SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE
PORTSMOUTH, NEW HAMPSHIRE

CONFERENCE ROOM A
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

Members of the public also have the option to join the meeting over Zoom
*(See below for more details)**

2:00 PM **October 7, 2025**

AGENDA

I. OLD BUSINESS

A. The request of **Robert M. Snover Revocable Trust (Owner),** for property located at **58 Humphrey's Court** requesting the Subdivision of an existing parcel into two new residential lots with the associated and required site improvements. The proposed "Lot 1" is 5,003 square feet with 80 feet of frontage and the proposed "Lot 2" is 5,002 square feet with 104.81 feet of frontage. The creation of the proposed lots would require the removal of the existing structure. Said property is located on Assessor Map 101 Lot 47 and lies within the General Residence B (GRB) and Historic Districts. (LU-25-108)

II. NEW BUSINESS

A. The request of **Brora LLC (Owner),** for property located at **150 Portsmouth Boulevard** requesting Site Plan Review Approval for the construction of three (3), six (6) story multifamily residential buildings with associated site work including parking, driveway access, utility, drainage, landscaping, and lighting improvements. and reconstruction of Portsmouth Boulevard in front of the development. Said property is located on Assessor Map 213 Lot 12 and lies within the Office Research (OR) and Gateway Neighborhood Overlay (GNOD) Districts. (LU-25-114)

III. ADJOURNMENT

**Members of the public also have the option to join this meeting over Zoom, a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this into your web browser:*

https://us06web.zoom.us/webinar/register/WN_OQwJkRuGROW-mhbTNoT3MA

HALEY WARD
200 Griffin Road, Unit 14, Portsmouth, NH 03801
Phone (603) 430-9282

26 September 2025

Peter Stith, TAC Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: TAC Submission - Subdivision Review at 58 Humphrey's Court, Tax Map 101, Lot 47

Dear Mr. Stith and TAC Members:

On behalf of the Robert M. Snover and Darcy E. Davidson, Trustees of the Robert M. Snover Revocable Trust, we are pleased to submit the revised Subdivision Plan for continued **Technical Advisory Committee Review** for the above-mentioned project and request that we be placed on the agenda for your **October 7, 2025,** Meeting. The plan revision shows the proposed lot division into two lots based on the plan of land from 1900 that created most of the parcels in the immediate vicinity.

The proposed subdivision meets the Zoning Ordinance and Subdivision Regulation standards with the exception of the requirement for a frontage variance for one of the lots. The owner acknowledges that the creation of the proposed lots would require the removal of the existing structure. As on other projects with this requirement, the timing would be a condition of the approval and subdivision plan recording.

The following plan is included in our submission:

- Subdivision Plan – This plan shows the proposed lot lines.

We look forward to an in-person presentation and TAC review of this submission, and respectfully request a positive recommendation to the Planning Board.

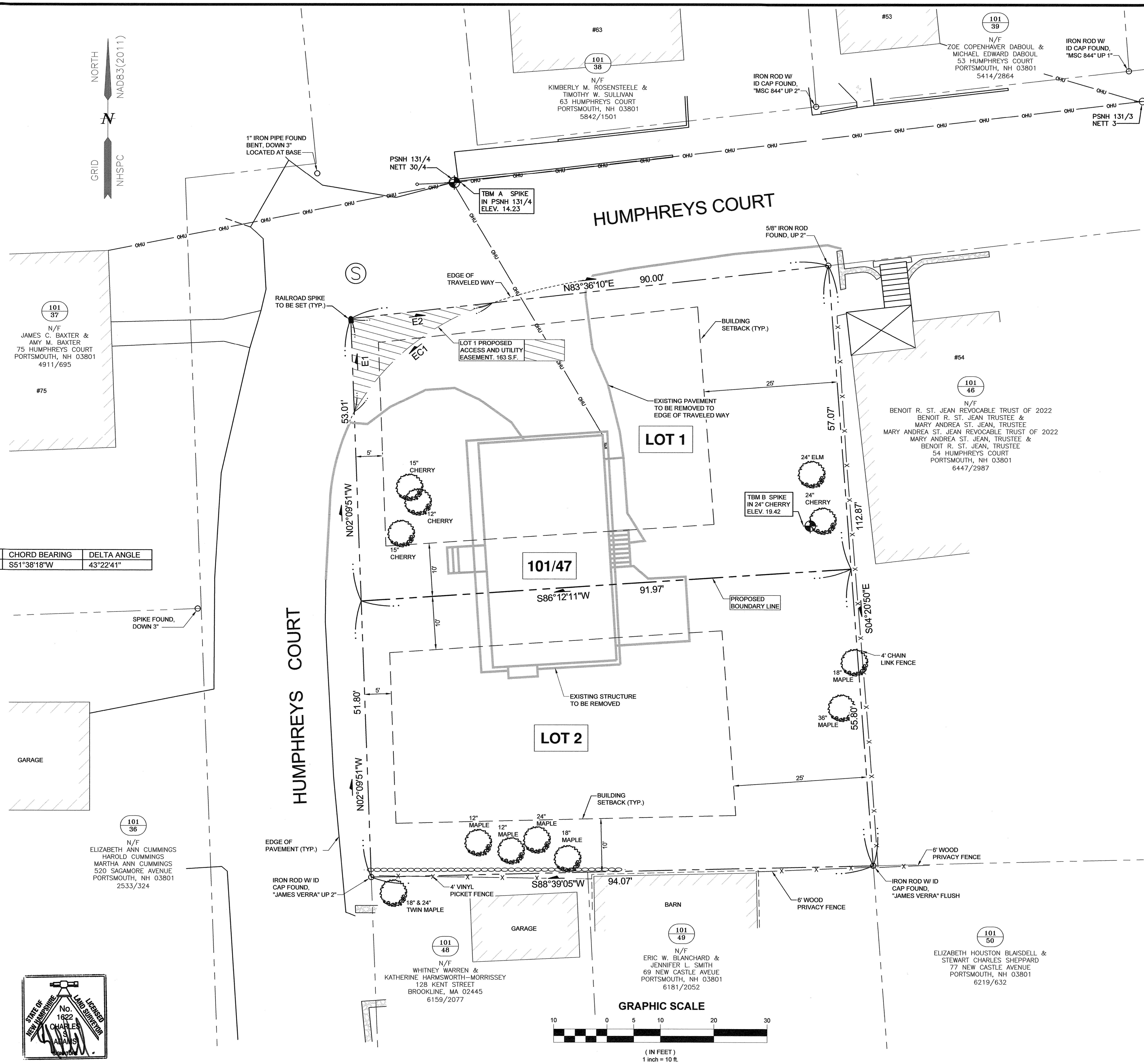
Sincerely,

John Chagnon, PE
Senior Project Manager

P:\NH\5010515-Robert_Snover\001-58 Humphreys Court, Portsmouth - CSA\03-WIP_Files\Applications\Portsmouth Subdivision\TAC Submission Letter 9-26-25.doc

LEGEND:

DESCRIPTION	SYMBOL
ASSESSOR'S MAP & LOT	101/20
BENCHMARK	
FINISHED FLOOR	F.F.
HYDRANT	
IRON ROD/ IRON PIPE FOUND	
RAILROAD SPIKE SET	
NOW OR FORMERLY	N/F
SEWER MANHOLE	S
TEMPORARY BENCHMARK	TBM
TREE	
UTILITY POLE	
WATER GATE VALVE	WGV
WATER SHUT OFF	S
EDGE OF GRAVEL	
EDGE OF PAVEMENT	
FENCE	X X
OVERHEAD UTILITY LINE	OHU
APPROXIMATE ABUTTER'S PROPERTY LINE	
PROPERTY LINE	
STONE WALL	
EDGE OF TRAVELED WAY	
TIE / REFERENCE LINE	



EASEMENT TABLE

E1	N02°09'51"W	17.49'
E2	N83°36'10"E	26.67'

EASEMENT CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
EC1	44.58'	33.75'	32.95'	S51°38'18"W	43°22'41"

PLAN REFERENCES:

1. PROPERTY OF W.G.MARSHALL AND HEIRS OF W.P. BENNETT PORTSMOUTH, N.H., DATED: APRIL 10, 1900, PREPARED BY: L.E. SCRUTON, C.E., RCRD PLAN #0092.
2. PLAN OF LAND PORTSMOUTH, N.H. FOR: EDMUND L. PRICE, SCALE: 1" = 20', DATED: NOVEMBER 1983, PREPARED BY JOHN W. DURGIN ASSOCIATES, INC., RCRD C-12278.
3. SKETCH OF LAND, 58 HUMPHRETS COURT PORTSMOUTH, N.H., FOR HAROLD WHITEHOUSE, SCALE: 1" = 20', DATED: 8/31/98, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., NOT RECORDED.
4. SUBDIVISION OF LAND NEW CASTLE AVE. & MARCY ST. PORTSMOUTH, NEW HAMPSHIRE FOR EDMUND L. PRICE, SCALE: 1" = 20', DATED: 7-31-03, PREPARED BY: JAMEV VERRA & ASSOCIATES, INC., RCRD D-31582.
5. STANDARD BOUNDARY SURVEY, TAX MAP 101 LOT 39, PROPERTY OF ZOE DABOUL, 35 HUMPHREY'S COURT, COUNTY OF ROCKINGHAM, PORTSMOUTH, NEW HAMPSHIRE, SCALE: 1" = 10', DATED: MARCH 8, 2012, PREPARED BY: MSC CIVIL ENGINEERS & LAND SURVEYORS, RCRD D-37165.
6. STANDARD BOUNDARY SURVEY TAX MAP 101-LOT 43, PREPARED FOR STEVE CRAIGE LAND OF BRIAN J. BEDNAREK, 10 HUMPHREY'S COURT CITY OF PPORTSMOUTH, COUNTY OF ROCKINGHAM, NEW HAMPSHIRE, SCALE: 1" = 10', DATED: 4/10/17, PREPARED BY AMBIT ENGINEERING, INC., NOT RECORDED.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

09-26-2025

CHARLES S. ADAMS, LLS DATE

STATE OF NEW HAMPSHIRE CHARLES S. ADAMS No. 1622 LICENSED LAND SURVEYOR

FILE LOCATION: P:\NH\5010515-ROBERT_SNOVER\001-58 HUMPHREYS COURT, PORTSMOUTH - CSA\02-CAD_FILES\5010515-SITE.DWG, 2025.09.26, 8:26 AM

LOCATION MAP SCALE: 1" = 200'

NOTES:

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 101 AS LOT 47.
2. OWNERS OF RECORD:
   ROBERT M. SNOVER REVOCABLE TRUST
   DARCY E. DAVIDSON, TRUSTEE
   ROBERT M. SNOVER, TRUSTEE
   60 TJ GAMESTER AVENUE
   PORTSMOUTH, NH 03801
   6589/369
   RCRD PLAN #0092 LOTS 9&10
3. PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F. EFFECTIVE JANUARY 29, 2021.
4. EXISTING LOT AREA:
   10,005 S.F.
   0.2297 ACRES

   PROPOSED LOT AREAS:
   LOT 1: 5,003 S.F.
   0.1149 ACRES

   LOT 2: 5,002 S.F.
   0.1148 ACRES
5. PARCEL IS LOCATED IN GENERAL RESIDENCE B (GRB) AND HISTORIC OVERLAY DISTRICT.
6. DIMENSIONAL REQUIREMENT:

MIN LOT AREA:		5,000 S.F.
FRONTAGE:		80 FEET
SETBACKS:	FRONT	5 FEET
	SIDE	10 FEET
	REAR	25 FEET
MAXIMUM STRUCTURE HEIGHT:		35 FEET
MAXIMUM BUILDING COVERAGE:		30%
MINIMUM OPEN SPACE:		25%

7. VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE SUBDIVISION OF ASSESSOR'S MAP 101 LOT 47 IN THE CITY OF PORTSMOUTH INTO 2 LOTS.
9. ABUTTING STRUCTURE LOCATIONS SHOULD BE CONSIDERED APPROXIMATE ONLY.

REV.	DATE	DESCRIPTION	BY	CHK.
3	9/26/2025	PROPOSED PROPERTY LINE	CSA	JRC
2	8/21/2025	PROPERTY LINE	CSA	JRC
1	7/21/2025	ISSUED FOR APPROVAL	CSA	JRC
0	05/29/2025	ISSUED FOR COMMENT	SJR	JRC

DRAWING ISSUE STATUS

SITE PLANS

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
200 Griffin Road, Unit 14
Portsmouth, NH 03801
603-430-9282
WWW.HALEYWARD.COM

PROJECT

ROBERT M. SNOVER TRUST
58 HUMPHREY'S COURT, PORTSMOUTH, N.H.

TITLE

SUBDIVISION PLAN

DATE	SCALE	
MAY 2025	1" = 10'	
DRAWN BY	DESIGNED BY	CHECKED BY
SJR	SJR/JRC	JRC
PROJECT No.	FIELD BOOK & PAGE	
5010515	FB 379 PG 45	
DRAWING No.	REV.	
C201	3	

K0076-065
September 22, 2025

Mr. Peter Britz, Director of Planning & Sustainability
City of Portsmouth Planning & Sustainability Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Request for Site Plan Review & Conditional Use Permits Review**
Map 213 Lot 12 – Proposed Multi-Family Development

Dear Peter:

On behalf of Brora, LLC (Owner) and The Kane Company (Applicant) we are pleased to submit one (1) set of hard copies and one electronic file (.pdf) of the following information to support a request for a Site Review Permit and a Wetland Conditional Use Permit for the above referenced project.

Documents for the attention of the Technical Advisory Committee:

- One (1) 22x34 & one (1) 11x17 copy of the Site Plan Set, last revised September 22, 2025;
- Historical Site Overlay Exhibit, dated July 30, 2025;
- Wetland Buffer Exhibit, dated September 22, 2025;
- Fire Truck Turning Exhibit, dated September 22, 2025;
- Community Space Exhibit, dated September 22, 2025;
- Grade Plane Exhibit, dated September 22, 2025;
- Architectural Shadow Studies, dated September 2025;
- Green Building Statement, dated September 18, 2025;
- Drainage Analysis, dated September 22, 2025;
- Long-Term Operation & Maintenance Plan, dated September 22, 2025;
- Water & Wastewater Demand Analysis, dated September 22, 2025;
- Hillside Multifamily Development Project Resource Area Delineation Memo, dated September 17, 2025;
- Traffic Impact Study, dated September 22, 2025;
- Site Review Checklist, dated September 22, 2025;
- Wetland Conditional Use Permit Checklist, dated September 22, 2025;
- Lighting Cut Sheets;
- Application Fee Calculation Form;
- Authorization Form

PROJECT SUMMARY

Existing Conditions

The proposed project is located on a parcel of land along Portsmouth Boulevard that is identified as Map 213 Lot 12 on the City of Portsmouth Tax Maps. The property is bound to the north by Portsmouth Boulevard, to the west by the Hilton Homewood Suites, to the south by residences on Osprey Drive and to the east by residences on Dunlin Way. The site is currently undeveloped. This property is an 8.4-acre parcel of land located in the Office

Research District and the Gateway Neighborhood Overly District (GNOD). The northern portion of the parcel along Portsmouth Boulevard, that contained multiple housing structures and parking areas prior to the mid-1990's, gently slopes up from north to south, and then approximately one-third of the way into the parcel the topography changes to a steep slope that plateaus in the south corner of the site after grade change of approximately 50- feet in elevation.

Proposed Redevelopment

The proposed project will be permitted under the recently adopted GNOD Overlay District regulations. As currently designed, the project will include three (3), six (6) story multifamily residential buildings consisting of approximately 274 dwelling units. With approval from the City Council, the Applicant will be proposing a Land Transfer to the City on separate property in order to achieve the Density Bonus offered by the Land Transfer Incentive Option (Section 10.686.30) and allow for six (6) story construction with up to 120 dwelling units per building.

The three (3) proposed buildings will be located along the frontage of Portsmouth Boulevard with associated parking located at the rear of buildings. Tenant amenity areas are anticipated to be provided on the first floor of the buildings with the primary amenities being centrally located in the middle building. The buildings will be connected by attractively landscaped and hardscaped outdoor amenity areas. The south portion of the site, where there is a significant change in grade, will remain undeveloped to provide a buffer between the proposed development and the existing residences along Osprey Drive. This south portion of the site is anticipated to be improved with walking paths and landscape features for outdoor recreation and will be the location of the required community space area. The section of Portsmouth Boulevard along the frontage of the subject property is proposed to be reconstructed with a new sidewalk and parking spaces to promote connection between the development and the surrounding neighborhood. Approximately 59% of the parcel is proposed to remain as open space post-construction.

Wetland Buffers

The proposed project results in work within the 100-foot wetland buffer. Therefore, a Wetland Conditional Use Permit is required for demolition and construction activities.

Wetlands are not located on the development parcel (Map 213 Lot 12), but rather on parcels located on the opposite side of Portsmouth Boulevard (Map 216, Lot 1-8A, Map 213 Lot 11). The 100-foot buffer in the vicinity of the project site extends across the right-of-way and into the development site. The buffer consists of the paved roadway of Portsmouth Boulevard and degraded, roadside habitat with disturbed areas of compacted gravel in addition to forested and open meadow areas with a moderate density of invasive vegetation. Stormwater flow from this section of the 100-foot buffer currently flows untreated into the wetlands as Portsmouth Boulevard lacks a stormwater treatment system.

Existing impervious areas within the buffer can be seen on the "Wetland Buffer Impervious Surface Exhibit" included under this submission. Under Section 10.1016(2) of the City of Portsmouth Zoning Ordinance, improvements to existing public rights-of-way and sidewalks are permitted in wetlands and wetland buffers. The reconstruction of Portsmouth Boulevard and its sidewalks within the wetland buffers are therefore considered permissible, and resulting impacts are not quantified.

Existing impervious areas within the development parcel include a compacted gravel drive. Impervious areas under the proposed condition within the buffer include a portion of Building A, a retaining wall, and a small portion of stairs connecting the site to the pedestrian sidewalk proposed along Portsmouth Boulevard. A comparison of the existing and proposed impervious areas within the buffer are numerically summarized in the following table (Table 1).

Table 1: 150 Portsmouth Boulevard, Wetland Buffer Impervious Surfaces

Buffer Segment	Existing Impervious (SF)	Final Impervious (SF)
0-25 feet	0	0
25-50 feet	0	0
50-100 feet	965	5,940
Total	965	5,940
Net Impervious Surface	**+4,975**	

The proposed site development includes a net increase in impervious areas within the 100-foot buffer (+4,975 sf). In order to offset this impact, the entirety of stormwater runoff within the right-of-way along the frontage of the development is proposed to be treated prior to discharge into the wetland using surface-level biofiltration systems. This amounts to almost 1 acre (42,250 sf) of treated impervious area within the right-of-way which does not contain stormwater treatment under the existing condition. The north edge of Portsmouth Boulevard is proposed to be planted with low-maintenance native grasses and trees in order to enhance the buffer and right-of-way.

LAND USE PERMIT APPLICATIONS

Local Permitting Timeline

The proposed project will require the following site-related approvals from the Planning Board:

- Site Plan Review Permit
- Wetland Conditional Use Permit

To date the applicant has attended the following meetings with the local land-use boards related to the Site Plan:

- March 20th, 2025 – Planning Board Conceptual Consultation
- June 18th, 2025 – Planning Board Design Review
- August 6th, 2025 – Conservation Commission Site Walk
- August 12th, 2025 – Technical Advisory Committee Work Session
- August 13th, 2025 – Conservation Commission Work Session

The project will also require the following approvals from the New Hampshire Department of Environmental Services (NHDES):

- Alteration of Terrain Permit
- Sewer Connection Permit

Site Plan Review Permit

The project will require a Site Plan Review Permit for the site improvements described above in the project summary. The project has previously met with the Planning Board for Conceptual Consultation, as well as the Technical Advisory Committee (TAC) and Conservation Commission (CC) for work sessions.

Zoning Compliance

The enclosed plans have been designed to comply with the City of Portsmouth Zoning Ordinance and specifically Section 10.680 – Gateway Neighborhood Overlay District within Article 6 – Overlay Districts.

CONDITIONAL USE PERMITS

Wetland Conditional Use Permit

Jurisdictional wetland areas are located on a separate property located north of the adjacent right-of-way (Map 216, Lot 1-8A, Map 213 Lot 11). The associated wetland buffer extends across the right-of-way and into the subject development parcel. A Conditional Use Permit for Wetland Buffer Impact will be required for the project for on-site work within the 100 ft wetland buffer.

Wetland Conditional Use Permit Criteria

Based on the above described and enclosed materials, the following addresses how the proposed project warrants the granting of a Wetland Conditional Use Permit by satisfying the following six (6) criteria for approval in Section 10.1017.50 of the Zoning Ordinance:

(1) The land is reasonably suited to the use, activity or alteration.

The proposed project design is an allowed use within the Gateway Neighborhood Overlay District. Prior to the mid-1990's, the land was home to multiple housing structures and parking areas within the proposed development area. Additionally, there were houses on the opposite side of the road within the areas now identified as wetlands which impose the wetland buffer on the subject property. Sometime between 1992 and 1998, these structures were removed from the site. The buffer area proposed to be impacted as part of the project is across a public Right-of-Way from the subject wetland area and consists of degraded, roadside habitat with compacted gravel soils. Stormwater runoff from the new impervious surfaces within the proposed buffer area will be collected and treated prior to discharge into the surrounding area.

(2) There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.

The location of the buildings in close proximity to lot frontage is driven by steep changes in topography into the southern portions of the parcel, consideration of building height and sight impacts with respect to abutters, and the restriction of location of parking facilities between principal buildings and the street (Section 10.1113.20). The placement of the proposed buildings and parking areas were sited in a way to reduce the areas of impervious surface within the wetland buffers while minimizing the impacts to the vegetated woodland area in the southern portion of the site which provides wildlife habitat and a natural screening buffer to the abutting residences. Impacts inside of the public right-of-way within the wetland buffer are a permitted use under Section 10.1016(2) of the City of Portsmouth Zoning Ordinance.

(3) There will be no adverse impact on the wetland functional values of the site or surrounding properties;

The buffer consists of the paved roadway of Portsmouth Boulevard and degraded, roadside habitat with compacted gravel surfaces, in addition to forested and open meadow areas with a moderate density of invasive vegetation. The proposed site development is not anticipated to create an adverse impact to the wetland function values or surrounding properties, as stormwater from additional impervious areas will be collected, detained, and treated prior to discharge to wetlands. Additionally, the entirety of stormwater runoff within the public right-of-way along the frontage of the development, which currently discharges untreated surface runoff into the wetlands, is proposed to be collected and treated prior to discharge using surface-level biofiltration systems. Additional native vegetation and trees are also proposed within buffer areas.

(4) Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals; and

The natural vegetative state and managed woodland on the north side of the right-of-way will be impacted only temporarily to the extent necessary in order to construct right-of-way improvements. Minimal removal of trees and vegetation within the managed woodland will be required to construct a stormwater outlet at the east edge of the development. Any temporary disturbances of the wetland buffer will be restored following construction.

(5) The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.

The proposed development is not anticipated to create an adverse impact on the existing buffer areas. The entirety of stormwater runoff within the right-of-way along the frontage of the development is proposed to be treated prior to discharge into the wetland using surface-level biofiltration systems, providing stormwater treatment within the right-of-way that it does not contain under the existing condition. All stormwater from the development parcel will be treated in accordance with City and State requirements. The northern edge of Portsmouth Boulevard is proposed to be planted with low-maintenance native grasses and trees in order to enhance the buffer and right-of-way, improving the existing condition which consists of a moderate density of invasive vegetation.

(6) Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

The proposed work within the vegetated buffer strip is limited to the reconstruction of Portsmouth Boulevard within similar limits that it exists today. Areas temporarily disturbed for the removal and reconstruction of paved areas within the vegetated buffer strip will be restored following construction. These impacts are inside of the public right-of-way within the wetland buffer are a permitted use under Section 10.1016(2) of the City of Portsmouth Zoning Ordinance.

CONCLUSION

As shown in the enclosed information, the proposed project is expected to create distinctive, appealing, and high-quality housing connected to the community while respecting abutting properties, surrounding natural resources, and development goals within the City.

We respectfully request to be placed on the TAC meeting agenda for October 7th, 2025. If you have any questions or need any additional information, please contact me by phone at (603) 294-9213 or by email at NAHansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

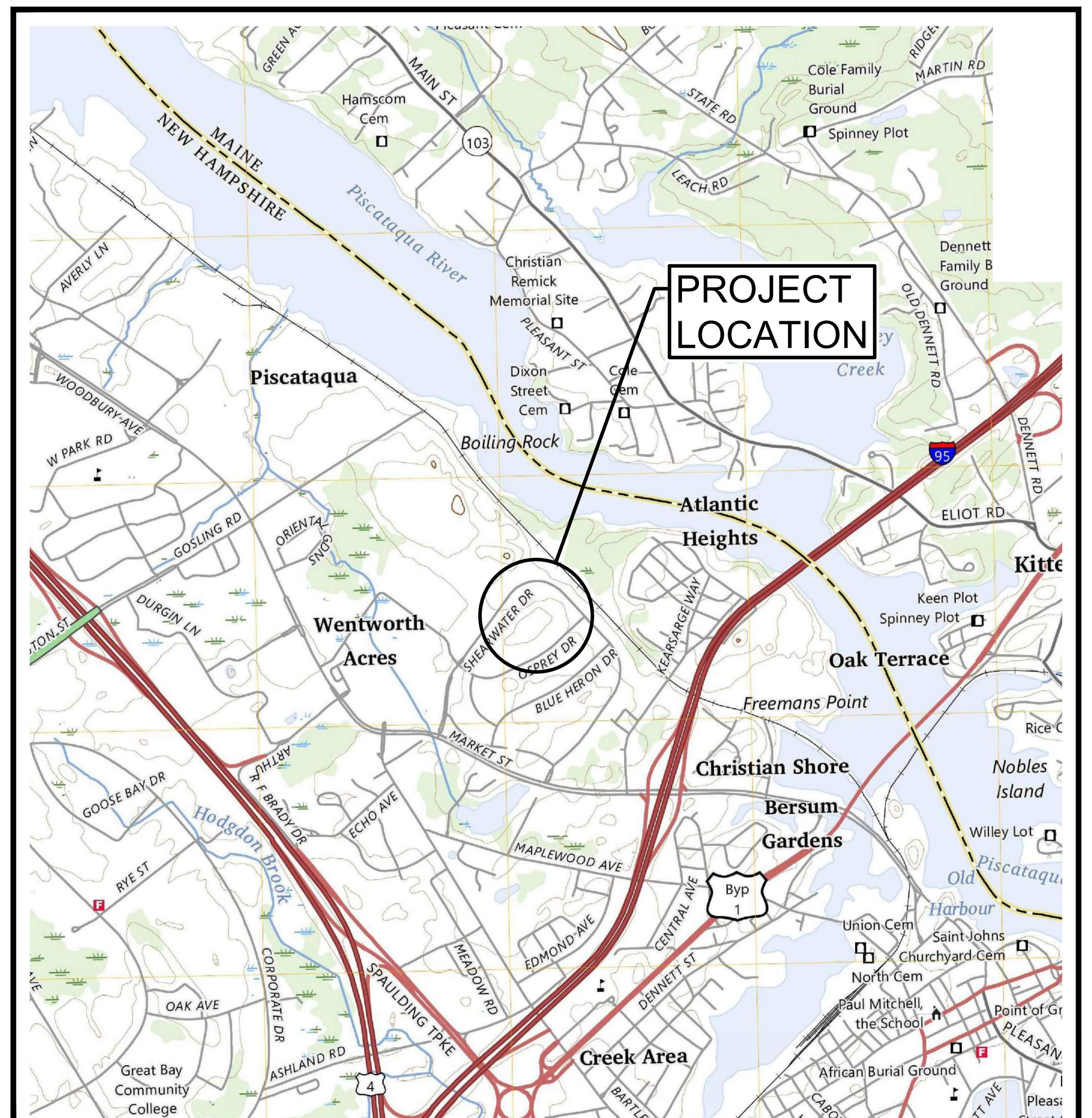
Copy: Brora LLC

\\tighebond.com\data\Data\Projects\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Reports\Applications\City of Portsmouth\20250922_TAC Submission\K0076-065 TAC Submission Letter.docx

PROPOSED MULTI-FAMILY DEVELOPMENT

150 PORTSMOUTH BOULEVARD
PORTSMOUTH, NEW HAMPSHIRE

SEPTEMBER 22, 2025



LOCATION MAP
SCALE: 1" = 2000'

PREPARED BY:
Tighe&Bond
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
603-433-8818

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

OWNER/APPLICANT:
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801

ARCHITECT:
PROCON, INC.
PO BOX 4430
MANCHESTER, NH 03108

SURVEYOR:
DOUCET SURVEY, LLC.
102 KENT PLACE
NEWMARKET, NH 03857

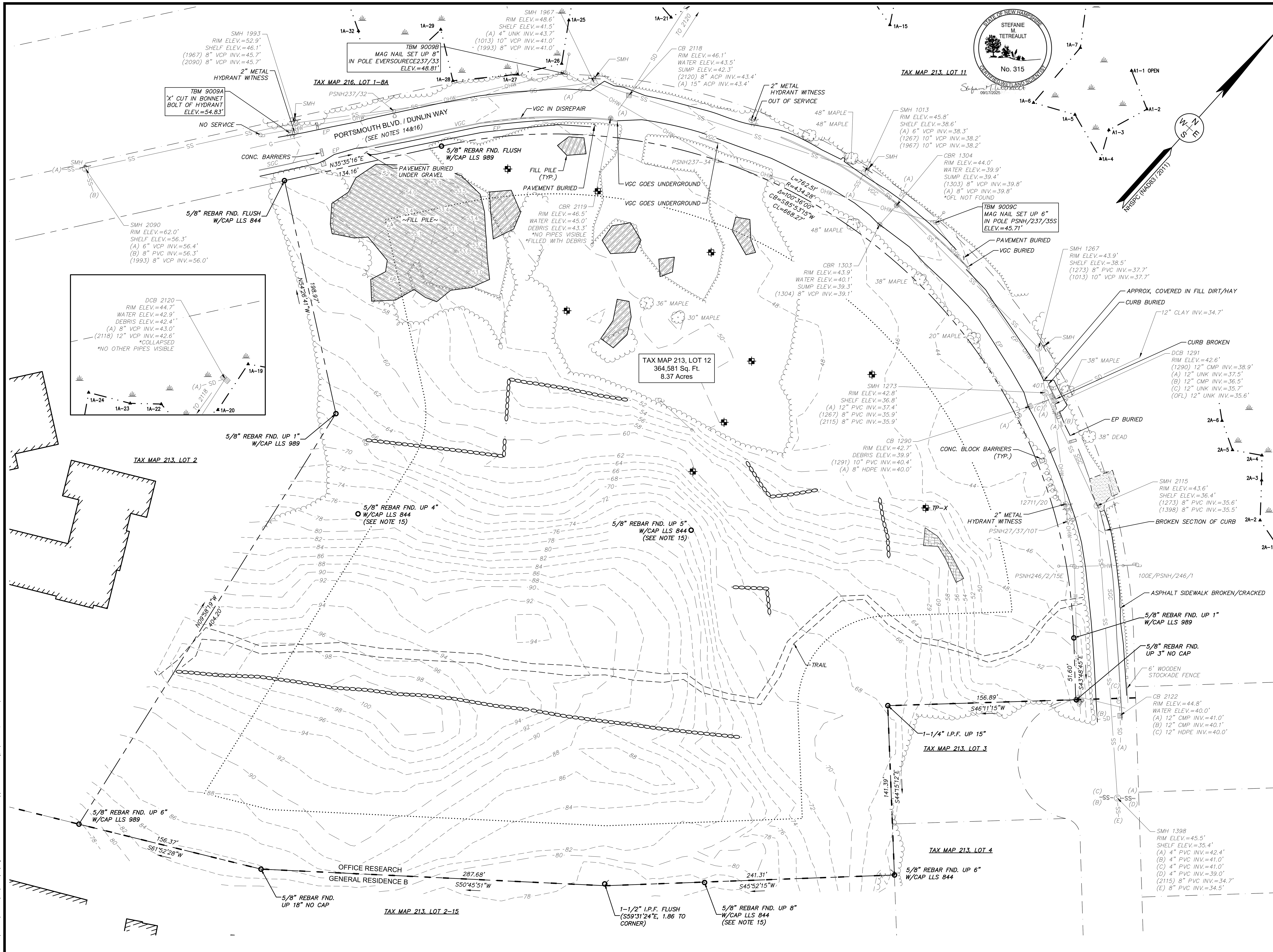
LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	UNDER REVIEW	
CONDITIONAL USE PERMIT - WETLAND BUFFER	UNDER REVIEW	
STATE		
NHDES - SEWER CONNECTION PERMIT	NOT SUBMITTED	
NHDES - ALTERATION OF TERRAIN PERMIT	NOT SUBMITTED	
FEDERAL		
NPDES - CONSTRUCTION GENERAL PERMIT	NOT SUBMITTED	

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.

TAC SUBMISSION SET
COMPLETE SET (24) SHEETS

Last Saved: 9/18/2025
Plotted On:Sep 22, 2025-11:27am By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-COVER.dwg



LEGEND

- EXISTING LOT LINE
- BUILDING SETBACK LINE
- 100 MAJOR CONTOUR LINE
- 98 MINOR CONTOUR LINE
- STONE WALL
- STOCKADE FENCE
- OHW OVERHEAD WIRE
- SD DRAIN LINE
- SS SEWER LINE
- G GAS LINE
- TREE LINE
- SHRUB LINE
- EDGE OF DELINEATED WETLAND
- WETLAND AREA
- CONCRETE
- CRUSHED STONE
- PILE
- LEDGE OUTCROP
- × 100.0 SPOT GRADE
- UTILITY POLE
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- UTILITY POLE STUMP
- CATCH BASIN
- DOUBLE CATCH BASIN
- SEWER MANHOLE
- FIRE HYDRANT
- PIPE/ROD FOUND
- SIGN
- POST
- DECIDUOUS TREE 10" DIA. OR GREATER
- TEST PIT LOCATION
- A-1 WETLAND FLAG
- ACP ASBESTOS CONCRETE PIPE
- CONC. CONCRETE
- CMP CORRUGATED METAL PIPE
- EP EDGE OF PAVEMENT
- HDPE HIGH DENSITY POLYETHYLENE PIPE
- I.P.F. IRON PIPE FOUND
- PVC POLYVINYL CHLORIDE PIPE
- SGC SLOPED GRANITE CURB
- TYP. TYPICAL
- UNK UNKNOWN
- VCP VITREOUS CLAY PIPE
- VGC VERTICAL GRANITE CURB
- (X) INVERT I.D. CONNECTION UNKNOWN

40 0 40 80

SCALE: 1 INCH = 40 FT.

EXISTING CONDITIONS PLAN

FOR

THE KANE COMPANY

LAND OF

BRORA LLC

(TAX MAP 213, LOT 12)

DUNLIN WAY & PORTSMOUTH BOULEVARD

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	9/3/25	REVISE WETLAND NOTE	MWF

DRAWN BY:	G.A.N.	DATE:	MARCH 2025
CHECKED BY:	M.W.F.	DRAWING NO.	9009A
JOB NO.	9009	SHEET	1 OF 2

DOUCET SURVEY A SAM Company

102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
Locations Nationwide | http://www.sam.biz

NOTES:

1. REFERENCE: TAX MAP 213, LOT 12
   DUNLIN WAY & PORTSMOUTH BOULEVARD
   PORTSMOUTH, NEW HAMPSHIRE 03801
   D.S. PROJECT NO. 9009

2. TOTAL PARCEL AREA: 364,581 SQ. FT. OR 8.37 AC.

3. OWNER OF RECORD: BRORA LLC
   210 COMMERCE WAY, SUITE 300
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 3465, PAGE 462

4. ZONE: OR – DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	3 AC.
MIN. FRONTAGE	300 ft.
MIN. FRONT SETBACK	50 ft.
MIN. SIDE SETBACK	75 ft.
MIN. REAR SETBACK	50 ft.
MIN. BUILDING HEIGHT	60 ft.

   ZONING INFORMATION LISTED HEREON IS BASED ON THE CITY OF PORTSMOUTH ZONING ORDINANCE AMENDED NOVEMBER 18, 2024 AS AVAILABLE ON THE CITY'S WEBSITE ON MARCH 25, 2025. ADDITIONAL REGULATIONS MAY APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR VERIFYING AND COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS.

5. FIELD SURVEY PERFORMED BY J.P.E. & D.W.D. DURING FEBRUARY AND MARCH 2025 USING A TRIMBLE S6 TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC5 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

6. HORIZONTAL DATUM BASED ON NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATE ZONE (2800) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

7. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID18) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

8. WETLAND DELINEATION ON MAP 213, LOT 11 AND MAP 216, LOT 1–8A

   WETLANDS AND AREAS UNDER THE JURISDICTION OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, PURSUANT TO NH ADMINISTRATIVE RULES CHAPTER ENV–WT 100–900, WERE DELINEATED BY TIGHE & BOND ON MAP 213 LOT 11 AND MAP 216 LOT 1–8A ON MARCH 21, 2025 USING THE FOLLOWING METHODOLOGY AND STANDARDS:

   a) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 20212, U.S. ARMY CORPS OF ENGINEERS.
   b) NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC OILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
   c) U.S. ARMY CORPS OF ENGINEERS. (2023). 2022 NATIONAL WETLAND PLANT LIST, VERSION 3.6. U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, VICKSBURG, MS. HTTP://WETLAND-PLANTS.USACE.ARMY.MIL/
   d) NEW HAMPSHIRE ADMINISTRATIVE RULE CHAPTER ENV–WT 602.23, DEFINITIONS: HIGHEST OBSERVABLE TIDE LINE (HOTL) AND ENV–WT 406, DELINEATION AND CLASSIFICATION OF JURISDICTIONAL AREAS, EFFECTIVE DECEMBER 15, 2019.

   WETLAND DELINEATION ON MAP 213, LOT 12

   WETLANDS ON MAP 213 LOT 12 WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC.: JAMES P. GOVE, CWS 051, CSS 004, SENIOR SOIL SCIENTIST ON 06–06–2025. NO WETLANDS WERE OBSERVED. WETLANDS WERE DELINEATED USING THE FOLLOWING STANDARDS:

   a) US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y–87–1 (JAN 1987).
   b) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012
   c) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.

9. FLOOD HAZARD ZONE:"X", PER FIRM MAP #33015C0259F, DATED 1/29/21.

10. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

11. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.

12. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

13. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG–SAFE AT 1–888–DIG–SAFE.

14. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF DUNLIN WAY AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE CITY OF PORTSMOUTH AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. PORTSMOUTH BOULEVARD IS A 50 FOOT WIDE RIGHT OF WAY PER REFERENCE PLAN 7.

15. MONUMENT OF BOUNDARY LINE ABANDONED BY R.C.R.D. PLAN D–38784 (REF. PLANS 1).

16. **AT TIME OF SURVEY PORTIONS OF PORTSMOUTH BOULEVARD ALONG THE SUBJECT PARCEL WAS OVERGROWN AND COVERED IN DEBRIS. THE LIMITS OF PAVEMENT AND SIDEWALK AS SHOWN IS BASED ON THE BEST AVAILABLE SURVEY LOCATIONS UNDER THE CURRENT STATE OF THE ROADWAY.**

REFERENCE PLANS:

1. "BOUNDARY LINE ADJUSTMENT PLAN, LAND OF DOAKS, LLC (TAX MAP 213, LOT 2) AND BRORA, LLC (TAX MAP 213, LOT 12), PORTSMOUTH, NEW HAMPSHIRE" BY DOUCET SURVEY, INC., DATED DECEMBER 31, 2014, R.C.R.D. PLAN D–38784.
2. "PRELIMINARY CONCEPT PLAN AT SCHILLER STATION, PORTSMOUTH, NEW HAMPSHIRE", BY PUBLIC SERVICE OF NEW HAMPSHIRE GENERAL ENGINEERING DIVISION, DATED 2/3/97.
3. "SUBDIVISION PLAN FOR BRORA, LLC", BY MILLETTE, SPRAGUE & COLWELL, INC., DATED AUGUST 27, 2003, R.C.R.D. PLAN #D–31583.
4. "SUBDIVISION/CONSOLIDATION PLAN MAP R–16/LOTS 1, 1–5 & 1–8B, MAP R–17/LOTS 2–1838 THRU 2–1844, MAP R–17/LOT 2–0300", BY CLD CONSULTING ENGINEERS, INC., DATED DEC. 1999 R.C.R.D. PLAN #D–28385.
5. "RESUBDIVISION PLAN OSPREY LANDING", BY CLD CONSULTING ENGINEERS, INC., DATED FEB. 1999, R.C.R.D. PLAN #D–27099.
6. "LOT LINE RELOCATION PLAN OSPREY LANDING", BY CLD CONSULTING ENGINEERS, INC., DATED FEB. 1999, R.C.R.D. PLAN #D–27029.
7. "SUBDIVISION PLAN OF MARINERS VILLAGE & SPINNAKER POINT CONDOMINIUM", BY ASSOCIATED ENGINEERING SERVICES, DATED OCTOBER 23, 1993, R.C.R.D. PLAN #D–23202.

ABUTTERS INFORMATION:

TAX MAP 213, LOT 2
NEP PORTSMOUTH OWNER LLC
& COLONY CAPITAL
545 E JOHN CARPENTER FREEWAY SUITE 1400
IRVING, TX 75062
R.C.R.D. BOOK 5627, PAGE 702

TAX MAP 213, LOT 2–15
INISHMAAN ASSOC. LTD. PARTNERSHIP
& JCM MANAGEMENT CO.
540 NORTH COMMERCIAL STREET
MANCHESTER, NH 03101
R.C.R.D. BOOK 3078, PAGE 1947

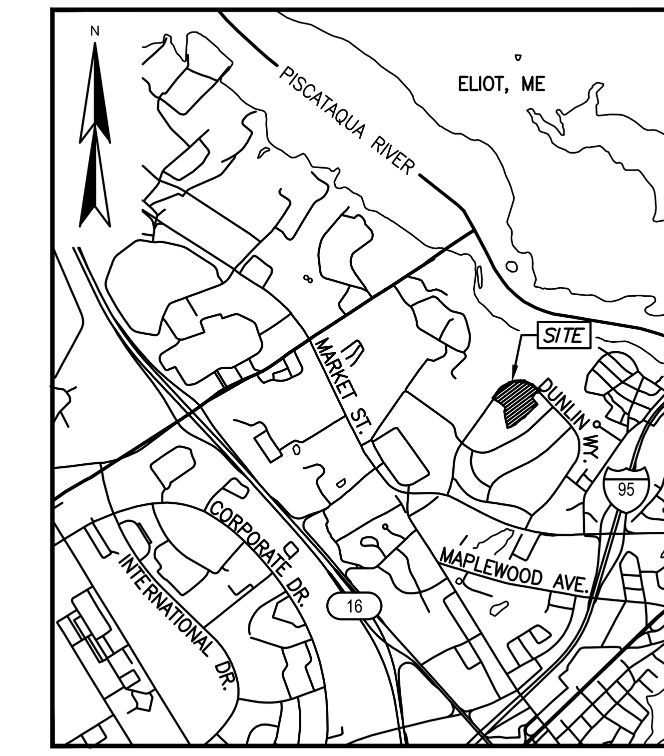
TAX MAP 213, LOT 3
THOM GRAEME
1518 SUMMER AVE
JUPITER, FL 33469
R.C.R.D. BOOK 3453, PAGE 2213

TAX MAP 213, LOT 4
DAVID S. ROGERS DECLARATION OF TRUST
15 DUNLIN WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5539, PAGE 146

TAX MAP 213, LOT 10
MUKHLIS & ALABDULLA FAMILY TRUST
20 DUNLIN WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 6579, PAGE 466

TAX MAP 213, LOT 11
GSP SCHILLER, LLC
431 RIVER RD.
BOW, NH 03304
R.C.R.D. BOOK 5887, PAGE 823

TAX MAP 216, LOT 1–8A
BEACON HARBOR TRUST, LLC
210 COMMERCE WAY SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5877, PAGE 2905



LOCATION MAP (n.t.s.)

EXISTING CONDITIONS PLAN
FOR
THE KANE COMPANY
LAND OF
BRORA LLC
(TAX MAP 213, LOT 12)
DUNLIN WAY & PORTSMOUTH BOULEVARD
PORSTMOUTH, NEW HAMPSHIRE

1	9/3/25	REVISE WETLAND NOTE	MWF
NO.	DATE	DESCRIPTION	BY

DRAWN BY: G.A.N.	DATE: MARCH 2025
CHECKED BY: M.W.F.	DRAWING NO. 9009A
JOB NO. 9009	SHEET 2 OF 2

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FILE NAME: Y:\PROJECTS\9009 C3D\DWG\9009A (T&B).dwg LAYOUT NAME: 22X34 TOPO PLAN (2) PLOTTED: Wednesday, September 03, 2025 – 1:17pm

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY, LLC., DATED MARCH 2025.
2. WETLAND DELINEATION ON MAP 213, LOT 11 AND MAP 216, LOT 1-8A
   WETLANDS AND AREAS UNDER THE JURISDICTION OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, PURSUANT TO NH ADMINISTRATIVE RULES CHAPTER ENV-WT 100-900, WERE DELINEATED BY TIGHE & BOND ON MAP 213 LOT 11 AND MAP 216 LOT 1-8A ON MARCH 21, 2025 USING THE FOLLOWING METHODOLOGY AND STANDARDS:
   a. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
   b. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC OILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
   c. U.S. ARMY CORPS OF ENGINEERS. (2023). 2022 NATIONAL WETLAND PLANT LIST, VERSION 3.6. U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, VICKSBURG, MS. HTTP://WETLAND-PLANTS.USACE.ARMY.MIL/
   d. NEW HAMPSHIRE ADMINISTRATIVE RULE ENV-WT 406, DELINEATION AND CLASSIFICATION OF JURISDICTIONAL AREAS, EFFECTIVE DECEMBER 15, 2019.
3. WETLAND DELINEATION ON MAP 213, LOT 12
   WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC.: JAMES P. GOVE, CWS 051, CSS 004, SENIOR SOIL SCIENTIST ON 06-06-2025. NO WETLANDS WERE OBSERVED. WETLANDS WERE DELINEATED USING THE FOLLOWING STANDARDS:
   a. US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JAN 1987).
   b. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012
   c. FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.
4. OFF-SITE GRADES DERIVED FROM THE FOLLOWING SEPARATE PLANS:
   a. "ATLANTIC HEIGHTS EMERGENCY ACCESS" FOR THE CITY OF PORTSMOUTH, BY TIGHE & BOND, DATED 10/7/2016.

GENERAL NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
2. 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.
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. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION (E.G., EXISTING UTILITIES) SHOWN ON THESE DRAWINGS IS NOT GUARANTEED AND SOME SUBSURFACE INFORMATION MAY NOT BE SHOWN. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL SUBSURFACE FEATURES WHICH MAY AFFECT CONSTRUCTION OPERATIONS BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND OTHER SUBSURFACE FEATURES, AND/OR INTERRUPTIONS IN UTILITY SERVICE. PROVIDE DATA COLLECTED THROUGH THESE INVESTIGATIONS TO THE ENGINEER PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL
6. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH 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.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
10. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
11. THE 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 NEW HAMPSHIRE LICENSED LAND SURVEYOR.
12. BEFORE ANY DEWATERING IS PERFORMED A TEMPORARY DISCHARGE PERMIT FROM THE NHDES IS REQUIRED.
13. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
14. WHEN WORKING IN THE RIGHT OF WAY, THE CONTRACTOR SHALL PROVIDE THE OWNER AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES A DETAILED PLAN OF APPROACH INDICATING METHODS OF PROPOSED TRAFFIC ROUTING ON A DAILY BASIS, AND COORDINATION TO ENSURE COMMUNICATION AND COORDINATION BETWEEN THE OWNER, THE CONTRACTOR AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES THROUGHOUT THE CONSTRUCTION PERIOD.
15. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
16. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
17. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.
18. REMOVAL OR CUTTING OF VEGETATION WITHIN WETLAND BUFFER AREAS SHALL BE ONLY BE COMPLETED UNDER THE REQUIREMENTS AND RESTRICTIONS SET FORTH BY THE CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.1018.23.
19. THE USE OF FERTILIZERS, PESTICIDES, AND HERBICIDES WITHIN WETLAND BUFFER AREAS SHALL BE LIMITED BY THE RESTRICTIONS SET FORTH BY THE CITY OF PORTSMOUTH ZONING ORDINANCE SECTIONS 10.1018.24 AND 10.1018.25.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
3. 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.
4. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY ARE 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.
5. 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.
6. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN 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, AND TREES .
7. 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.
8. 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.
9. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
10. 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.
11. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
12. 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.
13. 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.
14. THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.
15. 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.
16. THE CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. 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.
18. BOLD LINETYPES SHOWN WITHIN THE LIMITS OF WORK INDICATE SITE FEATURES TO BE REMOVED, UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.

SITE NOTES:

1. PAVEMENT MARKINGS, INCLUDING BUT NOT LIMITED TO; PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS, AND CENTERLINES, SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS AND DETAILS, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ALL ON-SITE PAVEMENT MARKINGS EXCEPT CENTERLINES, MEDIAN ISLANDS, FOG/SHOULDER LINES, AND LANE LINES SHALL BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL ON-SITE CENTERLINES AND MEDIAN ISLANDS SHALL BE CONSTRUCTED USING YELLOW THERMOPLASTIC STRIPING MATERIAL, MEETING THE REQUIREMENTS OF AASHTO M249.
   - ALL ON-SITE FOG/SHOULDER LINES AND LANE LINES SHALL BE CONSTRUCTED USING WHITE THERMOPLASTIC STRIPING MATERIAL, MEETING THE REQUIREMENTS OF AASHTO M249.
   - ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, AND APPLICABLE DEPARTMENT OF TRANSPORTATION (DOT), STANDARD SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" CURRENT EDITION, AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AS APPLICABLE.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
5. THE CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED.
6. COORDINATE ALL WORK ADJACENT TO BUILDINGS WITH BUILDING DRAWINGS/CONTRACTOR.
7. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
8. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
9. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
10. THE 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.
11. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND PARKING AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.

GRADING AND DRAINAGE NOTES:

1. GENERAL 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. THE 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. PROVIDE SITE GRADING AT ACCESSIBLE SIDEWALK RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:
   - ACCESSIBLE PARKING STALLS AND PASSENGER LOADING ZONES (IN ANY DIRECTION) SHALL BE < 2.0%
   - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 5.0%
   - CROSS SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 2.0%
7. THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
9. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING DRAIN LINES AND STRUCTURES AT PROPOSED DRAINAGE CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.

GENERAL EROSION CONTROL NOTES:

1. REFER TO SHEET C-601 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

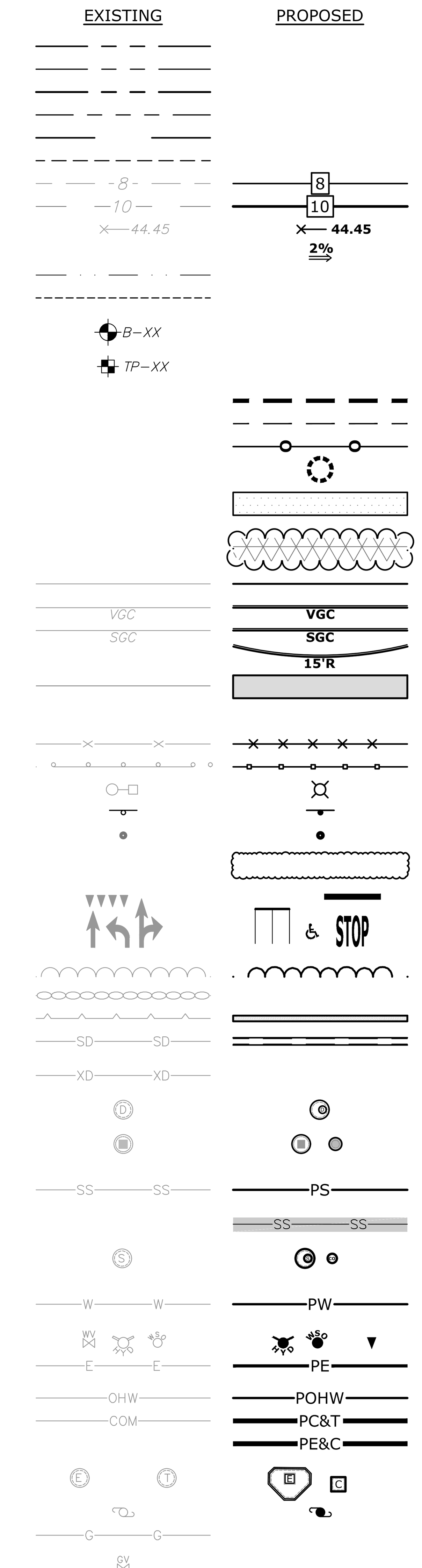
1. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMM/FAIRPOINT/COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. 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 CITY OF PORTSMOUTH WATER DEPARTMENT.
7. ALL BELOW GRADE WATER VALVES AND FITTINGS SHALL HAVE MECHANICAL JOINT (MJ) ENDS. RESTRAIN ALL WATER VALVES AND FITTINGS JOINTS WITH RETAINER GLANDS, OR AS REQUIRED BY THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
8. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
9. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH FIRE AND/OR WATER DEPARTMENT.
10. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
11. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
12. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
13. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, CURRENT EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
14. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
15. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
16. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
17. 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.
18. 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.
19. THE CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
20. 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.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH SEWER DEPARTMENT.
23. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
24. 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.
25. THE 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.
26. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
27. THE CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
28. FINAL LOCATION OF ALL WATER METER AND VALVE SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT PRIOR TO CONSTRUCTION.
29. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING SEWER LINES AND STRUCTURES AT PROPOSED SEWER CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.

ABBREVIATIONS

ABDN('D)	ABANDON(ED)	MIN	MINIMUM
AC	ASBESTOS CEMENT PIPE	MISC	MISCELLANEOUS
APPROX	APPROXIMATE	MON	MONUMENT
BC	BITUMINOUS CURB	MJ	MECHANICAL JOINT
BFP	BACK FLOW PREVENTOR	N	NORTH
BIT	BITUMINOUS	NITC	NOT IN THIS CONTRACT
BL	BASELINE	NTS	NOT TO SCALE
BLDG	BUILDING	N/A	NOT APPLICABLE
BND	BOUND	N/F	NOW OR FORMERLY
BOC	BOTTOM OF CURB	OC	ON CENTER
BOT	BOTTOM	OCS	OUTLET CONTROL STRUCTURE
BS	BOTTOM OF STEP	OH	OVERHEAD
BW	BOTTOM OF WALL	PB	PLANT BED
CATV	CABLE TELEVISION	PC	POINT OF CURVATURE
CB	CATCH BASIN	PCC	POINT OF COMPOUND CURVATURE
CCW	CEMENT CONCRETE WALK	PCPP	PERFORATED CORRUGATED POLYETHYLENE PIPE
CEM	CEMENT	PERF	PERFORATED
CI	CAST IRON PIPE	PI	POINT OF INTERSECTION
CL	CENTERLINE	PRC	POINT OF REVERSE CURVATURE
CLF	CHAIN LINK FENCE	PROT	PROTECT
CO	CLEAN OUT	PSF	POUNDS PER SQUARE FOOT
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CPP	CORRUGATED POLYETHYLENE PIPE	PT	POINT OF TANGENCY
CY	CUBIC YARD	PVC	POLYVINYLCHLORIDE
DH	DRILL HOLE	PVMT	PAVEMENT
DI	DUCTILE IRON PIPE	R	RADIUS
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DMH	DRAIN MANHOLE	RD	ROOF DRAIN
E	EAST	REV	REVISION
EF	EACH FACE	ROW	RIGHT OF WAY
EG	EXISTING GRADE	RT	RIGHT
EL/ELEV	ELEVATION	R&D	REMOVE AND DISPOSE
ELEC	ELECTRIC	R&R	REMOVE AND RESET
EMH	ELECTRIC MANHOLE	R&S	REMOVE AND STACK
EOP	EDGE OF PAVEMENT	S	SOUTH
EW	EACH WAY	SAN	SANITARY
EXIST	EXISTING	SCH	SCHEDULE
FES	FLARED END SECTION	SF	SQUARE FOOT
FF	FINISH FLOOR	SMH	SEWER MANHOLE
FM	FORCE MAIN	SS	STAINLESS STEEL
G	GAS	STA	STATION
GG	GAS GATE	STL	STEEL
GRAN	GRANITE	STRM	STORM
HC	HANDICAP	T	TANGENT LENGTH
HDPE	HIGH DENSITY POLYETHYLENE	TC	TOP OF CURB
HMA	HOT MIX ASPHALT	TEL	TEL-DATA
HYD	HYDRANT	TP	TEST PIT
IN	INCHES	TS	TOP OF STEP
INV	INVERT	TW	TOP OF WALL
IP	IRON PIN	TYP	TYPICAL
L	LENGTH OF CURB	UP	UTILITY POLE
LP	LIGHT POLE	W	WATER
LT	LEFT	WG	WATER GATE
MAX	MAXIMUM	WV	WATER VALVE
MH	MANHOLE	XFMR	TRANSFORMER

LEGEND

EXISTING PROPOSED DESCRIPTION



PROPERTY LINE
ADJACENT PROPERTY LINE
RIGHT OF WAY (ROW) LINE
EASEMENT LINE
ZONING DISTRICT BOUNDARY LINE (APPROX)
BUILDING SETBACK LINE
INTERMEDIATE CONTOURS
INDEX CONTOURS
SPOT SPOT GRADE
MAGNITUDE & DIRECTION OF SLOPE
LIMIT OF WETLANDS WATER COURSE
LIMIT OF LOCAL WETLAND BUFFER
LOCATION OF BORING (APPROX)
LOCATION OF TEST PIT (APPROX)
LIMIT OF WORK (APPROX)
LIMIT OF SAWCUT (APPROX)
LIMIT OF EROSION CONTROL (APPROX)
INLET PROTECTION
PAVEMENT / CONCRETE SECTION TO BE REMOVED (APPROX)
LIMIT OF CLEARING & GRUBBING (APPROX)
EDGE OF PAVEMENT
VERTICAL GRANITE CURB
SLOPED GRANITE CURB
CURB RADIUS
PAVEMENT SECTION
FENCE
GUARDRAIL
LIGHT POLE / BASE
SIGN
BOLLARD
SNOW STORAGE (APPROX)
PAVEMENT STRIPING
TREE LINE (APPROX)
STONE WALL
RETAINING WALL
STORM DRAIN
STORM DRAIN (APPROX)
STORM DRAIN MANHOLE
STORM DRAIN INLETS
GRAVITY SANITARY SEWER
SLIP-LINED SEWER
SANITARY SEWER STRUCTURES
WATER SERVICE
WATER SERVICE STRUCTURES
UNDERGROUND ELECTRIC
OVERHEAD UTILITY (UNSPECIFIED)
UNDERGROUND COMMUNICATIONS SERVICE
UNDERGROUND ELECTRIC & COMMUNICATION SERVICES
UNDERGROUND ELECTRIC / COMMUNICATIONS SERVICE STRUCTURES
UTILITY POLES
GAS SERVICE
GAS SERVICE STRUCTURES

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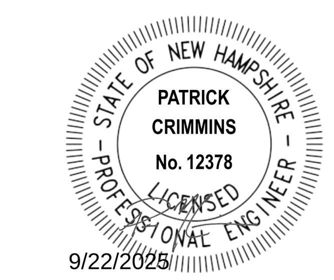
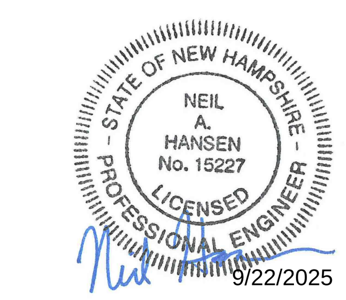


9/22/2025



9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

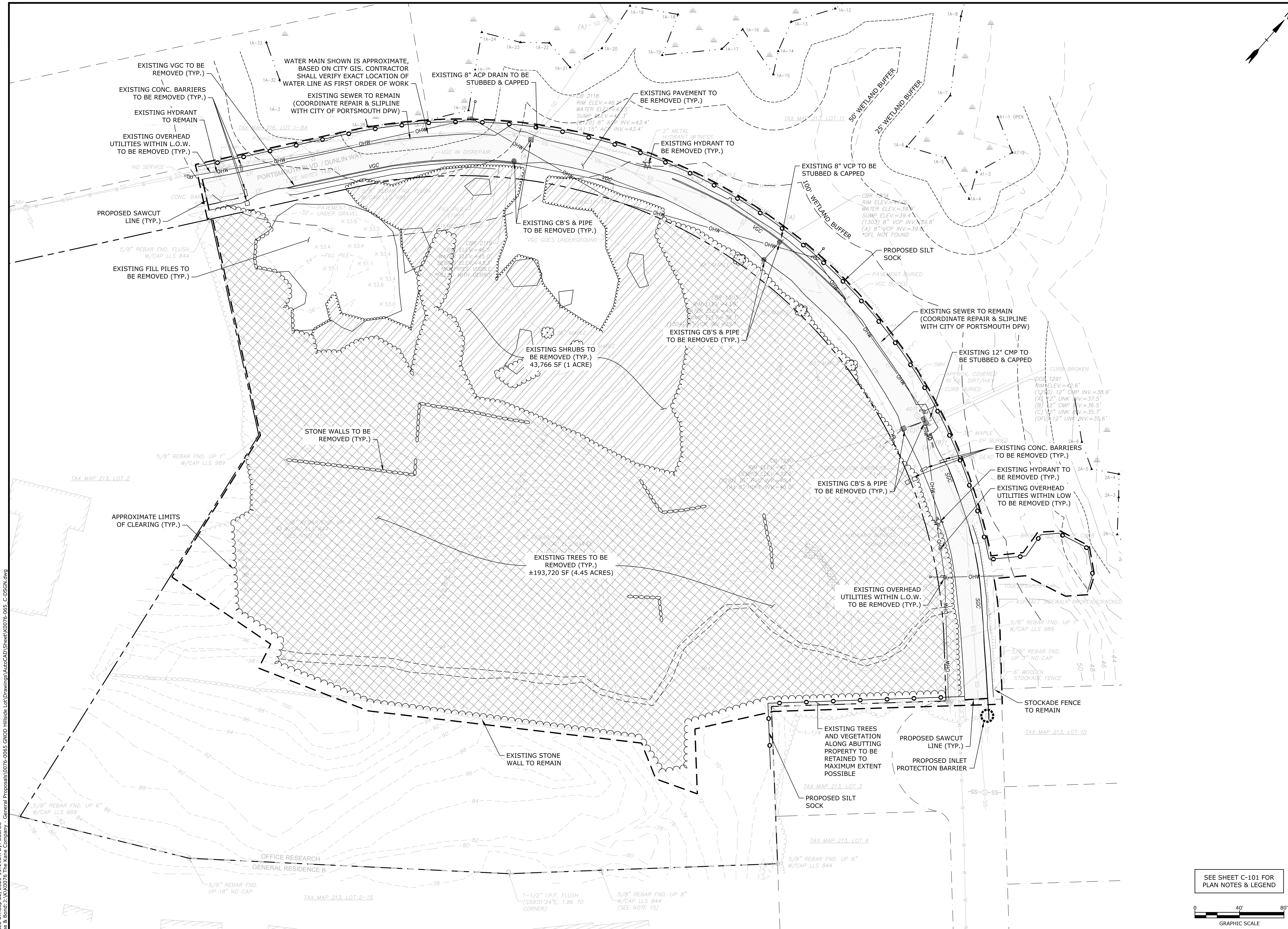
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DSGN.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

GENERAL NOTES AND LEGENDS

SCALE: AS SHOWN

C-101

Last Saved: 9/22/2025
Plotted On:Sep 22, 2025-11:17am By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg



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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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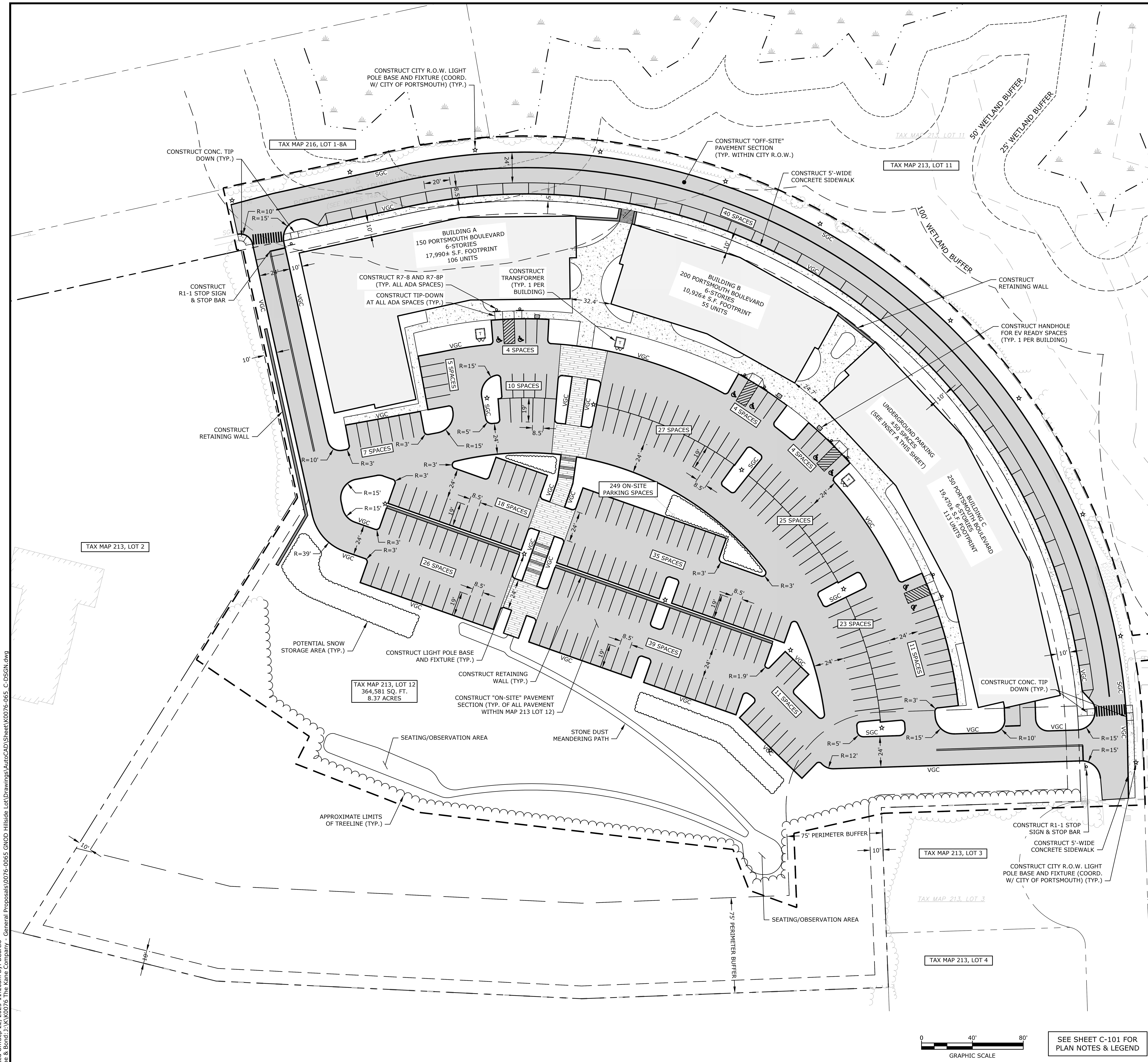
CHECKED:	NAH
APPROVED:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-201



SITE DATA:

LOCATION:	TAX MAP 118 LOT 28
OWNER:	BRORA LLC 210 COMMERCE WAY SUITE 300 PORTSMOUTH, NH 03801
ZONING DISTRICT:	OFFICE RESEARCH (OR) GATEWAY NEIGHBORHOOD OVERLAY DISTRICT (GNOD)
PROPOSED USE:	MULTI-FAMILY RESIDENTIAL
EXISTING LOT SIZE:	364,581 SQ. FT. (8.37 ACRES)

DEVELOPMENT STANDARDS

BUILDING PLACEMENT:	REQUIRED	PROPOSED
MINIMUM FRONT YARD:	10 FT	10 FT
MINIMUM SIDE YARD:	10 FT	10 FT
MINIMUM REAR YARD:	10 FT	450 FT±
MINIMUM PERIMETER BUFFER:	75 FT	75 FT
BUILDING AND LOT OCCUPATION:	**REQUIRED**	**PROPOSED**
MAXIMUM BUILDING COVERAGE:	75%	13%
MAXIMUM BUILDING FOOTPRINT:	NR	19,470 SQ FT
MAXIMUM BUILDING LENGTH:	400'	321 FT
MINIMUM SITE FRONTAGE:	300 FT	948 FT
MINIMUM SITE DEPTH:	100 FT	855 FT
MINIMUM OPEN SPACE:	10%	59%
BUILDING FORM (PRINCIPAL BUILDING):	**REQUIRED**	**PROPOSED**
MAXIMUM DWELLINGS PER BUILDING:	120 UNITS(1)	113(1)
MAXIMUM BUILDING HEIGHT:	6 STORIES(2) 80 FT	6 STORIES(2) <80 FT(2)

OFF-STREET PARKING REQUIREMENTS

PARKING SPACES REQUIRED:

DWELLING UNITS:		
RESIDENTIAL UNITS (LESS THAN 500 SQ FT)	45 UNITS X 0.5 SPACES	22.5 SPACES
RESIDENTIAL UNITS (500 - 750 SQ FT)	126 UNITS X 1 SPACE	126 SPACES
RESIDENTIAL UNITS (>750 SQ FT)	103 X UNITS X 1.3 SPACES	133.9 SPACES
VISITOR PARKING, 1.0 SPACE PER 5 UNITS	274 UNITS	54.8 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		337.2 SPACES
AFTER PUBLIC TRANSIT PROXIMITY REDUCTION (20%)		270 SPACES

PARKING SPACES	REQUIRED	PROPOSED
	270 SPACES	299 SPACES*

*INCLUDES 50 UNDERGROUND PARKING SPACES UNDER BUILDING C. DOES NOT INCLUDE 40 OFF-SITE SPACES.

