19	29	17	17	25	20
Travel Distance (mi)	478	486	490	478	497	486
Travel Time (hr)	21.4	21.6	21.9	21.4	22.6	21.8
Total Delay (hr)	4.5	4.5	4.8	4.6	5.2	4.7
Total Stops	831	819	840	829	891	843
Fuel Used (gal)	18.0	18.1	18.2	17.9	18.6	18.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1517	1535	1532	1507	1568	1530
Vehs Exited	1532	1533	1546	1517	1564	1538
Starting Vehs	34	27	31	27	21	27
Ending Vehs	19	29	17	17	25	20
Travel Distance (mi)	478	486	490	478	497	486
Travel Time (hr)	21.4	21.6	21.9	21.4	22.6	21.8
Total Delay (hr)	4.5	4.5	4.8	4.6	5.2	4.7
Total Stops	831	819	840	829	891	843
Fuel Used (gal)	18.0	18.1	18.2	17.9	18.6	18.2

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	98	112	95	15	167	146	30	29	103	102
Average Queue (ft)	40	47	32	1	96	57	4	2	45	55
95th Queue (ft)	79	87	76	8	153	115	21	14	83	95
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									1	1
Queuing Penalty (veh)									1	1
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	0	0			1		0	0		
Queuing Penalty (veh)	0	0			0		0	0		

Intersection: 201: Adams Drive & US Route 1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	30
Average Queue (ft)	0	6
95th Queue (ft)	4	26
Link Distance (ft)	180	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	104	18	4	4	63
Average Queue (ft)	35	1	0	0	32
95th Queue (ft)	87	12	3	3	53
Link Distance (ft)	180	180	573	573	256
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	37	37	28
Average Queue (ft)	3	2	3
95th Queue (ft)	21	21	18
Link Distance (ft)	76	96	36
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	49	48	46
Average Queue (ft)	21	8	3
95th Queue (ft)	47	32	22
Link Distance (ft)	91	36	422
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 4

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
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	2390	2427	2508	2396	2399	2424
Vehs Exited	2396	2423	2514	2405	2399	2426
Starting Vehs	36	33	48	37	27	33
Ending Vehs	30	37	42	28	27	30
Travel Distance (mi)	741	742	776	741	742	748
Travel Time (hr)	36.4	37.0	39.7	35.8	37.0	37.2
Total Delay (hr)	10.6	11.1	12.8	10.0	11.1	11.1
Total Stops	1466	1571	1630	1480	1552	1543
Fuel Used (gal)	28.5	29.2	30.4	28.3	28.7	29.0

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

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	2390	2427	2508	2396	2399	2424
Vehs Exited	2396	2423	2514	2405	2399	2426
Starting Vehs	36	33	48	37	27	33
Ending Vehs	30	37	42	28	27	30
Travel Distance (mi)	741	742	776	741	742	748
Travel Time (hr)	36.4	37.0	39.7	35.8	37.0	37.2
Total Delay (hr)	10.6	11.1	12.8	10.0	11.1	11.1
Total Stops	1466	1571	1630	1480	1552	1543
Fuel Used (gal)	28.5	29.2	30.4	28.3	28.7	29.0

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	129	242	200	75	224	190	52	55	111	103
Average Queue (ft)	102	90	67	14	139	92	19	18	52	49
95th Queue (ft)	146	202	146	48	204	169	49	46	97	95
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)									2	1
Queuing Penalty (veh)									2	1
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	14	1			6		3	2		
Queuing Penalty (veh)	47	2			1		1	0		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	WB	NB
Directions Served	T	LT	LR
Maximum Queue (ft)	82	56	38
Average Queue (ft)	5	3	11
95th Queue (ft)	37	24	35
Link Distance (ft)	532	180	224
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	185	154	15	103
Average Queue (ft)	80	23	1	34
95th Queue (ft)	170	102	8	70
Link Distance (ft)	180	180	573	256
Upstream Blk Time (%)	1	0		
Queuing Penalty (veh)	3	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	85	88	36
Average Queue (ft)	40	14	7
95th Queue (ft)	69	56	30
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	1	0	1
Queuing Penalty (veh)	0	0	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	77	36	46
Average Queue (ft)	35	9	3
95th Queue (ft)	62	35	21
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	2	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 61

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
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	3012	2985	3057	2889	2979	2984
Vehs Exited	3011	2982	3045	2891	2977	2982
Starting Vehs	65	44	40	69	39	50
Ending Vehs	66	47	52	67	41	51
Travel Distance (mi)	896	892	926	865	900	896
Travel Time (hr)	52.8	52.5	56.0	54.2	51.0	53.3
Total Delay (hr)	21.2	21.1	23.5	23.7	19.2	21.7
Total Stops	2296	2372	2470	2424	2191	2348
Fuel Used (gal)	37.6	37.0	38.8	36.8	36.4	37.3

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10

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	3	4	5	Avg
Vehs Entered	3012	2985	3057	2889	2979	2984
Vehs Exited	3011	2982	3045	2891	2977	2982
Starting Vehs	65	44	40	69	39	50
Ending Vehs	66	47	52	67	41	51
Travel Distance (mi)	896	892	926	865	900	896
Travel Time (hr)	52.8	52.5	56.0	54.2	51.0	53.3
Total Delay (hr)	21.2	21.1	23.5	23.7	19.2	21.7
Total Stops	2296	2372	2470	2424	2191	2348
Fuel Used (gal)	37.6	37.0	38.8	36.8	36.4	37.3

Intersection: 101: Wilson Road/Route 101 (Wilson Road) & US Route 1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	LT	R
Maximum Queue (ft)	130	422	384	164	314	287	63	101	112	110
Average Queue (ft)	120	218	190	76	192	153	31	39	87	70
95th Queue (ft)	150	396	356	153	298	256	65	76	126	115
Link Distance (ft)		573	573		410	410		243	96	96
Upstream Blk Time (%)					0	0			10	3
Queuing Penalty (veh)					0	0			19	6
Storage Bay Dist (ft)	105			140			40			
Storage Blk Time (%)	41	5		1	15		9	7		
Queuing Penalty (veh)	174	12		3	14		8	3		

Intersection: 201: Adams Drive & US Route 1

Movement	EB	EB	NB
Directions Served	T	TR	LR
Maximum Queue (ft)	117	70	47
Average Queue (ft)	8	2	11
95th Queue (ft)	55	36	39
Link Distance (ft)	532	532	224
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 202: US Route 1 & Hampton Inn/Outlets Driveway

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	187	168	4	84
Average Queue (ft)	65	17	0	37
95th Queue (ft)	168	90	3	74
Link Distance (ft)	180	180	573	256
Upstream Blk Time (%)	1	0		
Queuing Penalty (veh)	5	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 203: Kittery Trading Post

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	91	100	41
Average Queue (ft)	57	29	24
95th Queue (ft)	92	84	51
Link Distance (ft)	76	96	36
Upstream Blk Time (%)	6	0	7
Queuing Penalty (veh)	0	1	20
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 204: Kittery Outlet & Route 101 (Wilson Road)

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	90	36	105
Average Queue (ft)	41	14	29
95th Queue (ft)	73	41	79
Link Distance (ft)	91	36	422
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	3	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 267

APPENDIX E

Collision History Summary

Intersection Collision History Summary

Intersection: US Route 1 at US Route 101

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	0	1	0	**1**	**25.0%**
Rear End / Sideswipe	1	1	1	**3**	**75.0%**
TOTAL	**1**	**2**	**1**	**4**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	1	2	1	**4**	**100.0%**
TOTAL	**1**	**2**	**1**	**4**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Property Damage Only (PDO)	1	2	1	**4**	**100.0%**
TOTAL	**1**	**2**	**1**	**4**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday Off-Peak	1	1	1	**3**	**75.0%**
Saturday 11 A.M. - 2 P.M.	0	1	0	**1**	**25.0%**
TOTAL	**1**	**2**	**1**	**4**	**100%**

Intersection Collision History Summary

Intersection: US Route 1 at Adams Dr

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	2	0	0	**2**	**40.0%**
Rear End / Sideswipe	1	1	1	**3**	**60.0%**
TOTAL	**3**	**1**	**1**	**5**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	3	1	1	**5**	**100.0%**
TOTAL	**3**	**1**	**1**	**5**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Property Damage Only (PDO)	3	1	1	**5**	**100.0%**
TOTAL	**3**	**1**	**1**	**5**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday 3-6 P.M.	1	0	0	**1**	**20.0%**
Weekday Off-Peak	1	1	1	**3**	**60.0%**
Weekend Off-Peak	1	0	0	**1**	**20.0%**
TOTAL	**3**	**1**	**1**	**5**	**100%**

Intersection Collision History Summary

Intersection: US Route 1 at Kittery Dwy

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	0	1	0	**1**	**33.3%**
Rear End / Sideswipe	1	0	1	**2**	**66.7%**
TOTAL	**1**	**1**	**1**	**3**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	1	1	1	**3**	**100.0%**
TOTAL	**1**	**1**	**1**	**3**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Personal Injury	0	0	1	**1**	**33.3%**
Property Damage Only (PDO)	1	1	0	**2**	**66.7%**
TOTAL	**1**	**1**	**1**	**3**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday 3-6 P.M.	0	0	1	**1**	**33.3%**
Saturday 11 A.M. - 2 P.M.	1	1	0	**2**	**66.7%**
TOTAL	**1**	**1**	**1**	**3**	**100%**

Intersection Collision History Summary

Intersection: Wilson Rd at Kittery Trading Post

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	0	1	2	**3**	**100.0%**
TOTAL	**0**	**1**	**2**	**3**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	0	1	2	**3**	**100.0%**
TOTAL	**0**	**1**	**2**	**3**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Property Damage Only (PDO)	0	1	2	**3**	**100.0%**
TOTAL	**0**	**1**	**2**	**3**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday 3-6 P.M.	0	0	1	**1**	**33.3%**
Weekday Off-Peak	0	1	0	**1**	**33.3%**
Weekend Off-Peak	0	0	1	**1**	**33.3%**
TOTAL	**0**	**1**	**2**	**3**	**100%**

Intersection Collision History Summary

Intersection: Wilson Rd at Kittery Outlets

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	0	0	1	**1**	**100.0%**
TOTAL	**0**	**0**	**1**	**1**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	0	0	1	**1**	**100.0%**
TOTAL	**0**	**0**	**1**	**1**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Property Damage Only (PDO)	0	0	1	**1**	**100.0%**
TOTAL	**0**	**0**	**1**	**1**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday Off-Peak	0	0	1	**1**	**100.0%**
TOTAL	**0**	**0**	**1**	**1**	**100%**

Segment Collision History Summary

Segment: US Route 1

COLLISION TYPE

	2020	2021	2022	Total	Percent
Intersection Movement	0	1	3	**4**	**44.4%**
Rear End / Sideswipe	0	4	1	**5**	**55.6%**
TOTAL	**0**	**5**	**4**	**9**	**100%**

COLLISION EVENT

	2020	2021	2022	Total	Percent
Motor Vehicle	0	5	4	**9**	**100.0%**
TOTAL	**0**	**5**	**4**	**9**	**100%**

SEVERITY

	2020	2021	2022	Total	Percent
Property Damage Only (PDO)	0	5	4	**9**	**100.0%**
TOTAL	**0**	**5**	**4**	**9**	**100%**

Day & Time

	2020	2021	2022	Total	Percent
Weekday 3-6 P.M.	0	0	1	**1**	**11.1%**
Weekday Off-Peak	0	1	1	**2**	**22.2%**
Saturday 11 A.M. - 2 P.M.	0	2	1	**3**	**33.3%**
Weekend Off-Peak	0	2	1	**3**	**33.3%**
TOTAL	**0**	**5**	**4**	**9**	**100%**

APPENDIX F

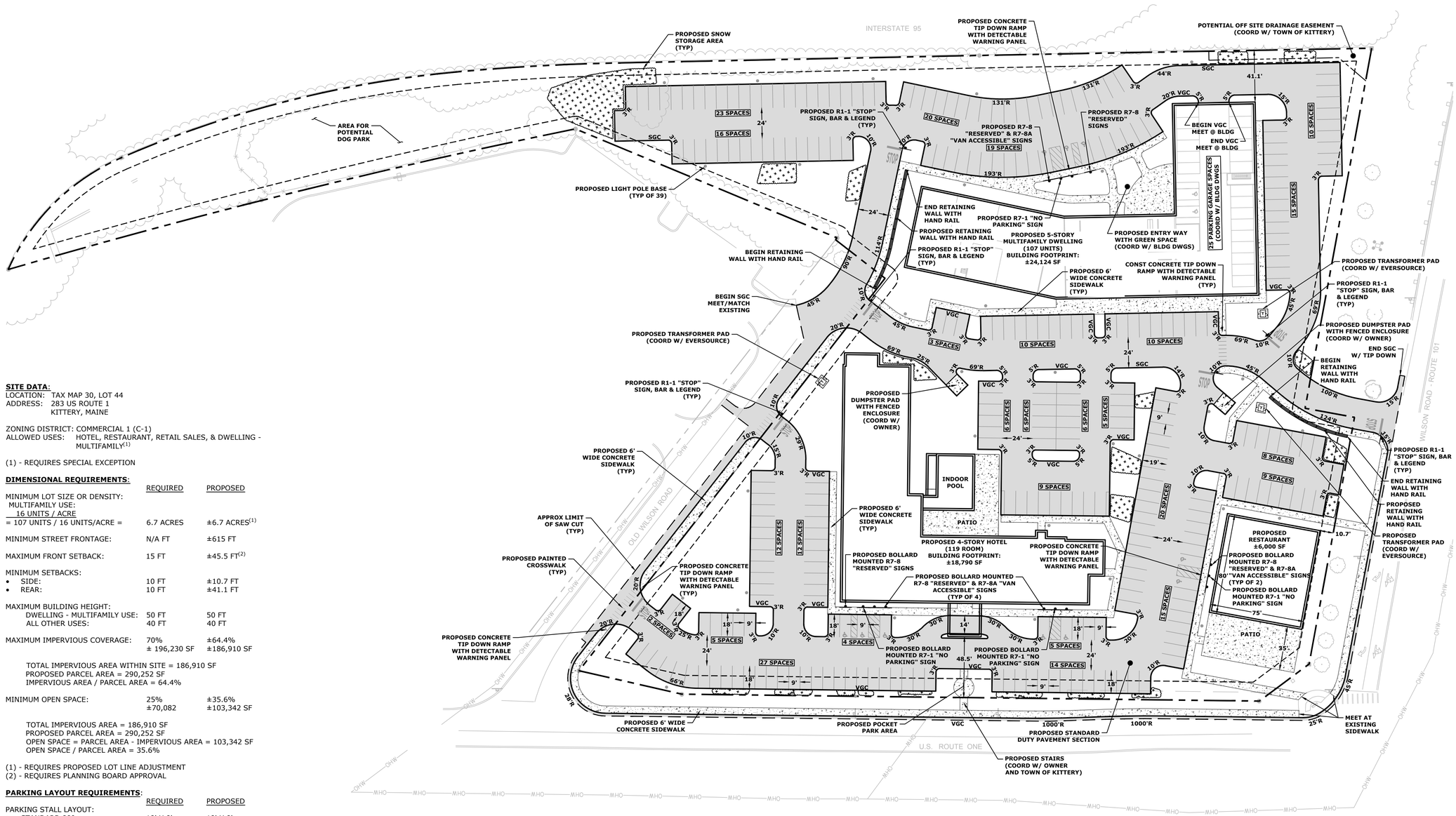
US Census Journey-to-Work Data

Table 3. Residence MCD/County to Workplace MCD/County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2(

Residence		Place of Work				Commuting Flow				
State Name	Minor Civil Division Name	State FIPS Code	State Name	County Name	Minor Civil Division Name	Workers in Commuting Flow		To south via Route 1	To north via Route 1	To north via Route 101
Maine	Kittery town	023	Maine	York County	Kittery town	1,927		1348.90	385.40	192.70
Maine	Kittery town	033	New Hampshire	Rockingham County	Portsmouth city	1,232		1,232		
Maine	Kittery town	023	Maine	York County	York town	279			279	
Maine	Kittery town	033	New Hampshire	Rockingham County	Newington town	197		197		
Maine	Kittery town	033	New Hampshire	Strafford County	Dover city	176		44		132
Maine	Kittery town	025	Massachusetts	Suffolk County	Boston city	136		136		
Maine	Kittery town	023	Maine	York County	Biddeford city	124		124		
Maine	Kittery town	033	New Hampshire	Rockingham County	Greenland town	106		106		
Maine	Kittery town	023	Maine	York County	Eliot town	99				99
Maine	Kittery town	033	New Hampshire	Rockingham County	Exeter town	83		83		
Maine	Kittery town	036	New York	New York County	Manhattan borough	81		81		
Maine	Kittery town	033	New Hampshire	Strafford County	Somersworth city	66				66
Maine	Kittery town	025	Massachusetts	Essex County	Methuen Town city	44		44		
Maine	Kittery town	033	New Hampshire	Rockingham County	Londonderry town	41		41		
Maine	Kittery town	033	New Hampshire	Rockingham County	North Hampton town	41		41		
Maine	Kittery town	023	Maine	Cumberland County	Scarborough town	36		18	18	
Maine	Kittery town	025	Massachusetts	Essex County	Newburyport city	36		36		
Maine	Kittery town	025	Massachusetts	Essex County	Peabody city	36		36		
Maine	Kittery town	025	Massachusetts	Middlesex County	Lincoln town	36		36		
Maine	Kittery town	025	Massachusetts	Norfolk County	Quincy city	36		36		
Maine	Kittery town	025	Massachusetts	Middlesex County	Cambridge city	35		35		
Maine	Kittery town	033	New Hampshire	Rockingham County	Salem town	35		35		
Maine	Kittery town	033	New Hampshire	Strafford County	Rochester city	31		15.5		15.5
Maine	Kittery town	023	Maine	York County	Sanford city	28		14		14
Maine	Kittery town	033	New Hampshire	Strafford County	Durham town	27		13.5		13.5
Maine	Kittery town	033	New Hampshire	Hillsborough County	Manchester city	26		26		
Maine	Kittery town	023	Maine	York County	Wells town	25		6.25		18.75
Maine	Kittery town	033	New Hampshire	Rockingham County	Stratham town	19				
Maine	Kittery town	033	New Hampshire	Rockingham County	Hampton town	18				
Maine	Kittery town	033	New Hampshire	Rockingham County	Rye town	16				
Maine	Kittery town	036	New York	Queens County	Queens borough	14				
Maine	Kittery town	023	Maine	Cumberland County	Freeport town	13				
Maine	Kittery town	015	Hawaii	Honolulu County		12				
Maine	Kittery town	033	New Hampshire	Rockingham County	Kingston town	12				
Maine	Kittery town	012	Florida	Duval County		11				
Maine	Kittery town	025	Massachusetts	Essex County	Beverly city	11				
Maine	Kittery town	025	Massachusetts	Essex County	Haverhill city	11				
Maine	Kittery town	033	New Hampshire	Rockingham County	Hampton Falls town	11				
Maine	Kittery town	033	New Hampshire	Strafford County	Barrington town	11				
Maine	Kittery town	033	New Hampshire	Hillsborough County	Nashua city	10				
Maine	Kittery town	033	New Hampshire	Merrimack County	Concord city	10				
Maine	Kittery town	023	Maine	York County	Limington town	9				
Maine	Kittery town	023	Maine	York County	Parsonsfield town	9				
Maine	Kittery town	033	New Hampshire	Hillsborough County	Milford town	9				
Maine	Kittery town	025	Massachusetts	Middlesex County	Littleton town	8				
Maine	Kittery town	033	New Hampshire	Carroll County	Ossipee town	8				
Maine	Kittery town	033	New Hampshire	Grafton County	Plymouth town	8				
						5,249		3,785	682	551
								75%	15%	10%

APPENDIX G

Site Development Plan



SITE DATA:
LOCATION: TAX MAP 30, LOT 44
ADDRESS: 283 US ROUTE 1
KITTERY, MAINE

ZONING DISTRICT: COMMERCIAL 1 (C-1)
ALLOWED USES: HOTEL, RESTAURANT, RETAIL SALES, & DWELLING - MULTIFAMILY(1)

(1) - REQUIRES SPECIAL EXCEPTION

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE OR DENSITY: MULTIFAMILY USE: 16 UNITS / ACRE = 107 UNITS / 16 UNITS/ACRE =	6.7 ACRES	±6.7 ACRES(1)
MINIMUM STREET FRONTAGE:	N/A FT	±615 FT
MAXIMUM FRONT SETBACK:	15 FT	±45.5 FT(2)
MINIMUM SETBACKS:		
• SIDE:	10 FT	±10.7 FT
• REAR:	10 FT	±41.1 FT
MAXIMUM BUILDING HEIGHT:		
DWELLING - MULTIFAMILY USE:	50 FT	50 FT
ALL OTHER USES:	40 FT	40 FT
MAXIMUM IMPERVIOUS COVERAGE:	70% ± 196,230 SF	±64.4% ±186,910 SF

TOTAL IMPERVIOUS AREA WITHIN SITE = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
IMPERVIOUS AREA / PARCEL AREA = 64.4%

MINIMUM OPEN SPACE:	25% ±70,082	±35.6% ±103,342 SF

TOTAL IMPERVIOUS AREA = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
OPEN SPACE = PARCEL AREA - IMPERVIOUS AREA = 103,342 SF
OPEN SPACE / PARCEL AREA = 35.6%

(1) - REQUIRES PROPOSED LOT LINE ADJUSTMENT
(2) - REQUIRES PLANNING BOARD APPROVAL

PARKING LAYOUT REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	19' X 9'	19' X 9'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 90° (1-WAY TRAFFIC)	13 FT	14 FT

PARKING SPACE REQUIREMENTS:

	REQUIRED	PROPOSED
MULTIFAMILY DWELLING: 1 SPACE / DWELLING UNIT = 107 UNITS / 1 SPACE/UNIT=	107 SPACES	147 SPACES
HOTEL: 1 SPACE / ROOMS +1 / 100SF OF MEETING ROOM = 119 ROOM / 1 SPACE/ROOM=	119 SPACES	119 SPACES
RESTAURANT: 1 SPACE / 3 SEATS = 150 SEATS / 1 SPACE/3 SEATS=	50 SPACES	50 SPACES
	169 SPACES	169 SPACES
TOTAL:	276 SPACES	316 SPACES

* TWELVE (12) TOTAL ADA SPACES PROVIDED

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE TOWN OF KITTERY.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
11. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING DRAWINGS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
17. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
18. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND AIRSIDE PAVEMENT AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
19. ALL DUMPSTER PAD ENCLOSURES WILL HAVE FENCE SCREENING
13. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. ONCE DESIGNATED SNOW STORAGE AREAS REACH MAXIMUM CAPACITY, ALL SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.

LEGEND

	PROPOSED CONCRETE
	PROPOSED PAVEMENT SECTION
	PROPOSED SNOW STORAGE AREA
	APPROXIMATE LIMIT OF SAWCUT
	BUILDING SET BACK LINE
	PROPOSED LIGHT POLE BASE
	PROPOSED SIGN
45'R	PROPOSED CURB RADIUS
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
B	12/28/2023	Preliminary PB Submission
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102

Last Save Date: December 20, 2023 1:48 PM By: NWILCOX
Plot Date: Wednesday, December 20, 2023 Plotted By: Noah Wilcox
File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Site

APPENDIX H

US Route 1 at Route 101
Planned Intersection Improvements
(WIN 25435.00)

LIST OF MAJOR ITEMS

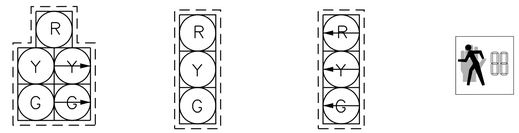
EQUIPMENT AND WORK ITEMS (ITEM 643.71)	QTY.
FURNISH AND INSTALL NATURAL FINISH ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ECONOLITE COBALT ATC WITH LATEST FIRMWARE INSTALLED. COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO MAINEDOT'S EXISTING CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1 EA
FURNISH AND INSTALL BLACK POLYCARBONATE ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS AND 5-INCH LOUVERED BACK PLATES WITH 3 INCH RETROREFLECTIVE BORDERS MOUNTED ON MAST ARM	9 EA
FURNISH AND INSTALL BLACK POLYCARBONATE ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS AND 5-INCH LOUVERED BACK PLATES WITH 3 INCH RETROREFLECTIVE BORDERS MOUNTED ON MAST ARM	1 EA
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2 EA
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	6 EA
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8 EA
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1 EA
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4 EA
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1 EA
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	14 EA
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	1 LS
FURNISH AND INSTALL NON-INVASIVE STOP LINE DETECTION, 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM, 1 APPROACH, COMPLETE (ITEM 643.22)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X ROADSIDE UNIT (ITEM 654.351)	1 EA
FURNISH AND INSTALL 14-INCH PRECAST JUNCTION BOX (ITEM 626.11)	3 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	100 LF
FURNISH AND INSTALL 20-INCH DIAMETER FOUNDATION (ITEM 626.3211)	5 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	5 EA

THE LISTED QUANTITITES ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY

STRUCTURE LIST

STRUCTURE	DESCRIPTION	STA/OFFSET	FOUNDATION
A-C	CONTROLLER CABINET	102+35.2/63.8' LT	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	102+52.5/41.6' LT	20" DIAMETER
B-P1	8' PEDESTAL POLE	102+54.2/38.6' RT	20" DIAMETER
B-P2	8' PEDESTAL POLE	102+08.8/45.9' RT	20" DIAMETER
C-P1	8' PEDESTAL POLE	101+30.8/46.3' RT	20" DIAMETER
D-P1	8' PEDESTAL POLE	101+52.5/45.7' LT	20" DIAMETER

PROPOSED INDICATIONS



C2 | A1,A2,B2,B3, C1,D2,D3 | B1,D1 | PED FACE P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

PROPOSED SIGNS

R3-6R 30"x36" 3-PROPOSED

R10-15R 30"x30" 4-PROPOSED

R10-3eL 9"x15" P2,P3,P4,P5, P8

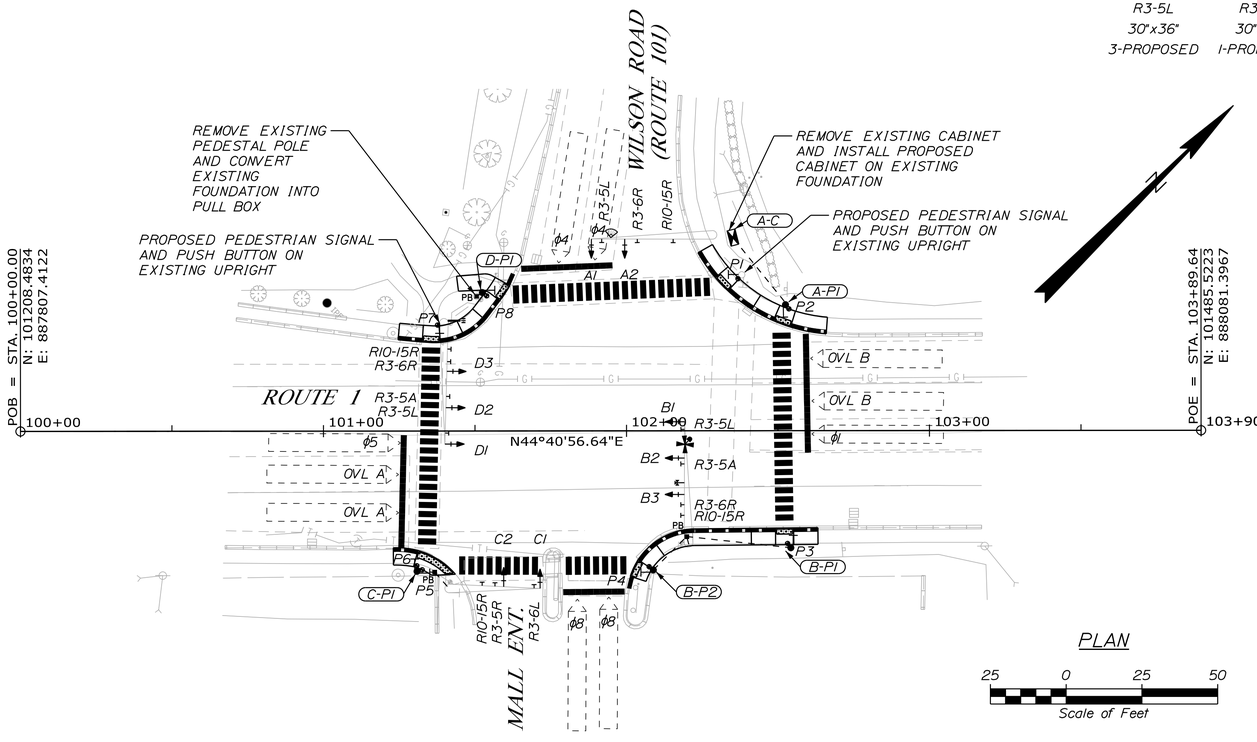
R10-3eR 9"x15" P1,P6,P7

R3-5L 30"x36" 3-PROPOSED

R3-5R 30"x36" 1-PROPOSED

R3-5a 30"x36" 2-PROPOSED

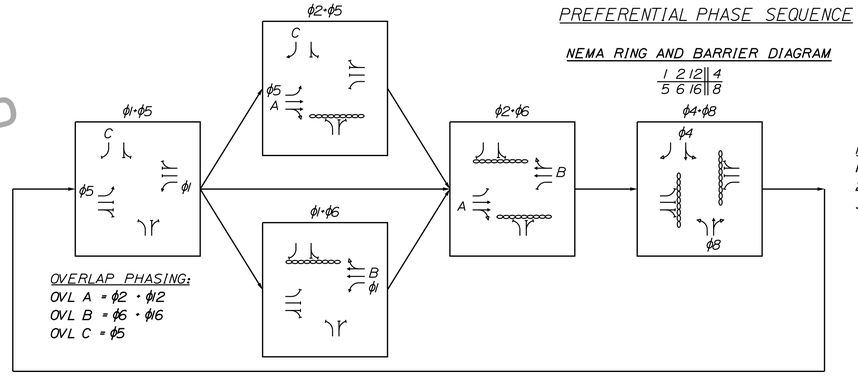
R3-6L 30"x36" 1-PROPOSED



PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1	2	12	4
5	6	16	8



PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
2. PHASES 12 AND 16 ARE OMITTED UNDER FREE OPERATION.
3. UNDER COORDINATED OPERATIONS, PHASES 12 AND 16 WILL ONLY BE SERVICED IMMEDIATELY FOLLOWING PHASES 2 AND 6 RESPECTIVELY.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2543300 & 2543500

WIN
25433.00 & 25435.00 TRAFFIC PLANS

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	G. STEINMAN	C. THOMPSON 04/05/23
CHECKED-REVIEWED	B. LYON	B. LYON 04/05/23
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		

P.E. NUMBER

SIGNATURE

DATE

KITTERY
ROUTE 1 AT ROUTE 101

TRAFFIC SIGNAL PLAN

SHEET NUMBER
7
OF 11

T-5037-003
January 25, 2024

Maxim Zakian, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

Re: **283 US Route 1 Mixed Use Development Preliminary Review**
Tax Map 30, Lot 44
CMA #591.166

Dear Max:

On behalf of 283 Route 1, LLC, C/O Two International Group (applicant), we are pleased to submit the following revised items for the above referenced project. The enclosed items have been revised in response to the comments received from CMA in a letter dated October 30, 2023.

- One (1) copy of the Site Plan Set, last revised January 25, 2024;
- One (1) copy of the Drainage Analysis, last revised January 25, 2024;
- One (1) copy of the Operations & Maintenance Plan, last revised January 25, 2024;

Waivers Requested:

- 16.4.19.E(3)(c)[1] – Landscape Planter Strip
- 16.7.11.C(3)(a) – Minimum Storm Drain Pipe Size
- 16.7.11 F(4)(b) – Parking Stall Dimensions

Please find **in bold** below specific responses to each comment stated in the October 30th letter.

16.4 Land Use Regulations

1. 16.4.19.C.(5). A multifamily dwelling is a special exception use.

   A special exception is being requested for the multifamily use.

2. 16.4.19.E.(2)(a). 16 units are allowed per acre unless 25% of them are affordable housing units. The applicant is proposing 107 multifamily units. No information on unit pricing has been provided.

   An Affordable Housing Letter of Intent has been included with the resubmission package.

3. 16.4.19.E(2)(e). The height of the proposed multifamily dwelling is shown on the plans as 50 feet. The applicant should provide building elevations.

   Building elevations have been provided for the hotel and multifamily building in the resubmission package.

4. 16.4.19.E(3)(a)[1]. Proposed parking does not appear to meet the screening requirements.

   The landscape plan has been revised to provide landscape screening from adjacent public streets. (Sheet C-105)

5. 16.4.19.E(3)(c)[1]. The plans do not show landscape planter strips adjacent to all public roads.

   Per Section 16.4.19.E(2)(c) the maximum front setback in the C-1 Zone is 15 feet which would prohibit maintain the landscape planter strip requirement from 16.4.19.E(3)(c)[1] of 30 feet. The Planning Board at their discretion may allow a modification to the 15 foot setback, and the proposed parking configuration was accepted as part of the Sketch Plan Review process by the Planning Board. A waiver from Section 16.4.19.E(3)(c)(1) is being requested.

6. 16.4.19.E(3)(c)[3]. It is not clear that the proposed development meets the street-side tree requirement.

   The landscape plan has been revised to meet this requirement. The project site includes 1,084 feet of street frontage which would require 44 street-side trees. Between existing trees to be preserved and proposed street-side trees the revised plan meets the requirement. (Sheet C-105)

7. 16.4.19.E(3)(e)[1]. It is not clear that the open space standards are met. Calculations should be provided.

   The open space calculation has been added to the site data table. (Sheet C-102)

8. 16.4.19.E(4)(a)[6]. The applicant has not provided a lighting plan.

   A lighting plan has been added to the revised plan set. (Sheet C-106)

9. 16.4.19.E.(4)(d). The applicant should demonstrate compliance with the landscaping and screening requirements.

   The landscape plan has been revised to meet the requirements of this section. (Sheet C-105)

16.7 General Development Requirements

1. 16.7.11.A. Water supply: The applicant should secure information from Kittery Water District with respect to design approval and capacity.

   The applicant has previously met with the Kittery Water District related to this project and no issues were raised related to capacity to serve the project.

2. 16.7.11.B. Sewage disposal: The applicant should secure information from Kittery Sewer Services with respect to design approval.

   The applicant has previously met with the Kittery Sewer Department related to this project and no issues were raised related to capacity to serve the project.

3. 16.7.11.C.(3)(a). The minimum pipe size is specified as 12". There are multiple pipes on site that are smaller. The applicant should apply for a waiver.

   The Tree Box Filters require piping smaller than 12". The applicant has applied for a waiver.

4. 16.7.11.D. The applicant should provide a post-construction operation and maintenance plan in accordance with the Ordinance.

   A post-construction operation and maintenance plan has been provided as part of this resubmission package.

5. We have the following comments on the drainage analysis:

   1. There are references to a reduction in impervious area post-construction, but the amount of the reduction and the percent impervious following construction are not presented. The applicant should provide calculations.

      The net impervious cover calculation for the site has been added to the site data table. (Sheet C-102)

   2. There are several spelling and grammar mistakes in the descriptions of pre- and post-conditions in section 1.2 and 1.3.

      The descriptions for both the pre- and post-conditions in sections 1.2 and 1.3 have been reviewed and all spelling and grammar mistakes have been fixed.

   3. The rain garden is designed to infiltrate. Have test pits and infiltration tests been completed in this area?

      The proposed rain garden is designed with an underdrain and not designed to infiltrate.

   4. A detail of the rain garden outlet control structure (PYD-08) should be provided in the plan set.

      A detail of outlet control structure PYD-08 has been created including outlet pipe and underdrain connection. (Sheet C-504)

   5. PTFB-05 is modeled with an inlet of 21.25' but the Drainage Structure Table has it listed as 20.10'.

      The plans and HydroCAD model have been reviewed and revised to confirm all structures match between plan and drainage model.

   6. PTFB-07 is modeled with inlet/outlet inverts of 19.50'/19.20' but are shown at elevations in the Drainage Structure Table of 17.80'/16.30'.

      The plans and HydroCAD model have been reviewed and revised to confirm all structures match between plan and drainage model.

   7. In section 1.4, the 50-year storm is referenced but not included in Table 1.4 or in the modeling.

      Section 1.4 has been reviewed and the reference to the 50-year storm has been removed.

8. Section 1.5.3 references eight proposed Tree Box Filters but only seven are shown on the plans or in the model.

   Section 1.5.3 has been reviewed and updated to read "seven (7) proposed Tree Box Filters…" as there are only seven proposed within the site.

6. 16.7.11.F.(d). Dwellings require 2 spaces per unit and restaurant parking requirements are more complicated than 1 space per 3 seats. The plans show less than 2 spaces per dwelling unit and 1 space per 3 seats. Please clarify.

   The Land Use Zoning Regulations for the Town of Kittery have been reviewed and Section 16.4.19.E(4)(c) specifies one (1) parking space is required per dwelling unit in the C-1 zone. Section 16.7.11.F.(d) requires 1 parking space for each 3 seats with a calculation to determine the maximum number of seats per square foot of floor area. The application proposes to have a 150 seat restaurant which would require 50 parking spaces and allow up to 2,250 SF of customer accessible floor area.

7. 16.7.11.F.(g). It does not appear that the parking landscaping requirements are met. Please clarify.

   The Parking landscaping has been updated so requirements are met. (C-105)

8. 16.7.11.H A lighting plan was not provided by the applicant.

   A Lighting plan has been created and added to the plan set. (C-106)

General Comments

We have the following comments on the plans:

Cover Sheet

1. The plans should be stamped by a licensed engineer.

   The plans have been stamped by a licensed engineer.

2. There is a spelling mistake in the title "Mixed-Usedevelopment"

   The spelling mistake in the title has been updated to read "Mixed-Use Development".

C1: Boundary & Topographic Survey

1. The Utility Note needs editing for clarity "The survey has not physically location the underground utilities."

   Utility note has been revised for clarity.

2. The plan should be stamped by the licensed land surveyor.

   Existing conditions plan has been stamped by the licensed land surveyor.

3. There is a spelling mistake in the leader "Sign w/ overhaning lights".

   Spelling error has been revised.

C-101: Existing Conditions/Demolition Plan

1. Note 22 states "Bold linetypes within the limits of work indicate site features to be removed…" There are no bold linetypes.

   Note 22 has been removed from the existing conditions/Demolition Plan.

2. Note 14 should be edited "…remove and dispose of all existing structures, concrete pads, utilities and pavement within the work limits shown as need (sic) to complete the work…".

   Note 14 has been updated to read "…remove and dispose of all existing structures, concrete pads, utilities and pavement within the work limits shown as need (sic) to complete the work…".

3. Indicate which catch basins need inlet protection.

   All Erosion Controls, including Inlet Protection locations, are now shown on the Existing Conditions/Demolition Plan.

4. Some on-site drainage ties into drainage in Route 1 or outfalls onto Interstate 95. The demolition should be further described at these locations.

   Existing tie ins to Route 1 drainage to be removed have been noted on the Demolition plan. The existing connection onto the Interstate 95 Right Of Way will remain, with the connecting drain line running through the project area being rerouted around the proposed development to not impact the flow of offsite stormwater.

5. Trees to remain should be indicated on the plans.

   Proposed tree protection for existing trees on site that are to remain have been added to the Existing Conditions/Demolition Plan.

C-102: Site Plan

1. The impervious coverage and minimum space calculations should be shown/broken down.

   The Impervious coverage and minimum open space calculations have been added to the Site Data Table.

2. The "Proposed Green Area" leader on the east of the site points to an area hatched as concrete.

   The annotation of this area has been changed from "Proposed Green Area" to now read "Proposed Pocket Park Area".

3. Will there be signage restricting parking for each use to certain areas?

   There will be no signage for restricted parking incorporated within the plans.

C-103: Grading, Drainage & Erosion Control Plan

1. Some on-site piping is less than 12". The applicant should apply for a waiver.

   Requirements for the proposed Tree Box Filters have been reviewed and require piping smaller than 12". All other piping on site has been revised to be a minimum of 12". The applicant will apply for a waiver for the locations where piping does not meet this requirement.

2. The construction entrance should be shown on the plan.

   The plans have been updated to include a Stabilized construction exit.

3. Provide a detail of PYD-08 including outlet controls, orifices, and underdrain tie-ins.

   A detail of outlet control structure PYD-08 has been created including outlet pipe and underdrain connection. (Sheet C-504)

4. What does the "proposed rerouting of existing offsite drainage" leader mean? Please clarify.

   The existing drainage connection onto the Interstate 95 Right of Way will remain, with the existing drain line that runs through the project area being rerouted around the proposed development to not impact the flow of offsite stormwater.

C-104: Utility Plan

1. The communications company Xfinity is misspelled "Exfinity" in Note 2 of the Utility Notes.

   The Communications company in Note 2 has been revised to now read "Xfinity".

2. Change Note 6 to read "Kittery Water District".

   Note 6 has been revised to now read "Kittery Water District".

3. Change Note 10 to read "Kittery Water District standards".

   Note 10 has been revised to now read "Kittery Water District Standards

4. Amend Note 11 to include DPW and Kittery Water District.

   Note 11 has been revised to include both the DPW and the Kittery Water District.

5. Change Note 23 to read "Kittery Water District".

   Note 23 has been revised to now read "Kittery Water District".

6. Note 25 should read "…less than 4' of cover…".

   Note 25 has been revised to now read "…less than 4' of cover…".

7. The size and materials of the services should be labeled on the plan.

   The size and materials of the service connections within the site have been added to the utility plan.

8. Are the buildings proposed to be sprinklered?

   All proposed buildings within the site are proposed to be sprinklered.

9. Curb stops, valves, cleanouts and thrust blocks should be shown on the plans.

   Valves and thrust blocks have been added to the plans. Sewer cleanouts are assumed to be within the building and shall be coordinated with building plumbing drawings.

C-105: Landscape Plan

1. The plan should provide a planting schedule.

   A planting schedule has been added to the landscape plan.

C-503: Details Sheet

1. Note 2 for the Storm Drain Trench does not apply to the detail.

   Note 2 for the Storm Drain Trench detail has been removed.

C-505: Details Sheet

1. The Typical Water Trench Detail should reference Kittery Water District.

   The Typical Water Trench Detail has been revised to reference Kittery Water District.

2. Provide a water service detail with shutoff, etc.

   A water valve shut off detail has been added to the details.

3. The sewer service detail should contain a cleanout.

   A cleanout detail has been added to the details.

If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 769-9471 or by email at nahansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

Enclosures

Copy: 283 Route 1, LLC (via email)
Town of Kittery Planning Department

T-5037-003
January 25, 2024

Maxim Zakian, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

Re: **283 US Route 1 Mixed Use Development Preliminary Review**
Tax Map 30, Lot 44
CMA #591.166

Dear Max:

On behalf of 283 Route 1, LLC, C/O Two International Group (applicant), we are pleased to submit the following revised items for the above referenced project. The enclosed items have been revised in response to the comments received from CMA in a letter dated October 30, 2023.

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- 16.7.11.C(3)(a) – Minimum Storm Drain Pipe Size
- 16.7.11 F(4)(b) – Parking Stall Dimensions

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1. 16.4.19.C.(5). A multifamily dwelling is a special exception use.

   A special exception is being requested for the multifamily use.

2. 16.4.19.E.(2)(a). 16 units are allowed per acre unless 25% of them are affordable housing units. The applicant is proposing 107 multifamily units. No information on unit pricing has been provided.

   An Affordable Housing Letter of Intent has been included with the resubmission package.

3. 16.4.19.E(2)(e). The height of the proposed multifamily dwelling is shown on the plans as 50 feet. The applicant should provide building elevations.

   Building elevations have been provided for the hotel and multifamily building in the resubmission package.

4. 16.4.19.E(3)(a)[1]. Proposed parking does not appear to meet the screening requirements.

   The landscape plan has been revised to provide landscape screening from adjacent public streets. (Sheet C-105)

5. 16.4.19.E(3)(c)[1]. The plans do not show landscape planter strips adjacent to all public roads.

   Per Section 16.4.19.E(2)(c) the maximum front setback in the C-1 Zone is 15 feet which would prohibit maintain the landscape planter strip requirement from 16.4.19.E(3)(c)[1] of 30 feet. The Planning Board at their discretion may allow a modification to the 15 foot setback, and the proposed parking configuration was accepted as part of the Sketch Plan Review process by the Planning Board. A waiver from Section 16.4.19.E(3)(c)(1) is being requested.

6. 16.4.19.E(3)(c)[3]. It is not clear that the proposed development meets the street-side tree requirement.

   The landscape plan has been revised to meet this requirement. The project site includes 1,084 feet of street frontage which would require 44 street-side trees. Between existing trees to be preserved and proposed street-side trees the revised plan meets the requirement. (Sheet C-105)

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   The open space calculation has been added to the site data table. (Sheet C-102)

8. 16.4.19.E(4)(a)[6]. The applicant has not provided a lighting plan.

   A lighting plan has been added to the revised plan set. (Sheet C-106)

9. 16.4.19.E.(4)(d). The applicant should demonstrate compliance with the landscaping and screening requirements.

   The landscape plan has been revised to meet the requirements of this section. (Sheet C-105)

16.7 General Development Requirements

1. 16.7.11.A. Water supply: The applicant should secure information from Kittery Water District with respect to design approval and capacity.

   The applicant has previously met with the Kittery Water District related to this project and no issues were raised related to capacity to serve the project.

2. 16.7.11.B. Sewage disposal: The applicant should secure information from Kittery Sewer Services with respect to design approval.

   The applicant has previously met with the Kittery Sewer Department related to this project and no issues were raised related to capacity to serve the project.

3. 16.7.11.C.(3)(a). The minimum pipe size is specified as 12". There are multiple pipes on site that are smaller. The applicant should apply for a waiver.

   The Tree Box Filters require piping smaller than 12". The applicant has applied for a waiver.

4. 16.7.11.D. The applicant should provide a post-construction operation and maintenance plan in accordance with the Ordinance.

   A post-construction operation and maintenance plan has been provided as part of this resubmission package.

5. We have the following comments on the drainage analysis:

   1. There are references to a reduction in impervious area post-construction, but the amount of the reduction and the percent impervious following construction are not presented. The applicant should provide calculations.

      The net impervious cover calculation for the site has been added to the site data table. (Sheet C-102)

   2. There are several spelling and grammar mistakes in the descriptions of pre- and post-conditions in section 1.2 and 1.3.

      The descriptions for both the pre- and post-conditions in sections 1.2 and 1.3 have been reviewed and all spelling and grammar mistakes have been fixed.

   3. The rain garden is designed to infiltrate. Have test pits and infiltration tests been completed in this area?

      The proposed rain garden is designed with an underdrain and not designed to infiltrate.

   4. A detail of the rain garden outlet control structure (PYD-08) should be provided in the plan set.

      A detail of outlet control structure PYD-08 has been created including outlet pipe and underdrain connection. (Sheet C-504)

   5. PTFB-05 is modeled with an inlet of 21.25' but the Drainage Structure Table has it listed as 20.10'.

      The plans and HydroCAD model have been reviewed and revised to confirm all structures match between plan and drainage model.

   6. PTFB-07 is modeled with inlet/outlet inverts of 19.50'/19.20' but are shown at elevations in the Drainage Structure Table of 17.80'/16.30'.

      The plans and HydroCAD model have been reviewed and revised to confirm all structures match between plan and drainage model.

   7. In section 1.4, the 50-year storm is referenced but not included in Table 1.4 or in the modeling.

      Section 1.4 has been reviewed and the reference to the 50-year storm has been removed.

8. Section 1.5.3 references eight proposed Tree Box Filters but only seven are shown on the plans or in the model.

   Section 1.5.3 has been reviewed and updated to read "seven (7) proposed Tree Box Filters…" as there are only seven proposed within the site.

6. 16.7.11.F.(d). Dwellings require 2 spaces per unit and restaurant parking requirements are more complicated than 1 space per 3 seats. The plans show less than 2 spaces per dwelling unit and 1 space per 3 seats. Please clarify.

   The Land Use Zoning Regulations for the Town of Kittery have been reviewed and Section 16.4.19.E(4)(c) specifies one (1) parking space is required per dwelling unit in the C-1 zone. Section 16.7.11.F.(d) requires 1 parking space for each 3 seats with a calculation to determine the maximum number of seats per square foot of floor area. The application proposes to have a 150 seat restaurant which would require 50 parking spaces and allow up to 2,250 SF of customer accessible floor area.

7. 16.7.11.F.(g). It does not appear that the parking landscaping requirements are met. Please clarify.

   The Parking landscaping has been updated so requirements are met. (C-105)

8. 16.7.11.H A lighting plan was not provided by the applicant.

   A Lighting plan has been created and added to the plan set. (C-106)

General Comments

We have the following comments on the plans:

Cover Sheet

1. The plans should be stamped by a licensed engineer.

   The plans have been stamped by a licensed engineer.

2. There is a spelling mistake in the title "Mixed-Usedevelopment"

   The spelling mistake in the title has been updated to read "Mixed-Use Development".

C1: Boundary & Topographic Survey

1. The Utility Note needs editing for clarity "The survey has not physically location the underground utilities."

   Utility note has been revised for clarity.

2. The plan should be stamped by the licensed land surveyor.

   Existing conditions plan has been stamped by the licensed land surveyor.

3. There is a spelling mistake in the leader "Sign w/ overhaning lights".

   Spelling error has been revised.

C-101: Existing Conditions/Demolition Plan

1. Note 22 states "Bold linetypes within the limits of work indicate site features to be removed…" There are no bold linetypes.

   Note 22 has been removed from the existing conditions/Demolition Plan.

2. Note 14 should be edited "…remove and dispose of all existing structures, concrete pads, utilities and pavement within the work limits shown as need (sic) to complete the work…".

   Note 14 has been updated to read "…remove and dispose of all existing structures, concrete pads, utilities and pavement within the work limits shown as need (sic) to complete the work…".

3. Indicate which catch basins need inlet protection.

   All Erosion Controls, including Inlet Protection locations, are now shown on the Existing Conditions/Demolition Plan.

4. Some on-site drainage ties into drainage in Route 1 or outfalls onto Interstate 95. The demolition should be further described at these locations.

   Existing tie ins to Route 1 drainage to be removed have been noted on the Demolition plan. The existing connection onto the Interstate 95 Right Of Way will remain, with the connecting drain line running through the project area being rerouted around the proposed development to not impact the flow of offsite stormwater.

5. Trees to remain should be indicated on the plans.

   Proposed tree protection for existing trees on site that are to remain have been added to the Existing Conditions/Demolition Plan.

C-102: Site Plan

1. The impervious coverage and minimum space calculations should be shown/broken down.

   The Impervious coverage and minimum open space calculations have been added to the Site Data Table.

2. The "Proposed Green Area" leader on the east of the site points to an area hatched as concrete.

   The annotation of this area has been changed from "Proposed Green Area" to now read "Proposed Pocket Park Area".

3. Will there be signage restricting parking for each use to certain areas?

   There will be no signage for restricted parking incorporated within the plans.

C-103: Grading, Drainage & Erosion Control Plan

1. Some on-site piping is less than 12". The applicant should apply for a waiver.

   Requirements for the proposed Tree Box Filters have been reviewed and require piping smaller than 12". All other piping on site has been revised to be a minimum of 12". The applicant will apply for a waiver for the locations where piping does not meet this requirement.

2. The construction entrance should be shown on the plan.

   The plans have been updated to include a Stabilized construction exit.

3. Provide a detail of PYD-08 including outlet controls, orifices, and underdrain tie-ins.

   A detail of outlet control structure PYD-08 has been created including outlet pipe and underdrain connection. (Sheet C-504)

4. What does the "proposed rerouting of existing offsite drainage" leader mean? Please clarify.

   The existing drainage connection onto the Interstate 95 Right of Way will remain, with the existing drain line that runs through the project area being rerouted around the proposed development to not impact the flow of offsite stormwater.

C-104: Utility Plan

1. The communications company Xfinity is misspelled "Exfinity" in Note 2 of the Utility Notes.

   The Communications company in Note 2 has been revised to now read "Xfinity".

2. Change Note 6 to read "Kittery Water District".

   Note 6 has been revised to now read "Kittery Water District".

3. Change Note 10 to read "Kittery Water District standards".

   Note 10 has been revised to now read "Kittery Water District Standards

4. Amend Note 11 to include DPW and Kittery Water District.

   Note 11 has been revised to include both the DPW and the Kittery Water District.

5. Change Note 23 to read "Kittery Water District".

   Note 23 has been revised to now read "Kittery Water District".

6. Note 25 should read "…less than 4' of cover…".

   Note 25 has been revised to now read "…less than 4' of cover…".

7. The size and materials of the services should be labeled on the plan.

   The size and materials of the service connections within the site have been added to the utility plan.

8. Are the buildings proposed to be sprinklered?

   All proposed buildings within the site are proposed to be sprinklered.

9. Curb stops, valves, cleanouts and thrust blocks should be shown on the plans.

   Valves and thrust blocks have been added to the plans. Sewer cleanouts are assumed to be within the building and shall be coordinated with building plumbing drawings.

C-105: Landscape Plan

1. The plan should provide a planting schedule.

   A planting schedule has been added to the landscape plan.

C-503: Details Sheet

1. Note 2 for the Storm Drain Trench does not apply to the detail.

   Note 2 for the Storm Drain Trench detail has been removed.

C-505: Details Sheet

1. The Typical Water Trench Detail should reference Kittery Water District.

   The Typical Water Trench Detail has been revised to reference Kittery Water District.

2. Provide a water service detail with shutoff, etc.

   A water valve shut off detail has been added to the details.

3. The sewer service detail should contain a cleanout.

   A cleanout detail has been added to the details.

If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 769-9471 or by email at nahansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

Enclosures

Copy: 283 Route 1, LLC (via email)
Town of Kittery Planning Department

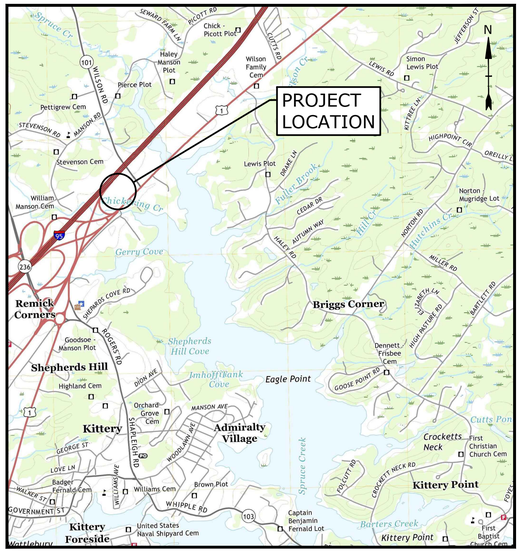
KITTERY MIXED-USE DEVELOPMENT

283 US ROUTE 1
KITTERY, MAINE
PERMIT DRAWINGS

OCTOBER 5, 2023

LAST REVISED: JANUARY 25, 2024

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	01/25/2024
NO. 1	BOUNDARY & TOPOGRAPHIC SURVEY	06/09/2023
C-101	EXISTING CONDITIONS / DEMOLITION PLAN	01/25/2024
C-102	SITE PLAN	01/25/2024
C-103	GRADING, DRAINAGE & EROSION CONTROL PLAN	01/25/2024
C-104	UTILITY PLAN	01/25/2024
C-105	LANDSCAPE PLAN	01/25/2024
C-106	PHOTOMETRIC PLAN	01/25/2024
C-501	EROSION CONTROL NOTES & DETAILS SHEET	01/25/2024
C-502	DETAILS SHEET	01/25/2024
C-503	DETAILS SHEET	01/25/2024
C-504	DETAILS SHEET	01/25/2024
C-505	DETAILS SHEET	01/25/2024
C-506	DETAILS SHEET	01/25/2024
C-601	FIRE TRUCK TURNING PLAN	01/25/2024
A2.00	EXTERIOR ELEVATIONS	11/08/2023
A2.01	EXTERIOR ELEVATIONS	11/08/2023
A2.02	RESIDENTIAL 3D VIEW	11/08/2023
002	PROPOSED EXTERIOR ELEVATIONS	01/25/2024
003	EXTERIOR PERSPECTIVE	01/25/2024



LOCATION MAP
SCALE: 1" = 2,000'

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.

3. TIGHE & BOND. ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:

Tighe&Bond
177 Corporate Drive
Portsmouth, NH 03801

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

APPLICANT:
Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

SURVEY CONSULTANT:
Owen Haskell, Inc.
390 US Route 1, Unit 10
Falmouth, ME 04105

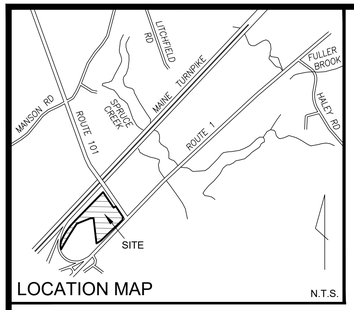
HOTEL ARCHITECT CONSULTANT:
BMA Architectural Group
12 Middle Street
Amherst, NH 03031

RESIDENTIAL ARCHITECT CONSULTANT:
Market Square Architects
104 Congress Street, Suite 203
Portsmouth, NH 03801

811 DigSafe MA-ME-NH-RI-VT

PB SUBMISSION
COMPLETE SET 20 SHEETS

Last Save Date: January 25, 2024 9:11 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\TT\5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_CS.dwg Layout Tab: T&B_CS_22x34



LOCATION MAP N.T.S.

GENERAL NOTES

1. OWNER OF RECORD:
   283–360 KITTERY, LLC
   TAX MAP 30 LOT 44
   Y.C.R.D. BOOK 18710 PAGE 790

2. BEARINGS ARE BASED ON2. THE BASIS OF BEARING FOR THIS SURVEY IS GRID PER PLAN REFERENCE 2, AS SHOWN HEREON.

3. SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION C BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 230171, WITH A DATE OF IDENTIFICATION OF JULY 5, 1984, FOR COMMUNITY NO. 4C, IN YORK COUNTY, STATE OF MAINE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED.

4. THE PROPERTY HAS DIRECT ACCESS TO U.S. ROUTE ONE AND ROUTE 101, DEDICATED PUBLIC STREETS OR HIGHWAYS.

5. THE TOTAL NUMBER OF STRIPED PARKING SPACES ON THE SUBJECT PROPERTY IS 316, INCLUDING 11 DESIGNATED HANDICAP SPACES.

6. THE BUILDING HEIGHT, SHOWN HEREON, WAS MEASURED BETWEEN THE HIGHEST POINT OF THE BUILDING AND THE FINISHED FLOOR ELEVATION IN THE APPROXIMATE LOCATION AS DEPICTED ON THE DRAWING.

7. ELEVATIONS ARE BASED ON NAVD88 PER GPS OBSERVATION.

PLAN REFERENCES

1. MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP, STATE HIGHWAY 95, FEDERAL AID PROJECT NO. I-95-1(2) SECTION 4, S.H.C. FILE NO. 16–181, SHEETS 24–25 OF 56, DATED JULY 1967.

2. MAINE TURNPIKE AUTHORITY, MAINE TURNPIKE, PROPERTY PLAN, SECTION 1, KITTERY TO PORTLAND, KITTERY SHEET 1 (AUG. 1946) AND KITTERY SUPPLEMENTAL SHEETS 2 & 3 (DEC. 1946), BY HOWARD, NEEDLES, TAMMEN & BERGENDOFF RECORDED AT YORK COUNTY REGISTRY OF DEEDS PLAN BOOK 16, PAGES 95–97.

3. PLAN OF LAND OF PORTION OF OLD WILSON ROAD, KITTERY, MAINE FOR STANLEY TANGER BY CIVIL CONSULTANTS DATED MAY 19, 1986 RECORDED AT YORK COUNTY REGISTRY OF DEEDS DEED BOOK 5634, PAGE 63.

4. LAND TITLE SURVEY, TANGER OUTLET CENTER 1, ROUTE 1, KITTERY, YORK COUNTY, MAINE PREPARED FOR TANGER PROPERTIES LIMITED PARTNERSHIP DATED FEB. 11, 1999 BY CIVIL CONSULTANTS.

5. ALTA/ACSM LAND TITLE SURVEY, TANGER OUTLET CENTERS, STORE #1, 283 U.S. ROUTE ONE, KITTERY, YORK COUNTY, MAINE MADE FOR SMITH–ROBERTS NATIONAL CORPORATION DATED SEPTEMBER 10, 2019 REVISED SEPTEMBER 21, 2015 BY OWEN HASKELL, INC.

LEGEND

●	IRON PIPE OR ROD FOUND	X—X	FENCE
■	MONUMENT FOUND		STONEWALL
⌀	UTILITY POLE		CURB
○	MANHOLE	OHW	OVERHEAD WIRES
⊠ EM/GM	ELECTRIC/GAS METER	UGE	UNDERGROUND POWER
◉	GAS VALVE	W	WATER LINE
	SIGN	G	GAS LINE
	CATCH BASIN	T	TELEPHONE
	HYDRANT	SD	STORM DRAIN
⊗	WATER VALVE OR SHUTOFF	SS	SANITARY SEWER
☼	LIGHT POLE	100	1' CONTOUR
	DECIDUOUS TREE		WOODS LINE
	CONIFEROUS TREE	IPF/IRF	IRON PIPE/ROD FOUND
		N/F	NOW OR FORMERLY
		000/000	DEED BOOK / PAGE
		L/S	LANDSCAPED AREA
		CONC.	CONCRETE
		EB	ELECTRIC BOX/METER
		TH=	THRESHOLD
		FFE	FINISHED FLOOR ELEVATION

SCALE : 1" = 40'
0' 20' 40' 80'

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

6/9/2023
DATE

SAMUEL D. GLIDDEN, PLS #2520

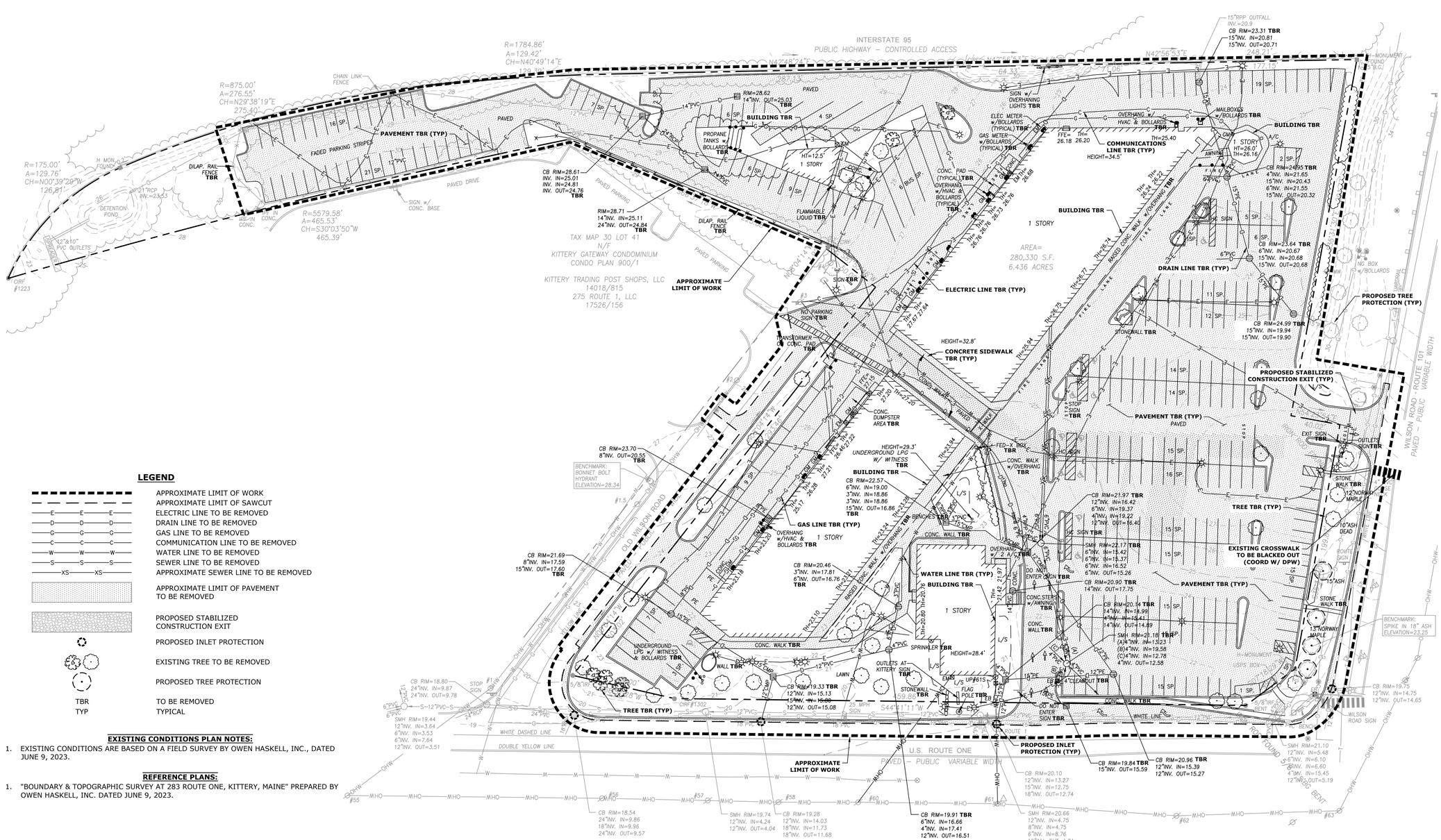
STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

Boundary & Topographic Survey

At
283 Route One, Kittery, Maine
Made for
283 Route 1, LLC
c/o Two International Group
1 New Hampshire Avenue, Suite 123
Portsmouth, New Hampshire

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: JLW	DATE: JUNE 9, 2023	JOB NO. 2023-105 K-Y	
CHECKED BY: SDG	SCALE: 1" = 40'	DRWG. NO. 1	



LEGEND

– – – – –	APPROXIMATE LIMIT OF WORK
— — — — —	APPROXIMATE LIMIT OF SAWCUT
—E—E—E—	ELECTRIC LINE TO BE REMOVED
—D—D—D—	DRAIN LINE TO BE REMOVED
—G—G—G—	GAS LINE TO BE REMOVED
—C—C—C—	COMMUNICATION LINE TO BE REMOVED
—W—W—W—	WATER LINE TO BE REMOVED
—S—S—S—	SEWER LINE TO BE REMOVED
—XS—XS—	APPROXIMATE SEWER LINE TO BE REMOVED
	APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
	PROPOSED STABILIZED CONSTRUCTION EXIT
	PROPOSED INLET PROTECTION
	EXISTING TREE TO BE REMOVED
	PROPOSED TREE PROTECTION
TBR	TO BE REMOVED
TYP	TYPICAL

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY OWEN HASKELL, INC., DATED JUNE 9, 2023.