ADA PARKING SPACES	REQUIRED	PROPOSED
	8 SPACES (2 VAN SPACE)	8 SPACES (8 VAN SPACES)

PARKING SPACE DIMENSIONAL REQUIREMENTS:		
STANDARD 90° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
STANDARD 0° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	20 FT MIN	20 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT
0° (2-WAY TRAFFIC)	24 FT	24 FT

COMMUNITY SPACE:	REQUIRED	PROPOSED
	10% 36,458 SF	10% 36,500 SF

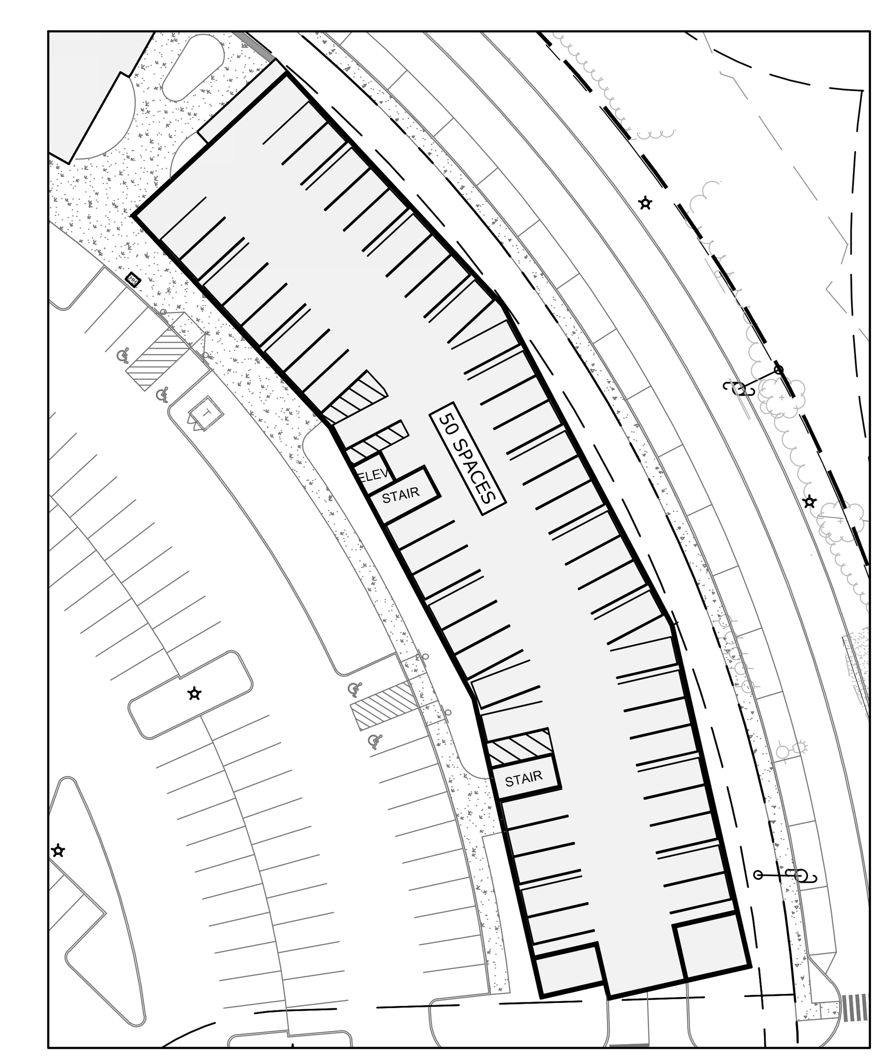
NOTES:

(1) - UP TO 120 DWELLING UNITS PER BUILDING SHALL BE ALLOWED WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.

(2) - MAXIMUM BUILDING HEIGHT FOR ANY APARTMENT BUILDING OR MIXED USE BUILDING SHALL BE 6-STORIES OR 80 FT WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.



INSET A: UNDERGROUND PARKING LAYOUT
SCALE: 1:50

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STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
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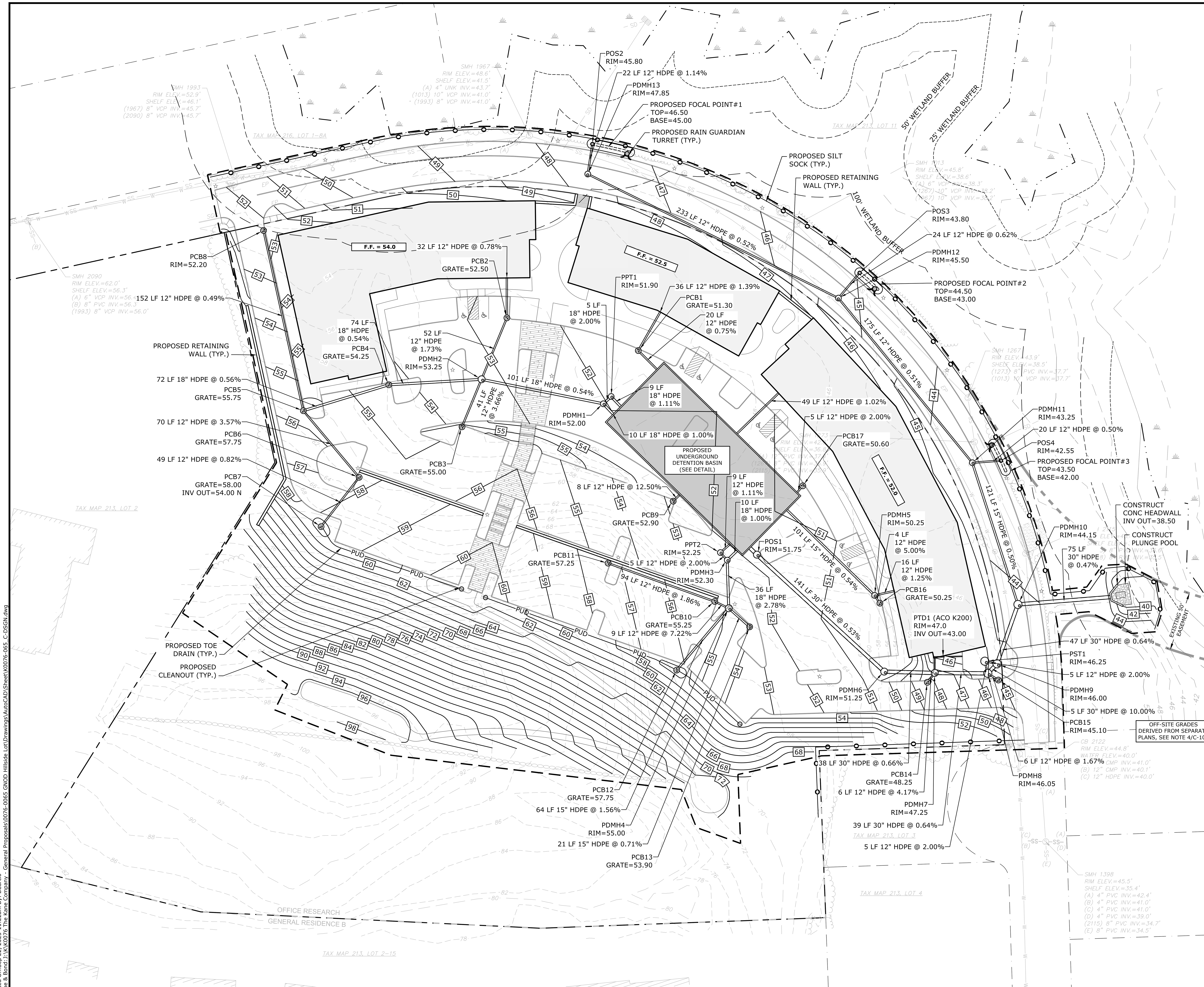
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-301

Last Saved: 9/22/2025
Plotted On:Sep 22, 2025-11:20am By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg



STORM SEWER STRUCTURE TABLE			
STRUCTURE	RIM	INV. IN	INV. OUT
PCB1	51.30	46.50 N	46.40 E
PCB2	52.50	48.25 NW	48.15 S
PCB3	55.00		50.50 N
PCB4	54.25	47.75 SW	47.65 NE
PCB5	55.75	48.25 NW 51.00 E	48.15 NE
PCB6	57.75	53.60 S	53.50 W
PCB7	58.00		54.00 N
PCB8	52.20		49.00 SE
PCB9	52.90		48.00 N
PCB10	55.25	51.25 W	51.15 E
PCB11	57.25		53.00 E
PCB12	57.75		51.50 N
PCB13	53.90		50.00 W
PCB14	48.25		43.50 N
PCB15	45.10		41.15 W
PCB16	50.25		46.50 W
PCB17	50.60		46.50 S
PDMH1	52.00	46.60 SW	46.50 N 47.50 E
PDMH2	53.25	47.25 N 49.00 S 47.25 SW	47.15 NE
PDMH3	52.30	47.50 SE	48.00 N 47.40 W
PDMH4	55.00	50.50 W 49.85 E 50.50 S	48.50 NW
PDMH5	50.25	46.30 NE 46.30 E	46.20 W
PDMH6	51.25	41.75 W	41.65 NE
PDMH7	47.25	41.40 SW 42.50 NW 43.25 S	41.30 NE
PDMH8	46.05	41.05 SW 41.05 E	41.50 N 40.95 NW
PDMH9	46.00	40.25 SW 41.00 S	39.25 NW
PDMH10	44.15	38.95 SE 38.90 NW	38.85 NE
PDMH11	43.25	39.65 NE 39.60 W	39.50 SE
PDMH12	45.50	40.60 N 40.80 W	40.50 E
PDMH13	47.85	42.50 NW	42.00 E
POS1	51.75	42.50 W	42.50 E
POS2	45.80		42.75 SE
POS3	43.80		40.75 S
POS4	42.55		39.75 SW
PPT1	51.90	46.40 S	46.30 E
PPT2	52.25	47.30 E	47.20 N
PST1	46.25	40.85 SE	40.35 NE

SEE SHEET C-101 FOR
PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

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GRADING, DRAINAGE, AND
EROSION CONTROL PLAN

SCALE: AS SHOWN

C-401

Last Saved: 9/22/2025
Plotted On:Sep 22, 2025-11:22am By: BCurcio
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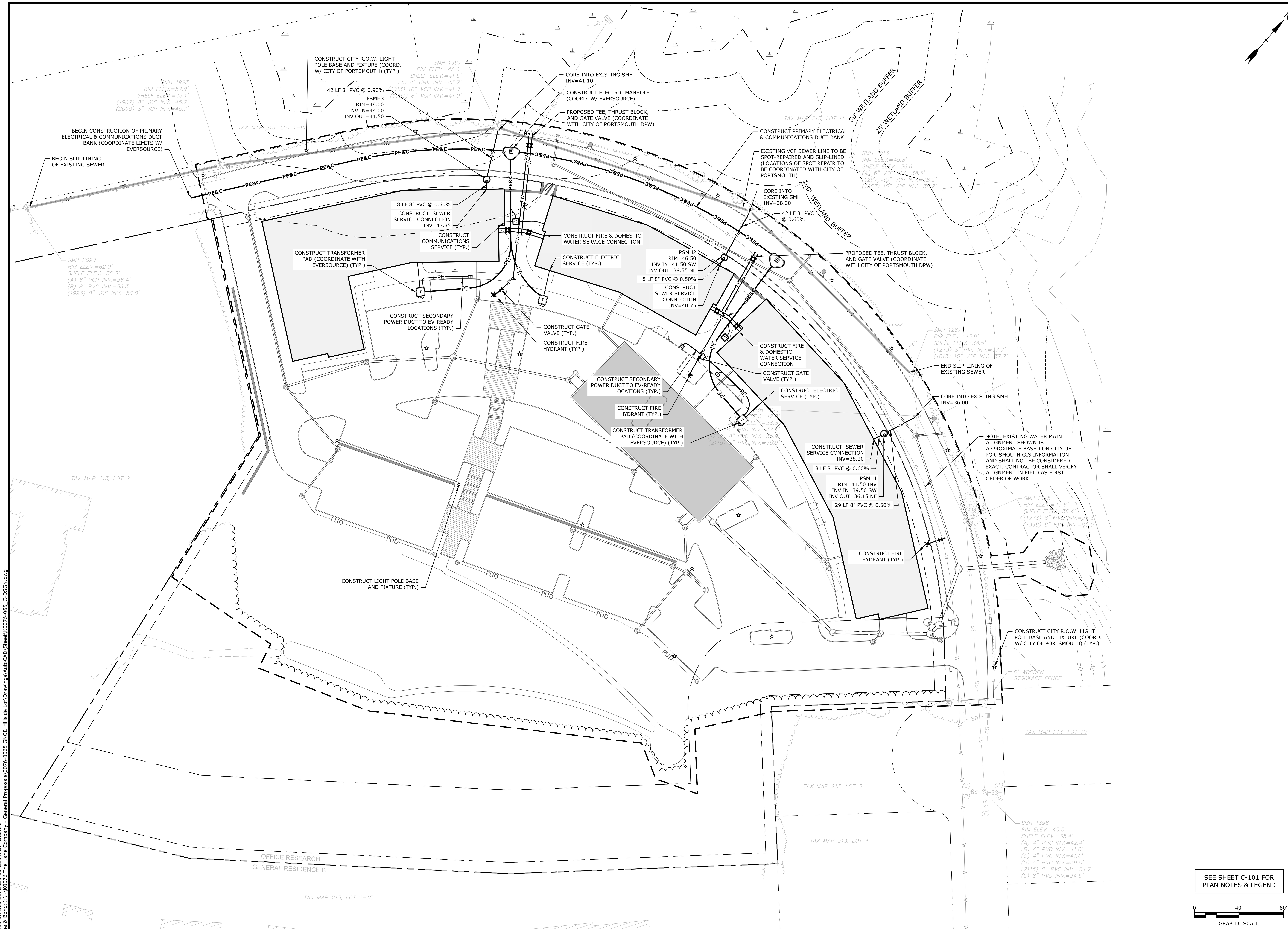

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS — No. 12378 — LICENSED — PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN — No. 15227 — LICENSED — PROFESSIONAL ENGINEER
9/22/2025

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Brora LLC

Portsmouth, NH

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UTILITIES PLAN

SCALE: AS SHOWN

C-501

Last Saved: 9/22/2025
Plotted On:Sep 22, 2025-11:22am By: BCurcio
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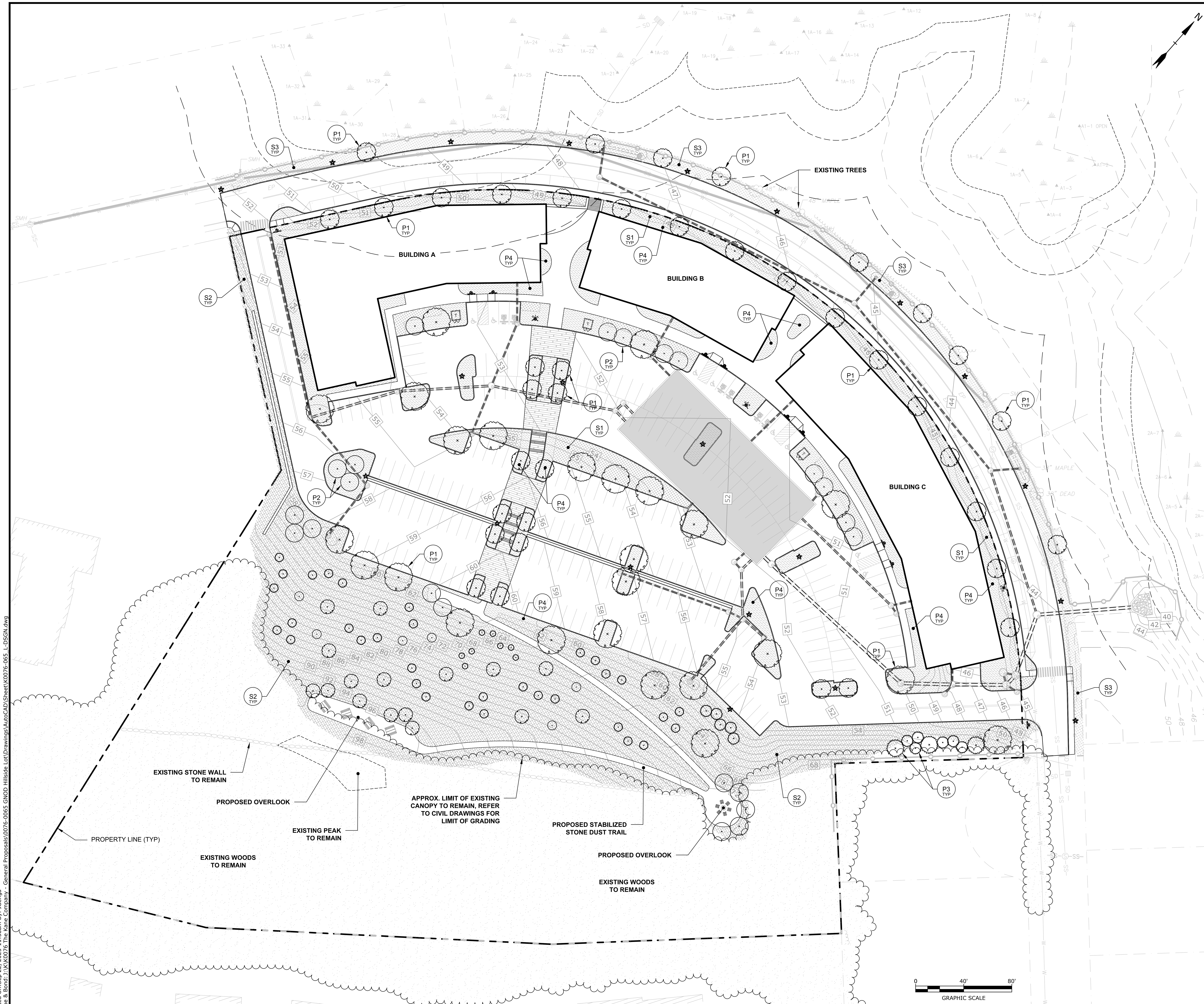


PLANTING LEGEND

TAG	DESCRIPTION	SYMBOL(S)
TREES, SHRUBS & PERENNIALS		
P1	DECIDUOUS SHADE TREE	
P2	ORNAMENTAL TREE	
P3	EVERGREEN TREE	
P4	SHRUBS / PERENNIALS	
SEEDED AREAS		
S1	LAWN SEED MIX[1]	
S2	RESTORATION SEED MIX[2]	
S3	WET MEADOW SEED MIX[3]	

[1] 100% 5311 CONSERVATION MIX (ERNMX-114) BY ERNST CONSERVATION SEEDS

[2] 50% NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DRY SITES BY NEW ENGLAND WETLAND PLANTS, INC.
50% NEW ENGLAND CONSERVATION/ WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS, INC.

[3] 100% NEW ENGLAND ROADSIDE MATRIX WET MEADOW SEED MIX BY NEW ENGLAND WETLAND PLANTS, INC.

REPRESENTATIVE TREE SPECIES

ABIES SPP.	FIR
ACER SPP.	MAPLE
AMELANCHIER SPP.	SERVICEBERRY
BETULA SPP.	BIRCH
CARPINUS SPP.	HORNBEAM
CERCIS SPP.	REDBUD
GLEDITSIA SPP.	HONEYLOCUST
JUNIPERUS SPP.	CEDAR
NYSSA SPP.	TUPELO
PICEA SPP.	SPRUCE
PINUS SPP.	PINE
QUERCUS SPP.	OAK
THUJA SPP.	ARBORVITAE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_L-DSGN.DWG
DRAWN BY:	JDG
CHECKED:	RU/NAH
APPROVED:	PMC

PLANTING PLAN

SCALE: AS SHOWN

L-101

Last Saved: 9/21/2025
Plotted On:Sep 22, 2025-11:38am By: JGenga
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_L-DSGN.dwg

GENERAL PROJECT INFORMATION

PROJECT APPLICANT: BRORA LLC

PROJECT NAME: PROPOSED MULTI-FAMILY DEVELOPMENT

PROJECT ADDRESS: DUNLIN WAY & PORTSMOUTH BOULEVARD
PORTSMOUTH, NH 03801

PROJECT LATITUDE: 43°-05'-29" N
PROJECT LONGITUDE: 70°-46'-48" W

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES THREE 6-STORY MULTI-FAMILY BUILDINGS. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 6.8 ACRES.

SOIL CHARACTERISTICS

BASED ON THE SITE SPECIFIC SOIL SURVEY, THE SOILS ON SITE PRIMARILY CONSIST OF CHATFIELD AND UDORTHENTS SOILS WITH A HYDROLOGIC SOIL GROUP RATINGS OF B AND C, RESPECTIVELY.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO AN UNNAMED ON SITE WETLANDS WHICH ULTIMATELY FLOWS TO THE PISCATAQUA RIVER.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. 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
   - CONTROL OF DUST
   - 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. THE AREA OF DISTURBANCE SHALL NOT EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED UNLESS FURTHER APPROVAL IS RECEIVED FROM THE NEW HAMPSHIRE LAND RESOURCES MANAGEMENT BUREAU.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
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. TEMPORARY WATER DIVERSION AND 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 NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 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 NHDOT ITEM 304.3, 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. VEGETATIVE PRACTICE:
   A. FOR 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	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 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:

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. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   1.1. FIRE-FIGHTING ACTIVITIES;
   1.2. FIRE HYDRANT FLUSHING;
   1.3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
   1.4. WATER USED TO CONTROL DUST;
   1.5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
   1.6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
   1.7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
   1.8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
   1.9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
   1.10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
   1.11. UNCONTAMINATED EXCAVATION DEWATERING;
   1.12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

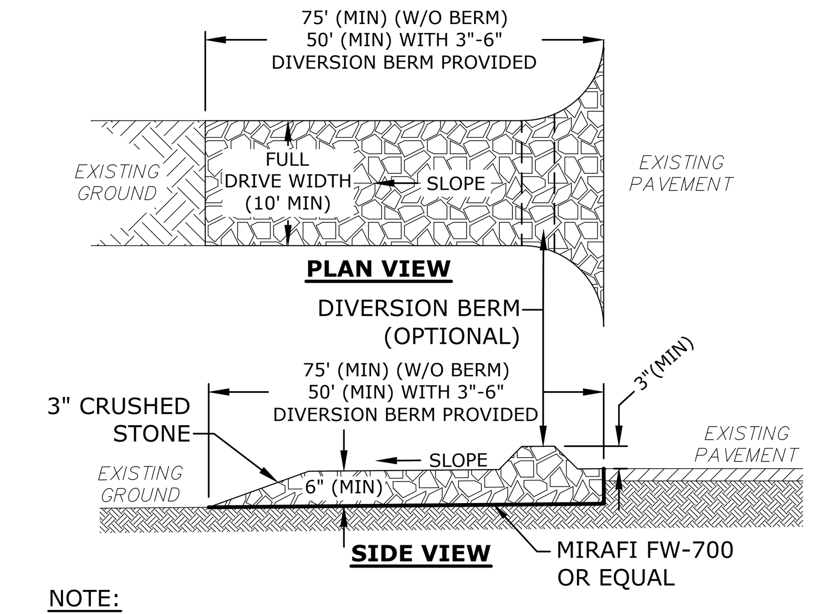
4. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING 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:
      i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
      ii. 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.
      iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
      iv. INSPECT FUEL STORAGE AREAS WEEKLY;
      v. 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;
      vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
      vii. 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.
      viii. 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.
      ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
      HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
      i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
      ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
      iii. 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.
      c. PAINTS:
      i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
      ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
      iii. 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.

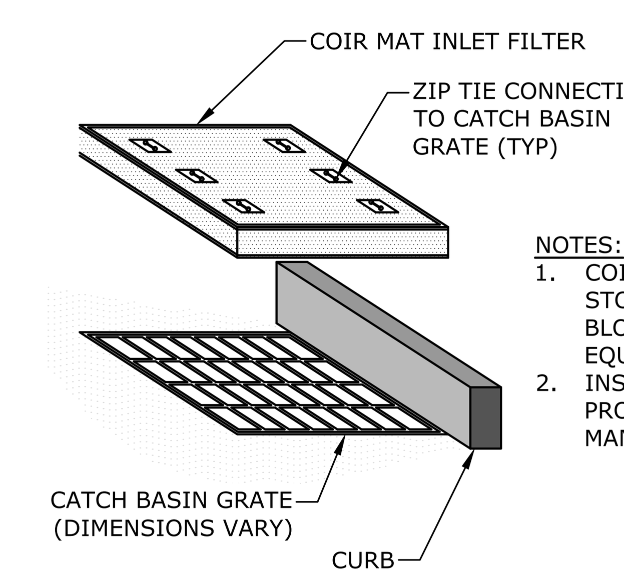
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

A. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP.



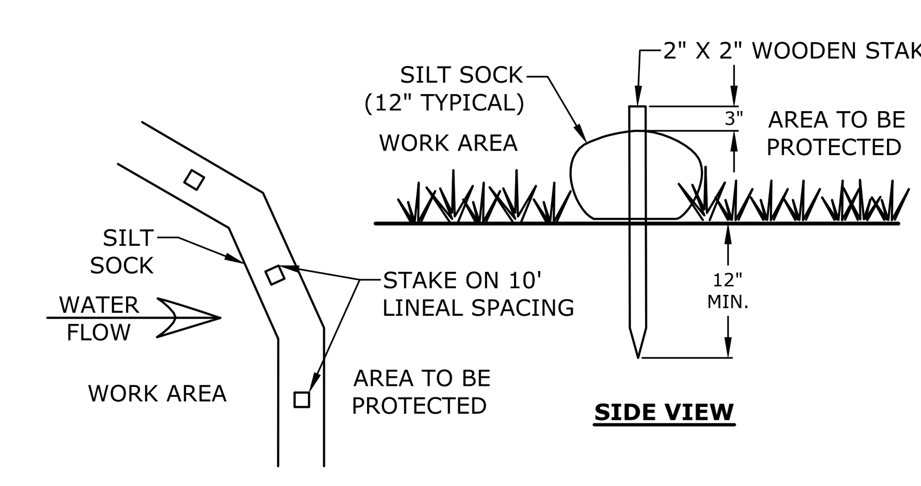
NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE



NOTES:
1. COIR MAT INLET FILTER SHALL BE STORM WATER INLET FILTER BY BLOCKSOM & CO. OR APPROVED EQUAL.
2. INSTALL AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

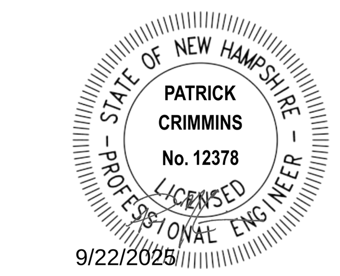
INLET PROTECTION BARRIER
NO SCALE

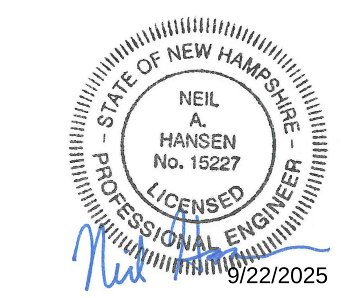


NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

SILT SOCK
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists





PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

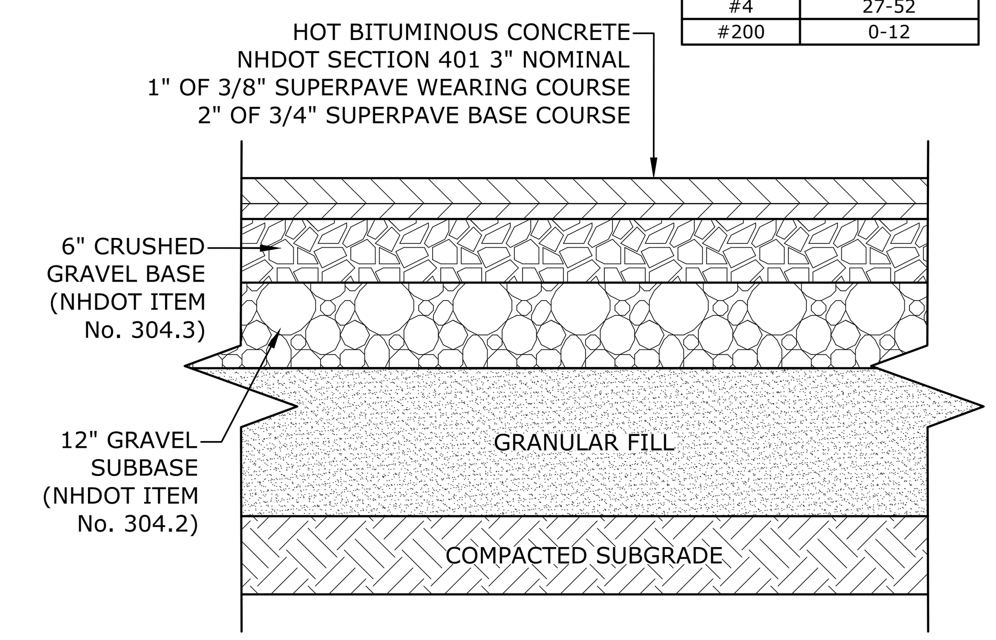
EROSION CONTROL NOTES AND DETAILS

SCALE: AS SHOWN

C-601

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



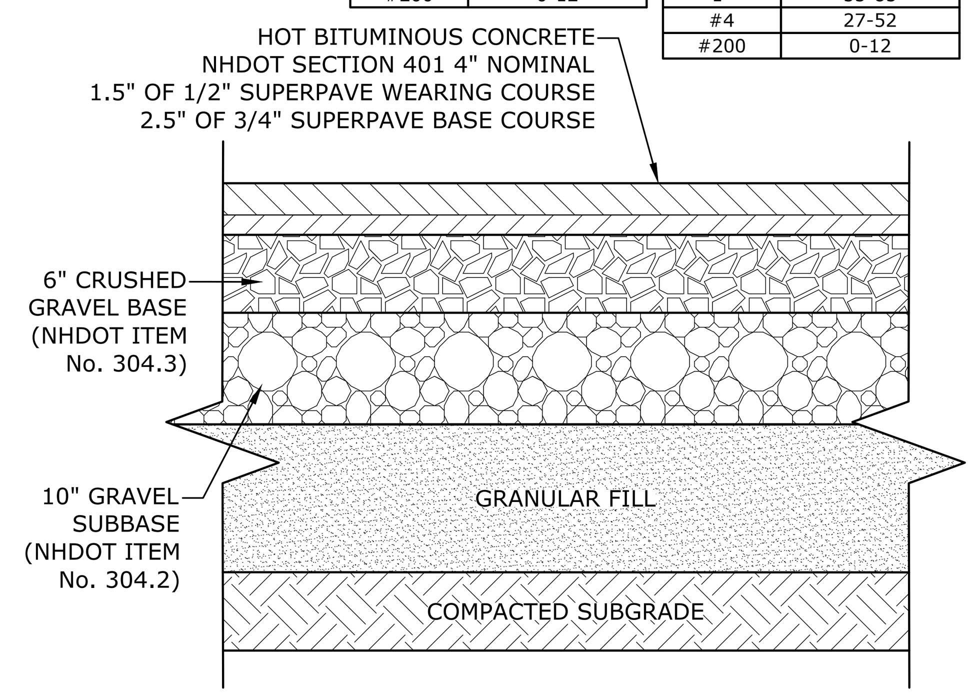
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER.

ON-SITE PAVEMENT SECTION

NO SCALE

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

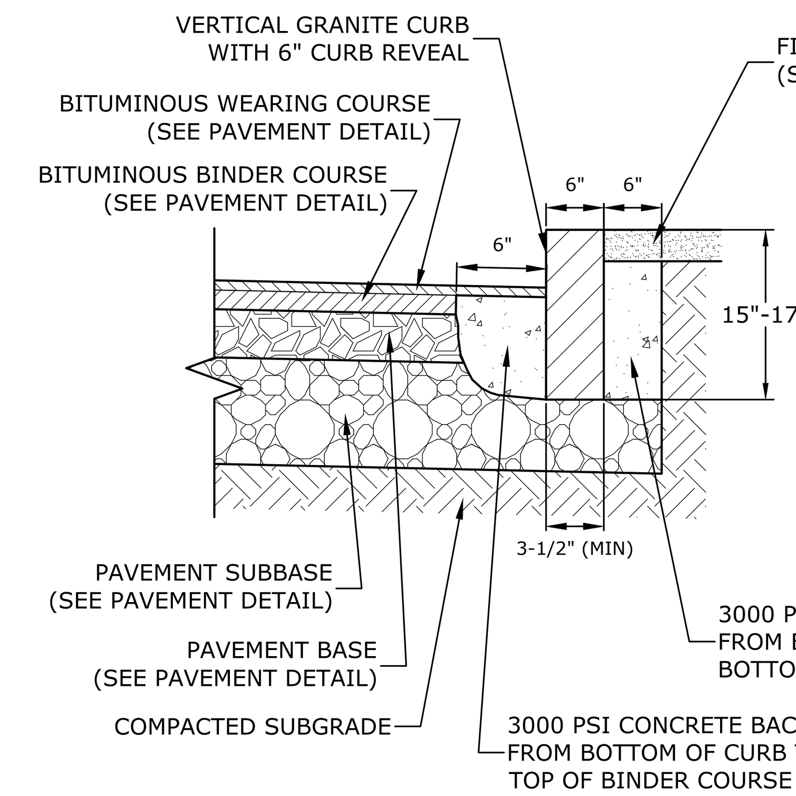
NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



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.

CITY RIGHT-OF-WAY PAVEMENT SECTION

NO SCALE

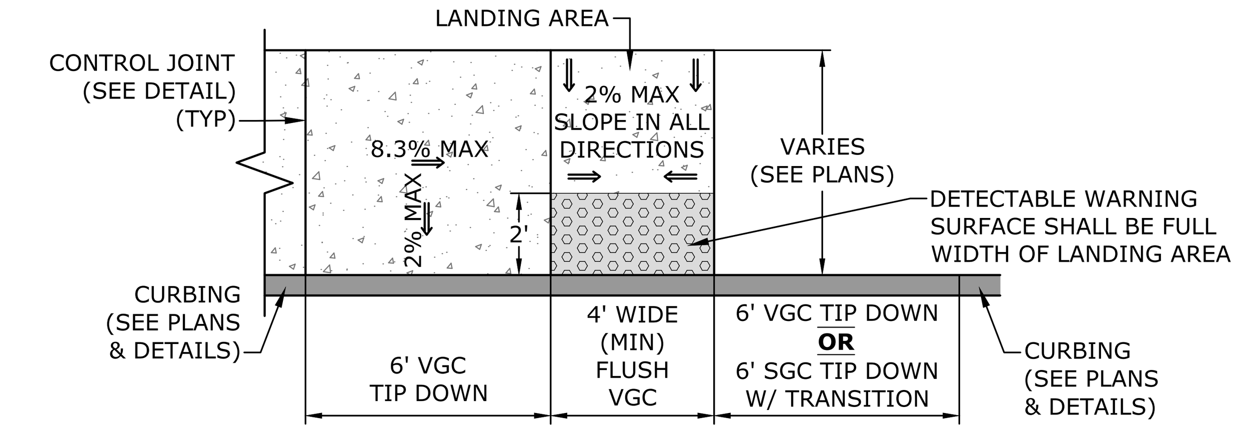


CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

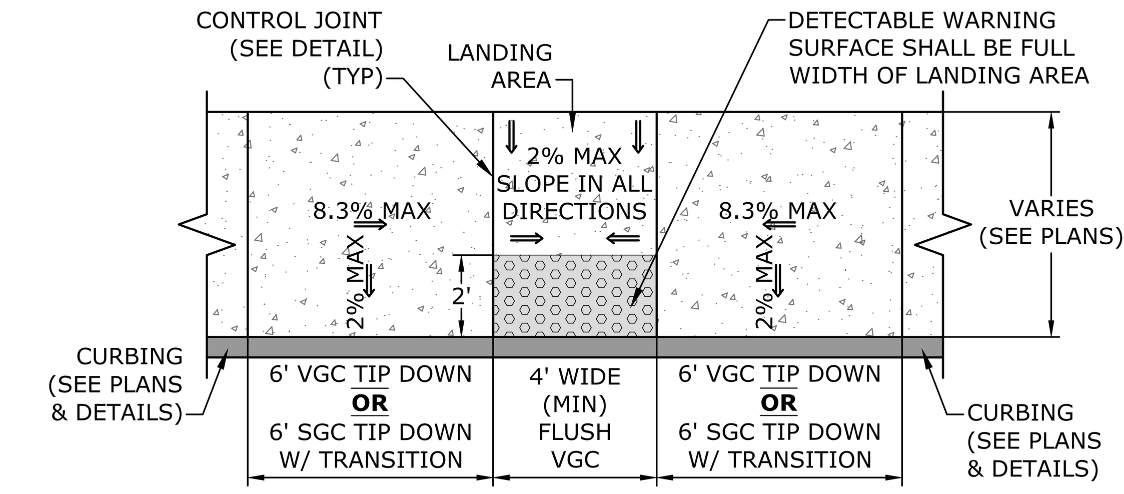
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE 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

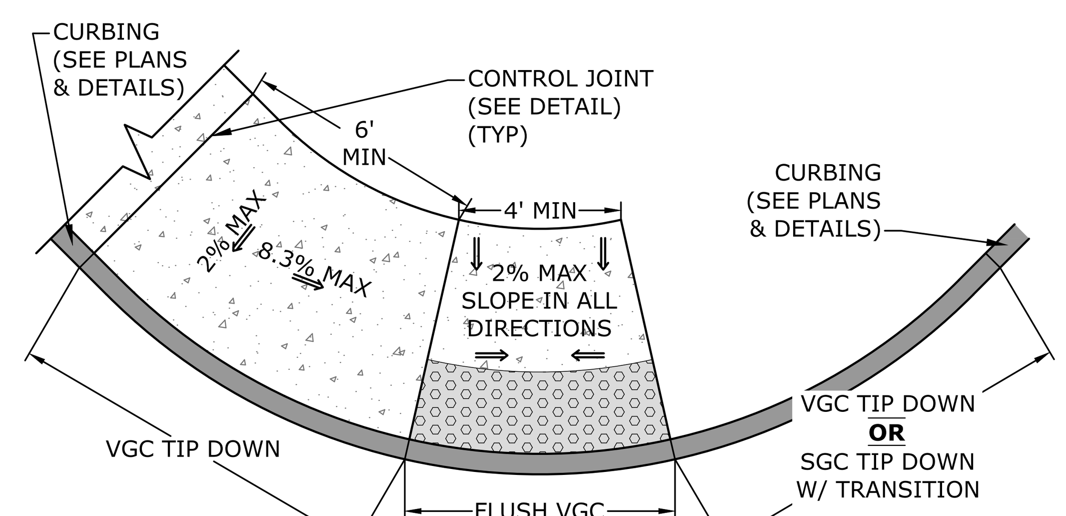
NO SCALE



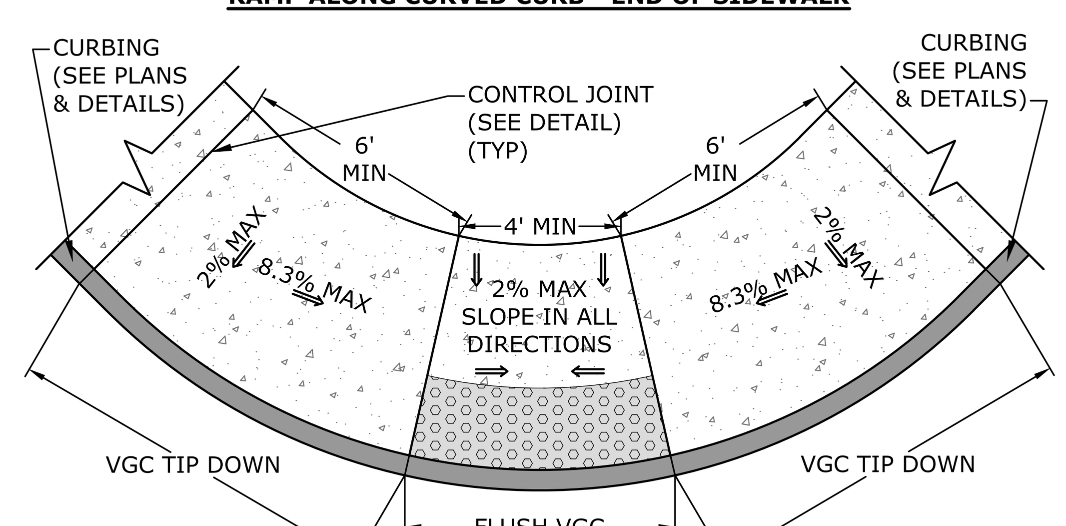
RAMP ALONG CURB - END OF SIDEWALK



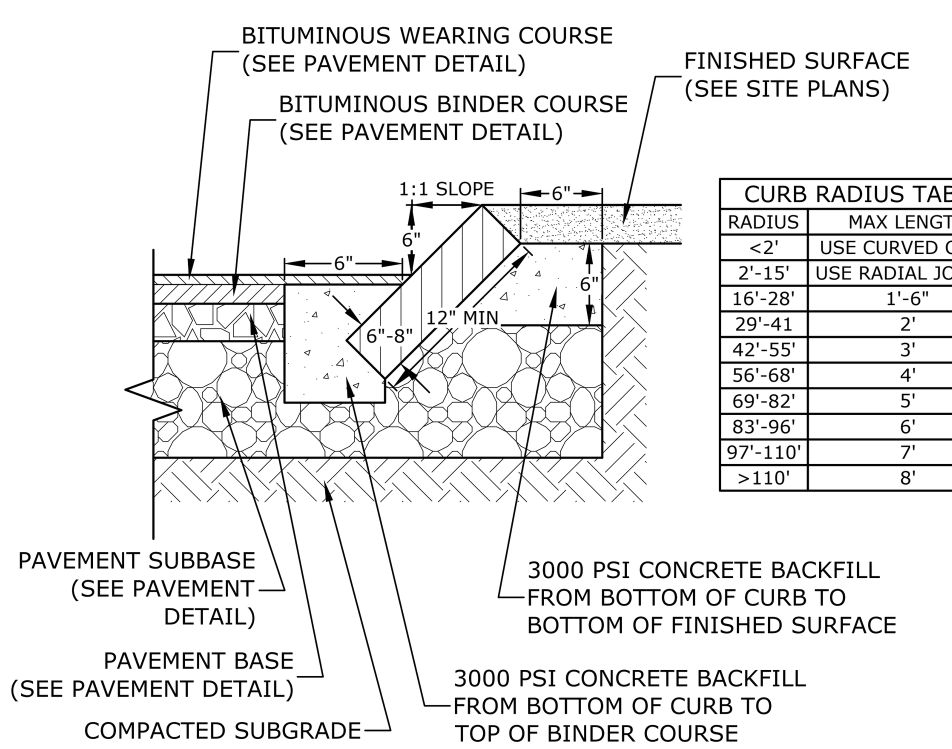
RAMP ALONG CURB - MIDDLE OF SIDEWALK



RAMP ALONG CURVED CURB - END OF SIDEWALK



RAMP ALONG CURBED CURB - MIDDLE OF SIDEWALK

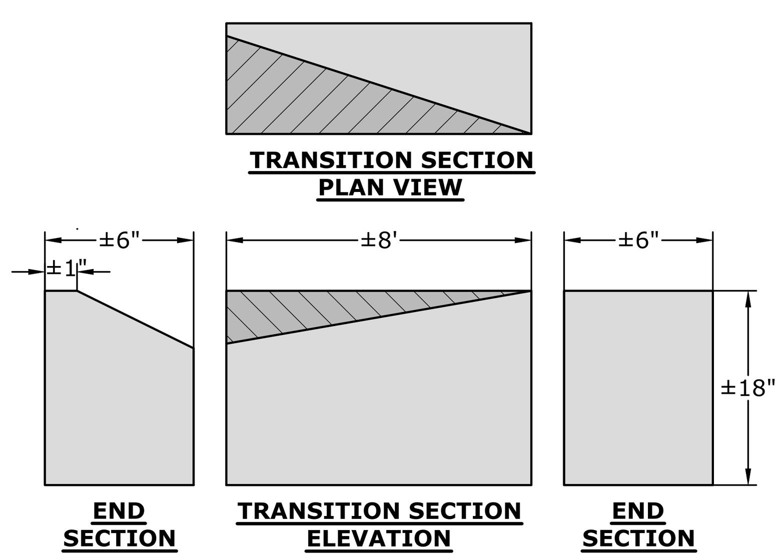


CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

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

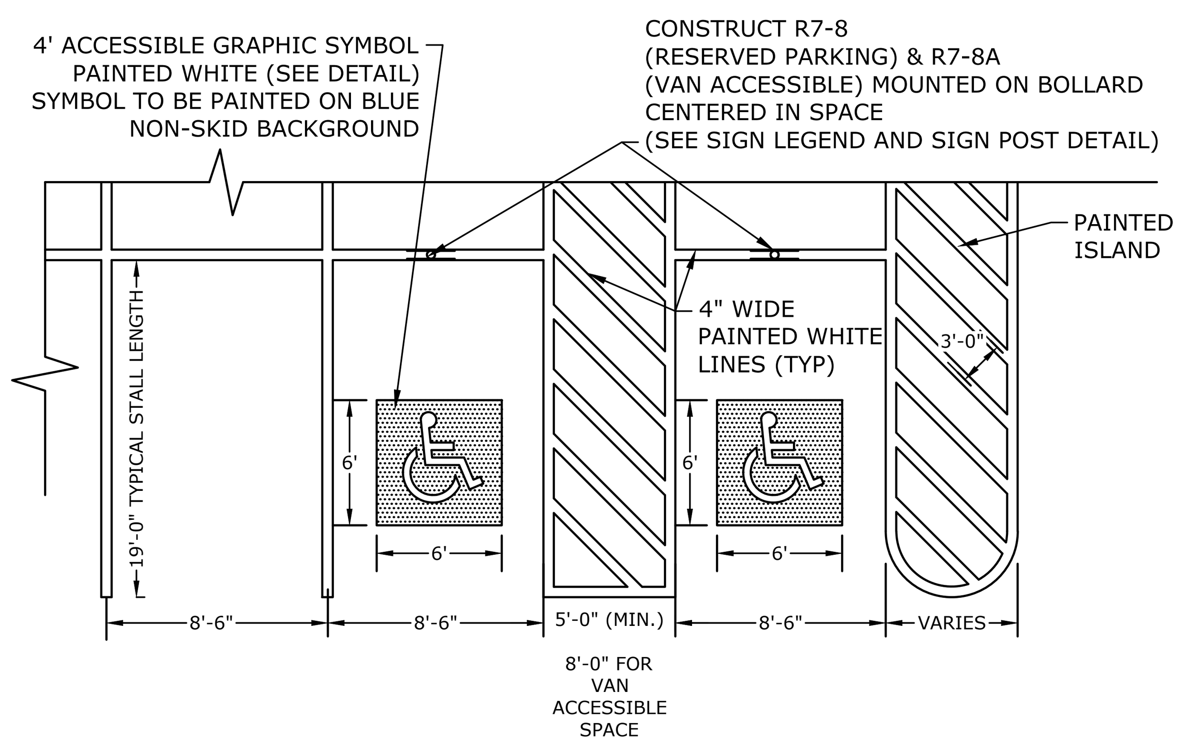
NO SCALE



NOTES
1. THE INTENT OF THIS DETAIL IS TO PROVIDE A SMOOTH TRANSITION BETWEEN VERTICAL GRANITE CURB (VGC) AND SLOPE GRANITE CURB (SGC) WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION.
2. THE SGC MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SGC TO STANDARD REVEAL VGC AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

GRANITE CURB TRANSITION

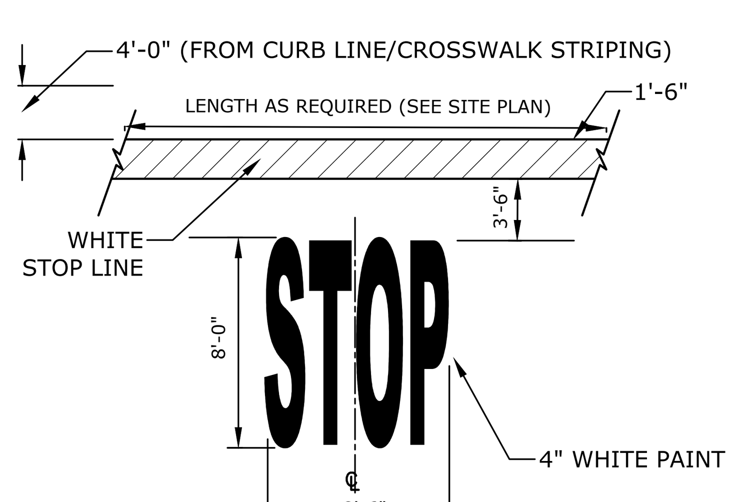
NO SCALE



NOTES:
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 STALL/PAINTED ISLAND STRIPING

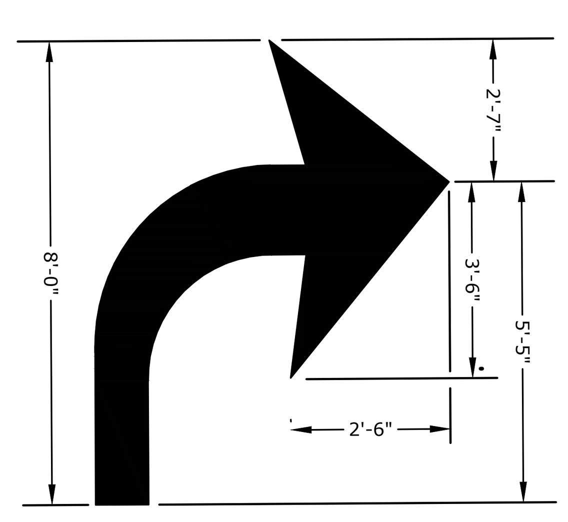
NO SCALE



NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.

STOP BAR AND LEGEND

NO SCALE

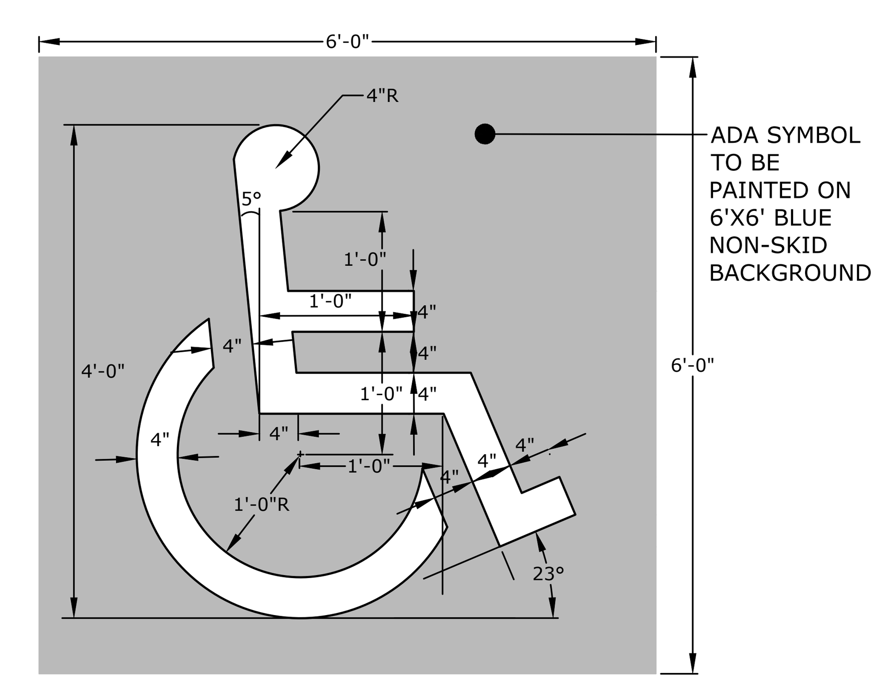


TURN ARROW
(LEFT TURN OPPOSITE IN KIND)

NOTES:
1. SYMBOLS SHALL BE PAINTED USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. PREFORMED WORDS AND SYMBOLS SHALL BE PRE-CUT BY THE MANUFACTURER.

TURN ARROW

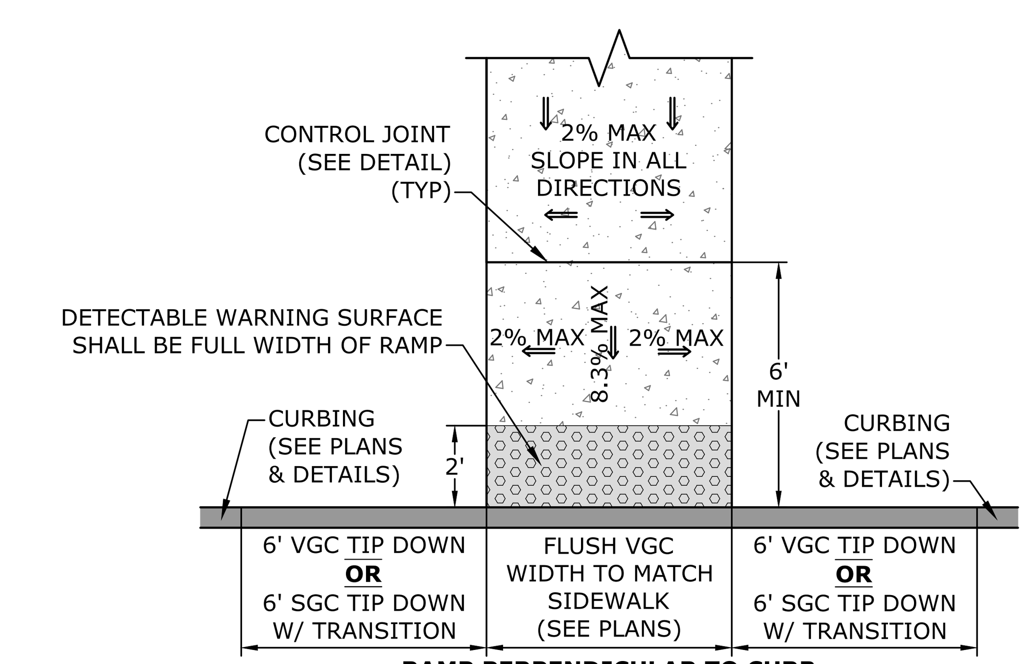
NO SCALE



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



RAMP PERPENDICULAR TO CURB

NOTES:
1. DETECTABLE WARNING PANELS SHALL ONLY BE INSTALLED AT SPECIFIC LOCATIONS AS IDENTIFIED ON THE SITE PLANS, NOT ON ALL TIP-DOWNS. SEE SEPARATE DETAIL FOR WARNING PANEL REQUIREMENTS.
2. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. A 6" CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
4. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
5. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. THERE SHALL BE A 0" REVEAL BETWEEN PAVEMENT, CURB, AND CONCRETE TIP-DOWN SURFACES.
6. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
7. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.

CONCRETE TIP DOWN RAMP WITH DETECTABLE WARNING SURFACE

NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

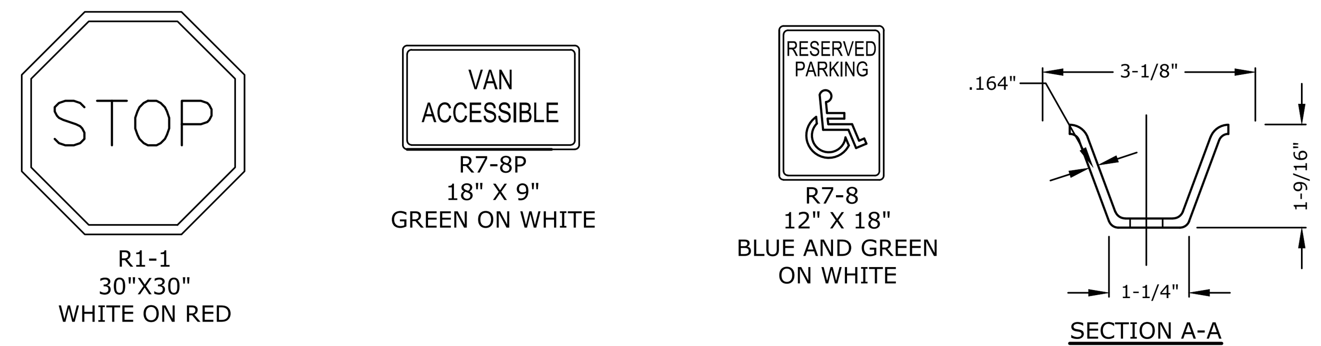
MARK	DATE	DESCRIPTION

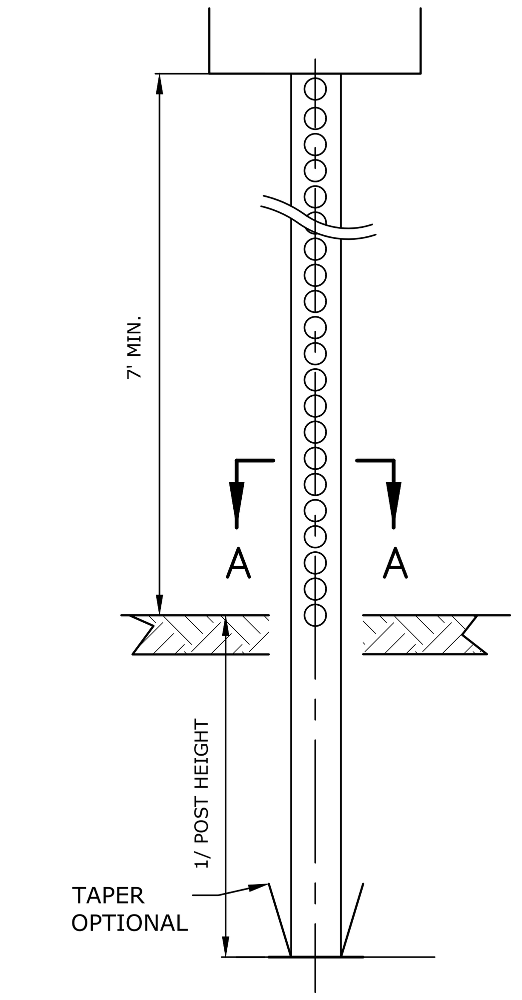
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-602





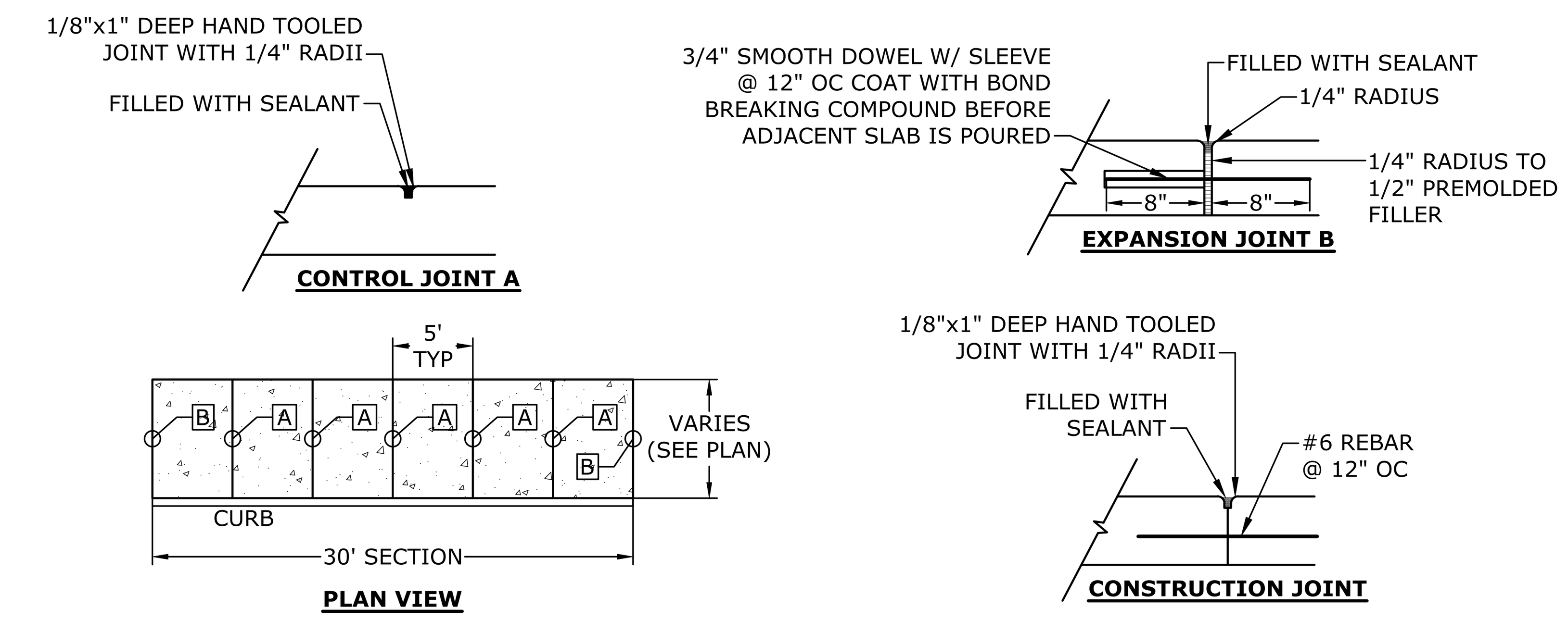
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

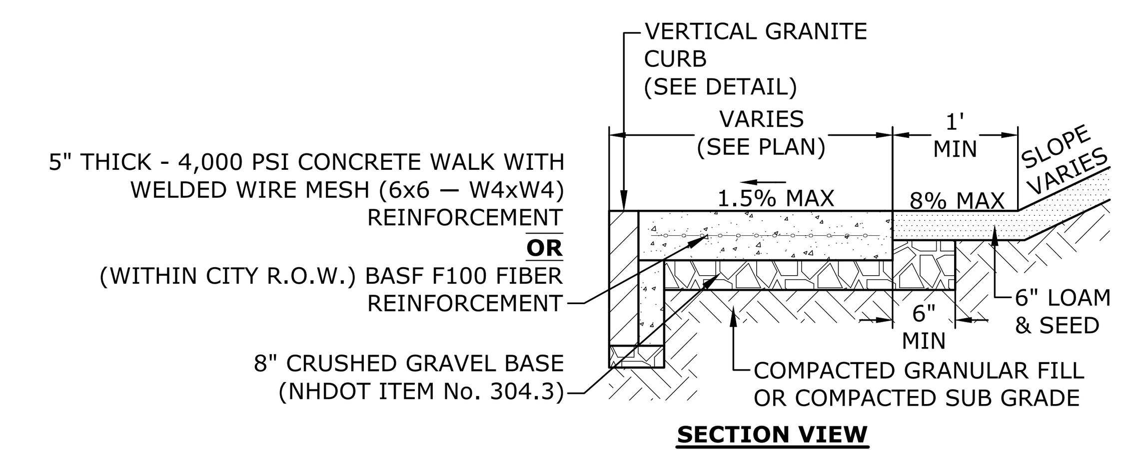
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED BLACK BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

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

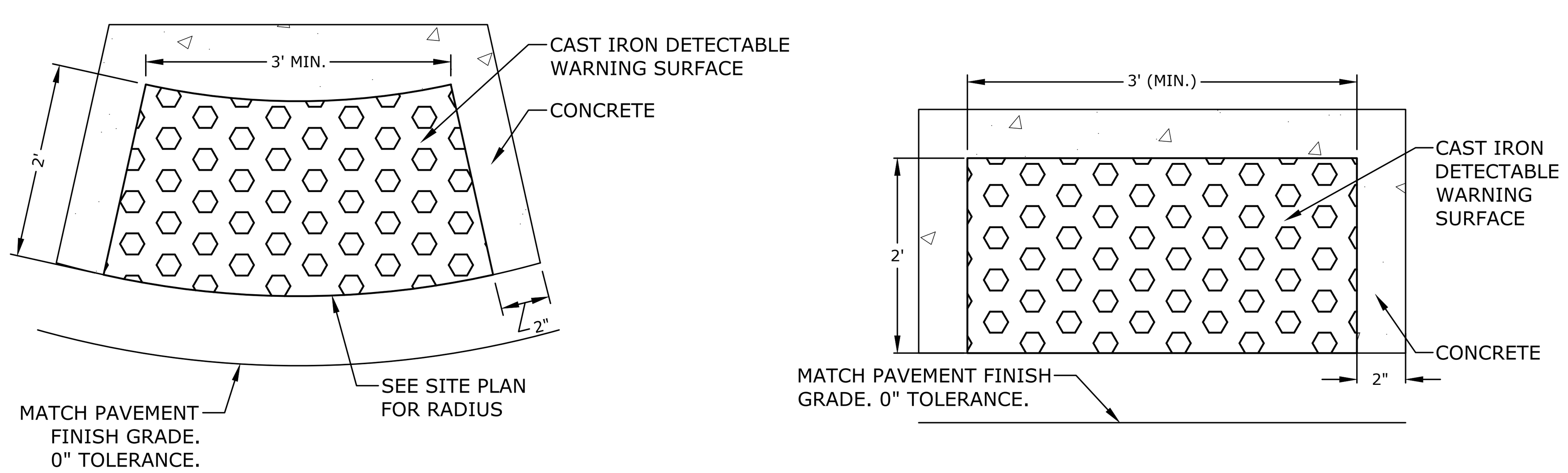
SIGN LEGEND AND SIGN POST
NO SCALE





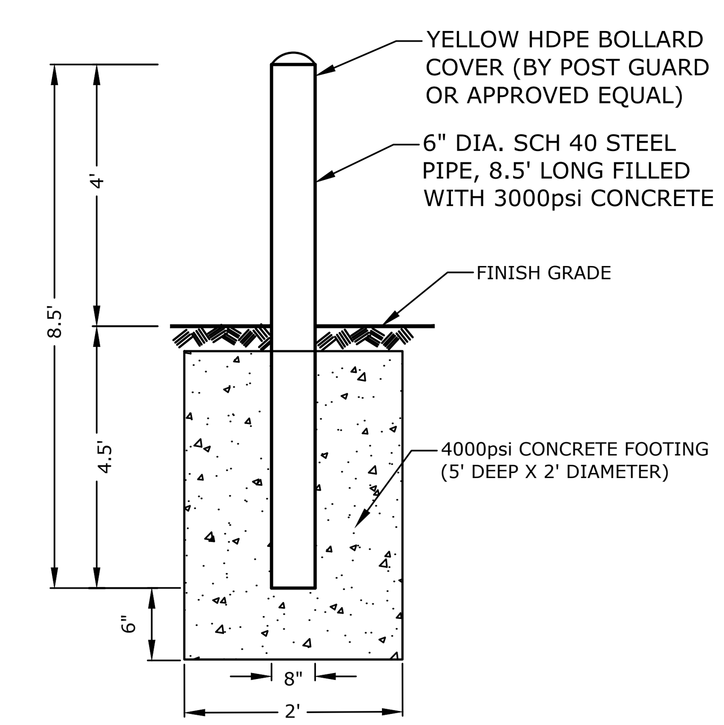
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SIDEWALKS WITHIN THE CITY RIGHT-OF-WAY SHALL BE CONSTRUCTED USING FIBER REINFORCEMENT.
3. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
4. SIDEWALK SURFACE SHALL GIVEN A BROOM FINISH.
5. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
6. CONTRACTOR SHALL SUBMIT THE PROPOSED CONCRETE MIX DESIGN FOR APPROVAL PRIOR TO CONSTRUCTION.
7. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.