REFERENCE PLANS:

1. "BOUNDARY & TOPOGRAPHIC SURVEY AT 283 ROUTE ONE, KITTERY, MAINE" PREPARED BY OWEN HASKELL, INC. DATED JUNE 9, 2023.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
4. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
5. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
6. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. SAW CUT AND REMOVE PAVEMENT TWO (2) FEET OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
11. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
12. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
13. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
14. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN AS NEEDED TO COMPLETE THE WORK UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDINGS, FOUNDATION, TREES AND LANDSCAPING.
15. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
16. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
17. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
18. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
19. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. PIPING LEADING FROM SITE TO CATCH BASINS ALONG U.S. ROUTE ONE SHALL BE CUT AND CAPPED AT EXISTING STRUCTURES

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Demo

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

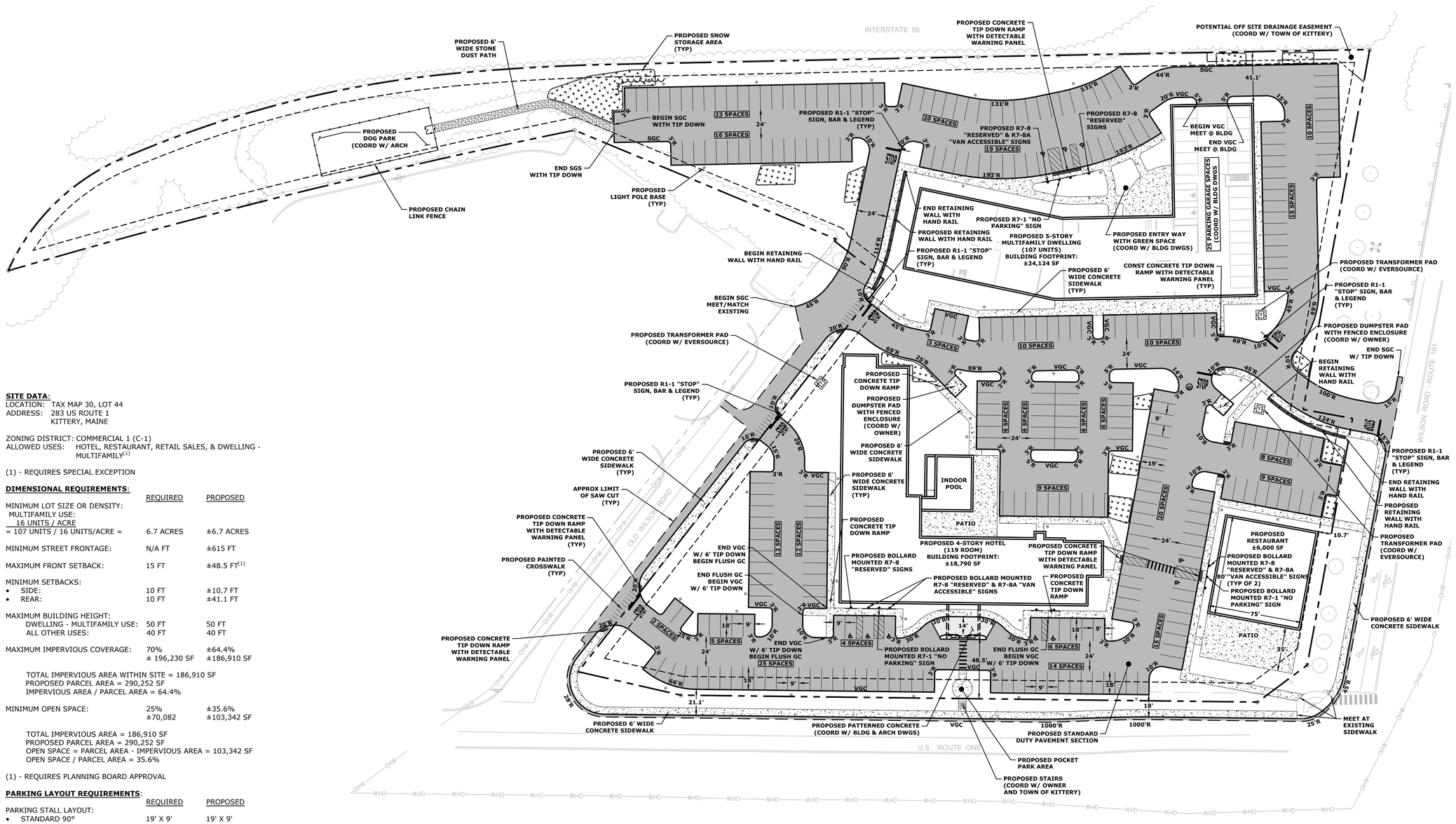
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO: T5037-003
DATE: 10/5/2023
FILE: T5037-003_C-DESIGN.DWG
DRAWN BY: CML
CHECKED: NAH
APPROVED: PMC

EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101



SITE DATA:
LOCATION: TAX MAP 30, LOT 44
ADDRESS: 283 US ROUTE 1
KITTERY, MAINE

ZONING DISTRICT: COMMERCIAL 1 (C-1)
ALLOWED USES: HOTEL, RESTAURANT, RETAIL SALES, & DWELLING - MULTIFAMILY(1)

(1) - REQUIRES SPECIAL EXCEPTION

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE OR DENSITY: MULTIFAMILY USE: 16 UNITS / ACRE = 107 UNITS / 16 UNITS/ACRE =	6.7 ACRES	±6.7 ACRES
MINIMUM STREET FRONTAGE:	N/A FT	±615 FT
MAXIMUM FRONT SETBACK:	15 FT	±48.5 FT(1)
MINIMUM SETBACKS:		
• SIDE:	10 FT	±10.7 FT
• REAR:	10 FT	±41.1 FT
MAXIMUM BUILDING HEIGHT:		
DWELLING - MULTIFAMILY USE:	50 FT	50 FT
ALL OTHER USES:	40 FT	40 FT
MAXIMUM IMPERVIOUS COVERAGE:	70% ± 196,230 SF	±64.4% ±186,910 SF

TOTAL IMPERVIOUS AREA WITHIN SITE = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
IMPERVIOUS AREA / PARCEL AREA = 64.4%

MINIMUM OPEN SPACE:	25% ±70,082	±35.6% ±103,342 SF

TOTAL IMPERVIOUS AREA = 186,910 SF
PROPOSED PARCEL AREA = 290,252 SF
OPEN SPACE = PARCEL AREA - IMPERVIOUS AREA = 103,342 SF
OPEN SPACE / PARCEL AREA = 35.6%

(1) - REQUIRES PLANNING BOARD APPROVAL

PARKING LAYOUT REQUIREMENTS:

	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	19' X 9'	19' X 9'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 90° (1-WAY TRAFFIC)	13 FT	14 FT

PARKING SPACE REQUIREMENTS:

	REQUIRED	PROPOSED
MULTIFAMILY DWELLING: 1 SPACE / DWELLING UNIT = 107 UNITS / 1 SPACE/UNIT=	107 SPACES	147 SPACES
HOTEL: 1 SPACE / ROOMS +1 / 100SF OF MEETING ROOM = 119 ROOM / 1 SPACE/ROOM=	119 SPACES	119 SPACES
RESTAURANT: 1 SPACE / 3 SEATS = 150 SEATS / 1 SPACE/3 SEATS=	50 SPACES	50 SPACES
	169 SPACES	169 SPACES
TOTAL:	276 SPACES	316 SPACES

* TEN (10) TOTAL ADA SPACES PROVIDED

SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE TOWN OF KITTERY.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
11. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
15. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING DRAWINGS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
17. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
18. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND AIRSIDE PAVEMENT AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
19. ALL DUMPSTER PAD ENCLOSURES WILL HAVE FENCE SCREENING
13. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. ONCE DESIGNATED SNOW STORAGE AREAS REACH MAXIMUM CAPACITY, ALL SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.

LEGEND

- PROPOSED CONCRETE
- PROPOSED PAVEMENT SECTION
- PROPOSED SNOW STORAGE AREA
- APPROXIMATE LIMIT OF SAWCUT
- BUILDING SET BACK LINE
- PROPOSED LIGHT POLE BASE
- PROPOSED SIGN
- 45'R — PROPOSED CURB RADIUS
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB

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SITE PLAN

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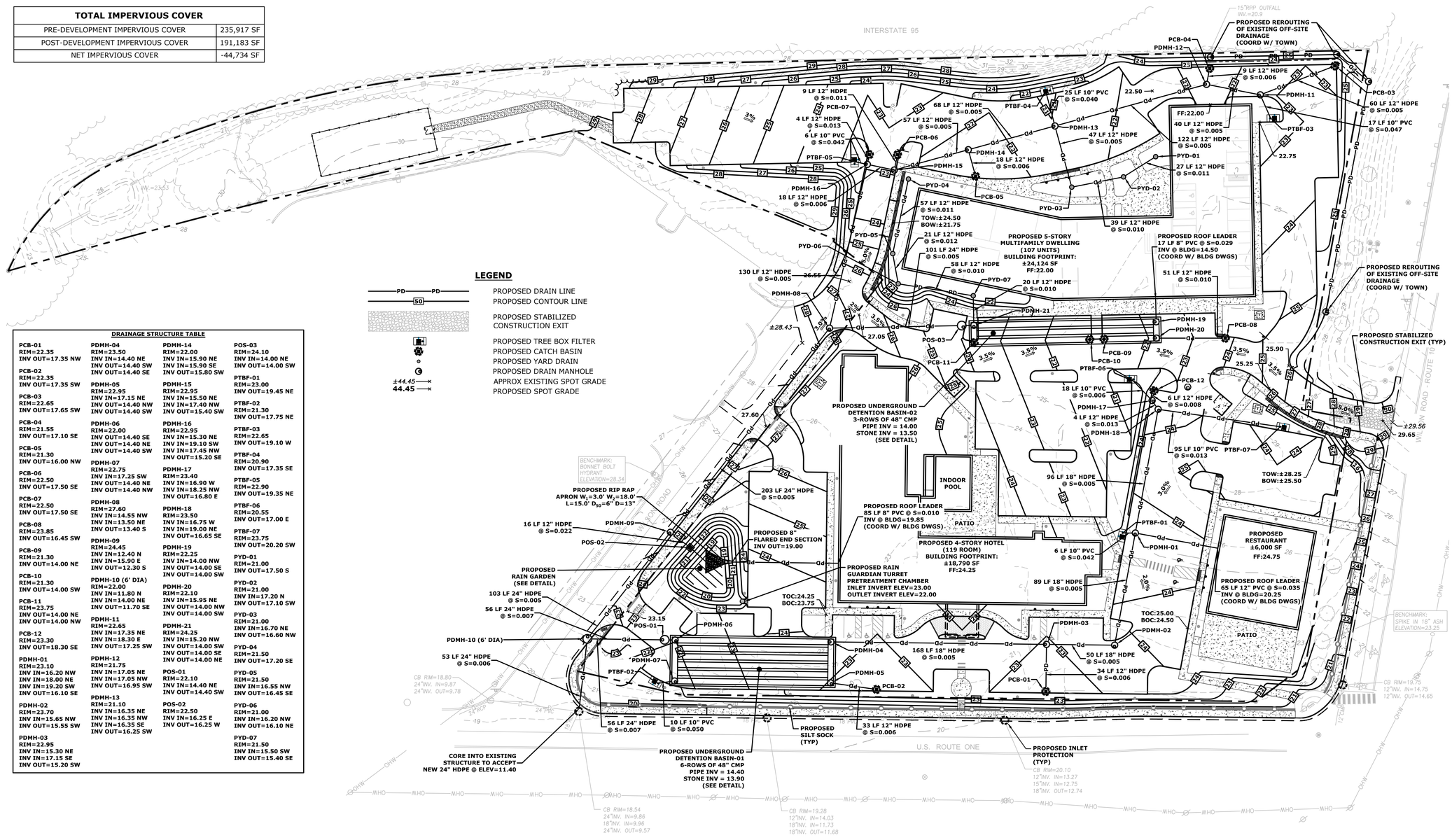
TOTAL IMPERVIOUS COVER	
PRE-DEVELOPMENT IMPERVIOUS COVER	235,917 SF
POST-DEVELOPMENT IMPERVIOUS COVER	191,183 SF
NET IMPERVIOUS COVER	-44,734 SF



LEGEND

- PROPOSED DRAIN LINE
- PROPOSED CONTOUR LINE
- PROPOSED STABILIZED CONSTRUCTION EXIT
- PROPOSED TREE BOX FILTER
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED DRAIN MANHOLE
- APPROX EXISTING SPOT GRADE
- PROPOSED SPOT GRADE

DRAINAGE STRUCTURE TABLE

PCB-01 RIM=22.35 INV OUT=17.35 NW	**PDMH-04** RIM=23.50 INV IN=14.40 NE INV OUT=14.40 SW INV OUT=14.40 SE	**PDMH-14** RIM=22.00 INV IN=15.90 NE INV IN=15.90 SE INV OUT=15.80 SW	**POS-03** RIM=24.10 INV IN=14.00 NE INV OUT=14.00 SW
PCB-02 RIM=22.35 INV OUT=17.35 SW	**PDMH-05** RIM=22.95 INV IN=17.15 NE INV OUT=14.40 NW INV OUT=14.40 SW	**PDMH-15** RIM=22.95 INV IN=15.50 NE INV IN=17.40 NW INV OUT=15.40 SW	**PTBF-01** RIM=23.00 INV OUT=19.45 NE
PCB-03 RIM=22.65 INV OUT=17.65 SW	**PDMH-06** RIM=22.00 INV OUT=14.40 SE INV OUT=14.40 NE INV OUT=14.40 SW	**PDMH-16** RIM=22.95 INV IN=15.30 NE INV IN=19.10 SW INV IN=17.45 NW INV OUT=15.20 SE	**PTBF-02** RIM=21.30 INV OUT=17.75 NE
PCB-04 RIM=21.55 INV OUT=17.10 SE	**PDMH-07** RIM=22.75 INV IN=17.25 SW INV OUT=14.40 NE INV OUT=14.40 NW	**PDMH-17** RIM=23.40 INV IN=16.90 W INV IN=18.25 NW INV OUT=16.80 E	**PTBF-03** RIM=22.65 INV OUT=19.10 W
PCB-05 RIM=21.30 INV OUT=16.00 NW	**PDMH-08** RIM=27.60 INV IN=14.55 NW INV IN=13.50 NE INV OUT=13.40 S	**PDMH-18** RIM=23.50 INV IN=16.75 W INV IN=19.00 NE INV OUT=16.65 SE	**PTBF-04** RIM=20.90 INV OUT=17.35 SE
PCB-06 RIM=22.50 INV OUT=17.50 SE	**PDMH-09** RIM=24.45 INV IN=12.40 N INV IN=15.90 E INV OUT=12.30 S	**PDMH-19** RIM=22.25 INV IN=14.00 NW INV OUT=14.00 SE INV OUT=14.00 SW	**PTBF-05** RIM=22.90 INV OUT=19.35 NE
PCB-07 RIM=22.50 INV OUT=17.50 SE	**PDMH-10 (6' DIA)** RIM=22.00 INV IN=11.80 N INV IN=14.00 NE INV OUT=11.70 SE	**PDMH-20** RIM=22.10 INV IN=15.95 NE INV OUT=14.00 NW INV OUT=14.00 SW	**PTBF-06** RIM=20.55 INV OUT=17.00 E
PCB-08 RIM=23.85 INV OUT=16.45 SW	**PDMH-11** RIM=22.65 INV IN=17.35 NE INV IN=18.30 E INV OUT=17.25 SW	**PDMH-21** RIM=24.25 INV IN=15.20 NW INV OUT=14.00 SW INV OUT=14.00 SE INV OUT=14.00 NE	**PTBF-07** RIM=23.75 INV OUT=20.20 SW
PCB-09 RIM=21.30 INV OUT=14.00 NE	**PDMH-12** RIM=21.75 INV IN=17.05 NE INV IN=17.05 NW INV OUT=16.95 SW	**POS-01** RIM=22.10 INV IN=14.40 NE INV OUT=14.40 SW	**PYD-01** RIM=21.00 INV OUT=17.50 S
PCB-10 RIM=21.30 INV OUT=14.00 SW	**PDMH-13** RIM=21.10 INV IN=16.35 NE INV IN=16.35 NW INV IN=16.35 SE INV OUT=16.25 SW	**POS-02** RIM=22.50 INV IN=16.25 E INV OUT=16.25 W	**PYD-02** RIM=21.00 INV IN=17.20 N INV OUT=17.10 SW
PCB-11 RIM=23.75 INV OUT=14.00 NE INV OUT=14.00 NW			**PYD-03** RIM=21.00 INV IN=16.70 NE INV OUT=16.60 NW
PCB-12 RIM=23.30 INV OUT=18.30 SE			**PYD-04** RIM=21.50 INV OUT=17.20 SE
PDMH-01 RIM=23.10 INV IN=16.20 NW INV IN=18.00 NE INV IN=19.20 SW INV OUT=16.10 SE			**PYD-05** RIM=21.50 INV IN=16.55 NW INV OUT=16.45 SE
PDMH-02 RIM=23.70 INV IN=15.65 NW INV OUT=15.55 SW			**PYD-06** RIM=21.00 INV IN=16.20 NW INV OUT=16.10 NE
PDMH-03 RIM=22.95 INV IN=15.30 NE INV IN=17.15 SE INV OUT=15.20 SW			**PYD-07** RIM=21.50 INV IN=15.50 SW INV OUT=15.40 SE

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
   - BELOW LOAM AND SEED AREAS 90%
   - * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
13. SEE REFERENCE PLAN #1 FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL DEVELOPMENT MUST GENERALLY COMPLY WITH THE PROVISIONS OF THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.

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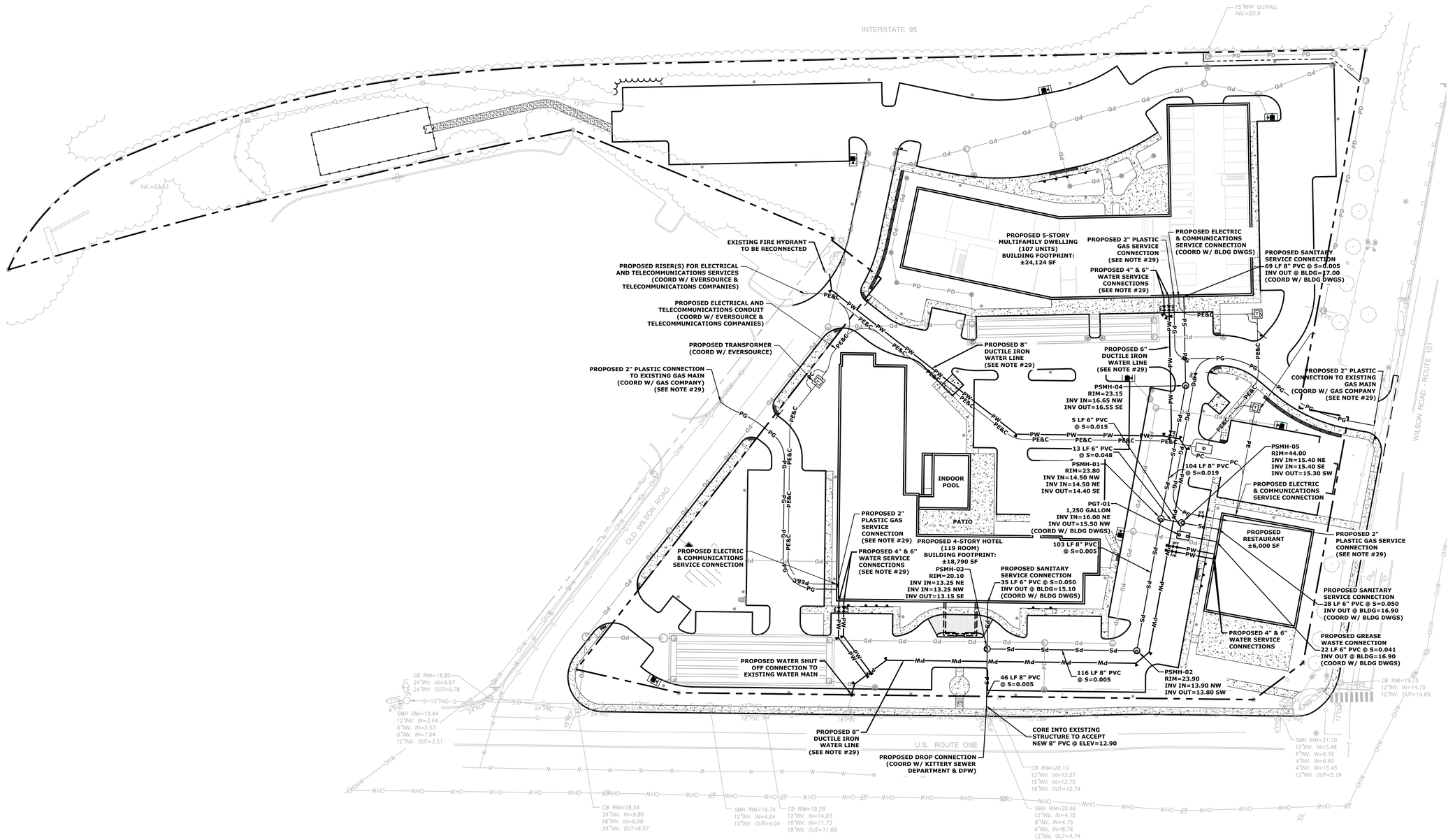
GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103



UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - KITTERY WATER DISTRICT
   - SEWER - KITTERY SEWER DEPARTMENT
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - XFINITY OR CONSOLIDATED COMMUNICATIONS
3. SEE REFERENCE PLAN #1 FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE KITTERY WATER DISTRICT.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE TOWN OF KITTERY.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO TOWN OF KITTERY WATER DISTRICT STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS & KITTERY WATER DISTRICT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MAINE LICENSED LAND SURVEYOR.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE KITTERY WATER DISTRICT.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE TOWN OF KITTERY.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAN 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
27. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
28. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
29. FINAL SIZING FOR BUILDING UTILITY CONNECTIONS TO BE DETERMINED BY PROJECTS MEP ENGINEER

LEGEND

PS—PS	PROPOSED SEWER LINE
PG—PG	PROPOSED GAS LINE
PC—PC	PROPOSED COMMUNICATIONS LINE
PE—PE	PROPOSED ELECTRIC LINE
PE&C—PE&C	PROPOSED ELECTRIC & COMMUNICATIONS LINE
PW—PW	PROPOSED WATER LINE
WV	PROPOSED WATER GATE VALVE
	PROPOSED WATER SHUT OFF
	PROPOSED ELECTRIC MANHOLE
	PROPOSED SEWER MANHOLE
	PROPOSED GREASE TRAP

Tighe&Bond

STATE OF MAINE — PATRICK CRIMMINS — 16468 — LICENSED PROFESSIONAL ENGINEER — 1/25/2024

STATE OF MAINE — NEIL A HANSEN — 17550 — LICENSED PROFESSIONAL ENGINEER — 01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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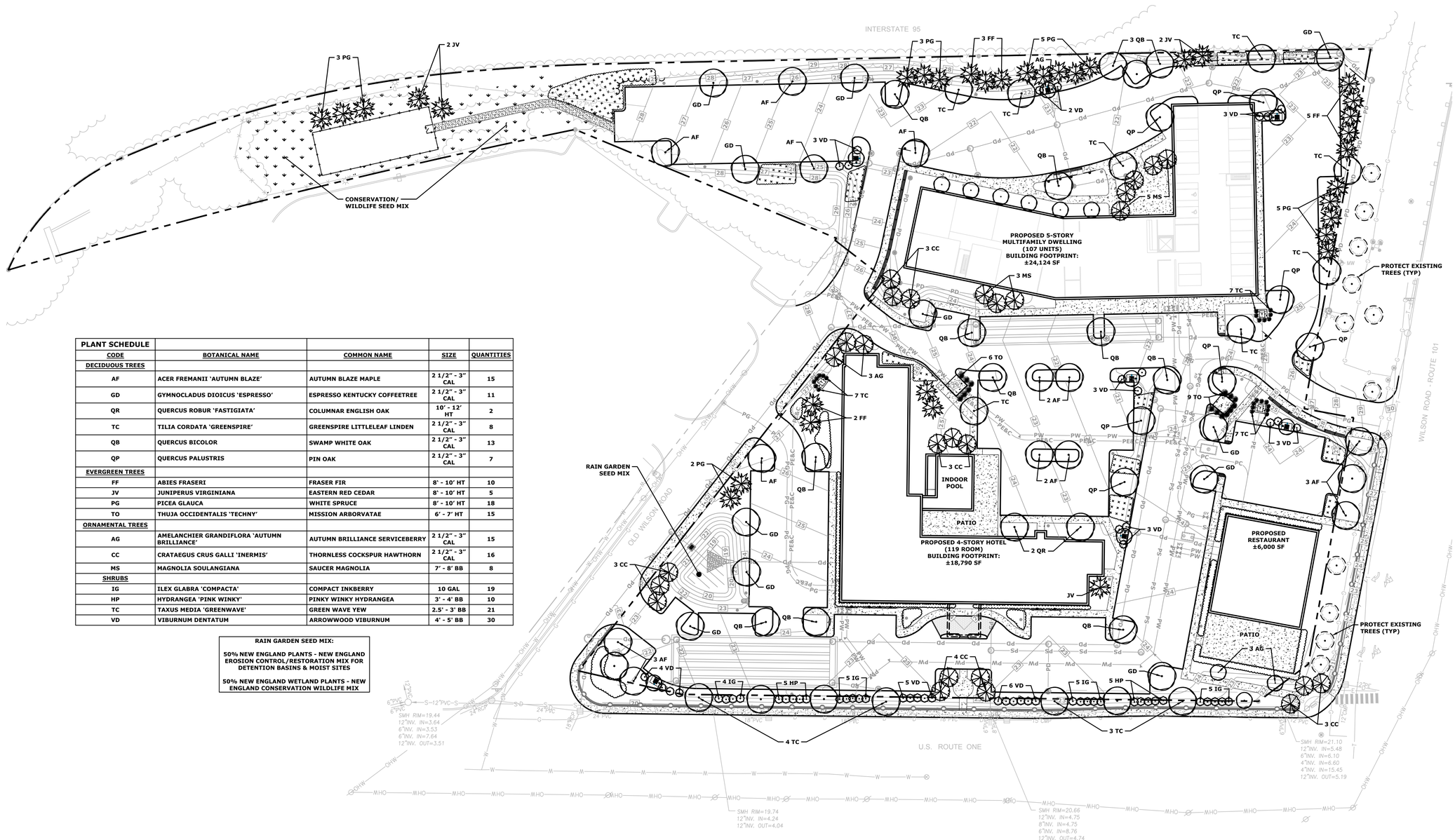
PROJECT NO: T5037-003
DATE: 10/5/2023
FILE: T5037-003_C-DESIGN.DWG
DRAWN BY: CML
CHECKED: NAH
APPROVED: PMC

UTILITY PLAN

SCALE: AS SHOWN

C-104

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Util



PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITIES
DECIDUOUS TREES				
AF	ACER FREMANII 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	2 1/2" - 3" CAL	15
GD	GYMNOCLADUS DIOICUS 'ESPRESSO'	ESPRESSO KENTUCKY COFFEETREE	2 1/2" - 3" CAL	11
QR	QUERCUS ROBUR 'FASTIGIATA'	COLUMNAR ENGLISH OAK	10' - 12' HT	2
TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2" - 3" CAL	8
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2" - 3" CAL	13
QP	QUERCUS PALUSTRIS	PIN OAK	2 1/2" - 3" CAL	7
EVERGREEN TREES				
FF	ABIES FRASERI	FRASER FIR	8' - 10' HT	10
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8' - 10' HT	5
PG	PICEA GLAUCA	WHITE SPRUCE	8' - 10' HT	18
TO	THUJA OCCIDENTALIS 'TECHNY'	MISSION ARBORVATAE	6' - 7' HT	15
ORNAMENTAL TREES				
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 1/2" - 3" CAL	15
CC	CRATAEGUS CRUS GALLI 'INERMIS'	THORNLESS COCKSPUR HAWTHORN	2 1/2" - 3" CAL	16
MS	MAGNOLIA SOULANGIANA	SAUCER MAGNOLIA	7' - 8' BB	8
SHRUBS				
IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	10 GAL	19
HP	HYDRANGEA 'PINK WINKY'	PINKY WINKY HYDRANGEA	3' - 4' BB	10
TC	TAXUS MEDIA 'GREENWAVE'	GREEN WAVE YEW	2.5' - 3' BB	21
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	4' - 5' BB	30

RAIN GARDEN SEED MIX:

50% NEW ENGLAND PLANTS - NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS & MOIST SITES

50% NEW ENGLAND WETLAND PLANTS - NEW ENGLAND CONSERVATION WILDLIFE MIX

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
9. THREE INCHES (3") OF BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" INCHES OF LOAM AND SEED.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

LEGEND

PROPOSED DECIDUOUS TREE

PROPOSED EVERGREEN TREE

PROPOSED ORNAMENTAL TREE

PROPOSED SHRUBS / GROUND COVERS

PROPOSED TREE PROTECTION

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

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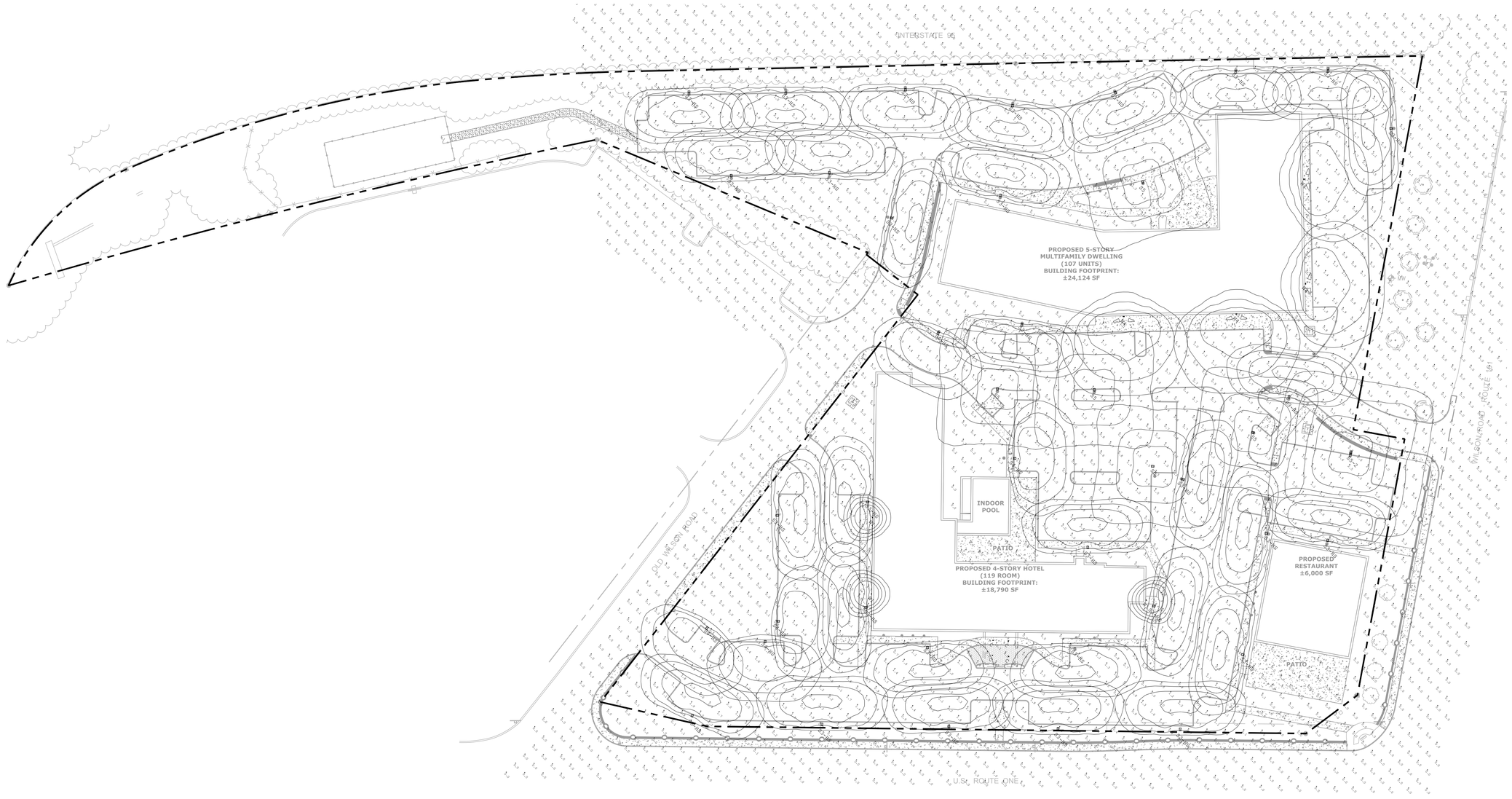
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

LANDSCAPE PLAN

SCALE: AS SHOWN

C-105



Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
	4	C	Single	ADL-FS1-6R-HAZ (30-18001m)	LSI INDUSTRIES, INC.
	30	S3-HS	Single	MRS-LED-06L-SIL-3-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	5	S4-HS	Single	MRS-LED-06L-SIL-4-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	5	S5	Single	MRS-LED-06L-SIL-5W-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	1	S5-2	Back-Back	MRS-LED-06L-SIL-5W-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 D180 GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	3	W1	Single	WPSLS-02L-30-CXX / WALL MTD 9.5' AFG	LSI INDUSTRIES, INC.
	4	W4	Single	XWM-4-LED-06L-30-UE-CXX / WALL MTD 20' AFG	LSI INDUSTRIES, INC.

SITE LIGHTING SHALL BE COORDINATED WITH BUILDING DRAWINGS AND PROJECT ELECTRICAL ENGINEER

SLIM WALL PACK (WPSLS)

OVERVIEW	
Lumen Range	1,000 - 4,000
Wattage Range	12 - 40
Efficacy Range (LPW)	98 - 122
Weight lbs(kg)	3.8 (1.7)

MIRANDA SMALL AREA (MRS)
LABEL:S3-HS, S4-HS, S5

OVERVIEW	
Lumen Package	6,000 - 24,000
Wattage Range	41 - 196
Efficacy Range (LPW)	112 - 156
Fixture Weight lbs (kg)	20 (9.1)

MIRANDA MEDIUM WALL SCONCE (XWM)
LABEL:W3 & W4

OVERVIEW	
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, PCI

Tighe&Bond

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APPROVED:	PMC

PHOTOMETRIC PLAN

SCALE: AS SHOWN

C-106

GENERAL PROJECT INFORMATION

PROJECT OWNER: 283-360 KITTERY, LLC
1 NEW HAMPSHIRE AVE, SUITE 123
PORTSMOUTH, NH 03801
PROJECT NAME: KITTERY MIXED-USE DEVELOPMENT
PROJECT ADDRESS: 283 US ROUTE 1
KITTERY, MAINE
PROJECT MAP / LOT: MAP 30 / LOT 44
PROJECT LATITUDE: 43°06'39.8"N
PROJECT LONGITUDE: 70°44'12.0"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A MIXED-USE DEVELOPMENT THE WORK IS ANTICIPATED TO START IN SPRING OF 2024, AND BE COMPLETED BY SPRING OF 2025.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY ±5 ACRES.

SOIL CHARACTERISTICS

BASED ON THE NRCS WEB SOIL SURVEY FOR YORK COUNTY - MAINE, THE SOILS ON SITE CONSIST OF LYMAN LOAM, SCANTIC SILT LOAM, AND URBAN LAND SOILS WHICH ARE POOR DRAINING SOILS.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO A CLOSED DRAINAGE SYSTEM AND ULTIMATELY TO SPINNEY CREEK (ELIOT, KITTERY), SPRUCE AND CHAUNCEY CREEKS (KITTERY) (STATE WATERBODY ID: ME010600031001_SB_E).