CONCRETE SIDEWALK
NO SCALE



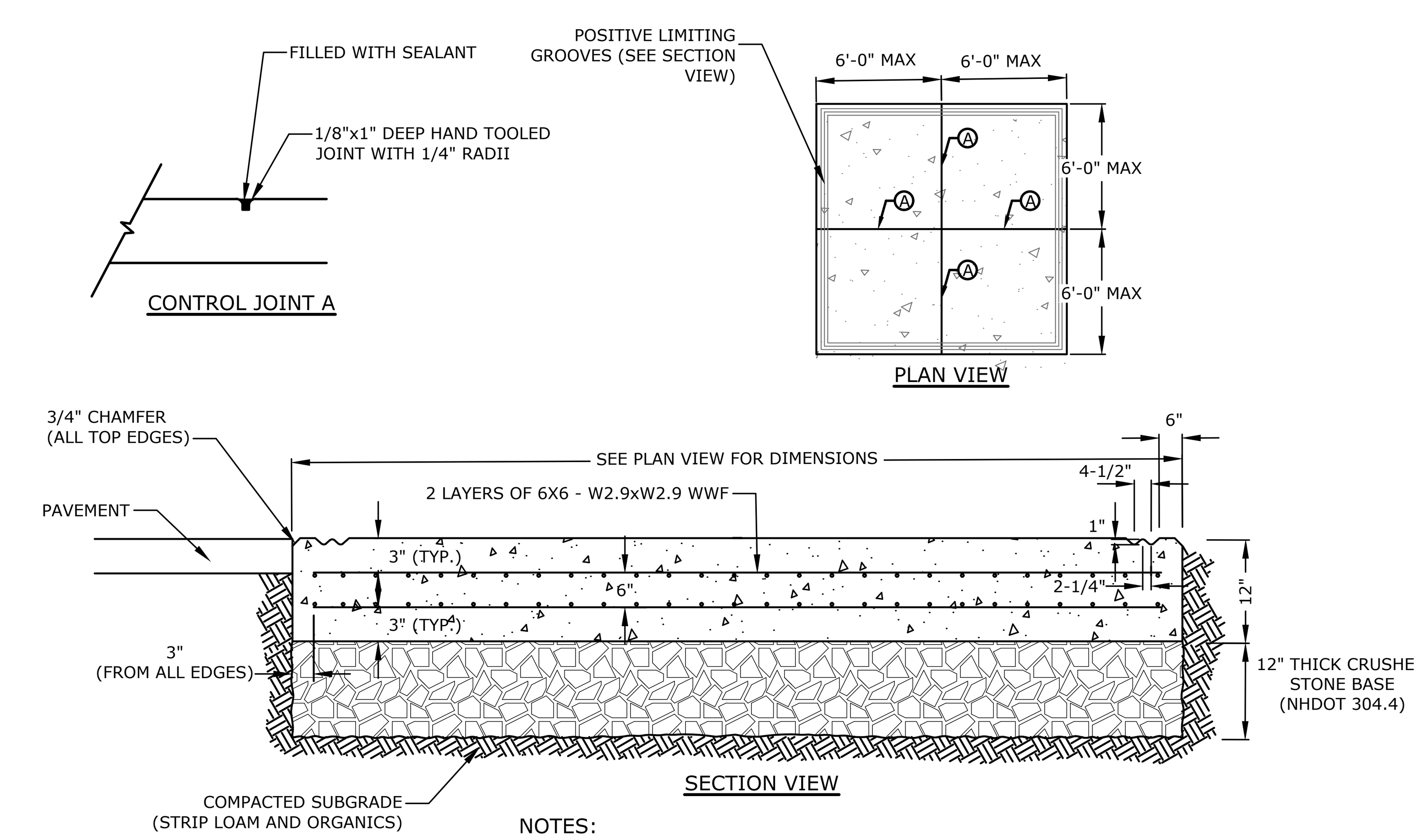
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE CAST IRON PANEL SET IN CONCRETE.
2. CONCRETE THAT PLATES ARE SET IN SHALL BE NO LESS THAN 6" THICK, NHDOT TYPE AA (4000 PSI) WITH FIBER.
3. THE WARNING SURFACE SHALL EXTEND FULLY ACROSS AND WITHIN 2" OF THE EDGES OF THE SIDEWALK.
4. DETECTABLE WARNING SURFACES SHALL BE INSTALLED AT ALL MAJOR DRIVEWAYS AND STREET CROSSINGS.
5. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



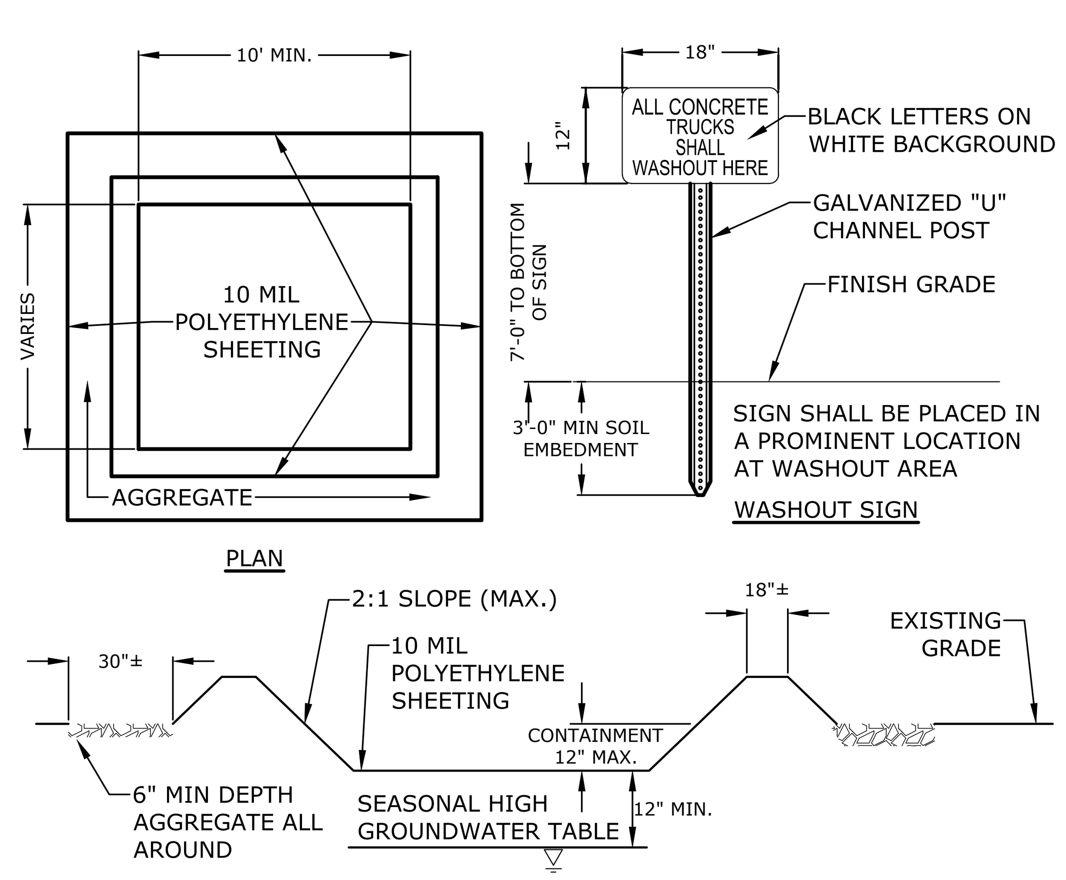
NOTE:
1. COORDINATE WITH EVERSOURCE TO VERIFY THAT BOLLARD, FOOTING, AND BOLLARD COVER MEET EVERSOURCE REQUIREMENTS.

BOLLARD DETAIL
NO SCALE



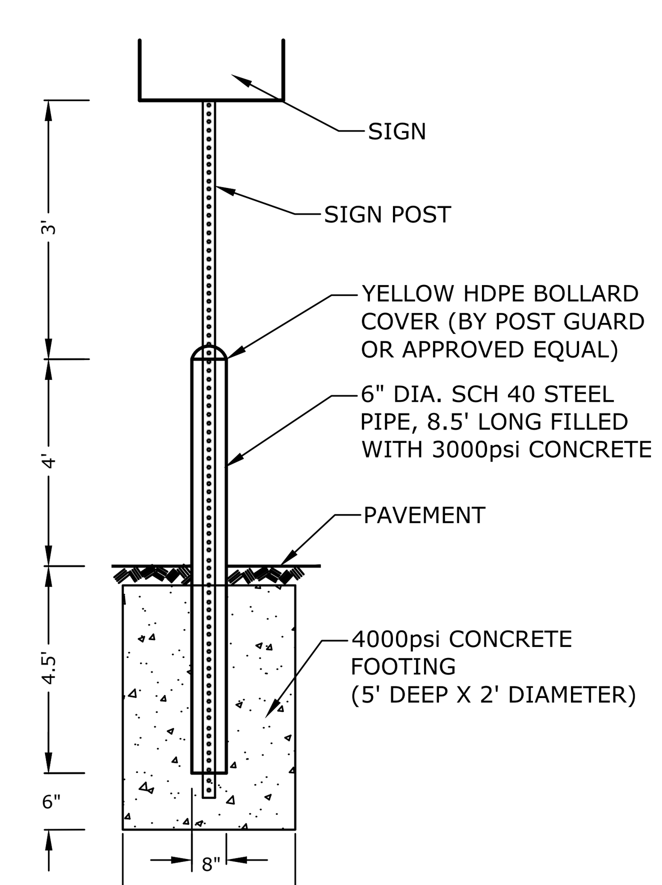
NOTES:
1. CONCRETE TO BE 4500 PSI, 7% AIR ENTRAINED
2. STANDARD BROOM FINISH.

DUMPSTER PAD
NO SCALE

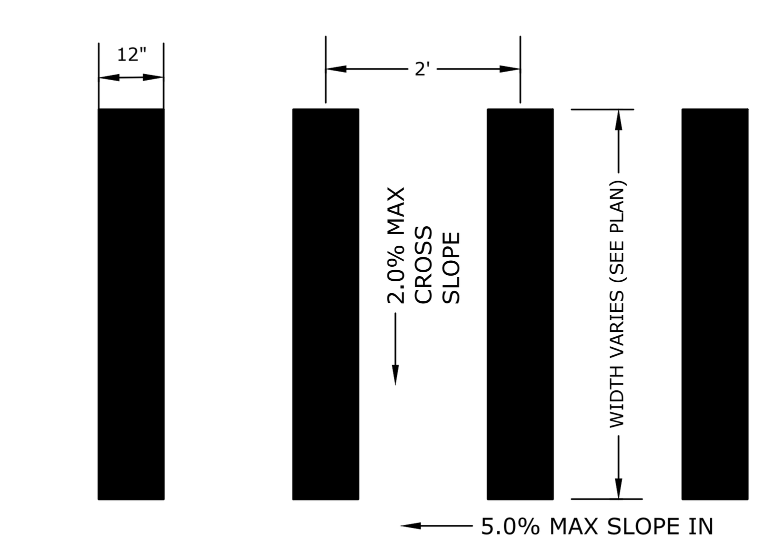


NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE



BOLLARD MOUNTED SIGN DETAIL
NO SCALE



NOTE:
STRIPING SHALL BE CONSTRUCTED USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.

CROSSWALK STRIPING
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

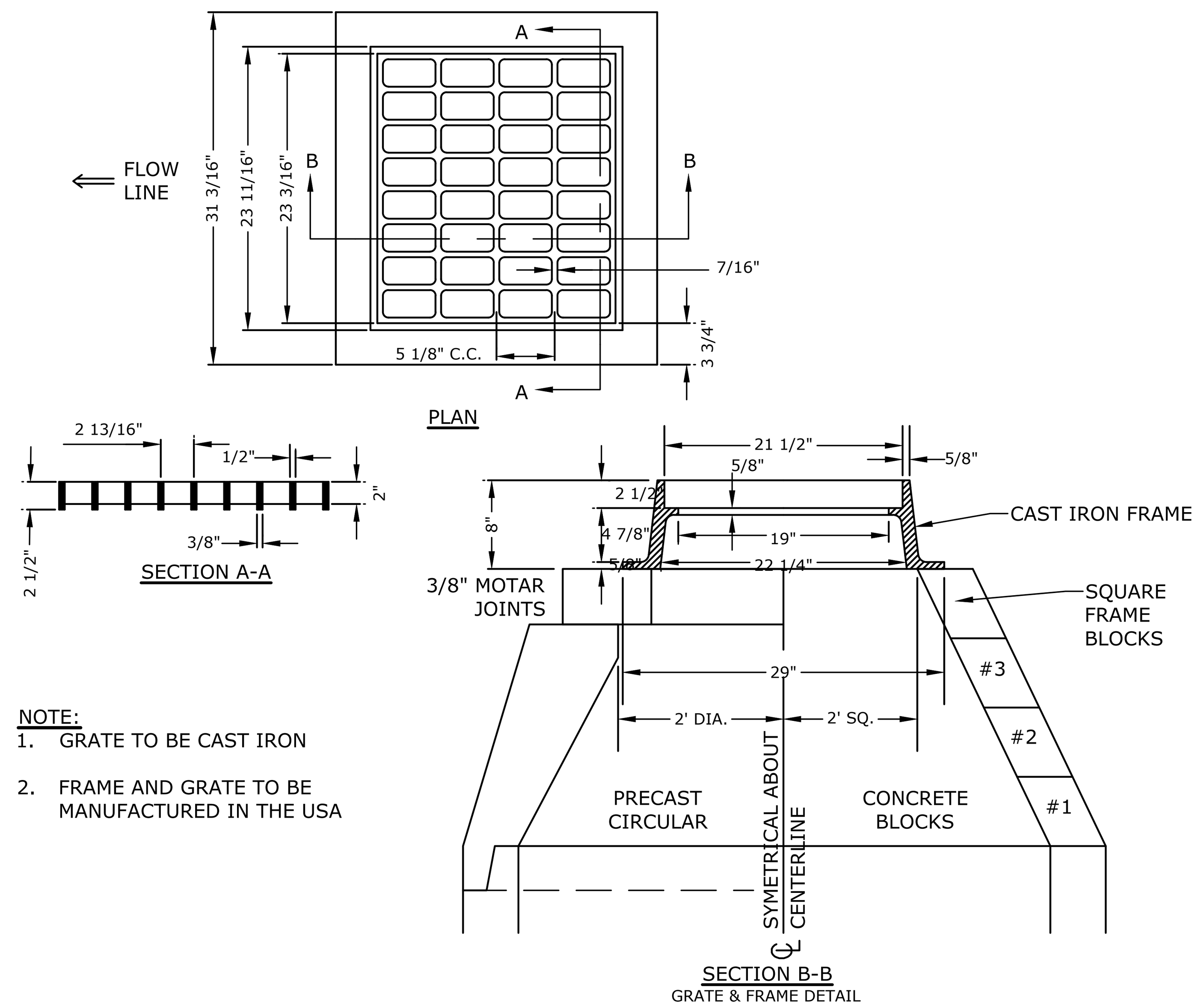
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

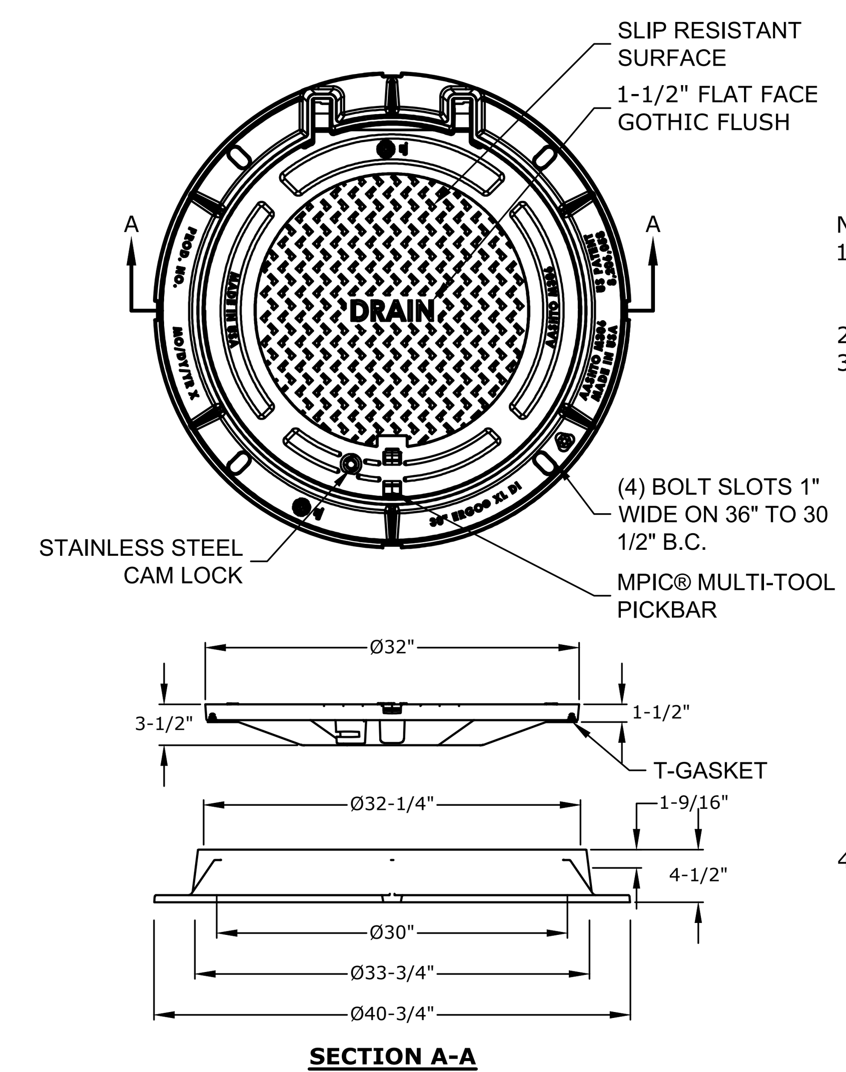
SCALE: AS SHOWN

C-603

Last Saved: 9/19/2025
Plotted On:Sep 22, 2025-11:25am By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg

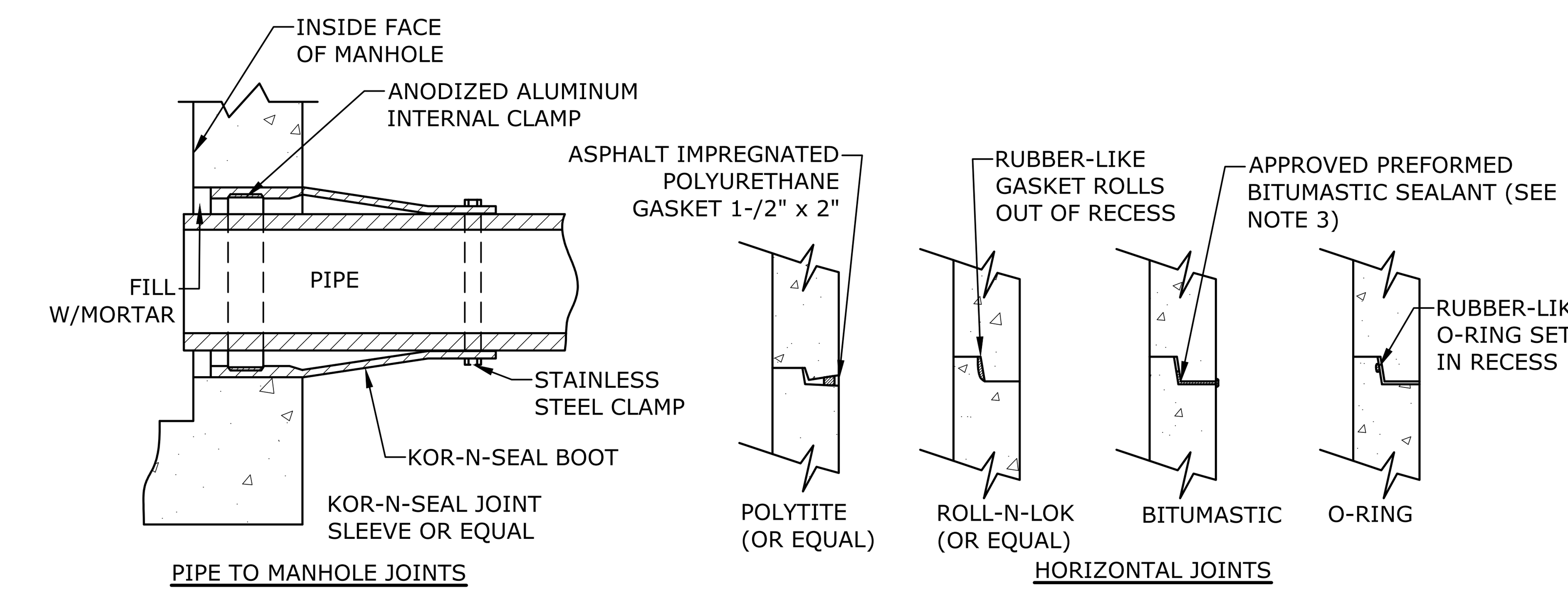


CATCH BASIN FRAME & GRATE
NO SCALE



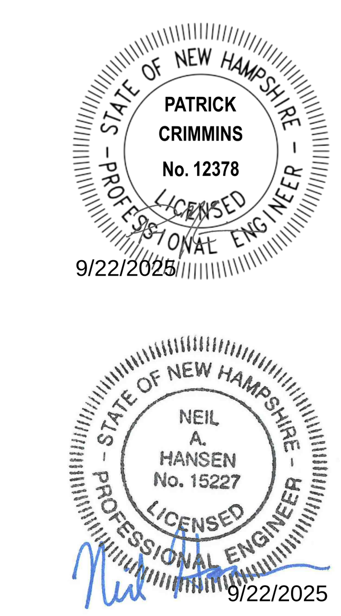
NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

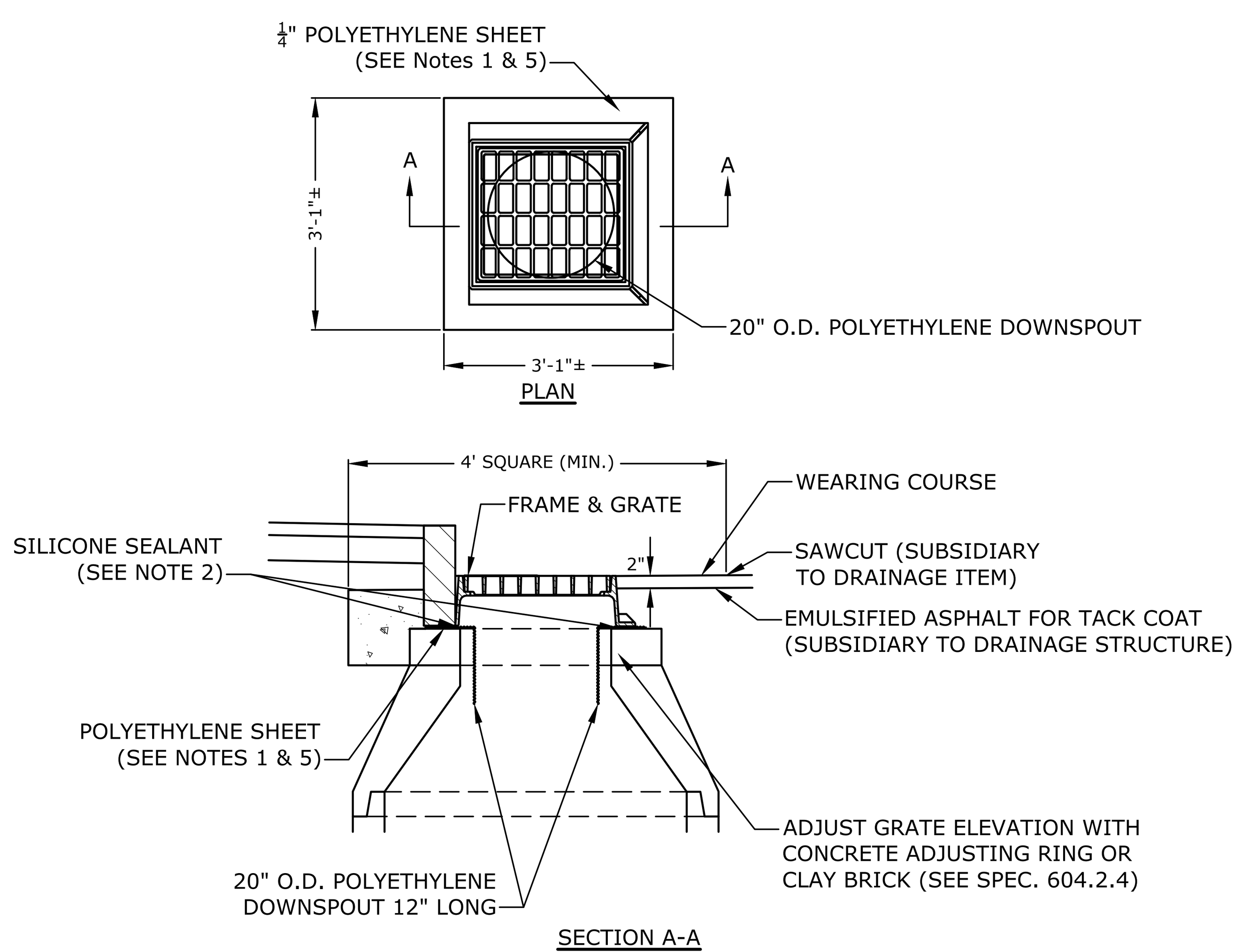
DRAIN MANHOLE FRAME & COVER
NO SCALE



NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH 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 CITY OF PORTSMOUTH 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.

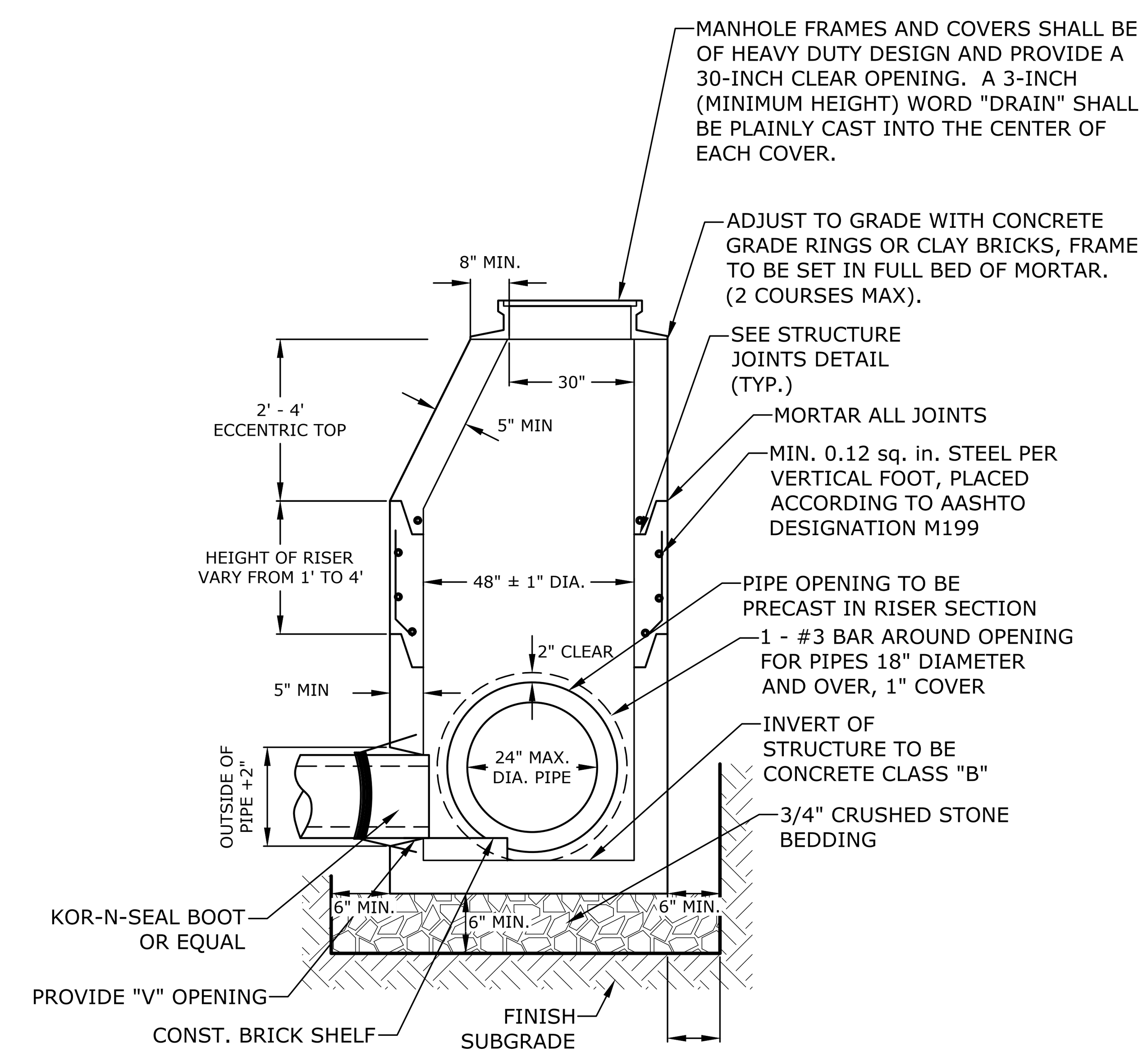
MANHOLE JOINTS
NO SCALE





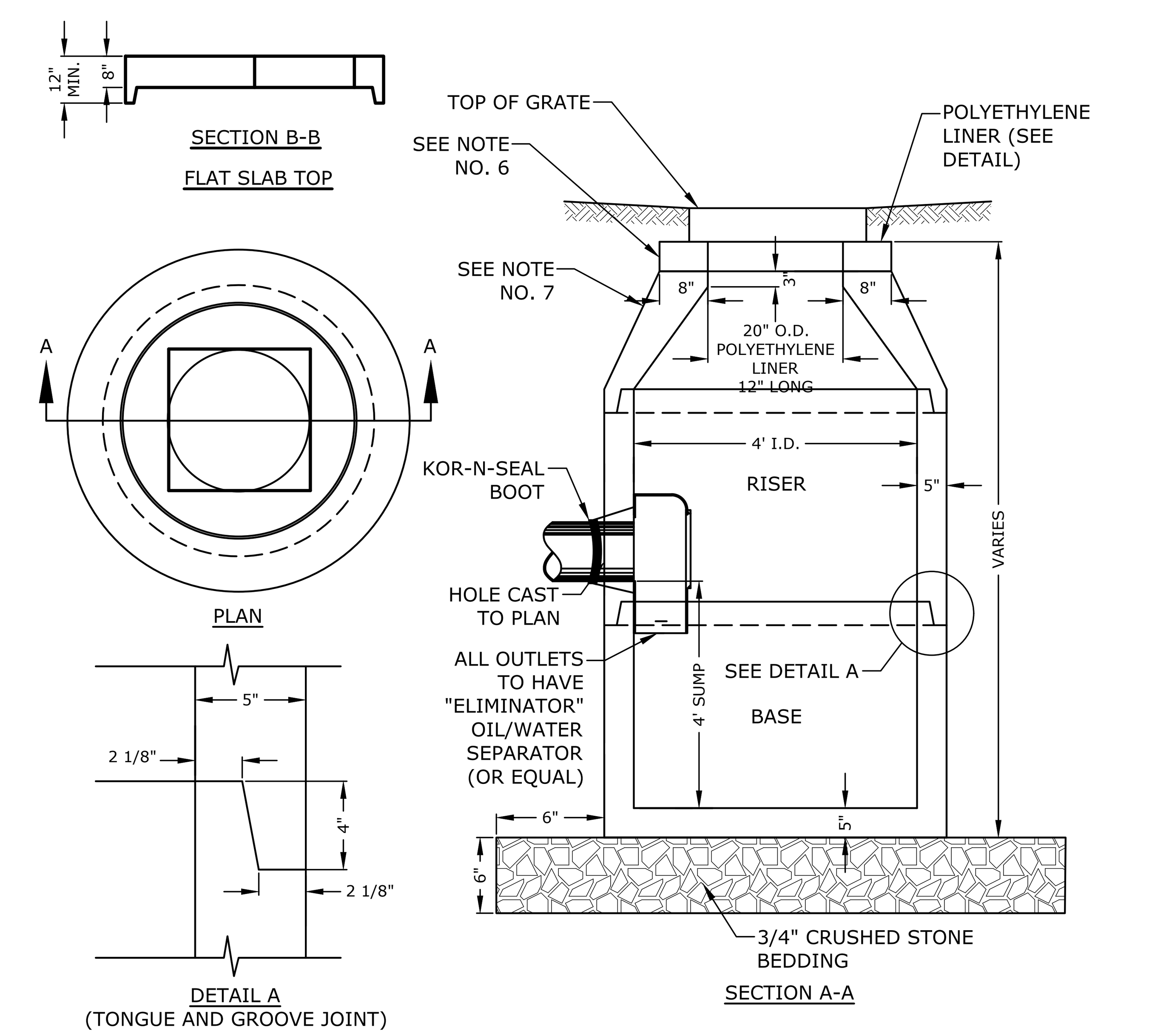
NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

POLYETHYLENE LINER
NO SCALE



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 HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE
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 CATCHBASIN
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

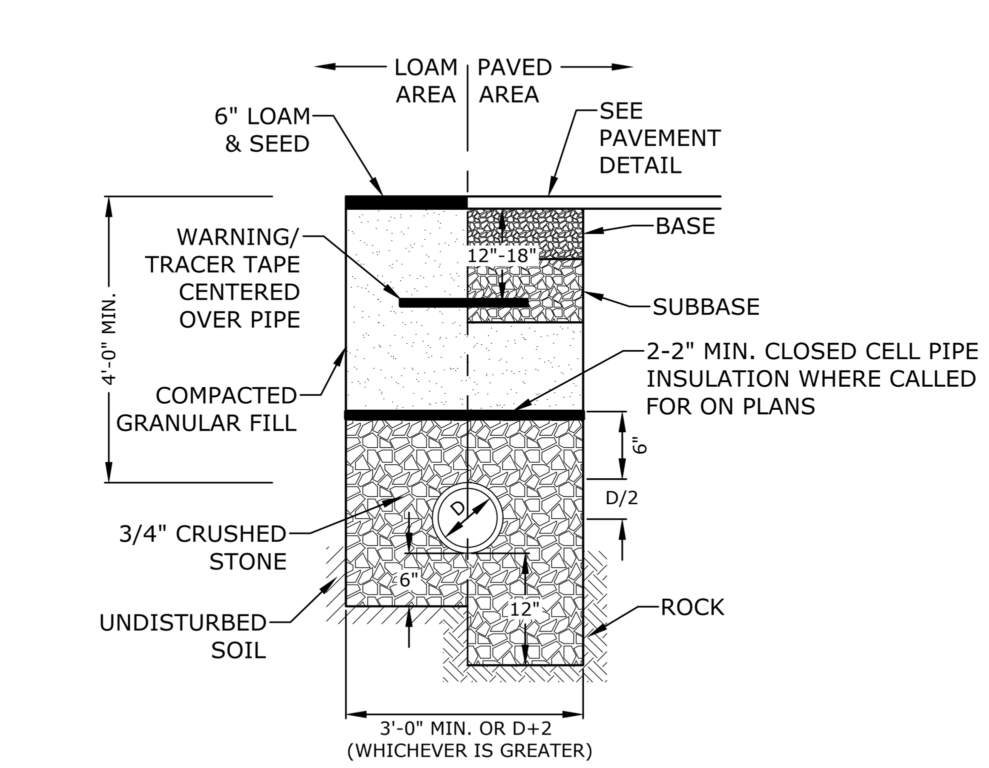
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

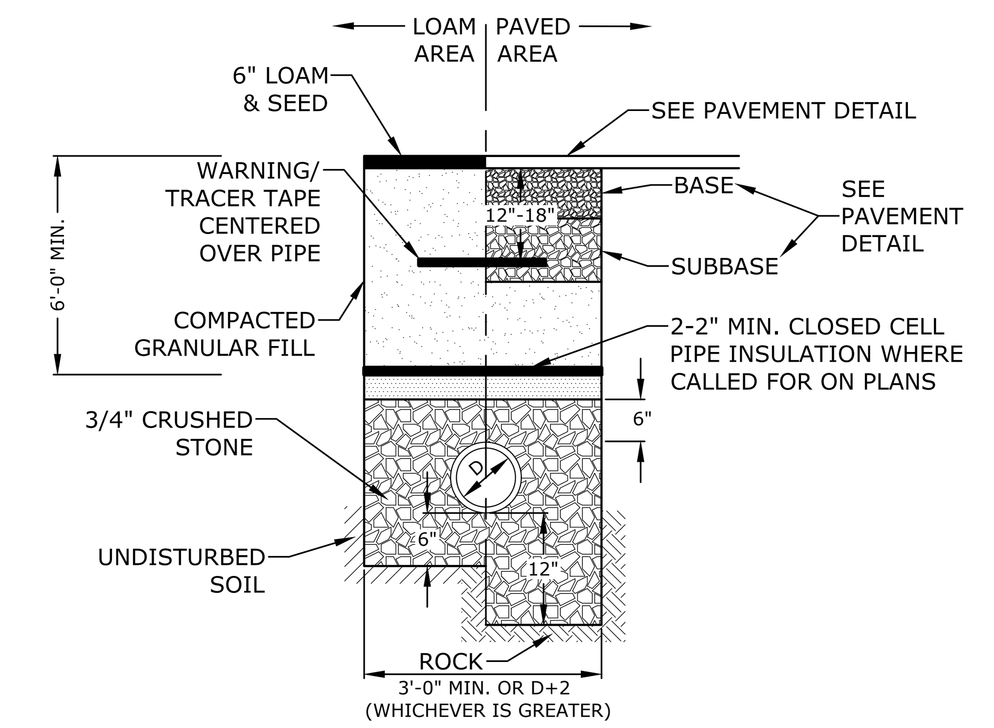
C-604

Last Saved: 9/19/2025
Plotted On:Sep 22, 2025-11:25am By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg



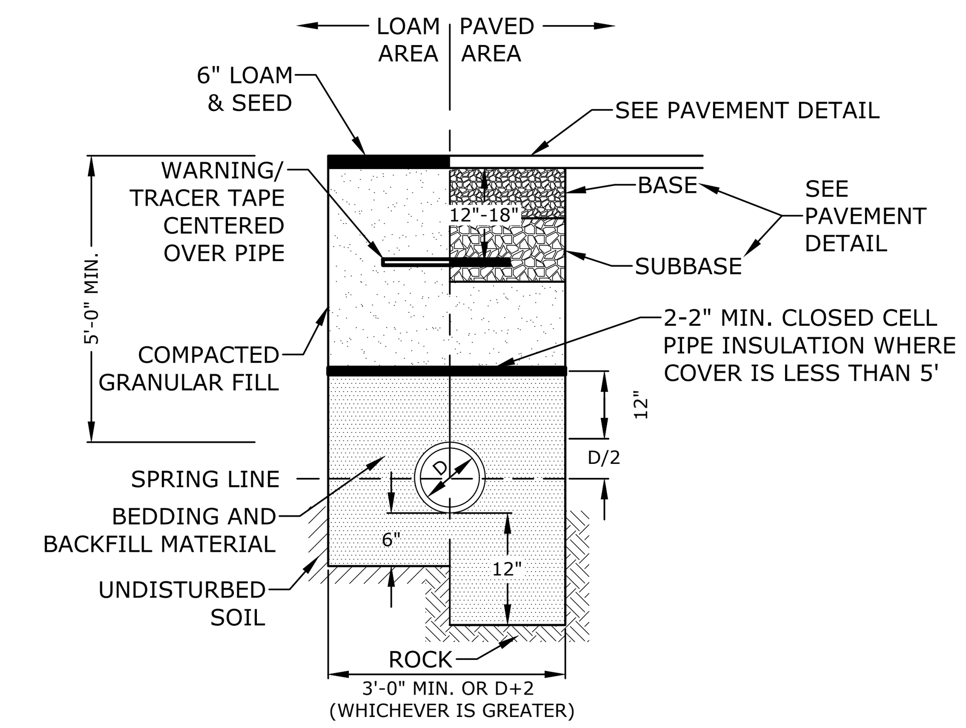
NOTES:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE



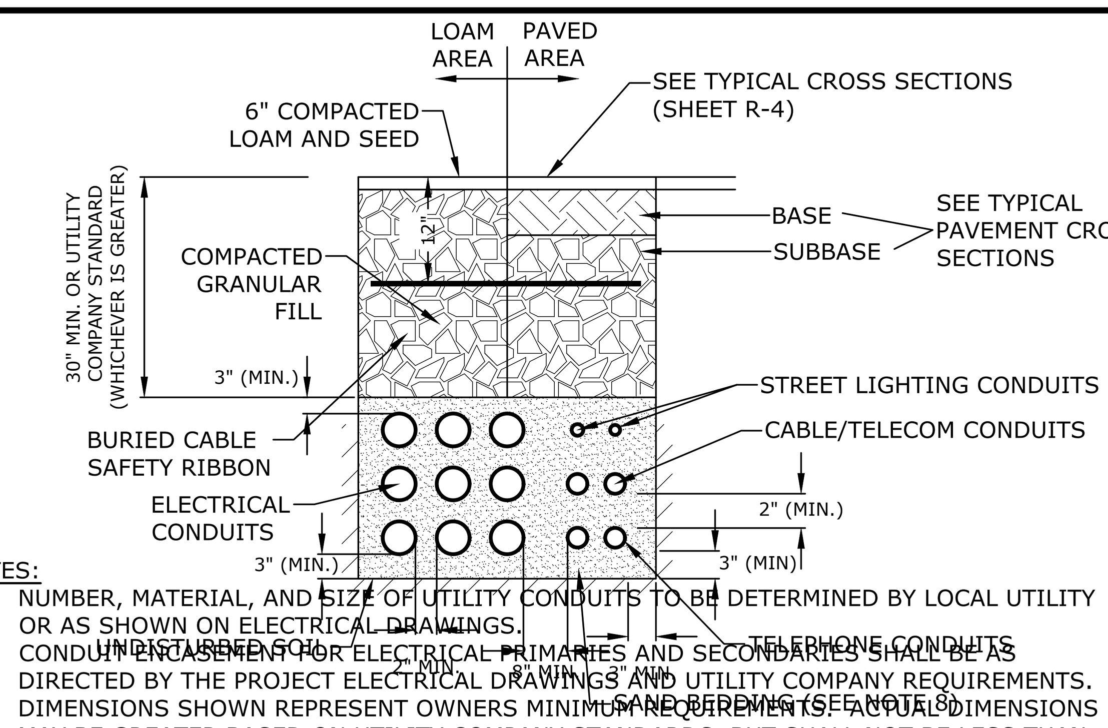
NOTES:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE 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 CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE

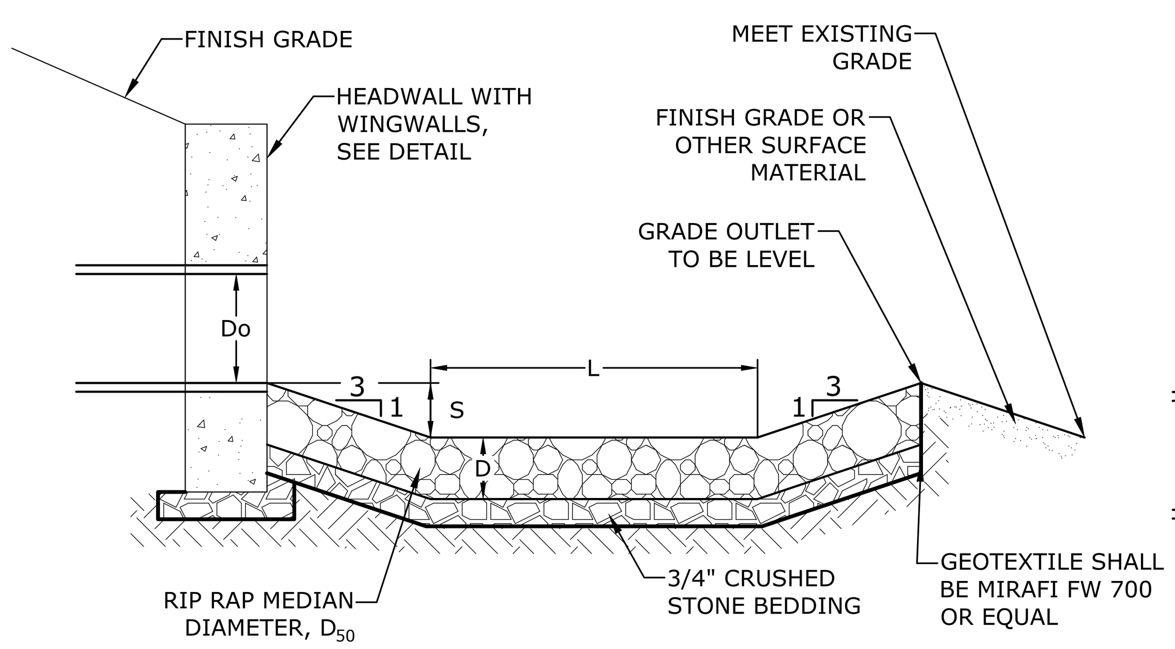


NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS.
2. CONDUIT ENCASEMENT FOR ELECTRICAL PRIMARIES AND SECONDARIES SHALL BE AS DIRECTED BY THE PROJECT ELECTRICAL DRAWINGS AND UTILITY COMPANY REQUIREMENTS.
3. DIMENSIONS SHOWN REPRESENT 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.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

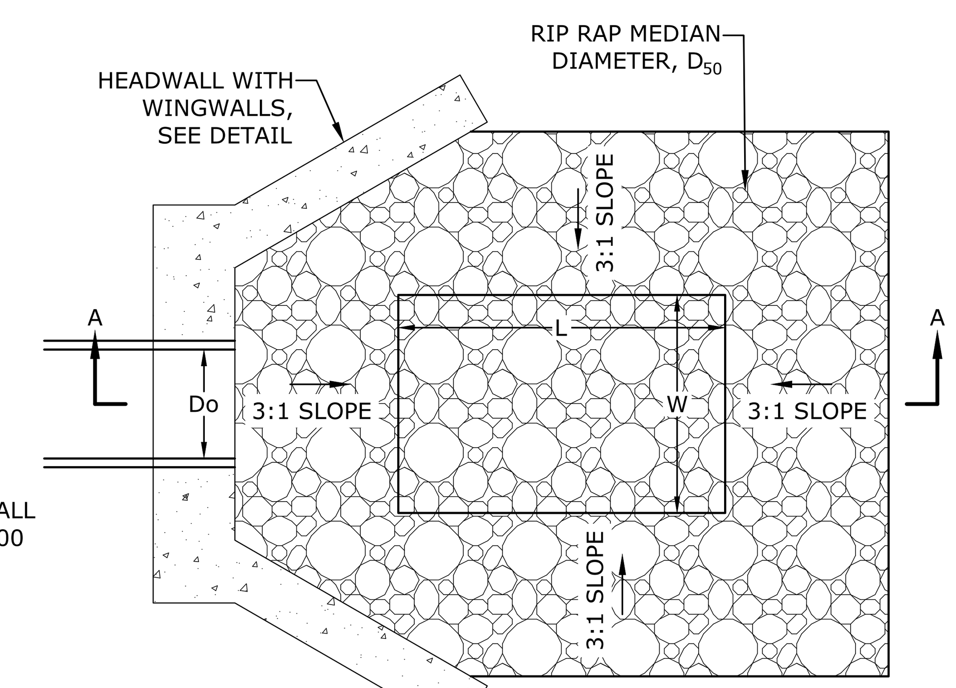
STATE OF NEW HAMPSHIRE PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
9/22/2025



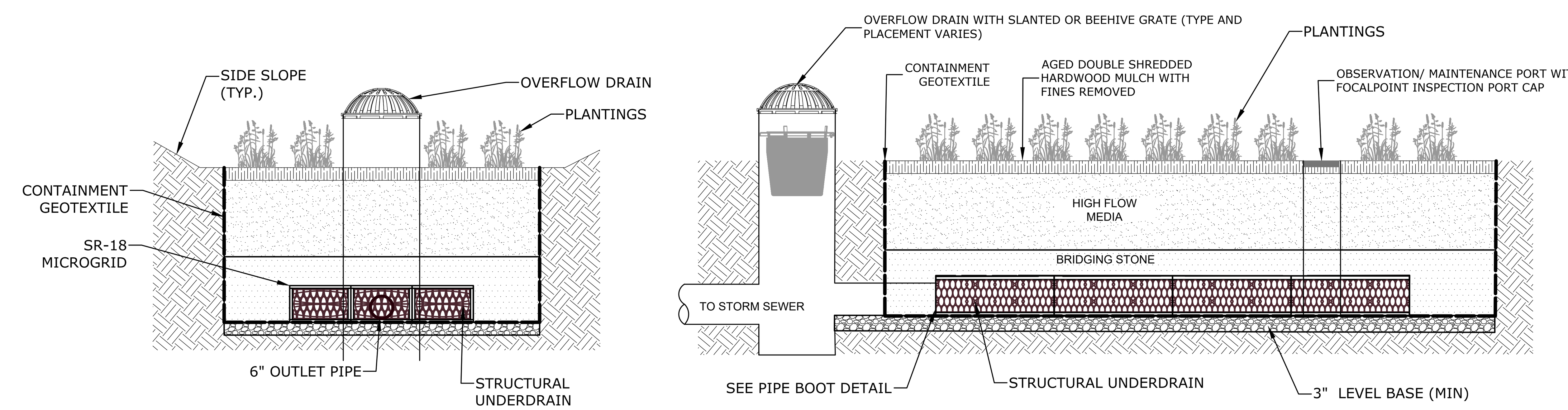
SECTION A-A

OUTLET PLUNGE POOL SIZING						
	Do	S	W	L	D_{50}	D
HW1	30"	2.0'	5.0'	8.0'	6"	1.13'



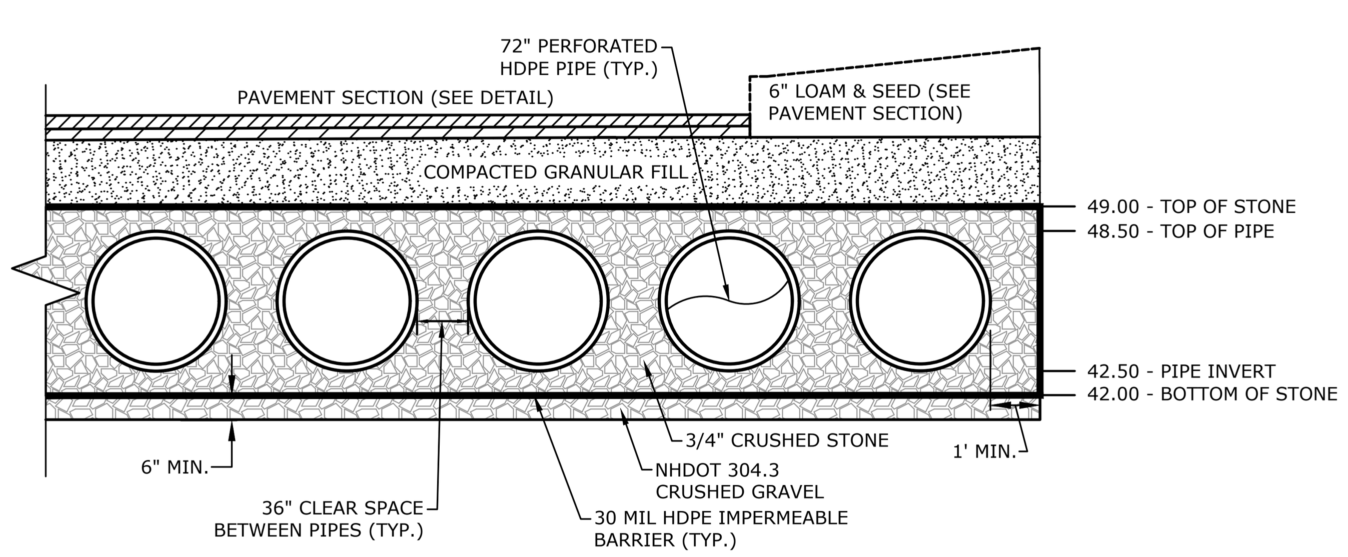
PLAN

OUTLET PLUNGE POOL
NO SCALE



NOTES:
1. ALL INSTALLATIONS TO BE COORDINATED WITH FOCAL POINT PRIOR TO CONSTRUCTION

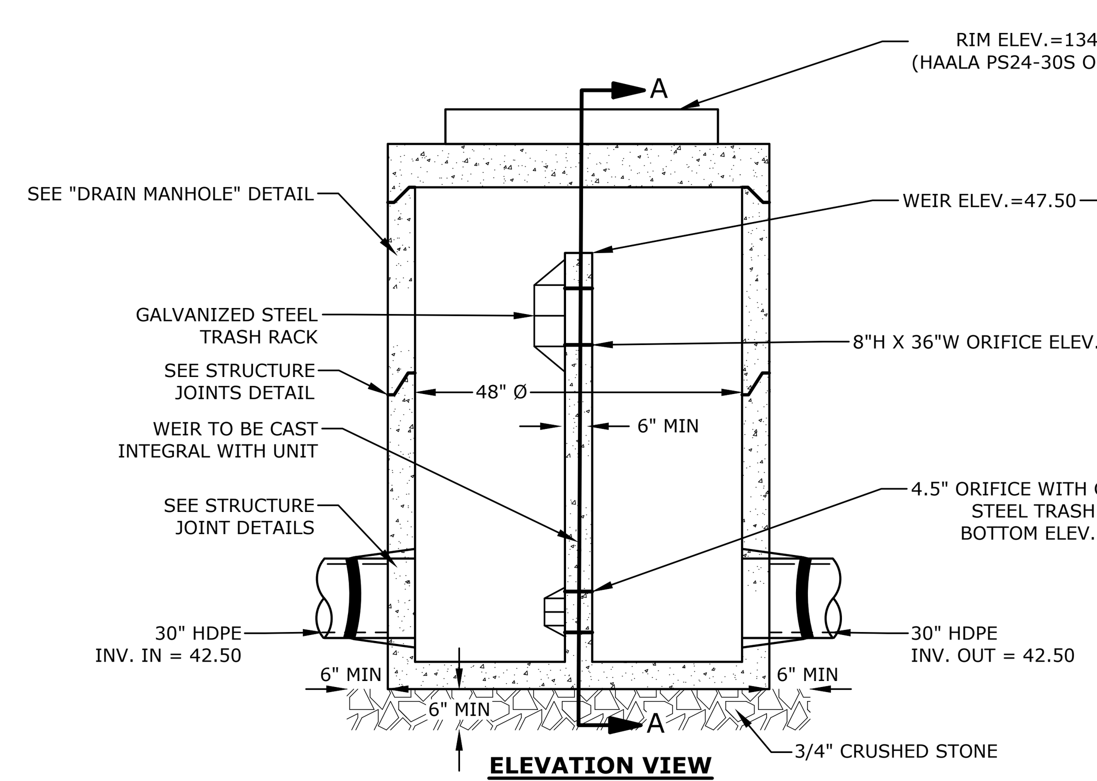
FOCAL POINT BIORETENTION CELL
NO SCALE



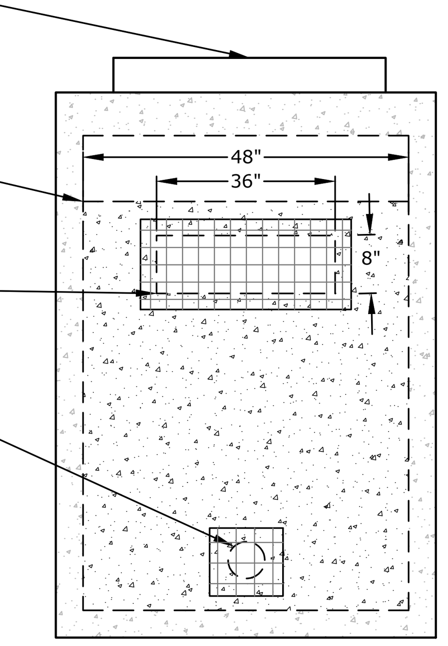
SECTION VIEW

NOTE:
1. THE UNDERGROUND DETENTION BASIN (UDB) SYSTEM SHALL BE HDPE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR REVIEW AND APPROVAL.
2. THE CONTRACTOR SHALL 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 PROPOSED DESIGN PLAN.
4. THE DESIGN SHALL REQUIRE INSPECTION PORTS/COVERS SUCH THAT SYSTEM CAN BE CLEANED BY VACUUM TRUCK WITH A MINIMUM OF ONE IN EACH CORNER.
5. APPROXIMATE LENGTH OF 72" PERFORATED HDPE = 1,280 LF
6. APPROXIMATE LENGHT OF 72" PERFORATED HDPE HEADER = 138 LF

UNDERGROUND DETENTION BASIN (UDB)
NO SCALE



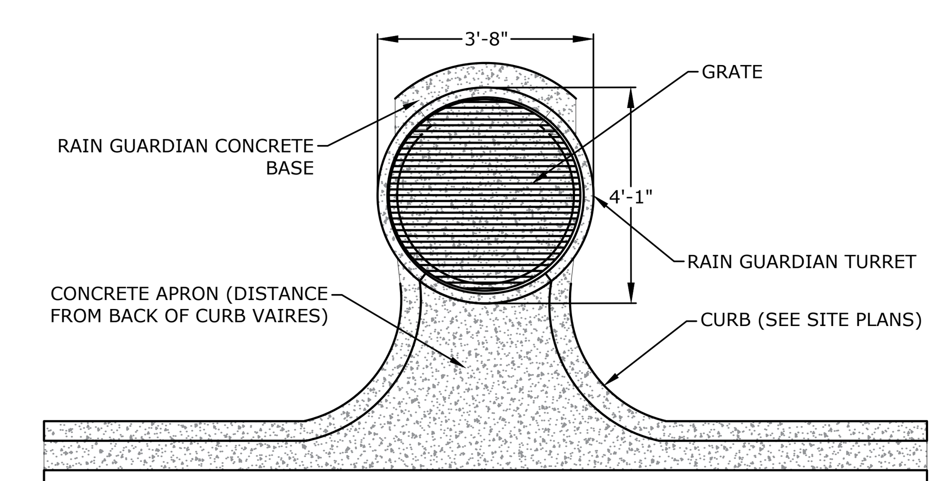
ELEVATION VIEW



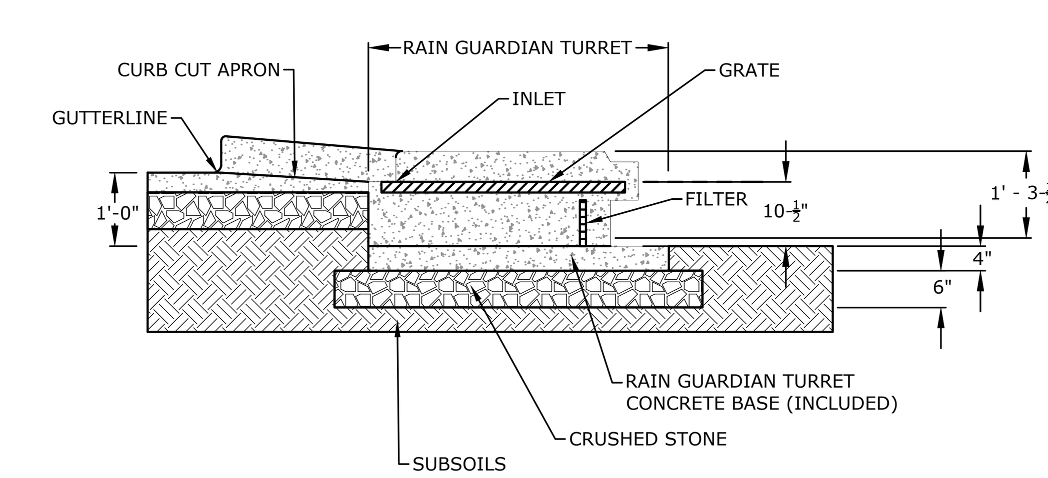
SECTION A-A

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 OF THE THIRDE 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.

UDB OUTLET CONTROL STRUCTURE (POCS1)
NO SCALE



NOTES:
1. RAIN GUARDIAN OR APPROVED EQUAL.
2. CURB INLET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURE RECOMMENDATION.



RAIN GUARDIAN TURRET
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

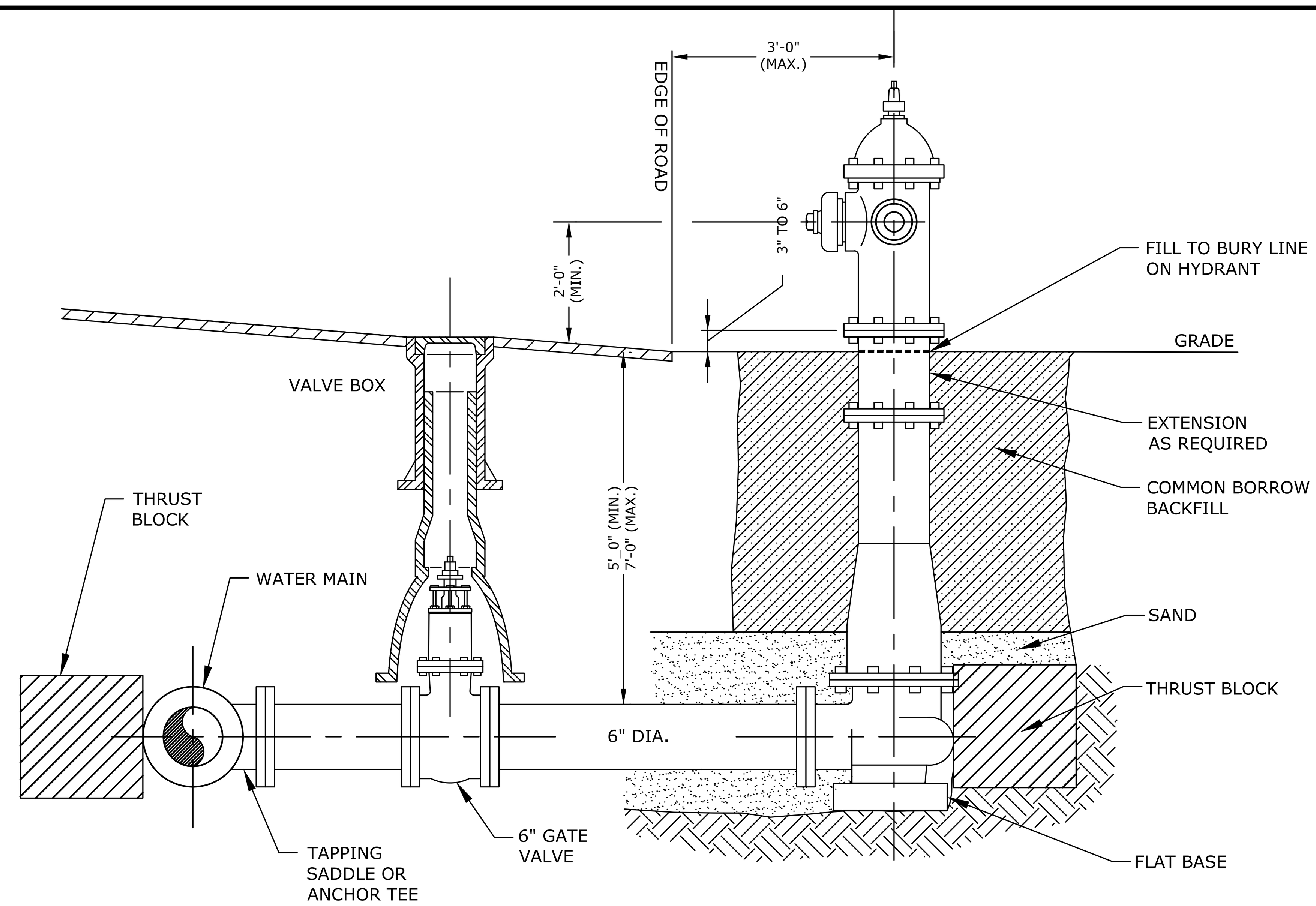
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

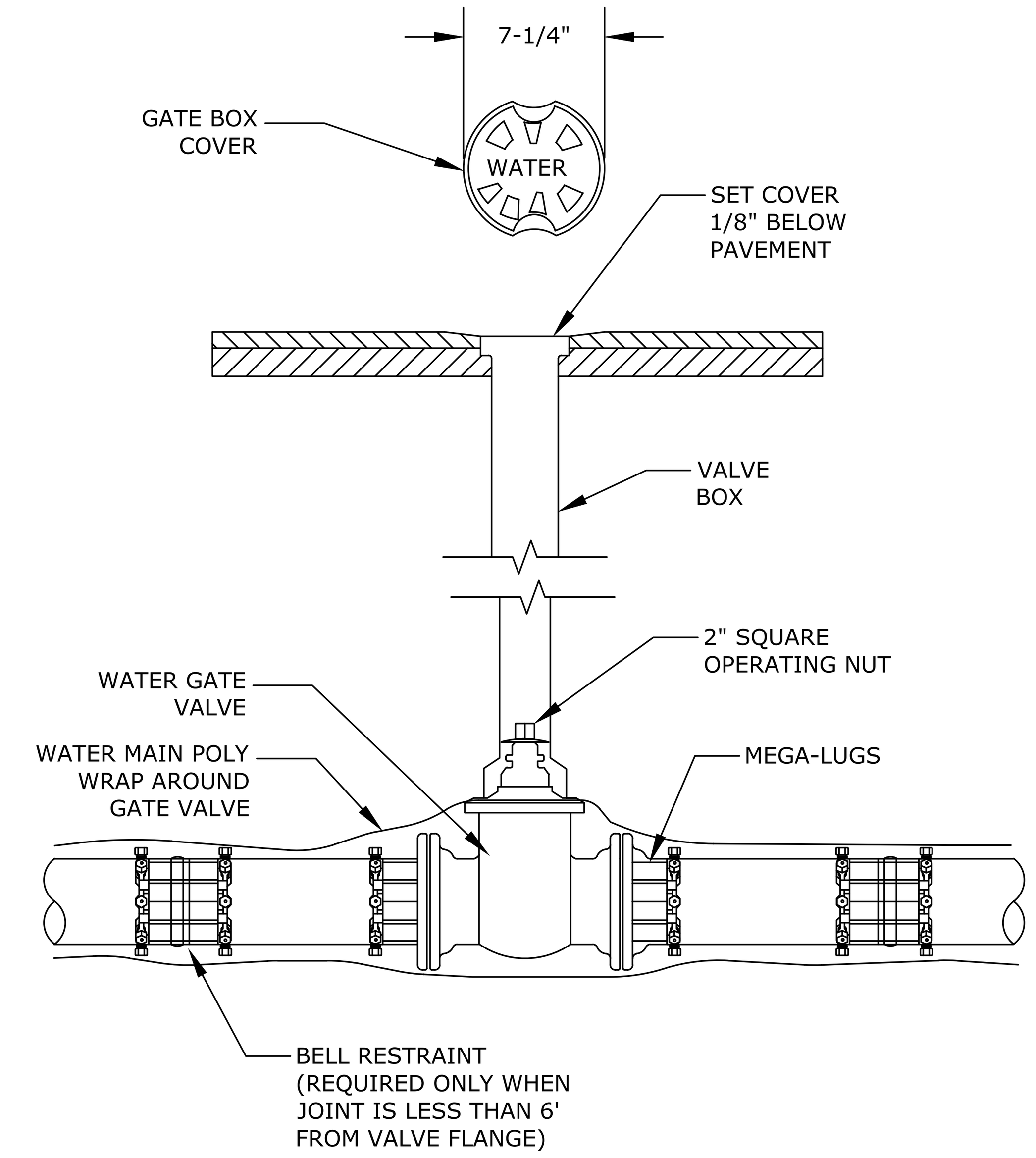
C-605

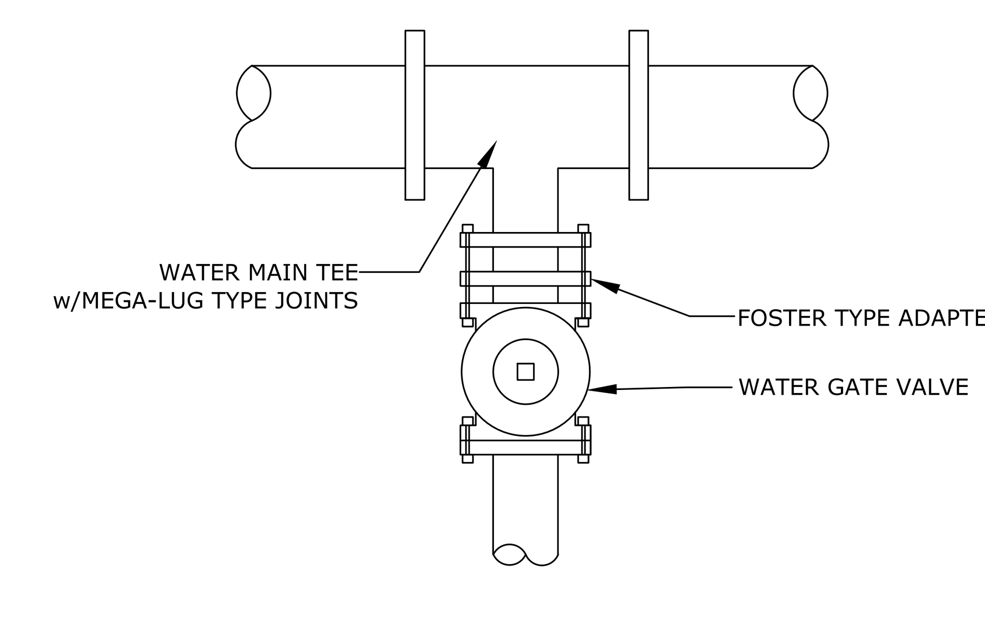
Last Saved: 9/19/2025
Plotted On:Sep 22, 2025-11:25am By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg



NOTES:
1. HYDRANT TO BE KENNEDY TYPE K-81A (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER AND FIRE DEPARTMENT.
2. HYDRANT SHALL OPEN RIGHT (CITY OF PORTSMOUTH) AND OPEN LEFT (PEASE TRADEPORT).
3. HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS.
4. AREA AROUND HYDRANT SHALL BE GRADED TO ALLOW SURFACE WATER TO DRAIN AWAY.
5. CONTRACTOR SHALL INSTALL AN INDICATOR ATTACHED TO THE HYDRANT IN ACCORDANCE TO CITY OF PORTSMOUTH STANDARDS.
6. HYDRANT ASSEMBLY SHALL BE POLY WRAPPED FROM MAIN TO HYDRANT AT GROUND LEVEL, 6" (MIN.) OF SAND FOR BEDDING AND COVER, WARNING TAPE 18" ABOVE PIPE.
7. DRAIN HOLES ARE NOT PERMITTED.

FIRE HYDRANT
NO SCALE

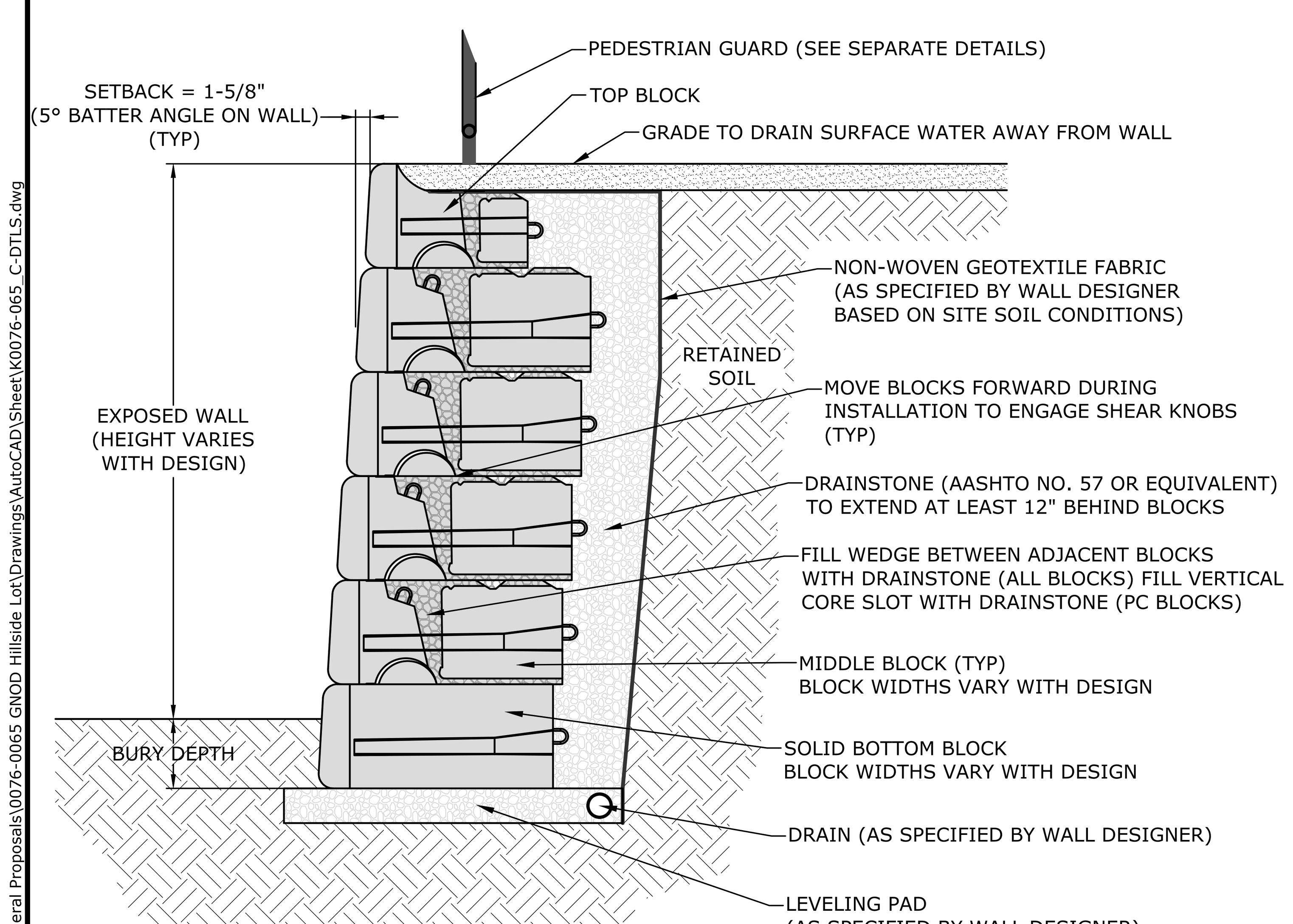




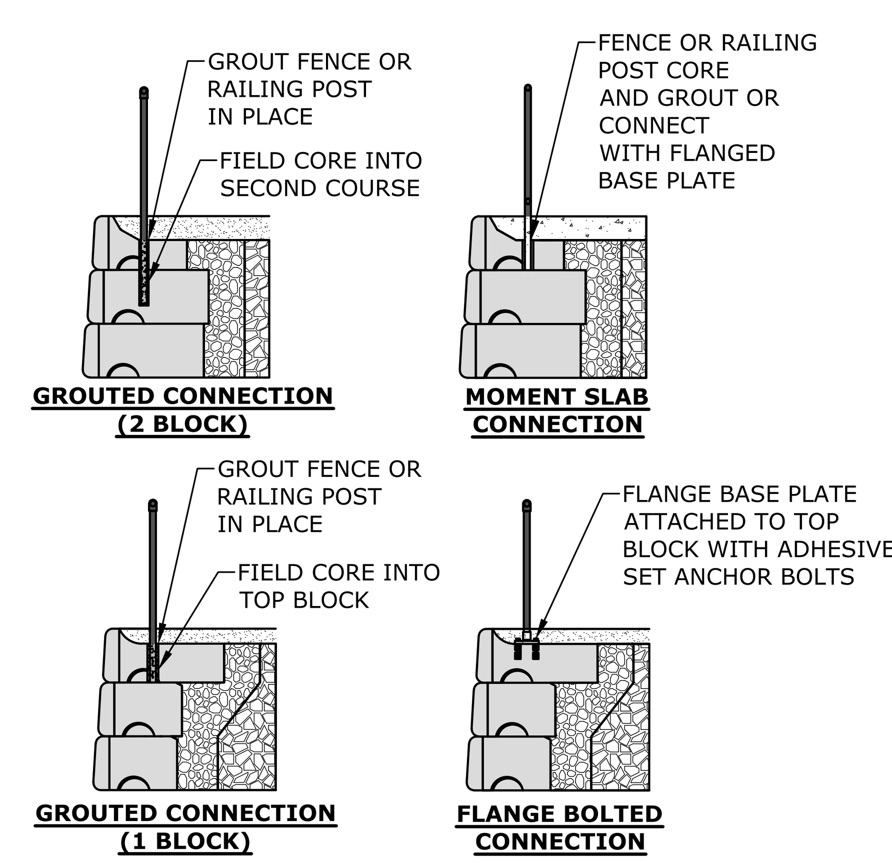
GATE VALVE AT TEE

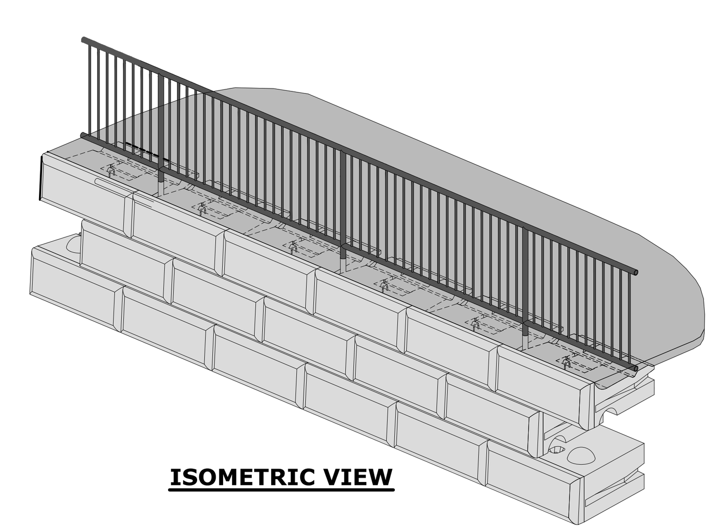
NOTES:
1. WATER GATE VALVES SHALL OPEN RIGHT (CITY OF PORTSMOUTH) AND OPEN LEFT (PEASE TRADEPORT).
2. VALVE BOXES SHALL BE HEAVY PATTERN CAST IRON, TWO PIECE, SLIP TYPE, 5-INCH DIAMETER SHAFT WITH EXTENSIONS PIECES TO ALLOW FOR SUFFICIENT COVER.
3. THE UPPER SECTION OF THE BOX SHALL BE TOP-FLANGE TYPE TO PREVENT SETTLEMENT.
4. THE LOWER SECTION OF THE BOX SHALL BE BELLED-TYPE TO ENCLOSE THE OPERATING NUT OF THE VALVE.
5. THE COVER SHALL BE CAST IRON WITH THE WORD "WATER" PLAINLY CAST.
6. WHEN A PROJECT REQUIRES GATE BOX TOP TO TEMPORARILY BE SET TO BINDER DEPTH, THEN RAISED TO FINAL GRADE, RISER RINGS ARE NOT PERMITTED. CONTRACTOR SHALL RAISE THE ENTIRE TOP SECTION OF THE VALVE BOX TO FINAL GRADE. ASPHALT MATCHING THE THICKNESS OF THE BINDER SHALL BE PLACED AND COMPACTED BENEATH THE GATE BOX TOP FLANGE.
7. WHEN RISER RINGS ARE THE ONLY OPTION, ONLY FLANGED RISERS WILL BE PERMITTED.
8. WHEN FOSTER ADAPTOR CONNECTION IS NOT POSSIBLE, VALVES SHALL BE ANCHORED BACK TO MECHANICAL JOINTS WITH THREADED RODS.

WATER GATE VALVE
NO SCALE



TYPICAL BLOCK RETAINING WALL SECTION
NO SCALE



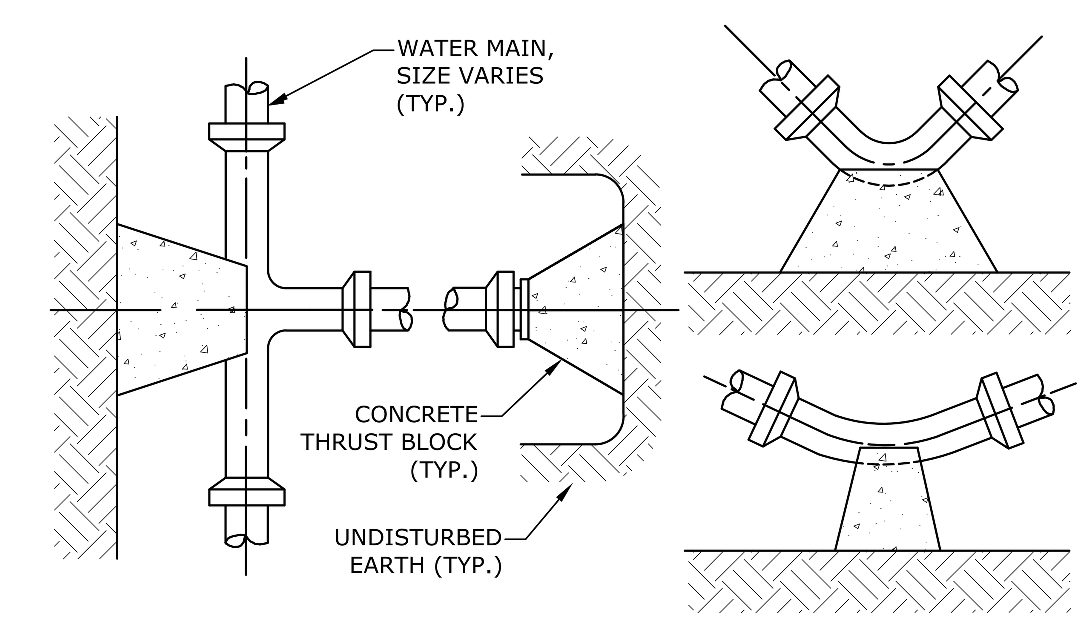


ISOMETRIC VIEW

NOTE
1. THESE GENERIC PEDESTRIAN GUARD AND FENCE DETAILS SHOW POTENTIAL OPTIONS FOR INSTALLATION ON THE TOP OF RETAINING WALL. IT IS THE WALL DESIGN ENGINEER'S RESPONSIBILITY TO FULLY DESIGN AND DETAIL THE CONNECTION OF THE GUARD POSTS TO THE RETAINING WALL BLOCKS AND ASSURE ACCEPTABLE RESISTANCE TO THE APPLIED FORCES.

NOTES
1. RETAINING WALL SHALL BE REDI ROCK (BASIS OF DESIGN), VERSA-LOK, RECON WALL SYSTEMS, 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 NEW HAMPSHIRE. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARAMETERS:
   - 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 GENERATED 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 IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC), CURRENT EDITION.
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, STRUCTURES, UTILITIES, 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 PRODUCT INFORMATION FOR BLOCK TYPE / TEXTURE AND COLOR CHOICE TO THE OWNER FOR APPROVAL PRIOR TO ORDERING MATERIALS.
11. RETAINING WALL DESIGN PLANS AND CALCULATIONS SHALL BE FROM THE WALL MANUFACTURER AND SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
12. FINAL STRUCTURAL DESIGN TO BE SUBMITTED TO THE ENGINEER WITH ALL REQUIRED CALCULATIONS AND PLANS.
13. STRUCTURAL DESIGN TO BE COMPLETED AND STAMPED BY A NEW HAMPSHIRE 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.
14. AN AS-BUILT PLAN SHOWING WALL LOCATION AND DIMENSIONS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER UPON COMPLETION.
15. 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.
16. EXISTING FILL SHOULD NOT BE USED WITHIN FIVE (5) FEET OF CANTILEVERED OR GRAVITY WALLS.
17. 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 NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE.

TYPICAL FENCE OR PEDESTRIAN GUARD CONNECTION OPTIONS
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 CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

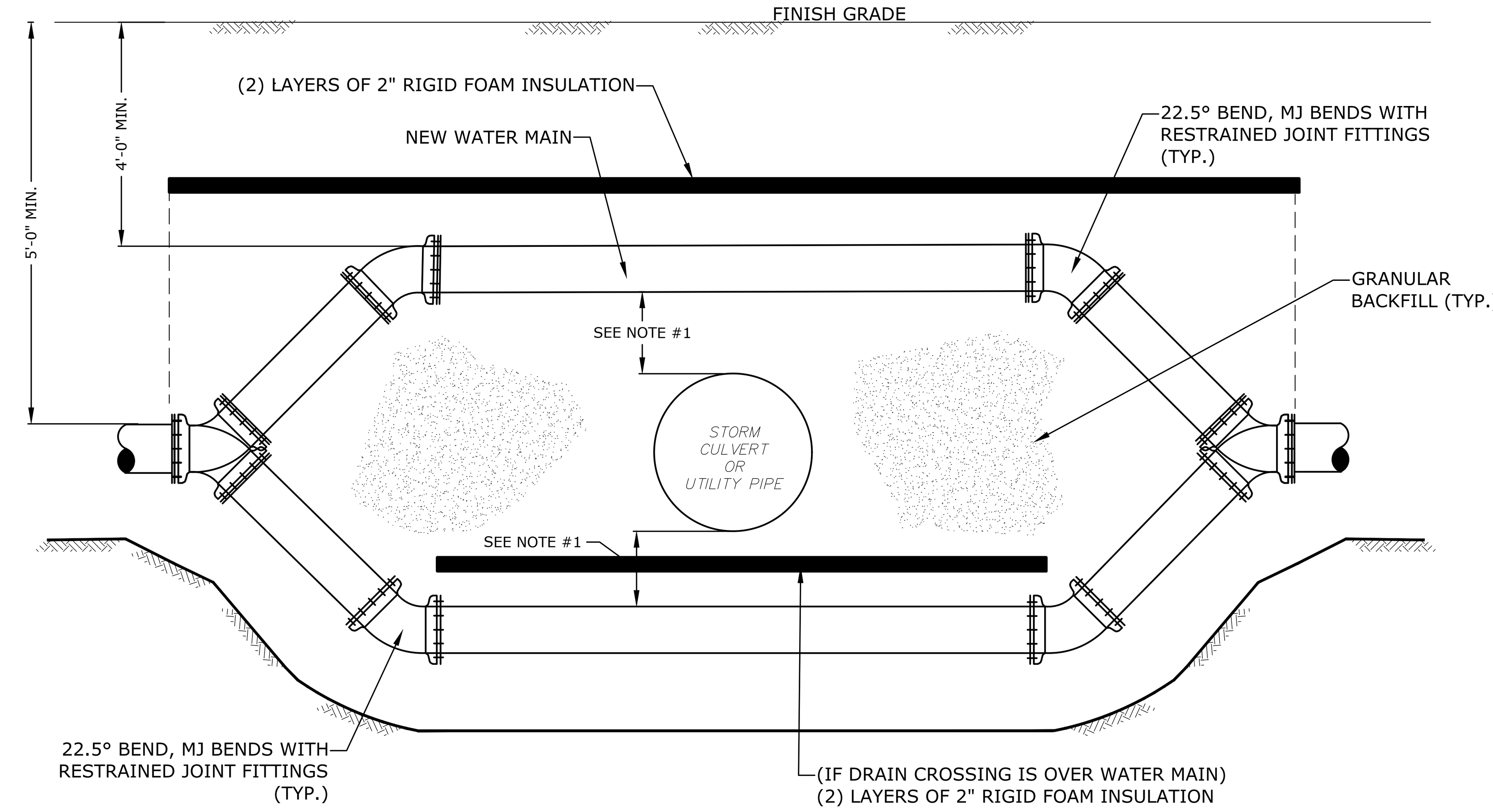
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

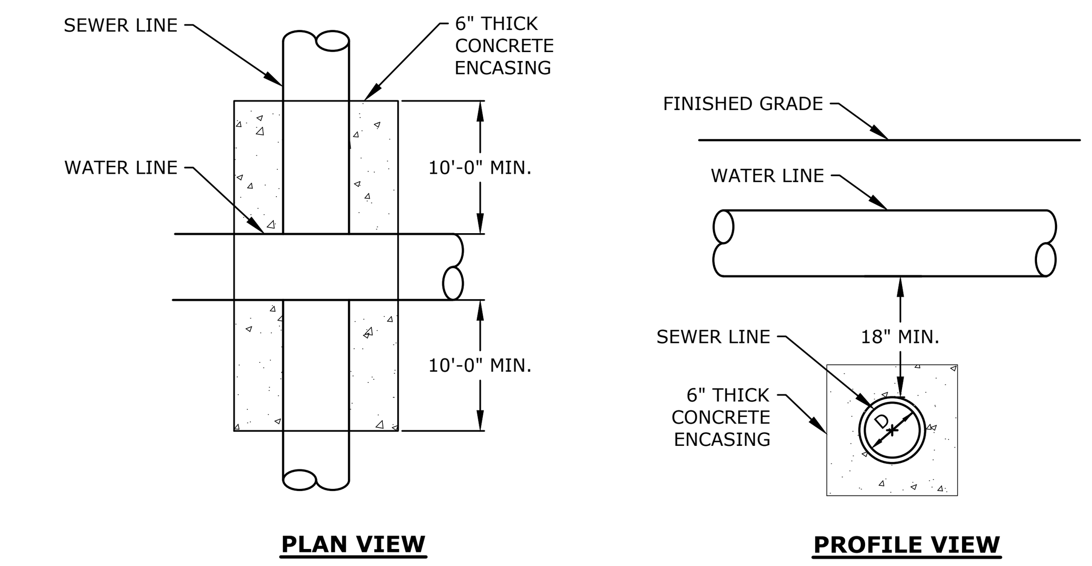
C-606

Last Saved: 9/19/2025
Plotted On:Sep 22, 2025-11:25am By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\K0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg



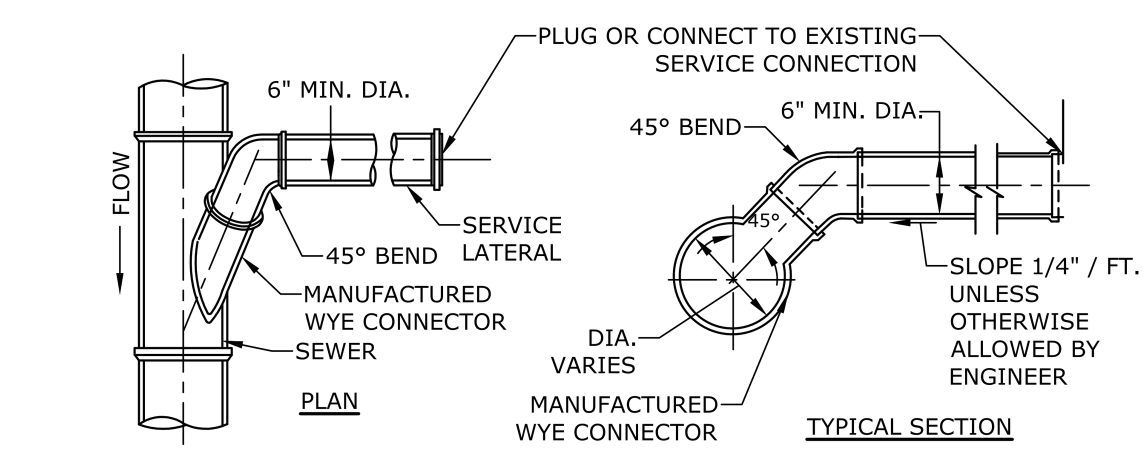
NOTES:
1. INSTALL WATER MAIN 12" VERTICALLY FROM DRAINAGE OR OTHER UTILITIES, AND 18" VERTICALLY FROM SEWER. WATER MUST BE INSTALLED ABOVE SEWER.
2. SUPPORT THE UTILITY PIPE WHILE INSTALLING WATER MAIN.
2. ALL BENDS SHALL BE 22.5° M.J. BENDS WITH RESTRAINED JOINT FITTINGS.
3. PIPE SHALL BE FULLY RESTRAINED MINIMUM 18" EACH SIDE OF ELBOWS.
4. REFER TO "WATER TRENCH" DETAIL FOR ADDITIONAL WATER MAIN INSTALLATION REQUIREMENTS.

WATER MAIN VERTICAL UTILITY CROSSING
NO SCALE

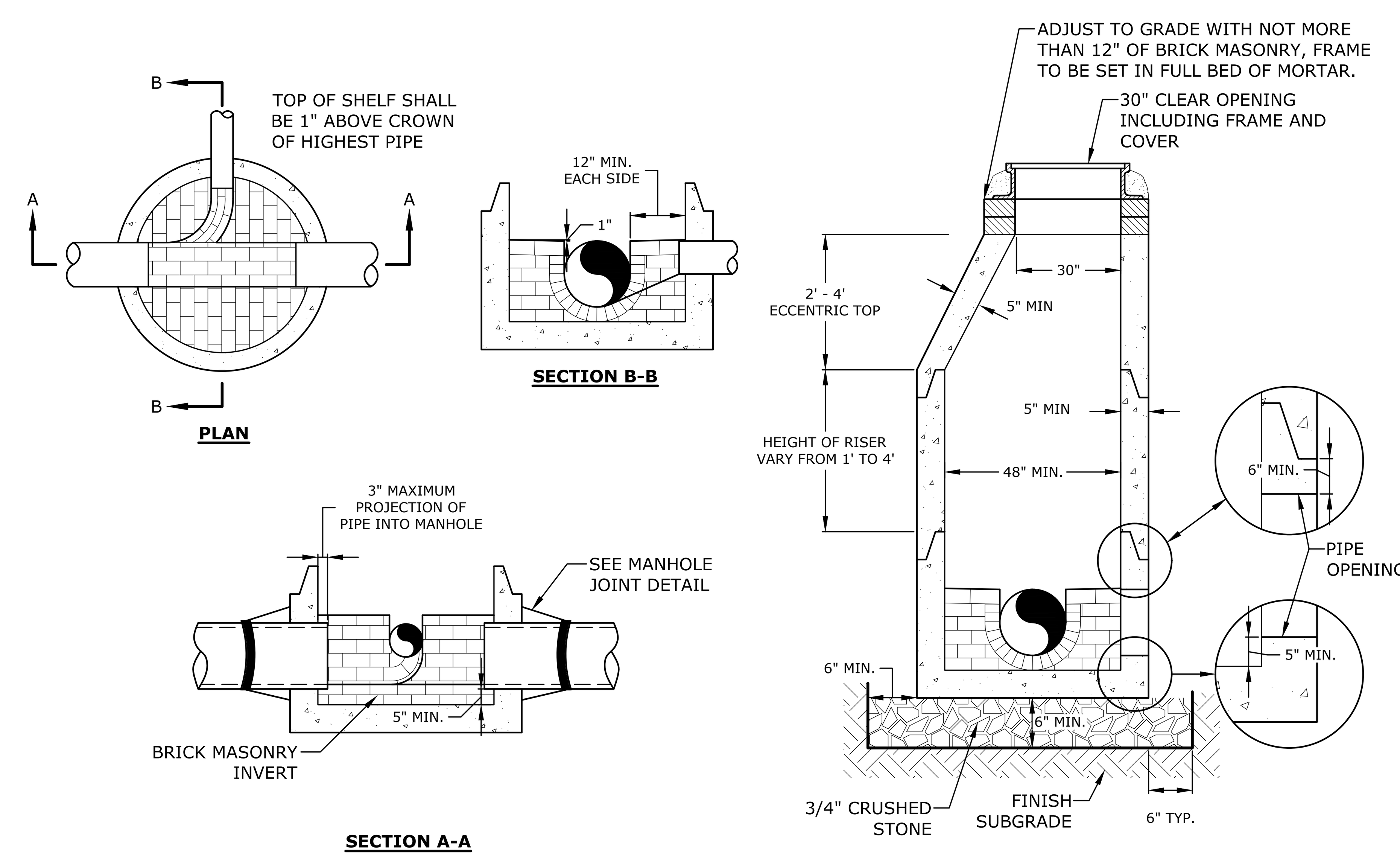


NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY 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 CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS.

WATER & SEWER CROSSING
NO SCALE

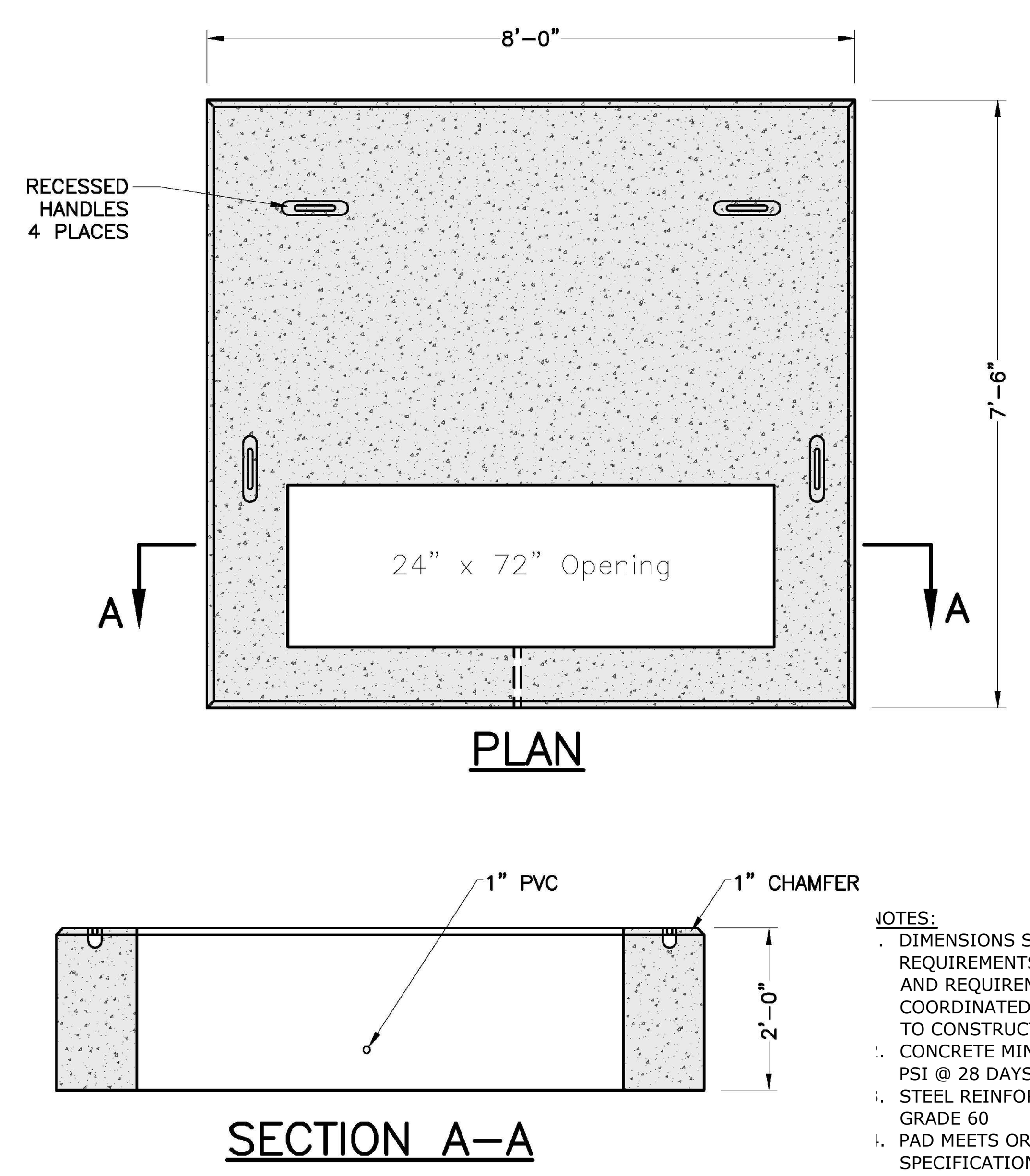


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



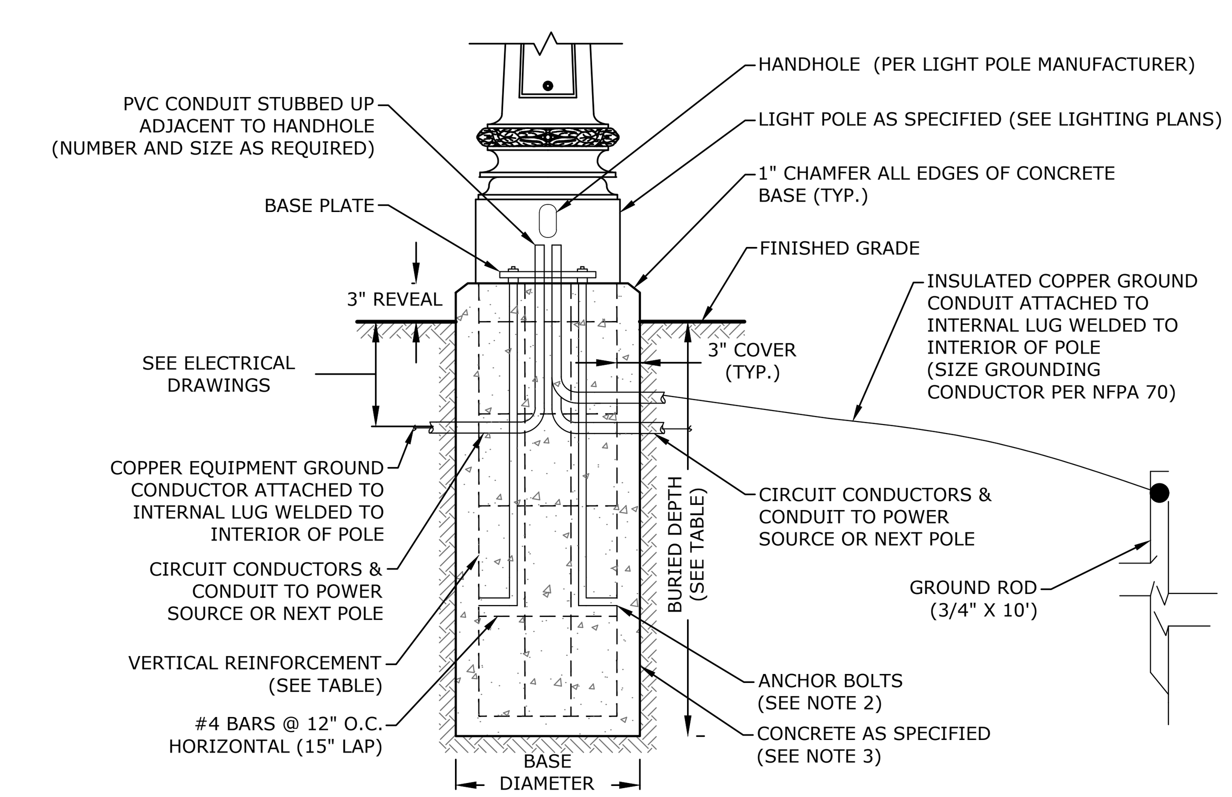
NOTES:
1. ALL SEWER MANHOLES SHALL BE CONSTRUCTED TO CITY AND STATE STANDARDS.
2. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
3. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
4. INVERT BRICKS SHALL BE LAID ON EDGE.
5. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER 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.
7. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
8. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE



NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE

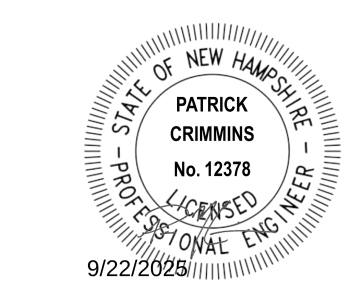


POLE HEIGHT	DEPTH (BURIED)	BASE DIAMETER	VERTICAL REINFORCEMENT
<16'	72" (MIN.)	18"	6 - #6
>16'	72" (MIN.)	24"	6 - #8

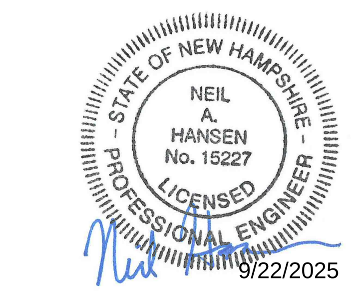
NOTES:
1. ALL LIGHT POLES, LUMINARIES AND WIRE TO BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED.
2. CONTRACTOR SHALL VERIFY BOLT TEMPLATE AND ANCHOR BOLT SIZE WITH POLE MANUFACTURER PRIOR TO CONSTRUCTION.
3. CONCRETE SHALL BE 4,000 PSI CLASS A, PRE-CAST CONCRETE.
4. REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
5. FOR LIGHT POLES GREATER THAN 20' IN HEIGHT, THE LIGHT POLE BASE SHALL BE DESIGNED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.

TYPICAL LIGHT POLE BASE (ON-SITE)
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists



9/22/2025



9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-607

Last Saved: 9/19/2025
Plotted On:Sep 22, 2025-11:25am By: BCurcio
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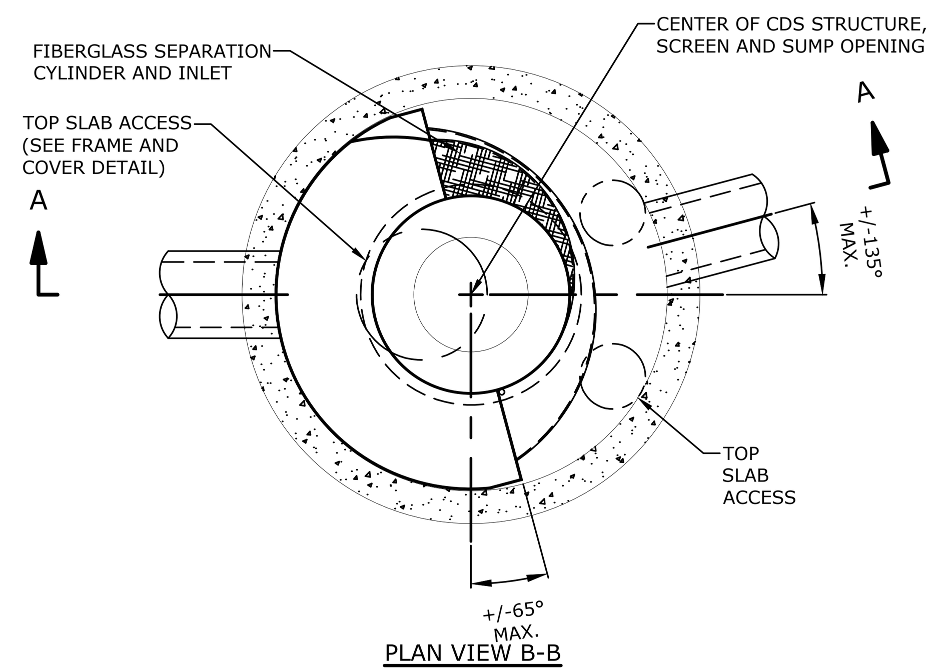
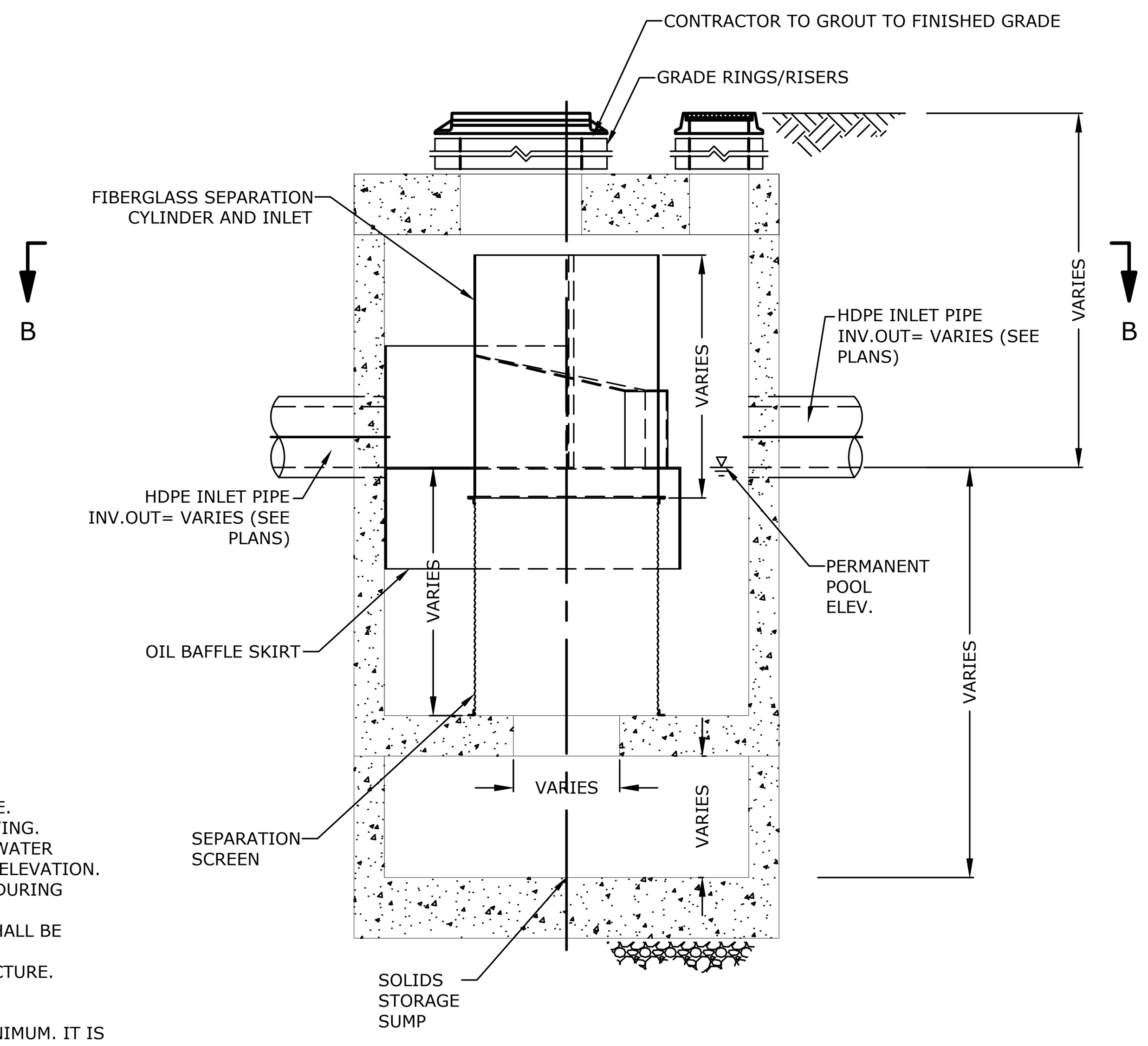


PLAN VIEW B-B



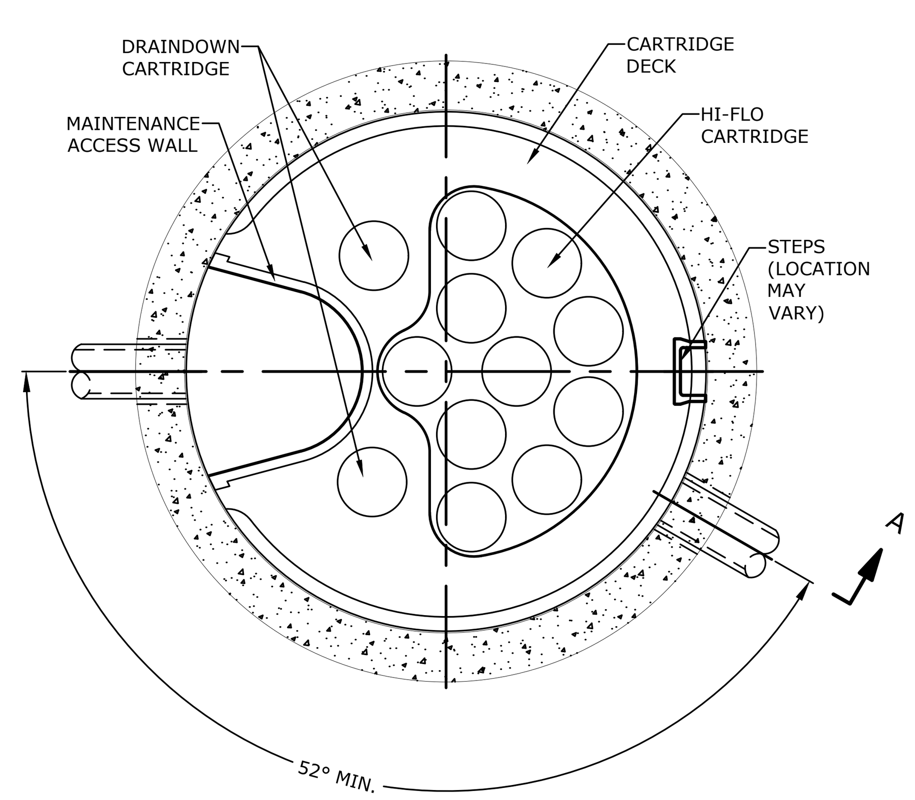
ELEVATION A-A

GENERAL NOTES:

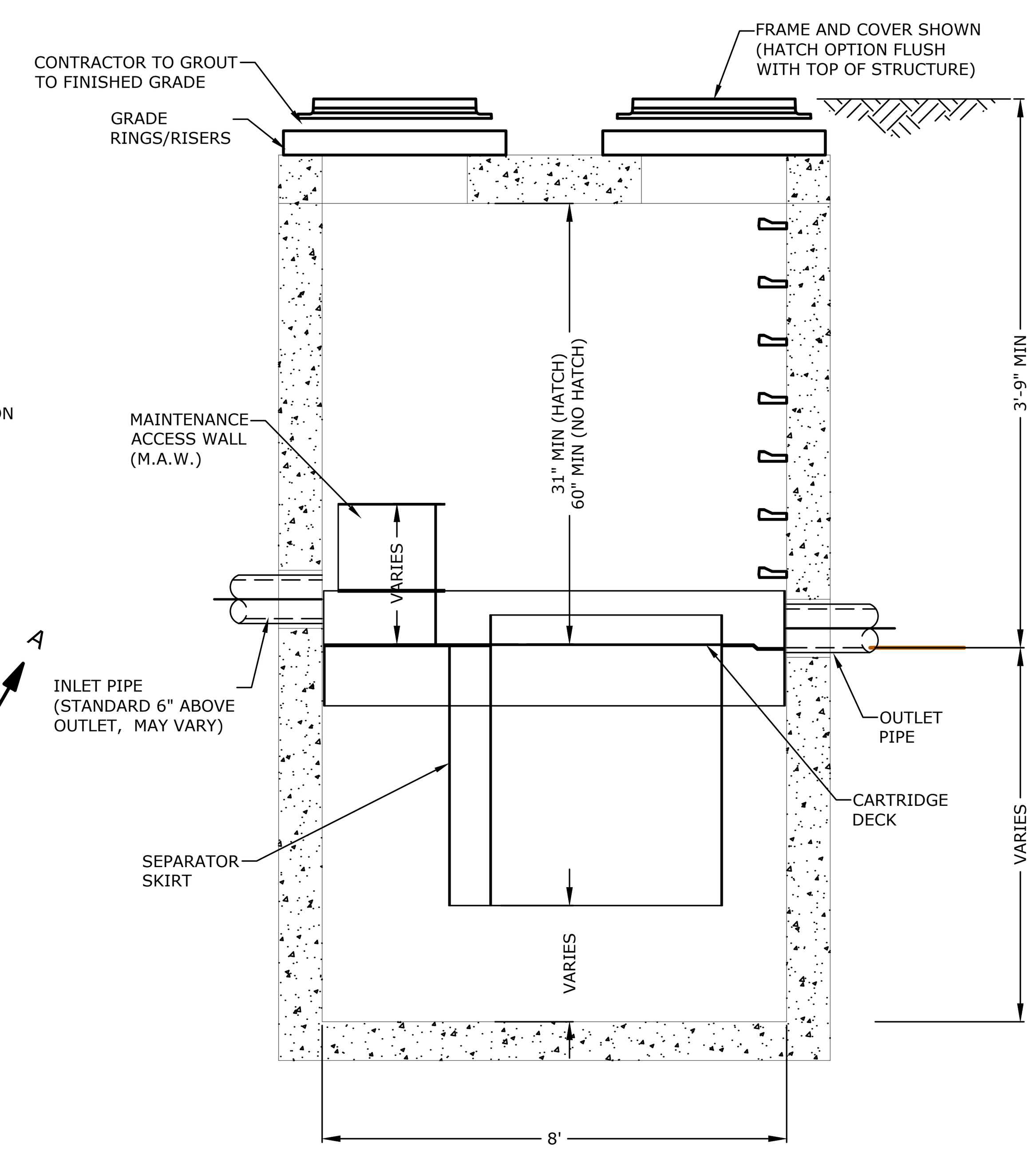
1. MANUFACTURER TO PROVIDE FINAL DIMENSIONS BASED ON APPROVED FLOWS AND ALL MATERIALS UNLESS NOTED OTHERWISE.
2. WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
3. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
4. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
5. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
6. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE MANHOLE STRUCTURE.
7. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
8. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON GRADING PLAN.
9. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

TYPICAL FLOW-THROUGH PRE-TREATMENT UNIT

NO SCALE



PLAN VIEW



SECTION A-A

GENERAL NOTES:

1. MANUFACTURER TO PROVIDE FINAL DIMENSIONS BASED ON APPROVED FLOWS AND ALL MATERIALS UNLESS NOTED OTHERWISE.
2. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
3. STRUCTURE SHALL MEET AASHTO HS-20 LOADING REQUIREMENTS. CASTINGS SHALL MEET AASHTO M306 LOAD RATING.
4. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
5. CONTRACTOR SHALL PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.

B. CONTRACTOR SHALL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
C. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
D. CARTRIDGE INSTALLATION, BY MANUFACTURER, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE TREATMENT UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT MANUFACTURER TO COORDINATE CARTRIDGE INSTALLATION.

TYPICAL FLOW-THROUGH TREATMENT UNIT

NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
9/22/2025

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

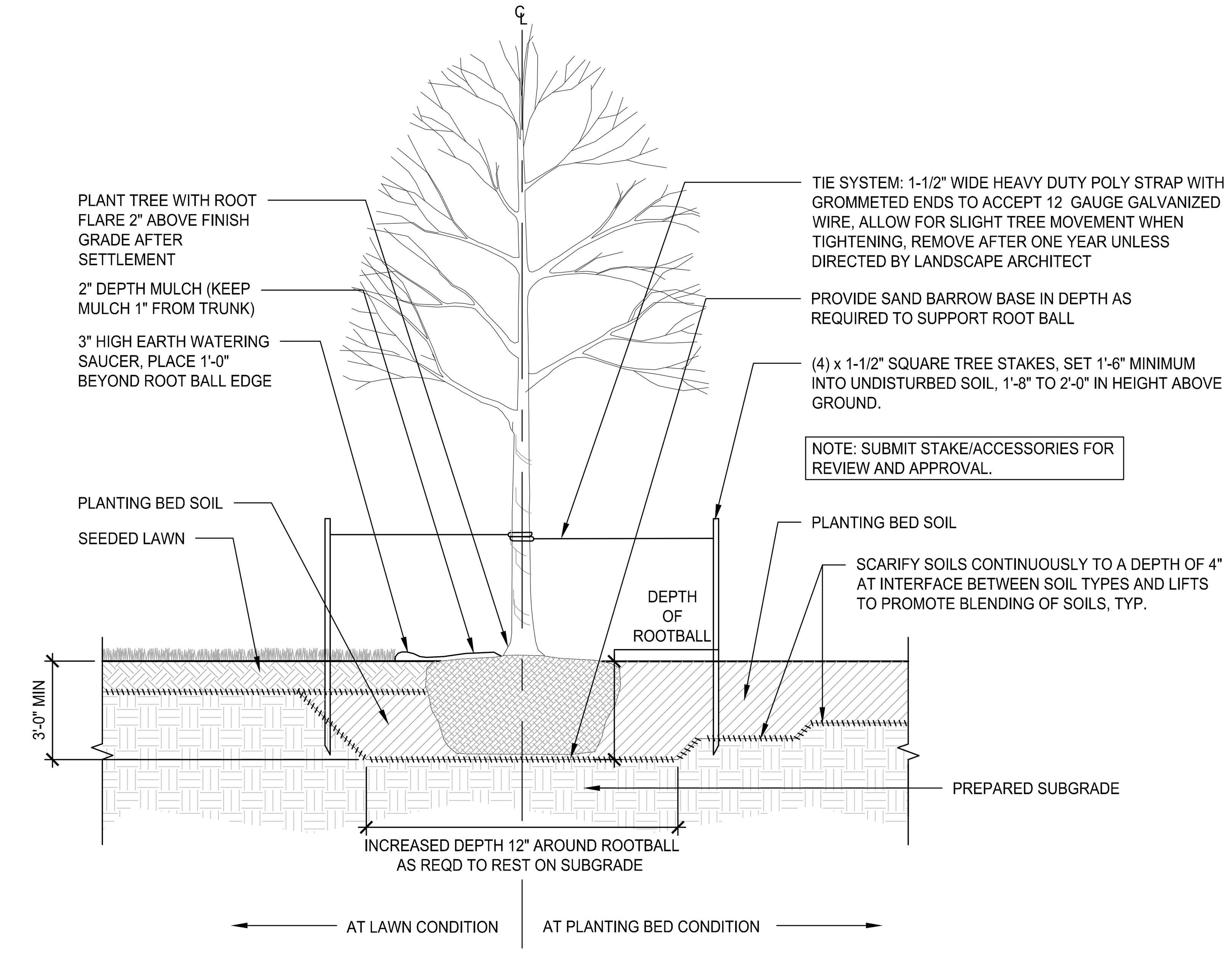
MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

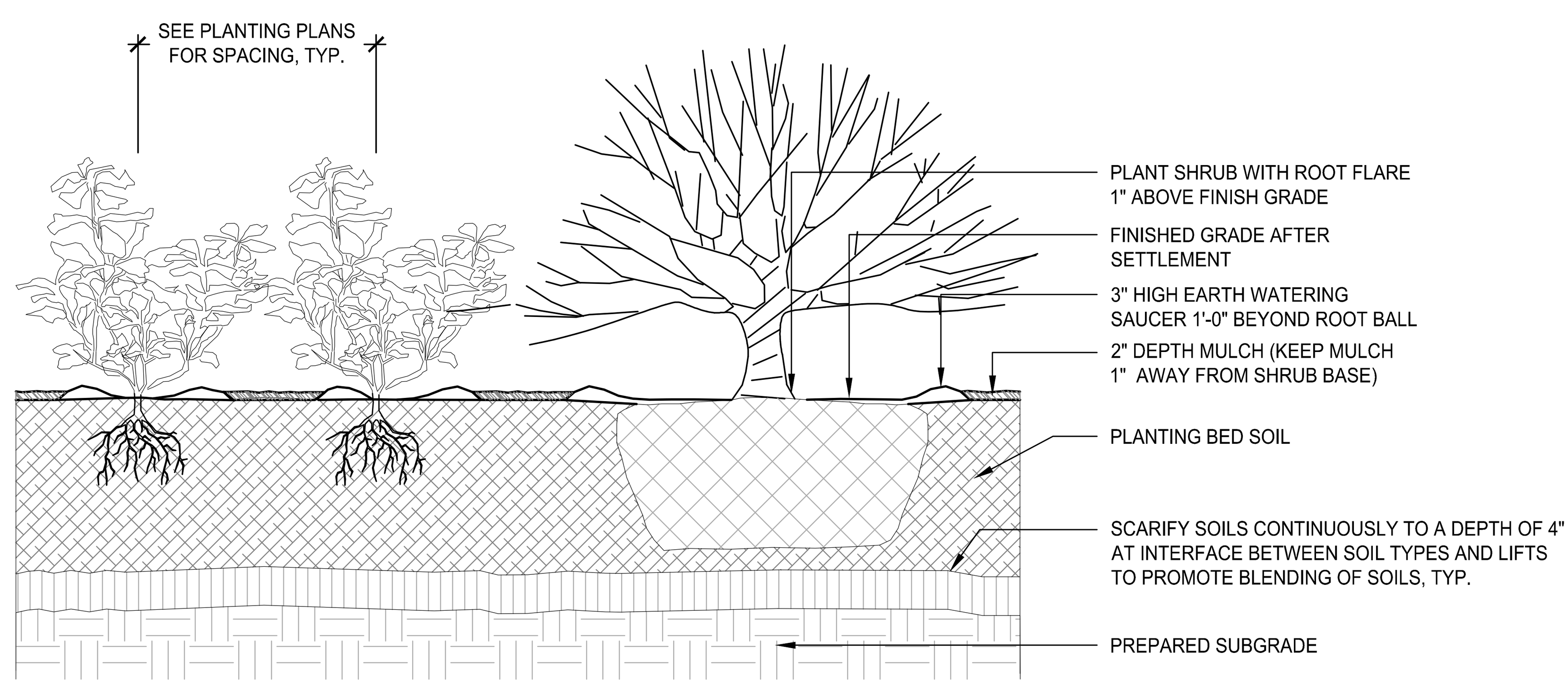
SCALE: AS SHOWN

C-608



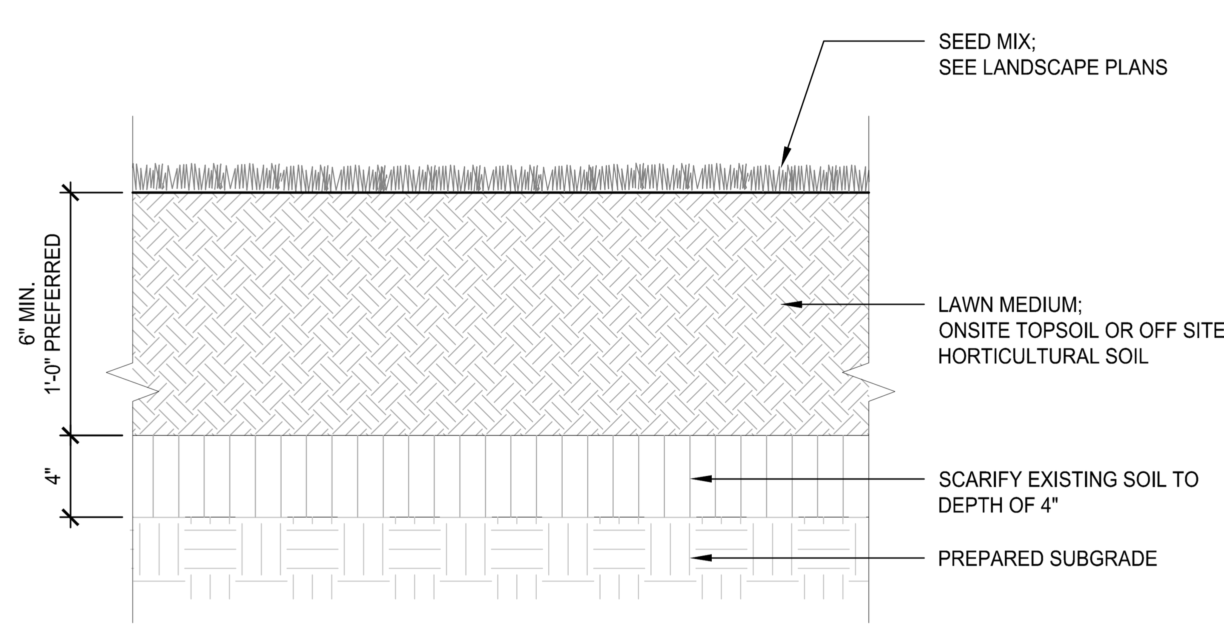
TREE PLANTING

DETAIL 1 / -
1/4" = 1'-0"



PLANT BED

DETAIL 2 / -
3/4" = 1'-0"



SEEDED LAWN

DETAIL 3 / -
1" = 1'-0"

Last Saved: 9/18/2025
Plotted On:Sep 22, 2025-11:38am By: JGenga
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_L-DTLS.dwg

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

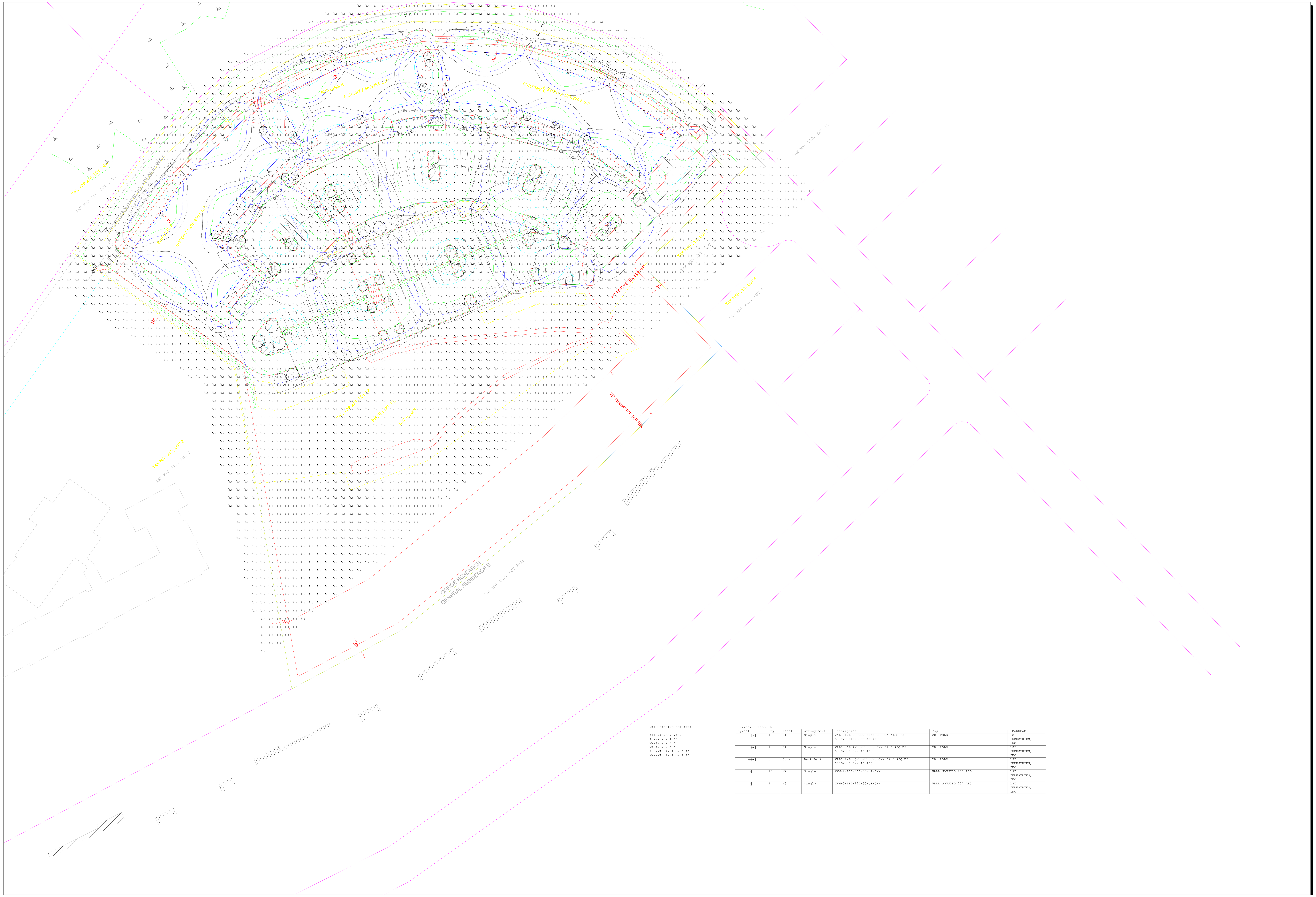
MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_L-DTLS.DWG
DRAWN BY:	JDG
CHECKED:	RJ/NAH
APPROVED:	PMC

LANDSCAPE DETAILS

SCALE: AS SHOWN

L-501



MAIN PARKING LOT AREA

Illuminance (Fc)
Average = 1.63
Maximum = 3.6
Minimum = 0.5
Avg/Min Ratio = 3.26
Max/Min Ratio = 7.20

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	1	S1-2	Single	VALS-12L-5M-UNV-30K8-CXX-SA /4SQ B3 S11G20 D180 CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	1	S4	Single	VALS-06L-4M-UNV-30K8-CXX-SA / 4SQ B3 S11G20 S CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	8	S5-2	Back-Back	VALS-12L-5QW-UNV-30K8-CXX-SA / 4SQ B3 S11G20 S CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	18	W2	Single	XWM-2-LED-06L-30-UE-CXX	WALL MOUNTED 20' AFG	LSI INDUSTRIES, INC.
	1	W3	Single	XWM-3-LED-12L-30-UE-CXX	WALL MOUNTED 20' AFG	LSI INDUSTRIES, INC.