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
   - CONTROL OF DUST
   - CONSTRUCTION OF ACCESS AND HAUL ROAD
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "ENVIRONMENTAL QUALITY HANDBOOK, EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE MAINE SOIL AND WATER CONSERVATION COMMISSION.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN 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;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION, ITEM 703.06 TYPE D HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT 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;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER MEDOT ITEM 703.06 TYPE D, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. PERMANENT MEASURES AND PLANTINGS:
   A. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
   B. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
   C. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
   D. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
   E. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
   F. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
   G. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
   H. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	___ LBS/ACRE
TALL FESCUE	___ LBS/ACRE
REDTOP	___ LBS/ACRE

   IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

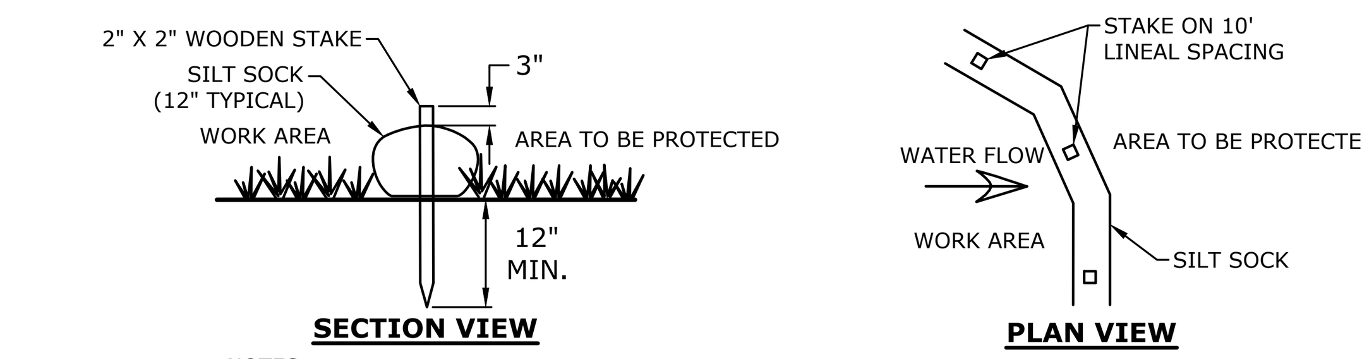
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
         - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
         - SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
         - INSPECT FUEL STORAGE AREAS WEEKLY;
         - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
         - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
         - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
         - THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
           (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
           (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
           (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
           (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
           (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
         - FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE MAINE DEPARTMENT OF ENVIRONMENTAL SERVICES.
      b. FERTILIZERS:
         - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
         - PAINTS:
         - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

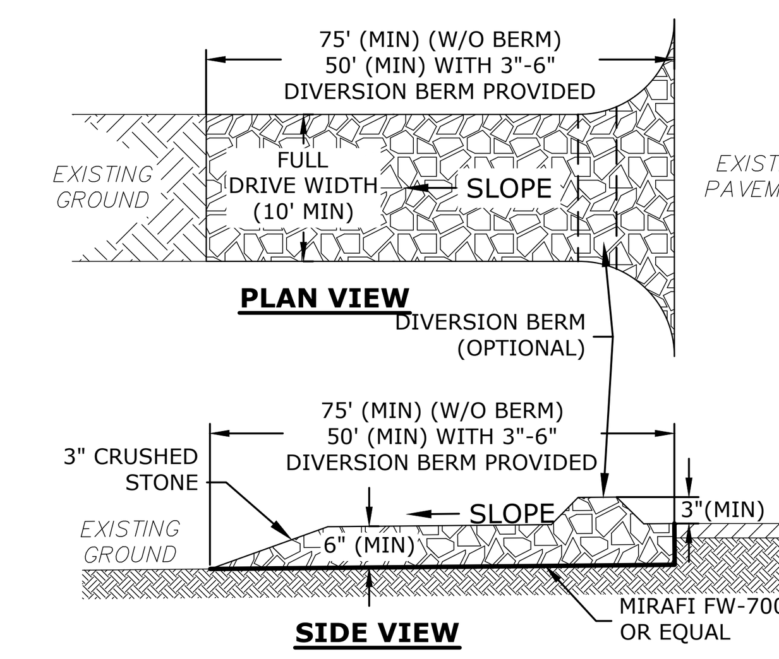
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

1. THIS PROJECT EXCEED ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRE(S) A SWPPP. THE SWPPP SHALL BE PREPARED BY A QUALIFIED ENGINEER. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
   A. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY A QUALIFIED PERSON AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
   B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
   C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
   D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



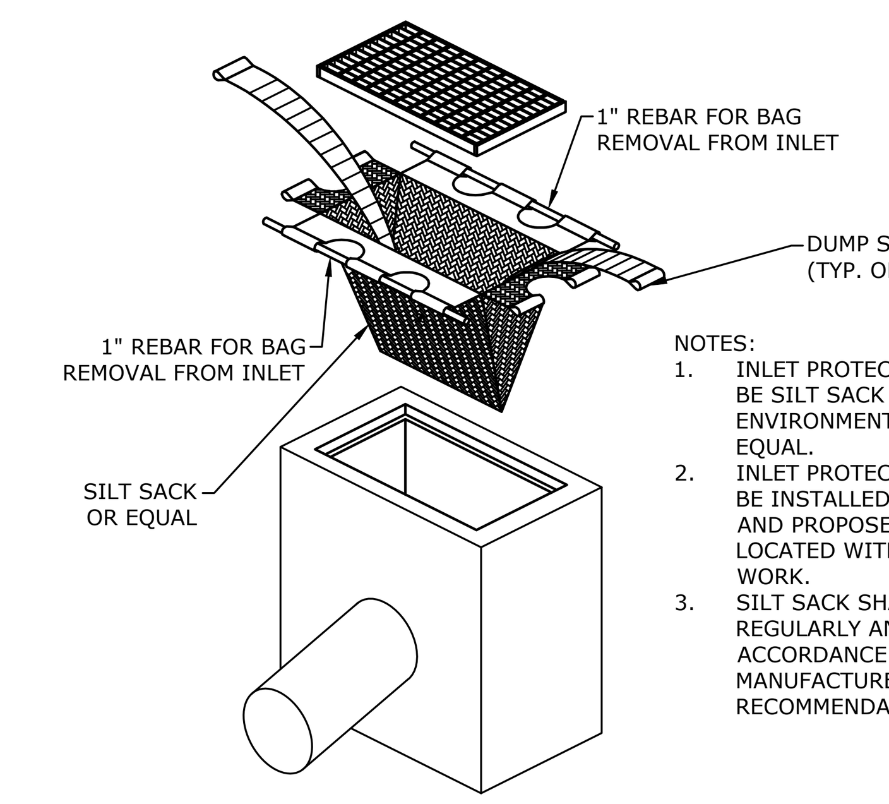
NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. SILT SOCK SHALL BE FILLED WITH FILTERMEDIA BY FILTREXX OR APPROVED EQUAL.
3. WHERE TWO SILT SOCKS ARE JOINED, A MINIMUM OF 2 FEET OF OVERLAP SHALL BE MAINTAINED.
4. SILT SOCKS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

SILT SOCK
NO SCALE



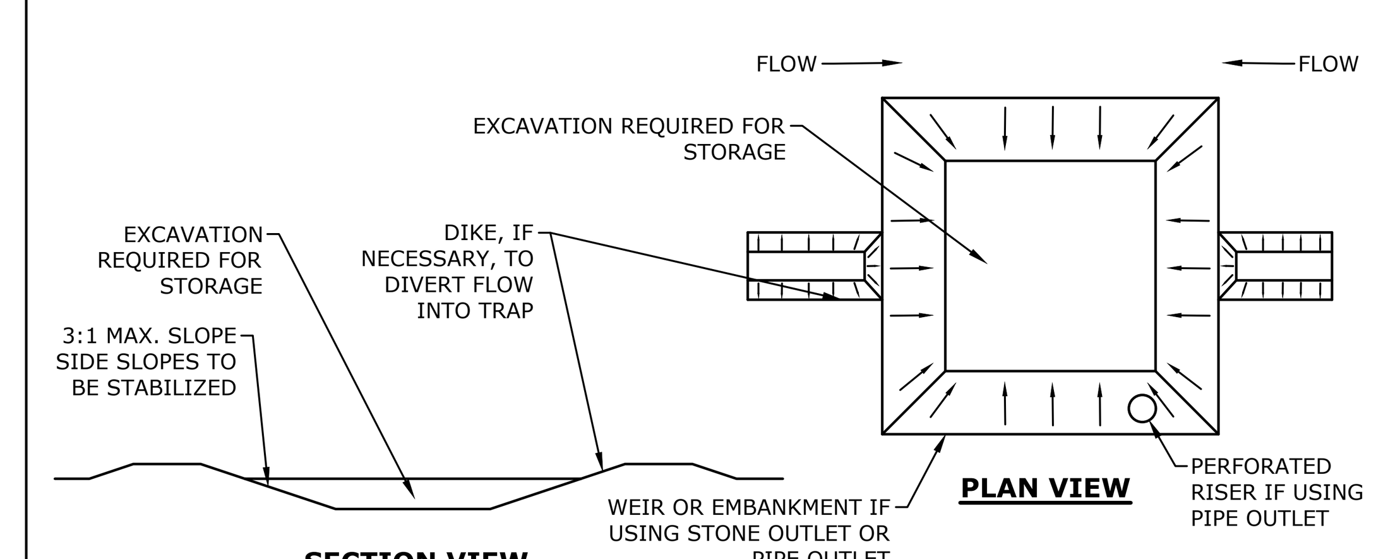
NOTES:
1. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE



NOTES:
1. INLET PROTECTION BARRIER SHALL BE SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL.
2. INLET PROTECTION BARRIER SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS LOCATED WITHIN THE LIMIT OF WORK.
3. SILT SACK SHALL BE INSPECTED REGULARLY AND MAINTAIN IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

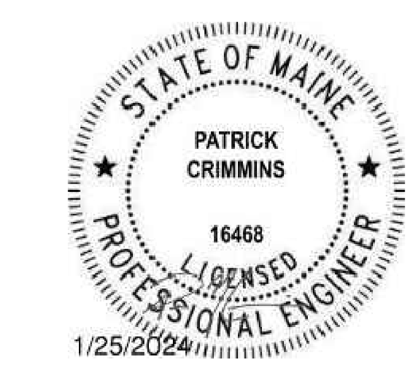
INLET PROTECTION BARRIER
NO SCALE



NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

SEDIMENT TRAP
NO SCALE

Tighe&Bond



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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

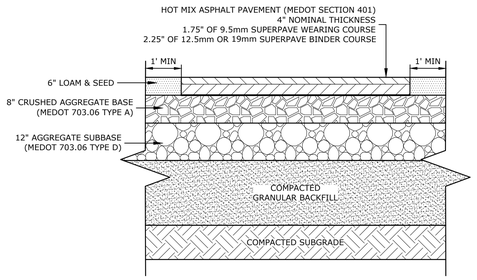
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

EROSION CONTROL NOTES & DETAILS SHEET

SCALE: AS SHOWN

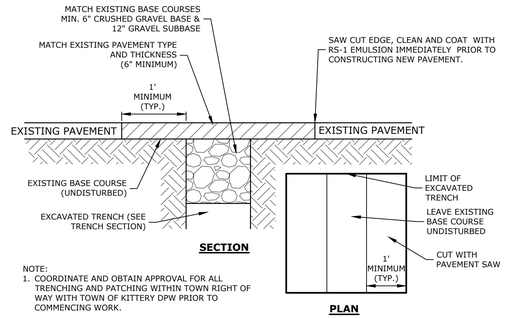
C-501

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-501



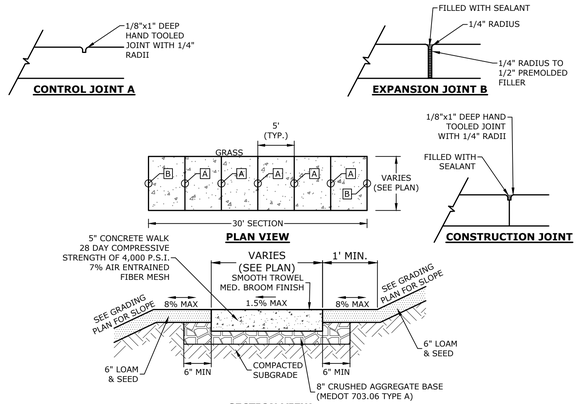
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT SECTION DESIGN SHALL BE APPROVED BY THE PROJECTS GEOTECHNICAL ENGINEER.
5. THE PAVEMENT SECTION SHOULD BE THICKENED AT THE ENTRANCE AND EXIT WAY AREAS OVER A 5' SECTION TO MATCH THE EXISTING ROADWAY PAVEMENT DEPTHS.

TYPICAL STANDARD DUTY PAVEMENT SECTION
NO SCALE



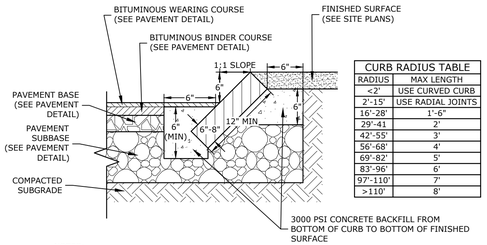
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN TOWN RIGHT OF WAY WITH TOWN OF KITTERY DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE TOWN ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

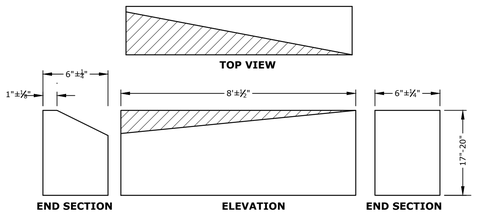
CONCRETE SIDEWALK
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

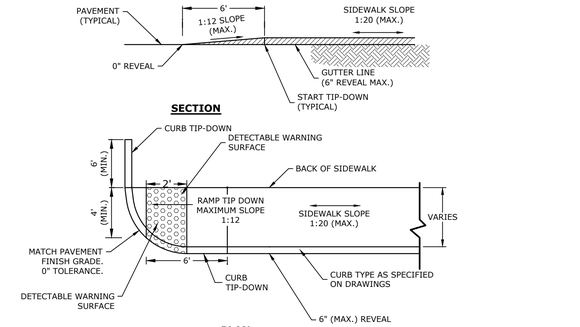
SLOPED GRANITE CURB
NO SCALE



TRANSITION SECTION
GRANITE SLOPE CURB TO VERTICAL GRANITE CURB

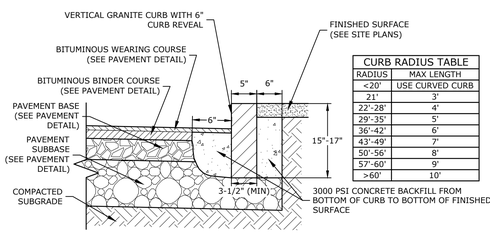
NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN STRAIGHT GRANITE CURB AND SLOPE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE SLOPE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

CURB TRANSITION
NO SCALE



NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. PROVIDE 8" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

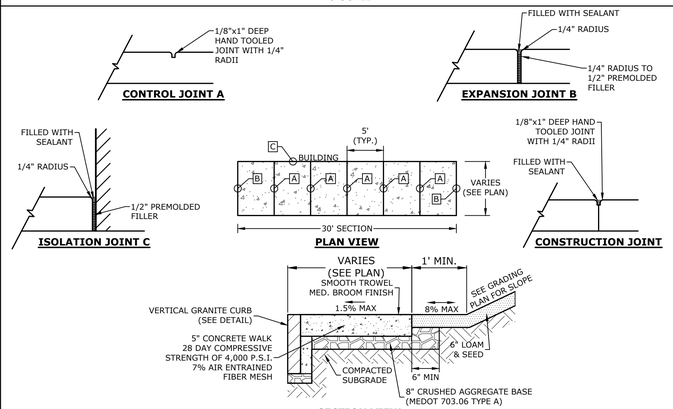
CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

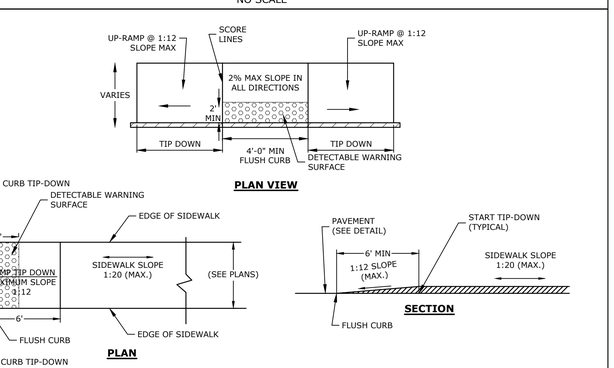
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE TOWN ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 8" COMPACTED CRUSHED GRAVEL BASE (MEDOT 703.06 TYPE A) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON WITH BLACK COATING

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

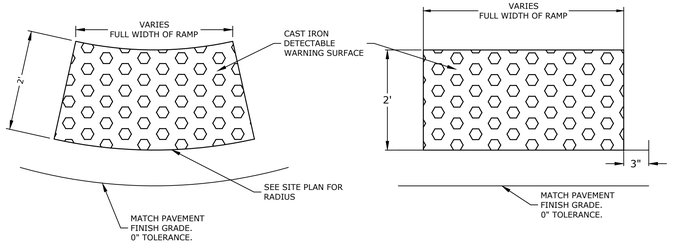
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

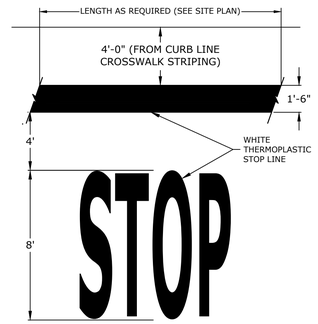
C-502

Last Save Date: January 24, 2024, 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-502



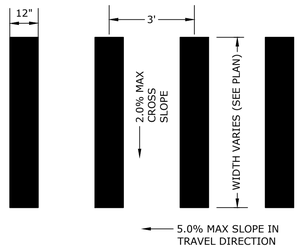
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



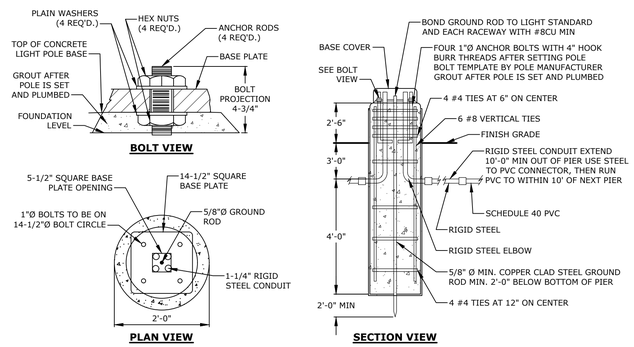
NOTES:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR
NO SCALE



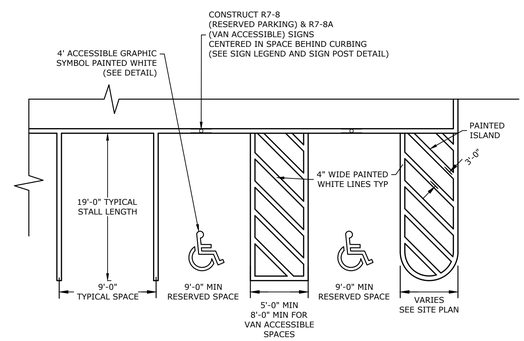
NOTE:
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



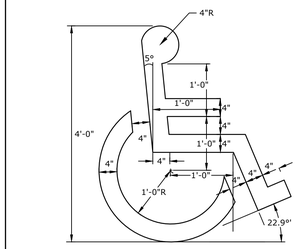
NOTES
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
4. LIGHT POLE BASE DETAIL FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.

TYPICAL LIGHT POLE BASE
NO SCALE



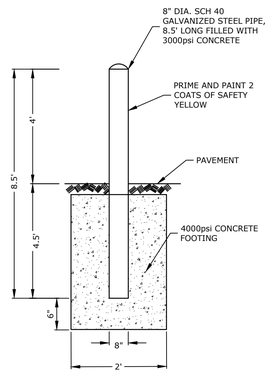
NOTE:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING SPACE STRIPING
NO SCALE

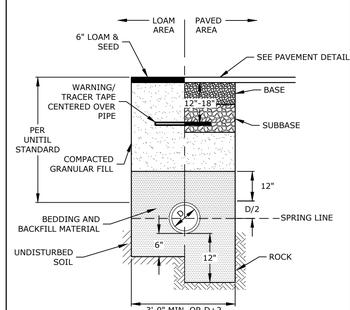


NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL
NO SCALE

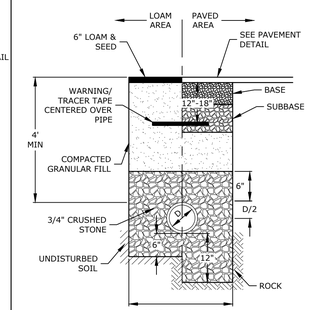


TYPICAL BOLLARD
NO SCALE



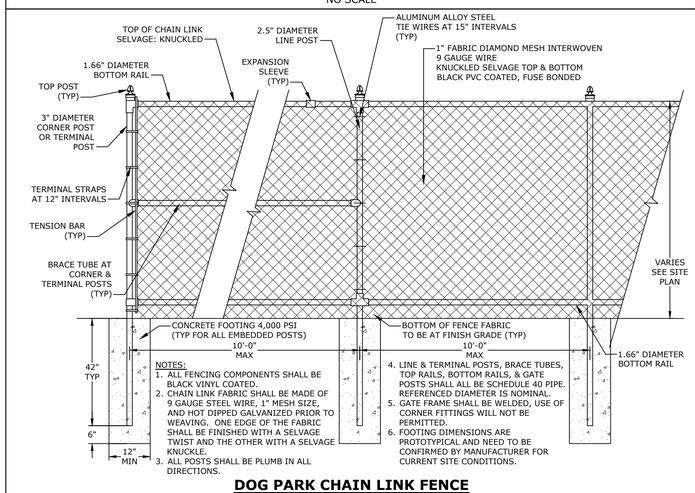
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE TOWN OF KITTERY.

TYPICAL GAS TRENCH
NO SCALE



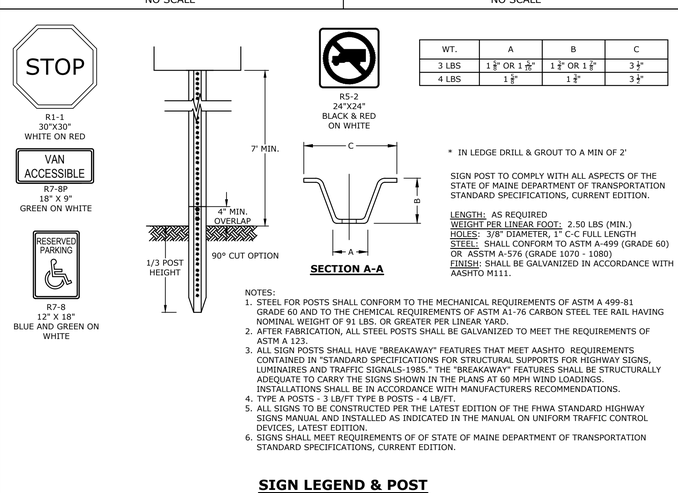
NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.

STORM DRAIN TRENCH
NO SCALE



NOTES:
1. ALL FENCING COMPONENTS SHALL BE BLACK VINYL COATED.
2. CHAIN LINK FABRIC SHALL BE MADE OF 9 GAUGE STEEL WIRE, 1" MESH SIZE, AND HOT DIPPED GALVANIZED PRIOR TO WEAVING. ONE EDGE OF THE FABRIC SHALL BE FINISHED WITH A SELVAGE TWIST AND THE OTHER WITH A SELVAGE KNUCKLE.
3. ALL POSTS SHALL BE PLUMB IN ALL DIRECTIONS.
4. LINE & TERMINAL POSTS, BRACE TUBES, TOP RAILS, BOTTOM RAILS, & GATE POSTS SHALL ALL BE SCHEDULE 40 PIPE. REFERENCED DIAMETER IS NOMINAL.
5. GATE FRAME SHALL BE WELDED, USE OF CORNER FITTINGS WILL NOT BE PERMITTED.
6. FOOTING DIMENSIONS ARE PROTOTYPICAL AND NEED TO BE CONFIRMED BY MANUFACTURER FOR CURRENT SITE CONDITIONS.

DOG PARK CHAIN LINK FENCE
NO SCALE



WT.	A	B	C
3 LBS	1 3/8" OR 1 7/8"	1 3/8" OR 1 5/8"	3 1/4"
4 LBS	1 3/8"	1 3/8"	3 1/4"

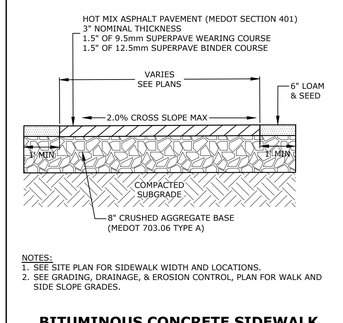
* IN LEDGE DRILL & GROUT TO A MIN OF 2'

SIGN POST TO COMPLY WITH ALL ASPECTS OF THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

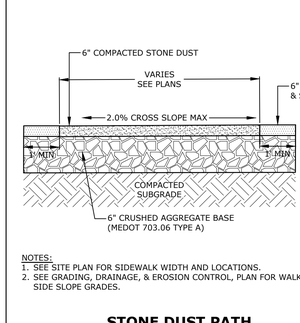
NOTES:
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499-81 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A 123.
3. ALL SIGN POSTS SHALL HAVE "BREAKAWAY" FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS-1985." THE "BREAKAWAY" FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. TYPE A POSTS - 3 LB/FT TYPE B POSTS - 4 LB/FT.
5. ALL SIGNS TO BE CONSTRUCTED PER THE LATEST EDITION OF THE FHWA STANDARD HIGHWAY SIGNS MANUAL AND INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
6. SIGNS SHALL MEET REQUIREMENTS OF OF STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.

SIGN LEGEND & POST
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE, & EROSION CONTROL, PLAN FOR WALK AND SIDE SLOPE GRADES.

BITUMINOUS CONCRETE SIDEWALK
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE, & EROSION CONTROL, PLAN FOR WALK AND SIDE SLOPE GRADES.

STONE DUST PATH
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

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Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

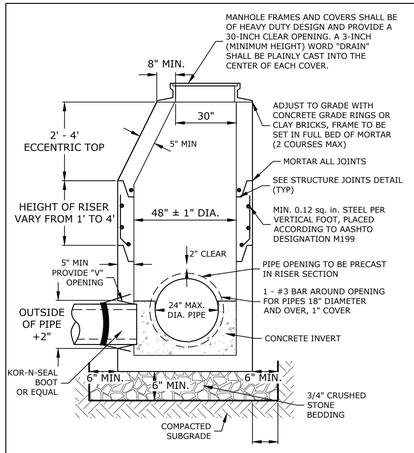
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

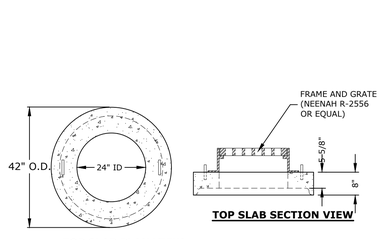
C-503

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-503



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZTNAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
11. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE DRAIN INVERT.
12. INVERT BRICKS SHALL BE LAID ON EDGE.

4' DIAMETER DRAIN MANHOLE
NO SCALE



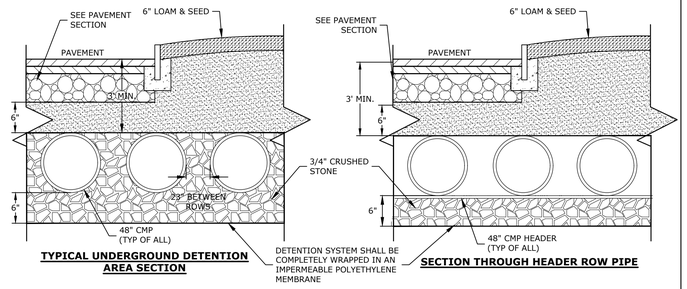
TOP SLAB PLAN VIEW

TOP SLAB SECTION VIEW

BASE

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
3. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.
4. PRECAST CONCRETE YARD DRAINS SHALL BE PHOENIX PRECAST PRODUCTS OR EQUAL.

YARD DRAIN
NO SCALE



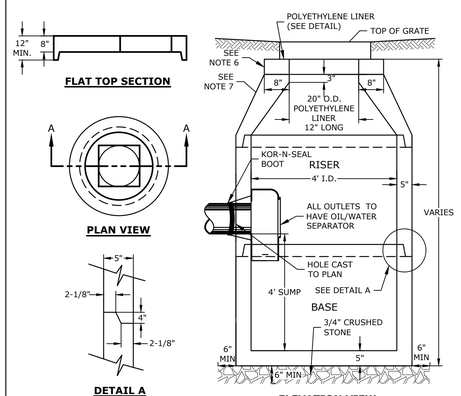
TYPICAL UNDERGROUND DETENTION AREA SECTION

SECTION THROUGH HEADER ROW PIPE

FIELD ELEVATIONS				
	TOP OF STONE ELEV	TOP OF PIPE ELEV	BOTTOM OF PIPE ELEV	BOTTOM OF STONE ELEV
PUD-01	18.40	18.40	14.40	13.90
PUD-02	18.00	18.00	14.00	13.50

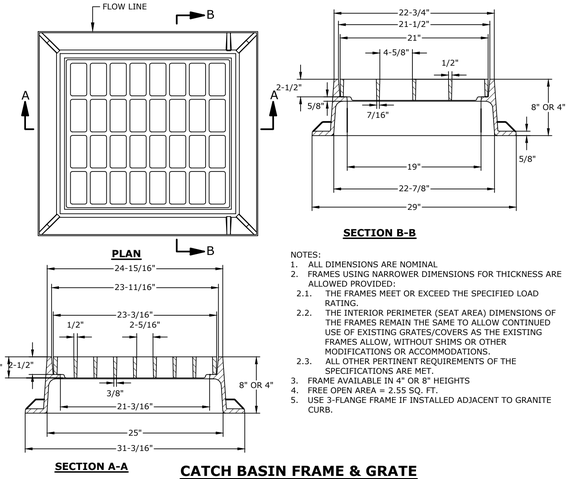
NOTES:
1. UNDERGROUND DETENTION SYSTEMS TO BE 48" CMP PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR APPROVAL.
2. MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.

UNDERGROUND DETENTION SYSTEMS
NO SCALE



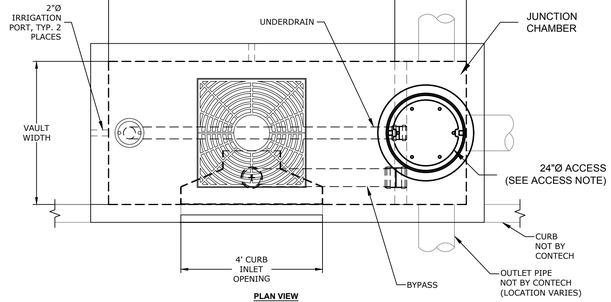
NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCH BASIN
NO SCALE

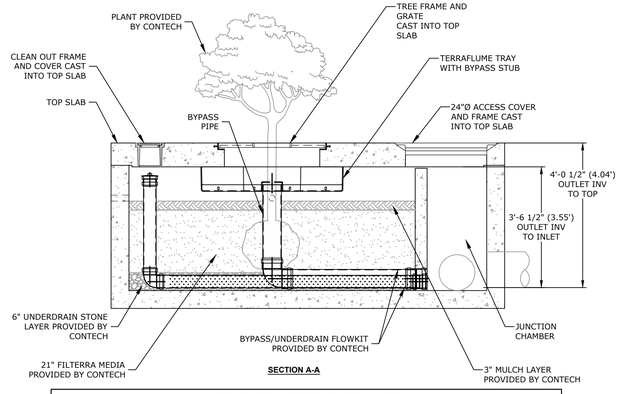


NOTES:
1. ALL DIMENSIONS ARE NOMINAL
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   2.1. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   2.2. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   2.3. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS
4. FREE OPEN AREA = 2.55 SQ. FT.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

CATCH BASIN FRAME & GRATE
NO SCALE



PLAN VIEW

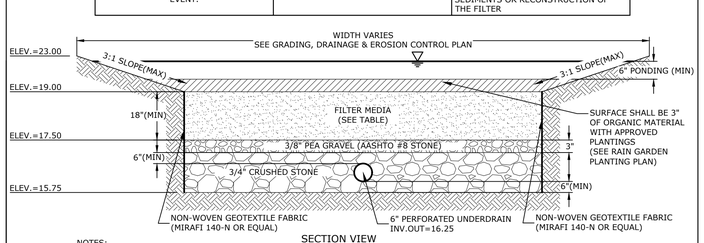


SECTION A-A

FTIBC LONG SIDE CURB INLET							
DESIGNATION	TREE BOX FILTER NUMBER	MEDIA BAY SIZE	VAULT SIZE (L x W)	MAX. OUTLET/BYPASS PIPE DIA.	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF.)	TREE GRATE QTY. & SIZE
FTIBC0806-C	1-9	8' X 6'	10' X 6'	10" SDR 35	2.37	4" SDR 35	(1) 4' X 4'

TYPICAL FILTERRA INTERNAL BYPASS CURB WITH CHAMBER (TREE BOX FILTER)
NO SCALE

RAIN GARDEN INSPECTION/MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	**FREQUENCY**	**ACTION**
MONITOR TO ENSURE THAT RAIN GARDENS FUNCTION EFFECTIVELY AFTER STORMS	TWO (2) TIMES ANNUALLY AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	• TRASH AND DEBRIS TO BE REMOVED • ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED
INSPECT VEGETATION	ANNUALLY	• INSPECT THE CONDITION OF ALL RAIN GARDEN VEGETATION • PRUNE BACK OVERGROWTH • REPLACE DEAD VEGETATION • REMOVE ANY INVASIVE SPECIES
INSPECT DRAWDOWN TIME: • THE SYSTEM SHALL DRAWDOWN WITHIN 48-HOURS FOLLOWING A RAINFALL EVENT.	ANNUALLY	• ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER



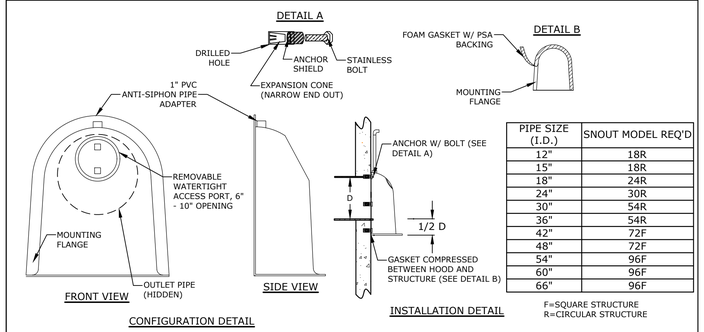
SECTION VIEW

NOTES:
1. BARK MULCH SHALL BE AGED A MINIMUM OF 12 MONTHS AND SHALL NOT FLOAT.
2. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
5. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

FILTER MEDIA COMPOSITION:			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

RAIN GARDEN
NO SCALE



CONFIGURATION DETAIL

PIPE SIZE (I.D.)	SNOUT MODEL REQ'D
12"	18R
15"	18R
18"	24R
24"	30R
30"	54R
36"	54R
42"	72F
48"	72F
54"	96F
60"	96F
66"	96F

F=SQUARE STRUCTURE
R=CIRCULAR STRUCTURE

OIL-WATER-DEBRIS SEPARATOR
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

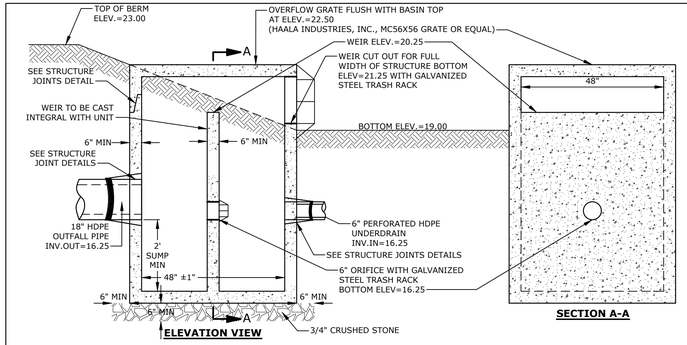
MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-504

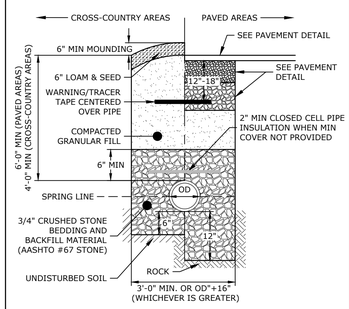


ELEVATION VIEW

SECTION A-A

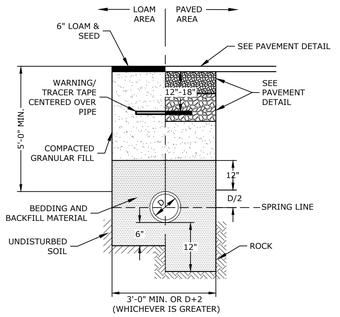
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-02)
NO SCALE



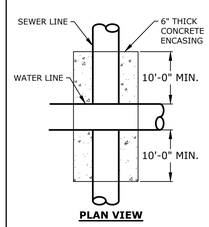
NOTES:
1. 3/4" CRUSHED STONE BEDDING AND BACKFILL MATERIAL FOR FULL WIDTH OF THE TRENCH FROM MINIMUM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO MINIMUM OF 6" OVER THE TOP OF THE PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE TOWN OF KITTERY DEPARTMENT OF PUBLIC WORKS STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE TOWN OF KITTERY.

TYPICAL SEWER TRENCH
NO SCALE

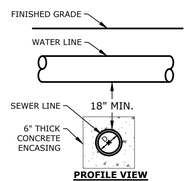


NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER TOWN OF KITTERY STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE KITTERY WATER DISTRICT.