EXPOSURE
LIGHTING — CONTROLS — ELECTRICAL

Exposure Lighting
501 ISLINGTON ST 1A
PORTSMOUTH NH 03801
603-601-8080

#	Date	Comments

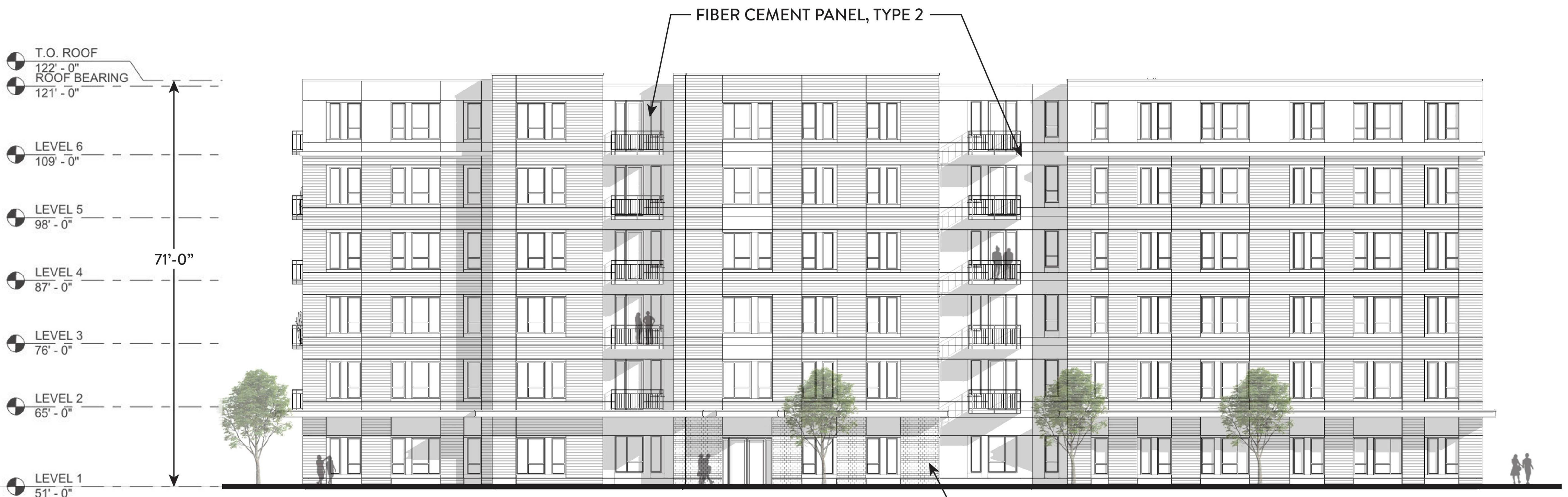
Revisions

Drawn By:
Checked By:
Date:7/16/2025
Scale:

PORTSMOUTH BLVD
MULTI-FAMILY HSG
PORTSMOUTH NH

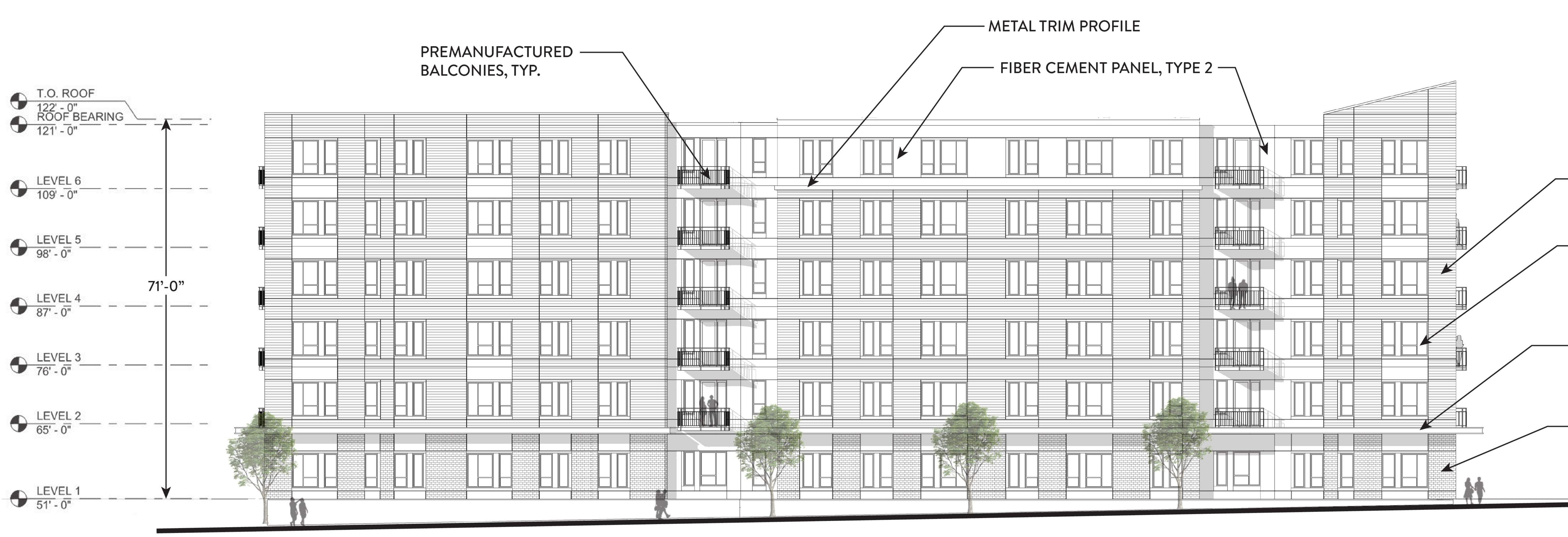
L01

BUILDING A - Overall Elevations

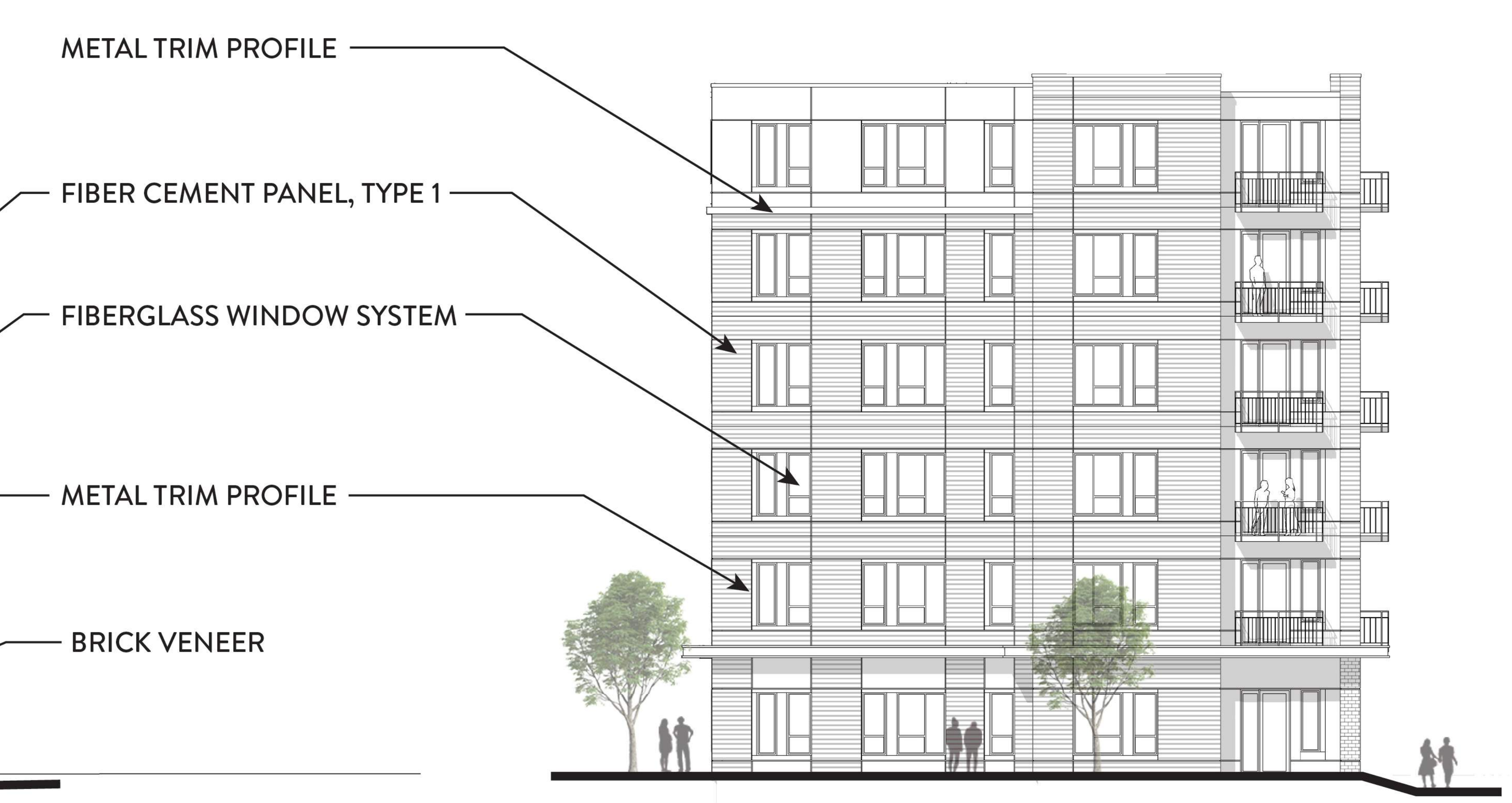


BUILDING A - SOUTH ELEVATION

BUILDING A - WEST ELEVATION

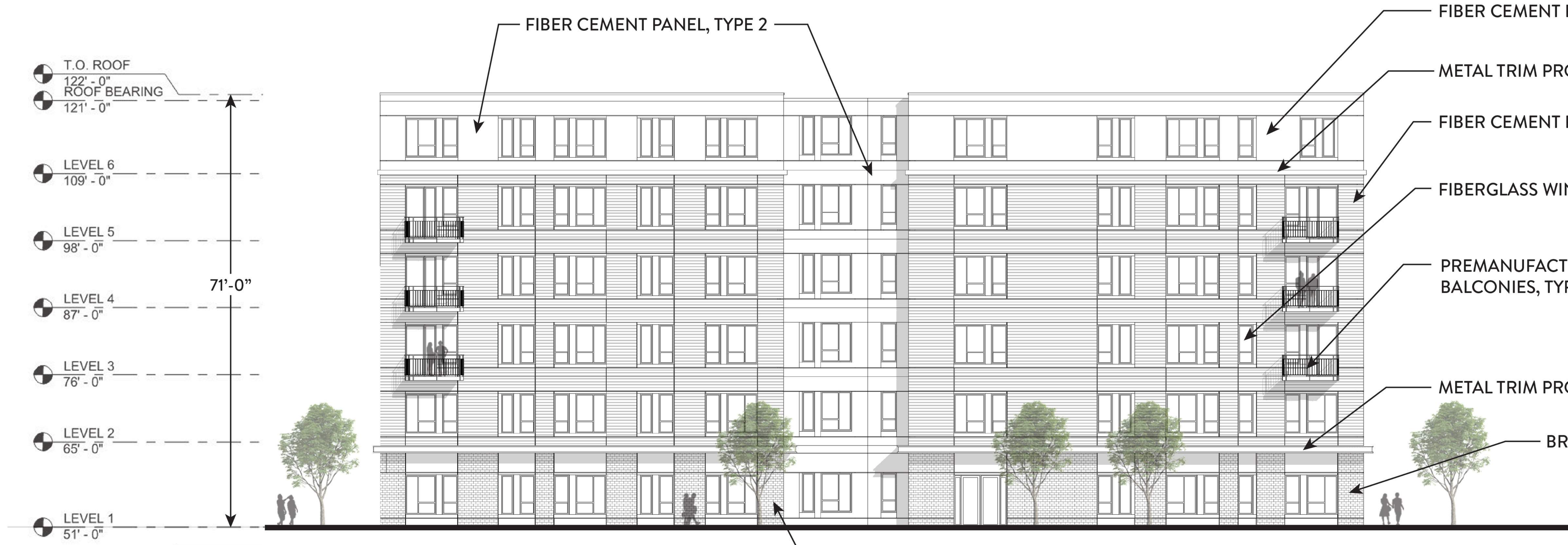


BUILDING A - NORTH ELEVATION

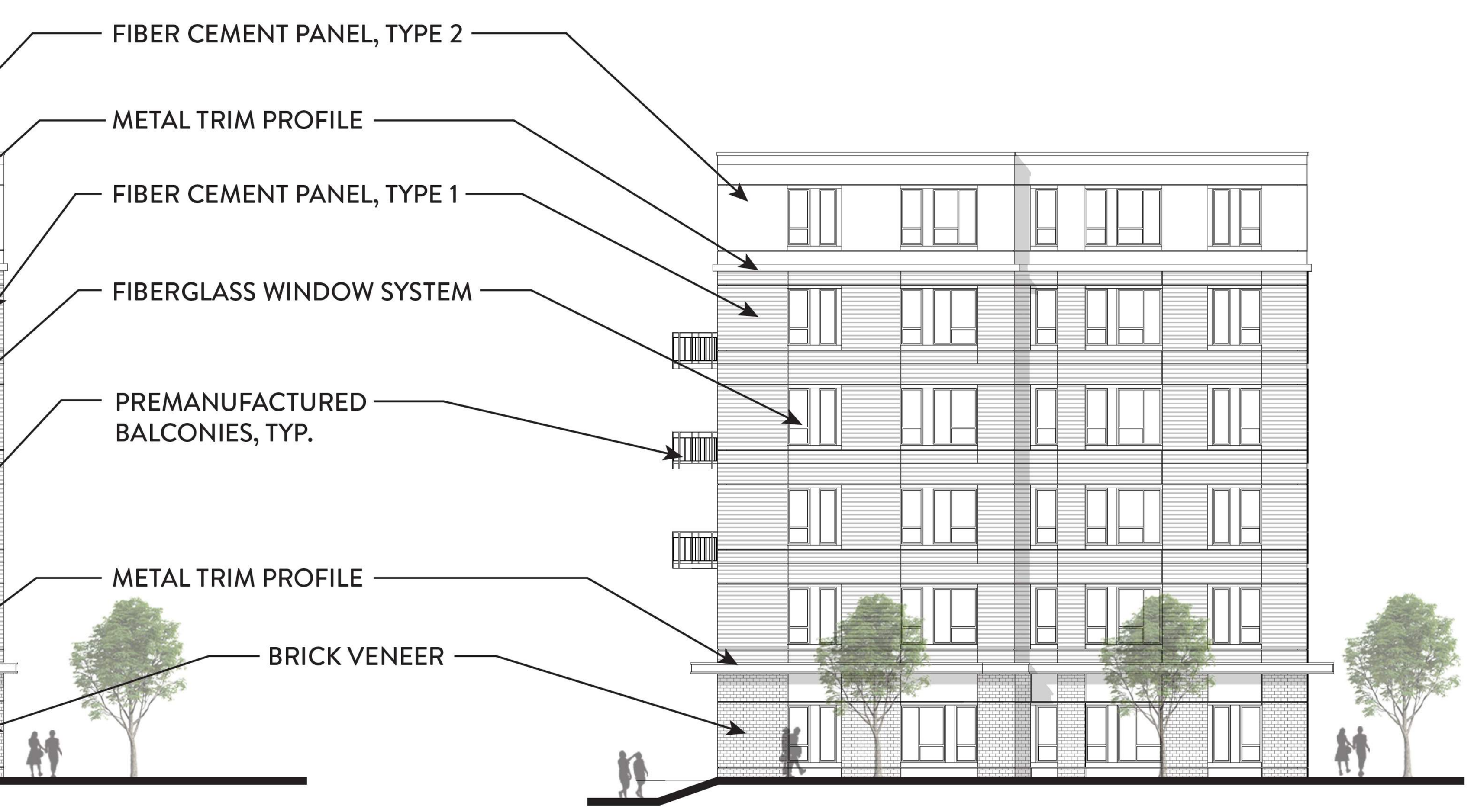


BUILDING A - EAST ELEVATION

BUILDING B - Overall Elevations



BUILDING B - SOUTH ELEVATION



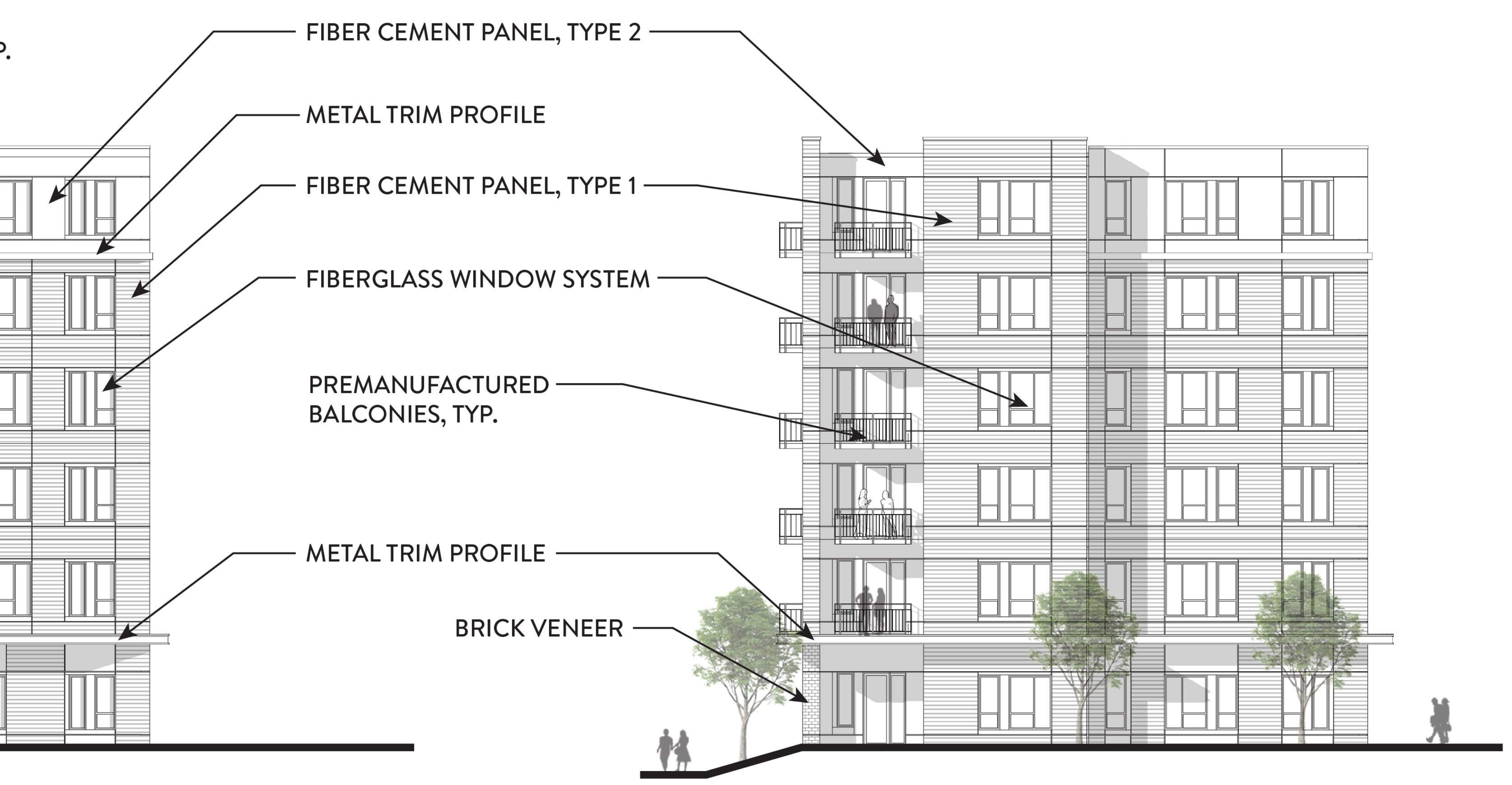
BUILDING B - WEST ELEVATION

BUILDING B - NORTH ELEVATION

BUILDING B - EAST ELEVATION

BUILDING C - Overall Elevations

BUILDING C - SOUTH ELEVATION



BUILDING C - WEST ELEVATION

BUILDING C - NORTH ELEVATION

BUILDING C - EAST ELEVATION

OVERALL FLOOR PLANS
Ground Floor Plan

OVERALL FLOOR PLANS

Typical Floor Plan - Levels 2-6

1992 SITE IMAGERY

NOTES:
1. IMAGE UNDERLAY DERIVED FROM GOOGLE EARTH IMAGERY DATED APRIL 1992.

0 50' 100'
GRAPHIC SCALE

N

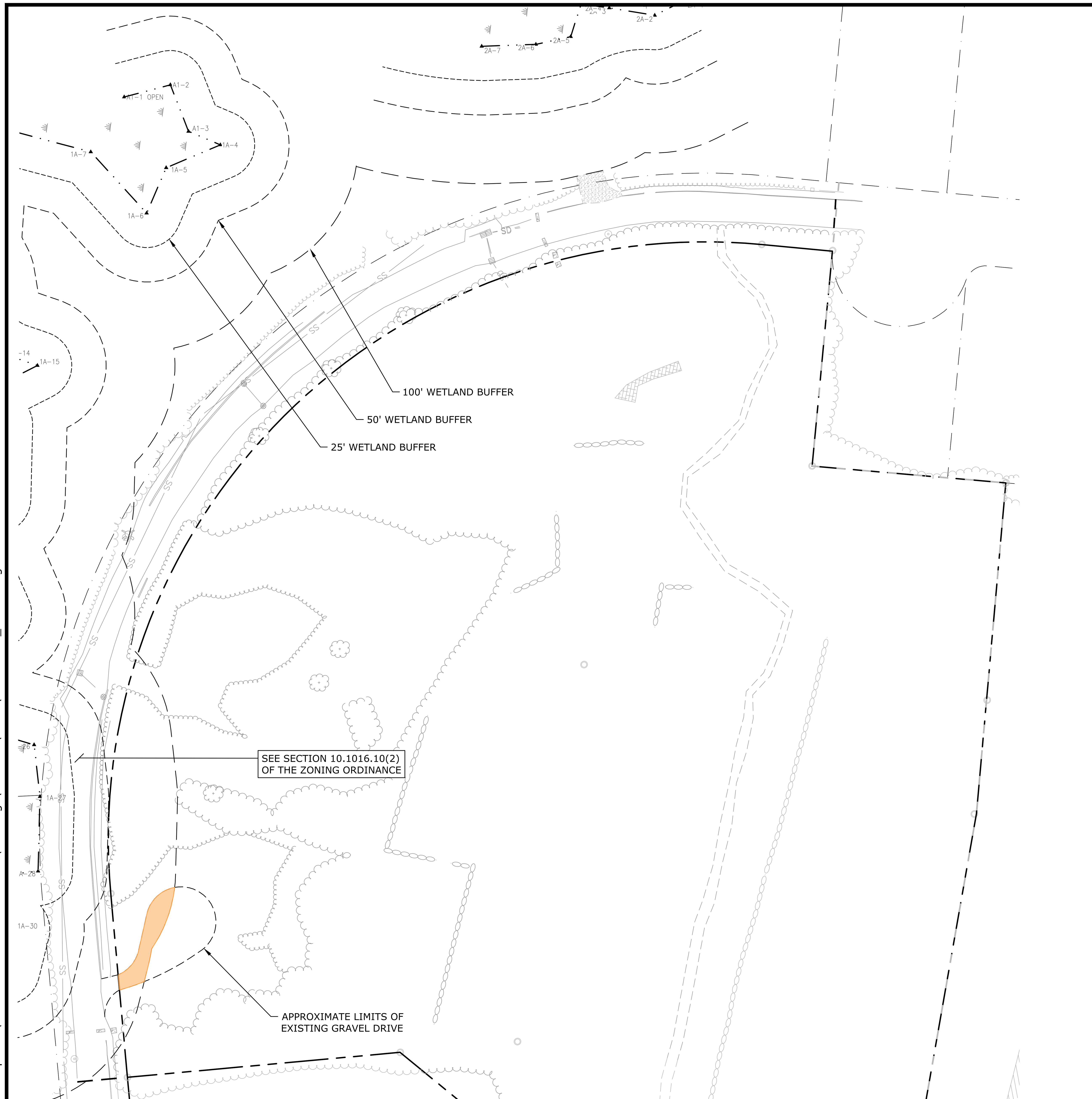
PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

HISTORICAL SITE OVERLAY EXHIBIT

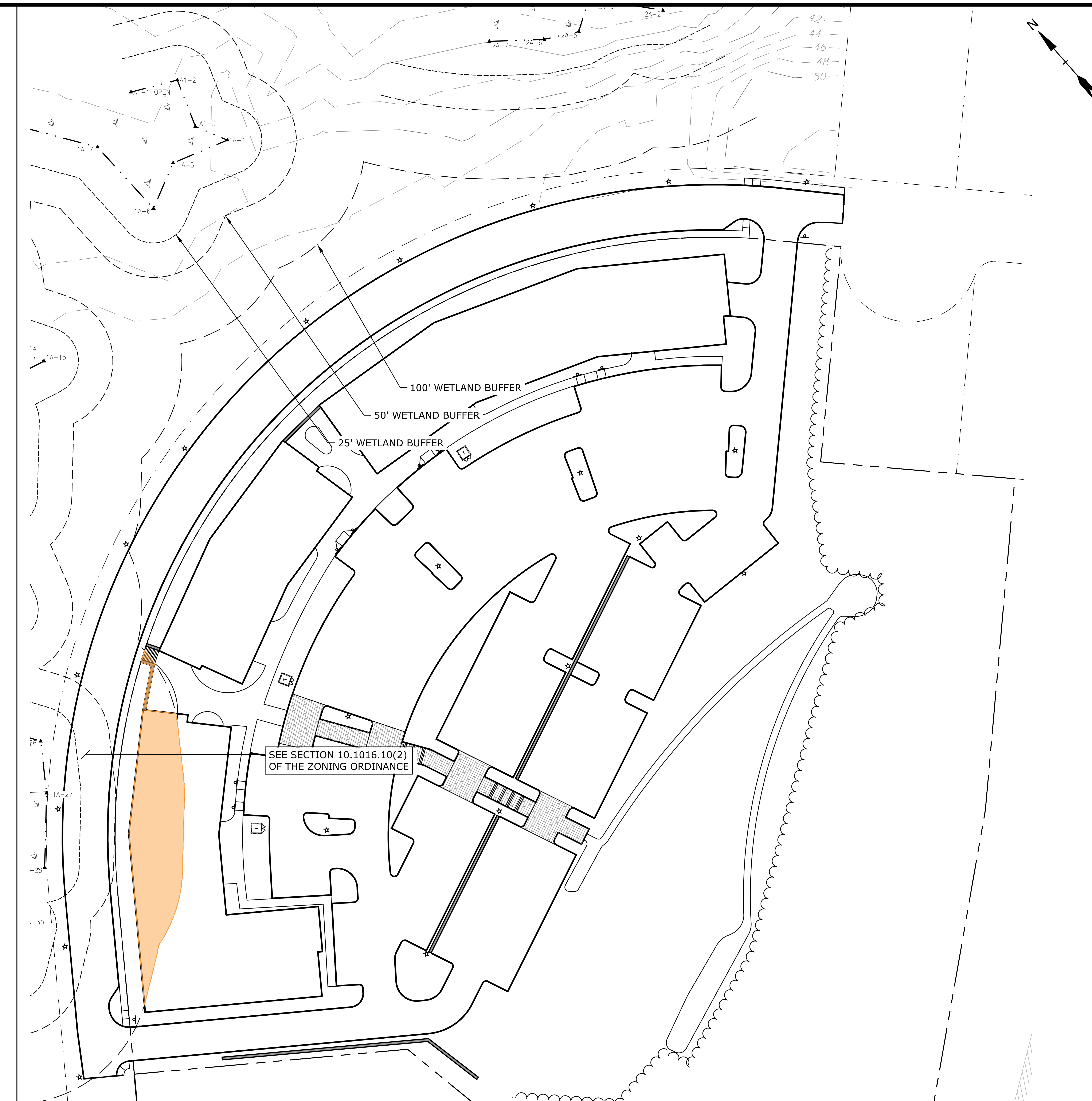
DATE:	07/30/25
SCALE:	AS SHOWN
FIGURE:	1 OF 1

Tighe&Bond
Engineers | Environmental Specialists

Plotted On:Jul 15, 2025-4:50pm By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-FIG.dwg



EXISTING IMPERVIOUS SURFACES
SCALE 1" = 50'



PROPOSED IMPERVIOUS SURFACES
SCALE 1" = 50'

10.1016 Permitted Uses

10.1016.10 The following **use**s, activities and **alteration**s are permitted in **wetland**s and **wetland buffer**s:

(1) Any **use** that does not involve the erection or construction of any **structure** or **impervious surface**, will not alter the natural surface configuration by the addition of fill or by dredging, will not result in site **alteration**s, and is otherwise permitted by the Zoning Ordinance. Examples of such **use**s include forestry and tree farming, wildlife refuges, parks and recreational **use**s, conservation and nature trails, and **open space**s as permitted or required by the Zoning Ordinance or Subdivision Regulations.

(2) Improvements to existing public rights-of-way and **sidewalk**s.

IMPERVIOUS SURFACES WITHIN WETLAND BUFFERS

LOCAL WETLAND BUFFER SETBACK	WITHIN DEVELOPMENT PARCEL	
	EXISTING (SF)	PROPOSED (SF)
0 - 25 FT	0	0
25 - 50 FT	0	0
50 - 100 FT	965	5,940
TOTAL IMPERVIOUS SURFACE	965	5,940
NET IMPERVIOUS SURFACE	+4,975	

0 50' 100'
GRAPHIC SCALE

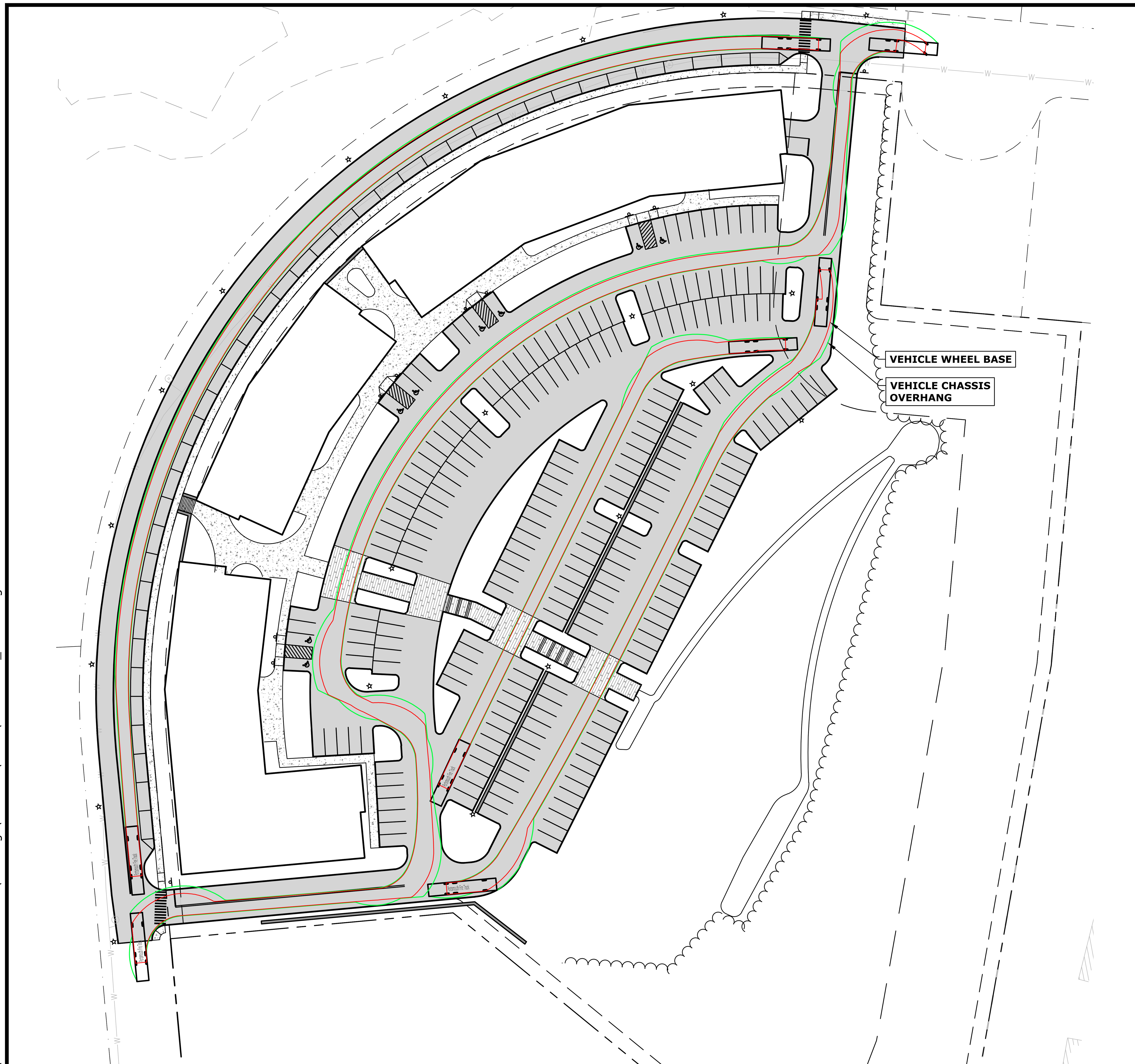
PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

WETLAND BUFFER IMPERVIOUS SURFACE EXHIBIT

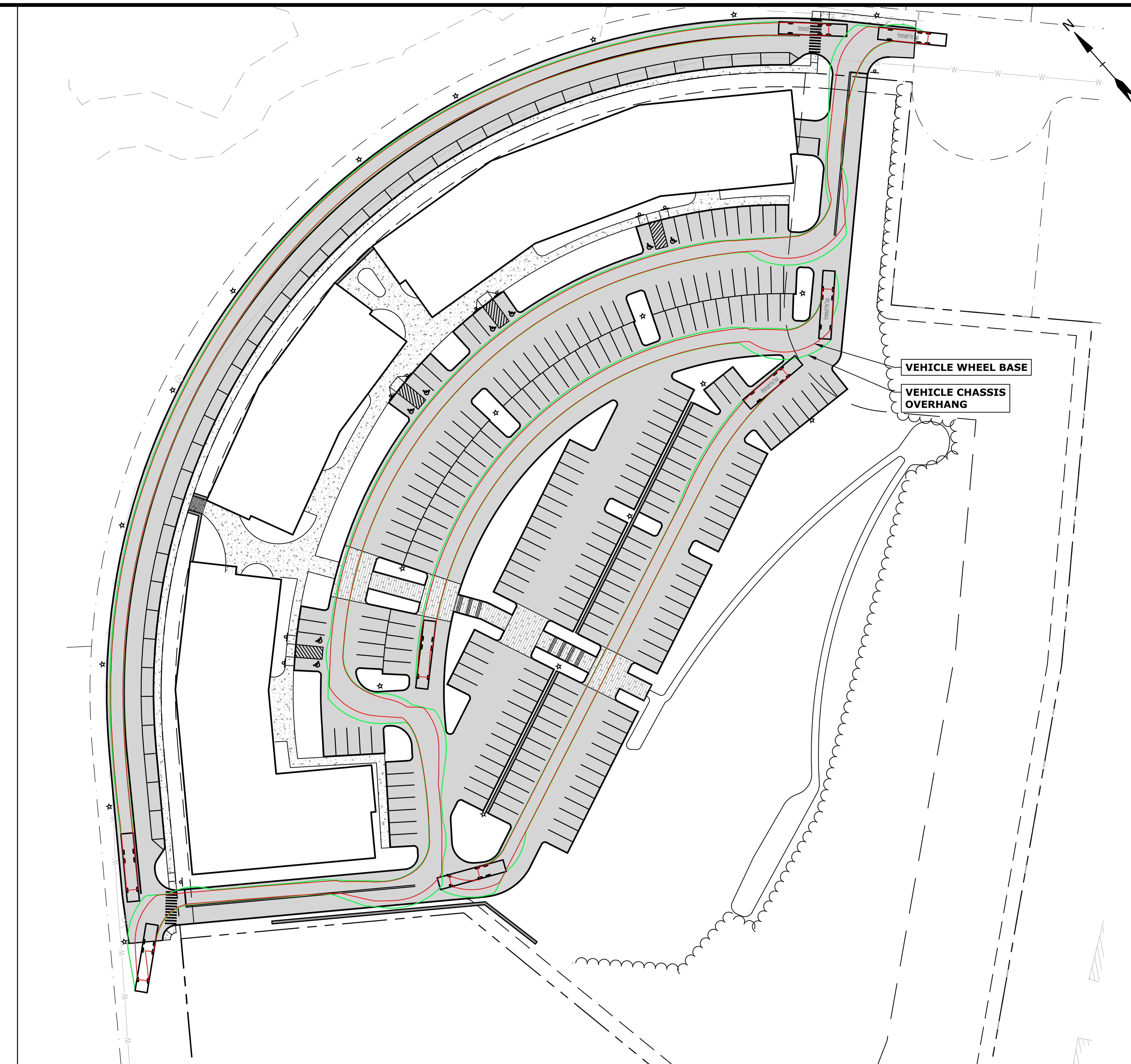
DATE: 9/22/2025
SCALE: AS SHOWN
FIGURE: 1 OF 1

Tighe&Bond

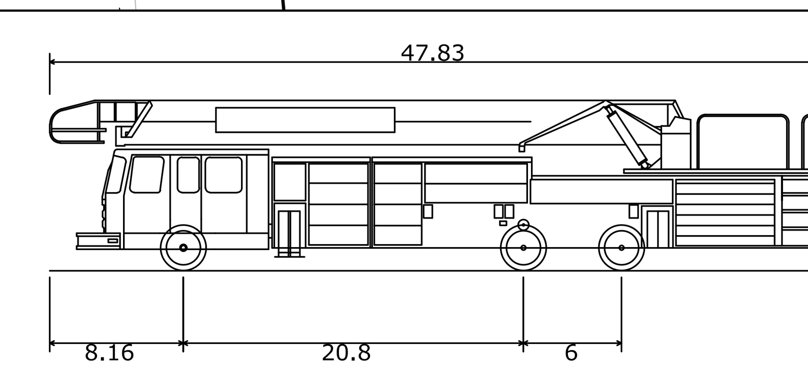
Plotted On:Sep 18, 2025-2:42pm By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-FIG.dwg



FIRE TRUCK TURNING EXHIBIT A
SCALE 1" = 50'



FIRE TRUCK TURNING EXHIBIT B
SCALE 1" = 50'

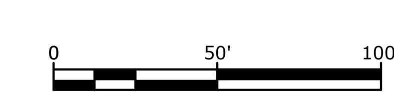


Portsmouth Fire Truck

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

VEHICLE WHEEL BASE
VEHICLE OVERHANG



PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

FIRE TRUCK TURNING EXHIBIT

DATE: 9/22/2025
SCALE: AS SHOWN
FIGURE: 1 OF 1

Tighe&Bond

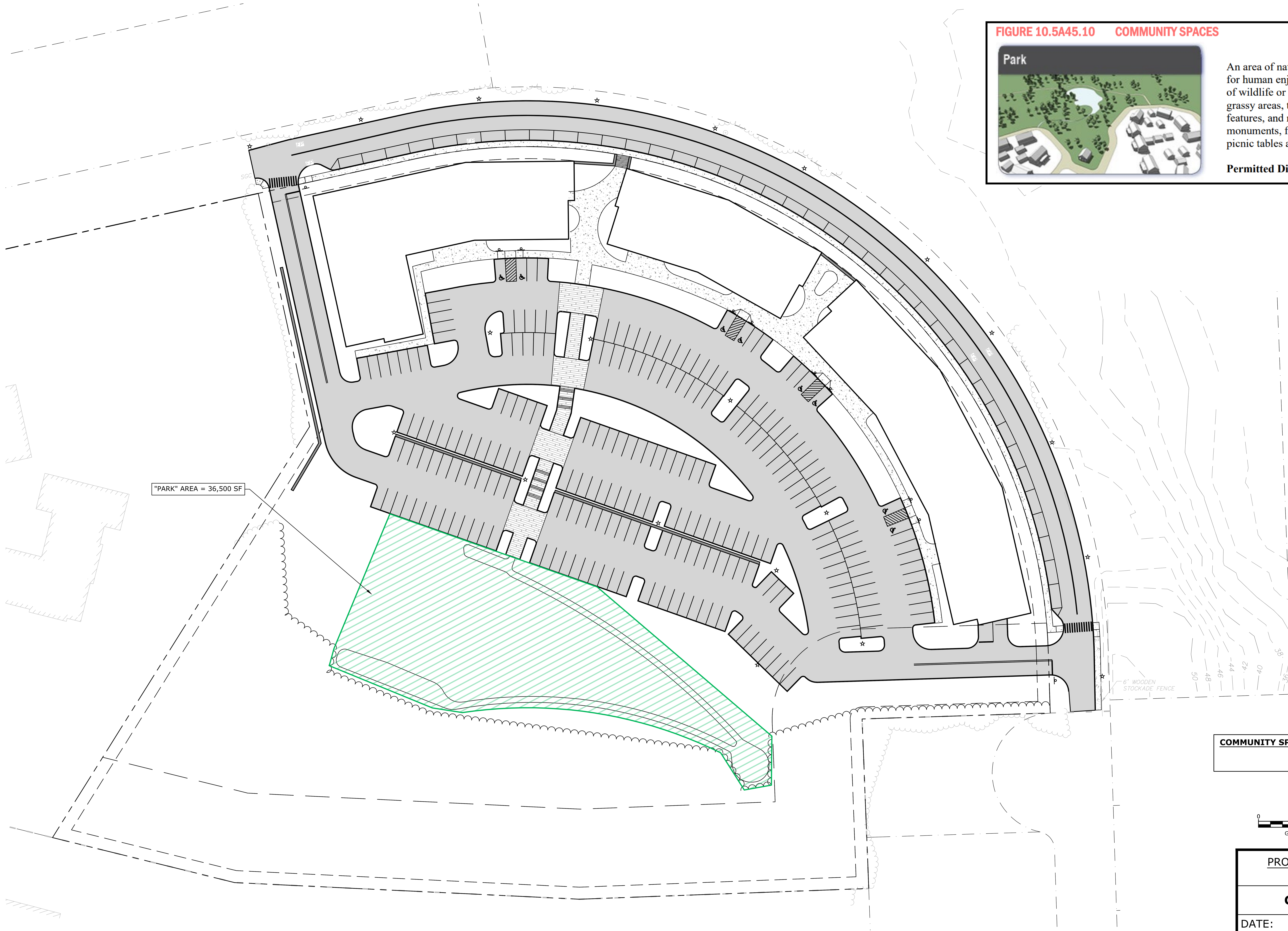


FIGURE 10.5A45.10 COMMUNITY SPACES

Park

An area of natural, semi-natural, or planted space set aside for human enjoyment and recreation or for the protection of wildlife or natural habitats. A **park** may consist of grassy areas, trees and other natural or planted landscape features, and may also contain walking **path**s and trails, monuments, fountains, playground equipment, benches, picnic tables and similar amenities.

Permitted Districts: All Districts

COMMUNITY SPACE:	REQUIRED	PROPOSED
	10% 36,458 SF	10% 36,500 SF

PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

COMMUNITY SPACE EXHIBIT

DATE: 9/22/2025
SCALE: AS SHOWN
FIGURE: 1 OF 1

Tighe&Bond

Plotted On:Sep 19, 2025-9:57am By: MCurley
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-FIG.dwg

BUILDING 1 ELEVATION AND HEIGHT

GRADE PLANE ELEVATION	BUILDING HEIGHT		BUILDING ELEVATION	
	ALLOWED	PROPOSED	ALLOWED	PROPOSED
52.13	80'	69'	132.13'	123'

BUILDING 2 ELEVATION AND HEIGHT

GRADE PLANE ELEVATION	BUILDING HEIGHT		BUILDING ELEVATION	
	ALLOWED	PROPOSED	ALLOWED	PROPOSED
47.55	80'	69'	127.55'	121.5'

BUILDING 3 ELEVATION AND HEIGHT

GRADE PLANE ELEVATION	BUILDING HEIGHT		BUILDING ELEVATION	
	ALLOWED	PROPOSED	ALLOWED	PROPOSED
46.38	80'	69'	126.38'	121'

PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

GRADE PLANE EXHIBIT

DATE: 9/22/2025
SCALE: AS SHOWN
FIGURE: 1 OF 1

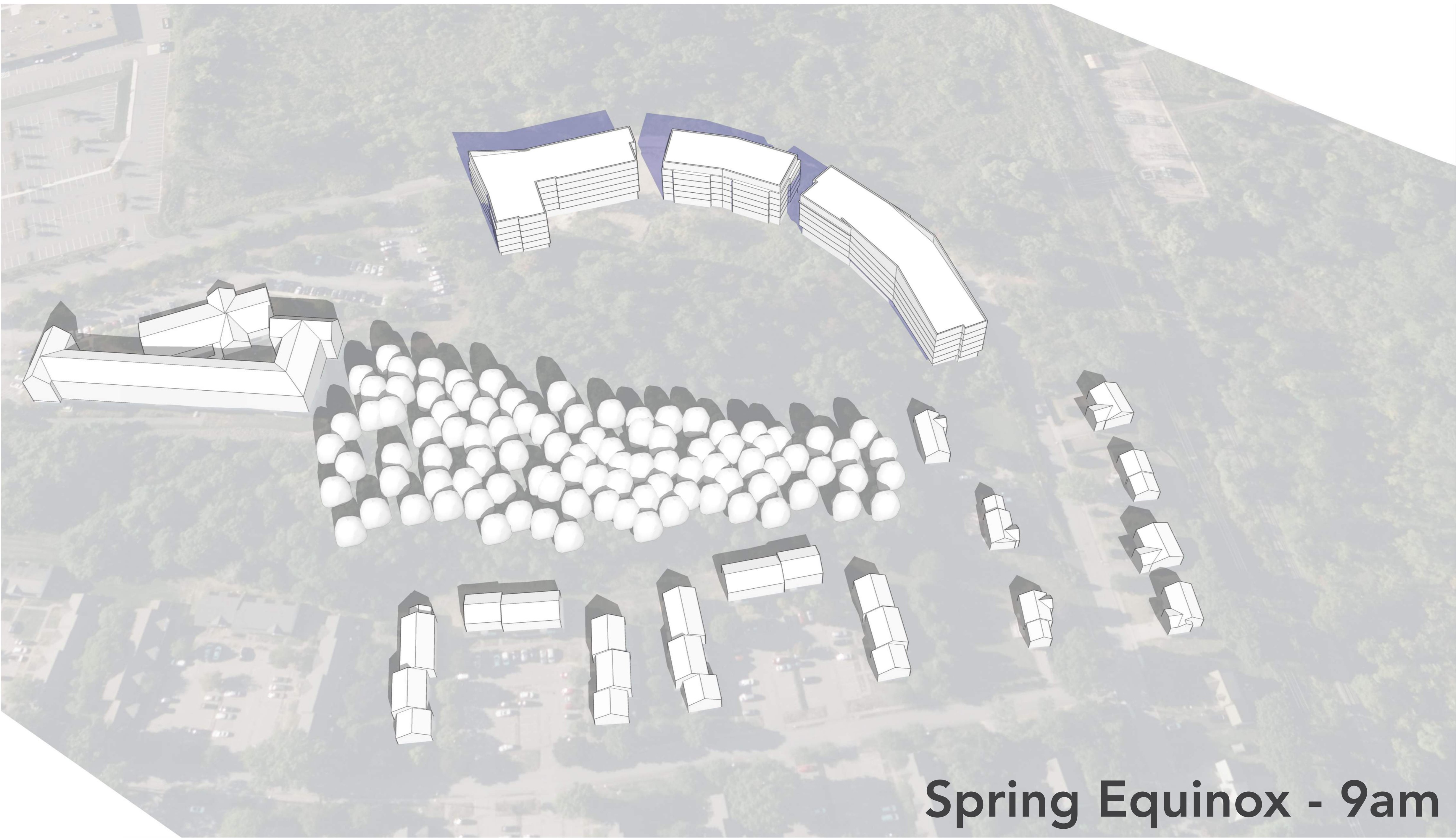
Tighe&Bond

SITE SHADOW STUDY (3PM) - *No Shadow Impact on Existing Buildings*

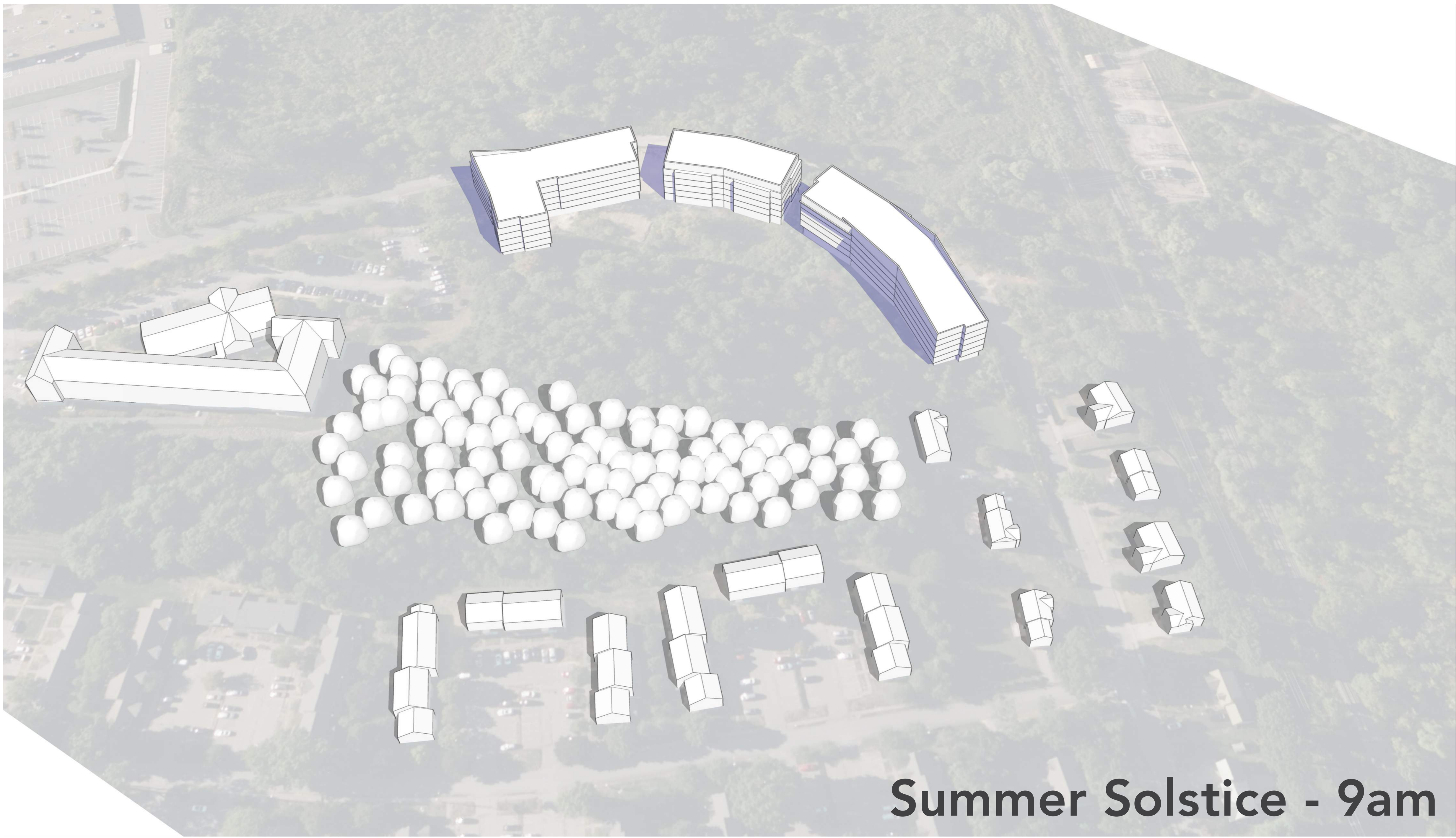
Indicates New Shadow

SITE SHADOW STUDY (9AM) - *No Shadow Impact on Existing Buildings*

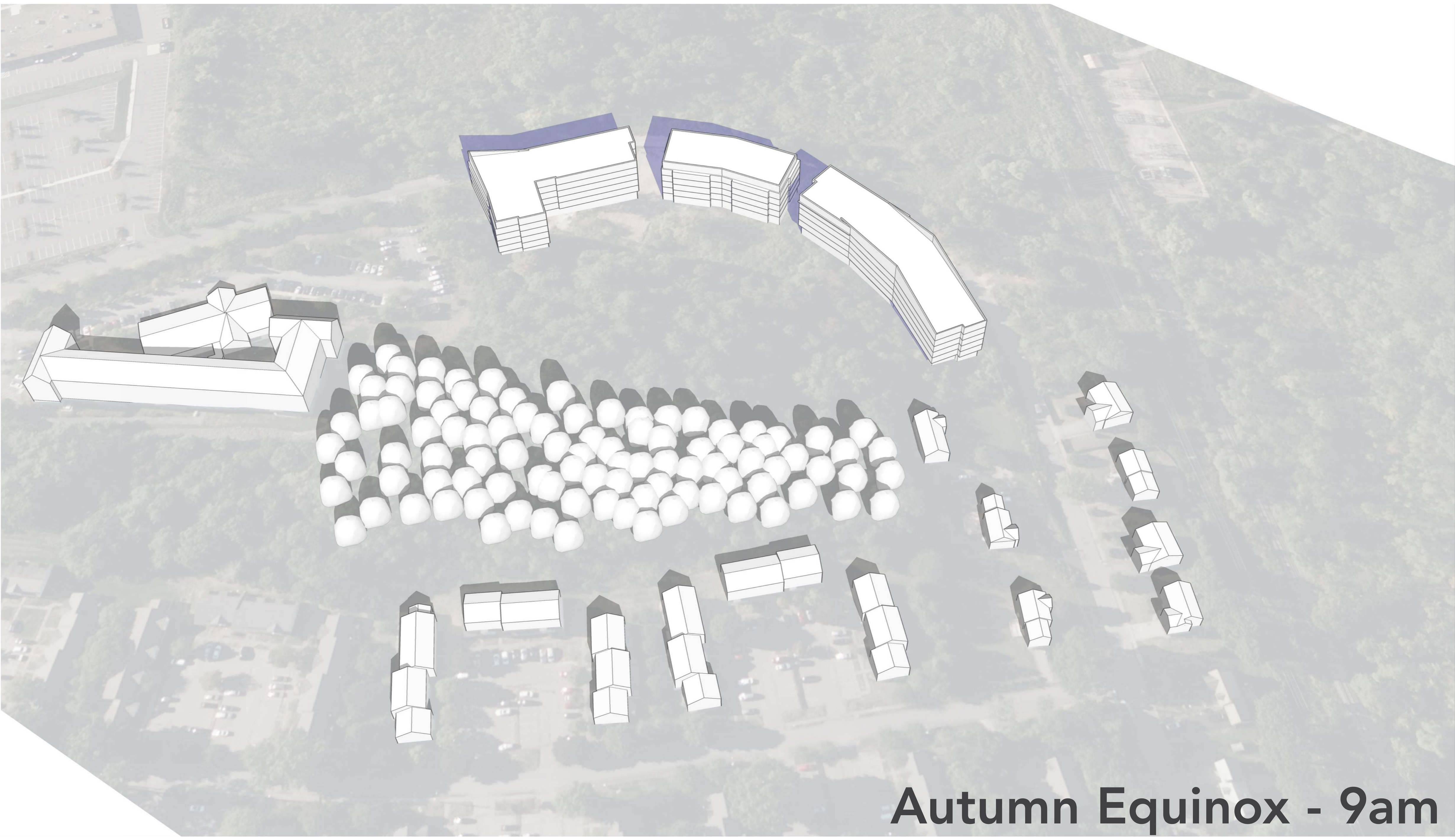
Indicates New Shadow



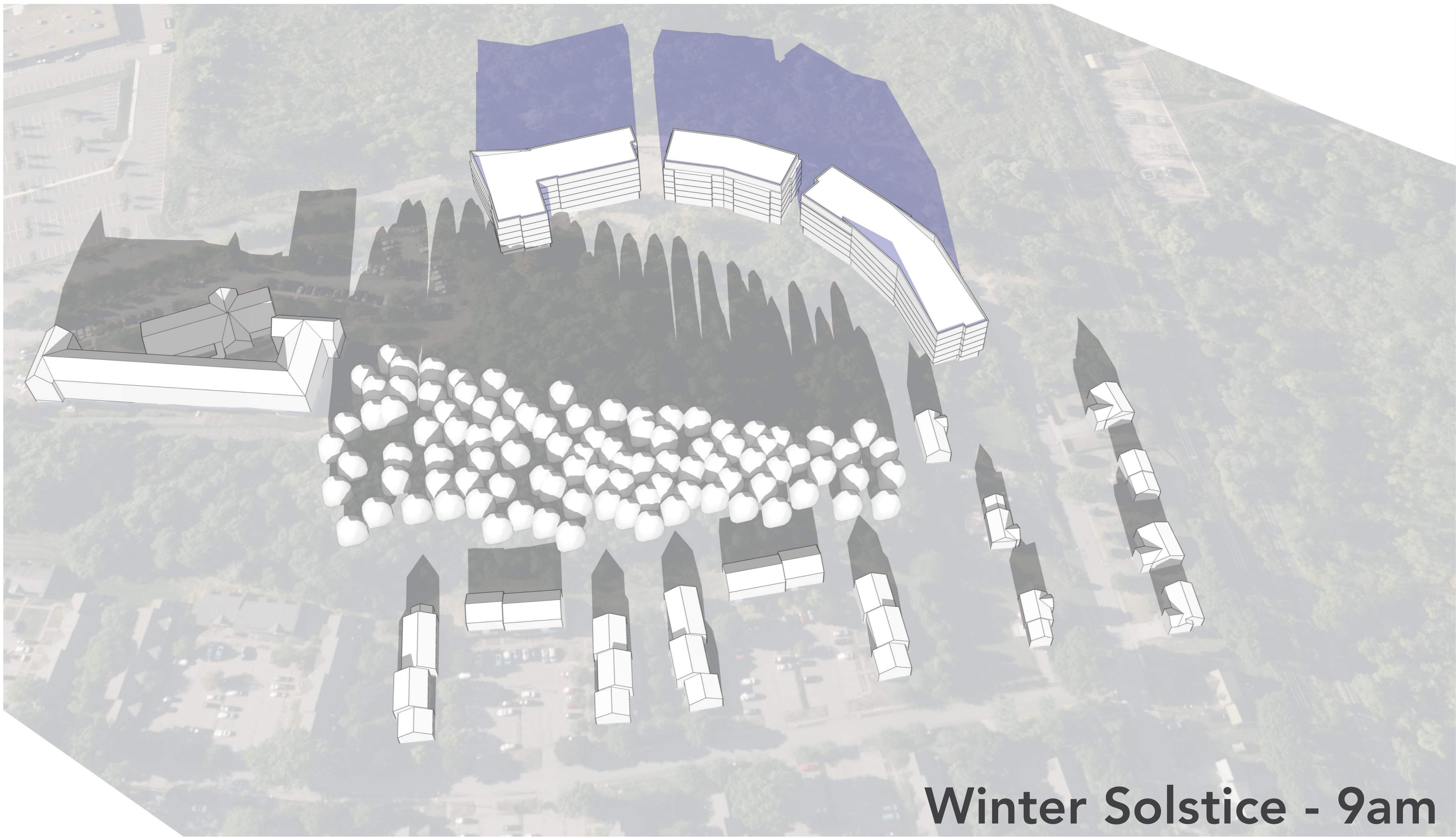
Spring Equinox - 9am



Summer Solstice - 9am



Autumn Equinox - 9am



Winter Solstice - 9am

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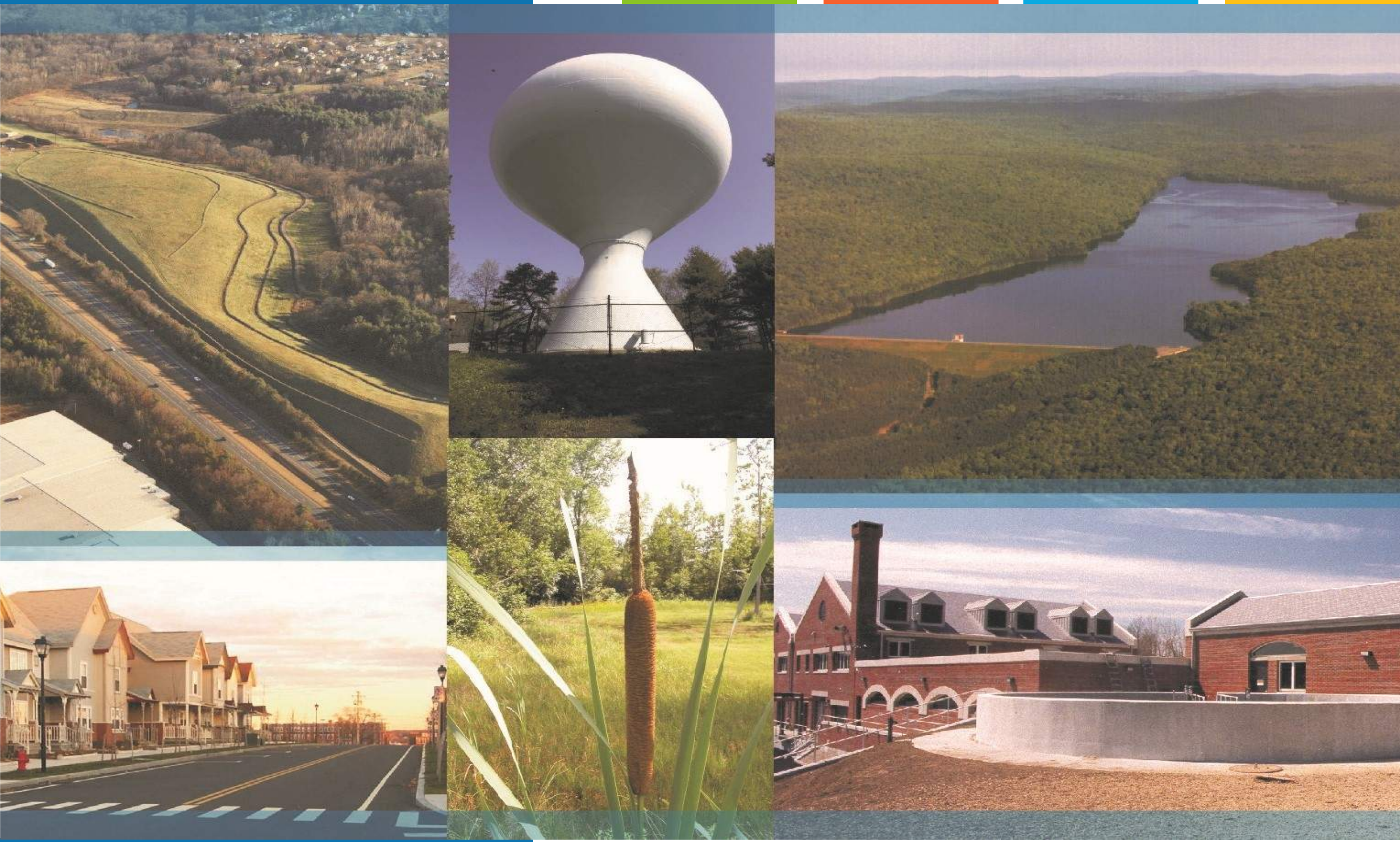
September 18, 2025

Portsmouth Planning Board

GREEN BUILDING STATEMENT
Portsmouth Boulevard Apartments – 150, 200, 250

The Core and Shell of these multi-family buildings at 150, 200, and 250 Portsmouth Boulevard are designed to meet or exceed current Energy Code requirements. A U.S. Department of Energy "COMcheck" will be submitted with the building permit application. Currently the State of New Hampshire has adopted the 2018 International Energy Code with amendments. These buildings will be built to current best practices and will exceed the 2018 IECC requirements when appropriate.

- Site: This site is a redevelopment on a site previously developed by the Air Force for residential uses. Parking is accommodated both on the surface and underneath one of the structures, reducing the total impervious footprint. This site provides good access to local businesses – by foot or bicycle. Landscaped open community space is provided on the perimeter. Bicycle storage (both outdoor and indoor) is provided for the residents. Parking lots are equipped with conduits for future installation of EV charging stations.
- Exterior Wall System: they will consist of continuous insulation outside the framing system at the podium levels and high R-value batt insulation at wood framed sections above. These insulation levels along with a continuous air barrier will provide high thermal performance. The exterior skin of is a combination of masonry, cementitious panel and lap siding. Some metal wall panel systems are provided as an accent. Interior vapor barriers are to be provided to allow for moisture management. These products are durable and have sustainable characteristics.
- Window Systems: windows have a thermally broken composite framing system with insulated, high-performance glazing to provide enhanced thermal performance and solar control. Large windows provide an abundance of daylight access for the residents.
- Roofing System: Includes a high reflectance light colored single-ply membrane system over continuous rigid insulation that exceeds the base energy code requirements. The roof structures are designed to handle the loads of adding solar panels in the future and the electrical systems are designed for adding solar components at a later date.
- HVAC System: all proposed systems are to be electric, reducing local fossil fuel emissions. High-efficiency, heat pump units with fresh air to residential units and common spaces. Bathroom exhaust is individually ducted to the exterior to avoid moisture collection points. Dryers in units are heat-pump types with condensate drains. Garage ventilation will feature variable speed fans with CO2 detectors to minimize energy usage when no vehicles are running.
- Plumbing System: fixtures are low flow. Individual water heaters are provided for each unit, allowing individual unit control.
- Lighting System: LED cutoff fixtures at exterior locations for energy efficiency and to minimize light pollution. Interior lighting is LED provided throughout – using less that 1 watt / sf. Perimeter daylight sensors to be used in common amenity spaces. Occupancy sensors to be utilized as required by code.
- Landscaping: local species that are drought tolerant and non-invasive species to be incorporated into the plantings list. Water Saving irrigation system provided.



Proposed Multi-Family Development
150 Portsmouth Boulevard
Portsmouth, NH

Drainage Analysis

Brora, LLC

September 22, 2025

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER

9/22/2025

Tighe&Bond

100% Recyclable

Table of Contents

Section 1
Project Description

The proposed project is located on a parcel of land along Portsmouth Boulevard that is identified as Map 213 Lot 12 on the City of Portsmouth Tax Maps. The property is bound to the north by Portsmouth Boulevard, to the west by the Hilton Homewood Suites, to the south by residences on Osprey Drive and to the east by residences on Dunlin Way. The site is currently undeveloped. This property is an 8.4-acre parcel of land located in the Office Research District and the Gateway Neighborhood Overly District (GNOD). The northern portion of the parcel along Portsmouth Boulevard gently slopes up from north to south and then approximately one-third of the way into the parcel the topography changes to a steep slope that plateaus in the south corner of the site after grade change of approximately 50- feet in elevation.

As currently designed, the project will include three (3), six (6) story multifamily residential buildings consisting of approximately 274 dwelling units. The three (3) proposed buildings will be located along the frontage of Portsmouth Boulevard with associated parking located at the rear of buildings. The buildings will be connected by attractively landscaped and hardscaped outdoor amenity areas. The south portion of the site, where there is a significant change in grade, will remain undeveloped to provide a buffer between the proposed development and the existing residences along Osprey Drive. This south portion of the site is anticipated to be improved with walking paths and landscape features for outdoor recreation. The section of Portsmouth Boulevard along the frontage of the subject property is proposed to be reconstructed with a new sidewalk and parking spaces to promote connection between the development and the surrounding neighborhood.

1.1 On-Site Soil Description

Based on the site-specific soil survey completed by Gove Environmental Services, Inc (attached as Appendix B), the site is largely composed of Chatfield and Udorthents soils with Hydrologic Soil Group (HSG) ratings of HSG B and HSG C, respectively. The ground cover within the area of study consists mostly of wooded and grassed areas, with a section of dilapidated paved roadway along the northern extents. There is a wetland system on the other side of the road (under separate property ownership) which is presumed to ultimately flow to the Piscataqua River. The site contains a wooded high point in the southern half which generally slopes both north and south down steep wooded slopes.

1.2 Pre- and Post-Development Comparison

The pre-development and post-development watershed areas have been analyzed at two (2) distinct points of analysis (PA-1, PA-2). While the points of analysis have remained unchanged, the contributing sub-catchment areas vary between pre-development and post-development conditions. These adjustments were made to reflect the differences in drainage patterns between the existing and proposed conditions. The overall area analyzed as part of this drainage analysis was held constant.

Point of Analysis 2 (PA-1) is located to south of the site, and assesses flows to southerly neighboring abutters. **Point of Analysis 2 (PA-2)** is located to the north of site, and assesses flows discharging to an existing wetland on the other side of the right-of-way owned by the City of Portsmouth.

The peak discharge rates at these points of analysis were determined by analyzing Type III, 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, which can be found in Appendix B.

Furthermore, the site is located within a Coastal and Great Bay Community, therefore an added factor of safety of 15% was included as required by Env-Wq 1503.08(l).

1.3 Calculation Methods

The design storms analyzed in this study are the 1-year, 2-year, 10-year, 25-year and 50-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. The peak discharge rates were determined by analyzing Type III 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(l).

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. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

Section 2
Pre-Development Conditions

To analyze the pre-development condition, the site has been modeled utilizing the three (3) distinct points of analysis described in Section 1. These points of analysis and watersheds are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-701.

The point of analysis and its contributing watershed areas under the *pre-development conditions* are described below:

Point of Analysis 1 (PA-1)

Point of Analysis 1 (PA-1) is comprised of a single subcatchment area (PRE-1.0) that consists of runoff from the southern portion of the site's high point. The area is entirely wooded. Runoff generally discharges across the southern edge of the property into the wooded boundaries of abutting properties.

Point of Analysis 2 (PA-2)

Point of Analysis 2 (PA-2) is comprised of two (2) subcatchment areas (PRE-2.0 and PRE-2.1).

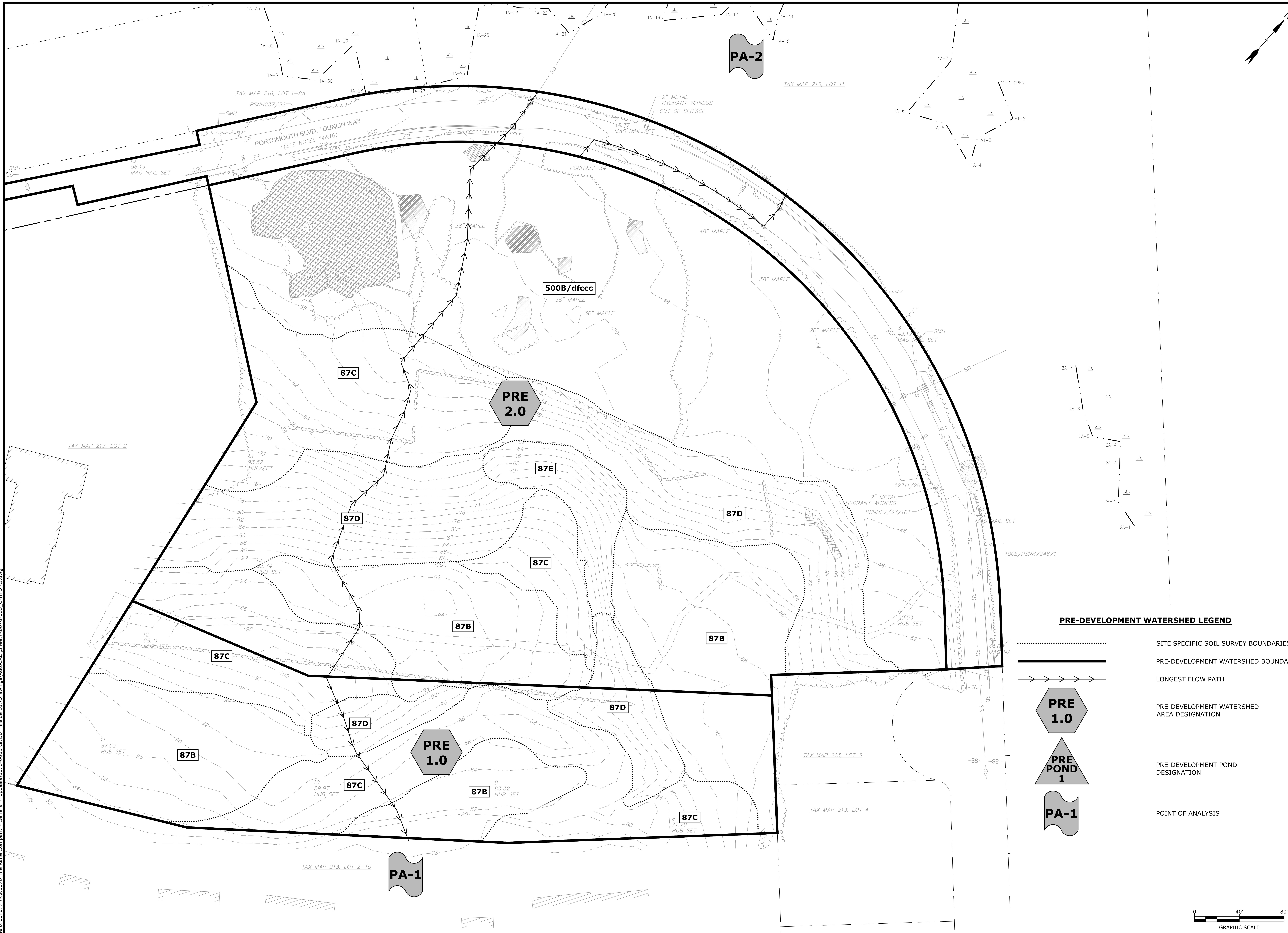
PRE-2.0 is characterized primarily of wooded and low-groundcover areas. Runoff from this subcatchment generally travels via overland flow from the wooded high point into the roadway, where runoff either flows into catch basins or directly sheets into the wetlands on the northern abutting properties.

PRE-2.1-is consists primarily of paved roadway, bituminous walkways and curb, with some contributing grassed and wooded areas. Runoff flows into catch basins with 8" and 12" pipe outlets, or directly sheets into the adjacent wetlands. There is no stormwater treatment for the site or right-of-way.

Two (2) intermediate points of analysis (PA-2.1 and PA-2.2) are included in the drainage model in order to demonstrate how channel protection requirements are met between the proposed development and the improvements within the City of Portsmouth right-of-way.