TYPICAL WATER TRENCH
NO SCALE



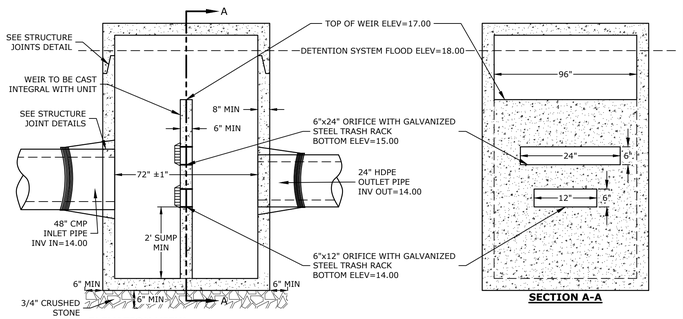
PLAN VIEW



PROFILE VIEW

WATER SEWER CROSSING
NO SCALE

NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
4. WHERE AN 18" VERTICAL SEPARATION CANNOT BE PROVIDED, SEWER PIPE SHALL BE CONSTRUCTED USING A SDR 26 PVC PIPE OR ENCASED CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE LINE BEING CROSSED, AS SHOWN ABOVE.
5. CROSSINGS SHALL CONFORM TO THE TOWN KITTERY DPW STANDARDS AND SPECIFICATIONS.

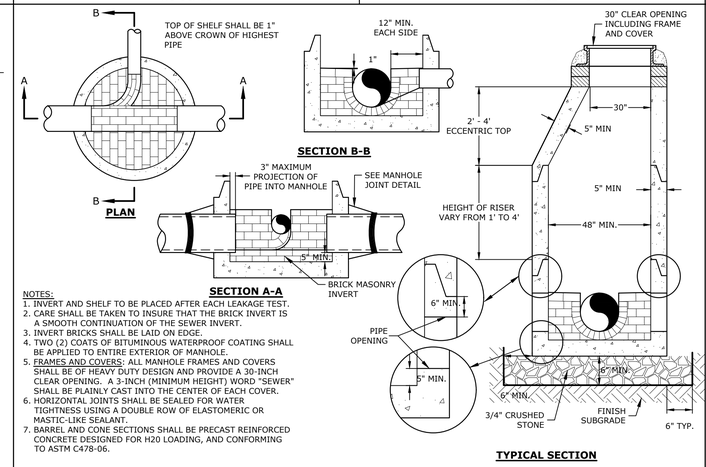


ELEVATION VIEW

SECTION A-A

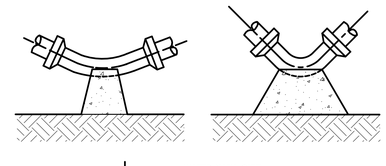
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-03)
NO SCALE

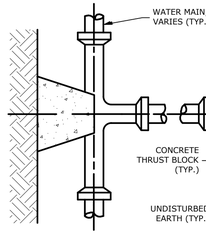


NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: ALL MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE

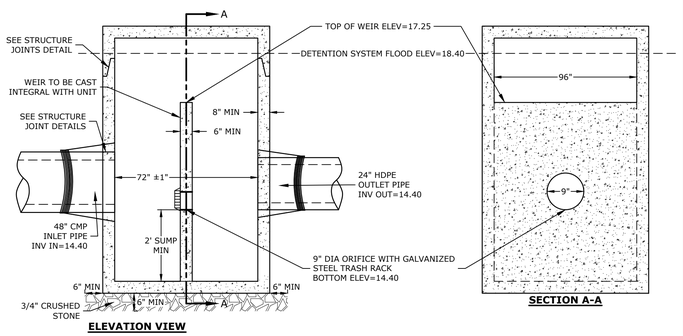


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38



NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH TOWN OF KITTERY WATER DEPARTMENT STANDARDS.

THRUST BLOCKING
NO SCALE

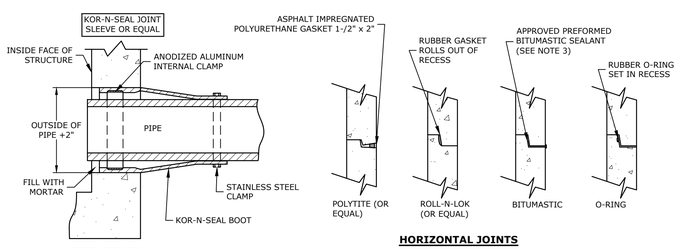


ELEVATION VIEW

SECTION A-A

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE (POS-01)
NO SCALE

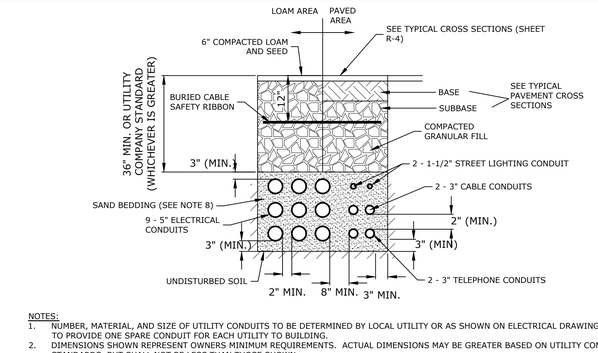


PIPE JOINTS

HORIZONTAL JOINTS

NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER TOWN OF KITTERY DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER TOWN OF KITTERY STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

STRUCTURE JOINTS
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, WHEN WITHIN THE TOWN RIGHT OF WAY, OR WHERE SHOWN ON THE UTILITIES PLAN.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

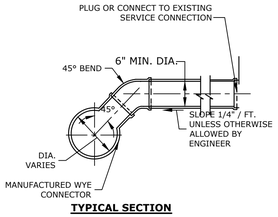
PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

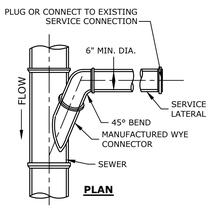
SCALE: AS SHOWN

C-505

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
TBB File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-505



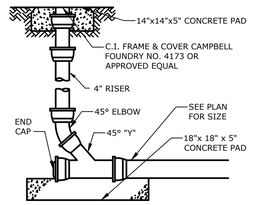
TYPICAL SECTION



PLAN

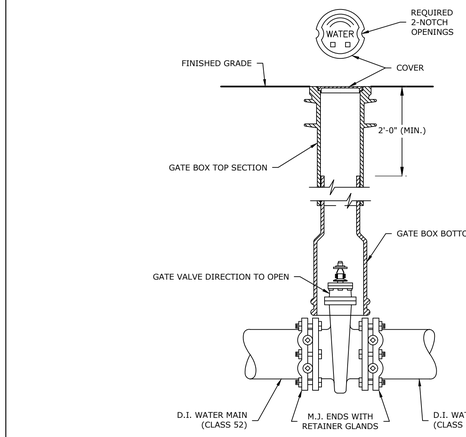
STANDARD SERVICE LATERAL CONNECTION

NO SCALE



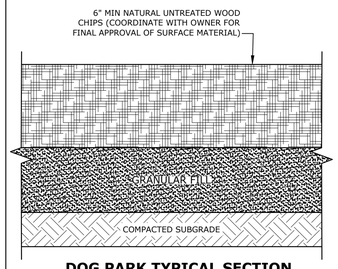
CLEAN-OUT

NO SCALE



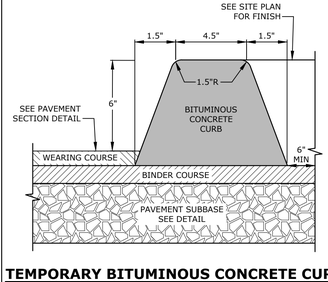
WATER GATE VALVE

NO SCALE



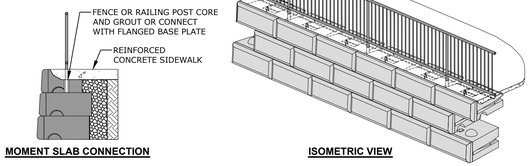
DOG PARK TYPICAL SECTION

NO SCALE



TEMPORARY BITUMINOUS CONCRETE CURB

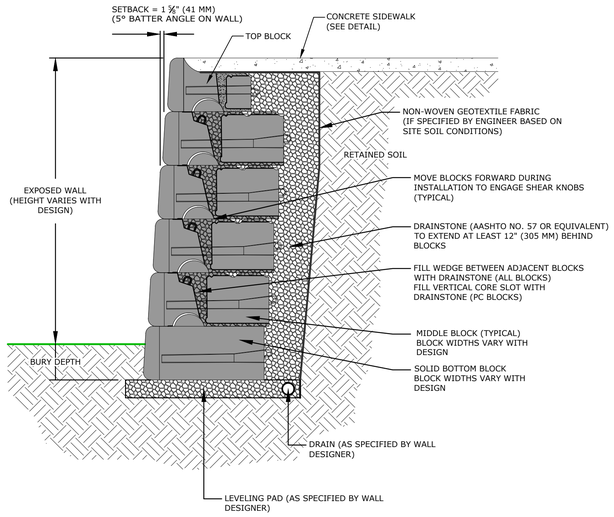
NO SCALE



MOMENT SLAB CONNECTION

ISOMETRIC VIEW

TYPICAL RETAINING WALL FENCE CONNECTION



TYPICAL RETAINING WALL SECTION

NOTES:
1. RETAINING WALL SHALL BE REDI ROCK (BASIS OF DESIGN), VERSA-LOK, MAGNUMSTONE, OR EQUAL.
2. THE CONTRACTOR SHALL SUBMIT DESIGN AND CALCULATIONS FOR THE RETAINING WALL THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARARMETERS:
   - GLOBAL STABILITY FACTOR OF SAFETY = 1.3
   - OVERTURNING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - SLIDING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - GEOGRID PULLOUT FACTOR OF SAFETY = 1.5
   - SEISMIC FACTOR OF SAFETY = 1.1
   - EQUIVALENT FLUID PRESSURE = 40 POUNDS PER CUBIC FOOT (PCF) FOR GRAVITY AND CANTILEVERED WALLS ABOVE GROUNDWATER AND WALLS WITH APPROPRIATE DRAINAGE BEHIND THE WALL.
   - HYDROSTATIC WATER PRESSURE ALONG THE HEIGHT OF THE WALL BELOW GROUNDWATER SHOULD BE INCLUDED IF DRAINAGE IS NOT PROVIDED.

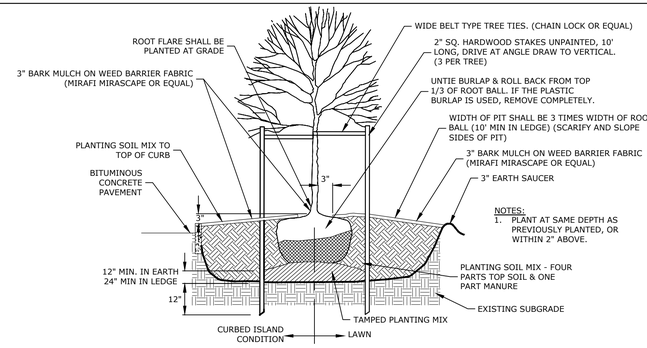
   - WHERE THE CALCULATED EARTH PRESSURE BEHIND THE WALL IS LESS THAN 250 POUNDS PER SQUARE FOOT (PSF), IT SHOULD BE INCREASED TO 250 PSF TO ACCOUNT FOR STRESSES CREATED BY COMPACTION WITHIN 5 FEET OF THE WALL.

   - WALLS SHOULD BE DESIGNED FOR APPROPRIATE SLOPING BACKFILL

   - WALLS SHOULD BE DESIGNED TO RESIST AN EARTHQUAKE FORCE FW EVALUATED IN ACCORDANCE WITH
   - SECTION 1610.2 OF THE MSBC AS FOLLOWS:
   - $FW=0.100\ (SS)(FA)(GT)(H_2)$
     WHERE:
     - SS IS THE SPECTRAL RESPONSE ACCELERATION PARAMETERS AT 0.2-SECOND PERIOD EQUAL TO 0.208
     - FA IS THE SITE COEFFICIENT FROM TABLE 1613.3.3(1) OF 2015 IBC (FA=2.5 FOR SEISMIC SITE CLASS C);
     - G_T IS THE SOIL TOTAL UNIT WEIGHT (G_T=130 PCF FOR COMPACTED GRAVEL BORROW);
     - H IS THE HEIGHT OF THE WALL.
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, GUARDRAIL AND/OR FENCING AS REQUIRED.
5. WALL DESIGN ENGINEER SHALL CONSIDER HEIGHT AND SPECIFY SAFETY RAIL WHERE REQUIRED
6. ALL INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION MANUAL AND THE WALL DESIGN ENGINEER'S DESIGN PLANS AND SPECIFICATIONS.
7. THE WALL DESIGN ENGINEER SHALL COMPLETE SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY WORK IS COMPLETED IN ACCORDANCE WITH DESIGN.
8. CONTRACTOR SHALL DIRECT SURFACE RUNOFF AWAY FROM THE WALL DURING CONSTRUCTION.
9. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT OR OTHER SURFACE TREATMENT SHALL BE INSTALLED IN THE AREA OF THE WALL IMMEDIATELY AFTER THE WALL IS COMPLETE OR OTHER MEASURES SHALL BE TAKEN TO PROTECT THE WALL FROM RUNOFF.
10. CONTRACTOR SHALL SUPPLY SAMPLE TO THE OWNER FOR APPROVAL PRIOR TO WALL CONSTRUCTION.
11. FINAL DESIGN PLANS OF WALL SHOWING FENCING. SHALL BE SUBMITTED WITH THE FINAL DESIGN PLANS.
12. RETAINING WALL DESIGN SHALL BE FROM THE WALL MANUFACTURER AND SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
13. FINAL STRUCTURAL DESIGN TO BE SUBMITTED TO THE ENGINEER WITH ALL CALCULATIONS AND PLANS.
14. STRUCTURAL DESIGN TO BE COMPLETED AND STAMPED BY A MAINE LICENSED STRUCTURAL ENGINEER. DESIGN ENGINEER SHALL INSPECT WALL DURING CONSTRUCTION AND CERTIFY THAT IT HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUBMITTED AS PART OF THE BUILDING PERMIT.
15. AN AS-BUILT PLAN SHOWING WALL LOCATION AND DIMENSIONS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION.
16. THESE DETAILS ARE FOR REFERENCE ONLY. DETERMINATION OF THE SUITABILITY AND/OR MANNER OF USE OF ANY DETAILS CONTAINED IN THIS DOCUMENT IS THE SOLE RESPONSIBILITY OF THE WALL DESIGN ENGINEER OF RECORD. FINAL PROJECT DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE.
17. ANY UNSUITABLE SOIL SUCH AS FROZEN OR ORGANIC SOILS SHOULD BE REMOVED FROM BEHIND THE PROPOSED RETAINING WALLS AND REPLACED WITH FREE DRAINING BACKFILL SUCH AS GRAVEL BORROW.
18. EXISTING FILL SHOULD NOT BE USED WITHIN THREE FEET OF GRAVITY WALLS.

TYPICAL GRAVITY WALL

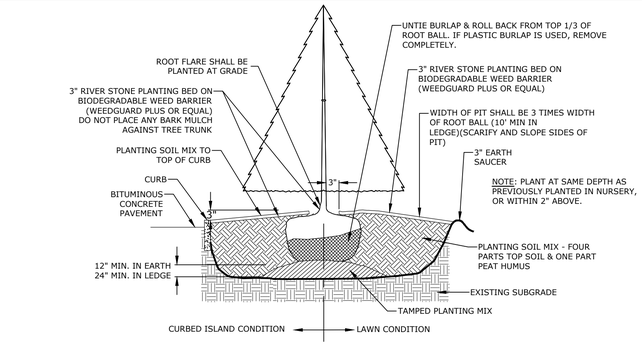
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

DECIDUOUS TREE PLANTING

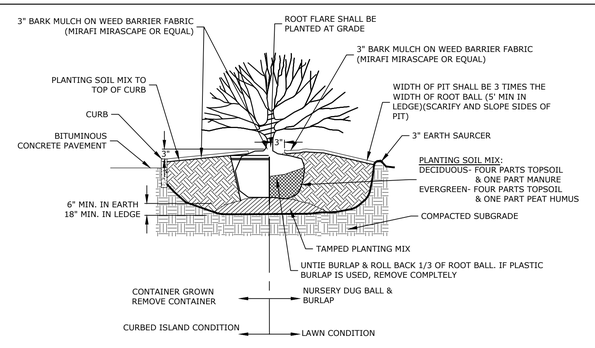
NO SCALE



NOTE: PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

EVERGREEN TREE PLANTING

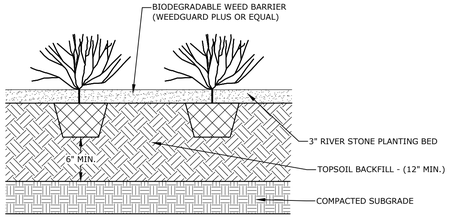
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING

NO SCALE



PERENNIAL PLANTING

NO SCALE

Tighe&Bond

STATE OF MAINE
PATRICK CRIMMINS
16468
LICENSED PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A HANSEN
17550
LICENSED PROFESSIONAL ENGINEER
01/25/2024

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DETAIL.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-506

Last Save Date: January 24, 2024 7:28 PM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Detail.dwg Layout Tab: C-506

INTERSTATE 95

PROPOSED 5-STORY
MULTIFAMILY DWELLING
(107 UNITS)
BUILDING FOOTPRINT:
±24,124 SF

INDOOR
POOL

PATIO

PROPOSED 4-STORY HOTEL
(119 ROOM)
BUILDING FOOTPRINT:
±18,790 SF

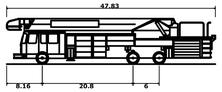
PROPOSED
RESTAURANT
±6,000 SF

PATIO

WILSON ROAD

WILSON ROAD - ROUTE 101

U.S. ROUTE ONE



Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°

LEGEND

FIRE TRUCK WHEEL PATH
FIRE TRUCK BODY ENVELOPE

Portsmouth Fire Truck

Tighe&Bond

STATE OF MAINE
PATRICK
CRIMMINS
16468
LICENSED
PROFESSIONAL ENGINEER
1/25/2024

STATE OF MAINE
NEIL A
HANSEN
17550
LICENSED
PROFESSIONAL ENGINEER
01/25/2024

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

FIRE TRUCK TURNING PLAN

SCALE: AS SHOWN

C-601

Last Save Date: January 25, 2024 9:24 AM By: CML
Plot Date: Thursday, January 25, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Fire Truck

1 EAST ELEVATION

SCALE: 1/16" = 1'-0"

2 WEST ELEVATION

SCALE: 1/16" = 1'-0"

3 NORTH ELEVATION

SCALE: 1/16" = 1'-0"

4 SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

PROPOSED MATERIALS

01-BLUE GRANITE

02-CEMENTITIOUS BOARD GREY

03-CEMENTITIOUS BOARD BLUE

04-CEMENTITIOUS CLAPBOARD WHITE

05-DARK WINDOW FRAME

06-AWNING

07-STOREFRONT

06-DARK WINDOW FRAME

MARKET SQUARE ARCHITECTS
104 Congress St., STE 202E
Portsmouth, NH 03801
PH: 603.501.0202

TWO INTERNATIONAL - MULTI-FAMILY

283 US ROUTE 1
KITTERY, ME

NOT FOR CONSTRUCTION

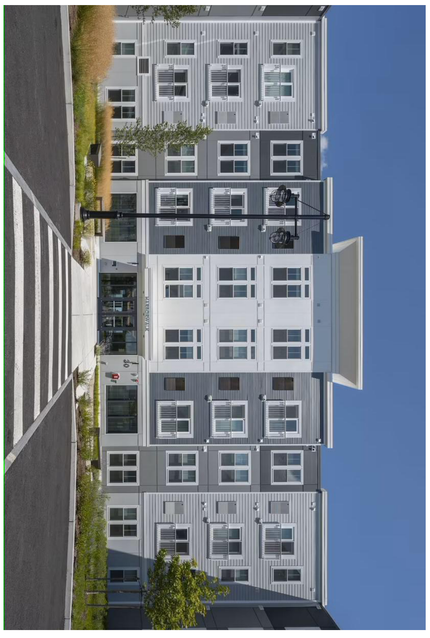
Revisions:
#	Description	Date
	PLANNING BOARD SUBMISSION	23.10.05

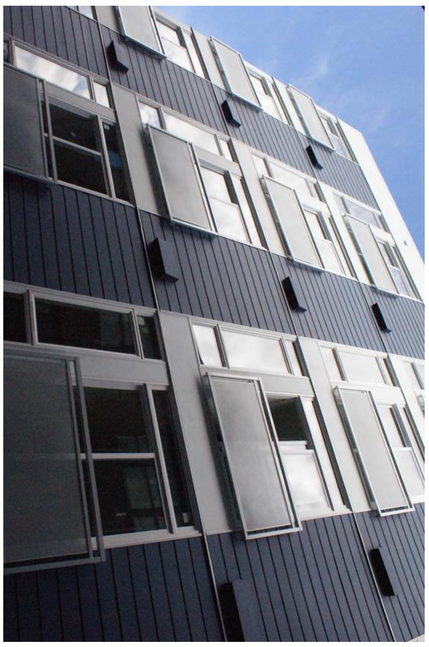
Scale:	1/16" = 1'-0"
Drawn By:	MAL
Checked By:	MAL
Project No.:	2023060
	SCHEMATIC DESIGN
Date:	11/08/23

Title: EXTERIOR ELEVATIONS

A2.00

12/20/2023 2:29:51 PM





PRECEDENT IMAGES

Title: EXTERIOR ELEVATIONS	Scale:	Revisions: # Description Date: 1 PLANNING BOARD SUBMISSION 23.10.05	NOT FOR CONSTRUCTION	TWO INTERNATIONAL - MULTI-FAMILY 283 US ROUTE 1 KITTERY, ME	MARKET SQUARE ARCHITECTS 104 Congress St., STE 203 Portsmouth, NH 03801 PH: 603.501.0202
A2.01	Drawn By: MAL Checked By: MAL Project No.: 2023060 SCHEMATIC DESIGN Date: 11/08/23				

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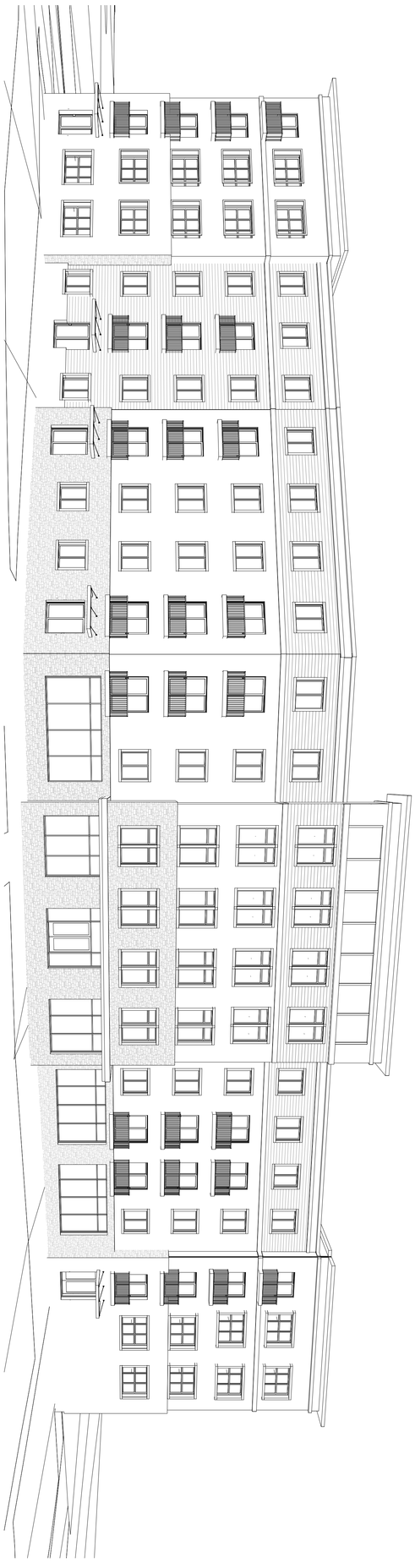
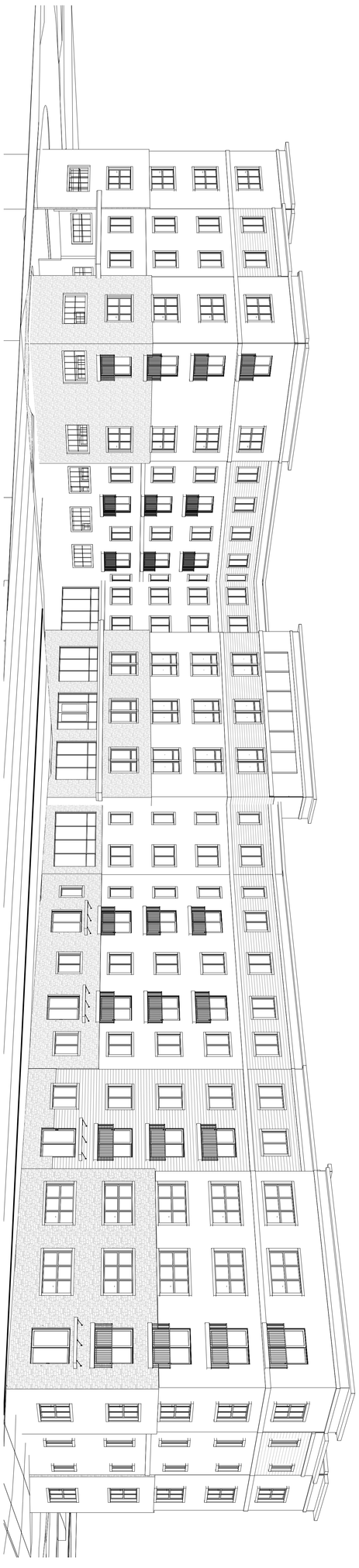




Title:
3D VIEW

A2.02

Scale:
Drawn By: Author
Checked By: Checker
Project No.: 2023060
SCHEMATIC DESIGN
Date: 11/08/23

Revisions:

#	Description	Date
	PLANNING BOARD SUBMISSION	23.10.05

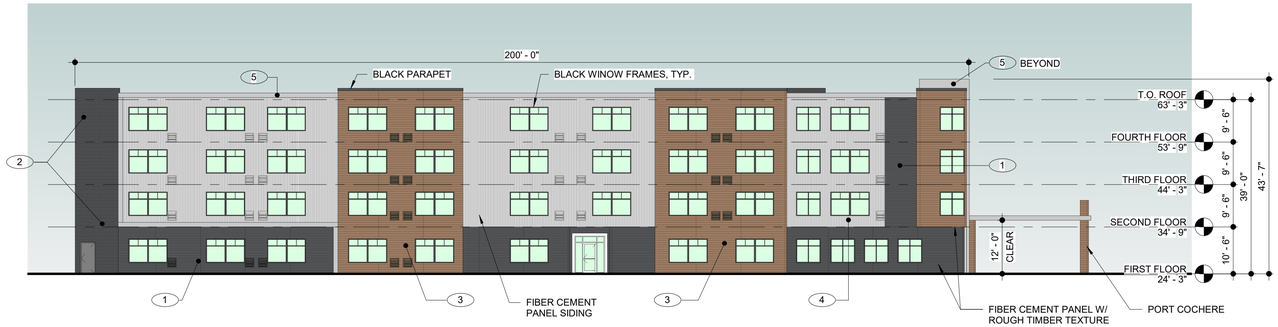
NOT FOR CONSTRUCTION

TWO INTERNATIONAL - MULTI-FAMILY

283 US ROUTE 1
KITTERY, ME

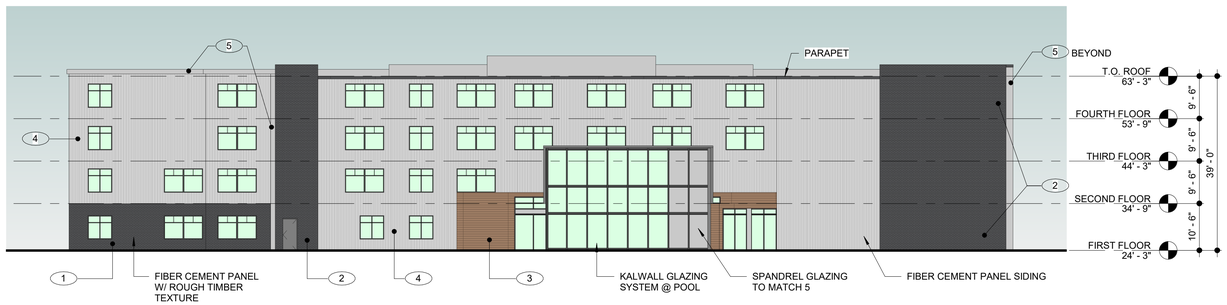
MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603.501.0202

 12/20/2025 2:29:56 PM



4 PROPOSED EXTERIOR ELEVATION - WEST

SCALE: 1/16" = 1'-0"

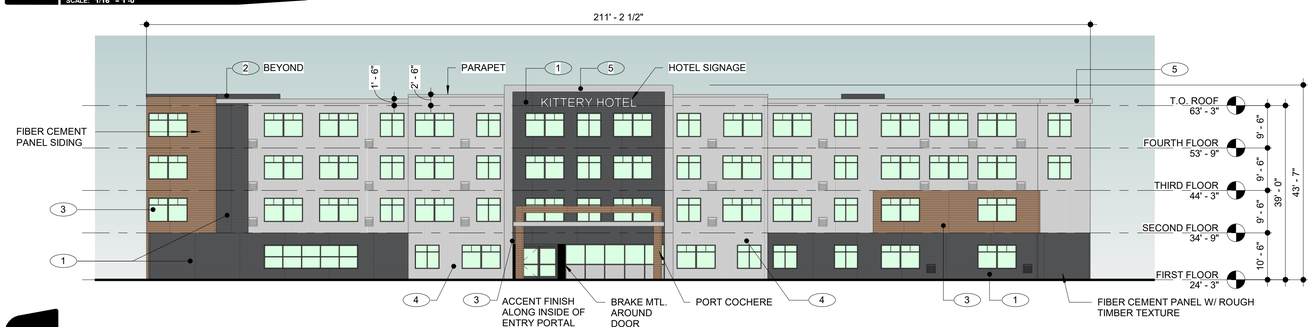


3 PROPOSED EXTERIOR ELEVATION - NORTH

SCALE: 1/16" = 1'-0"

2 PROPOSED EXTERIOR ELEVATION - EAST

SCALE: 1/16" = 1'-0"



1 PROPOSED EXTERIOR ELEVATION - SOUTH

SCALE: 1/16" = 1'-0"

PROPOSED EXTERIOR FINISH PALETTE

5 **FIBER CEMENT PANEL - WHITE**

ACCENT COLOR

4 **FIBER CEMENT PANEL - WHITE VERTICAL PANEL**

UPPER FLOOR FINISH

3 **FIBER CEMENT PANEL - LIGHT WOOD PATTERN**

ACCENT COLOR

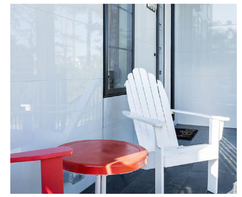
2 **FIBER CEMENT PANEL - DARK BRICK PATTERN**

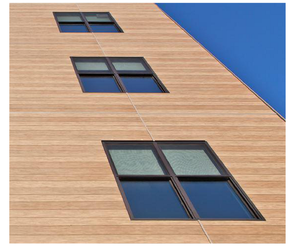
ACCENT BASE COLOR @ FIRST FLOOR + WALL FINISH @ STAIRWELLS

1 **FIBER CEMENT PANEL - DARK WOOD PATTERN**

TYP. BASE COLOR @ FIRST FLOOR U.N.O.

REAL WORLD FINISH EXAMPLES





BMA Architectural Group
12 MIDDLE ST AMHERST, NEW HAMPSHIRE 03031
BMA, PC T: 603 673 1991 WWW.BMAWORLD.COM

TWO INTERNATIONAL GROUP
1 New Hampshire Ave., Suite 123, Portsmouth, NH, 03801

PROPOSED KITTERY, MAINE HOTEL
ADDRESS TBD

NOT FOR CONSTRUCTION

SCHEMATIC DESIGN - 25JAN2024

PROPOSED EXTERIOR ELEVATIONS 002
3201 - PROPOSED KITTERY, MAINE HOTEL

1 EXTERIOR PERSPECTIVE - SOUTH WEST

SCALE:

BMA Architectural Group
12 MIDDLE ST AMHERST, NEW HAMPSHIRE 03031
BMA, PC T: 603 673 1991 WWW.BMAWORLD.COM

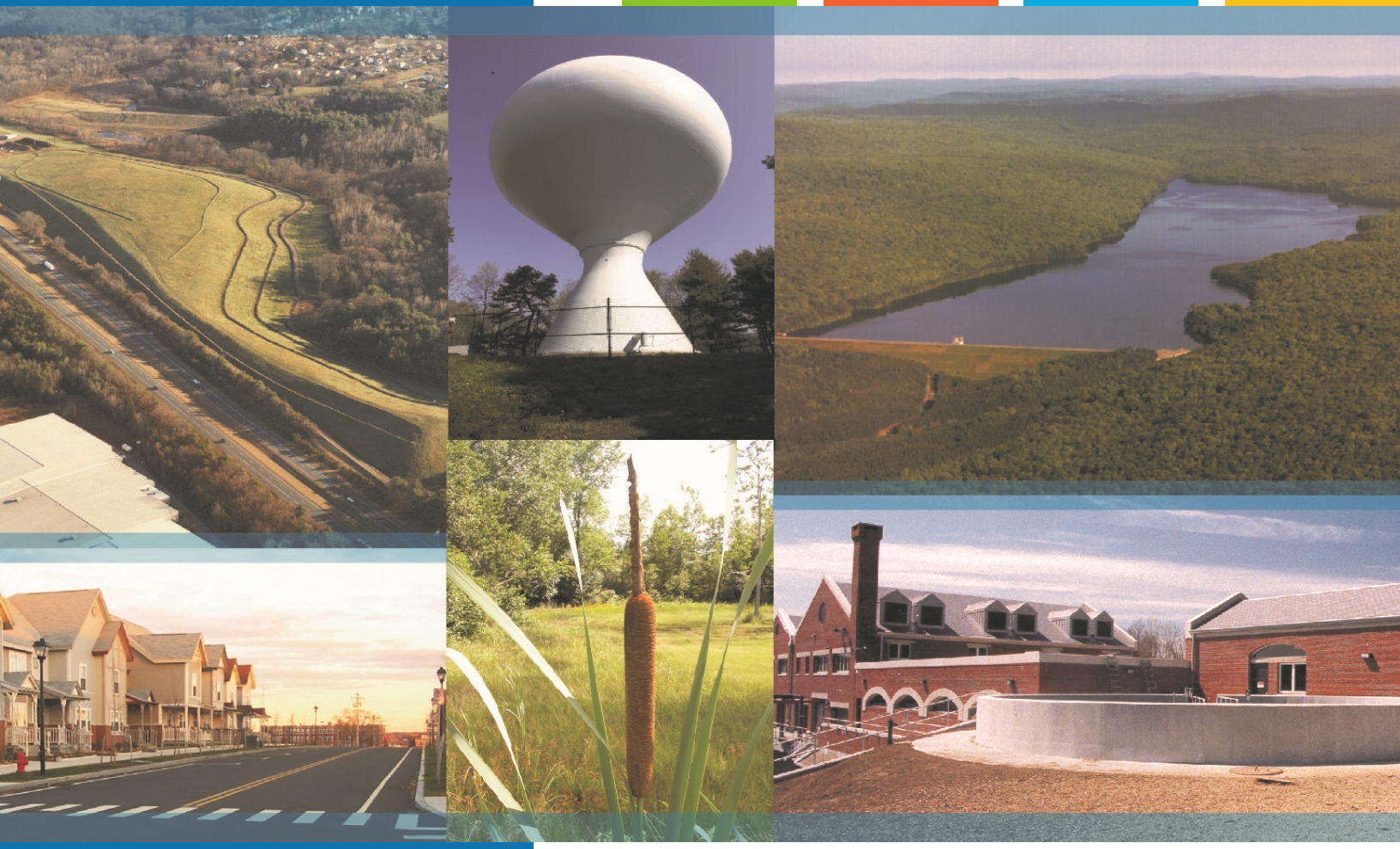
TWO INTERNATIONAL GROUP
1 New Hampshire Ave., Suite 123, Portsmouth, NH, 03801

PROPOSED KITTERY, MAINE HOTEL
ADDRESS TBD

NOT FOR CONSTRUCTION

SCHEMATIC DESIGN - 25JAN2024

EXTERIOR PERSPECTIVE
003
3201 - PROPOSED KITTERY, MAINE HOTEL



Kittery Mixed-Use Development

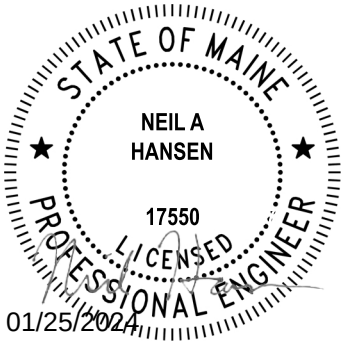
Kittery, Maine

Drainage Analysis

Prepared For:

Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

October 5, 2023
Last Revised: January 25, 2024



01/25/2024

01/25/2024

Section 1 Drainage Analysis

Appendices

J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Reports - Evaluations\Drainage\Docs\T5037-003_Drainage Analysis_Rev-1.docx

Section 1
Drainage Analysis

The proposed project site is identified as Map 30 Lot 44 of the Town of Kittery's Tax Map. The site is located at 283 US Route 1. The proposed project is for the redevelopment of the site. The existing site is comprised of four (4) former commercial retail buildings and associated parking areas. The proposed redevelopment is to consist of three (3) buildings; a 5-story multi family dwelling, a 4-story hotel, and a restaurant, associated parking facilities, and site improvements consisting of underground utilities, landscaping, lighting, and an upgraded stormwater management system. As part of the proposed redevelopment there will be a reduction of impervious area from the existing condition of approximately 44,734 SF.