2.1 Pre-Development Watershed Plan

2.2 Pre-Development Calculations



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Plotted On:Sep 19, 2025-1:02pm By: BCurcio
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Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

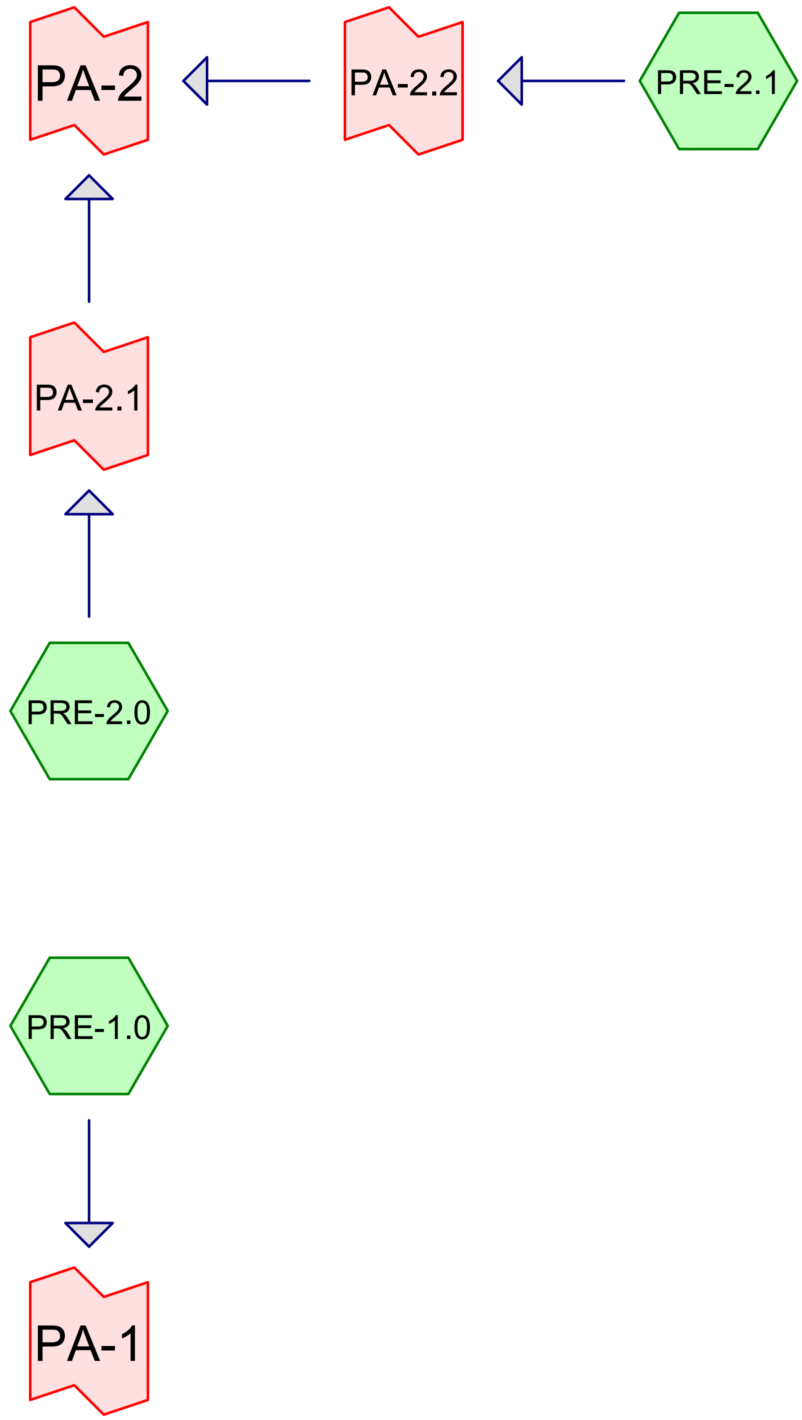
MARK	DATE	DESCRIPTION

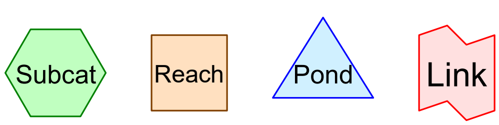
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-HYDRO.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C.701





Routing Diagram for K0076-065_PRE
Prepared by Tighe & Bond, Printed 9/19/2025
HydroCAD® 10.20-4c s/n 01453 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
28,389	74	>75% Grass cover, Good, HSG C (PRE-2.0, PRE-2.1)
790	48	Brush, Good, HSG B (PRE-2.0)
42,362	65	Brush, Good, HSG C (PRE-2.0, PRE-2.1)
13,671	91	Fallow, bare soil, HSG C (PRE-2.0)
700	96	Gravel surface, HSG C (PRE-2.0, PRE-2.1)
30,641	98	Paved parking, HSG C (PRE-2.1)
244,270	55	Woods, Good, HSG B (PRE-1.0, PRE-2.0)
59,402	70	Woods, Good, HSG C (PRE-2.0, PRE-2.1)
420,225	**64**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
245,060	HSG B	PRE-1.0, PRE-2.0
175,165	HSG C	PRE-2.0, PRE-2.1
0	HSG D	
0	Other	
420,225		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment PRE-1.0: Runoff Area=93,327 sf 0.00% Impervious Runoff Depth>0.21"
Flow Length=165' Tc=7.0 min CN=55 Runoff=0.16 cfs 1,615 cf

Subcatchment PRE-2.0: Runoff Area=271,248 sf 0.00% Impervious Runoff Depth>0.42"
Flow Length=601' Tc=12.3 min CN=62 Runoff=1.52 cfs 9,418 cf

Subcatchment PRE-2.1: Runoff Area=55,650 sf 55.06% Impervious Runoff Depth>1.70"
Flow Length=231' Tc=6.0 min CN=86 Runoff=2.50 cfs 7,902 cf

Link PA-1: Inflow=0.16 cfs 1,615 cf
Primary=0.16 cfs 1,615 cf

Link PA-2: Inflow=3.24 cfs 17,320 cf
Primary=3.24 cfs 17,320 cf

Link PA-2.1: Inflow=1.52 cfs 9,418 cf
Primary=1.52 cfs 9,418 cf

Link PA-2.2: Inflow=2.50 cfs 7,902 cf
Primary=2.50 cfs 7,902 cf

Total Runoff Area = 420,225 sf Runoff Volume = 18,935 cf Average Runoff Depth = 0.54"
92.71% Pervious = 389,584 sf 7.29% Impervious = 30,641 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment PRE-1.0: Runoff Area=93,327 sf 0.00% Impervious Runoff Depth>0.41"
Flow Length=165' Tc=7.0 min CN=55 Runoff=0.48 cfs 3,169 cf

Subcatchment PRE-2.0: Runoff Area=271,248 sf 0.00% Impervious Runoff Depth>0.70"
Flow Length=601' Tc=12.3 min CN=62 Runoff=3.23 cfs 15,804 cf

Subcatchment PRE-2.1: Runoff Area=55,650 sf 55.06% Impervious Runoff Depth>2.26"
Flow Length=231' Tc=6.0 min CN=86 Runoff=3.30 cfs 10,465 cf

Link PA-1: Inflow=0.48 cfs 3,169 cf
Primary=0.48 cfs 3,169 cf

Link PA-2: Inflow=5.57 cfs 26,268 cf
Primary=5.57 cfs 26,268 cf

Link PA-2.1: Inflow=3.23 cfs 15,804 cf
Primary=3.23 cfs 15,804 cf

Link PA-2.2: Inflow=3.30 cfs 10,465 cf
Primary=3.30 cfs 10,465 cf

Total Runoff Area = 420,225 sf Runoff Volume = 29,438 cf Average Runoff Depth = 0.84"
92.71% Pervious = 389,584 sf 7.29% Impervious = 30,641 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment PRE-1.0: Runoff Area=93,327 sf 0.00% Impervious Runoff Depth>1.28"
Flow Length=165' Tc=7.0 min CN=55 Runoff=2.63 cfs 9,958 cf

Subcatchment PRE-2.0: Runoff Area=271,248 sf 0.00% Impervious Runoff Depth>1.80"
Flow Length=601' Tc=12.3 min CN=62 Runoff=10.00 cfs 40,761 cf

Subcatchment PRE-2.1: Runoff Area=55,650 sf 55.06% Impervious Runoff Depth>4.01"
Flow Length=231' Tc=6.0 min CN=86 Runoff=5.76 cfs 18,589 cf

Link PA-1: Inflow=2.63 cfs 9,958 cf
Primary=2.63 cfs 9,958 cf

Link PA-2: Inflow=14.25 cfs 59,351 cf
Primary=14.25 cfs 59,351 cf

Link PA-2.1: Inflow=10.00 cfs 40,761 cf
Primary=10.00 cfs 40,761 cf

Link PA-2.2: Inflow=5.76 cfs 18,589 cf
Primary=5.76 cfs 18,589 cf

Total Runoff Area = 420,225 sf Runoff Volume = 69,309 cf Average Runoff Depth = 1.98"
92.71% Pervious = 389,584 sf 7.29% Impervious = 30,641 sf

Summary for Subcatchment PRE-1.0:

Runoff = 2.63 cfs @ 12.12 hrs, Volume= 9,958 cf, Depth> 1.28"
Routed to Link PA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
93,327	55	Woods, Good, HSG B
93,327		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	115	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.0	165	Total			

Summary for Subcatchment PRE-2.0:

Runoff = 10.00 cfs @ 12.19 hrs, Volume= 40,761 cf, Depth> 1.80"
Routed to Link PA-2.1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
790	48	Brush, Good, HSG B
150,943	55	Woods, Good, HSG B
10,715	74	>75% Grass cover, Good, HSG C
56,407	70	Woods, Good, HSG C
38,372	65	Brush, Good, HSG C
0	98	Paved parking, HSG C
350	96	Gravel surface, HSG C
13,671	91	Fallow, bare soil, HSG C
271,248	62	Weighted Average
271,248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.1400	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.7	347	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.6	172	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	12	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.3	601	Total			

Summary for Subcatchment PRE-2.1:

Runoff = 5.76 cfs @ 12.09 hrs, Volume= 18,589 cf, Depth> 4.01"
Routed to Link PA-2.2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
17,674	74	>75% Grass cover, Good, HSG C
2,995	70	Woods, Good, HSG C
3,990	65	Brush, Good, HSG C
30,641	98	Paved parking, HSG C
350	96	Gravel surface, HSG C
0	91	Fallow, bare soil, HSG C
55,650	86	Weighted Average
25,009		44.94% Pervious Area
30,641		55.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	20	0.0500	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.4	175	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	36	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
3.5	231	Total, Increased to minimum Tc = 6.0 min			

Summary for Link PA-1:

Inflow Area = 93,327 sf, 0.00% Impervious, Inflow Depth > 1.28" for 10-yr event
Inflow = 2.63 cfs @ 12.12 hrs, Volume= 9,958 cf
Primary = 2.63 cfs @ 12.12 hrs, Volume= 9,958 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 326,898 sf, 9.37% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 14.25 cfs @ 12.15 hrs, Volume= 59,351 cf
Primary = 14.25 cfs @ 12.15 hrs, Volume= 59,351 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2.1:

Inflow Area = 271,248 sf, 0.00% Impervious, Inflow Depth > 1.80" for 10-yr event
Inflow = 10.00 cfs @ 12.19 hrs, Volume= 40,761 cf
Primary = 10.00 cfs @ 12.19 hrs, Volume= 40,761 cf, Atten= 0%, Lag= 0.0 min
Routed to Link PA-2 :

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2.2:

Inflow Area = 55,650 sf, 55.06% Impervious, Inflow Depth > 4.01" for 10-yr event
Inflow = 5.76 cfs @ 12.09 hrs, Volume= 18,589 cf
Primary = 5.76 cfs @ 12.09 hrs, Volume= 18,589 cf, Atten= 0%, Lag= 0.0 min
Routed to Link PA-2 :

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment PRE-1.0: Runoff Area=93,327 sf 0.00% Impervious Runoff Depth>2.17"
Flow Length=165' Tc=7.0 min CN=55 Runoff=4.86 cfs 16,840 cf

Subcatchment PRE-2.0: Runoff Area=271,248 sf 0.00% Impervious Runoff Depth>2.85"
Flow Length=601' Tc=12.3 min CN=62 Runoff=16.36 cfs 64,312 cf

Subcatchment PRE-2.1: Runoff Area=55,650 sf 55.06% Impervious Runoff Depth>5.43"
Flow Length=231' Tc=6.0 min CN=86 Runoff=7.69 cfs 25,177 cf

Link PA-1: Inflow=4.86 cfs 16,840 cf
Primary=4.86 cfs 16,840 cf

Link PA-2: Inflow=22.11 cfs 89,489 cf
Primary=22.11 cfs 89,489 cf

Link PA-2.1: Inflow=16.36 cfs 64,312 cf
Primary=16.36 cfs 64,312 cf

Link PA-2.2: Inflow=7.69 cfs 25,177 cf
Primary=7.69 cfs 25,177 cf

Total Runoff Area = 420,225 sf Runoff Volume = 106,329 cf Average Runoff Depth = 3.04"
92.71% Pervious = 389,584 sf 7.29% Impervious = 30,641 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment PRE-1.0: Runoff Area=93,327 sf 0.00% Impervious Runoff Depth>3.10"
Flow Length=165' Tc=7.0 min CN=55 Runoff=7.20 cfs 24,100 cf

Subcatchment PRE-2.0: Runoff Area=271,248 sf 0.00% Impervious Runoff Depth>3.91"
Flow Length=601' Tc=12.3 min CN=62 Runoff=22.78 cfs 88,308 cf

Subcatchment PRE-2.1: Runoff Area=55,650 sf 55.06% Impervious Runoff Depth>6.77"
Flow Length=231' Tc=6.0 min CN=86 Runoff=9.48 cfs 31,411 cf

Link PA-1: Inflow=7.20 cfs 24,100 cf
Primary=7.20 cfs 24,100 cf

Link PA-2: Inflow=29.92 cfs 119,718 cf
Primary=29.92 cfs 119,718 cf

Link PA-2.1: Inflow=22.78 cfs 88,308 cf
Primary=22.78 cfs 88,308 cf

Link PA-2.2: Inflow=9.48 cfs 31,411 cf
Primary=9.48 cfs 31,411 cf

Total Runoff Area = 420,225 sf Runoff Volume = 143,818 cf Average Runoff Depth = 4.11"
92.71% Pervious = 389,584 sf 7.29% Impervious = 30,641 sf

Section 3
Post-Development Conditions

To analyze the post-development condition, the site has been modeled utilizing the same three (3) distinct points of analysis as the Pre-Development condition with revised watershed areas to reflect the post-construction conditions.

The points of analysis and their sub-catchment areas are depicted on the plan entitled "Post-Development Watershed Plan," Sheet C-702.

Point of Analysis 1 (PA-1)

Point of Analysis 1 (PA-1) is comprised of a single subcatchment area (POST-1.0) that closely emulates the pre-development PRE-1.0 subcatchment area. Site clearing and development extend into this subcatchment area slightly, and development is proposed such that POST 1.0 will have a reduced watershed. Therefore, flows from this subcatchment and to this point of analysis are expected to be equivalent or less than the pre-development condition.

Point of Analysis 2 (PA-2)

Point of Analysis 2 (PA-2) is comprised of six (6) subcatchment areas (POST-2.0, POST 2.1, POST-2.2, POST-2.3, POST-2.4, and POST-2.5).

POST-2.0 comprises the majority of the development area on the subject parcel, collecting runoff from all parking areas, roofs, and sidewalks, as well as the southern grass hill. Runoff is collected by deep-sump catch basins and conveyed via closed drainage to an underground detention basin (UDB-1) with outlet control structure that detains and meters increased stormwater flows and volumes from added impervious areas. Stormwater is pre-treated prior to detention by means of both off-line deep sump catch basins and flow-through pre-treatment structures. Once discharged from the outlet control structure, stormwater is treated by a flow-through filtration treatment structure prior to discharging into a plunge pool on the eastern portion of the site. The plunge pool is located within an easement area granted to the City of Portsmouth.

POST-2.1 is a small subcatchment which is comprised of the eastern driveway access into the site, as well as some vegetated slopes. Runoff is collected by an off-line deep sump catch basin prior to discharge into the junction structure upstream of the flow-through filtration structure.

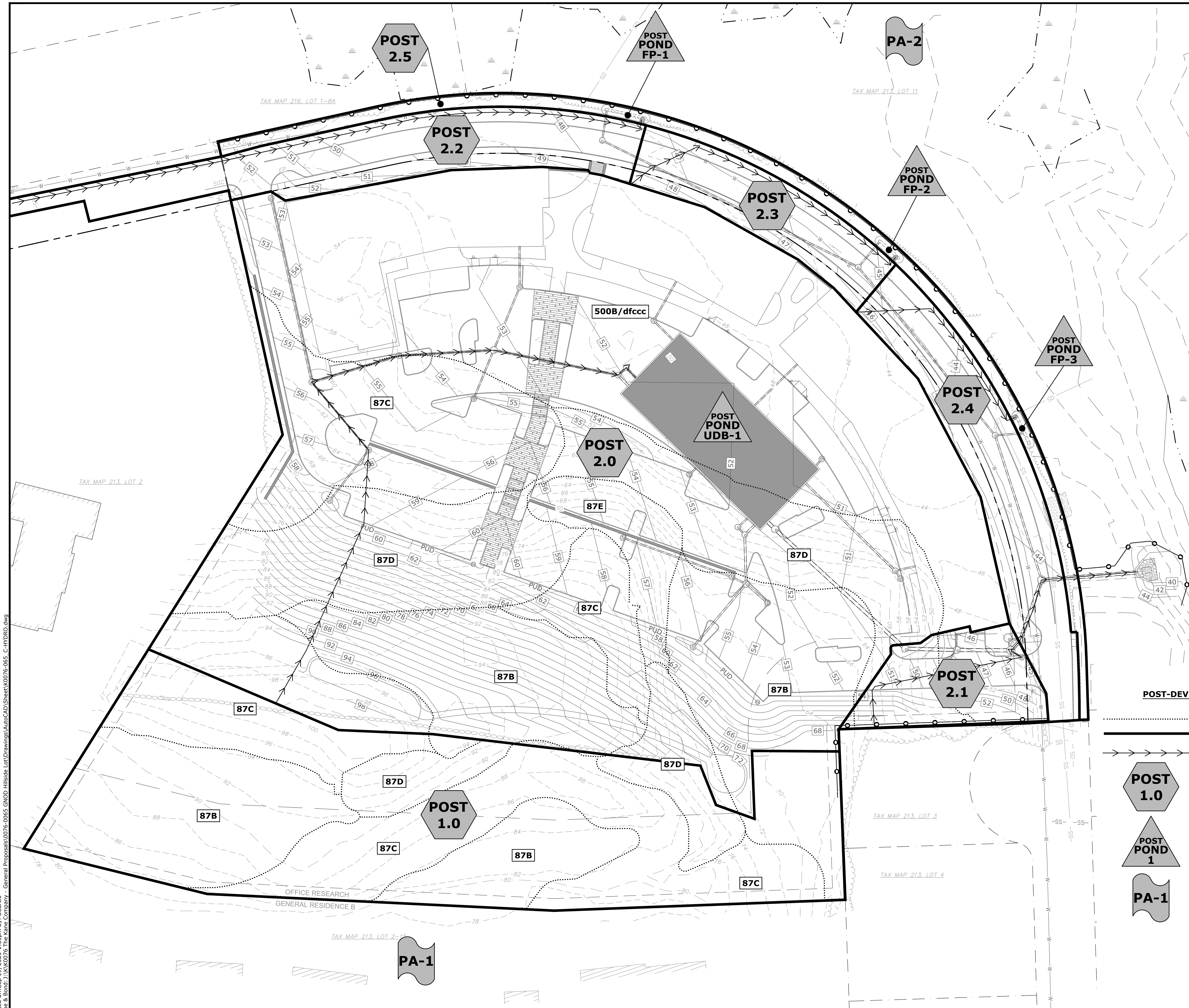
POST-2.2, POST-2.3, and POST-2.4 are comprised primarily of the paved roadways and sidewalks within the reconstructed limits of Portsmouth Boulevard, in addition to improved landscaped areas along its southern edge. Flows from each of these three (3) subcatchment areas are directed to three (3) bioretention systems (FP-1, FP-2, and FP-3). Rain guardian turret inlets provide pre-treatment prior to conveying flows the bioretention systems for treatment. Structural underdrains and overflow structures convey flows back into a closed drainage network under Portsmouth Boulevard for eventual discharge at the same plunge pool outlet described under Point of Analysis (PA-2).

POST-2.5 is comprised of a 10' to 12'-wide grassed strip between Portsmouth Boulevard and the northern right-of-way line. The grassed strip, proposed to be planted with native grasses and trees, sheets north into the adjacent wetlands.

Two (2) intermediate points of analysis (PA-2.1 and PA-2.2) are included in the drainage model in order to demonstrate how channel protection requirements are met between the proposed development and the improvements within the City of Portsmouth right-of-way.

3.1 Post-Development Watershed Plan

3.2 Post-Development Calculations



POST-DEVELOPMENT WATERSHED LEGEND

SITE SPECIFIC SOIL SURVEY BOUNDARIES

POST-DEVELOPMENT WATERSHED BOUNDARY

POST-DEVELOPMENT LONGEST FLOW PATH

POST 1.0 — POST-DEVELOPMENT WATERSHED AREA DESIGNATION

POST POND 1 — POST-DEVELOPMENT POND DESIGNATION

PA-1 — POINT OF ANALYSIS

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

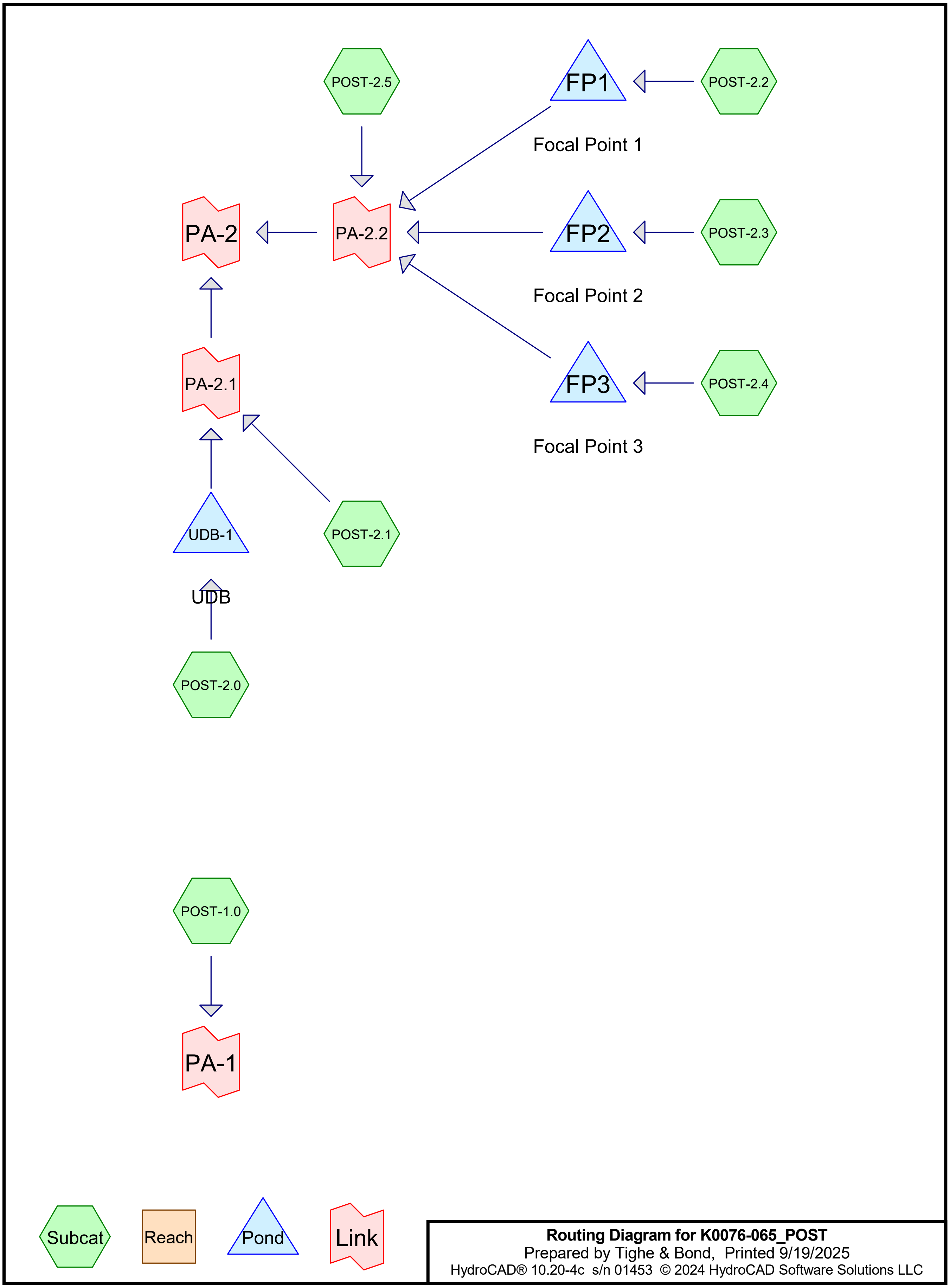
PROJECT NO:	K0076-065
DATE:	9/22/2025
FILE:	K0076-065_C-HYDRO.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C.702

Last Saved: 9/19/2025
Plotted On:Sep 19, 2025-1:03pm By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-HYDRO.dwg



Routing Diagram for K0076-065_POST
Prepared by Tighe & Bond, Printed 9/19/2025
HydroCAD® 10.20-4c s/n 01453 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
74,567	61	>75% Grass cover, Good, HSG B (POST-2.0, POST-2.1)
37,764	74	>75% Grass cover, Good, HSG C (POST-2.0, POST-2.1, POST-2.2, POST-2.3, POST-2.4, POST-2.5)
72,917	98	Paved parking, HSG B (POST-2.0, POST-2.1)
90,607	98	Paved parking, HSG C (POST-2.0, POST-2.1, POST-2.2, POST-2.3, POST-2.4)
950	98	Roofs, HSG B (POST-2.0)
46,794	98	Roofs, HSG C (POST-2.0)
96,626	55	Woods, Good, HSG B (POST-1.0, POST-2.0)
420,225	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
245,060	HSG B	POST-1.0, POST-2.0, POST-2.1
175,165	HSG C	POST-2.0, POST-2.1, POST-2.2, POST-2.3, POST-2.4, POST-2.5
0	HSG D	
0	Other	
420,225		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment POST-1.0: Runoff Area=89,289 sf 0.00% Impervious Runoff Depth>0.21"
Flow Length=165' Tc=7.0 min CN=55 Runoff=0.16 cfs 1,545 cf

Subcatchment POST-2.0: Runoff Area=255,686 sf 63.99% Impervious Runoff Depth>1.63"
Flow Length=535' Tc=8.4 min CN=85 Runoff=10.18 cfs 34,688 cf

Subcatchment POST-2.1: Runoff Area=10,317 sf 38.33% Impervious Runoff Depth>1.22"
Flow Length=345' Tc=6.0 min CN=79 Runoff=0.33 cfs 1,052 cf

Subcatchment POST-2.2: Runoff Area=22,946 sf 85.51% Impervious Runoff Depth>2.50"
Flow Length=345' Tc=6.0 min CN=95 Runoff=1.43 cfs 4,774 cf

Subcatchment POST-2.3: Runoff Area=11,432 sf 77.85% Impervious Runoff Depth>2.30"
Flow Length=345' Tc=6.0 min CN=93 Runoff=0.67 cfs 2,191 cf

Subcatchment POST-2.4: Runoff Area=19,180 sf 79.14% Impervious Runoff Depth>2.30"
Flow Length=345' Tc=6.0 min CN=93 Runoff=1.13 cfs 3,676 cf

Subcatchment POST-2.5: Runoff Area=11,375 sf 0.00% Impervious Runoff Depth>0.94"
Flow Length=10' Slope=0.3300 '/' Tc=6.0 min CN=74 Runoff=0.27 cfs 890 cf

Pond FP1: Focal Point 1 Peak Elev=45.95' Storage=225 cf Inflow=1.43 cfs 4,774 cf
Outflow=1.41 cfs 4,774 cf

Pond FP2: Focal Point 2 Peak Elev=43.89' Storage=94 cf Inflow=0.67 cfs 2,191 cf
Outflow=0.65 cfs 2,191 cf

Pond FP3: Focal Point 3 Peak Elev=42.68' Storage=145 cf Inflow=1.13 cfs 3,676 cf
Outflow=1.12 cfs 3,676 cf

Pond UDB-1: UDB Peak Elev=44.50' Storage=19,373 cf Inflow=10.18 cfs 34,688 cf
Outflow=0.72 cfs 26,392 cf

Link PA-1: Inflow=0.16 cfs 1,545 cf
Primary=0.16 cfs 1,545 cf

Link PA-2: Inflow=4.20 cfs 38,975 cf
Primary=4.20 cfs 38,975 cf

Link PA-2.1: Inflow=0.77 cfs 27,444 cf
Primary=0.77 cfs 27,444 cf

Link PA-2.2: Inflow=3.45 cfs 11,531 cf
Primary=3.45 cfs 11,531 cf

Total Runoff Area = 420,225 sf Runoff Volume = 48,817 cf Average Runoff Depth = 1.39"
49.73% Pervious = 208,957 sf 50.27% Impervious = 211,268 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment POST-1.0: Runoff Area=89,289 sf 0.00% Impervious Runoff Depth>0.41"
Flow Length=165' Tc=7.0 min CN=55 Runoff=0.46 cfs 3,032 cf

Subcatchment POST-2.0: Runoff Area=255,686 sf 63.99% Impervious Runoff Depth>2.17"
Flow Length=535' Tc=8.4 min CN=85 Runoff=13.58 cfs 46,259 cf

Subcatchment POST-2.1: Runoff Area=10,317 sf 38.33% Impervious Runoff Depth>1.71"
Flow Length=345' Tc=6.0 min CN=79 Runoff=0.46 cfs 1,466 cf

Subcatchment POST-2.2: Runoff Area=22,946 sf 85.51% Impervious Runoff Depth>3.11"
Flow Length=345' Tc=6.0 min CN=95 Runoff=1.76 cfs 5,954 cf

Subcatchment POST-2.3: Runoff Area=11,432 sf 77.85% Impervious Runoff Depth>2.91"
Flow Length=345' Tc=6.0 min CN=93 Runoff=0.84 cfs 2,769 cf

Subcatchment POST-2.4: Runoff Area=19,180 sf 79.14% Impervious Runoff Depth>2.91"
Flow Length=345' Tc=6.0 min CN=93 Runoff=1.41 cfs 4,646 cf

Subcatchment POST-2.5: Runoff Area=11,375 sf 0.00% Impervious Runoff Depth>1.36"
Flow Length=10' Slope=0.3300 '/' Tc=6.0 min CN=74 Runoff=0.40 cfs 1,293 cf

Pond FP1: Focal Point 1 Peak Elev=45.98' Storage=233 cf Inflow=1.76 cfs 5,954 cf
Outflow=1.78 cfs 5,954 cf

Pond FP2: Focal Point 2 Peak Elev=43.91' Storage=96 cf Inflow=0.84 cfs 2,769 cf
Outflow=0.86 cfs 2,769 cf

Pond FP3: Focal Point 3 Peak Elev=42.70' Storage=151 cf Inflow=1.41 cfs 4,646 cf
Outflow=1.43 cfs 4,646 cf

Pond UDB-1: UDB Peak Elev=45.26' Storage=26,894 cf Inflow=13.58 cfs 46,259 cf
Outflow=0.85 cfs 33,065 cf

Link PA-1: Inflow=0.46 cfs 3,032 cf
Primary=0.46 cfs 3,032 cf

Link PA-2: Inflow=5.47 cfs 49,194 cf
Primary=5.47 cfs 49,194 cf

Link PA-2.1: Inflow=1.03 cfs 34,531 cf
Primary=1.03 cfs 34,531 cf

Link PA-2.2: Inflow=4.46 cfs 14,663 cf
Primary=4.46 cfs 14,663 cf

Total Runoff Area = 420,225 sf Runoff Volume = 65,420 cf Average Runoff Depth = 1.87"
49.73% Pervious = 208,957 sf 50.27% Impervious = 211,268 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment POST-1.0: Runoff Area=89,289 sf 0.00% Impervious Runoff Depth>1.28"
Flow Length=165' Tc=7.0 min CN=55 Runoff=2.52 cfs 9,527 cf

Subcatchment POST-2.0: Runoff Area=255,686 sf 63.99% Impervious Runoff Depth>3.90"
Flow Length=535' Tc=8.4 min CN=85 Runoff=24.09 cfs 83,163 cf

Subcatchment POST-2.1: Runoff Area=10,317 sf 38.33% Impervious Runoff Depth>3.30"
Flow Length=345' Tc=6.0 min CN=79 Runoff=0.90 cfs 2,841 cf

Subcatchment POST-2.2: Runoff Area=22,946 sf 85.51% Impervious Runoff Depth>4.99"
Flow Length=345' Tc=6.0 min CN=95 Runoff=2.75 cfs 9,544 cf

Subcatchment POST-2.3: Runoff Area=11,432 sf 77.85% Impervious Runoff Depth>4.77"
Flow Length=345' Tc=6.0 min CN=93 Runoff=1.34 cfs 4,540 cf

Subcatchment POST-2.4: Runoff Area=19,180 sf 79.14% Impervious Runoff Depth>4.77"
Flow Length=345' Tc=6.0 min CN=93 Runoff=2.24 cfs 7,616 cf

Subcatchment POST-2.5: Runoff Area=11,375 sf 0.00% Impervious Runoff Depth>2.83"
Flow Length=10' Slope=0.3300 '/' Tc=6.0 min CN=74 Runoff=0.85 cfs 2,685 cf

Pond FP1: Focal Point 1 Peak Elev=46.05' Storage=252 cf Inflow=2.75 cfs 9,544 cf
Outflow=2.76 cfs 9,544 cf

Pond FP2: Focal Point 2 Peak Elev=43.96' Storage=102 cf Inflow=1.34 cfs 4,540 cf
Outflow=1.34 cfs 4,540 cf

Pond FP3: Focal Point 3 Peak Elev=42.77' Storage=164 cf Inflow=2.24 cfs 7,616 cf
Outflow=2.25 cfs 7,616 cf

Pond UDB-1: UDB Peak Elev=46.35' Storage=37,800 cf Inflow=24.09 cfs 83,163 cf
Outflow=7.81 cfs 64,170 cf

Link PA-1: Inflow=2.52 cfs 9,527 cf
Primary=2.52 cfs 9,527 cf

Link PA-2: Inflow=10.30 cfs 91,395 cf
Primary=10.30 cfs 91,395 cf

Link PA-2.1: Inflow=8.06 cfs 67,011 cf
Primary=8.06 cfs 67,011 cf

Link PA-2.2: Inflow=7.20 cfs 24,385 cf
Primary=7.20 cfs 24,385 cf

Total Runoff Area = 420,225 sf Runoff Volume = 119,917 cf Average Runoff Depth = 3.42"
49.73% Pervious = 208,957 sf 50.27% Impervious = 211,268 sf

Summary for Subcatchment POST-1.0:

Runoff = 2.52 cfs @ 12.12 hrs, Volume= 9,527 cf, Depth> 1.28"
Routed to Link PA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
89,289	55	Woods, Good, HSG B
89,289		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.0	115	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.0	165	Total			

Summary for Subcatchment POST-2.0:

Runoff = 24.09 cfs @ 12.12 hrs, Volume= 83,163 cf, Depth> 3.90"
Routed to Pond UDB-1 : UDB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
0	48	Brush, Good, HSG B
7,337	55	Woods, Good, HSG B
71,577	98	Paved parking, HSG B
71,423	61	>75% Grass cover, Good, HSG B
950	98	Roofs, HSG B
13,314	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
0	65	Brush, Good, HSG C
44,291	98	Paved parking, HSG C
46,794	98	Roofs, HSG C
0	96	Gravel surface, HSG C
0	91	Fallow, bare soil, HSG C
255,686	85	Weighted Average
92,074		36.01% Pervious Area
163,612		63.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	115	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	60	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	310	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
8.4	535	Total			

Summary for Subcatchment POST-2.1:

Runoff = 0.90 cfs @ 12.09 hrs, Volume= 2,841 cf, Depth> 3.30"
Routed to Link PA-2.1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
3,218	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
2,615	98	Paved parking, HSG C
0	98	Roofs, HSG C
3,144	61	>75% Grass cover, Good, HSG B
1,340	98	Paved parking, HSG B
10,317	79	Weighted Average
6,362		61.67% Pervious Area
3,955		38.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	30	0.5000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	135	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	180	0.0050	5.91	29.00	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Corrugated PE, smooth interior
2.0	345	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment POST-2.2:

Runoff = 2.75 cfs @ 12.09 hrs, Volume= 9,544 cf, Depth> 4.99"
Routed to Pond FP1 : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
3,325	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
19,621	98	Paved parking, HSG C
0	98	Roofs, HSG C
22,946	95	Weighted Average
3,325		14.49% Pervious Area
19,621		85.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	30	0.5000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	135	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	180	0.0050	5.91	29.00	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Corrugated PE, smooth interior
2.0	345	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment POST-2.3:

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 4,540 cf, Depth> 4.77"
Routed to Pond FP2 : Focal Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
2,532	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
8,900	98	Paved parking, HSG C
0	98	Roofs, HSG C
11,432	93	Weighted Average
2,532		22.15% Pervious Area
8,900		77.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	30	0.5000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	135	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	180	0.0050	5.91	29.00	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Corrugated PE, smooth interior
2.0	345	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment POST-2.4:

Runoff = 2.24 cfs @ 12.09 hrs, Volume= 7,616 cf, Depth> 4.77"
Routed to Pond FP3 : Focal Point 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
4,000	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
15,180	98	Paved parking, HSG C
0	98	Roofs, HSG C
19,180	93	Weighted Average
4,000		20.86% Pervious Area
15,180		79.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	30	0.5000	0.48		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	135	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	180	0.0050	5.91	29.00	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Corrugated PE, smooth interior
2.0	345	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment POST-2.5:

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 2,685 cf, Depth> 2.83"
Routed to Link PA-2.2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

Area (sf)	CN	Description
11,375	74	>75% Grass cover, Good, HSG C
11,375		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	10	0.3300	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.5	10	Total, Increased to minimum Tc = 6.0 min			

Summary for Pond FP1: Focal Point 1

Inflow Area = 22,946 sf, 85.51% Impervious, Inflow Depth > 4.99" for 10-yr event
Inflow = 2.75 cfs @ 12.09 hrs, Volume= 9,544 cf
Outflow = 2.76 cfs @ 12.09 hrs, Volume= 9,544 cf, Atten= 0%, Lag= 0.4 min
Primary = 2.76 cfs @ 12.09 hrs, Volume= 9,544 cf
Routed to Link PA-2.2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.05' @ 12.09 hrs Surf.Area= 81 sf Storage= 252 cf
Flood Elev= 46.50' Surf.Area= 81 sf Storage= 394 cf

Plug-Flow detention time= 3.6 min calculated for 9,544 cf (100% of inflow)
Center-of-Mass det. time= 3.6 min (768.6 - 765.0)

Volume	Invert	Avail.Storage	Storage Description
#1	42.92'	34 cf	**3.00'W x 27.00'L x 2.08'H Focal Point 1** 168 cf Overall x 20.0% Voids
#2	45.00'	361 cf	**surface bowl (Prismatic)** Listed below (Recalc) -Impervious
		394 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.00	136	0	0
46.00	273	205	205
46.50	352	156	361

Device	Routing	Invert	Outlet Devices
#1	Primary	42.75'	**12.0" Round Culvert** L= 22.0' Ke= 0.500 Inlet / Outlet Invert= 42.75' / 42.50' S= 0.0114 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	42.92'	**100.000 in/hr Exfiltration FP over Surface area** Phase-In= 0.10'
#3	Device 1	45.80'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.71 cfs @ 12.09 hrs HW=46.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.71 cfs of 6.32 cfs potential flow)
  ├─**2=Exfiltration FP** (Exfiltration Controls 0.19 cfs)
  └─**3=Orifice/Grate** (Weir Controls 2.52 cfs @ 1.62 fps)

Summary for Pond FP2: Focal Point 2

Inflow Area = 11,432 sf, 77.85% Impervious, Inflow Depth > 4.77" for 10-yr event
Inflow = 1.34 cfs @ 12.09 hrs, Volume= 4,540 cf
Outflow = 1.34 cfs @ 12.09 hrs, Volume= 4,540 cf, Atten= 0%, Lag= 0.3 min
Primary = 1.34 cfs @ 12.09 hrs, Volume= 4,540 cf
Routed to Link PA-2.2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 43.96' @ 12.09 hrs Surf.Area= 39 sf Storage= 102 cf
Flood Elev= 45.50' Surf.Area= 39 sf Storage= 188 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.3 min (777.9 - 774.6)

Volume	Invert	Avail.Storage	Storage Description
#1	40.92'	16 cf	**3.00'W x 13.00'L x 2.08'H Focal Point 1** 81 cf Overall x 20.0% Voids
#2	43.00'	172 cf	**surface bowl (Prismatic)** Listed below (Recalc) -Impervious
		188 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.00	50	0	0
44.00	133	92	92
44.50	187	80	172

Device	Routing	Invert	Outlet Devices
#1	Primary	40.75'	**12.0" Round Culvert** L= 24.0' Ke= 0.500 Inlet / Outlet Invert= 40.75' / 40.60' S= 0.0062 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	40.92'	**100.000 in/hr Exfiltration FP over Surface area** Phase-In= 0.10'
#3	Device 1	43.80'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.32 cfs @ 12.09 hrs HW=43.95' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.32 cfs of 6.22 cfs potential flow)
  ├─**2=Exfiltration FP** (Exfiltration Controls 0.09 cfs)
  └─**3=Orifice/Grate** (Weir Controls 1.23 cfs @ 1.28 fps)

Summary for Pond FP3: Focal Point 3

Inflow Area = 19,180 sf, 79.14% Impervious, Inflow Depth > 4.77" for 10-yr event
Inflow = 2.24 cfs @ 12.09 hrs, Volume= 7,616 cf
Outflow = 2.25 cfs @ 12.09 hrs, Volume= 7,616 cf, Atten= 0%, Lag= 0.3 min
Primary = 2.25 cfs @ 12.09 hrs, Volume= 7,616 cf
Routed to Link PA-2.2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 42.77' @ 12.09 hrs Surf.Area= 77 sf Storage= 164 cf
Flood Elev= 43.50' Surf.Area= 77 sf Storage= 366 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 2.3 min (776.9 - 774.6)

Volume	Invert	Avail.Storage	Storage Description
#1	39.92'	32 cf	**3.00'W x 25.67'L x 2.08'H Focal Point 1** 160 cf Overall x 20.0% Voids
#2	42.00'	334 cf	**surface bowl (Prismatic)** Listed below (Recalc) -Impervious
		366 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.00	122	0	0
43.00	253	188	188
43.50	331	146	334

Device	Routing	Invert	Outlet Devices
#1	Primary	39.75'	**12.0" Round Culvert** L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 39.75' / 39.65' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	39.92'	**100.000 in/hr Exfiltration FP over Surface area** Phase-In= 0.10'
#3	Device 1	42.55'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.21 cfs @ 12.09 hrs HW=42.76' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.21 cfs of 6.00 cfs potential flow)
  ├─**2=Exfiltration FP** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Weir Controls 2.03 cfs @ 1.51 fps)

Summary for Pond UDB-1: UDB

Inflow Area = 255,686 sf, 63.99% Impervious, Inflow Depth > 3.90" for 10-yr event
Inflow = 24.09 cfs @ 12.12 hrs, Volume= 83,163 cf
Outflow = 7.81 cfs @ 12.46 hrs, Volume= 64,170 cf, Atten= 68%, Lag= 20.8 min
Primary = 7.81 cfs @ 12.46 hrs, Volume= 64,170 cf
Routed to Link PA-2.1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.35' @ 12.46 hrs Surf.Area= 12,354 sf Storage= 37,800 cf
Flood Elev= 48.50' Surf.Area= 12,354 sf Storage= 56,176 cf

Plug-Flow detention time= 218.0 min calculated for 64,170 cf (77% of inflow)
Center-of-Mass det. time= 137.1 min (941.9 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	42.00'	18,554 cf	**71.00'W x 174.00'L x 7.00'H Field A** 86,478 cf Overall - 40,093 cf Embedded = 46,385 cf x 40.0% Voids
#2A	42.50'	40,093 cf	**CMP Round 72** x 64 Inside #1 Effective Size= 72.0"W x 72.0"H => 28.27 sf x 20.00'L = 565.5 cf Overall Size= 72.0"W x 72.0"H x 20.00'L 64 Chambers in 8 Rows 69.00' Header x 28.27 sf x 2 = 3,901.9 cf Inside
		58,647 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	**30.0" Round Culvert** L= 146.0' Ke= 0.500 Inlet / Outlet Invert= 42.50' / 41.75' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	42.50'	**4.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	45.50'	**36.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	47.50'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=7.79 cfs @ 12.46 hrs HW=46.35' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 7.79 cfs of 33.78 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.02 cfs @ 9.21 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 6.77 cfs @ 3.38 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 89,289 sf, 0.00% Impervious, Inflow Depth > 1.28" for 10-yr event
Inflow = 2.52 cfs @ 12.12 hrs, Volume= 9,527 cf
Primary = 2.52 cfs @ 12.12 hrs, Volume= 9,527 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 330,936 sf, 63.84% Impervious, Inflow Depth > 3.31" for 10-yr event
Inflow = 10.30 cfs @ 12.37 hrs, Volume= 91,395 cf
Primary = 10.30 cfs @ 12.37 hrs, Volume= 91,395 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2.1:

Inflow Area = 266,003 sf, 62.99% Impervious, Inflow Depth > 3.02" for 10-yr event
Inflow = 8.06 cfs @ 12.45 hrs, Volume= 67,011 cf
Primary = 8.06 cfs @ 12.45 hrs, Volume= 67,011 cf, Atten= 0%, Lag= 0.0 min
Routed to Link PA-2 :

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2.2:

Inflow Area = 64,933 sf, 67.30% Impervious, Inflow Depth > 4.51" for 10-yr event
Inflow = 7.20 cfs @ 12.09 hrs, Volume= 24,385 cf
Primary = 7.20 cfs @ 12.09 hrs, Volume= 24,385 cf, Atten= 0%, Lag= 0.0 min
Routed to Link PA-2 :

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment POST-1.0: Runoff Area=89,289 sf 0.00% Impervious Runoff Depth>2.17"
Flow Length=165' Tc=7.0 min CN=55 Runoff=4.65 cfs 16,111 cf

Subcatchment POST-2.0: Runoff Area=255,686 sf 63.99% Impervious Runoff Depth>5.31"
Flow Length=535' Tc=8.4 min CN=85 Runoff=32.37 cfs 113,214 cf

Subcatchment POST-2.1: Runoff Area=10,317 sf 38.33% Impervious Runoff Depth>4.64"
Flow Length=345' Tc=6.0 min CN=79 Runoff=1.25 cfs 3,993 cf

Subcatchment POST-2.2: Runoff Area=22,946 sf 85.51% Impervious Runoff Depth>6.47"
Flow Length=345' Tc=6.0 min CN=95 Runoff=3.51 cfs 12,374 cf

Subcatchment POST-2.3: Runoff Area=11,432 sf 77.85% Impervious Runoff Depth>6.24"
Flow Length=345' Tc=6.0 min CN=93 Runoff=1.72 cfs 5,941 cf

Subcatchment POST-2.4: Runoff Area=19,180 sf 79.14% Impervious Runoff Depth>6.24"
Flow Length=345' Tc=6.0 min CN=93 Runoff=2.89 cfs 9,968 cf

Subcatchment POST-2.5: Runoff Area=11,375 sf 0.00% Impervious Runoff Depth>4.10"
Flow Length=10' Slope=0.3300 '/' Tc=6.0 min CN=74 Runoff=1.23 cfs 3,886 cf

Pond FP1: Focal Point 1 Peak Elev=46.10' Storage=266 cf Inflow=3.51 cfs 12,374 cf
Outflow=3.53 cfs 12,374 cf

Pond FP2: Focal Point 2 Peak Elev=43.99' Storage=106 cf Inflow=1.72 cfs 5,941 cf
Outflow=1.73 cfs 5,941 cf

Pond FP3: Focal Point 3 Peak Elev=42.81' Storage=174 cf Inflow=2.89 cfs 9,968 cf
Outflow=2.90 cfs 9,968 cf

Pond UDB-1: UDB Peak Elev=47.27' Storage=46,592 cf Inflow=32.37 cfs 113,214 cf
Outflow=12.67 cfs 91,529 cf

Link PA-1: Inflow=4.65 cfs 16,111 cf
Primary=4.65 cfs 16,111 cf

Link PA-2: Inflow=17.70 cfs 127,692 cf
Primary=17.70 cfs 127,692 cf

Link PA-2.1: Inflow=13.10 cfs 95,523 cf
Primary=13.10 cfs 95,523 cf

Link PA-2.2: Inflow=9.38 cfs 32,169 cf
Primary=9.38 cfs 32,169 cf

Total Runoff Area = 420,225 sf Runoff Volume = 165,488 cf Average Runoff Depth = 4.73"
49.73% Pervious = 208,957 sf 50.27% Impervious = 211,268 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment POST-1.0: Runoff Area=89,289 sf 0.00% Impervious Runoff Depth>3.10"
Flow Length=165' Tc=7.0 min CN=55 Runoff=6.89 cfs 23,057 cf

Subcatchment POST-2.0: Runoff Area=255,686 sf 63.99% Impervious Runoff Depth>6.65"
Flow Length=535' Tc=8.4 min CN=85 Runoff=40.07 cfs 141,702 cf

Subcatchment POST-2.1: Runoff Area=10,317 sf 38.33% Impervious Runoff Depth>5.93"
Flow Length=345' Tc=6.0 min CN=79 Runoff=1.59 cfs 5,101 cf

Subcatchment POST-2.2: Runoff Area=22,946 sf 85.51% Impervious Runoff Depth>7.85"
Flow Length=345' Tc=6.0 min CN=95 Runoff=4.23 cfs 15,020 cf

Subcatchment POST-2.3: Runoff Area=11,432 sf 77.85% Impervious Runoff Depth>7.61"
Flow Length=345' Tc=6.0 min CN=93 Runoff=2.08 cfs 7,254 cf

Subcatchment POST-2.4: Runoff Area=19,180 sf 79.14% Impervious Runoff Depth>7.61"
Flow Length=345' Tc=6.0 min CN=93 Runoff=3.49 cfs 12,170 cf

Subcatchment POST-2.5: Runoff Area=11,375 sf 0.00% Impervious Runoff Depth>5.33"
Flow Length=10' Slope=0.3300 '/' Tc=6.0 min CN=74 Runoff=1.59 cfs 5,057 cf

Pond FP1: Focal Point 1 Peak Elev=46.14' Storage=278 cf Inflow=4.23 cfs 15,020 cf
Outflow=4.24 cfs 15,019 cf

Pond FP2: Focal Point 2 Peak Elev=44.01' Storage=109 cf Inflow=2.08 cfs 7,254 cf
Outflow=2.09 cfs 7,254 cf

Pond FP3: Focal Point 3 Peak Elev=42.85' Storage=182 cf Inflow=3.49 cfs 12,170 cf
Outflow=3.50 cfs 12,170 cf

Pond UDB-1: UDB Peak Elev=48.07' Storage=53,261 cf Inflow=40.07 cfs 141,702 cf
Outflow=21.04 cfs 117,892 cf

Link PA-1: Inflow=6.89 cfs 23,057 cf
Primary=6.89 cfs 23,057 cf

Link PA-2: Inflow=26.77 cfs 162,493 cf
Primary=26.77 cfs 162,493 cf

Link PA-2.1: Inflow=21.72 cfs 122,993 cf
Primary=21.72 cfs 122,993 cf

Link PA-2.2: Inflow=11.42 cfs 39,500 cf
Primary=11.42 cfs 39,500 cf

Total Runoff Area = 420,225 sf Runoff Volume = 209,361 cf Average Runoff Depth = 5.98"
49.73% Pervious = 208,957 sf 50.27% Impervious = 211,268 sf

Section 4
Peak Rate Comparison

The following table summarizes and compares the pre- and post-development peak runoff rates from the 2-year, 10-year, 25-year and 50-year storm events at the points of analysis. The 1-year event has been included in order to demonstrate compliance with the Channel Protection requirements of Env-Wq 1507.05 for select points of analysis.

Note: PA-2.1 and PA-2.2 are not included within this table as they are intermediate points of analysis included exclusively to demonstrate compliance with channel protection requirements in accordance with Env-Wq 1507.05.

Table 4.1
Comparison of Pre- and Post-Development Flows (CFS)

	1-Year Storm	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm
Pre-Development Watershed					
PA-1	0.16	0.48	2.63	4.86	7.20
PA-2	-	5.92	14.91	23.00	31.03
Post-Development Watershed					
PA-1	0.16	0.46	2.52	4.65	6.89
PA-2	-	5.47	10.30	17.70	26.77

Each of the points of analysis meets the channel protection requirements of Env-Wq 105.05 as follows:

PA-1: The 2-year, 24-hour post-development runoff volume (3,032 cf) has not increased over the 2-year, 24 hour pre-development runoff volume (3,169 cf)by more than 0.1 ac-ft (or 4,356 cf).

PA-2: Channel protection requirements are unable to be met under assessment of PA-2 on its own. Although runoff within the development is overdetained during the lower storm events, it cannot make up for increased impervious areas within the right-of-way that cannot be effectively detained due to lack of space and elevation constraints. Channel protection requirements are therefore proposed d to be met under the following additional assessments of intermediate points-of-analysis PA-2.1 and PA-2.2. PA-2.1 demonstrates how runoff from the development site during the 2-year storm event is negligible, and PA-2.2 demonstrates how the small increase in impervious area within the right-of-way does not amount to more than a 0.1 ac-ft increase in stormwater volume under the 2-year storm event:

> PA-2: The 2-year, 24-hour post-development peak flow rate generated from the proposed disturbance (5.47 cfs) is less than the 2-year, 24-hour pre-development peak flow rate (5.92 cfs), and;

PA-2.1: The 2-year, 24-hour post-development peak flow rate is less than 2 cfs (1.02 cfs).

PA-2.2: The 2-year, 24-hour post-development runoff volume (14,663 cf) has not increased over the 2-year, 24 hour pre-development runoff volume (10,465 cf) by more than 0.1 ac-ft (or 4,356 cf).

Section 5
Mitigation Description

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and NHDES AoT Regulations (Env-Wq 1500).

5.1 Pre-Treatment Methods for Protecting Water Quality

Pre-treatment for the stormwater filtration systems consists of off-line deep sump catch basins and flow-through pre-treatment units.

5.2 Treatment Methods for Protecting Water Quality.

The runoff from proposed impervious areas will be treated by flow-through filtration systems and bioretention systems. Treatment systems are sized to treat the Water Quality Flow of their respective sub catchment areas. The BMP worksheets for the treatment practices have been included in Section 6 of this report.

The proposed stormwater management system is required to remove 80% of the annual Total Suspended Soils (TSS) loads and 50% of the annual Total Nitrogen (TN) loads per the City of Portsmouth's Site Plan regulations, Section 7.6.2.1.a.i. As shown in Table 5.1 the pollutant removal efficiencies for the proposed treatment systems exceed the City of Portsmouth's removal requirements.

Table 5.1 – Pollutant Removal Efficiencies

BMP	Total Suspended Solids	Total Nitrogen	Total Phosphorus
Flow-Through Filter w/Pretreatment[1]	85%	50%	55%
Bioretention w/ Pretreatment[2]	90%	65%	65%

1. Pollutant removal efficiencies from Contech Engineered Solutions, Jellyfish Filter Stormwater Treatment standard performance specifications. Pre-treatment upstream of the unit is assumed to be accounted for.
2. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix E. Per the descriptions listed in the Appendix, pre-treatment is already accounted for in the efficiencies cited.

Section 6
BMP Worksheets

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **FP-1 (Focal Point Bioretention System)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.51	ac	A = Area draining to the practice	
0.43	ac	A_I = Impervious area draining to the practice	
0.84	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.81	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.41	ac-in	WQV= 1" x Rv x A	
1,497	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
374	cf	25% x WQV (check calc for sediment forebay volume)	
1,123	cf	75% x WQV (check calc for surface sand filter volume)	
Rain Guardian		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**$\geq$ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**$\leq$ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**$\leq$ 72-hrs**
43.25	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
42.75	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.50	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**$\geq$ 1'**
43.25	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**$\geq$ 1'**
43.25	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**$\geq$ 1'**
46.14	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
46.50	ft	Elevation of the top of the practice	
YES		50 peak elevation $\leq$ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**$\geq$ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	← yes
See notes	cf	V = Volume of storage[3] (attach a stage-storage table)	≥ WQV
18.0	inches	D_{FC} = Filter course thickness	18", or 24" if within GPA
Sheet	C.605	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	≥ 3:1
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	≤ 5:1
	inches	D_{FC} = Filter course thickness	12", or 18" if within GPA
Sheet		Note what sheet in the plan set contains the filter course spec.	mod. 304.1 (see spec)

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: Focal point system has been sized by manufacturer in accordance with WQF requirements.

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **FP-2 (Focal Point Bioretention System)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.26	ac	A = Area draining to the practice	
0.20	ac	A_I = Impervious area draining to the practice	
0.77	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.74	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.19	ac-in	WQV= 1" x Rv x A	
701	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
175	cf	25% x WQV (check calc for sediment forebay volume)	
525	cf	75% x WQV (check calc for surface sand filter volume)	
Rain Guardian		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
41.25	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
40.75	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.50	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
41.25	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
41.25	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
44.01	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
44.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
See notes	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet	C.605	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	**mod. 304.1 (see spec)**

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: Focal point system has been sized by manufacturer in accordance with WQF requirements.

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **FP-3 (Focal Point Bioretention System)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.44	ac	A = Area draining to the practice	
0.34	ac	A_I = Impervious area draining to the practice	
0.77	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.75	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.33	ac-in	WQV= 1" x Rv x A	
1,191	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
298	cf	25% x WQV (check calc for sediment forebay volume)	
893	cf	75% x WQV (check calc for surface sand filter volume)	
Rain Guardian		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
40.25	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
39.75	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.50	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
40.25	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
40.25	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
42.85	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
43.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
See Notes	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet	C.605	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	**mod. 304.1 (see spec)**

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: Focal point system has been sized by manufacturer in accordance with WQF requirements.

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP that does not fit into one of the specific worksheets already provided (such as for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.82	ac	A = Area draining to the practice
0.41	ac	A_I = Impervious area draining to the practice
0.50	decimal	I = Percent impervious area draining to the practice, in decimal form
0.50	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.41	ac-in	WQV= 1" x Rv x A
1,488	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.50	inches	Q = Water quality depth. Q = WQV/A
94	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P]$^{0.5}$)
0.6	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.129	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
650.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
0.416	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes: Flow-through Pre-Treatment Structure #1

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP that does not fit into one of the specific worksheets already provided (such as for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

2.19	ac	A = Area draining to the practice
1.31	ac	A_I = Impervious area draining to the practice
0.60	decimal	I = Percent impervious area draining to the practice, in decimal form
0.59	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
1.29	ac-in	WQV= 1” x Rv x A
4,677	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12”)

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.59	inches	Q = Water quality depth. Q = WQV/A
95	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.5	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.097	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
650.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
1.309	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes: Flow-Though Pre-Treatment Structure #2

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP that does not fit into one of the specific worksheets already provided (such as for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

-	ac	A = Area draining to the practice
-	ac	A_I = Impervious area draining to the practice
-	decimal	I = Percent impervious area draining to the practice, in decimal form
-	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
-	ac-in	WQV= 1” x Rv x A
-	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12”)

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
-	inches	Q = Water quality depth. Q = WQV/A
-	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
-	inches	S = Potential maximum retention. S = (1000/CN) - 10
-	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
650.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
-	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes: Post-Detention Treatment #1

For treatment systems located downstream of detention facilities, the surrogate for the WQF is the discharge from a detention facility during a 2-year storm event (per NHDES).

UDB#1 2-year outflow = 0.85 CFS

Section 7
Groundwater Recharge Volume Calculations

The proposed project is requesting a waiver from the Groundwater Recharge Requirements described in Env-Wq 1507.04. This request is being made due to the presence of shallow bedrock and shallow Estimated Seasonal High Water Table (SHWT), evidenced by geotechnical borings and the site-specific soil survey. Most notably, the Udorthents series soils within lower elevations of the site where infiltration areas may be feasible are noted to have a potential ESHWT 20” below existing grade. As such, stormwater systems will be installed with liners and/or underdrains which limit the feasibility of groundwater recharge.

APPENDIX A

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for

Rockingham County, New Hampshire

August 27, 2025

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,130 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 30, 60, 120, 180
Feet: 0, 100, 200, 400, 600

N

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

MAP LEGEND

Area of Interest (AOI)
Area of Interest (AOI)

Soils
Soil Map Unit Polygons
Soil Map Unit Lines
Soil Map Unit Points

Special Point Features
Blowout
Borrow Pit
Clay Spot
Closed Depression
Gravel Pit
Gravelly Spot
Landfill
Lava Flow
Marsh or swamp
Mine or Quarry
Miscellaneous Water
Perennial Water
Rock Outcrop
Saline Spot
Sandy Spot
Severely Eroded Spot
Sinkhole
Slide or Slip
Sodic Spot
Spoil Area
Stony Spot
Very Stony Spot
Wet Spot
Other
Special Line Features

Water Features
Streams and Canals

Transportation
Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background
Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
140C	Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky	4.2	42.5%
799	Urban land-Canton complex, 3 to 15 percent slopes	5.7	57.5%
Totals for Area of Interest		**9.8**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Rockingham County, New Hampshire

140C—Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2w82s
Elevation: 0 to 980 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, very stony, and similar soils: 35 percent
Canton, very stony, and similar soils: 25 percent
Hollis, very stony, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Hollis, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Canton, Very Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Newfields, very stony

Percent of map unit: 5 percent
Landform: Moraines, ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Freetown

Percent of map unit: 5 percent
Landform: Marshes, depressions, bogs, kettles, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Scarboro, very stony

Percent of map unit: 3 percent
Landform: Depressions, outwash terraces, drainageways, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 2 percent
Landform: Ridges, hills
Hydric soil rating: Unranked

799—Urban land-Canton complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cq0
Elevation: 0 to 1,000 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 55 percent
Canton and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Parent material: Till

Typical profile

H1 - 0 to 5 inches: gravelly fine sandy loam
H2 - 5 to 21 inches: gravelly fine sandy loam
H3 - 21 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Udorthents

Percent of map unit: 5 percent
Hydric soil rating: No

Boxford and eldridge

Percent of map unit: 4 percent
Hydric soil rating: No

Squamscott and scitico

Percent of map unit: 4 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scituate and newfields

Percent of map unit: 4 percent
Hydric soil rating: No

Chatfield

Percent of map unit: 4 percent
Hydric soil rating: No

Walpole

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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.

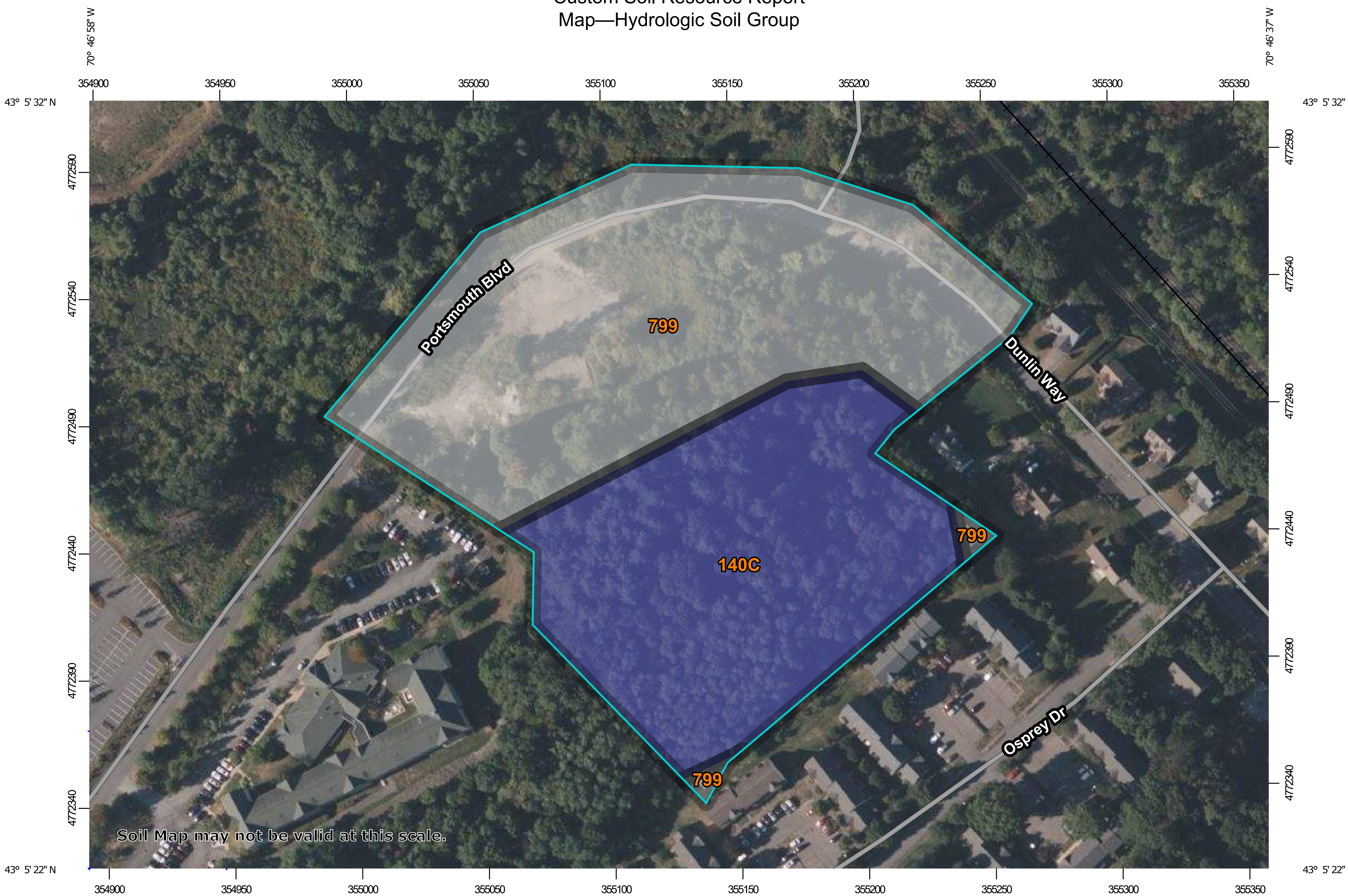
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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.

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:2,130 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 30, 60, 120, 180

Feet: 0, 100, 200, 400, 600

N

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 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
140C	Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky	B	4.2	42.5%
799	Urban land-Canton complex, 3 to 15 percent slopes		5.7	57.5%
Totals for Area of Interest			**9.8**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX B

GOVE ENVIRONMENTAL SERVICES, INC

SITE-SPECIFIC SOIL SURVEY REPORT
For
Dunlin Way, Portsmouth, NH
By
GES, Inc.
Project # 2025043
Date: 06-17-2025

1. MAPPING STANDARDS

Site-Specific Soil Mapping Standards for New Hampshire and Vermont. SSSNNE Special Publication No. 3, Version 7.0, July, 2021.

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for infiltration requirements by the NH DES Alteration of Terrain Bureau. The soil map was produced by a professional soil scientist and is not a product of the USDA Natural Resources Conservation Service. This report accompanies the soil map.

The site-specific soil map (SSSM) was produced 06-17-2025; prepared by JP Gove, CSS #004, GES, Inc.

Soils were identified with the New Hampshire State-wide Numerical Soils Legend, USDA NRCS, Durham, NH. Issue # 10, January 2011.

Hydrologic Soil Group was determined using SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils, September 2009.

High Intensity Soil Map symbols, based upon SSSNNE Special Publication 1, December 2017, were added to the Soil Legend.

Scale of soil map: Approximately 1" = 40"

Contours Interval: 2 feet

2. LANDFORMS & EXISTING CONDITIONS:

The site is located on two landforms. The northern portion of the site was originally housing, which has been demolished. This portion of the site was used for material storage and mixing of soil materials. The northern portion of the site is relatively flat and is underlain with marine silts and clays. The upper soil layers are a variable mix of loams, gravels, stone, etc. The upper layers of fill material range from 3 to 5 feet deep.

The southern portion of the site is a steep hill that is relatively undisturbed. It is primarily bedrock with a thin layer of soil over the rock. The rock appears to be slate or phyllite, maybe rippable in spots, but has hard outcrops. The depth to bedrock is somewhat variable, but most of the pits conducted had bedrock present between 20 and 40 inches deep.

3. DATE SOIL MAP PRODUCED

Date(s) of on-site field work: 06-06 and 06-17- 2025 (Wetlands (lack of) evaluated earlier by GES, Inc.).

Date(s) of test pits: 04-02-2025

Test pits recorded by: SW Cole

4. GEOGRAPHIC LOCATION AND SIZE OF SITE

City or town where soil mapping was conducted: Portsmouth

Location: Tax Map 213, Lot 12

Size of area: Approximately 8.4 acres

Was the map for the entire lot? Yes

If no, where was the mapping conducted on the parcel: N/A

5. PURPOSE OF THE SOIL MAP

Was the map prepared to meet the requirement of Alteration of Terrain? Yes

If no, what was the purpose of the map? n/a

Who was the map prepared for? BRORA LLC

6. SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
87	Chatfield (well drained, very stony	227	B
500/dfccc	Udorthents, loamy	363	C

Supplemental Symbols: d = moderately well drained, f =marine silt and clay, c = mineral restrictive layer, c = low estimated Ksat, c = hydrologic group C.

SLOPE PHASE:

0-8%	B	8-15%	C	15-25%	D
25%-50%	E	50%+	F		

7. NARRATIVE MAP UNIT DESCRIPTIONS

SITE-SPECIFIC MAP UNIT: 87

CORRELATED SOIL SERIES: Chatfield (well drained) very stony

LANDSCAPE SETTING: Hillside

CHARACTERISTIC SURFACE FEATURES: Forested, steeply sloping, outcrops

DRAINAGE CLASS: Well drained

PARENT MATERIAL: Bedrock controlled till

NATURE OF DISSIMILAR INCLUSIONS: Hollis, Outcrops, Canton

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 10%

8 Continental Dr Unit H, Exeter, NH 03833-7507
Ph (603) 778 0644 / *Fax* (603) 778 0654
www.gesinc.biz
info@gesinc.biz

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

A 0 to 16" 10YR3/2 fsl, gr, fr
B 6 to 30" 10YR4/6, fsl, gr, fr
R=30"
ESHWT = N/A, no OBSWT, perched water table, lithic contact, numerous coarse fragments

SITE-SPECIFIC MAP UNIT: 500/dfccc

CORRELATED SOIL SERIES: Udorthents, loamy

LANDSCAPE SETTING: Excavated/graded area

CHARACTERISTIC SURFACE FEATURES: Smooth, fill hummocks

DRAINAGE CLASS: Moderately well drained

PARENT MATERIAL: Fill over marine

NATURE OF DISSIMILAR INCLUSIONS: Natural soil

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture , Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

Fill	0 to 40”	10YR4/2 to 4/4	Loam/silt/gravel	massive	friable

Possible redox features at 20”.

C 40 to 52” 2,5Y5/3, silt loam, blocky, firm, 5YR5/6 redox

ESHWT = 20”, OBSWT = 30”, perched water table, no lithic contact, many coarse fragments in fill

8. RESPONSIBLE SOIL SCIENTIST

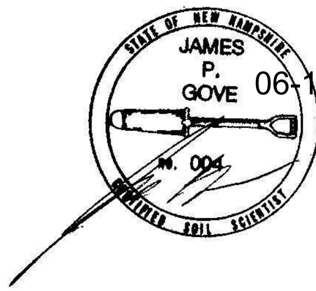
Name: James Gove

Certified Soil Scientist Number: 004

9. OTHER DISTINGUISHING FEATURES OF SITE

Northern portion of site was disturbed many years ago. Some of the site has been remained in active storage, but other areas have had volunteer shrubs take over. However, all of that portion, whether currently cleared or in shrubs, are disturbed soils – Udorthents, loamy.

10. CERTIFIED SOIL SCIENTIST STAMP


STATE OF NEW HAMPSHIRE
JAMES
P.
GOVE
NO. 004
CERTIFIED SOIL SCIENTIST

06-17-2025

LEGEND

SITE-SPECIFIC SOIL SURVEY BOUNDARIES

NOTE:
THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL MAP WAS PRODUCED 6-17-2025, AND WAS PREPARED BY JAMES P. GROVE, CSS #004, GOVE ENVIRONMENTAL SERVICES, INC.

SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
87	Chatfield (well drained, very stony	227	B
500/dfccc	Udorthents, loamy	363	C

Supplemental Symbols: d = moderately well drained, f =marine silt and clay, c = mineral restrictive layer, c = low estimated Ksat, c = hydrologic group C.

SLOPE PHASE:

0-8%	B	8-15%	C	15-25%	D
25%-50%	E	50%+	F		

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-HYDRO.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

SITE-SPECIFIC SOIL SURVEY PLAN

SCALE: AS SHOWN

1 OF 1

Last Saved: 7/22/2025
Plotted On:Aug 18, 2025-3:25pm By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-HYDRO.dwg

APPENDIX C

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	
Location	
Latitude	43.090 degrees North
Longitude	70.776 degrees West
Elevation	10 feet
Date/Time	Mon Jul 14 2025 16:33:15 GMT-0400 (Eastern Daylight Time)

Note: 15% Great Bay Region coastal precipitation increase applied to values in drainage model.

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.02	2.65	2.91	**1yr**	2.35	2.80	3.21	3.93
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.20	3.56	**2yr**	2.83	3.42	3.92	4.66
5yr	0.37	0.58	0.73	0.97	1.24	1.60	**5yr**	1.07	1.46	1.88	2.42	3.13	4.05	4.56	**5yr**	3.59	4.39	5.02	5.91
10yr	0.41	0.65	0.82	1.11	1.44	1.88	**10yr**	1.25	1.72	2.22	2.88	3.74	4.85	5.51	**10yr**	4.29	5.30	6.06	7.08
25yr	0.48	0.76	0.96	1.33	1.76	2.32	**25yr**	1.52	2.13	2.76	3.61	4.72	6.15	7.07	**25yr**	5.44	6.80	7.76	8.98
50yr	0.53	0.85	1.09	1.53	2.06	2.74	**50yr**	1.77	2.51	3.27	4.30	5.63	7.36	8.55	**50yr**	6.51	8.22	9.37	10.76
100yr	0.60	0.97	1.25	1.76	2.40	3.22	**100yr**	2.07	2.96	3.86	5.11	6.72	8.82	10.34	**100yr**	7.80	9.94	11.31	12.89
200yr	0.67	1.09	1.41	2.03	2.80	3.80	**200yr**	2.41	3.49	4.58	6.09	8.04	10.56	12.50	**200yr**	9.35	12.02	13.66	15.46
500yr	0.79	1.30	1.69	2.46	3.44	4.72	**500yr**	2.97	4.34	5.71	7.64	10.16	13.42	16.08	**500yr**	11.88	15.46	17.53	19.66

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.87	0.92	1.32	1.67	2.21	2.48	**1yr**	1.96	2.39	2.85	3.16
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.81	4.53
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.74	3.78	4.17	**5yr**	3.34	4.01	4.70	5.51
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.81	2.40	3.07	4.36	4.84	**10yr**	3.86	4.66	5.41	6.38
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.77	3.55	4.67	5.87	**25yr**	4.13	5.64	6.61	7.75
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.35	3.09	3.95	5.27	6.77	**50yr**	4.66	6.51	7.67	8.99
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.44	4.38	5.91	7.82	**100yr**	5.23	7.52	8.91	10.43
200yr	0.59	0.89	1.12	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.81	4.83	6.61	9.02	**200yr**	5.85	8.67	10.34	12.13
500yr	0.68	1.02	1.31	1.90	2.70	3.36	**500yr**	2.33	3.29	3.40	4.36	5.51	7.66	10.89	**500yr**	6.78	10.47	12.58	14.82

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.25	1.74	2.21	2.98	3.15	**1yr**	2.64	3.03	3.57	4.37
2yr	0.33	0.52	0.64	0.86	1.06	1.26	**2yr**	0.92	1.24	1.48	1.96	2.51	3.42	3.69	**2yr**	3.03	3.55	4.07	4.82
5yr	0.40	0.61	0.76	1.05	1.33	1.61	**5yr**	1.15	1.58	1.88	2.53	3.24	4.32	4.94	**5yr**	3.83	4.75	5.36	6.35
10yr	0.47	0.72	0.89	1.24	1.60	1.97	**10yr**	1.38	1.92	2.27	3.10	3.94	5.32	6.18	**10yr**	4.71	5.94	6.79	7.81
25yr	0.57	0.87	1.08	1.55	2.03	2.55	**25yr**	1.75	2.50	2.94	4.06	5.13	7.79	8.31	**25yr**	6.89	7.99	9.10	10.29
50yr	0.67	1.01	1.26	1.81	2.44	3.10	**50yr**	2.11	3.04	3.58	4.98	6.28	9.76	10.41	**50yr**	8.64	10.01	11.37	12.67
100yr	0.78	1.18	1.48	2.14	2.93	3.78	**100yr**	2.53	3.69	4.35	6.13	7.70	12.22	13.05	**100yr**	10.81	12.55	14.22	15.62
200yr	0.91	1.37	1.74	2.52	3.52	4.61	**200yr**	3.03	4.50	5.31	7.54	9.45	15.34	16.37	**200yr**	13.57	15.74	17.80	19.26
500yr	1.13	1.68	2.16	3.15	4.47	5.97	**500yr**	3.86	5.84	6.89	9.95	12.41	20.74	22.11	**500yr**	18.36	21.26	23.96	25.39

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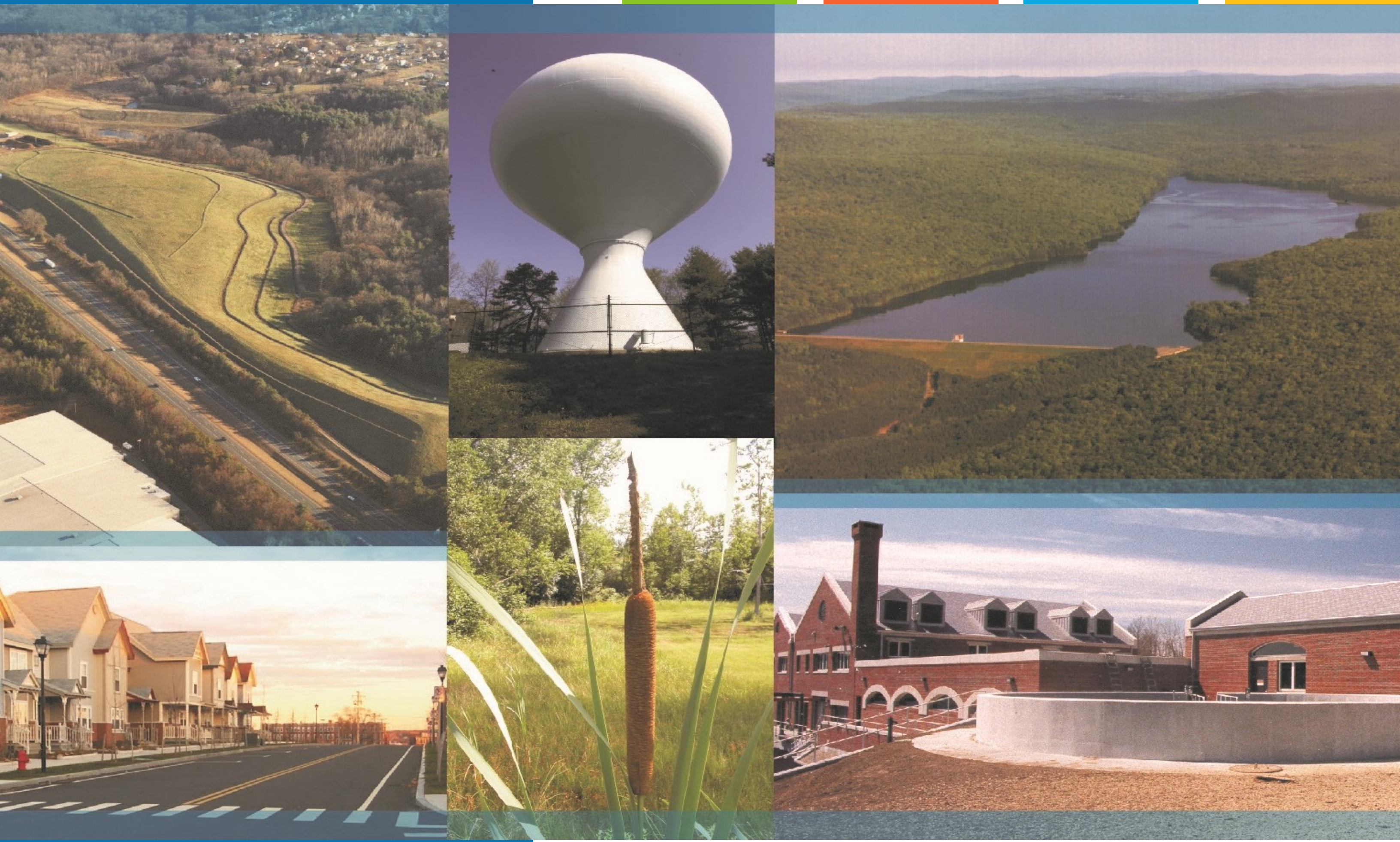
Northeast Regional Climate Center

APPENDIX D

Coastal and Great Bay Region Precipitation Increase		
	24-hr Storm Event (in.)	24-hr Storm Event + 15% (in.)
1 Year	2.65	3.05
2 Year	3.20	3.68
10 Year	4.85	5.58
25 Year	6.15	7.07
50 Year	7.36	8.46
100 Year	8.82	10.14

www.tighebond.com

100% Recyclable



Proposed Multi-Family Development
150 Portsmouth Boulevard
Portsmouth, NH

Long-Term Operation & Maintenance Plan

Brora, LLC

September 22, 2025

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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

Brora, LLC
210 Commerce Way, Suite 300
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
- Bioretention Systems
- Underground Detention Basin
- Flow-Through Pre-treatment and Treatment Units
- Rip Rap Outlets

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
Bioretention Systems - Trash and debris to be removed. - Any required maintenance shall be addressed.	In accordance with Manufacturer's Recommendations Two (2) times annually After any rainfall event exceeding 2.5" in a 24-hr period
Flow-Through Pre-treatment Units -Visually inspect for blockages or obstruction in the inlet chamber, flumes or outlet channel -Sediment removal once 50% of maximum storage has been reached	In accordance with Manufacturer's Recommendations
Flow-Through Treatment Units - Inspect vault for sediment build up, static water, plugged media and bypass condition - Replace Cartridges	In accordance with Manufacturer's Recommendations
Underground Detention Basin - Visually inspect sediment levels within system	Annually
Rip-Rap Outlets - Visually inspect for damage and deterioration	Annually

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 Snow & Ice Management for Standard Asphalt and Walkways

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). 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 (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

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:				

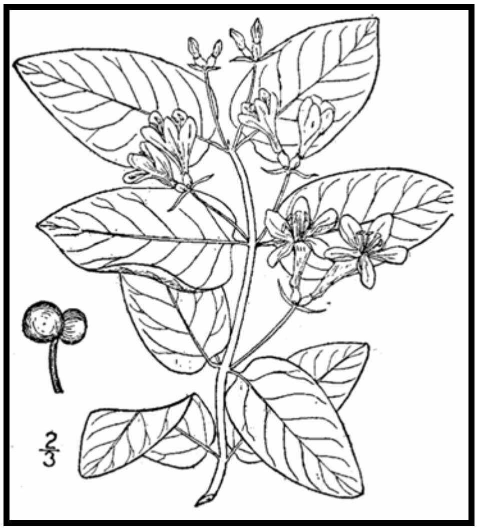
Section 2
Invasive Species

With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions.* Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

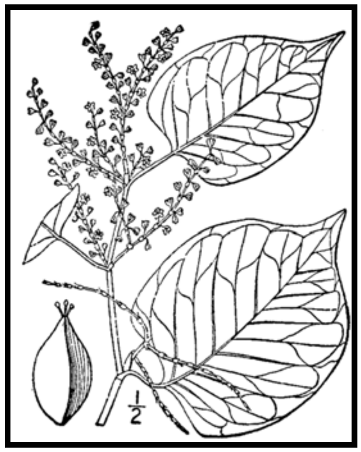
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can’t be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn’t be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions.* Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don’t reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn’t used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don’t compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

Woody Plants	Method of Reproducing	Methods of Disposal
Norway maple *(Acer platanoides)* European barberry *(Berberis vulgaris)* Japanese barberry *(Berberis thunbergii)* autumn olive *(Elaeagnus umbellata)* burning bush *(Euonymus alatus)* Morrow's honeysuckle *(Lonicera morrowii)* Tatarian honeysuckle *(Lonicera tatarica)* showy bush honeysuckle *(Lonicera x bella)* common buckthorn *(Rhamnus cathartica)* glossy buckthorn *(Frangula alnus)*	**Fruit and Seeds**	**Prior to fruit/seed ripening** Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Use as firewood. ▪ Make a brush pile. ▪ Chip. ▪ Burn. **After fruit/seed is ripe** Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip once all fruit has dropped from branches. ▪ Leave resulting chips on site and monitor.
oriental bittersweet *(Celastrus orbiculatus)* multiflora rose *(Rosa multiflora)*	**Fruits, Seeds, Plant Fragments**	**Prior to fruit/seed ripening** Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Make a brush pile. ▪ Burn. **After fruit/seed is ripe** Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">garlic mustard
(Alliaria petiolata)
spotted knapweed
(Centaurea maculosa)
▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.
black swallow-wort
(Cynanchum nigrum)
▪ May cause skin rash. Wear gloves and long sleeves when handling.
pale swallow-wort
(Cynanchum rossicum)
giant hogweed
(Heracleum mantegazzianum)
▪ Can cause major skin rash. Wear gloves and long sleeves when handling.
dame's rocket
(Hesperis matronalis)
perennial pepperweed
(Lepidium latifolium)
purple loosestrife
(Lythrum salicaria)
Japanese stilt grass
(Microstegium vimineum)
mile-a-minute weed
(Polygonum perfoliatum)</td><td rowspan="2">**Fruits and Seeds**</td><td>**Prior to flowering**
Depends on scale of infestation
Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>**During and following flowering**
Do nothing until the following year or remove flowering heads and bag and let rot.

Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>common reed
(*Phragmites australis*)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>**Fruits, Seeds, Plant Fragments**
Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.</td><td>**Small infestation**
▪ Bag all plant material and let rot.
▪ Never pile and use resulting material as compost.
▪ Burn.

Large infestation
▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.
▪ Monitor and remove any sprouting material.
▪ Pile, let dry, and burn.</td></tr>
</table>

January 2010

Managing Invasive Plants
Methods of Control

by Christopher Mattrick

They're out there. The problem of invasive plants is as close as your own backyard.

Maybe a favorite dogwood tree is struggling in the clutches of an Oriental bittersweet vine. Clawlike canes of multiflora rose are scratching at the side of your house. That handsome burning bush you planted few years ago has become a whole clump in practically no time … but what happened to the azalea that used to grow right next to it?

If you think controlling or managing invasive plants on your property is a daunting task, you're not alone. Though this topic is getting lots of attention from federal, state, and local government agencies, as well as the media, the basic question for most homeowners is simply, "How do I get rid of the invasive plants in my own landscape?" Fortunately, the best place to begin to tackle this complex issue is in our own backyards and on local conservation lands. We hope the information provided here will help you take back your yard. We won't kid you—there's some work involved, but the payoff in beauty, wildlife habitat, and peace of mind makes it all worthwhile.

PLAN OF ATTACK

Three broad categories cover most invasive plant control: mechanical, chemical, and biological. Mechanical control means physically removing plants from the environment through cutting or pulling. Chemical control uses herbicides to kill plants and inhibit regrowth. Techniques and chemicals used will vary depending on the species. Biological controls use plant diseases or insect predators, typically from the targeted species' home range. Several techniques may be effective in controlling a single species, but there is usually one preferred method—the one that is most resource efficient with minimal impact on non-target species and the environment.

Spraying chemicals to control invasive plants.

MECHANICAL CONTROL METHODS

Mechanical treatments are usually the first ones to look at when evaluating an invasive plant removal project. These procedures do not require special licensing or introduce chemicals into the environment. They do require permits in some situations, such as wetland zones. [See sidebar on page 23.] Mechanical removal is highly labor intensive and creates a significant amount of site disturbance, which can lead to rapid reinvasion if not handled properly.

Pulling and digging

Many herbaceous plants and some woody species (up to about one inch in diameter), if present in limited quantities, can be pulled out or dug up. It's important to remove as much of the root system as possible; even a small portion can restart the infestation. Pull plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon. These tools, available from several manufacturers, are designed to remove the aboveground portion of the plant as well as the entire root system. It's easiest to undertake this type of control in the spring or early summer when soils are moist and plants come out more easily.

Using tools to remove woody stems.

Volunteers hand pulling invasive plants.

Suffocation

Try suffocating small seedlings and herbaceous plants. Place double or triple layers of thick UV-stabilized plastic sheeting, either clear or black (personally I like clear), over the infestation and secure the plastic with stakes or weights. Make sure the plastic extends at least five feet past the edge of infestation on all sides. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Once the plastic is removed, sow a cover crop such as annual rye to prevent new invasions.

Cutting or mowing

This technique is best suited for locations you can visit and treat often. To be effective, you will need to mow or cut infested areas three or four times a year for up to five years. The goal is to interrupt the plant's ability to photosynthesize by removing as much leafy material as possible. Cut the plants at ground level and remove all resulting debris from the site. With this treatment, the infestation may actually appear to get worse at first, so you will need to be as persistent as the invasive plants themselves. Each time you cut the plants back, the root system gets slightly larger, but must also rely on its energy reserves to push up new growth. Eventually, you will exhaust these reserves and the plants will die. This may take many years, so you have to remain committed to this process once you start; otherwise the treatment can backfire, making the problem worse.

CHEMICAL CONTROL METHODS

Herbicides are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B-Gone™ and Garlon™). Glyphosate is non-selective, meaning it kills everything it contacts. Triclopyr is selective and does not injure monocots (grasses, orchids, lilies, etc.). Please read labels and follow directions precisely for both environmental and personal safety. These are relatively benign herbicides, but improperly used they can still cause both short- and long-term health and environmental problems. Special aquatic formulations are required when working in wetland zones. You are required to have a state-issued pesticide applicator license when applying these chemicals on land you do not own. To learn more about the pesticide regulations in your state, visit or call your state's pesticide control division, usually part of the state's Department of Agriculture. In wetland areas, additional permits are usually required by the Wetlands Protection Act. [See sidebar on page 23.]

Foliar applications

When problems are on a small scale, this type of treatment is usually applied with a backpack sprayer or even a small handheld spray bottle. It is an excellent way to treat large monocultures of herbaceous plants, or to spot-treat individual plants that are difficult to remove mechanically, such as goutweed, swallowwort, or purple loosestrife. It is also an effective treatment for some woody species, such as Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet that grow in dense masses or large numbers over many acres. The herbicide mixture should contain no more than five percent of the active ingredient, but it is important to follow the instructions on the product label. This treatment is most effective when the plants are actively growing, ideally when they are flowering or beginning to form fruit. It has been shown that plants are often more susceptible to this type of treatment if the existing stems are cut off and the regrowth is treated. This is especially true for Japanese knotweed. The target plants should be thoroughly wetted with the herbicide on a day when there is no rain in the forecast for the next 24 to 48 hours.

Cut stem treatments

There are several different types of cut stem treatments, but here we will review only the one most commonly used. All treatments of this type require a higher concentration of the active ingredient than is used in foliar applications. A 25 to 35 percent solution of the active ingredient should be used for cut stem treatments, but read and follow all label instructions. In most cases, the appropriate herbicide is glyphosate, except for Oriental bittersweet, on which triclopyr should be used. This treatment can be used on all woody stems, as well as phragmites and Japanese knotweed.

For woody stems, treatments are most effective when applied in the late summer and autumn—between late August and November. Stems should be cut close to the ground, but not so close that you will lose track of them. Apply herbicide directly to the cut surface as soon as possible after cutting. Delaying the application will reduce the effectiveness of the treatment. The herbicide can be applied with a sponge, paintbrush, or spray bottle.

Cut stem treatment tools.

For phragmites and Japanese knotweed, treatment is the same, but the timing and equipment are different. Plants should be treated anytime from mid-July through September, but the hottest, most humid days of the summer are best for this method. Cut the stems halfway between two leaf nodes at a comfortable height. Inject (or squirt) herbicide into the exposed hollow stem. All stems in an infestation should be treated. A wash bottle is the most effective application tool, but you can also use an eyedropper, spray bottle, or one of the recently developed high-tech injection systems.

It is helpful to mix a dye in with the herbicide solution. The dye will stain the treated surface and mark the areas that have been treated, preventing unnecessary reapplication. You can buy a specially formulated herbicide dye, or use food coloring or laundry dye.

There is not enough space in this article to describe all the possible ways to control invasive plants. You can find other treatments, along with more details on the above-described methods, and species-specific recommendations on The Nature Conservancy Web site (tncweeds.ucdavis.edu). An upcoming posting on the Invasive Plant Atlas of New England (www.ipane.org) and the New England Wild Flower Society (www.newfs.org) Web sites will also provide further details.

Hollow stem injection tools.

Biological controls—still on the horizon

Biological controls are moving into the forefront of control methodology, but currently the only widely available and applied biocontrol relates to purple loosestrife. More information on purple loosestrife and other biological control projects can be found at www.invasiveplants.net.

DISPOSAL OF INVASIVE PLANTS

Proper disposal of removed invasive plant material is critical to the control process. Leftover plant material can cause new infestations or reinfest the existing project area. There are many appropriate ways to dispose of invasive plant debris. I've listed them here in order of preference.

1. **Burn it**—Make a brush pile and burn the material following local safety regulations and restrictions, or haul it to your town's landfill and place it in their burn pile.

2. **Pile it**—Make a pile of the woody debris. This technique will provide shelter for wildlife as well.

3. **Compost it**—Place all your herbaceous invasive plant debris in a pile and process as compost. Watch the pile closely for resprouts and remove as necessary. Do not use the resulting compost in your garden. The pile is for invasive plants only.


Injecting herbicide into the hollow stem of phragmites.

4. **Dry it/cook it**—Place woody debris out on your driveway or any asphalt surface and let it dry out for a month. Place herbaceous material in a doubled-up black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable and you can dump it or dispose of it with the trash. The method assumes there is no viable seed mixed in with the removed material.

Care should be taken in the disposal of all invasive plants, but several species need extra attention. These are the ones that have the ability to sprout vigorously from plant fragments and should ideally be burned or dried prior to disposal: Oriental bittersweet, multiflora rose, Japanese honeysuckle, phragmites, and Japanese knotweed.

Christopher Mattrick is the former Senior Conservation Programs Manager for New England Wild Flower Society, where he managed conservation volunteer and invasive and rare plant management programs. Today, Chris and his family work and play in the White Mountains of New Hampshire, where he is the Forest Botanist and Invasive Species Coordinator for the White Mountain National Forest.

Controlling Invasive Plants in Wetlands

Special concerns; special precautions

Control of invasive plants in or around wetlands or bodies of water requires a unique set of considerations. Removal projects in wetland zones can be legal and effective if handled appropriately. In many cases, herbicides may be the least disruptive tools with which to remove invasive plants. You will need a state-issued pesticide license to apply herbicide on someone else's property, but all projects in wetland or aquatic systems fall under the jurisdiction of the Wetlands Protection Act and therefore require a permit. ***Yes, even hand-pulling that colony of glossy buckthorn plants from your own swampland requires a permit.*** Getting a permit for legal removal is fairly painless if you plan your project carefully.

1. Investigate and understand the required permits and learn how to obtain them. The entity charged with the enforcement of the Wetlands Protection Act varies from state to state. For more information in your state, contact:

   ME: Department of Environmental Protection
   www.state.me.us/dep/blwq/docstand/nrpapage.htm

   NH: Department of Environmental Services
   www.des.state.nh.us/wetlands/

   VT: Department of Environmental Conservation
   www.anr.state.vt.us/dec/waterq/permits/htm/pm_cud.htm

   MA: Consult your local town conservation commission

   RI: Department of Environmental Management
   www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm

   CT: Consult your local town Inland Wetland and Conservation Commission

2. Consult an individual or organization with experience in this area. Firsthand experience in conducting projects in wetland zones and navigating the permitting process is priceless. Most states have wetland scientist societies whose members are experienced in working in wetlands and navigating the regulations affecting them. A simple Web search will reveal the contact point for these societies. Additionally, most environmental consulting firms and some nonprofit organizations have skills in this area.

3. Develop a well-written and thorough project plan. You are more likely to be successful in obtaining a permit for your project if you submit a project plan along with your permit application. The plan should include the reasons for the project, your objectives in completing the project, how you plan to reach those objectives, and how you will monitor the outcome.

4. Ensure that the herbicides you plan to use are approved for aquatic use. Experts consider most herbicides harmful to water quality or aquatic organisms, but rate some formulations as safe for aquatic use. Do the research and select an approved herbicide, and then closely follow the instructions on the label.

5. If you are unsure—research, study, and most of all, ask for help. Follow the rules. The damage caused to aquatic systems by the use of an inappropriate herbicide or the misapplication of an appropriate herbicide not only damages the environment, but also may reduce public support for safe, well-planned projects.

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 NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis.

Stormwater Management Report						
Multifamily Development		**150 Portsmouth Boulevard**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Deep Sump CB's			❑Yes ❑No			
Flow-Through Treatment Unit #1			❑Yes ❑No			
Flow-Through Pre-Treatment Unit #1			❑Yes ❑No			
Flow-Through Pre-Treatment Unit #2			❑Yes ❑No			
Bioretention System #1			❑Yes ❑No			
Bioretention System #2			❑Yes ❑No			
Bioretention System #3			❑Yes ❑No			
Underground Detention Basin			❑Yes ❑No			
Rip-Rap Outlet #1						

FocalPoint

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GENERAL DESCRIPTION

The following general specifications describe the general operations and maintenance requirements for the FocalPoint® High Performance Modular Biofiltration System (HPMBS). The system utilizes physical, chemical and biological mechanisms of a soil, plant and microbe complex to remove pollutants typically found in urban stormwater runoff. The treatment system is a fully equipped, modular, constructed in place system designed to treat contaminated runoff.

Stormwater enters the HPMBS, is filtered by the High Performance Biofiltration Media and passes through to the underdrain/storage system where the treated water is detained, retained or infiltrated to sub-soils, prior to discharge to the storm sewer system of any remaining flow.

Higher flows bypass the FocalPoint® via a downstream inlet or other overflow conveyance. Maintenance is a simple, inexpensive and safe operation that does not require confined space entry, pumping or vacuum equipment, or specialized tools. Properly trained landscape personnel can effectively maintain FocalPoint® Stormwater systems by following instructions in this manual.

BASIC OPERATIONS

FocalPoint® is a modular, high performance biofiltration system that often works in tandem with other integrated management practices (IMP). Contaminated stormwater runoff enters the biofiltration bed through a conveyance swale, planter box, or directly through a curb cut or false inlet. Energy is dissipated by a rock or vegetative dissipation device and is absorbed by a 3-inch layer of aged, double shreddded hardwood mulch, with fines removed, (when specified) on the surface of the biofiltration media.

As the water passes through the mulch layer, most of the larger sediment particles and heavy metals are removed through sedimentation and chemical reactions with the organic material in the mulch. Water passes through the biofiltration media where the finer particles are removed and numerous chemical reactions take place to immobilize and capture pollutants in the soil media.

The cleansed water passes into the underdrain/storage system and remaining flows are directed to a storm sewer system or other appropriate discharge point. Once the pollutants are in the soil, bacteria begin to break down and metabolize the materials and the plants begin to uptake and metabolize the pollutants. Some pollutants such as heavy metals, which are chemically bound to organic particles in the mulch, are released over time as the organic matter decomposes to release the metals to the feeder roots of the plants and the cells of the bacteria in the soil where they remain and are recycled. Other pollutants such as phosphorus are chemically bound to the soil particles and released slowly back to the plants and bacteria and used in their metabolic processes. Nitrogen goes through a variety of very complex biochemical processes where it can ultimately end up in the plant/bacteria biomass, turned to nitrogen gas or dissolves back into the water column as nitrates depending on soil temperature, pH and the availability of oxygen. The pollutants ultimately are retained in the mulch, soil and biomass with some passing out of the system into the air or back into the water.

DESIGN AND INSTALLATION

Each project presents different scopes for the use of FocalPoint® system. To ensure the safe and specified function of this stormwater BMP, Convergent Water Technologies and/or its Value Added Resellers (VAR) review each application before supply. Information and design assistance is available to the design engineer during the planning process. Correct FocalPoint® sizing is essential to optimum performance. The engineer shall submit calculations for approval by the local jurisdiction when required. The contractor and/or VAR is responsible for the correct installation of FocalPoint units as described in approved plans. A comprehensive installation manual is available at www.convergentwater.com.

MAINTENANCE

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 for maintenance include:

- Avoid legal challenges from your jurisdiction's maintenance enforcement program.
- Prolong the lifespan of your FocalPoint HPMBS.
- Avoid costly repairs.
- Help reduce pollutant loads leaving your property.

Simple maintenance of the FocalPoint® is required to continue effective pollutant removal from stormwater runoff before any discharge into downstream waters. This procedure will also extend the longevity of the living biofiltration system. The unit will recycle and accumulate pollutants within the biomass, but may also subjected to other materials entering the surface of the system. This may include trash, silt and leaves etc. which will be contained above the mulch and/or biofiltration media layer. Too much silt may inhibit the FocalPoint's® flow rate, which is a primary reason for system maintenance. Removal of accumulated silt/sediment and/or replacement of the mulch layer (when specified), is an important activity that prevents overaccumulation of such silt/sediment.

When to Maintain?

The start of the maintenance plan begins when the system is activated for full operation. Full operation is defined as when the site is appropriately stabilized and the unit is installed and activated (i.e., when mulch and plantings are added).

Activation should be avoided until the site is fully stabilized (full landscaping, grass cover, final paving and street sweeping completed). Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.

A first inspection to determine if maintenance is necessary should be performed at least twice annually after storm events of greater than (1) one inch total depth (subject to regional climate). Please refer to the maintenance checklist for specific conditions that indicate if maintenance is necessary.

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.

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 VAR/Maintenance contractor and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the VAR/Maintenance contractor of any damage to the plant(s), which constitute(s) an integral part of the biofiltration technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance of the HPMBS to the VAR/Maintenance contractor (i.e. no pruning or fertilizing).

EXCLUSION OF SERVICES

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant(s) in the FocalPoint® system.

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the VAR/Maintenance contractor maintenance contract. Should a major contamination event occur, the Owner must block off the outlet pipe of the FocalPoint® (where the cleaned runoff drains to, such as drop-inlet) and block off the point where water enters of the FocalPoint®. The VAR/Maintenance contractor should be informed immediately.

MAINTENANCE VISIT SUMMARY

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of FocalPoint® and surrounding area

2. Removal of debris, trash and mulch

3. Mulch replacement

4. Plant health evaluation (including measurements) and pruning or replacement as necessary

5. Clean area around FocalPoint®

6. Complete paperwork, including date stamped photos of the tasks listed above.

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.

Inspection of FocalPoint® and surrounding area

Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

- Standing Water yes | no
- Is Bypass Inlet Clear? yes | no
- Damage to HPMBS System to Overflow conveyance yes | no yes | no

Removal of Silt / Sediment / Clay

Dig out silt (if any) and mulch and remove trash & foreign items.

- Silt / Clay Found? yes | no
- Cups / Bags Found? yes | no
- Leaves? yes | no
- Volume of material removed ________ (volume or weight)

Removal of debris, trash and mulch

After removal of mulch and debris, measure distance from the top of the FocalPoint® engineered media soil to the flow line elevation of the adjacent overflow conveyance. If this distance is greater than that specified on the plans (typ. 6" - 12"), add FocalPoint® media (not top soil or other) to recharge to the distance specified.

- Distance to media surface to flow line of overflow conveyance (inches) ____________
- # of Buckets of Media Added _________

Mulch Replacement

Most maintenance visits require only replacement mulch (if utilized). Bags of clean, double shredded hardwood mulch are typically used for smaller biofiltration beds, however larger systems may require truck loads of mulch. For smaller projects, one cubic foot of mulch will cover four square feet of biofiltration bed, and for larger projects, one cubic yard of mulch will cover 108 square feet of biofiltration bed. Some visits may require additional FocalPoint® engineered soil media available from the VAR/Contractor.

- Add double shredded, aged hardwood mulch which has been screened to remove fines, evenly across the entire biofiltration media bed to a depth of 3".
- Clean accumulated sediment from energy dissipation system at the inlet to the FocalPoint® system to allow for entry of trash during a storm event.

Plant health evaluation and pruning or replacement as necessary

Examine the plant's health and replace if dead or dying.
Prune as necessary to encourage growth in the correct directions

- Height above Grate (feet) _______
- Width at Widest point (feet) _______
- Health alive | dead
- Damage to Plant yes | no

Clean area around FocalPoint®

- Clean area around unit and remove all refuse to be disposed of appropriately.

Complete paperwork

- Deliver Maintenance Report and photographs as appropriate.
- Some jurisdictions may require submission of maintenance reports in accordance with approvals.
- It is the responsibility of the Owner to comply with local regulations.

FocalPoint Warranty

Seller warrants goods sold hereunder against defects in materials and workmanship only, for a period of (1) year from date the Seller activates the system into service. Seller makes no other warranties, express or implied.

Seller's liability hereunder shall be conditioned upon the Buyer's installation, maintenance, and service of the goods in strict compliance with the written instructions and specifications provided by the Seller. Any deviation from Seller's instructions and specifications or any abuse or neglect shall void warranties.

In the event of any claim upon Seller's warranty, the burden shall be upon the Buyer to prove strict compliance with all instructions and specifications provided by the Seller.

Seller's liability hereunder shall be limited only to the cost or replacement of the goods. Buyer agrees that Seller shall not be liable for any consequential losses arising from the purchase, installation, and/or use of the goods.

Maintenance Checklist

Element	Problem	What To Check	Should Exist	Action
Inlet	Excessiver sediment or trash accumulation	Accumulation of sediment or trash impair free flow of water into FocalPoint	Inlet free of obstructions allowing free flow into FocalPoint System	Sediments or trash should be removed
Mulch Cover	Trash and floatable debris accumulation	Excessive trash or debris accumulation.	Minimal trash or other debris on mulch cover	Trash and debris should be removed and mulch cover raked level. Ensure that bark nugget
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 over mulch cover.	Contact VAR for advice.
Plants	Plants not growing, or in poor condition	Soil/mulch too wet, evidence of spill. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact VAR for advice.
Plants	Plant growth excessive	Plants should be appropriate to the species and location of FocalPoint		Trim/prune plants in accordance with typical landscaping and

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Map 213 Lot 12 -Proposed Multi-Family Development Preliminary Water and Wastewater Demand Analysis

TO: City of Portsmouth, Technical Advisory Committee
FROM: Neil A. Hansen, PE
Patrick M. Crimmins, PE
COPY: Brora, LLC
DATE: September 22, 2025

The following memo is to provide an estimate of the average daily water and wastewater flows anticipated for the above-mentioned project for the purpose of allowing city staff to review capacity of the existing system. The flows have been calculated as a total development area.

The proposed project is located on a parcel of land along Portsmouth Boulevard that is identified as Map 213 Lot 12 on the City of Portsmouth Tax Maps. The property is bound to the north by Portsmouth Boulevard, to the west by Hilton Homewood Suites, to the south by residences on Osprey Drive and to the east by residences on Dunlin Way. The site is currently undeveloped. This property is an 8.4-arce parcel of land located in the Office Research District and the Gateway Neighborhood Overly District (GNOD). The proposed will be permitted under the recently adopted GNOD Overly District regulations. As currently designed, the project will include three (3), six (6) story multifamily residential buildings consisting of approximately 274 dwelling units. The proposed sewer connection will be connected to the existing sewer system within Portsmouth Boulevard which has 8" PVC outlet pipes. There is no current development on the subject parcel, therefore a comparison to the existing condition is not provided.

As depicted in the table below, the average daily flow in gallons per day (GPD) has been calculated for the proposed project in accordance with Table 3-3: of Metcalf and Eddy, "Wastewater Engineering Treatment and Resource Reuse" as required under NHDES Env-Wq 700.

Overall Net Proposed Peak Gal/Day Design			
Use	Design Unit	Unit Design Flow (GPD)	Design Flow
Proposed:			
Studio Apartment	45 Units	120 GPD/Bdrm	5,400 GPD
1 Bdrm Apartment	126 Units	120 GPD/Bdrm	15,120 GPD
2 Bdrm Apartment	103 Units	120 GPD/Bdrm	24,720 GPD
		Total Design Flow:	**45,240 GPD**

Hillside Multifamily Development Project Resource Area Delineation

TO: Kimery Poldrack, SVP, Development & Construction

FROM: Stefanie Tetreault, CWS, PWS, Tighe & Bond
Lucas Acaba, Tighe & Bond

COPY: Patrick Crimmins, PE, Vice President
Neil Hansen, PE, Project Manager

DATE: September 17, 2025

The Kane Company has contracted with Tighe & Bond to provide wetland science services to support the design and permitting of the Hillside Multifamily Development Project on Portsmouth Boulevard and Dunlin Way in Portsmouth, New Hampshire. This memorandum describes Tighe & Bond's delineation and characterization of the existing wetland resource areas and condition of the 100-foot buffer to address the requirements of Section 10.1017.22(3) of the City of Porsmouth Zoning Ordinance (Chapter 10).

1 Site Location

The wetland delineation performed by Tighe & Bond was limited to the north side of Portsmouth Boulevard within 215 Commerce way (Map 216, Lot 1-8A) and off Dunlin Way (Map 213, Lot 11). The surrounding area consists of commercial properties to the west, moderate density residences to the east and south, and the Boston and Maine Railroad to the northeast. The Piscataqua River is located approximately 800 feet to the north. The development project is located on the south side of Portsmouth Boulevard (150 Portsmouth Boulevard; City of Portsmouth Tax Map 213 Lot 12; delineated by others). A Site Location Map is provided as Figure 1 in Attachment 1.

2 Wetland Resource Area Investigation

2.1 Methodology of Resource Area Investigation

On March 14, 2025, a Tighe & Bond New Hampshire Certified Wetland Scientist (CWS) visited the site to identify and delineate wetland resource areas and evaluate the jurisdictional status of each relative to local, state, and federal criteria. Jurisdictional wetland resource areas in the vicinity of the proposed work were delineated in accordance with the United States Army Corps of Engineers' (USACE) *Wetlands Delineation Manual and Regional Supplement* (2012), Field Indicators for Identifying Hydric Soils in New England (Version 4, 2017), and the New Hampshire Code of Administrative Rules: Delineation and Classification of Jurisdictional Areas (Chapter Env-Wt 400). The evaluation also included a review of publicly available resources such as LiDAR elevation data and historic aerial imagery.

Wetland resources were marked with survey flagging that was sequentially labeled alphanumerically. Flags were located using traditional survey methods. Local weather yielded approximately 1.33-inches of rain in the week prior to the field delineation.[1] The site conditions were not considered atypical or problematic at the time of the delineation.

A Site Map showing the wetland delineation flag locations in provided as Figure 2 in Attachment 1. Representative photographs of the site are provided in Attachment 2.

2.2 Summary of Wetland Resource Areas

The following wetland resource areas were observed within the site: non-tidal wetlands and 100-foot buffer which are subject to jurisdiction under New Hampshire Statutes Title L – Water Management and Protection, Fill and Dredge in Wetlands (Chapter 482-A) and the City of Portsmouth Zoning Ordinance (Chapter 10), respectively.

The wetland resource areas observed in the field are described herein. A summary of wetland flag series is presented in Table 1-1.

TABLE 1-1
Summary of Wetland Delineation Series

Series	Points	Wetland Classification
1A	1A-1 through 1A-33	PSS1E[1]
2A	2A-1 through 2A-7	PEM1E[1]

[1] Classification of Wetlands and Deepwater Habitats of the United States by Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979.

2.2.1 Non-tidal Wetland

Wetlands are defined at RSA 482-A:2, X as "…an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

2.2.1.1 Series 1A

Series 1A defines the southeastern boundary of a non-tidal wetland to the northwest of Portsmouth Boulevard. The wetland is classified as palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated (PSS1E). Wetland vegetation observed included common winterberry (*Ilex verticilata*; FACW), speckled alder (*Alnus incana*; FACW), silky dogwood (*Swida amomum*; FACW), common reed (*Phragmites australis*; FACW), sensitive fern (*Onoclea sensibilis*; FACW), jewelweed (*Impatiens capensis*; FACW), and common wrinkle-leaved goldenrod (*Solidago rugosa*; FAC). Soil observed within the wetland consisted of 6 inches of sandy loam (10YR 2/1) underlain by 6 inches of sandy loam (10YR 2/1) with prominent redoximorphic concentrations (10YR 4/6).

The boundary between the wetland and adjacent uplands to the southeast was delineated by a transition to sandy loam (10YR 3/1) over compacted gravel soil and a transition to upland

[1] Weather Station ID: KMEELIOT27 (43.097° N, 70.768° W; Eliot, ME). Accessed via Weather Underground on 9/17/2025; https://www.wunderground.com/dashboard/pws/KMEELIOT27.

vegetation such as autumn olive (*Elaeagnus umbellata*; NC), staghorn sumac (*Rhus hirta*; NC), and Norway spruce (*Picea abies*; NC).

2.2.1.2 Series 2A

Series 2A defines the southwestern boundary of a non-tidal wetland to the northeast of Portsmouth Boulevard. The wetland is classified as palustrine, emergent, persistent, seasonally flooded/saturated (PEM1E). Wetland vegetation observed included red-osier dogwood (*Swida sericea*; FACW), smooth arrowwood (*Viburnum dentatum*; FAC), cattail (*Typha latifolia.*; OBL), sensitive fern (*O. sensibilis*; FACW), jewelweed (*I. capensis*; FACW), purple loosestrife (*Lythrum salicaria*; OBL), common grass-leaved goldenrod (*Euthamia gramnifolia*; FAC), and Devil's beggar-ticks (*Bidens frondosa*; FACW). Soil observed within the wetland consisted of 6 inches of sandy clay (10YR 5/1) underlain by 10 inches of sandy clay (10YR 6/1) with prominent redoximorphic concentrations (10YR 4/6).

The boundary between the wetland and adjacent uplands to the southwest was delineated by a transition to compacted sandy loam (10YR 4/4) and a transition to a forested plant community dominated by Norway maple (*Acer platanoides*; UPL), European privet (*Ligustrum vulgare*; FACU), European buckthorn (*Rhamnus cathartica*; FAC), and Japanese knotweed (*Fallopia japonica*; FACU).

2.2.2 100-foot Buffer

The 100-foot buffer from Wetlands 1A and 2A within the delineated area includes both forested areas and open meadows to the north and south of Portsmouth Boulevard as well as the paved roadway of Portsmouth Boulevard. Approximately 6% of the 100-foot buffer within the delineated area consists of the paved roadway of Portsmouth Boulevard.

Dominant vegetation observed within the forested areas included sugar maple (*Acer saccharum*; FACU), Norway maple (*A. platanoides*; UPL), staghorn sumac (*R. hirta*; NC), quaking aspen (*Populus tremuloides*; FACU), box elder (*Acer negundo*; FAC), crab apple (*Malus sp.*; NC), autumn olive (*E. umbellata*; NC), and European buckthorn (*R. cathartica*; FAC). Dominant vegetation observed within the open meadow areas included Canada goldenrod (*Solidago canadensis*; FACU), mugwort (*Artemisia vulgaris*; UPL), Queen Anne's Lace (*Daucus carota*; NC), common tansy (*Tancetum vulgare*; FACU), purple loosestrife (*L. salicaria*; OBL), common ragweed (*Ambrosia artemisiifolia*; FACU), and awl American-aster (*Symphyotrichum pilosum*; FACU). Overall, the observed vegetative community consisted of approximately 35% percent cover of invasive plant species.

2.2.2.1 100-foot Buffer Within Project Area

Approximately 29,000 square feet (sf) of the proposed project area is located within the 100-foot buffer of Wetland 1A. This includes approximately 20,000 sf (69%) within the Portsmouth Boulevard Right-of-Way which consists of the paved roadway and shoulders. Approximately 9,000 sf (31%) of the 100-foot buffer to Wetland 1A is located within 150 Portsmouth Boulevard (Map 213, Lot 12). This area is separated from Wetland 1A by Portsmouth Boulevard and consists of degraded, roadside habitat with compacted gravel soils and is dominated by Canada goldenrod (*S. canadensis*; FACU), Queen Anne's Lace (*D. carota*; NC), common ragweed (*A. artemisiifolia*; FACU), and awl American-aster (*S. pilosum*; FACU). Stormwater flow from this section of the 100-foot buffer currently sheet flows untreated into Wetland 1A as Portsmouth Boulevard lacks a stormwater management system.

3 Invasive Vegetation

Invasive species of vegetation present throughout the site at the time of the delineation included Norway maple (*A. platanoides*; UPL), Japanese knotweed (*F. japonica*; FACU), common reed (*P. australis*; FACW), European privet (*L. vulgare*, FACU), multiflora rose (Rosa multiflora; FACU), glossy buckthorn (*Frangula alnus*; FAC), common buckthorn (*R. cathartica*; FAC), autumn olive (*E. umbellata*; NC), Morrow's honeysuckle (*Lonicera morrowii*; FACU), Asiatic bittersweet (*Celastrus orbiculatus*; FACU), purple loosestrife (*L. salicaria*; OBL), and garlic-mustard (*Alliaria petiolata*; FACU). The primary populations of invasive species were located along the boundaries of wetlands 1A and 2A.

These species may provide refuge and food sources for small mammals and birds; however, their abundance in an area disturbed by human activity threatens the integrity of the native community. Invasive plant species generally prefer disturbed habitats and possess high dispersal abilities, enabling them to out-compete native vegetation.

Preventative measures should be taken during the project design and development to limit the potential for introduction or spread of invasive species during the project, such as:

- Limiting the areas of disturbance to avoid unnecessary disturbance of existing colonies of invasive species.
- Not importing materials such as fill, loam, mulch, haybales or gravel from sites where invasive species are known to occur.
- Immediately stabilizing exposed soils where work is complete or has temporarily ceased to prevent spread or further invasion of non-native species.
- Cleaning equipment of soil and plant material prior to mobilization and demobilization to and from the project site to limit spread of invasive species.

4 Summary

Two palustrine (non-tidal) wetlands were delineated north of Portsmouth Boulevard which are subject to jurisdiction under New Hampshire Statutes Title L – Water Management and Protection, Fill and Dredge in Wetlands (RSA 482-A). No direct impacts are proposed to Wetlands 1A or 2A as a result of the project. The project is located on the south side of Portsmouth Boulevard (City of Portsmouth Tax Map/Lot #213/12) and proposes permanent impacts within 100-feet of Wetland 1A.

The City of Portsmouth regulates the 100-foot buffer pursuant to the City of Portsmouth Zoning Ordinance (Chapter 10). The 100-foot buffer in the vicinity of the project site consists of disturbed forested and open meadow areas with a moderate density of invasive vegetation, as well as the paved roadway of Portsmouth Boulevard.

Attachments

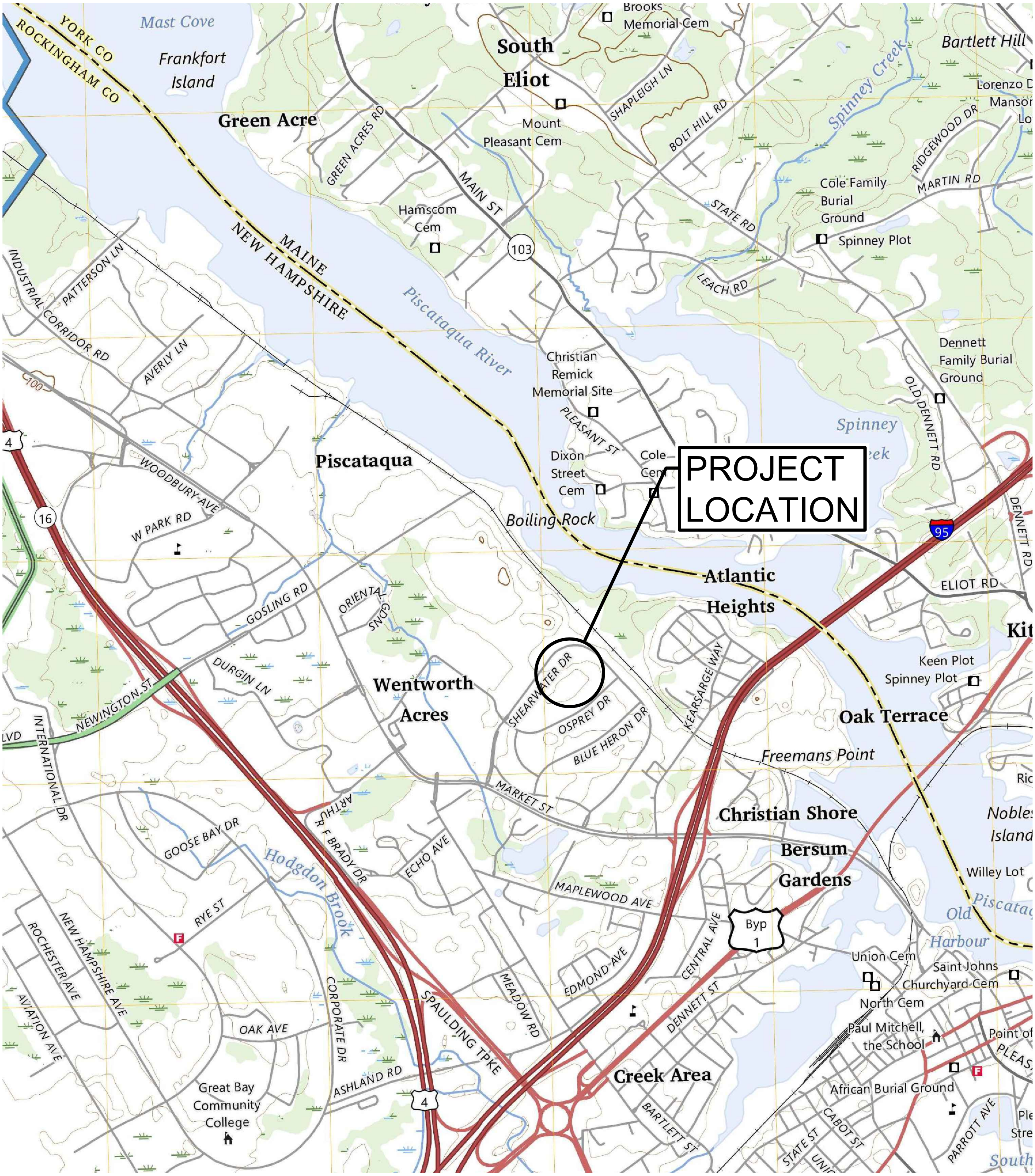
A Site Figures

Figure 1 – Site Location

Figure 2 – Aerial Site Map

B Photographic Log

ATTACHMENT A



0' 2000' 4000'

SCALE: 1"= 2000'

FIGURE 1
USGS AERIAL MAP

PROPOSED MULTI-FAMILY DEVELOPMENT
150 COMMERCE WAY
PORTSMOUTH, NH

DATE: 9/16/2025

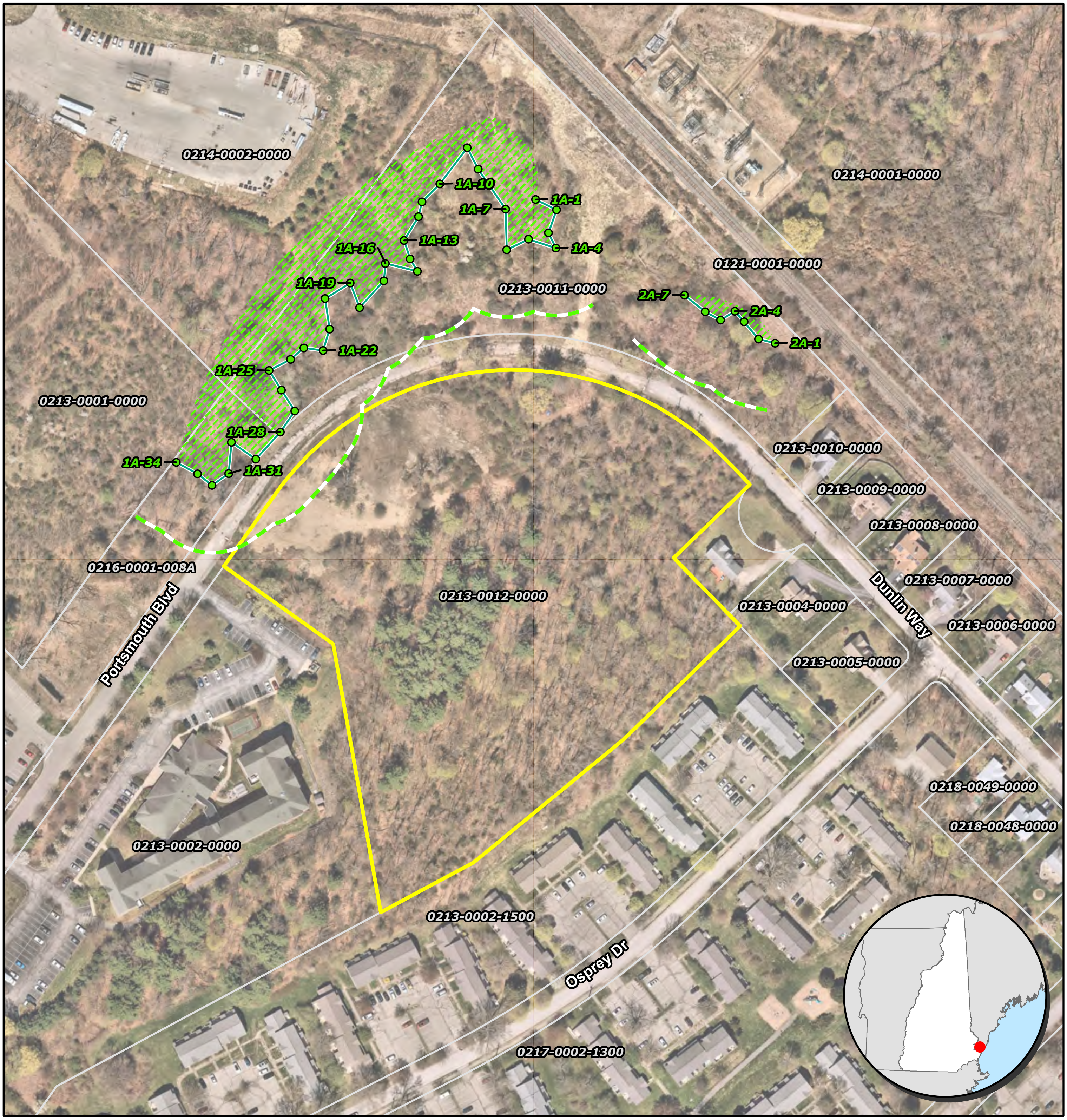
SCALE: 1" = 2000'

FIGURE: 1

Tighe&Bond
www.tighebond.com

FIGURE 2
AERIAL
September 2025

Hillside Multi-Family Development
Dunlin Way and Portsmouth Boulevard,
Portsmouth, New Hampshire



Wetland Flag
Delineated Wetland Boundary
100-Foot Buffer Zone
Wetland Area
Approximate Subject Property
Approximate Parcel Boundary

1:2,400
0 100 200
Feet
N

Tighe&Bond

Based on Nearmap Imagery (April 2025).
Wetland data was provided by Doucet Survey, surveyed in March 2025.
Parcel boundaries were provided by NH GRANIT and are approximate.

ATTACHMENT B

Photographic Log

Client: Kane Company **Job Number:** K-0076-0065

Site: Hillside Multifamily Development Project
Portsmouth, New Hampshire

Photograph No.: 1	**Date:** 09/12/2025	**Direction Taken:** Northeast

Description: Typical view of Portsmouth Boulevard within the 100-foot buffer of Wetland 1A. Wetland 1A visible on the left side of the photo.

Photograph No.: 2	**Date:** 09/12/2025	**Direction Taken:** North

Description: Typical view of the boundary of Wetland 1A.

Photographic Log

Client: Kane Company **Job Number:** K-0076-0065

Site: Hillside Multifamily Development Project
Portsmouth, New Hampshire

Photograph No.: 3	**Date:** 09/12/2025	**Direction Taken:** North

Description: Representative view of the 100-foot buffer to Wetland 1A, north of Portsmouth Boulevard.

Photograph No.: 4	**Date:** 09/12/2025	**Direction Taken:** East

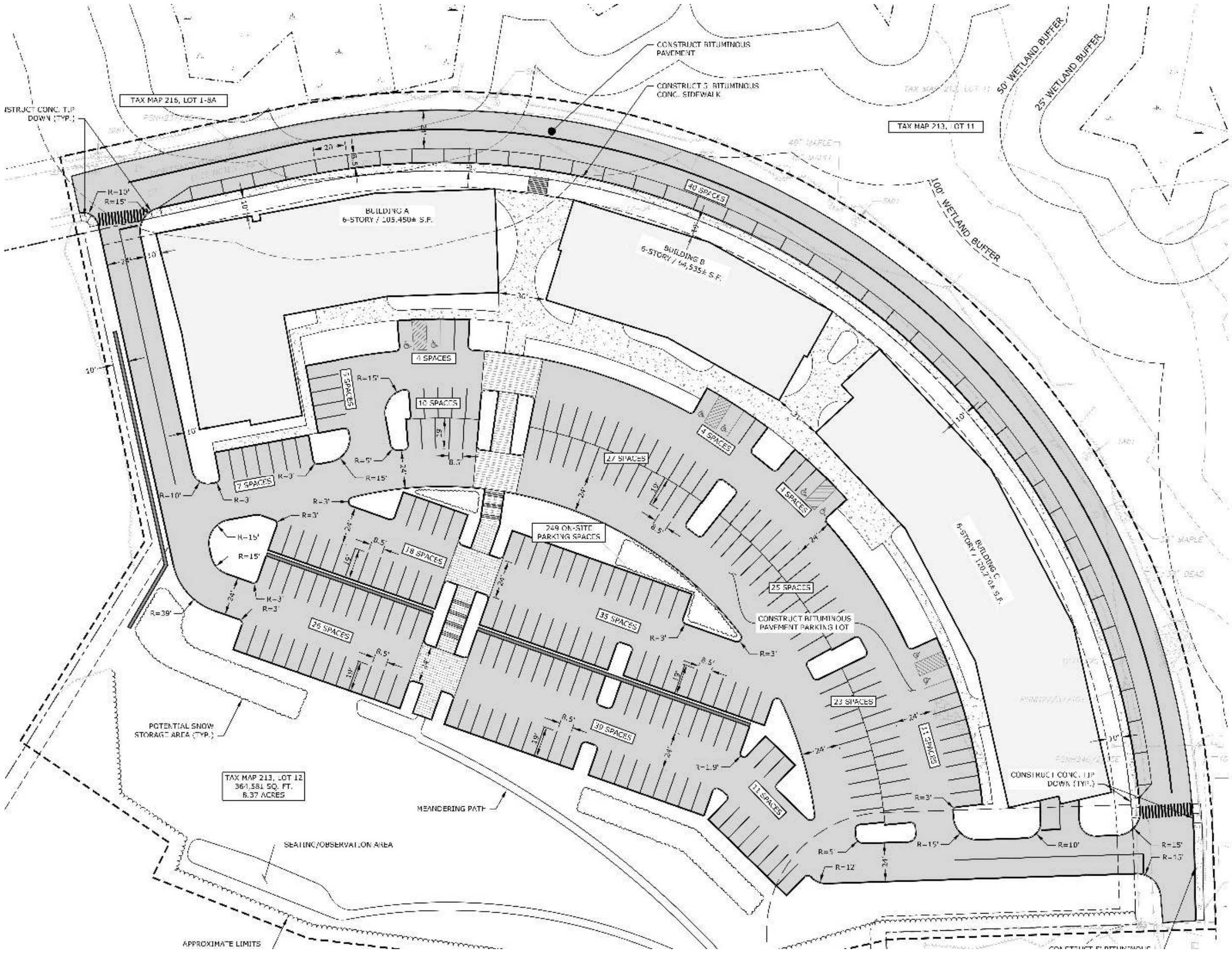
Description: Representative view of the 100-foot buffer to Wetland 1A, south of Portsmouth Boulevard.

Client: Kane Company **Job Number:** K-0076-0065

Site: Hillside Multifamily Development Project
Portsmouth, New Hampshire

Photograph No.: 5	**Date:** 09/12/2025	**Direction Taken:** Northwest
Description: Representative view of Wetland 2A.		

Photograph No.: 6	**Date:** 09/12/2025	**Direction Taken:** Northwest
Description: Representative view of the 100-foot buffer to Wetland 2A, north of Portsmouth Boulevard.		



150 Portsmouth Boulevard Multi-Family Development
Portsmouth, NH

TRAFFIC IMPACT STUDY

September 22, 2025

Tighe&Bond

100% Recyclable

Technical Appendices

Section 1
Study Overview

This Traffic Impact Study (TIS) evaluates the potential traffic impact of the proposed multi-family development located at 150 Portsmouth Boulevard in the City of Portsmouth, New Hampshire. The site is bounded by Portsmouth Boulevard to the north and west, Homewood Suites by Hilton to the south, and a residential neighborhood to the east. Figure 1 shows the Site location relative to the surrounding roadway network.

The project proposes to construct 274 residential units spread across three six-story buildings. On-site parking will be provided by surface parking lots and an underground parking structure. Site access will be provided via the two full-access driveways: the western driveway to Portsmouth Boulevard and the eastern driveway to Dunlin Way. The project is expected to be completed in 2027.

Based on the analyses conducted, it is the professional opinion of Tighe & Bond that the additional traffic expected to be generated by the proposed residential development is not expected to have a significant impact on traffic operations within the study area.

Section 2
Existing Conditions

The Project site is bounded by Portsmouth Boulevard to the north and west, Homewood Suites by Hilton to the south, and a residential neighborhood to the east. The property is proposed to be accessible via two full-access driveways with access to Portsmouth Boulevard to the west and Dunlin Way to the east. The following sections provide details on the adjacent roadways within the study area.

2.1 Roadways

2.1.1 Woodbury Avenue

Woodbury Avenue is classified as an urban minor arterial from Market Street to Commerce Way and is maintained by the City of Portsmouth. South of the Market Street intersection, Woodbury Road is classified as an urban major collector. The roadway is located southwest of the site location and primarily runs north-south in the study area. Woodbury Avenue runs from the Spaulding Turnpike interchange in Newington to the north and terminates at an intersection with Bartlett Street in the south.

Within the study area, northbound and southbound traffic are divided by an approximately ten-foot-wide raised concrete median. Woodbury Avenue typically provides two travel lanes in each direction with two- to four-foot-wide marked shoulders, widening at intersections to provide additional turning lanes. An approximately five- to seven-foot sidewalk is provided along both sides of Woodbury Avenue throughout the entire study area. Woodbury Avenue has a posted speed limit of 30 miles per hour (mph) in both directions.

2.1.2 Market Street

Market Street is classified as an urban minor arterial and is maintained by the City of Portsmouth. The roadway is located south of the site location and runs primarily in the east-west direction connecting Woodbury Avenue to the west and downtown Portsmouth to the east. Eastbound and westbound traffic on Market Street is divided by a six-foot wide raised concrete median between the I-95 Ramps and Woodbury Avenue.

The roadway generally provides two 11-foot travel lanes in each direction with two-foot-wide shoulders. A five-foot sidewalk is provided on the north side of the roadway within the study area. A pedestrian bridge is provided to cross Market Street at the intersection with Portsmouth Boulevard. Marked crosswalks are provided at Woodbury Avenue and the I-95 ramps. Market Street has a posted speed limit of 35 mph in both directions.

2.1.3 Portsmouth Boulevard

Portsmouth Boulevard is classified as local roadway and is maintained by the City of Portsmouth. The roadway runs north-south between Market Street to the south to extending north until it turns into Dunlin Way. A landscaped center median is provided between Market Street and Commerce Way. The roadway generally provides one 12-foot travel lane in each direction with turn lanes provided at the intersections with Market Street and Commerce Way. No shoulders are provided. Asphalt sidewalks are provided along the east side of the roadway between Market Street and the existing barricade located approximately 75 feet north of the existing northern hotel driveway. Existing crosswalks are provided across Portsmouth Boulevard at the 75 Portsmouth Boulevard driveway and on the south leg of Portsmouth Boulevard at Commerce Way.

2.1.4 Commerce Way

Commerce Way is classified as a local roadway and is maintained by the City of Portsmouth. The roadway runs east-west, connecting Woodbury Avenue to Portsmouth Boulevard and providing access to office and other commercial uses along the roadway. The roadway provides one approximate 12-foot-wide travel lane with narrow shoulders in each direction, widening at the Woodbury Avenue and Portsmouth Boulevard intersections to provide additional turn lanes. A landscaped median is provided between the northern Portsmouth Plaza driveway and where the point at which the roadway turns southeast. An approximate five-foot wide sidewalk is provided along the south side of the roadway with mid-block crossing provided periodically at business driveways and bus stops.

2.2 Study Area Intersections

2.2.1 Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway

Commerce Way and the Durgin Square Plaza driveway intersect Woodbury Avenue at a signalized intersection, with Commerce Way approaching from the east, the Durgin Square Plaza driveway approaching from the west, and Woodbury Avenue running north-south. The Commerce Way westbound approach provides two lanes, with an exclusive right-turn lane and a shared through/left-turn lane. The Durgin Square Plaza driveway eastbound approach consists of two lanes, with an exclusive right-turn lane and a shared through/left-turn lane. The northbound and southbound Woodbury Avenue approaches provide three lanes, with one left-turn lane, one through lane, and one shared through/right-turn lane. Left-turn movements from Woodbury Avenue northbound and southbound are controlled with protected signal phases with right-turn side street overlaps provided during these phases. The eastbound and westbound approaches operate under split phasing. As previously described, a sidewalk is provided on both sides of Woodbury Avenue through the intersection, with a crosswalk across all four approaches and an exclusive pedestrian phase. Sidewalk is also provided on the south side of Commerce Way and the Durgin Square Plaza driveway. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.2 Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway

Arthur F Brady Drive and the Portsmouth Plaza driveway intersect Woodbury Avenue at a signalized intersection, with Arthur F Brady Drive approaching from the west, the Portsmouth Plaza Driveway approaching from the east, and Woodbury Avenue running north-south. The Arthur F Brady Drive eastbound approach provides two lanes, with an exclusive right-turn lane and a shared through/left-turn lane. The Portsmouth Plaza driveway westbound approach consists of two lanes, with an exclusive right-turn lane and a shared through/left-turn lane. The northbound and southbound Woodbury Avenue approaches provide three lanes, with one left-turn lane, one through lane, and one shared through/right-turn lane. Left-turn movements from Woodbury Avenue northbound and southbound are controlled with exclusive signal phases. The eastbound and westbound approaches operate under split phasing. As previously described, a sidewalk is provided on both sides of Woodbury Avenue through the intersection, with a crosswalk across all four approaches and an exclusive pedestrian phase. Sidewalk is also provided on the north side of Arthur F Brady Drive. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.3 Woodbury Avenue at Market Street/Market Basket Driveway

Woodbury Avenue turns to the south at its intersection with Market Street and the Market Basket driveway, all meeting to form a four-way signalized intersection. Woodbury Avenue forms the south and west legs, Market Street forms the east leg, and the Market Basket driveway forms the north leg. The eastbound Woodbury Avenue approach provides a dedicated right-turn lane, two through lanes, and a dedicated left-turn lane. The northbound Woodbury Avenue approach provides a shared right-turn and through lane and two dedicated left-turn lanes. The westbound Market Street approach provides a shared through/ right-turn lane, a through lane, and a dedicated left-turn lane. The southbound Market Basket Driveway approach provides a shared right and through lane and a dedicated left-turn lane. The east, west, and south legs are divided by a raised concrete median while the north leg is divided by a raised median with landscaping. Protected only left-turn phasing is provided on the Woodbury Avenue eastbound and Market Street westbound approaches. The northbound and southbound approaches operate under split phasing. Sidewalks are provided along the north side of Market Street and both sides of Woodbury Avenue and the Market Basket driveway. Crosswalks are provided across all intersection legs, and an exclusive pedestrian phase is provided for the intersection. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.4 Market Street at Portsmouth Boulevard

Market Street runs east-west and is intersected by Portsmouth Boulevard to the north to form a three-way signalized intersection. The eastbound and westbound approaches provide dedicated left- and right-turn lanes, respectively, to Portsmouth Boulevard along with two through lanes in each direction. The Portsmouth Boulevard southbound approach provides one right-turn lane and dual left-turn lanes. The east and west legs are divided by a raised concrete median while the north leg is divided by a raised median with landscaping. Protected only left-turn phasing is provided on the Market Street eastbound approach with a southbound right-turn overlap. Sidewalks are provided along the north side of Market Street and the east side of Portsmouth Boulevard. A crosswalk is provided across Portsmouth Boulevard with a concurrent pedestrian phase. A pedestrian bridge is provided over the east leg. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.5 Market Street at I-95 Southbound Ramps

The I-95 southbound on- and off-ramps intersect Market Street to form a four-way signalized intersection. Market Street runs east-west, the I-95 southbound off-ramp approaches from the north, and the corresponding on-ramp exits the intersection to the south. The eastbound approach provides four lanes, with a channelized right-turn lane under yield control and three through lanes under signal control. The westbound approach provides a left-turn lane and two through lanes. The southbound approach provides one right-turn lane, one left-turn lane, and one shared right- and left-turn lane. The east leg is divided by a raised concrete median while the west leg is divided by a raised median with landscaping. Protected only left-turn phasing is provided on the Market Street westbound approach. A sidewalk is provided along the north side of Market Street. A crosswalk is provided across the I-95 southbound off-ramp with concurrent pedestrian phasing. A dedicated bicycle lane on the south side of Market

Street begins at the intersection and transitions to an off-road bicycle side path adjacent the roadway to the east of the intersection. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.6 Market Street at I-95 Northbound Ramps

The I-95 NB Ramps intersect Market Street to form a four-way signalized intersection. Market Street runs east-west, the I-95 NB Off-Ramp approaches from the south, and the corresponding On-Ramp exits the intersection to the north. The eastbound approach provides four lanes, with two left-turn lanes and two through lanes. The westbound approach provides a channelized right-turn lane under yield control and two through lanes controlled by the signal. The northbound approach provides one right-turn lane and one left-turn lane. The west leg is divided by a raised concrete median while the east leg is divided by a raised median with landscaping. Protected only left-turn phasing is provided on the Market Street eastbound approach. A sidewalk is provided along the north side of Market Street, west of the intersection, and along both sides of Market Street, east of the intersection. Crosswalks are provided across the I-95 northbound on-ramp and the east leg of Market Street with concurrent pedestrian phasing. The eastbound off-road bicycle side path transitions back to a bicycle lane within the roadway east of the intersection. Marked edge lines are provided on all approaches with a 1-to-2-foot offset from the curb.