The Stormwater Management System was designed in accordance with the redevelopment requirements of the Maine Department of Environmental Protection, Chapter 500 – Stormwater Management, rules and regulations. The system includes deep sump catch basins with oil water separator hoods, a proprietary Rain Guardian Turret pretreatment unit, a rain garden, and proprietary Filterra treatment units (Tree Box Filters).

1.1 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, and 25-year 24-hour Type III duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model. The rainfall data for these storm events was obtained from the data published by the Northeast Regional Climate Center (NRCC) at Cornell University.

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow, and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.

2. Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers, October 2016.

3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

1.2 Pre-Development Conditions

To analyze the Pre-Development condition, the site has been modeled utilizing three (3) watershed areas defined as PRE-1.0, PRE-2.0, & PRE-3.0 with associated points of analysis PA-1, PA-2, & PA-3 respectively. These points of analysis and watersheds are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

The points of analysis and their contributing watershed areas are described below:

Point of Analysis One (PA-1)

Point of analysis 1 (PA-1) is comprised of one (1) watershed area (PRE-1.0). This area includes the majority of the developed site consisting of buildings, parking areas, and minimal landscaped islands. Runoff from this area travels from the rear of the site via overland flow and is then collected in a closed drainage system withing US Route 1. Point of Analysis 1 (PA-1) is the existing drainage structure at the corner of Old Wilson Road and US Route 1.

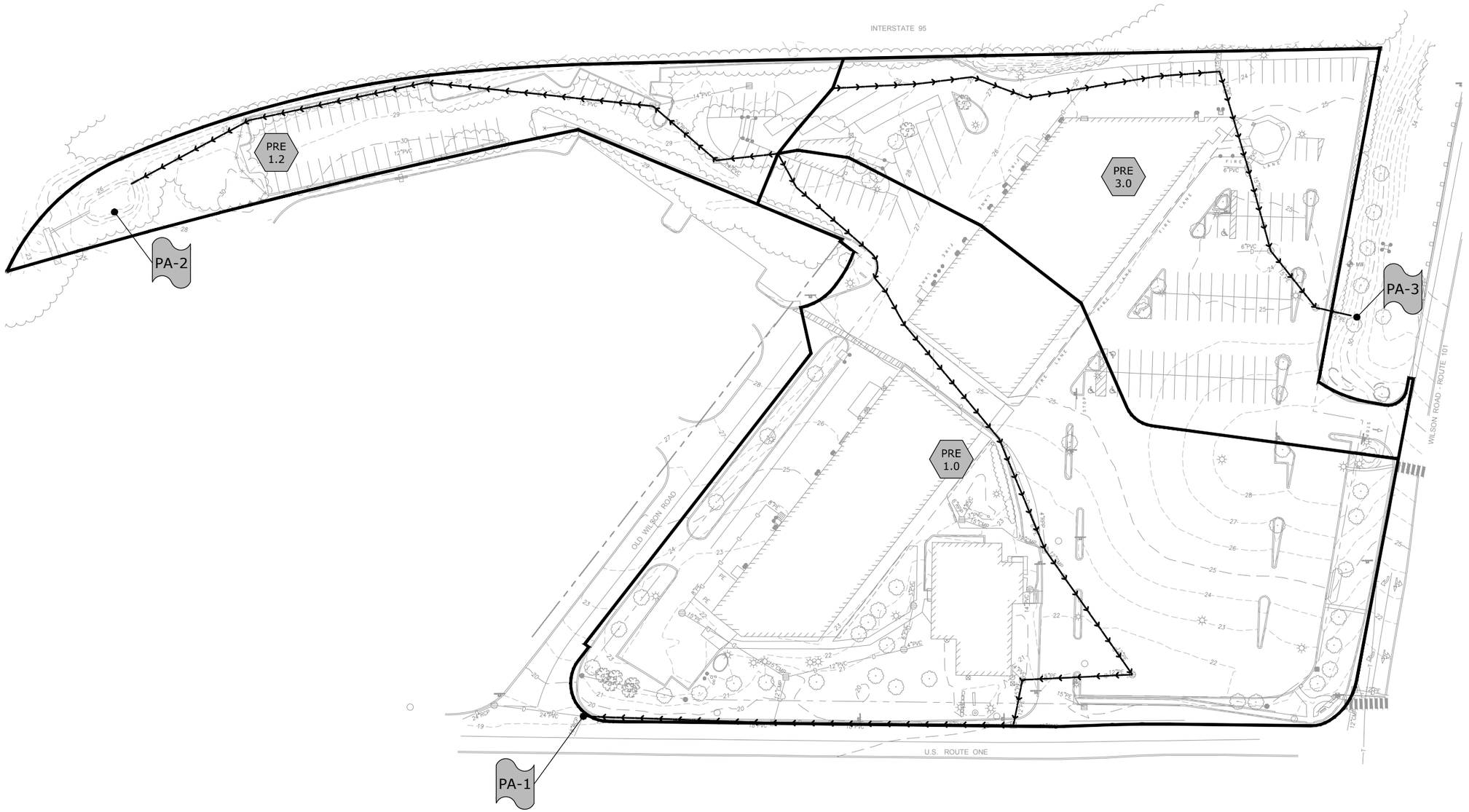
Point of Analysis Two (PA-2)

Point of analysis 2 (PA-2) is comprised of one (1) watershed area (PRE-2.0). This area consists of a small parking area with the rest comprised of grass and wooded areas. Runoff from this area travels from the rear of the site, southwest across the parking area via overland flow and is then collected in a closed drainage system and discharged to an existing detention pond, defined as PA-2.

Point of Analysis Three (PA-3)

Point of Analysis 3 (PA-3) is comprised of one (1) watershed area (PRE-3.0). This area consists of the rear portion of the parking lot and associated landscaped islands along with a portion of the rear existing building runoff. Runoff from this area travels from the rear of the site, northeast across the parking area via overland flow and is then collected in a closed drainage system and discharged to an closed drainage system, defined as PA-3.

1.2.1 Pre-Development Watershed Plan



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

THIS DOCUMENT IS RELEASED FOR PERMITTING REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

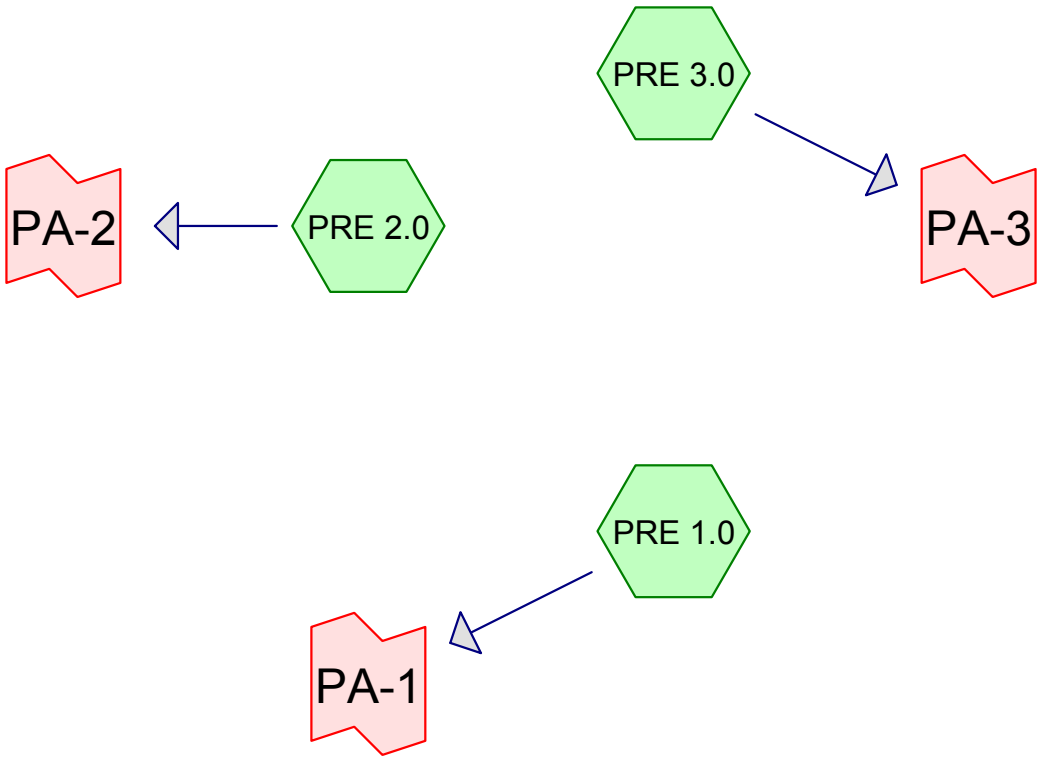
PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Save Date: January 23, 2024 3:34 PM By: CML
Plot Date/Time: Tuesday, January 23, 2024 3:34 PM By: Craig M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Pre

1.2.2 Pre-Development Calculation



Subcat Reach Pond Link

Routing Diagram for T5037-003_Pre_Rev-1
Prepared by Tighe & Bond, Printed 1/23/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.224	74	>75% Grass cover, Good, HSG C (PRE 1.0, PRE 3.0)
4.252	98	Paved parking, HSG C (PRE 1.0, PRE 2.0, PRE 3.0)
1.164	98	Roofs, HSG C (PRE 1.0, PRE 3.0)
0.421	72	Woods/grass comb., Good, HSG C (PRE 2.0)
7.061	**92**	**TOTAL AREA**

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=2.34"
Tc=4.0 min CN=92 Runoff=11.21 cfs 0.777 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=1.91"
Tc=4.0 min CN=87 Runoff=2.36 cfs 0.160 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=2.64"
Flow Length=537' Tc=3.0 min CN=95 Runoff=6.55 cfs 0.455 af

Link PA-1: Inflow=11.21 cfs 0.777 af
Primary=11.21 cfs 0.777 af

Link PA-2: Inflow=2.36 cfs 0.160 af
Primary=2.36 cfs 0.160 af

Link PA-3: Inflow=6.55 cfs 0.455 af
Primary=6.55 cfs 0.455 af

Total Runoff Area = 7.061 ac Runoff Volume = 1.392 af Average Runoff Depth = 2.37"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 2.34" for 2-yr event
Inflow = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af
Primary = 11.21 cfs @ 12.06 hrs, Volume= 0.777 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 1.91" for 2-yr event
Inflow = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af
Primary = 2.36 cfs @ 12.06 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af
Primary = 6.55 cfs @ 12.05 hrs, Volume= 0.455 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=3.92"
Tc=4.0 min CN=92 Runoff=18.30 cfs 1.302 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=3.41"
Tc=4.0 min CN=87 Runoff=4.15 cfs 0.285 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=4.25"
Flow Length=537' Tc=3.0 min CN=95 Runoff=10.28 cfs 0.734 af

Link PA-1: Inflow=18.30 cfs 1.302 af
Primary=18.30 cfs 1.302 af

Link PA-2: Inflow=4.15 cfs 0.285 af
Primary=4.15 cfs 0.285 af

Link PA-3: Inflow=10.28 cfs 0.734 af
Primary=10.28 cfs 0.734 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.322 af Average Runoff Depth = 3.95"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 3.92" for 10-yr event
Inflow = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af
Primary = 18.30 cfs @ 12.06 hrs, Volume= 1.302 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 3.41" for 10-yr event
Inflow = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af
Primary = 4.15 cfs @ 12.06 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 4.25" for 10-yr event
Inflow = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af
Primary = 10.28 cfs @ 12.05 hrs, Volume= 0.734 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPRE 1.0: Runoff Area=173,535 sf 74.81% Impervious Runoff Depth=5.19"
Tc=4.0 min CN=92 Runoff=23.81 cfs 1.722 af

SubcatchmentPRE 2.0: Runoff Area=43,789 sf 58.16% Impervious Runoff Depth=4.63"
Tc=4.0 min CN=87 Runoff=5.56 cfs 0.388 af

SubcatchmentPRE 3.0: Runoff Area=90,245 sf 89.34% Impervious Runoff Depth=5.53"
Flow Length=537' Tc=3.0 min CN=95 Runoff=13.18 cfs 0.955 af

Link PA-1: Inflow=23.81 cfs 1.722 af
Primary=23.81 cfs 1.722 af

Link PA-2: Inflow=5.56 cfs 0.388 af
Primary=5.56 cfs 0.388 af

Link PA-3: Inflow=13.18 cfs 0.955 af
Primary=13.18 cfs 0.955 af

Total Runoff Area = 7.061 ac Runoff Volume = 3.065 af Average Runoff Depth = 5.21"
23.30% Pervious = 1.645 ac 76.70% Impervious = 5.416 ac

Summary for Subcatchment PRE 1.0:

Runoff = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af, Depth= 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
32,925	98	Roofs, HSG C
43,710	74	>75% Grass cover, Good, HSG C
96,900	98	Paved parking, HSG C
173,535	92	Weighted Average
43,710		25.19% Pervious Area
129,825		74.81% Impervious Area

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

Summary for Subcatchment PRE 2.0:

Runoff = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
25,467	98	Paved parking, HSG C
18,322	72	Woods/grass comb., Good, HSG C
43,789	87	Weighted Average
18,322		41.84% Pervious Area
25,467		58.16% Impervious Area

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

Summary for Subcatchment PRE 3.0:

Runoff = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
17,787	98	Roofs, HSG C
9,620	74	>75% Grass cover, Good, HSG C
62,838	98	Paved parking, HSG C
90,245	95	Weighted Average
9,620		10.66% Pervious Area
80,625		89.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
1.1	204	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	233	0.0500	13.91	17.07	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.011
2.7	537	Total, Increased to minimum Tc = 3.0 min			

Summary for Link PA-1:

Inflow Area = 3.984 ac, 74.81% Impervious, Inflow Depth = 5.19" for 25-yr event
Inflow = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af
Primary = 23.81 cfs @ 12.06 hrs, Volume= 1.722 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 1.005 ac, 58.16% Impervious, Inflow Depth = 4.63" for 25-yr event
Inflow = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af
Primary = 5.56 cfs @ 12.06 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 2.072 ac, 89.34% Impervious, Inflow Depth = 5.53" for 25-yr event
Inflow = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af
Primary = 13.18 cfs @ 12.05 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

1.3 Post-Development Conditions

The post-development drainage condition is characterized by two (2) overall watershed areas which are comprised of sub-watershed areas for the purpose of sizing the treatment BMPS. These area consists of POST-1.0 to POST-1.13 and POST-2.0 all modeled at the same points of analysis as the pre-development condition. These points of analysis and watersheds are depicted on the plan entitled "Post Development Watershed Plan", Sheet C-802.

The points of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis 1, PA-1 is comprised of fourteen (14) sub watershed areas, POST-1.0 to POST-1.13. These sub watershed areas are made up of all the proposed impervious areas within the limits of the project. These areas were broken out to determine flows to each of the proposed Filterra Tree Box Filters, the sizing of the proposed Rain Garden, and the sizing the two (2) underground detention systems. Ultimately, the runoff from these areas are collected in the proposed closed drainage system and directed to Point of Analysis 1 (PA-1), via a proposed inlet connection in the existing drainage structure at the corner of Old Wilson Road and US Route 1.

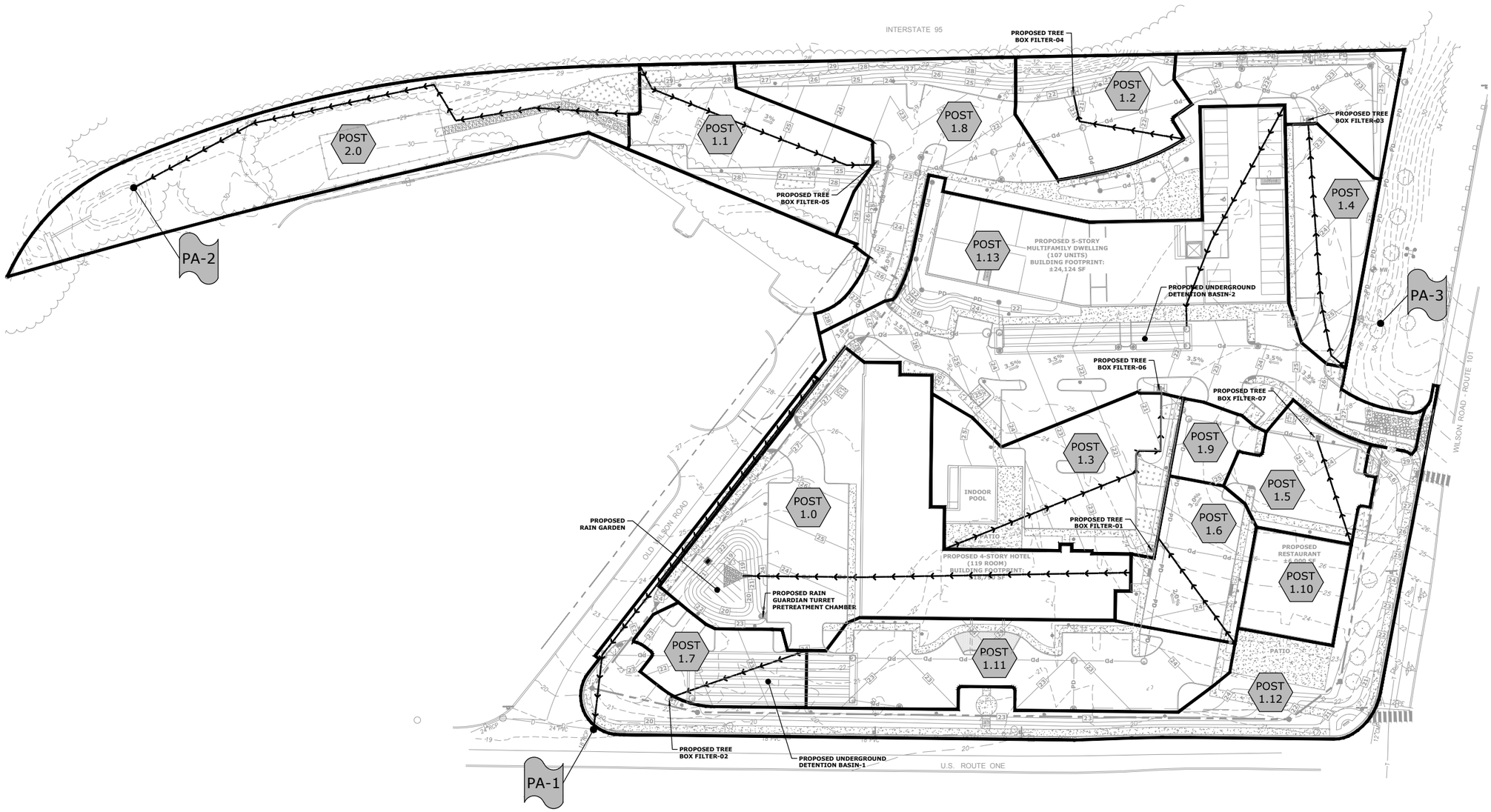
Point of Analysis Two (PA-2)

Point of analysis 2 (PA-2) is comprised of one (1) watershed area (POST-2.0). This area consists of a small parking lot that is to be removed and converted to green space. Runoff from this area travels from the rear of the site, southwest across the green area via overland flow and is then collected in a closed drainage system and discharged to the existing detention pond, defined as PA-2.

Point of Analysis Three (PA-3)

In the post development condition, all onsite runoff to Point of Analysis 3 (PA-3) has been removed and redirected to either PA-1 or PA-2. The existing offsite drainage that was directed through the proposed site has been rerouted to along the perimeter of the site.

1.3.1 Post-Development Watershed Plan



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Kittery Mixed-Use Development

Two International Group

283 US Route 1
Kittery, Maine

MARK	DATE	DESCRIPTION
D	1/25/2024	Site Plan Review
C	1/5/2024	Supplemental Preliminary Site Plan Review Rev-2
B	12/28/2023	Preliminary Site Plan Review Rev-1
A	10/5/2023	Preliminary Site Plan Review

PROJECT NO:	T5037-003
DATE:	10/5/2023
FILE:	T5037-003_C-DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

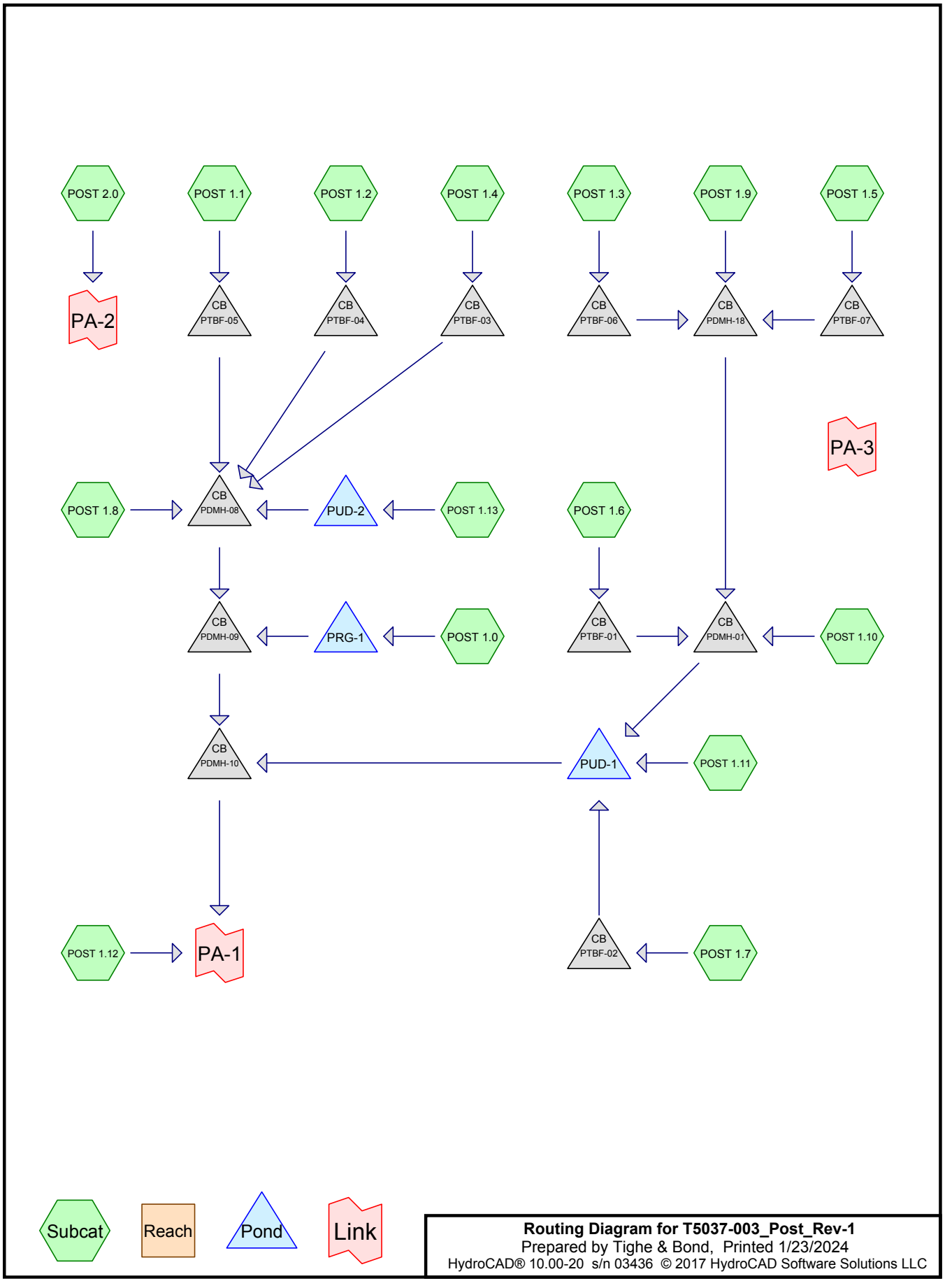
POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Save Date: January 23, 2024 3:34 PM By: CML
Plot Date: January 23, 2024 3:34 PM By: Christopher M. Langton
T&B File Location: J:\T\T5037 Two International Group\003 Kittery Mixed Use Development\Drawings\AutoCAD\Sheet\T5037-003_C-Design.dwg Layout Tab: Post

1.3.2 Post-Development Calculation



Routing Diagram for T5037-003_Post_Rev-1
Prepared by Tighe & Bond, Printed 1/23/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.971	74	>75% Grass cover, Good, HSG C (POST 1.0, POST 1.1, POST 1.11, POST 1.12, POST 1.13, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7, POST 1.8, POST 1.9)
3.221	98	Paved parking, HSG C (POST 1.0, POST 1.1, POST 1.11, POST 1.12, POST 1.13, POST 1.2, POST 1.3, POST 1.4, POST 1.5, POST 1.6, POST 1.7, POST 1.8, POST 1.9)
1.168	98	Roofs, HSG C (POST 1.0, POST 1.10, POST 1.13, POST 1.3)
0.701	72	Woods/grass comb., Good, HSG C (POST 2.0)
7.061	**89**	**TOTAL AREA**

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=2.34"
Tc=4.0 min CN=92 Runoff=2.57 cfs 0.178 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=1.99"
Tc=4.0 min CN=88 Runoff=0.81 cfs 0.055 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=2.96"
Tc=4.0 min CN=98 Runoff=0.45 cfs 0.034 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=1.44 cfs 0.103 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=1.67"
Tc=10.0 min CN=84 Runoff=1.27 cfs 0.105 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=2.53"
Tc=4.0 min CN=94 Runoff=3.98 cfs 0.281 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=2.16"
Tc=4.0 min CN=90 Runoff=0.63 cfs 0.043 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=2.16"
Tc=4.0 min CN=90 Runoff=1.16 cfs 0.079 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=2.44"
Tc=4.0 min CN=93 Runoff=0.67 cfs 0.047 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=2.53"
Tc=4.0 min CN=94 Runoff=0.56 cfs 0.039 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=0.67 cfs 0.048 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=2.74"
Tc=4.0 min CN=96 Runoff=0.54 cfs 0.040 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=1.67"
Tc=4.0 min CN=84 Runoff=1.78 cfs 0.120 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=2.64"
Tc=4.0 min CN=95 Runoff=0.23 cfs 0.016 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=0.92"
Tc=4.0 min CN=72 Runoff=0.73 cfs 0.054 af

Pond PDMH-01: Peak Elev=18.28' Inflow=3.06 cfs 0.217 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=3.06 cfs 0.217 af

Pond PDMH-08: Peak Elev=15.07' Inflow=6.10 cfs 0.547 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=6.10 cfs 0.547 af

Pond PDMH-09: Peak Elev=14.63' Inflow=7.65 cfs 0.725 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=7.65 cfs 0.725 af

Pond PDMH-10: Peak Elev=13.36' Inflow=9.66 cfs 1.084 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=9.66 cfs 1.084 af

Pond PDMH-18: Peak Elev=18.33' Inflow=1.94 cfs 0.135 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=1.94 cfs 0.135 af

Pond PRG-1: Peak Elev=19.28' Storage=844 cf Inflow=2.57 cfs 0.178 af
Outflow=1.57 cfs 0.178 af

Pond PTBF-01: Peak Elev=19.89' Inflow=0.67 cfs 0.048 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=0.67 cfs 0.048 af

Pond PTBF-02: Peak Elev=18.14' Inflow=0.54 cfs 0.040 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=0.54 cfs 0.040 af

Pond PTBF-03: Peak Elev=19.54' Inflow=0.67 cfs 0.047 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=0.67 cfs 0.047 af

Pond PTBF-04: Peak Elev=17.78' Inflow=0.63 cfs 0.043 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=0.63 cfs 0.043 af

Pond PTBF-05: Peak Elev=19.85' Inflow=0.81 cfs 0.055 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=0.81 cfs 0.055 af

Pond PTBF-06: Peak Elev=18.41' Inflow=1.16 cfs 0.079 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=1.16 cfs 0.079 af

Pond PTBF-07: Peak Elev=20.60' Inflow=0.56 cfs 0.039 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=0.56 cfs 0.039 af

Pond PUD-1: Peak Elev=15.83' Storage=0.056 af Inflow=5.04 cfs 0.359 af
Outflow=2.19 cfs 0.359 af

Pond PUD-2: Peak Elev=15.35' Storage=0.028 af Inflow=3.98 cfs 0.281 af
Outflow=2.63 cfs 0.281 af

Link PA-1: Inflow=10.82 cfs 1.189 af
Primary=10.82 cfs 1.189 af

Link PA-2: Inflow=0.73 cfs 0.054 af
Primary=0.73 cfs 0.054 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 1.243 af Average Runoff Depth = 2.11"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 2.57 cfs @ 12.06 hrs, Volume= 0.178 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.45 cfs @ 12.06 hrs, Volume= 0.034 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 1.44 cfs @ 12.06 hrs, Volume= 0.103 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 1.27 cfs @ 12.15 hrs, Volume= 0.105 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 3.98 cfs @ 12.06 hrs, Volume= 0.281 af, Depth= 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af, Depth= 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 1.78 cfs @ 12.06 hrs, Volume= 0.120 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.23 cfs @ 12.06 hrs, Volume= 0.016 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Depth= 0.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.19"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 2.46" for 2-yr event
Inflow = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af
Outflow = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af, Atten= 0%, Lag= 0.0 min
Primary = 3.06 cfs @ 12.06 hrs, Volume= 0.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.28' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.97 cfs @ 12.06 hrs HW=18.26' TW=15.54' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.97 cfs @ 4.06 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 2.19" for 2-yr event
Inflow = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 12.09 hrs, Volume= 0.547 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.07' @ 12.11 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.51 cfs @ 12.09 hrs HW=15.04' TW=14.62' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.51 cfs @ 2.72 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 2.22" for 2-yr event
Inflow = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af
Outflow = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min
Primary = 7.65 cfs @ 12.09 hrs, Volume= 0.725 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.63' @ 12.09 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.45 cfs @ 12.09 hrs HW=14.62' TW=13.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.45 cfs @ 5.33 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 2.32" for 2-yr event
Inflow = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af
Outflow = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af, Atten= 0%, Lag= 0.0 min
Primary = 9.66 cfs @ 12.09 hrs, Volume= 1.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.36' @ 12.09 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.58 cfs @ 12.09 hrs HW=13.35' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 9.58 cfs @ 4.69 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 2.31" for 2-yr event
Inflow = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af
Outflow = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.06 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.33' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=18.24' TW=18.26' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 2.34" for 2-yr event
Inflow = 2.57 cfs @ 12.06 hrs, Volume= 0.178 af
Outflow = 1.57 cfs @ 12.16 hrs, Volume= 0.178 af, Atten= 39%, Lag= 5.8 min
Primary = 1.57 cfs @ 12.16 hrs, Volume= 0.178 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.28' @ 12.16 hrs Surf.Area= 3,125 sf Storage= 844 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 11.1 min calculated for 0.178 af (100% of inflow)
Center-of-Mass det. time= 11.3 min (807.4 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.57 cfs @ 12.16 hrs HW=19.27' TW=14.54' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.57 cfs of 12.68 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.57 cfs @ 8.01 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af
Outflow = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.06 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.89' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.65 cfs @ 12.06 hrs HW=19.89' TW=18.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.65 cfs @ 2.25 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 2.74" for 2-yr event
Inflow = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af
Outflow = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.06 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.14' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.53 cfs @ 12.06 hrs HW=18.14' TW=15.54' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.53 cfs @ 2.12 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 2.44" for 2-yr event
Inflow = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af
Outflow = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.06 hrs, Volume= 0.047 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.54' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.65 cfs @ 12.06 hrs HW=19.53' TW=14.97' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.65 cfs @ 2.25 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 2.16" for 2-yr event
Inflow = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af
Outflow = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.06 hrs, Volume= 0.043 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.78' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.61 cfs @ 12.06 hrs HW=17.77' TW=14.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.61 cfs @ 2.21 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 1.99" for 2-yr event
Inflow = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af
Outflow = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.06 hrs, Volume= 0.055 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.85' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.79 cfs @ 12.06 hrs HW=19.84' TW=14.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.79 cfs @ 2.38 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 2.16" for 2-yr event
Inflow = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af
Outflow = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.06 hrs, Volume= 0.079 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.41' @ 12.14 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.36 cfs @ 12.06 hrs HW=18.26' TW=18.24' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.36 cfs @ 0.66 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af
Outflow = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56 cfs @ 12.06 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.60' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.54 cfs @ 12.06 hrs HW=20.59' TW=18.24' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.54 cfs @ 2.14 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 2.54" for 2-yr event
Inflow = 5.04 cfs @ 12.06 hrs, Volume= 0.359 af
Outflow = 2.19 cfs @ 12.22 hrs, Volume= 0.359 af, Atten= 57%, Lag= 9.8 min
Primary = 2.19 cfs @ 12.22 hrs, Volume= 0.359 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.83' @ 12.22 hrs Surf.Area= 0.122 ac Storage= 0.056 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 6.8 min (789.3 - 782.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.18 cfs @ 12.22 hrs HW=15.83' TW=13.15' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.18 cfs of 8.14 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 2.18 cfs @ 4.94 fps)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 3.98 cfs @ 12.06 hrs, Volume= 0.281 af
Outflow = 2.63 cfs @ 12.13 hrs, Volume= 0.281 af, Atten= 34%, Lag= 4.0 min
Primary = 2.63 cfs @ 12.13 hrs, Volume= 0.281 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.35' @ 12.15 hrs Surf.Area= 0.069 ac Storage= 0.028 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.0 min (788.3 - 785.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert**
			L= 101.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.57 cfs @ 12.13 hrs HW=15.34' TW=15.03' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.57 cfs of 4.18 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.32 cfs @ 2.64 fps)
3=Orifice/Grate (Orifice Controls 1.25 cfs @ 1.85 fps)
4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 2.24" for 2-yr event
Inflow = 10.82 cfs @ 12.10 hrs, Volume= 1.189 af
Primary = 10.82 cfs @ 12.10 hrs, Volume= 1.189 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 0.92" for 2-yr event
Inflow = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af
Primary = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=3.92"
Tc=4.0 min CN=92 Runoff=4.20 cfs 0.299 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=3.51"
Tc=4.0 min CN=88 Runoff=1.41 cfs 0.097 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=4.59"
Tc=4.0 min CN=98 Runoff=0.68 cfs 0.053 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=2.26 cfs 0.166 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=3.12"
Tc=10.0 min CN=84 Runoff=2.35 cfs 0.195 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=4.14"
Tc=4.0 min CN=94 Runoff=6.33 cfs 0.460 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=3.71"
Tc=4.0 min CN=90 Runoff=1.05 cfs 0.074 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=3.71"
Tc=4.0 min CN=90 Runoff=1.95 cfs 0.136 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=4.03"
Tc=4.0 min CN=93 Runoff=1.07 cfs 0.077 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=4.14"
Tc=4.0 min CN=94 Runoff=0.89 cfs 0.064 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=1.05 cfs 0.077 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=4.36"
Tc=4.0 min CN=96 Runoff=0.84 cfs 0.063 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=3.12"
Tc=4.0 min CN=84 Runoff=3.29 cfs 0.224 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=4.25"
Tc=4.0 min CN=95 Runoff=0.36 cfs 0.026 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=2.07"
Tc=4.0 min CN=72 Runoff=1.76 cfs 0.121 af

Pond PDMH-01: Peak Elev=18.57' Inflow=4.91 cfs 0.357 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=4.91 cfs 0.357 af

Pond PDMH-08: Peak Elev=15.66' Inflow=10.83 cfs 0.932 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=10.83 cfs 0.932 af

Pond PDMH-09: Peak Elev=15.10' Inflow=12.49 cfs 1.231 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=12.49 cfs 1.231 af

Pond PDMH-10: Peak Elev=13.96' Inflow=14.92 cfs 1.817 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=14.92 cfs 1.817 af

Pond PDMH-18: Peak Elev=18.69' Inflow=3.19 cfs 0.227 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=3.18 cfs 0.227 af

Pond PRG-1: Peak Elev=20.06' Storage=1,858 cf Inflow=4.20 cfs 0.299 af
Outflow=1.78 cfs 0.299 af

Pond PTBF-01: Peak Elev=20.03' Inflow=1.05 cfs 0.077 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=1.05 cfs 0.077 af

Pond PTBF-02: Peak Elev=18.26' Inflow=0.84 cfs 0.063 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=0.84 cfs 0.063 af

Pond PTBF-03: Peak Elev=19.69' Inflow=1.07 cfs 0.077 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=1.07 cfs 0.077 af

Pond PTBF-04: Peak Elev=17.93' Inflow=1.05 cfs 0.074 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=1.05 cfs 0.074 af

Pond PTBF-05: Peak Elev=20.06' Inflow=1.41 cfs 0.097 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=1.41 cfs 0.097 af

Pond PTBF-06: Peak Elev=18.96' Inflow=1.95 cfs 0.136 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=1.94 cfs 0.136 af

Pond PTBF-07: Peak Elev=20.72' Inflow=0.89 cfs 0.064 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=0.89 cfs 0.064 af

Pond PUD-1: Peak Elev=16.61' Storage=0.110 af Inflow=8.01 cfs 0.586 af
Outflow=2.88 cfs 0.586 af

Pond PUD-2: Peak Elev=15.93' Storage=0.049 af Inflow=6.33 cfs 0.460 af
Outflow=4.15 cfs 0.460 af

Link PA-1: Inflow=16.74 cfs 2.012 af
Primary=16.74 cfs 2.012 af

Link PA-2: Inflow=1.76 cfs 0.121 af
Primary=1.76 cfs 0.121 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.132 af Average Runoff Depth = 3.62"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 4.20 cfs @ 12.06 hrs, Volume= 0.299 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.68 cfs @ 12.06 hrs, Volume= 0.053 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 2.26 cfs @ 12.06 hrs, Volume= 0.166 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 2.35 cfs @ 12.14 hrs, Volume= 0.195 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 6.33 cfs @ 12.06 hrs, Volume= 0.460 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 1.95 cfs @ 12.06 hrs, Volume= 0.136 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af, Depth= 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 3.29 cfs @ 12.06 hrs, Volume= 0.224 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.36 cfs @ 12.06 hrs, Volume= 0.026 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.83"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 4.05" for 10-yr event
Inflow = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af
Outflow = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min
Primary = 4.91 cfs @ 12.06 hrs, Volume= 0.357 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.57' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.78 cfs @ 12.06 hrs HW=18.55' TW=16.07' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.78 cfs @ 4.54 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 3.73" for 10-yr event
Inflow = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af
Outflow = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af, Atten= 0%, Lag= 0.0 min
Primary = 10.83 cfs @ 12.06 hrs, Volume= 0.932 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.66' @ 12.09 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.79 cfs @ 12.06 hrs HW=15.61' TW=15.08' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.79 cfs @ 3.16 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 3.78" for 10-yr event
Inflow = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af
Outflow = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af, Atten= 0%, Lag= 0.0 min
Primary = 12.49 cfs @ 12.06 hrs, Volume= 1.231 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.10' @ 12.08 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.17 cfs @ 12.06 hrs HW=15.08' TW=13.92' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.17 cfs @ 5.37 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 3.89" for 10-yr event
Inflow = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af
Outflow = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af, Atten= 0%, Lag= 0.0 min
Primary = 14.92 cfs @ 12.06 hrs, Volume= 1.817 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.96' @ 12.06 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.52 cfs @ 12.06 hrs HW=13.91' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 14.52 cfs @ 5.21 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 3.88" for 10-yr event
Inflow = 3.19 cfs @ 12.06 hrs, Volume= 0.227 af
Outflow = 3.18 cfs @ 12.06 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min
Primary = 3.18 cfs @ 12.06 hrs, Volume= 0.227 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.69' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.92 cfs @ 12.06 hrs HW=18.56' TW=18.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.92 cfs @ 0.53 fps)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 3.92" for 10-yr event
Inflow = 4.20 cfs @ 12.06 hrs, Volume= 0.299 af
Outflow = 1.78 cfs @ 12.23 hrs, Volume= 0.299 af, Atten= 57%, Lag= 10.1 min
Primary = 1.78 cfs @ 12.23 hrs, Volume= 0.299 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.06' @ 12.23 hrs Surf.Area= 3,461 sf Storage= 1,858 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 12.7 min calculated for 0.299 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (793.9 - 782.0)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 12.23 hrs HW=20.06' TW=14.81' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.78 cfs of 14.89 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.78 cfs @ 9.09 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 4.25" for 10-yr event
Inflow = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af
Outflow = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.06 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.03' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.02 cfs @ 12.06 hrs HW=20.02' TW=18.55' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.02 cfs @ 2.57 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 4.36" for 10-yr event
Inflow = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af
Outflow = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.06 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.26' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.82 cfs @ 12.06 hrs HW=18.25' TW=16.06' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.82 cfs @ 2.41 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 4.03" for 10-yr event
Inflow = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af
Outflow = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.06 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.69' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.04 cfs @ 12.06 hrs HW=19.68' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.04 cfs @ 2.59 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af
Outflow = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.06 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.93' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.03 cfs @ 12.06 hrs HW=17.92' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.03 cfs @ 2.57 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 3.51" for 10-yr event
Inflow = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af
Outflow = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.06 hrs, Volume= 0.097 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.06' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.37 cfs @ 12.06 hrs HW=20.04' TW=15.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.37 cfs @ 2.83 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 1.95 cfs @ 12.06 hrs, Volume= 0.136 af
Outflow = 1.94 cfs @ 12.06 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.06 hrs, Volume= 0.136 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.96' @ 12.11 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.37 cfs @ 12.06 hrs HW=18.83' TW=18.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.37 cfs @ 2.51 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af
Outflow = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.06 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.72' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.86 cfs @ 12.06 hrs HW=20.71' TW=18.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.86 cfs @ 2.44 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 8.01 cfs @ 12.06 hrs, Volume= 0.586 af
Outflow = 2.88 cfs @ 12.29 hrs, Volume= 0.586 af, Atten= 64%, Lag= 13.8 min
Primary = 2.88 cfs @ 12.29 hrs, Volume= 0.586 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.61' @ 12.29 hrs Surf.Area= 0.122 ac Storage= 0.110 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.8 min (781.5 - 770.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.88 cfs @ 12.29 hrs HW=16.61' TW=13.49' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.88 cfs of 15.24 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 2.88 cfs @ 6.51 fps)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 4.14" for 10-yr event
Inflow = 6.33 cfs @ 12.06 hrs, Volume= 0.460 af
Outflow = 4.15 cfs @ 12.22 hrs, Volume= 0.460 af, Atten= 34%, Lag= 9.6 min
Primary = 4.15 cfs @ 12.22 hrs, Volume= 0.460 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.93' @ 12.16 hrs Surf.Area= 0.069 ac Storage= 0.049 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.7 min (776.3 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert** L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=4.80 cfs @ 12.22 hrs HW=15.81' TW=15.35' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.80 cfs of 7.75 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.63 cfs @ 3.26 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 3.17 cfs @ 3.17 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 3.80" for 10-yr event
Inflow = 16.74 cfs @ 12.07 hrs, Volume= 2.012 af
Primary = 16.74 cfs @ 12.07 hrs, Volume= 2.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 2.07" for 10-yr event
Inflow = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af
Primary = 1.76 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

SubcatchmentPOST 1.0: Runoff Area=39,807 sf 73.40% Impervious Runoff Depth=5.19"
Tc=4.0 min CN=92 Runoff=5.46 cfs 0.395 af

SubcatchmentPOST 1.1: Runoff Area=14,521 sf 57.92% Impervious Runoff Depth=4.74"
Tc=4.0 min CN=88 Runoff=1.88 cfs 0.132 af

SubcatchmentPOST 1.10: Runoff Area=6,000 sf 100.00% Impervious Runoff Depth=5.88"
Tc=4.0 min CN=98 Runoff=0.87 cfs 0.068 af

SubcatchmentPOST 1.11: Runoff Area=20,453 sf 86.92% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=2.90 cfs 0.216 af

SubcatchmentPOST 1.12: Runoff Area=32,661 sf 41.62% Impervious Runoff Depth=4.31"
Tc=10.0 min CN=84 Runoff=3.22 cfs 0.269 af

SubcatchmentPOST 1.13: Runoff Area=58,063 sf 83.10% Impervious Runoff Depth=5.42"
Tc=4.0 min CN=94 Runoff=8.15 cfs 0.602 af

SubcatchmentPOST 1.2: Runoff Area=10,399 sf 68.43% Impervious Runoff Depth=4.96"
Tc=4.0 min CN=90 Runoff=1.39 cfs 0.099 af

SubcatchmentPOST 1.3: Runoff Area=19,196 sf 67.51% Impervious Runoff Depth=4.96"
Tc=4.0 min CN=90 Runoff=2.56 cfs 0.182 af

SubcatchmentPOST 1.4: Runoff Area=9,981 sf 77.76% Impervious Runoff Depth=5.30"
Tc=4.0 min CN=93 Runoff=1.39 cfs 0.101 af

SubcatchmentPOST 1.5: Runoff Area=8,124 sf 81.97% Impervious Runoff Depth=5.42"
Tc=4.0 min CN=94 Runoff=1.14 cfs 0.084 af

SubcatchmentPOST 1.6: Runoff Area=9,460 sf 85.99% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=1.34 cfs 0.100 af

SubcatchmentPOST 1.7: Runoff Area=7,550 sf 90.64% Impervious Runoff Depth=5.65"
Tc=4.0 min CN=96 Runoff=1.08 cfs 0.082 af

SubcatchmentPOST 1.8: Runoff Area=37,581 sf 41.59% Impervious Runoff Depth=4.31"
Tc=4.0 min CN=84 Runoff=4.50 cfs 0.310 af

SubcatchmentPOST 1.9: Runoff Area=3,257 sf 86.80% Impervious Runoff Depth=5.53"
Tc=4.0 min CN=95 Runoff=0.46 cfs 0.034 af

SubcatchmentPOST 2.0: Runoff Area=30,516 sf 0.00% Impervious Runoff Depth=3.09"
Tc=4.0 min CN=72 Runoff=2.66 cfs 0.180 af

Pond PDMH-01: Peak Elev=18.80' Inflow=6.37 cfs 0.468 af
18.0" Round Culvert n=0.013 L=268.0' S=0.0060 '/' Outflow=6.37 cfs 0.468 af

Pond PDMH-08: Peak Elev=16.23' Inflow=13.25 cfs 1.243 af
24.0" Round Culvert n=0.013 L=203.0' S=0.0049 '/' Outflow=13.25 cfs 1.243 af

Pond PDMH-09: Peak Elev=15.44' Inflow=15.01 cfs 1.638 af
24.0" Round Culvert n=0.013 L=103.0' S=0.0155 '/' Outflow=15.01 cfs 1.638 af

Pond PDMH-10: Peak Elev=14.48' Inflow=17.77 cfs 2.405 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0055 '/' Outflow=17.77 cfs 2.405 af

Pond PDMH-18: Peak Elev=19.01' Inflow=4.16 cfs 0.301 af
18.0" Round Culvert n=0.013 L=98.0' S=0.0046 '/' Outflow=4.16 cfs 0.301 af

Pond PRG-1: Peak Elev=20.48' Storage=2,505 cf Inflow=5.46 cfs 0.395 af
Outflow=3.29 cfs 0.395 af

Pond PTBF-01: Peak Elev=20.13' Inflow=1.34 cfs 0.100 af
10.0" Round Culvert n=0.010 L=6.0' S=0.0417 '/' Outflow=1.34 cfs 0.100 af

Pond PTBF-02: Peak Elev=18.34' Inflow=1.08 cfs 0.082 af
10.0" Round Culvert n=0.010 L=13.0' S=0.0385 '/' Outflow=1.08 cfs 0.082 af

Pond PTBF-03: Peak Elev=19.80' Inflow=1.39 cfs 0.101 af
10.0" Round Culvert n=0.010 L=17.0' S=0.0471 '/' Outflow=1.39 cfs 0.101 af

Pond PTBF-04: Peak Elev=18.05' Inflow=1.39 cfs 0.099 af
10.0" Round Culvert n=0.010 L=25.0' S=0.0400 '/' Outflow=1.39 cfs 0.099 af

Pond PTBF-05: Peak Elev=20.28' Inflow=1.88 cfs 0.132 af
10.0" Round Culvert n=0.010 L=10.0' S=0.0250 '/' Outflow=1.88 cfs 0.132 af

Pond PTBF-06: Peak Elev=19.55' Inflow=2.56 cfs 0.182 af
10.0" Round Culvert n=0.010 L=18.0' S=0.0056 '/' Outflow=2.56 cfs 0.182 af

Pond PTBF-07: Peak Elev=20.81' Inflow=1.14 cfs 0.084 af
10.0" Round Culvert n=0.010 L=95.0' S=0.0126 '/' Outflow=1.14 cfs 0.084 af

Pond PUD-1: Peak Elev=17.28' Storage=0.158 af Inflow=10.35 cfs 0.766 af
Outflow=3.45 cfs 0.766 af

Pond PUD-2: Peak Elev=16.56' Storage=0.074 af Inflow=8.15 cfs 0.602 af
Outflow=5.38 cfs 0.602 af

Link PA-1: Inflow=20.04 cfs 2.674 af
Primary=20.04 cfs 2.674 af

Link PA-2: Inflow=2.66 cfs 0.180 af
Primary=2.66 cfs 0.180 af

Link PA-3:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.061 ac Runoff Volume = 2.854 af Average Runoff Depth = 4.85"
37.84% Pervious = 2.672 ac 62.16% Impervious = 4.389 ac

Summary for Subcatchment POST 1.0:

Runoff = 5.46 cfs @ 12.06 hrs, Volume= 0.395 af, Depth= 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
19,000	98	Roofs, HSG C
10,590	74	>75% Grass cover, Good, HSG C
10,217	98	Paved parking, HSG C
39,807	92	Weighted Average
10,590		26.60% Pervious Area
29,217		73.40% Impervious Area

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

Summary for Subcatchment POST 1.1:

Runoff = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af, Depth= 4.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
8,411	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,110	74	>75% Grass cover, Good, HSG C
14,521	88	Weighted Average
6,110		42.08% Pervious Area
8,411		57.92% Impervious Area

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

Summary for Subcatchment POST 1.10:

Runoff = 0.87 cfs @ 12.06 hrs, Volume= 0.068 af, Depth= 5.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
6,000	98	Roofs, HSG C
6,000		100.00% Impervious Area

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

Summary for Subcatchment POST 1.11:

Runoff = 2.90 cfs @ 12.06 hrs, Volume= 0.216 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
2,675	74	>75% Grass cover, Good, HSG C
17,778	98	Paved parking, HSG C
20,453	95	Weighted Average
2,675		13.08% Pervious Area
17,778		86.92% Impervious Area

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

Summary for Subcatchment POST 1.12:

Runoff = 3.22 cfs @ 12.14 hrs, Volume= 0.269 af, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
19,066	74	>75% Grass cover, Good, HSG C
13,595	98	Paved parking, HSG C
32,661	84	Weighted Average
19,066		58.38% Pervious Area
13,595		41.62% Impervious Area

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

Summary for Subcatchment POST 1.13:

Runoff = 8.15 cfs @ 12.06 hrs, Volume= 0.602 af, Depth= 5.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
24,124	98	Roofs, HSG C
9,811	74	>75% Grass cover, Good, HSG C
24,128	98	Paved parking, HSG C
58,063	94	Weighted Average
9,811		16.90% Pervious Area
48,252		83.10% Impervious Area

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

Summary for Subcatchment POST 1.2:

Runoff = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
7,116	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,283	74	>75% Grass cover, Good, HSG C
10,399	90	Weighted Average
3,283		31.57% Pervious Area
7,116		68.43% Impervious Area

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

Summary for Subcatchment POST 1.3:

Runoff = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
11,200	98	Paved parking, HSG C
1,760	98	Roofs, HSG C
6,236	74	>75% Grass cover, Good, HSG C
19,196	90	Weighted Average
6,236		32.49% Pervious Area
12,960		67.51% Impervious Area

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

Summary for Subcatchment POST 1.4:

Runoff = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af, Depth= 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
2,220	74	>75% Grass cover, Good, HSG C
7,761	98	Paved parking, HSG C
9,981	93	Weighted Average
2,220		22.24% Pervious Area
7,761		77.76% Impervious Area

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

Summary for Subcatchment POST 1.5:

Runoff = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af, Depth= 5.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,465	74	>75% Grass cover, Good, HSG C
6,659	98	Paved parking, HSG C
8,124	94	Weighted Average
1,465		18.03% Pervious Area
6,659		81.97% Impervious Area

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

Summary for Subcatchment POST 1.6:

Runoff = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
8,135	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,325	74	>75% Grass cover, Good, HSG C
9,460	95	Weighted Average
1,325		14.01% Pervious Area
8,135		85.99% Impervious Area

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

Summary for Subcatchment POST 1.7:

Runoff = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
707	74	>75% Grass cover, Good, HSG C
6,843	98	Paved parking, HSG C
7,550	96	Weighted Average
707		9.36% Pervious Area
6,843		90.64% Impervious Area

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

Summary for Subcatchment POST 1.8:

Runoff = 4.50 cfs @ 12.06 hrs, Volume= 0.310 af, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
0	98	Roofs, HSG C
21,952	74	>75% Grass cover, Good, HSG C
15,629	98	Paved parking, HSG C
37,581	84	Weighted Average
21,952		58.41% Pervious Area
15,629		41.59% Impervious Area

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

Summary for Subcatchment POST 1.9:

Runoff = 0.46 cfs @ 12.06 hrs, Volume= 0.034 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
430	74	>75% Grass cover, Good, HSG C
2,827	98	Paved parking, HSG C
3,257	95	Weighted Average
430		13.20% Pervious Area
2,827		86.80% Impervious Area

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

Summary for Subcatchment POST 2.0:

Runoff = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.12"

Area (sf)	CN	Description
30,516	72	Woods/grass comb., Good, HSG C
0	98	Paved parking, HSG C
30,516	72	Weighted Average
30,516		100.00% Pervious Area

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

Summary for Pond PDMH-01:

Inflow Area = 1.057 ac, 79.46% Impervious, Inflow Depth = 5.32" for 25-yr event
Inflow = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af
Outflow = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min
Primary = 6.37 cfs @ 12.06 hrs, Volume= 0.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.80' @ 12.06 hrs
Flood Elev= 23.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.40'	**18.0" Round Culvert** L= 268.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.40' / 15.80' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.21 cfs @ 12.06 hrs HW=18.77' TW=16.49' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.21 cfs @ 4.80 fps)

Summary for Pond PDMH-08:

Inflow Area = 2.997 ac, 66.77% Impervious, Inflow Depth = 4.98" for 25-yr event
Inflow = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af
Outflow = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.0 min
Primary = 13.25 cfs @ 12.05 hrs, Volume= 1.243 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.23' @ 12.07 hrs
Flood Elev= 27.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 203.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 12.40' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.26 cfs @ 12.05 hrs HW=16.18' TW=15.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.26 cfs @ 3.58 fps)

Summary for Pond PDMH-09:

Inflow Area = 3.911 ac, 68.32% Impervious, Inflow Depth = 5.03" for 25-yr event
Inflow = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af
Outflow = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af, Atten= 0%, Lag= 0.0 min
Primary = 15.01 cfs @ 12.05 hrs, Volume= 1.638 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.44' @ 12.09 hrs
Flood Elev= 24.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.40'	**24.0" Round Culvert** L= 103.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.40' / 11.80' S= 0.0155 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.16 cfs @ 12.05 hrs HW=15.38' TW=14.46' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.16 cfs @ 4.86 fps)

Summary for Pond PDMH-10:

Inflow Area = 5.610 ac, 72.67% Impervious, Inflow Depth = 5.14" for 25-yr event
Inflow = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af
Outflow = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af, Atten= 0%, Lag= 0.0 min
Primary = 17.77 cfs @ 12.06 hrs, Volume= 2.405 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.48' @ 12.05 hrs
Flood Elev= 22.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**24.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.40' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=17.36 cfs @ 12.06 hrs HW=14.44' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 17.36 cfs @ 5.52 fps)

Summary for Pond PDMH-18:

Inflow Area = 0.702 ac, 73.41% Impervious, Inflow Depth = 5.14" for 25-yr event
Inflow = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af
Outflow = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min
Primary = 4.16 cfs @ 12.06 hrs, Volume= 0.301 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.01' @ 12.10 hrs
Flood Elev= 23.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	16.65'	**18.0" Round Culvert** L= 98.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.65' / 16.20' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.27 cfs @ 12.06 hrs HW=18.86' TW=18.77' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.27 cfs @ 1.28 fps)

Summary for Pond PRG-1:

Inflow Area = 0.914 ac, 73.40% Impervious, Inflow Depth = 5.19" for 25-yr event
Inflow = 5.46 cfs @ 12.06 hrs, Volume= 0.395 af
Outflow = 3.29 cfs @ 12.17 hrs, Volume= 0.395 af, Atten= 40%, Lag= 6.5 min
Primary = 3.29 cfs @ 12.17 hrs, Volume= 0.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.48' @ 12.17 hrs Surf.Area= 3,659 sf Storage= 2,505 cf
Flood Elev= 23.00' Surf.Area= 5,112 sf Storage= 8,419 cf

Plug-Flow detention time= 11.7 min calculated for 0.395 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (786.6 - 774.7)

Volume	Invert	Avail.Storage	Storage Description
#1	19.00'	7,868 cf	**Ponding Area (Prismatic)** Listed below (Recalc)
#2	17.50'	150 cf	**Filter Media (Prismatic)** Listed below (Recalc) 1,505 cf Overall x 10.0% Voids
#3	16.25'	401 cf	**Reservoir Course (Prismatic)** Listed below (Recalc) 1,003 cf Overall x 40.0% Voids
		8,419 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
19.00	1,003	0	0
20.00	1,424	1,214	1,214
21.00	1,901	1,663	2,876
22.00	2,488	2,195	5,071
23.00	3,106	2,797	7,868

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	1,003	0	0
19.00	1,003	1,505	1,505

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.25	1,003	0	0
17.25	1,003	1,003	1,003

Device	Routing	Invert	Outlet Devices
#1	Primary	16.25'	**18.0" Round Culvert** L= 46.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 16.25' / 15.90' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	16.25'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	20.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	22.00'	**4.0" x 4.0" Horiz. Haala Grate X 100.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.14 cfs @ 12.17 hrs HW=20.46' TW=15.30' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.14 cfs of 15.83 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.88 cfs @ 9.58 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.26 cfs @ 1.51 fps)
  └─**4=Haala Grate** (Controls 0.00 cfs)

Summary for Pond PTBF-01:

Inflow Area = 0.217 ac, 85.99% Impervious, Inflow Depth = 5.53" for 25-yr event
Inflow = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af
Outflow = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.06 hrs, Volume= 0.100 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.13' @ 12.06 hrs
Flood Elev= 23.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**10.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.20' S= 0.0417 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.31 cfs @ 12.06 hrs HW=20.12' TW=18.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.31 cfs @ 2.79 fps)

Summary for Pond PTBF-02:

Inflow Area = 0.173 ac, 90.64% Impervious, Inflow Depth = 5.65" for 25-yr event
Inflow = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af
Outflow = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.06 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.34' @ 12.06 hrs
Flood Elev= 21.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.75'	**10.0" Round Culvert** L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.75' / 17.25' S= 0.0385 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.05 cfs @ 12.06 hrs HW=18.33' TW=16.48' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.05 cfs @ 2.59 fps)

Summary for Pond PTBF-03:

Inflow Area = 0.229 ac, 77.76% Impervious, Inflow Depth = 5.30" for 25-yr event
Inflow = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af
Outflow = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.06 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.80' @ 12.06 hrs
Flood Elev= 22.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**10.0" Round Culvert** L= 17.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.30' S= 0.0471 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.35 cfs @ 12.06 hrs HW=19.79' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.35 cfs @ 2.82 fps)

Summary for Pond PTBF-04:

Inflow Area = 0.239 ac, 68.43% Impervious, Inflow Depth = 4.96" for 25-yr event
Inflow = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af
Outflow = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.06 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 18.05' @ 12.06 hrs
Flood Elev= 20.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.35'	**10.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.35' / 16.35' S= 0.0400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.35 cfs @ 12.06 hrs HW=18.04' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.35 cfs @ 2.82 fps)

Summary for Pond PTBF-05:

Inflow Area = 0.333 ac, 57.92% Impervious, Inflow Depth = 4.74" for 25-yr event
Inflow = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af
Outflow = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 12.06 hrs, Volume= 0.132 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.28' @ 12.06 hrs
Flood Elev= 22.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.35'	**10.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.35' / 19.10' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.83 cfs @ 12.06 hrs HW=20.25' TW=16.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.83 cfs @ 3.35 fps)

Summary for Pond PTBF-06:

Inflow Area = 0.441 ac, 67.51% Impervious, Inflow Depth = 4.96" for 25-yr event
Inflow = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af
Outflow = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min
Primary = 2.56 cfs @ 12.06 hrs, Volume= 0.182 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 19.55' @ 12.10 hrs
Flood Elev= 20.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	17.00'	**10.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 17.00' / 16.90' S= 0.0056 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.95 cfs @ 12.06 hrs HW=19.41' TW=18.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.95 cfs @ 3.57 fps)

Summary for Pond PTBF-07:

Inflow Area = 0.187 ac, 81.97% Impervious, Inflow Depth = 5.42" for 25-yr event
Inflow = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af
Outflow = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.06 hrs, Volume= 0.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 20.81' @ 12.06 hrs
Flood Elev= 23.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.20'	**10.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.20' / 19.00' S= 0.0126 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.11 cfs @ 12.06 hrs HW=20.80' TW=18.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.11 cfs @ 2.64 fps)

Summary for Pond PUD-1:

Inflow Area = 1.700 ac, 82.66% Impervious, Inflow Depth = 5.41" for 25-yr event
Inflow = 10.35 cfs @ 12.06 hrs, Volume= 0.766 af
Outflow = 3.45 cfs @ 12.32 hrs, Volume= 0.766 af, Atten= 67%, Lag= 15.4 min
Primary = 3.45 cfs @ 12.32 hrs, Volume= 0.766 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.28' @ 12.32 hrs Surf.Area= 0.122 ac Storage= 0.158 af
Flood Elev= 18.40' Surf.Area= 0.122 ac Storage= 0.221 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 13.6 min (778.2 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.90'	0.000 af	**40.21'W x 132.00'L x 5.50'H Field A** 0.670 af Overall - 0.271 af Embedded = 0.399 af x 0.0% Voids
#2A	14.40'	0.226 af	**ADS N-12 48"** x 36 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf 6 Rows of 6 Chambers 37.21' Header x 12.40 sf x 2 = 922.8 cf Inside
		0.226 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.40'	**24.0" Round Culvert** L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.40' / 14.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.40'	**9.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	17.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.43 cfs @ 12.32 hrs HW=17.27' TW=13.76' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 3.43 cfs of 19.19 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 3.36 cfs @ 7.61 fps)
—**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.07 cfs @ 0.50 fps)

Summary for Pond PUD-2:

Inflow Area = 1.333 ac, 83.10% Impervious, Inflow Depth = 5.42" for 25-yr event
Inflow = 8.15 cfs @ 12.06 hrs, Volume= 0.602 af
Outflow = 5.38 cfs @ 12.25 hrs, Volume= 0.602 af, Atten= 34%, Lag= 11.5 min
Primary = 5.38 cfs @ 12.25 hrs, Volume= 0.602 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 16.56' @ 12.17 hrs Surf.Area= 0.069 ac Storage= 0.074 af
Flood Elev= 18.00' Surf.Area= 0.069 ac Storage= 0.121 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.5 min (770.6 - 766.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	13.50'	0.000 af	**20.58'W x 145.00'L x 5.50'H Field A** 0.377 af Overall - 0.148 af Embedded = 0.229 af x 0.0% Voids
#2A	14.00'	0.124 af	**ADS N-12 48"** x 21 Inside #1 Inside= 47.7"W x 47.7"H => 12.40 sf x 20.00'L = 248.0 cf Outside= 54.0"W x 54.0"H => 14.86 sf x 20.00'L = 297.1 cf Row Length Adjustment= -7.00' x 12.40 sf x 3 rows 17.58' Header x 12.40 sf x 2 = 436.1 cf Inside
		0.124 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**24.0" Round Culvert**
			L= 101.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 14.00' / 13.50' S= 0.0050 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	14.00'	**12.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#3	Device 1	15.00'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	17.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=5.50 cfs @ 12.25 hrs HW=16.35' TW=15.77' (Dynamic Tailwater)
↑**1=Culvert** (Passes 5.50 cfs of 11.37 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.83 cfs @ 3.67 fps)
3=Orifice/Grate (Orifice Controls 3.67 cfs @ 3.67 fps)
4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 6.360 ac, 69.01% Impervious, Inflow Depth = 5.04" for 25-yr event
Inflow = 20.04 cfs @ 12.05 hrs, Volume= 2.674 af
Primary = 20.04 cfs @ 12.05 hrs, Volume= 2.674 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 0.701 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af
Primary = 2.66 cfs @ 12.06 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

1.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates from the 1-year, 2-year, 10-year, and 25-year storm events at each point of analysis.

Table 1.4 – Comparison of Pre- and Post-Development Flows (CFS)

Point of Analysis	2-Year Storm	10-Year Storm	25-Year Storm
Pre-Development Watershed (PA-1)	11.21	18.30	23.81
Post-Development Watershed (PA-1)	10.82	16.74	20.04
Pre-Development Watershed (PA-2)	2.36	4.15	5.56
Post-Development Watershed (PA-2)	0.73	1.76	2.66
Pre-Development Watershed (PA-3)	6.55	10.28	13.18
Post-Development Watershed (PA-3)	0.00	0.00	0.00

As shown in Table 1.4 the Post-Development flows are decreased from the Pre-Development conditions at both points of analysis.

1.5 Mitigation Description

1.5.1 Mitigation Calculations

The proposed project area has been designed to provide stormwater treatment in accordance with the redevelopment standards of the Maine Department of Environmental Protection, Chapter 500 – Stormwater Management, rules and regulations. These calculations have been provided in appendix F of this report.

1.5.2 Pre-Treatment Methods for Protecting Water Quality

Pretreatment methods for protecting water quality on this site include offline deep sump catch basins with oil water separator hoods and a proprietary Rain Guardian Turret pretreatment unit.

Table 1.5 – Pollutant Removal Efficiencies		
BMP	Total Suspended Solids	Total Phosphorus
Deep Sump Catch Basin w/Hood[1]	15%	5%
BMP	Sediment Capture	Gross Solids Capture
Rain Guardian Turret[2]	75% - 90%	60% - 85%

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.
2. Pollutant removal efficiencies Erickson, A.J., M.A. Hernick, and J.D. Marr. (2018). "Capture of Gross Solids and Sediment by Pretreatment Practices for Bioretention." University of Minnesota St. Anthony Falls Laboratory Project Report No. 586.

1.5.3 Treatment Methods for Protecting Water Quality

The runoff from a majority of the proposed impervious areas will be directed to one of the seven (7) proposed Tree Box Filters or the proposed Rain Garden to be treated.

Table 1.6 below, shows design pollutant removal efficient for the proposed Filterra Tree Box Filters and the proposed Rain Garden.

Table 1.6 – Pollutant Removal Efficiencies		
BMP	Total Suspended Solids	Total Phosphorus
Filttera Tree Box Filter[1]	86%	70%
Rain Garden[2]	90%	65%

1. Pollutant removal efficiencies per Contech Engineered Solutions Filterra Performance Testing Results.
2. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

APPENDIX A

APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Metadata for Point	
Smoothing	Yes
State	Maine
Location	Maine, United States
Latitude	43.111 degrees North
Longitude	70.737 degrees West
Elevation	0 feet
Date/Time	Tue Oct 03 2023 13:13:42 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.21	1.55	2.02	2.64	2.90	**1yr**	2.34	2.79	3.20	3.92	4.52	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.19	3.55	**2yr**	2.82	3.42	3.92	4.66	5.30	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.60	**5yr**	1.08	1.47	1.88	2.42	3.12	4.04	4.55	**5yr**	3.57	4.38	5.01	5.90	6.66	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.72	2.22	2.88	3.73	4.83	5.49	**10yr**	4.27	5.28	6.04	7.05	7.92	**10yr**
25yr	0.48	0.76	0.97	1.33	1.77	2.33	**25yr**	1.53	2.14	2.77	3.62	4.71	6.12	7.05	**25yr**	5.41	6.78	7.74	8.94	9.96	**25yr**
50yr	0.53	0.86	1.10	1.54	2.07	2.75	**50yr**	1.79	2.52	3.28	4.30	5.62	7.32	8.52	**50yr**	6.48	8.19	9.34	10.70	11.86	**50yr**
100yr	0.59	0.96	1.24	1.77	2.42	3.25	**100yr**	2.08	2.97	3.89	5.13	6.72	8.76	10.30	**100yr**	7.75	9.90	11.28	12.81	14.12	**100yr**
200yr	0.67	1.10	1.43	2.04	2.82	3.83	**200yr**	2.44	3.51	4.60	6.10	8.02	10.49	12.45	**200yr**	9.28	11.97	13.62	15.35	16.83	**200yr**
500yr	0.80	1.31	1.71	2.48	3.47	4.76	**500yr**	3.00	4.37	5.75	7.66	10.13	13.32	16.00	**500yr**	11.79	15.39	17.49	19.50	21.22	**500yr**

Lower Confidence Limits

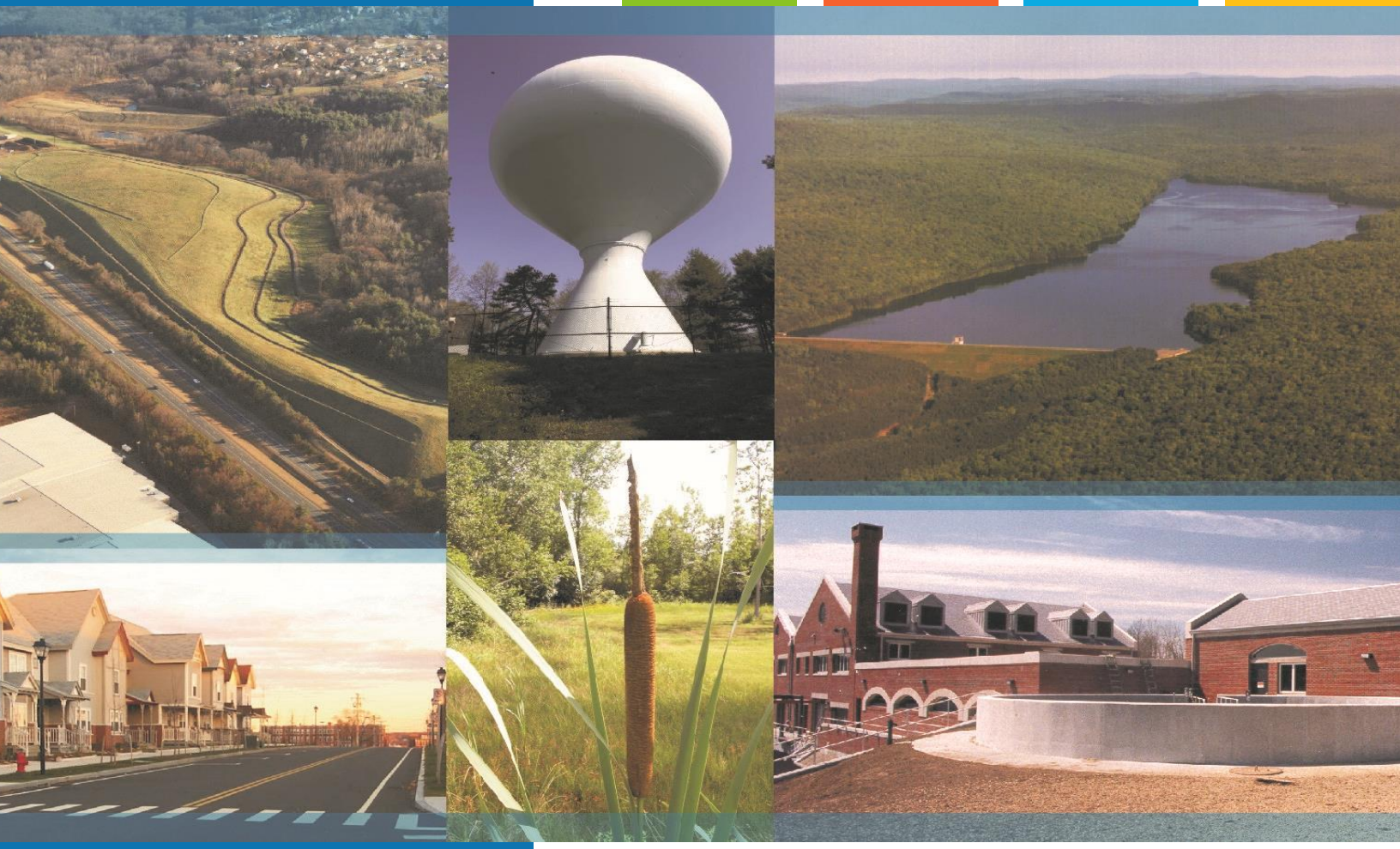
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.93	1.33	1.69	2.22	2.42	**1yr**	1.96	2.33	2.85	3.20	3.86	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.36	1.82	2.34	3.04	3.42	**2yr**	2.69	3.29	3.79	4.51	5.06	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.75	4.14	**5yr**	3.32	3.98	4.68	5.47	6.17	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.32	4.78	**10yr**	3.82	4.60	5.35	6.31	7.09	**10yr**
25yr	0.44	0.66	0.83	1.18	1.55	1.90	**25yr**	1.34	1.86	2.10	2.76	3.54	4.67	5.77	**25yr**	4.13	5.54	6.50	7.63	8.53	**25yr**
50yr	0.48	0.73	0.91	1.30	1.75	2.16	**50yr**	1.51	2.11	2.34	3.07	3.93	5.27	6.63	**50yr**	4.66	6.38	7.51	8.81	9.81	**50yr**
100yr	0.53	0.80	1.00	1.45	1.99	2.46	**100yr**	1.72	2.41	2.62	3.42	4.34	5.91	7.62	**100yr**	5.23	7.33	8.68	10.20	11.30	**100yr**
200yr	0.58	0.88	1.11	1.61	2.25	2.81	**200yr**	1.94	2.75	2.93	3.78	4.78	6.60	8.75	**200yr**	5.84	8.42	9.99	11.82	13.04	**200yr**
500yr	0.67	1.00	1.29	1.88	2.67	3.36	**500yr**	2.30	3.28	3.40	4.32	5.43	7.65	10.51	**500yr**	6.77	10.11	12.04	14.39	15.75	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.96	3.16	**1yr**	2.62	3.04	3.55	4.36	5.00	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.40	3.70	**2yr**	3.01	3.56	4.09	4.82	5.60	**2yr**
5yr	0.40	0.62	0.76	1.05	1.33	1.62	**5yr**	1.15	1.58	1.88	2.54	3.26	4.32	4.97	**5yr**	3.82	4.78	5.36	6.37	7.14	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.97	**10yr**	1.39	1.93	2.28	3.11	3.97	5.31	6.22	**10yr**	4.70	5.98	6.86	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.55	2.05	2.57	**25yr**	1.77	2.51	2.96	4.08	5.17	7.73	8.39	**25yr**	6.84	8.07	9.25	10.35	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.01	6.35	9.68	10.55	**50yr**	8.56	10.15	11.61	12.74	13.98	**50yr**
100yr	0.79	1.19	1.50	2.16	2.96	3.81	**100yr**	2.56	3.72	4.38	6.16	7.81	12.11	13.25	**100yr**	10.72	12.75	14.58	15.73	17.12	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.54	5.35	7.59	9.60	15.20	16.67	**200yr**	13.45	16.03	18.35	19.42	20.97	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.03	**500yr**	3.92	5.90	6.95	10.03	12.65	20.54	22.59	**500yr**	18.18	21.72	24.87	25.65	27.43	**500yr**

Powered by ACIS Northeast Regional Climate Center

APPENDIX C



Kittery Mixed Use Development
283 US Route 1
Kittery, ME

Long-Term Operation & Maintenance Plan

Two International Group

December 28, 2023

Tighe&Bond

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Tighe&Bond

Section 1
Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

1.1 Contact/Responsible Party

283 Route 1, LLC
C/O Two International Group
1 New Hampshire Ave, Suite 123
Portsmouth, NH 03801

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

1.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catchbasin Cleaning
- Pavement Sweeping
- Rain Garden
- Filterra Tree Box Filter

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

1.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance
Litter/Debris Removal	Weekly
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Annually
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring
Catch Basin (CB) Cleaning - CB to be cleaned of solids and oils.	Annually
Rain Garden - Trash and debris to be removed. - Any required maintenance shall be addressed.	Twice annually
Filterra Tree Box Filter	In accordance with Manufacturer's Recommendations (See section 1.4)
Rain Guardian	In accordance with Manufacturer's Recommendations (See section 1.6)

1.3.1 Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Rain Garden Maintenance Requirements

Rain Garden Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor to ensure that Rain Gardens function effectively after storms	Two (2) times annually and after any rainfall event exceeding 2.5" in a 24-hr period	- Trash and debris to be removed - Any required maintenance shall be addressed
Inspect Vegetation	Annually	- Inspect the condition of all Rain Garden vegetation - Prune back overgrowth - Replace dead vegetation - Remove any invasive species
Inspect Drawdown Time - The system shall drawdown within 48-hours following a rainfall event.	Annually	- Assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.

1.5 Filterra Tree Box Filter Maintenance Requirements

Filterra Owner's Manual

filterra®

Bioretention Systems

CONTECH®
ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault.

filterra®
Bioretention Systems

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CONTECH®
ENGINEERED SOLUTIONS

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and 1-year of routine maintenance (mulch replacement, debris removal, and pruning of vegetation) up to twice during the first year after activation.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

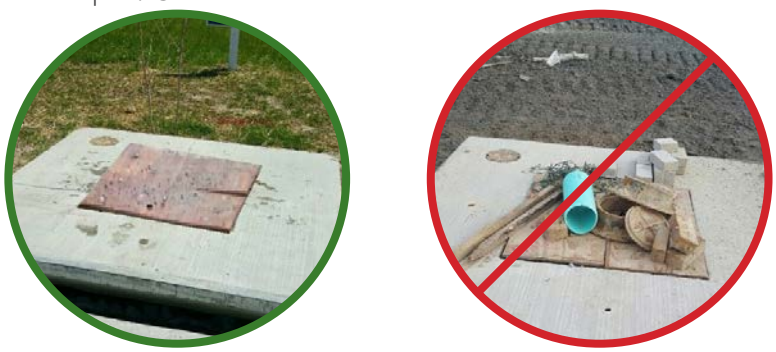
- Removal of construction runoff protection devices
- Planting of the system's vegetation
- Placement of pretreatment mulch layer using mulch certified for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch certified for use in Filterra systems.

Minimum Requirements

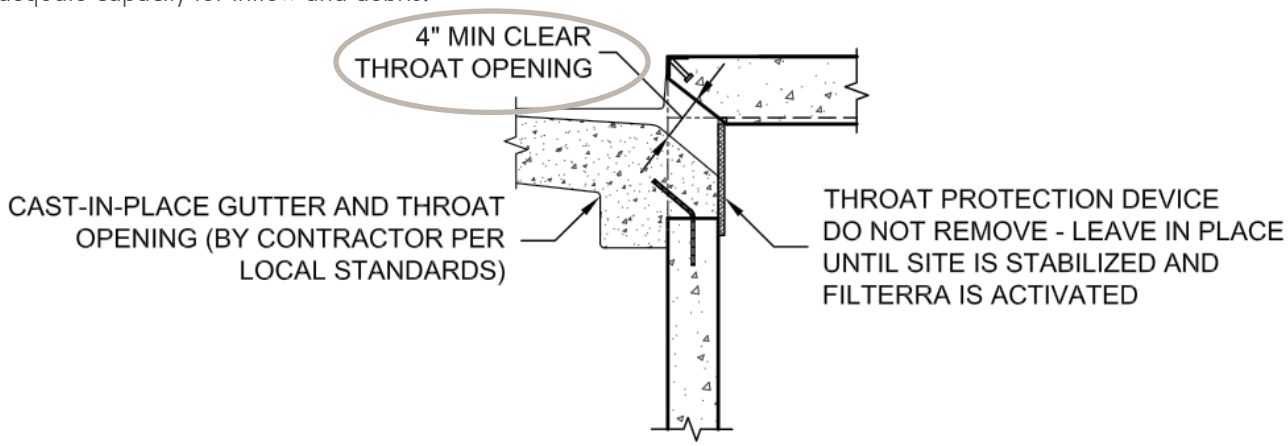
The minimum requirements for Filterra Activation are as follows:

1. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.



2. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

3. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



An Activation Checklist is included on page 12 to ensure proper conditions are met for Contech to perform the Activation services. A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

The "Planting Requirements for Filterra Systems" document is included as an appendix and discusses proper selection and care of the plants within Filterra systems.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Maintenance services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are typically scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate (where applicable) and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates, where applicable (up to 170 lbs each). If tree grate opening expansion is necessary, safety glasses/goggles and a 3lb or greater mini sledgehammer are required. Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Media Bay Length	Media Bay Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.

1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate (if applicable)	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).

2. Removal of tree grate (if applicable) and erosion control stones

- Remove cast iron grates for access into Filterra box (if applicable).
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____

- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____

4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates (if applicable) correctly using appropriate lifting or moving tools, taking care not to damage the plant.
- Where applicable, if 6" tree grate opening is too close to plant trunk, the grate opening may be expanded to 12" using a mini sledgehammer. Refer to instructions in Appendix 3.

5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above top of Filterra Unit	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no

6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.

7. Complete paperwork

- Deliver Maintenance Report and photographs to appropriate location (normally Contech during maintenance contract period).
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____**Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Top of Vault	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3"*	*Lowe's Premium Brown Mulch*	*4'*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Activation Checklist

CONTECH® ENGINEERED SOLUTIONS

Project Name:______________________________ Company:______________________________

Site Contact Name: ______________________________ Site Contact Phone/Email: ____________________

Site Owner/End User Name:____________________ Site Owner/End User Phone/Email: ____________________

Preferred Activation Date: ______________________________(provide 2 weeks minimum from date this form is submitted)

Site Designation	System Size	Final Pavement / Top Coat Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height	Plant Species Requested
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	

Attach additional sheets as necessary.

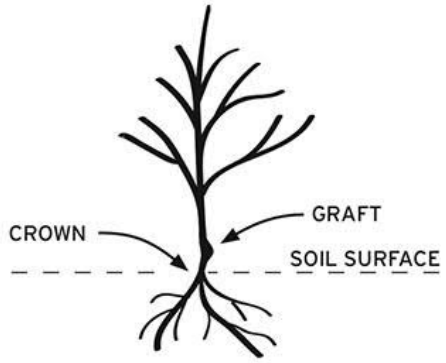
NOTE: A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized Activations will void the system warranty and waive manufacturer supplied Activation and 1st Year Maintenance.

______________________________ ____________________

Signature Date

Appendix 2 – Planting Requirements for Filterra® Systems

Plant Material Selection



- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6" above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21" media depth, a 7 – 15 gallon container size shall be used. Media less than 21" (Filterra boxes only) may require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some with a tree grate of the faster growing species, or species known to produce basal sprouts.

Plant Installation

- During transport protect the plant foliage from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that meets Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the top/tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6' Filterra approximately 20-60 gallons of water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate then calculate the time needed to irrigate the Filterra. For example, if the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6' by 6' filter.

Appendix 3 – Filterra® Tree Grate Opening Expansion Procedure

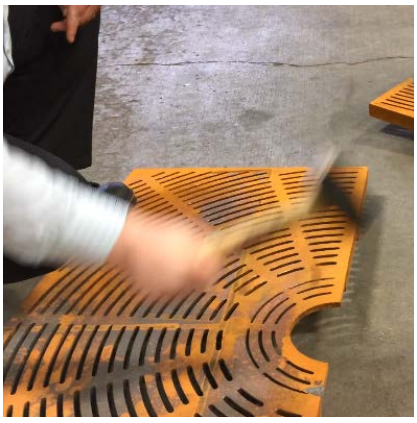
The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:

1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.

3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.

1.6 Rain Guardian Maintenance Requirements

RAIN GUARDIAN
U.S. PATENT NO. 8,501,016

PRETREATMENT FOR BIORETENTION

Rain Gardens • Swales • Filtration Basins • Infiltration Basins


COMMERCIAL/INDUSTRIAL


RESIDENTIAL

Maintenance Guide

Rain Guardian pretreatment chambers simplify bioretention maintenance by collecting sand, leaves, grass clippings, and other debris in an easy to clean, confined location. Regularly maintaining the Rain Guardian sustains its functionality by maximizing storage and filtration capacities. Maintenance frequency is variable and depends on many factors such as rainfall frequency, drainage area size and land use type, and season of the year. The general cleaning process is identical for the Rain Guardian Turret and Rain Guardian Bunker.

Following rain events, inspect the pretreatment chamber for debris on the top metal grate, within the chamber, and on the vertical, drop-in filter wall. The maintenance steps described below should be completed if areas of the top metal grate are clogged, the chamber is >75% full, or the vertical filter wall is clogged. Maintenance should be completed when stormwater has completely drained from the bioretention practice. The filter wall allows the chamber to dry between rain events, which further simplifies maintenance by ensuring removed debris is largely dry. Ensure all debris collected during cleaning of the chamber is completely removed from the site and properly disposed of according to local environmental rules. Once cleaning is complete, reinstall the filter wall with filter fabric facing the inside of the chamber and replace the top metal grate.


Clear Debris from Top Metal Grate

- Leaf litter and garbage commonly accumulate on the top metal grate
- Simply remove and dispose of debris by hand or with a shovel prior to removing top grate


Remove Debris from Inside Chamber

- Remove top metal grate and place on paved inlet to avoid damage to nearby plants
- Remove and dispose of accumulated debris within chamber using a shovel


Clean Filter Wall

- Remove drop-in filter by lifting vertically
- Clean filter wall with a stiff bristled broom or rinse clean with pressurized water

www.RainGuardian.biz

ANOKA CONSERVATION DISTRICT
1318 McKay Dr. NE, Suite 300
Ham Lake, MN 55304
(763) 434-2030 (M-F 8:00-4:30)

1.7 Snow & Ice Management for Standard Asphalt and Walkways

There is a snow storage area on site. The property manager will be responsible for timely snow removal from all private sidewalks, driveways, and parking areas. Once the snow storage area has reached capacity, all additional snow will be hauled off-site and legally disposed of. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical.

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

Section 2
Invasive Species

The project is to be managed in a manner that meets the requirements and intent of the Maine Department of Agriculture, Conservation & Forestry (DACF), Division of Plant and Health chapter 273 relative to invasive species.

Section 3
Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including MaineDEP.

Copies of the Stormwater Maintenance report shall be submitted to the Town of Kittery on an annual basis.

Stormwater Management Report						
Kittery Mixed-Use Development		**283 US Route 1 – Map 30 Lot 44**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Rain Garden			❑Yes ❑No			
Filterra Tree Box Filter 1			❑Yes ❑No			
Filterra Tree Box Filter 2			❑Yes ❑No			
Filterra Tree Box Filter 3			❑Yes ❑No			
Filterra Tree Box Filter 4			❑Yes ❑No			
Filterra Tree Box Filter 5			❑Yes ❑No			
Filterra Tree Box Filter 6			❑Yes ❑No			
Filterra Tree Box Filter 7			❑Yes ❑No			
Rain Guardian			❑Yes ❑No			

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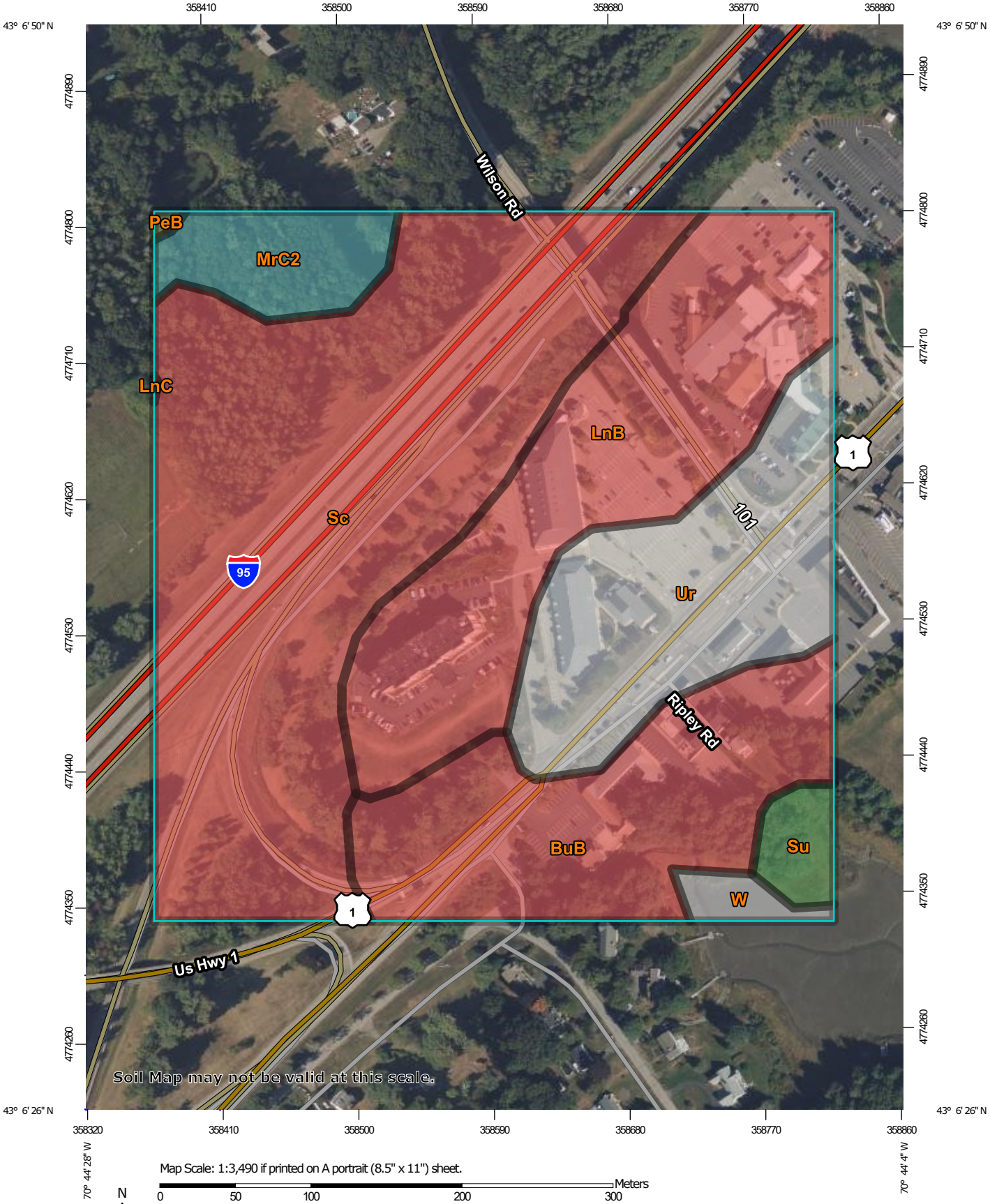
100% Recyclable

APPENDIX D



Map Scale: 1:3,490 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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 Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 22, 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 imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Buxton silt loam, 3 to 8 percent slopes	D	8.5	16.2%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	11.0	20.9%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	D	0.0	0.0%
MrC2	Marlow fine sandy loam, 8 to 15 percent slopes	C	2.3	4.4%
PeB	Peru fine sandy loam, 3 to 8 percent slopes	C/D	0.1	0.1%
Sc	Scantic silt loam, 0 to 3 percent slopes	D	21.5	41.0%
Su	Pemaquid, Todds point, and Damariscotta soils, 0 to 2 percent slopes	A/D	0.9	1.7%
Ur	Urban land		7.6	14.5%
W	Water bodies		0.6	1.1%
Totals for Area of Interest			**52.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX E

REDEVELOPMENT STORMWATER TREATMENT REQUIREMENT CALCULATION SHEET		
TOTAL WATERSHED AREA (AC)	7.06	

EXISTING CONDITIONS		
LAND USE POLLUTANT RANKING # (SEE TABLE 2) Column-1	LAND USE AREA (AC) Column-2	RANKING# = Column-1 x Column-2
5	-	-
4	4.03	16.13
3	-	-
2	1.16	2.33
1	1.86	1.86
0	-	-
TOTAL EXISTING IMPACT RATING		**20.32**
RATING / REDEVELOPMENT AREA		**2.88**

PROPOSED DEVELOPMENT CONDITIONS		
LAND USE POLLUTANT RANKING # (SEE TABLE 2) Column-1	LAND USE AREA (AC) Column-2	RANKING# Column-1 x Column-2
5	-	-
4	2.76	11.05
3	-	-
2	2.17	4.34
1	2.13	2.13
0	-	-
PROPOSED IMPACT RATING		17.52
RATING / REDEVELOPMENT AREA		**2.48**
RANKED IMPACK CHANGE DUE TO REDEVELOPMENT (PROPOSED RATING - EXISTING RATING)		**(0.40)**

TOTAL PROPOSED IMPREVIOUS AREA (SF)	197,764
PERCENT OF DEVELOPMENT TO BE TREATED	50%
AREA REQUIRED TO BE TREATED (SF)	98,882
PROPOSED AREA TO BE TREATED (SF)	118,952
PERCENT OF DEVELOPMENT AREA TREATED	**60.1%**

Table 2
Pollutant Impact Rankings of Various Redevelopment Land Uses

Land Use	Pollutant Ranking
Roads where idling may occur periodically due to traffic volume and intersections; High use parking lots	5
Other roads; Medium use parking lots	4
Other parking lots and driveways; Flat asphalt rooftops; Roofs on an industrial facility	3
Other rooftops; Bikeways; Grassed areas mowed more than twice per year; Walkways/foot traffic-only pavement	2
Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers)	1
Forest; Meadow mowed no more than twice per year;	0

Table 3
Treatment Levels for Redevelopment Projects

Ranked Impact Change Due to Redevelopment	Percentage of Developed Area that Must be Treated
0.0 or less	0% (Stormwater projects) 50% (Site projects)
≥ 0.0 to ≤ 1.0	60%
> 1.0 to ≤ 2.0	70%
> 2.0 to ≤ 3.0	80%
> 3.0	Same treatment level as for new development

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APPENDIX F

Tighe&Bond

Project: Kittery Mixed-Use Development
Location: Kittery, Maine
T&B #: T5037-003
Calculations By: CML
Checked By: NAH
Date: 10/3/2023

APRON DESIGN

Terms: FES 1

length of apron (ft.)	L_a	
discharge from pipe (cfs)	Q	(10 YR STORM EVENT)
pipe dia. or channel width (ft.)	Do	
tailwater depth (ft.)	T_w	
width of apron (at outlet)(ft)	W1	
width of apron (downstream)(ft)	W2	
median stone diameter (ft.)	d_{50}	

Equations Used:

Length of Apron (L_a)

when Tw < .5*Do $L_a = \frac{1.8(Q)}{Do^{(3/2)}} + 7Do$

when Tw >= .5*Do $L_a = \frac{3(Q)}{Do^{(3/2)}} + 7Do$

Width of Apron (W1)

$W1 = 3Do$

Width of Apron (W2)

when Tw < .5*Do $W2 = 3Do + La$

when Tw >= .5*Do $W2 = 3Do + 0.4La$

Median Diameter $d_{50} = \frac{0.02 * Q^{(1.3)}}{(Tw * Do)}$

Input:

Q (cfs)	4.20	cfs
Do (ft.)	1.00	ft
T_w (ft.)	0.40	ft

Output:

Width of Apron (W1)	3	ft.
Width of Apron (W2)	18	ft.
Length of Apron (L_a)	15	ft.
Median Diameter	0.50	ft.
Riprap min. depth	1.13	ft.

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35 Bow Street
Portsmouth, New Hampshire
03801-3819

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

February 12, 2024

Maxim Zakian, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

RE: Town of Kittery, Planning Board Services
283 Us Route 1 Mixed Use Development Final Review
Tax Map 30, Lot 44
CMA #591.166

Dear Max:

CMA Engineers has received the following information for Assignment #166 – review of the final plans for the proposed the mixed-use development project at 283 US Route 1 (Tax Map 30, Lot 44):

1) "Kittery Mixed-UseDevelopment (sic), 283 US Route 1, Kittery, Maine, Permit Drawings, October 5, 2023" prepared by Tighe & Bond, 177 Corporate Drive, Portsmouth, NH 03801
2) "Kittery Mixed-Use Development, Kittery, Maine, Drainage Analysis Prepared for Two International Group, 1 Hampshire Ave, Suite 123, Portsmouth, NH 03801, October 5, 2023" prepared by Tighe & Bond.

This application is for a proposed mixed-used development consisting of a 119-key hotel, a restaurant building, and a 107-unit residential building on Tax Map 30, Lot 44 at 283 US Route 1. The design engineer is Tighe & Bond of Portsmouth, NH, for Two International Group of Portsmouth, NH. The project is located in the Commercial 1 (C-1) Zone with access from Old Wilson Road off of Route 1. The proposed hotel and restaurant buildings are located at the front (southeast) of the site along Route 1 with the residential building behind and adjacent to Interstate 95. The facilities would be served by the Kittery Sewer Department, and the Kittery Water District. There are no wetlands on site. Residential multifamily housing is a special exception use in the C-1 Zone.

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

16.7 General Development Requirements

16.7.11 Performance Standards and Approval Criteria

16.7.11.A. Water supply

The applicant should secure written confirmation from Kittery Water District with respect to design approval and capacity.

16.7.11.B Sewage disposal

The applicant should secure written confirmation from Kittery Sewer Services with respect to design approval.

16.7.11.C Stormwater and Surface Drainage

The proposed stormwater management system uses a reduction in impervious area, tree box filters, closed drainage and a rain garden to reduce peak flows post-construction.

16.7.11.C.(3)(a): The minimum pipe size is specified as 12" but the tree box filters use bypass pipes that are 10". The applicant has requested a waiver. Given the small flow volumes that the bypass pipes will potentially carry, we think this waiver is appropriate.

16.7.11.D(4)(a)[2]: The underground detention systems are constructed of corrugated metal pipe (CMP). The applicant should provide notes on the detail for conformance with the Ordinance.

We have the following comments on the drainage analysis:

1. The inverts and pipe length for PDMH-1 are different on the plans and in the model.
2. The Post Development Watershed Plan should show the ponds that are on the Routing Diagram.
3. The Post Development Watershed Plan legend defines the symbols as Pre-Development.
4. The inlet invert for PDMH-09 is different on the plans and in the model.
5. The pipe length from PTBF-05 to PDMH-16 is different on the plans and in the model.
6. Are there access ports on the underground detention systems for maintenance?
7. Tables 1.5 and 1.6 reference NH Stormwater Manual removal efficiencies. Are there corresponding Maine data?
8. The O&M manual should contain a section on underground detention system maintenance.

16.7.11.F. Parking and Loading

16.7.11.F.(4)(g) – The applicant should provide calculations to show that the parking landscaping requirements are met.

16.7.11.H: Exterior Lighting

16.7.11.H.(1)(e)[1] – The mounting height of the lights between the building and the front property line is higher than 15 feet. The lighting should meet the Ordinance or the applicant should apply for a waiver.

16.7.11.H.2.a – The applicant should provide uniformity ratios to show compliance with the Ordinance.

General Comments

We have the following comments on the **plans**:

1. The impervious areas on Sheet C-102 (186,910 SF) and Sheet C-103 (191,183 SF) do not match.

Boundary and Topographic Survey

1. The sanitary sewer and storm drain linetypes do not match those shown in the legend.
2. The existing water main size and material should be shown on the plan.
3. Gate valves should be shown on the plan

C-101: Existing Conditions/Demolition Plan

1. The water line to be removed behind the 1 one story building is not shown tying into any other water main. What does it connect to? What are the details of this removal? Is work required in US Route 1?
2. The existing water main size and material should be shown on the plan.
3. Gate valves should be shown on the plan
4. Demolition Note references homes and existing businesses. Please clarify.

C-102: Site Plan

1. The impervious cover does not match the quantity on Sheet C-103.
2. Clarify the label “Proposed Dog Park (Coord w/ Arch”.
3. Site Note 4 references centerlines. Please remove.
4. There are two Site Note 13s.
5. Site Notes 18 and 13 (the second one) are the same.

C-103: Grading, Drainage & Erosion Control Plan

1. The impervious cover does not match the quantity on Sheet C-102.
2. Erosion Control Notes 1 and 8 are similar.

C-104: Utility Plan

1. The proposed water service tie-in to the existing service in Route 1 is not clear. The existing service size and material are not shown, and the existing service is not shown connected to a water main.

2. The applicant has indicated that sewer cleanouts are internally located. Please provide confirmation from Kittery sewer services that this is acceptable.

3. The proposed 8" water main is shown reconnecting to an existing fire hydrant. Is the existing main to the hydrant 8" or are reducers needed? There should be a gate valve for the hydrant.

C-105: Landscape Plan

1. The Conservation/Wildlife seed mix should be specified on the plan.
2. The number of street trees should be clearly shown for compliance with the ordinance.

C-501: Erosion Control Notes & Details Sheet

1. Vegetation Note 2.H. should specify the application rate of the seed mixture.
2. Note 1 under Concrete Washout Area appears to belong under Allowable Non-Stormwater Discharges.

C-502: Details Sheet

1. The two Concrete Sidewalk Tip-Down Ramp with Detectable Warning Panel details should be combined.

2. The plan view of the bottom Concrete Sidewalk Rip-Down Ramp with Detectable Warning Panel detail has test that is not legible.

3. Reference the Cast Iron Detectable Warning Surface detail on Sheet C-503 in Note 3 of the Concrete Sidewalk Tip-Down Ramp with Detectable Warning Panel detail.

C-504: Details Sheet

1. The Underground Detention Systems detail should have notes for the corrugated metal pipe showing conformance with the ordinance.

2. Note 2 references a professional engineer licensed in NH.

3. The Typical Filterra Internal Bypass Curb with Chamber (Tree Box Filter) detail indicates that there are 9 tree box filters but 7 are shown on the plan.

4. Provide a Polyethylene Liner detail as referenced in the 4' Diameter Catch Basin detail or remove the reference.

C-505: Details Sheet

1. Provide a water service detail with shutoff, etc.
2. Amend Note 2 of the Typical Water Trench detail to read "Water main shall be installed per Kittery Water District standards" (not Town of Kittery).

3. Amend Note 5 of the Water Sewer Crossing to read "…conform to the Town of Kittery DPW and Kittery Water District standards…).

4. Remove the green line on the Typical Retaining Wall Section detail.

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

Very truly yours,

CMA ENGINEERS, INC.

Jodie Bray Strickland, P.E.
Senior Project Engineer

JBS/vpt

cc: Neil Hansen, P.E., Tighe & Bond

TOWN OF KITTERY, MAINE

SEWER DEPARTMENT

200 Rogers Road, Kittery, ME 03904

Telephone: (207) 439-4646 Fax: (207) 439-2799

October 18, 2023

Re: Treatment Plant Capacity-Acceptance letter
283 US Route 1
Kittery, ME 03904

This letter is to confirm the acceptance of sanitary sewer discharge for the proposed Project at 283 US Route 1 in the Town of Kittery Maine. The sewer system (piping and pumping stations) and the treatment plant will have the capacity and ability to handle the discharge flow requiring treatment and disposal.

This project must follow all specifications in accordance with design and performance standards set by the Kittery Sewer Department found in Title 13 of the Town Code.

Before the connection to the Kittery Sewer line, you will need to obtain a sewer permit from the Town of Kittery and pay all Impact and Entrance fees.

During the engineering and construction process plans may change, if they do, consideration for acceptance may change. Please notify me of any changes in design or construction.

If you have further questions or concerns, please contact me.

Sincerely,

Timothy Babkirk
Town of Kittery
Superintendent of Sewer Services
1-207-439-4646
tbabkirk@kitteryme.org