2.2.7 Portsmouth Boulevard at Commerce Way/Osprey Drive

Commerce Way and Osprey Drive intersect Portsmouth Boulevard to form a four-way stop-controlled intersection. Portsmouth Boulevard runs north-south, Commerce Way approaches from the west, and Osprey Drive approaches from the east. The northbound approach provides two lanes, with one left-turn lane and one shared through and right-turn lane. The southbound approach provides one right-turn lane and one shared through/ left-turn lane. The eastbound approach provides one right-turn lane and one shared through/ left-turn lane. The westbound approach provides one all-purpose travel lane. The north leg is divided by a raised median with landscaping. All four approaches operate under stop-control. A sidewalk is provided along the east side of Portsmouth Boulevard and south side of Commerce Way and Osprey Drive. Crosswalks are provided across the south and east legs. Marked edge lines are provided on Commerce Way with a 1-to-2-foot offset from the curb.

2.3 Traffic Volumes

Turning movement counts (TMC) were collected at the study area intersections on Wednesday, July 9, 2025, during the weekday morning (7:00 AM to 9:00 AM) and weekday afternoon peak periods (3:00 PM to 6:00 PM) and on Saturday, July 12, 2025, during the Saturday midday peak period (11:00 AM to 1:00 PM). Automatic Traffic Recorder (ATR) counts were collected on Portsmouth Boulevard, south of Commerce Way, during a 48-hour period from Wednesday, July 9, 2025, through Thursday, July 10, 2025, concurrently with the TMC to record hourly traffic volumes and vehicular speeds. Pedestrian count data was also collected on the pedestrian bridge over Market Street at Portsmouth Boulevard on July 9, 2025, during the weekday morning and afternoon peak periods and on July 12, 2025, during the Saturday midday peak period.

The weekday morning, weekday afternoon, and Saturday midday TMCs were seasonally adjusted to a peak month per NHDOT guidelines based on 2024 Seasonal Adjustment Data available from NHDOT. A seasonal adjustment factor of 1.01 was applied to the traffic volumes based on Group 4 Averages: Urban Highways for the month of July. The adjusted 2025 existing traffic volumes for the weekday morning, weekday afternoon, and Saturday midday peak hours are shown in Figure 2. The raw TMC data is provided in Appendix A. The NHDOT seasonal adjustment factors are enclosed in Appendix B.

The ATR data from Portsmouth Boulevard indicated average daily traffic (ADT) of approximately 1,500 vehicles per day in the northbound direction and 1,700 vehicles per day in the southbound direction. The measured 85th percentile speeds, also known as the operating speed of the roadway, were approximately 24 mph and 26 mph in the northbound and southbound directions, respectively.

Peak hour pedestrian count data collected on the pedestrian bridge over Market Street at Portsmouth Boulevard yielded 8 pedestrians (5 northbound, 3 southbound) during the weekday morning peak hour, 7 pedestrians (4 northbound, 3 southbound) during the weekday afternoon peak hour, and 4 pedestrians (1 northbound, 3 southbound) during the Saturday midday peak hour.

2.4 Capacity and Queue Analyses - Existing Condition

Capacity and queue analyses were performed for the study intersections for the 2025 Existing Conditions during the weekday morning, weekday afternoon, and Saturday midday peak hours. Analyses were conducted using Trafficware Synchro Studio 11 software, which conducts the analysis based on *Highway Capacity Manual (HCM)* methodology. Consistent with NHDOT guidelines, analyses for signalized intersections were conducted using methods of the 2000 HCM, while analysis for unsignalized intersections utilized the HCM 6th Edition 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. The queue analysis results are summarized 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 1 and 2 in Section 7 summarize the capacity and queue analyses results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix D.

As shown in Table 1, all of the overall intersections and a majority of the individual intersection approaches operate at acceptable at LOS D or better during the peak hours with the following exceptions:

- **Woodbury Avenue at Commerce Way/ Durgin Square Plaza Driveway**
    - The Durgin Square Plaza eastbound shared through and left-turn movement operates at LOS F during the weekday morning, weekday afternoon, and Saturday midday peak hours.
    - The Woodbury Avenue southbound left-turn movement operates at LOS E during the weekday afternoon peak hour.

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Arthur F Brady drive eastbound shared through and left-turn movement operates at LOS E during the weekday afternoon peak hour and at LOS F during the Saturday midday peak hour.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Woodbury Avenue eastbound left-turn movement operates at LOS E during the weekday afternoon and Saturday midday peak hours.
- **Market Street at Portsmouth Boulevard**
    - The Market Street eastbound left-turn movement operates at LOS E during the Saturday midday peak hour.
- **Market Street at I-95 Southbound Ramps**
    - The Market Street westbound left-turn movement operates at LOS E during the Saturday midday peak hour.

A review of the queueing results in Table 2 shows design queues on all study intersection movements are accommodated within the available storage within turn bays and between intersections during each peak period with the following exceptions:

- **Woodbury Avenue at Commerce Way/ Durgin Square Plaza Driveway**
    - The Durgin Square Plaza eastbound shared through and left-turn movement exceeds the available storage by one vehicle length during the weekday afternoon peak hour and two vehicle lengths during the Saturday midday peak hour.
    - The Woodbury Avenue northbound left-turn movement exceeds the available storage by one vehicle length during the weekday afternoon peak hour and two vehicle lengths during the Saturday midday peak hour.
    - The Woodbury Avenue southbound left-turn movement exceeds the available storage by eight vehicle lengths during the weekday morning peak hour and three vehicle lengths during the weekday afternoon and Saturday midday peak hour.
- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Portsmouth Plaza westbound shared through and left-turn movement exceeds the available storage by four vehicle lengths during the weekday afternoon peak hour and six vehicle lengths during the Saturday midday peak hour.
    - The Woodbury Avenue southbound shared through and left-turn movement exceeds the available storage by two vehicle lengths during the weekday afternoon peak hour.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Market Basket southbound left-turn movement exceeds the available storage by one vehicle length during the weekday morning peak hour and six vehicle lengths during the weekday afternoon and Saturday midday peak hour.

- The Market Basket southbound shared through and left-turn movement exceeds the available storage by one vehicle length during the weekday morning peak hour and two vehicle lengths during the weekday afternoon and Saturday midday peak hour.

2.5 Collision History

Vehicle collision data for the study intersections was requested from the Portsmouth Police Department. However, as of this time, vehicle accident reports were not able to be provided due to reported staffing shortages.

2.6 Alternative Travel Modes

The study area is in a moderately densely developed setting in the City of Portsmouth where multimodal travel options are available. The following summarizes the details of various alternative travel modes supported within the study area.

Pedestrian facilities are generally present throughout the study area. Existing sidewalks are present on both sides of Woodbury Avenue and the north side of Market Street within the study area. There is a sidewalk on the east side of Portsmouth Boulevard from Market Street to the Site driveways. Marked crosswalks are provided across all legs of the Woodbury Avenue/Commerce Way, Woodbury Avenue/Arthur F Brady Drive, and Woodbury Avenue/Market Street intersections, each providing an exclusive pedestrian phase. Crosswalks are provided on the north side of Market Street between all intersections and on the south and east side of the Portsmouth Boulevard/Commerce Way/Osprey Drive intersection. A pedestrian bridge is provided to cross Market Street at the intersection with Portsmouth Boulevard.

The Cooperative Alliance for Seacoast Transportation (COAST) provides transit service within the study area. Bus Route 43 is the primary bus route in the study area with stops along Woodbury Avenue, Commerce Way, Portsmouth Boulevard, and Market Street. An existing bus stop is located at the intersection of Portsmouth Boulevard, at Commerce Way/ Osprey Drive, approximately 1,000 feet south of the proposed western Site driveway. The route operates from 6:30 AM to 8:57 PM Monday through Saturday. The Route 43 map and schedule are included in Appendix E.

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. Consistent with NHDOT guidelines, the study area is analyzed for an Opening Year (2027) and Design Year (2037). This section describes the growth and development considerations included in the 2027 and 2037 No-Build traffic volumes.

3.1 Traffic Growth

To develop the traffic volumes for the 2027 and 2037 No-Build Conditions, the 2025 Existing traffic volumes were grown by one percent per year to represent the general growth of traffic on the study area roadways. This growth rate is consistent with the average growth rate in NHDOT Region E - Southeast, the region in which Portsmouth is located and previously approved developments in the area. Background NHDOT growth data is included in Appendix B.

NHDOT and the City of Portsmouth were contacted about other planned/approved developments in the area that may add new traffic to the study area prior to 2027. The following developments were identified:

- **100 Durgin Lane Multi-Family Development:** The project proposes to construct a 360-unit residential development. The project has been approved by the City and is anticipated to be occupied in 2027. Estimated site traffic volumes outlined in the project's Traffic Impact Study are included in the development of the 2027 and 2037 No-Build traffic volumes. Traffic volumes for this development are included in Appendix F.

- **1465 Woodbury Avenue Bank:** The project proposes to construct a 2,847+/- SF bank with a drive-through at the existing Portsmouth Plaza property. The project has been approved by the City and is anticipated to be occupied in 2027. Estimated site traffic volumes outlined in the project's Traffic Impact Study are included in the development of the 2027 and 2037 No-Build traffic volumes. Traffic volumes for this development are included in Appendix F.

It is assumed that other smaller developments or small vacancies in existing developments are also captured by the background traffic growth rate. The 2027 and 2037 No-Build traffic volumes for the weekday morning, weekday afternoon, and Saturday midday peak hours are shown in Figures 3 and 4, respectively.

3.2 Capacity and Queue Analyses – No-Build Conditions

Capacity and queue analyses were conducted for the 2027 and 2037 No-Build Conditions traffic volumes for all peak periods using the methodology described in Section 2.4. Tables 1 and 2 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 increase in expected future traffic based on the one percent per year compounded growth rate and background development traffic volumes that were added to the existing 2025 traffic volumes resulted in no degradation in LOS of operations when compared to existing conditions for the 2027 No-Build Condition.

The 2037 No-Build Condition resulted in degradation of level of service and increases in delay when compared to the 2027 No-Build Condition due to the addition of ten years of compounded annual growth. The following intersections showed additional degradation of operations from the 2027 to 2037 No-Build Condition:

- **Woodbury Avenue at Commerce Way/ Durgin Square Plaza Driveway**
  - The Woodbury Avenue southbound left-turn movement degrades from LOS D to E during the weekday morning and afternoon peak hours in 2037.
- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
  - The Woodbury Avenue southbound left-turn movement degrades from LOS D to E during the weekday morning and afternoon peak hours in 2037.
  - The Arthur F. Brady Drive eastbound shared through and left-turn movement degrades from LOS E to F during the weekday afternoon peak hour in 2037.
  - The Woodbury Avenue northbound left-turn movement degrades from LOS D to F during the weekday afternoon peak hour and from LOS D to E during the Saturday midday peak hour in 2037.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
  - The Market Street eastbound left-turn movement degrades from LOS E to F during the Saturday midday peak hour in 2037.

Design queues that were accommodated in the existing conditions continue to be accommodated within available storage in the 2027 No-Build condition or increased by less than two vehicle lengths.

While some intersections experience increases in design queue length of greater than two vehicle lengths in 2037 due to the compounded annual growth rate and approved developments in the area, design queues in 2037 are predicted to remain within available storage as shown in Table 2 with the following exceptions:

- **Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway**
  - The Woodbury Avenue southbound left left-turn movement design queue is predicted to increase by approximately three vehicle lengths in the weekday morning peak hour in 2037.
  - The Woodbury Avenue southbound shared through and right-turn movement design queue is predicted to increase by approximately five vehicle lengths in the weekday afternoon peak hour and three vehicle lengths in the Saturday midday peak hour in 2037.

- **Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway**
  - The Woodbury Avenue northbound shared through and right-turn movement design queue is predicted to increase by approximately four vehicle lengths in the Saturday midday peak hour in 2037.
  - The Woodbury Avenue southbound shared through and right-turn movement design queue is predicted to increase by approximately six vehicle lengths in the weekday afternoon peak hour and three vehicle lengths in the Saturday midday peak hour in 2037.
- **Woodbury Avenue at Market Street/Market Basket Driveway**
  - The Woodbury Avenue eastbound through movement design queue is predicted to increase by approximately three vehicle lengths in the weekday afternoon and Saturday midday peak hours in 2037.
  - The Woodbury Avenue westbound shared through and right-turn movement design queue is predicted to increase by approximately four vehicle lengths in the weekday afternoon and Saturday midday peak hours in 2037.
- **Market Street at I-95 Northbound Ramps**
  - The I-95 Northbound Off-Ramp right-turn movement design queue is predicted to increase by approximately three vehicle lengths in the weekday morning peak hour in 2037.

Section 4
Proposed Conditions

The project proposes to construct 274 residential units spread across three six-story buildings on a currently vacant site. Approximately 298 on-site parking spaces will be provided that are comprised of 249 surface parking spaces and 49 underground parking spaces on site with approximately 340 spaces; 40 additional off-site spaces will be provided. The proposed development is expected to be complete and occupied in 2027. The Site Plan is presented in Appendix G.

4.1 Site Access

Site access will be provided via the two full-access driveways located at the western and eastern corners of parcel. Both driveways will be placed under stop control. Each driveway is positioned to maximize sight lines.

4.2 Trip Generation

Trips expected to be generated by the proposed development were estimated using the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, 2021. Multifamily Housing (Mid-Rise) (LUC-221) was used to estimate vehicle trips based on the current development program, which proposes 274 units in three six-story buildings.

Based on the ITE data, the proposed development is estimated to generate 109 trips (25 entering, 84 exiting) during the weekday morning peak hour, 107 trips (65 entering, 42 exiting) during the weekday afternoon peak hour, and 110 trips (56 entering, 54 exiting) during the Saturday midday peak hour. Table 3 provides a detailed summary of the trip generation.

4.3 Arrival and Departure Distribution

The distribution of the proposed site-generated traffic entering and exiting the Site was applied to the roadway network based on existing traffic patterns within the study area, discussions with the City, and a review of a previously approved study for a multi-family development. The following arrival/departure distributions are anticipated:

- 30% to/ from the South to Portsmouth Center via Market Street
- 25% to/ from the South via Route 1 Bypass
- 20% to/ from the North via Route 4 (Spaulding Turnpike)
- 20% to/ from the South via I-95
- 5% to/ from the North via I-95

Based on the regional distribution and surrounding roadway network, it is estimated that of the 25% of trips entering via Route 1 Bypass, 20% will enter via Woodbury Avenue and 5% will enter via Arthur F Brady Drive, while all departing trips to Route 1 Bypass are expected to utilize Woodbury Avenue. It is estimated that half (10%) of the 20% entering site traffic from the south via I-95 will utilize Woodbury Avenue, which has an off-ramp from I-95 northbound, while the remaining 10% will arrive via Market Street; all exiting traffic to the south via I-95 is expected to utilize Market Street, as there is no direct on-ramp southbound from Woodbury Avenue. Finally, of the 20% of trips entering from the north via Spaulding Turnpike, it is assumed that 15% of entering trips will utilize Commerce Way, while the remaining 5% will continue along Market Street to Portsmouth Boulevard; all 20% of exiting trips are expected to utilize Arthur F Brady Drive to access the northbound on-ramp to Spaulding Turnpike.

Figure 5 presents the arrival and departure distributions of the traffic through the study area by intersection movement. Figure 6 shows the proposed site generated traffic distributed to the study area roadways for the weekday morning, weekday afternoon, and Saturday midday peak periods.

4.4 Multi-Modal Accommodations

As previously stated, pedestrian and transit facilities are provided in the vicinity of the site. Internal sidewalks are proposed adjacent to all parking areas and buildings on site. Sidewalks are present along the east side of Portsmouth Boulevard that will connect to the site. The existing and proposed sidewalk network will provide a continuous network to the existing bus stop located at the intersection of Portsmouth Boulevard, Commerce Way, and Osprey Drive. In addition, bicycle storage will be provided on site.

Section 5
Build Conditions

The anticipated site generated traffic volumes associated with the proposed development were added to the 2027 and 2037 No-Build Conditions traffic volumes to develop the 2027 and 2037 Build Conditions traffic volumes, which are presented in Figures 7 and 8, respectively.

5.1 Capacity and Queue Analyses - Build Condition

Capacity and queue analyses were conducted for the 2027 and 2037 Build Conditions for the peak hours using the methodology described in Section 2.4. Tables 1 and 2 in Section 7 summarize the capacity and queue results, respectively. Capacity analysis worksheets with full inputs, settings, and results are provided in Appendix D. Based on how HCM analysis results are calculated, some intersections show significant improvements in LOS and Queueing between the No Build and Build Conditions.

All the study area intersections and a majority of the individual intersection approaches continue to operate at acceptable LOS D or better during the peak hours in the 2027 and 2037 Build Conditions. All study area intersections that were identified in Section 2.4 and 3.2 to operate at LOS E or LOS F in the 2027 No-Build Conditions continue to operate at the same LOS under 2027 Build Conditions, with the exception of the following:

- **Woodbury Avenue at Arthur F Brady Drive/ Portsmouth Plaza Driveway**
    - The Woodbury Avenue northbound left-turn movement degrades from LOS D to E during the weekday afternoon and Saturday midday peak hour in 2027.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Woodbury Avenue eastbound left-turn movement degrades from LOS E to F during the Saturday midday peak hour in 2027.

The study area intersections identified to operate at LOS E or LOS F in the 2037 No-Build Conditions continue to operate at the same LOS under the 2037 Build Conditions, with the exception of the following:

- **Woodbury Avenue at Commerce Way/ Durgin Square Plaza Driveway**
    - The Woodbury Avenue southbound left-turn movement degrades from LOS E to F during the weekday afternoon and from LOS D to E during the Saturday midday peak hour in 2037.
- **Woodbury Avenue at Market Street/ Market Basket Driveway**
    - The Woodbury Avenue northbound shared through and right-turn movement degrades from LOS D to E during the weekday afternoon peak hour in 2037.

Design queues on all intersection approaches for the Build Conditions increased by less than two vehicle lengths or experience increases in design queues that are accommodated within available storage when compared to 2027 and 2037 No-Build Conditions.

Section 6
Conclusions & Recommendations

1. The project proposes to construct 274 residential units spread over three six-story buildings. Approximately 298 parking spaces will be provided on site via surface and underground parking. The development is expected to be complete and occupied in 2027.

2. Access to the site will be provided via the two unsignalized driveways on Portsmouth Boulevard on the east and west corners of the parcel.

3. Based on ITE data, the proposed project is expected to generate 109 trips (25 entering, 84 exiting) during the weekday morning peak hour, 107 trips (65 entering, 42 exiting) during the weekday afternoon peak hour, and 110 trips (56 entering, 54 exiting) during the Saturday midday peak hour.

4. The project proposes internal sidewalk connections throughout the site which connect to the existing sidewalk on Portsmouth Boulevard to promote pedestrian safety and mobility, and provide connection to nearby transit facilities

5. Consistent with NHDOT guidelines, existing traffic volumes have been seasonally adjusted to the peak month condition.

6. The capacity analyses show that the study area intersections will generally continue to operate at the same LOS under Build Conditions as compared to the No-Build Conditions for both the 2027 opening year and 2037 design year, with minor increases in delay. A review of design queues indicates minor increases of two vehicles of less in the 2027 and 2037 Build Conditions compared to the corresponding No Build Conditions.

7. Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the addition of site-generated traffic is expected to have a negligible effect on traffic operations within the study area as compared to the current vacant site condition.

Section 7
Tables

TABLE 1
Intersection Operation Summary - Capacity

		Weekday Morning Peak Hour														
	Lane Use	2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway																
Overall		**C**	**24.3**	**0.50**	**C**	**21.4**	**0.51**	**C**	**21.9**	**0.51**	**C**	**26.6**	**0.56**	**C**	**27.2**	**0.56**
Durgin Square Plaza Driveway	EBLT	F	262.0	1.00	F	194.9	0.86	F	194.9	0.86	F	296.1	1.07	F	296.1	1.07
	EBR	C	26.9	0.01	C	27.7	0.01	C	27.6	0.01	C	27.9	0.01	C	27.9	0.01
Commerce Way	WBLT	D	45.9	0.44	D	42.3	0.35	D	42.2	0.35	D	49.5	0.47	D	49.5	0.47
	WBR	C	20.2	0.04	C	20.8	0.03	C	20.7	0.03	C	20.9	0.03	C	20.9	0.03
Woodbury Avenue	NBL	C	29.3	0.23	C	30.3	0.25	C	30.2	0.25	C	31.1	0.29	C	31.1	0.29
	NBTR	B	15.1	0.35	B	14.9	0.35	B	14.9	0.35	B	15.1	0.38	B	15.2	0.38
	SBL	D	52.7	0.90	D	49.6	0.87	D	51.9	0.89	E	69.3	0.96	E	72.1	0.97
	SBTR	B	10.2	0.32	B	10.2	0.36	B	10.2	0.36	B	10.3	0.38	B	10.3	0.38
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway																
Overall		**C**	**23.4**	**0.44**	**C**	**24.1**	**0.49**	**C**	**24.3**	**0.50**	**C**	**24.7**	**0.52**	**C**	**24.9**	**0.54**
Arthur F Brady Drive	EBLT	C	29.1	0.45	C	30.8	0.49	C	31.4	0.50	C	33.3	0.55	C	34.1	0.56
	EBR	B	17.7	0.07	B	18.7	0.07	B	18.6	0.07	B	19.3	0.08	B	19.2	0.08
Portsmouth Plaza Driveway	WBLT	C	31.6	0.30	C	32.9	0.31	C	33.3	0.32	C	34.2	0.35	C	34.4	0.35
	WBR	C	22.5	0.02	C	23.4	0.02	C	23.8	0.02	C	24.2	0.03	C	24.4	0.03
Woodbury Avenue	NBL	C	26.3	0.44	C	27.5	0.45	C	27.6	0.49	C	28.4	0.48	C	28.9	0.53
	NBTR	C	20.0	0.35	B	19.7	0.34	B	19.4	0.33	B	19.6	0.36	B	19.4	0.35
	SBL	C	27.1	0.21	C	28.2	0.22	C	28.6	0.22	C	29.3	0.25	C	29.5	0.25
	SBTR	C	24.4	0.59	C	25.2	0.65	C	25.7	0.65	C	25.7	0.67	C	26.1	0.67
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway																
Overall		**C**	**21.1**	**0.37**	**C**	**20.8**	**0.36**	**C**	**21.4**	**0.38**	**C**	**21.4**	**0.40**	**C**	**22.1**	**0.42**
Woodbury Avenue	EBL	D	42.0	0.18	D	42.4	0.18	D	42.8	0.18	D	44.0	0.19	D	43.9	0.19
	EBT	C	20.8	0.34	C	20.8	0.36	C	21.0	0.36	C	21.1	0.38	C	21.8	0.40
	EBR	B	10.6	0.13	B	10.6	0.16	B	10.7	0.16	B	10.7	0.17	B	11.0	0.17
	NBL	C	31.4	0.22	C	31.8	0.24	C	32.1	0.24	C	32.5	0.26	C	32.2	0.25
	NBTR	C	31.6	0.21	C	32.3	0.25	C	32.6	0.26	C	33.2	0.30	C	33.0	0.30
Market Street	WBL	D	35.1	0.50	D	35.3	0.48	D	38.5	0.59	D	37.4	0.54	D	40.4	0.62
	WBTR	B	16.9	0.37	B	16.7	0.36	B	16.7	0.37	B	17.0	0.39	B	17.2	0.41
Market Basket Driveway	SBL	C	34.3	0.41	C	34.5	0.39	D	35.1	0.40	D	35.5	0.42	D	35.6	0.43
	SBTR	C	32.9	0.26	C	33.4	0.25	C	33.9	0.26	C	34.2	0.27	C	34.2	0.27
Traffic Signal - Market Street at Portsmouth Boulevard																
Overall		**A**	**8.8**	**0.35**	**A**	**8.7**	**0.38**	**A**	**9.7**	**0.38**	**A**	**8.9**	**0.39**	**A**	**9.9**	**0.39**
Market Street	EBL	C	23.8	0.49	C	24.0	0.50	C	30.4	0.60	C	26.4	0.55	C	22.0	0.41
	EBT	A	4.9	0.21	A	5.0	0.23	A	5.4	0.24	A	5.1	0.26	A	5.3	0.25
	WBT	B	10.7	0.40	B	10.7	0.41	B	11.3	0.42	B	11.0	0.45	B	12.3	0.47
	WBR	A	5.3	0.13	A	5.2	0.13	A	5.2	0.14	A	5.3	0.15	A	5.8	0.15
Portsmouth Boulevard	SBL	B	15.4	0.11	B	15.4	0.10	B	15.3	0.18	B	15.4	0.11	B	16.5	0.19
	SBR	B	15.1	0.04	B	15.2	0.03	B	14.9	0.06	B	15.1	0.04	B	16.1	0.06
Traffic Signal - Market Street at I-95 SB Ramps																
Overall		**B**	**19.0**	**0.35**	**B**	**18.6**	**0.47**	**B**	**18.2**	**0.47**	**B**	**19.0**	**0.49**	**B**	**18.8**	**0.49**
Market Street	EBT	B	12.6	0.16	B	12.3	0.18	B	12.1	0.19	B	13.0	0.20	B	12.9	0.21
	EBR	A	0.1	0.06	A	0.1	0.06	A	0.1	0.07	A	0.1	0.07	A	0.1	0.08
	WBL	D	47.0	0.56	D	46.5	0.56	D	46.0	0.56	D	45.4	0.59	D	44.7	0.59
	WBT	A	5.9	0.20	A	6.1	0.21	A	6.3	0.21	A	7.4	0.23	A	8.1	0.23
I-95 SB Off-Ramp	SBL	D	38.4	0.63	D	38.3	0.62	D	38.3	0.62	D	38.4	0.65	D	38.4	0.65
	SBT	C	31.9	0.20	C	31.9	0.20	C	32.0	0.20	C	31.3	0.21	C	31.3	0.21
	SBR	C	31.2	0.12	C	31.3	0.12	C	31.3	0.12	C	30.5	0.13	C	30.6	0.13
Traffic Signal - Market Street at I-95 NB Ramps																
Overall		**B**	**18.7**	**0.33**	**B**	**18.6**	**0.47**	**B**	**18.6**	**0.47**	**B**	**19.4**	**0.49**	**B**	**19.5**	**0.49**
Market Street	EBL	C	28.9	0.43	C	28.5	0.44	C	28.2	0.44	C	28.1	0.46	C	27.8	0.47
	EBT	A	2.9	0.21	A	3.0	0.22	A	3.0	0.24	A	3.3	0.25	A	3.6	0.27
	WBT	B	12.6	0.20	B	12.9	0.21	B	13.0	0.21	B	14.3	0.24	B	14.7	0.25
	WBR	B	11.4	0.03	B	11.6	0.03	B	11.7	0.03	B	12.6	0.04	B	12.9	0.04
I-95 NB Off-Ramp	NBLT	D	36.2	0.59	D	36.3	0.60	D	36.5	0.60	D	35.2	0.60	C	34.6	0.60
	NBR	C	31.9	0.30	C	33.0	0.42	C	33.6	0.47	D	35.4	0.60	D	36.0	0.63
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive																
Portsmouth Boulevard	NBL	B	11.1	0.35	B	10.4	0.29	B	10.7	0.30	B	10.9	0.33	B	11.2	0.34
	NBTR	A	8.6	0.18	A	8.4	0.15	A	8.8	0.19	A	8.6	0.17	A	9.0	0.21
	SBLT	A	8.2	0.02	A	8.0	0.02	A	8.9	0.14	A	8.2	0.02	A	9.1	0.14
	SBR	A	7.4	0.01	A	7.3	0.01	A	7.4	0.01	A	7.4	0.01	A	7.5	0.01
Commerce Way	EBLT	A	9.2	0.06	A	8.9	0.05	A	9.3	0.06	A	9.1	0.05	A	9.5	0.06
	EBR	A	7.8	0.02	A	7.6	0.01	A	8.0	0.01	A	7.8	0.02	A	8.1	0.02
Osprey Drive	WB	A	10.0	0.18	A	9.7	0.17	B	10.3	0.20	A	10.0	0.20	B	10.6	0.22
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway																
Western Site Driveway	WB	--	--	--	--	--	--	A	8.9	0.08	--	--	--	A	8.9	0.08
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway																
Northern Site Driveway	NB	--	--	--	--	--	--	A	8.3	0.01	--	--	--	A	8.3	0.01

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 1 (CONTINUED)
Intersection Operation Summary - Capacity

		Weekday Afternoon Peak Hour														
	Lane Use	2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway																
Overall		**C**	**34.3**	**0.70**	**C**	**30.8**	**0.70**	**C**	**31.4**	**0.71**	**C**	**34.4**	**0.75**	**D**	**35.7**	**0.76**
Durgin Square Plaza Driveway	EBLT	F	177.6	1.10	F	122.9	0.94	F	122.9	0.94	F	174.9	1.09	F	174.9	1.09
	EBR	C	27.7	0.08	C	26.1	0.07	C	26.1	0.07	C	28.1	0.07	C	28.2	0.07
Commerce Way	WBLT	C	35.0	0.51	D	36.7	0.50	D	36.7	0.50	D	41.1	0.56	D	41.2	0.56
	WBR	C	24.8	0.18	C	25.7	0.12	C	25.7	0.12	C	27.4	0.14	C	27.5	0.14
Woodbury Avenue	NBL	D	40.6	0.61	D	37.6	0.58	D	37.6	0.58	D	45.5	0.68	D	45.5	0.68
	NBTR	C	24.4	0.59	C	22.8	0.60	C	22.8	0.60	C	22.6	0.62	C	22.6	0.61
	SBL	E	57.7	0.80	D	50.9	0.76	E	58.8	0.82	E	73.9	0.89	F	91.4	0.95
	SBTR	C	28.6	0.77	C	27.3	0.78	C	27.4	0.79	C	27.4	0.80	C	27.4	0.80
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway																
Overall		**C**	**33.1**	**0.70**	**C**	**33.7**	**0.72**	**C**	**34.2**	**0.72**	**D**	**39.2**	**0.77**	**D**	**40.3**	**0.78**
Arthur F Brady Drive	EBLT	E	72.2	0.84	E	76.1	0.85	E	76.1	0.85	F	126.3	1.02	F	126.5	1.02
	EBR	C	27.5	0.14	C	28.6	0.14	C	28.6	0.14	C	31.8	0.15	C	31.9	0.15
Portsmouth Plaza Driveway	WBLT	D	38.7	0.56	D	40.6	0.57	D	40.6	0.57	D	47.6	0.66	D	48.1	0.66
	WBR	C	25.0	0.08	C	25.8	0.08	C	25.9	0.08	C	28.0	0.09	C	28.2	0.09
Woodbury Avenue	NBL	D	49.3	0.75	D	54.1	0.79	E	59.4	0.83	F	88.6	0.95	F	101.7	0.99
	NBTR	C	23.9	0.51	C	24.1	0.53	C	24.0	0.53	C	23.9	0.53	C	23.8	0.53
	SBL	D	36.6	0.45	D	37.8	0.48	D	37.8	0.48	D	41.4	0.53	D	41.6	0.53
	SBTR	C	31.6	0.81	C	31.6	0.81	C	31.6	0.81	C	30.4	0.80	C	30.2	0.80
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway																
Overall		**C**	**27.7**	**0.60**	**C**	**28.5**	**0.63**	**C**	**29.5**	**0.65**	**C**	**30.7**	**0.67**	**C**	**32.1**	**0.69**
Woodbury Avenue	EBL	E	60.2	0.45	E	60.8	0.45	E	61.7	0.45	E	71.1	0.53	E	67.3	0.50
	EBT	C	28.1	0.66	C	28.8	0.67	C	29.1	0.67	C	31.2	0.73	C	32.6	0.74
	EBR	B	12.9	0.22	B	13.2	0.23	B	13.3	0.23	B	13.9	0.25	B	14.7	0.25
	NBL	D	39.3	0.48	D	40.3	0.52	D	40.7	0.51	D	42.7	0.57	D	44.5	0.58
	NBTR	D	41.1	0.52	D	43.2	0.57	D	47.0	0.63	D	48.5	0.65	E	57.3	0.73
Market Street	WBL	D	47.4	0.60	D	48.7	0.62	D	54.2	0.68	D	53.8	0.67	D	48.0	0.60
	WBTR	C	21.6	0.52	C	22.5	0.56	C	22.5	0.56	C	23.9	0.61	C	23.3	0.59
Market Basket Driveway	SBL	D	42.5	0.65	D	43.5	0.67	D	44.8	0.68	D	46.3	0.71	D	50.8	0.74
	SBTR	D	35.7	0.28	D	36.0	0.30	D	36.9	0.30	D	37.0	0.32	D	39.0	0.33
Traffic Signal - Market Street at Portsmouth Boulevard																
Overall		**B**	**11.5**	**0.54**	**B**	**10.5**	**0.45**	**B**	**11.5**	**0.46**	**B**	**11.2**	**0.48**	**B**	**12.5**	**0.48**
Market Street	EBL	C	29.5	0.53	C	29.6	0.53	C	25.7	0.49	C	25.2	0.38	C	24.6	0.39
	EBT	A	7.3	0.48	A	6.5	0.48	A	6.7	0.47	A	6.7	0.51	A	6.8	0.50
	WBT	B	13.0	0.55	B	11.9	0.54	B	13.8	0.58	B	13.5	0.61	B	15.8	0.64
	WBR	A	4.2	0.04	A	4.3	0.04	A	5.0	0.05	A	4.7	0.04	A	5.5	0.06
Portsmouth Boulevard	SBL	B	17.6	0.41	B	18.2	0.34	B	18.9	0.36	B	19.4	0.38	C	20.6	0.40
	SBR	B	16.0	0.08	B	17.0	0.06	B	17.6	0.07	B	18.0	0.06	B	19.0	0.08
Traffic Signal - Market Street at I-95 SB Ramps																
Overall		**B**	**17.7**	**0.56**	**B**	**17.6**	**0.54**	**B**	**17.4**	**0.55**	**B**	**18.2**	**0.58**	**B**	**18.1**	**0.59**
Market Street	EBT	B	17.6	0.44	B	17.3	0.45	B	17.3	0.46	B	19.2	0.53	B	18.9	0.53
	EBR	A	0.1	0.12	A	0.1	0.12	A	0.1	0.13	A	0.1	0.14	A	0.2	0.14
	WBL	C	30.0	0.75	C	30.7	0.76	C	30.9	0.76	C	30.9	0.79	C	32.0	0.80
	WBT	A	1.0	0.22	A	1.4	0.23	A	1.2	0.25	A	0.6	0.26	A	0.6	0.27
I-95 SB Off-Ramp	SBL	D	39.1	0.66	D	39.4	0.66	D	39.4	0.66	D	40.1	0.69	D	40.8	0.70
	SBT	C	32.4	0.30	C	32.5	0.31	C	32.5	0.31	C	32.3	0.36	C	32.5	0.37
	SBR	C	30.9	0.12	C	31.0	0.12	C	31.0	0.13	C	30.4	0.14	C	30.5	0.14
Traffic Signal - Market Street at I-95 NB Ramps																
Overall		**C**	**20.4**	**0.50**	**B**	**19.6**	**0.54**	**B**	**19.9**	**0.55**	**C**	**20.5**	**0.58**	**C**	**20.6**	**0.59**
Market Street	EBL	C	27.9	0.69	C	27.4	0.70	C	27.7	0.71	C	25.7	0.68	C	25.7	0.68
	EBT	A	9.7	0.25	A	9.6	0.26	A	10.0	0.27	B	10.3	0.29	B	10.3	0.30
	WBT	B	18.1	0.41	B	18.1	0.43	B	18.4	0.44	C	21.1	0.51	C	21.5	0.53
	WBR	B	15.4	0.13	B	15.2	0.13	B	15.3	0.13	B	17.1	0.15	B	17.2	0.15
I-95 NB Off-Ramp	NBLT	D	38.0	0.49	D	37.7	0.43	D	37.8	0.45	D	37.8	0.46	D	38.1	0.48
	NBR	C	34.6	0.15	C	34.9	0.12	C	34.7	0.12	C	34.7	0.13	C	34.6	0.13
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive																
Portsmouth Boulevard	NBL	A	9.2	0.04	A	8.8	0.03	A	8.9	0.03	A	8.9	0.04	A	9.1	0.04
	NBTR	A	8.7	0.13	A	8.1	0.10	A	9.1	0.19	A	8.3	0.11	A	9.4	0.21
	SBLT	A	9.4	0.16	A	8.8	0.12	A	9.4	0.19	A	9.0	0.14	A	9.7	0.21
	SBR	A	7.9	0.05	A	7.5	0.04	A	7.7	0.04	A	7.6	0.04	A	7.8	0.04
Commerce Way	EBLT	A	8.9	0.14	A	8.4	0.09	A	9.0	0.11	A	8.6	0.10	A	9.2	0.13
	EBR	A	9.3	0.31	A	8.2	0.20	A	8.7	0.22	A	8.5	0.23	A	9.0	0.24
Osprey Drive	WB	A	9.3	0.10	A	8.9	0.09	A	9.4	0.10	A	9.1	0.10	A	9.6	0.11
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway																
Western Site Driveway	WB	--	--	--	--	--	--	A	8.8	0.04	--	--	--	A	8.8	0.04
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway																
Northern Site Driveway	NB	--	--	--	--	--	--	A	8.3	0.00	--	--	--	A	8.3	0.00

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 1 (CONTINUED)
Intersection Operation Summary - Capacity

		Saturday Midday Peak Hour														
	Lane Use	2025 Existing			2027 No Build			2027 Build			2037 No Build			2037 Build		
		LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway																
Overall		**C**	**31.1**	**0.70**	**C**	**29.9**	**0.70**	**C**	**30.2**	**0.71**	**C**	**33.1**	**0.75**	**C**	**33.6**	**0.76**
Durgin Square Plaza Driveway	EBLT	F	176.5	1.15	F	159.2	1.09	F	159.2	1.09	F	207.7	1.22	F	207.7	1.22
	EBR	C	21.9	0.08	C	22.4	0.08	C	22.5	0.08	C	24.2	0.09	C	24.2	0.09
Commerce Way	WBLT	D	37.5	0.40	D	37.8	0.38	D	37.8	0.38	D	41.0	0.47	D	41.1	0.47
	WBR	C	25.1	0.05	C	25.6	0.05	C	25.7	0.05	C	27.2	0.06	C	27.3	0.06
Woodbury Avenue	NBL	C	33.2	0.59	C	34.1	0.59	C	34.4	0.60	D	42.2	0.70	D	42.3	0.70
	NBTR	C	21.4	0.64	C	21.4	0.64	C	21.2	0.64	C	21.1	0.66	C	21.1	0.65
	SBL	D	37.2	0.67	D	37.9	0.67	D	41.7	0.72	D	50.2	0.78	E	56.3	0.83
	SBTR	C	23.4	0.73	C	23.8	0.75	C	23.7	0.75	C	23.8	0.76	C	23.8	0.76
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway																
Overall		**D**	**36.3**	**0.70**	**D**	**38.9**	**0.73**	**D**	**39.4**	**0.74**	**D**	**45.2**	**0.79**	**D**	**46.3**	**0.80**
Arthur F Brady Drive	EBLT	F	112.2	1.01	F	137.1	1.09	F	137.1	1.09	F	197.8	1.25	F	197.8	1.25
	EBR	C	26.0	0.14	C	27.0	0.15	C	27.0	0.15	C	28.9	0.18	C	28.9	0.19
Portsmouth Plaza Driveway	WBLT	D	37.8	0.59	D	39.4	0.60	D	39.4	0.60	D	45.2	0.68	D	45.2	0.68
	WBR	C	22.3	0.09	C	22.8	0.09	C	22.8	0.09	C	23.8	0.10	C	23.8	0.10
Woodbury Avenue	NBL	D	44.9	0.73	D	49.4	0.76	E	55.1	0.81	E	67.1	0.87	E	79.9	0.93
	NBTR	C	28.7	0.67	C	29.3	0.70	C	29.3	0.70	C	30.1	0.73	C	30.0	0.72
	SBL	D	35.2	0.54	D	36.4	0.56	D	36.4	0.56	D	39.3	0.61	D	39.3	0.61
	SBTR	C	30.9	0.77	C	31.4	0.79	C	31.6	0.79	C	31.8	0.81	C	31.8	0.81
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway																
Overall		**C**	**27.7**	**0.62**	**C**	**27.2**	**0.62**	**C**	**27.6**	**0.63**	**C**	**28.9**	**0.67**	**C**	**29.5**	**0.68**
Woodbury Avenue	EBL	E	76.2	0.57	E	76.8	0.57	F	85.1	0.60	F	93.7	0.64	F	105.2	0.67
	EBT	C	26.4	0.54	C	25.9	0.54	C	26.1	0.54	C	26.9	0.58	C	27.3	0.59
	EBR	B	13.3	0.20	B	12.9	0.22	B	13.0	0.22	B	13.4	0.24	B	13.6	0.24
	NBL	D	38.2	0.45	D	38.7	0.46	D	39.3	0.47	D	41.1	0.52	D	41.5	0.52
	NBTR	D	38.2	0.37	D	39.1	0.42	D	40.5	0.49	D	41.6	0.48	D	43.2	0.54
Market Street	WBL	D	41.6	0.46	D	42.2	0.46	D	44.1	0.54	D	45.4	0.52	D	48.4	0.59
	WBTR	C	25.0	0.67	C	24.2	0.66	C	24.1	0.66	C	26.1	0.72	C	26.1	0.72
Market Basket Driveway	SBL	D	40.4	0.66	D	41.8	0.65	D	42.7	0.66	D	45.0	0.69	D	45.5	0.70
	SBTR	C	33.9	0.33	D	35.4	0.34	D	36.0	0.34	D	36.7	0.37	D	37.0	0.37
Traffic Signal - Market Street at Portsmouth Boulevard																
Overall		**A**	**7.8**	**0.47**	**A**	**7.5**	**0.47**	**A**	**8.4**	**0.51**	**A**	**7.5**	**0.52**	**A**	**8.8**	**0.55**
Market Street	EBL	E	66.3	0.68	E	66.4	0.68	C	28.8	0.53	C	27.0	0.35	C	25.3	0.39
	EBT	A	4.1	0.35	A	4.0	0.37	A	4.2	0.37	A	4.0	0.40	A	4.1	0.40
	WBT	A	8.3	0.50	A	8.1	0.50	A	9.6	0.54	A	9.0	0.55	B	10.7	0.59
	WBR	A	3.7	0.02	A	3.7	0.02	A	4.3	0.03	A	4.0	0.02	A	4.7	0.04
Portsmouth Boulevard	SBL	C	20.1	0.14	C	20.3	0.12	C	20.5	0.20	C	21.7	0.13	C	22.1	0.22
	SBR	B	19.8	0.04	C	20.1	0.03	B	19.9	0.05	C	21.4	0.03	C	21.5	0.05
Traffic Signal - Market Street at I-95 SB Ramps																
Overall		**B**	**19.1**	**0.39**	**B**	**19.0**	**0.40**	**B**	**18.6**	**0.41**	**B**	**19.3**	**0.44**	**B**	**19.0**	**0.45**
Market Street	EBT	B	11.4	0.29	B	10.7	0.30	B	10.7	0.30	B	12.6	0.35	B	12.6	0.35
	EBR	A	0.1	0.08	A	0.1	0.09	A	0.1	0.09	A	0.1	0.09	A	0.1	0.10
	WBL	E	62.2	0.55	E	69.0	0.61	E	67.5	0.61	E	65.7	0.56	E	64.9	0.56
	WBT	A	2.8	0.19	A	2.7	0.19	A	3.0	0.20	A	2.8	0.22	A	3.1	0.23
I-95 SB Off-Ramp	SBL	D	43.1	0.62	D	43.2	0.62	D	43.2	0.62	D	42.4	0.64	D	42.4	0.64
	SBT	D	36.9	0.23	D	36.8	0.24	D	36.8	0.24	D	35.8	0.25	D	35.8	0.25
	SBR	D	36.2	0.15	D	36.0	0.15	D	36.0	0.15	D	35.0	0.17	D	35.0	0.17
Traffic Signal - Market Street at I-95 NB Ramps																
Overall		**C**	**23.1**	**0.39**	**C**	**22.3**	**0.38**	**C**	**22.3**	**0.39**	**C**	**22.7**	**0.42**	**C**	**22.7**	**0.43**
Market Street	EBL	D	52.4	0.71	D	50.4	0.71	D	51.0	0.71	D	50.2	0.72	D	50.5	0.72
	EBT	A	2.4	0.22	A	2.3	0.22	A	2.4	0.22	A	2.3	0.24	A	2.4	0.25
	WBT	B	14.4	0.29	B	13.7	0.28	B	14.0	0.29	B	15.0	0.32	B	15.3	0.33
	WBR	B	12.6	0.09	B	12.1	0.08	B	12.2	0.08	B	13.0	0.09	B	13.1	0.09
I-95 NB Off-Ramp	NBLT	D	41.6	0.28	D	41.8	0.30	D	41.8	0.32	D	41.8	0.32	D	41.9	0.34
	NBR	D	40.4	0.14	D	40.4	0.14	D	40.2	0.14	D	40.3	0.16	D	40.2	0.16
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive																
Portsmouth Boulevard	NBL	A	8.2	0.02	A	8.1	0.02	A	8.2	0.02	A	8.2	0.02	A	8.3	0.02
	NBTR	A	7.3	0.03	A	7.2	0.03	A	8.0	0.10	A	7.3	0.04	A	8.0	0.11
	SBLT	A	7.8	0.03	A	7.8	0.02	A	8.2	0.10	A	7.8	0.03	A	8.3	0.10
	SBR	A	6.9	0.01	A	6.9	0.01	A	7.0	0.01	A	6.9	0.01	A	7.0	0.01
Commerce Way	EBLT	A	7.8	0.05	A	7.7	0.04	A	8.2	0.06	A	7.8	0.05	A	8.3	0.06
	EBR	A	6.8	0.01	A	6.8	0.01	A	7.1	0.01	A	6.8	0.01	A	7.1	0.01
Osprey Drive	WB	A	8.3	0.10	A	8.2	0.08	A	8.6	0.09	A	8.3	0.09	A	8.7	0.10
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway																
Western Site Driveway	WB	--	--	--	--	--	--	A	8.9	0.05	--	--	--	A	8.9	0.05
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway																
Northern Site Driveway	NB	--	--	--	--	--	--	A	8.3	0.01	--	--	--	A	8.3	0.01

Legend
LOS - Level of Service
Delay - average delay per vehicle in seconds
V/C - volume to capacity ratio

TABLE 2
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Weekday Morning Peak Hour									
			2025 Existing		2027 No Build		2027 Build		2037 No Build		2037 Build	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway												
Durgin Square Plaza Driveway	EBLT	150	2	26	2	28	2	28	2	33	2	33
	EBR	125	0	0	0	0	0	0	0	0	0	0
Commerce Way	WBLT	350	1	16	1	18	1	18	1	22	1	22
	WBR	150	0	0	0	2	0	2	0	4	0	4
Woodbury Avenue	NBL	200	2	33	2	34	2	34	3	39	3	40
	NBTR	375	22	166	24	174	24	174	26	192	26	192
	SBL	200	33	407	31	420	32	430	35	477	36	487
	SBTR	475	0	204	0	245	0	245	0	269	0	270
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway												
Arthur F Brady Drive	EBLT	975	31	149	35	170	35	170	39	190	39	191
	EBR	125	0	12	0	13	0	13	0	17	0	18
Portsmouth Plaza Driveway	WBLT	75	11	50	12	54	12	54	13	58	13	58
	WBR	75	0	0	0	0	0	0	0	0	0	0
Woodbury Avenue	NBL	350	40	165	42	180	49	215	48	210	55	246
	NBTR	650	47	138	51	147	51	147	57	163	57	163
	SBL	275	14	60	15	65	15	65	17	71	17	71
	SBTR	375	76	193	96	236	96	236	107	259	107	260
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway												
Woodbury Avenue	EBL	225	1	12	1	12	1	12	1	12	1	12
	EBT	650	60	157	65	174	67	175	74	191	77	192
	EBR	225	0	43	0	51	0	51	0	53	0	53
	NBL	275	13	49	14	53	15	53	17	58	17	59
	NBTR	300	10	66	13	75	14	78	17	87	18	90
Market Street	WBL	300	27	98	26	100	35	124	31	112	40	144
	WBTR	625	54	196	53	201	57	210	62	224	65	234
Market Basket Driveway	SBL	50	23	78	22	85	22	85	25	93	26	93
	SBTR	50	15	57	14	64	15	64	16	68	16	68
Traffic Signal - Market Street at Portsmouth Boulevard												
Market Street	EBL	225	6	47	6	48	8	57	7	51	15	61
	EBT	600	20	37	22	41	23	45	25	45	26	52
	WBT	>1000	26	94	26	96	27	103	29	108	63	118
	WBR	225	0	17	0	17	0	18	0	18	0	19
Portsmouth Boulevard	SBL	225	4	26	3	27	7	43	4	28	13	45
	SBR	225	0	26	0	28	0	38	0	30	0	39
Traffic Signal - Market Street at I-95 SB Ramps												
Market Street	EBT	250	50	86	55	94	58	99	63	106	67	112
	EBR	275	0	0	0	0	0	0	0	0	0	0
	WBL	225	55	98	55	98	55	96	61	101	0	96
	WBT	325	25	125	25	131	26	133	30	142	31	144
I-95 SB Off-Ramp	SBL	400	104	156	103	157	103	157	113	169	113	169
	SBT	975	14	65	14	67	14	67	14	70	14	70
	SBR	400	0	49	0	50	0	50	0	51	0	51
Traffic Signal - Market Street at I-95 NB Ramps												
Market Street	EBL	325	26	60	26	52	26	47	28	49	28	43
	EBT	325	3	107	3	118	3	7	4	10	5	15
	WBT	>1000	52	102	55	106	57	109	65	124	67	129
	WBR	325	0	5	0	5	0	5	0	9	0	9
I-95 NB Off-Ramp	NBLT	>1000	105	152	107	155	109	158	117	164	119	164
	NBR	150	12	79	33	107	44	121	73	157	85	166
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive												
Portsmouth Boulevard	NBL	125	--	38	--	30	--	33	--	35	--	38
	NBTR	600	--	18	--	13	--	18	--	15	--	20
	SBLT	300	--	3	--	0	--	13	--	0	--	13
	SBR	125	--	0	--	0	--	0	--	0	--	0
Commerce Way	EBLT	75	--	5	--	3	--	5	--	5	--	5
	EBR	125	--	3	--	0	--	0	--	0	--	0
Osprey Drive	WB	200	--	15	--	15	--	18	--	18	--	20
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway												
Western Site Driveway	WB	175	--	--	--	--	--	8	--	--	--	8
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway												
Northern Site Driveway	NB	50	--	--	--	--	--	0	--	--	--	0

Legend
50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 2 (CONTINUED)
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	2025 Existing 50th	2025 Existing 95th	2027 No Build 50th	2027 No Build 95th	2027 Build 50th	2027 Build 95th	2037 No Build 50th	2037 No Build 95th	2037 Build 50th	2037 Build 95th
			Weekday Afternoon Peak Hour									
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway												
Durgin Square Plaza Driveway	EBLT	150	38	165	31	175	31	175	41	190	41	190
	EBR	125	0	19	0	27	0	27	0	28	0	28
Commerce Way	WBLT	350	41	95	28	103	29	103	34	114	34	114
	WBR	150	0	0	0	39	0	39	0	41	0	41
Woodbury Avenue	NBL	200	48	210	49	215	49	215	58	240	59	240
	NBTR	375	125	290	131	318	131	318	150	356	150	356
	SBL	200	62	275	63	280	69	304	76	310	82	332
	SBTR	475	173	392	183	434	184	436	211	520	212	523
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway												
Arthur F Brady Drive	EBLT	975	61	228	62	240	62	240	75	264	75	264
	EBR	125	0	28	0	34	0	35	0	36	0	36
Portsmouth Plaza Driveway	WBLT	75	55	184	57	189	57	189	70	215	70	215
	WBR	75	0	27	0	27	0	27	0	28	0	28
Woodbury Avenue	NBL	350	82	297	87	303	93	321	108	341	113	356
	NBTR	650	112	268	124	297	124	297	141	334	141	334
	SBL	275	43	122	48	128	48	128	57	138	58	138
	SBTR	375	195	413	213	475	214	478	244	559	245	561
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway												
Woodbury Avenue	EBL	225	5	24	5	24	5	24	5	26	5	26
	EBT	650	183	406	187	426	192	432	220	491	224	496
	EBR	225	0	54	0	62	0	62	1	66	2	69
	NBL	275	44	103	51	113	51	113	57	123	58	123
	NBTR	300	46	151	52	172	59	202	62	203	70	233
Market Street	WBL	300	44	118	46	120	52	133	52	130	58	152
	WBTR	625	117	332	128	373	132	382	152	442	154	450
Market Basket Driveway	SBL	50	89	204	95	221	96	221	107	262	108	262
	SBTR	50	36	101	41	110	41	110	46	120	46	120
Traffic Signal - Market Street at Portsmouth Boulevard												
Market Street	EBL	225	9	51	9	50	21	71	15	54	24	76
	EBT	600	72	139	71	126	73	132	84	148	87	162
	WBT	>1000	54	178	53	173	104	186	115	199	121	221
	WBR	225	0	9	0	9	0	12	0	10	0	13
Portsmouth Boulevard	SBL	225	27	70	19	75	35	86	34	82	40	93
	SBR	225	0	14	0	37	0	41	0	38	0	42
Traffic Signal - Market Street at I-95 SB Ramps												
Market Street	EBT	250	139	198	146	203	149	206	179	219	182	219
	EBR	275	0	0	0	0	0	0	0	0	0	0
	WBL	225	122	213	89	222	71	225	66	260	66	261
	WBT	325	5	3	1	1	1	1	1	1	1	1
I-95 SB Off-Ramp	SBL	400	115	173	115	173	115	174	125	198	125	201
	SBT	975	31	91	31	91	31	92	41	110	41	113
	SBR	400	0	52	0	52	0	52	0	56	0	57
Traffic Signal - Market Street at I-95 NB Ramps												
Market Street	EBL	325	151	201	152	209	153	211	171	237	171	246
	EBT	325	143	207	151	222	157	226	171	241	174	245
	WBT	>1000	128	203	136	210	142	215	163	226	170	231
	WBR	325	0	47	0	46	0	46	0	46	0	46
I-95 NB Off-Ramp	NBLT	>1000	64	88	53	95	57	100	58	103	62	108
	NBR	150	0	26	0	56	0	56	0	58	0	58
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive												
Portsmouth Boulevard	NBL	125	--	3	--	3	--	3	--	3	--	3
	NBTR	600	--	10	--	8	--	18	--	10	--	20
	SBLT	300	--	15	--	10	--	18	--	13	--	20
	SBR	125	--	3	--	3	--	3	--	3	--	3
Commerce Way	EBLT	75	--	13	--	8	--	10	--	8	--	10
	EBR	125	--	33	--	18	--	20	--	23	--	23
Osprey Drive	WB	200	--	8	--	8	--	8	--	8	--	10
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway												
Western Site Driveway	WB	175	--	--	--	--	--	3	--	--	--	3
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway												
Northern Site Driveway	NB	50	--	--	--	--	--	0	--	--	--	0

Legend
50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 2 (CONTINUED)
Intersection Operation Summary - Queues (In Feet)

	Lane Use	Available Storage	Saturday Midday Peak Hour									
			2025 Existing		2027 No Build		2027 Build		2037 No Build		2037 Build	
			50^{th}	95^{th}	50^{th}	95^{th}	50^{th}	95^{th}	50^{th}	95^{th}	50^{th}	95^{th}
Traffic Signal - Woodbury Avenue at Commerce Way/Durgin Square Plaza Driveway												
Durgin Square Plaza Driveway	EBLT	150	30	210	29	217	29	217	38	232	38	232
	EBR	125	0	23	0	28	0	28	0	29	0	29
Commerce Way	WBLT	350	7	49	8	48	8	48	9	53	9	53
	WBR	150	0	20	0	19	0	19	0	25	0	25
Woodbury Avenue	NBL	200	38	251	40	247	40	247	49	279	49	279
	NBTR	375	86	323	91	338	91	338	103	382	103	382
	SBL	200	43	274	44	274	47	292	53	305	56	321
	SBTR	475	102	369	110	403	111	405	125	458	126	460
Traffic Signal - Woodbury Avenue at Arthur F Brady Drive/Portsmouth Plaza Driveway												
Arthur F Brady Drive	EBLT	975	72	307	80	327	80	327	109	358	109	358
	EBR	125	0	35	0	35	0	36	2	40	2	41
Portsmouth Plaza Driveway	WBLT	75	58	224	61	228	61	228	73	258	73	258
	WBR	75	0	28	0	29	0	29	0	30	0	30
Woodbury Avenue	NBL	350	77	300	80	307	87	329	96	343	103	365
	NBTR	650	135	318	147	347	147	347	170	420	170	420
	SBL	275	56	161	60	168	60	168	70	183	70	183
	SBTR	375	161	345	178	379	179	381	203	426	204	431
Traffic Signal - Woodbury Avenue at Market Street/Market Basket Driveway												
Woodbury Avenue	EBL	225	6	29	6	29	6	29	7	32	7	32
	EBT	650	129	279	138	296	143	300	162	355	166	360
	EBR	225	0	58	0	61	0	61	0	63	0	63
	NBL	275	38	94	40	101	40	101	48	110	49	110
	NBTR	300	29	99	35	114	39	136	42	126	47	153
Market Street	WBL	300	29	92	30	92	37	107	36	99	44	115
	WBTR	625	150	468	154	487	159	497	186	568	190	579
Market Basket Driveway	SBL	50	89	195	84	211	86	211	100	252	102	252
	SBTR	50	42	107	43	123	44	123	51	134	52	134
Traffic Signal - Market Street at Portsmouth Boulevard												
Market Street	EBL	225	3	28	4	28	9	47	4	31	15	50
	EBT	600	45	74	48	78	51	82	55	90	59	94
	WBT	>1000	52	165	53	168	55	183	60	194	131	211
	WBR	225	0	6	0	6	0	9	0	7	0	9
Portsmouth Boulevard	SBL	225	3	19	3	20	6	32	3	21	11	33
	SBR	225	0	19	0	27	0	34	0	28	0	34
Traffic Signal - Market Street at I-95 SB Ramps												
Market Street	EBT	250	112	169	113	173	116	178	131	201	134	206
	EBR	275	0	0	0	0	0	0	0	0	0	0
	WBL	225	75	124	71	126	71	127	79	136	78	136
	WBT	325	28	36	24	33	26	38	25	35	28	38
I-95 SB Off-Ramp	SBL	400	107	166	110	169	110	169	121	180	121	180
	SBT	975	13	81	14	83	14	83	14	84	14	84
	SBR	400	0	61	0	62	0	62	0	62	0	63
Traffic Signal - Market Street at I-95 NB Ramps												
Market Street	EBL	325	162	200	153	205	154	206	169	223	170	225
	EBT	325	20	61	19	64	20	65	22	65	22	67
	WBT	>1000	93	164	89	166	93	173	104	192	108	198
	WBR	325	0	34	0	38	0	38	0	41	0	41
I-95 NB Off-Ramp	NBLT	>1000	35	66	37	69	41	74	41	74	44	79
	NBR	150	0	61	0	61	0	61	0	64	0	64
Unsignalized AWSC - Portsmouth Boulevard at Commerce Way/Osprey Drive												
Portsmouth Boulevard	NBL	125	--	3	--	3	--	3	--	3	--	3
	NBTR	600	--	3	--	3	--	8	--	3	--	10
	SBLT	300	--	3	--	3	--	8	--	3	--	8
	SBR	125	--	0	--	0	--	0	--	0	--	0
Commerce Way	EBLT	75	--	3	--	3	--	5	--	3	--	5
	EBR	125	--	0	--	0	--	0	--	0	--	0
Osprey Drive	WB	200	--	8	--	8	--	8	--	8	--	8
Unsignalized TWSC - Portsmouth Boulevard at Western Site Driveway												
Western Site Driveway	WB	175	--	--	--	--	--	5	--	--	--	5
Unsignalized TWSC - Portsmouth Boulevard at Northern Site Driveway												
Northern Site Driveway	NB	50	--	--	--	--	--	0	--	--	--	0

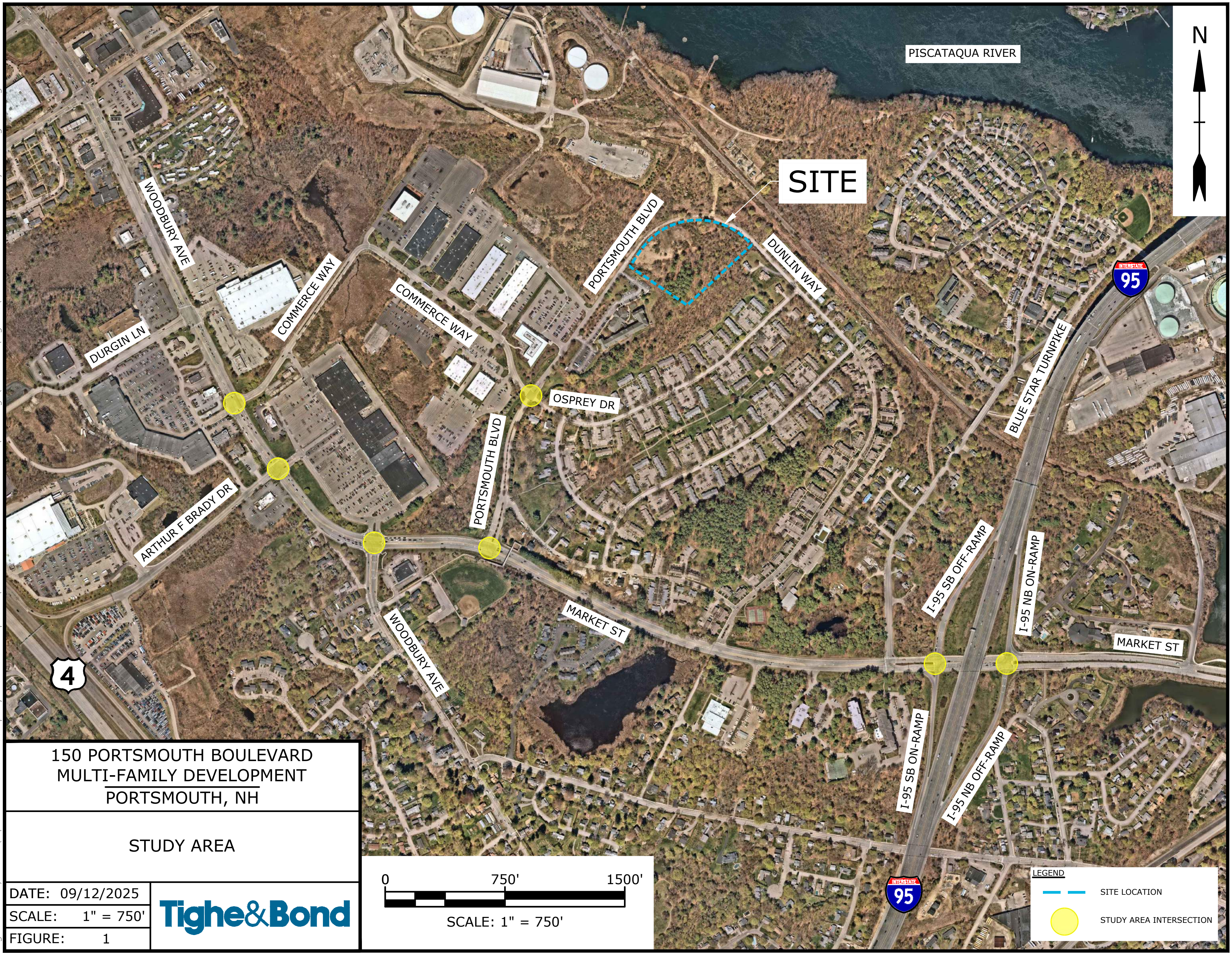
Legend
50th & 95th - 50th and 95th percentile queue lengths in feet

TABLE 3
Site-Generated Traffic Summary

Proposed - 274 Apartments **Peak Hour Period**	**Enter**	**Exit**	**Total**
Weekday Morning	25	84	109
Weekday Afternoon	65	42	107
Saturday Midday	56	54	110
Weekday	630	631	1,261
Saturday	616	616	1,232

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 221 [Residential - Multifamily Housing (Mid-Rise)]

Section 8
Figures



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

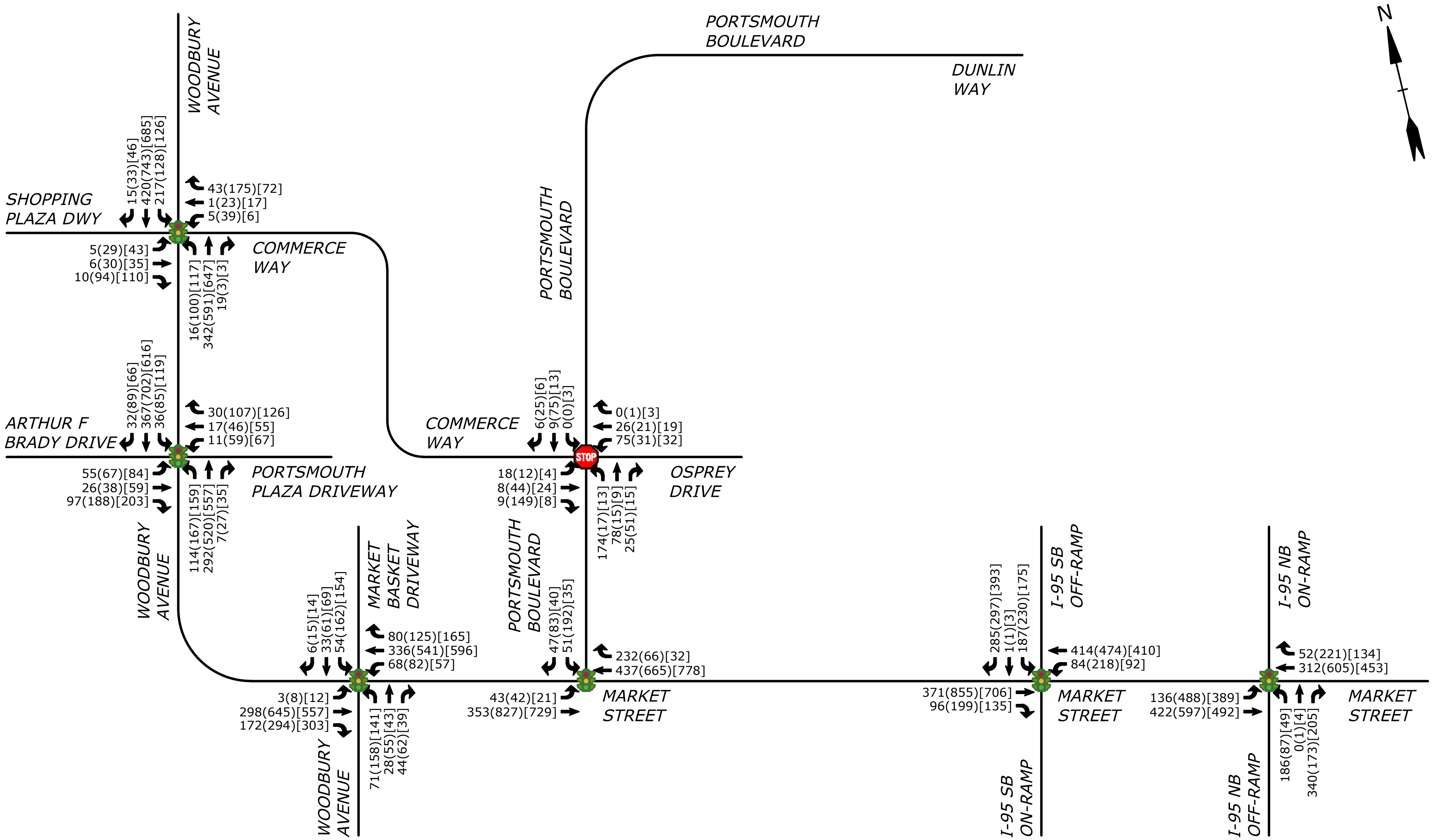
STUDY AREA

DATE: 09/12/2025
SCALE: 1" = 750'
FIGURE: 1

Tighe&Bond

0 750' 1500'
SCALE: 1" = 750'

Sep 16, 2025-9:05am Plotted By: RCase
Tighe & Bond, Inc. J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Figures\K0076-0065 Traffic Study Area Figure.dwg



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

2025 EXISTING
TRAFFIC VOLUMES

DATE: 09/12/2025
SCALE: NTS
FIGURE 2

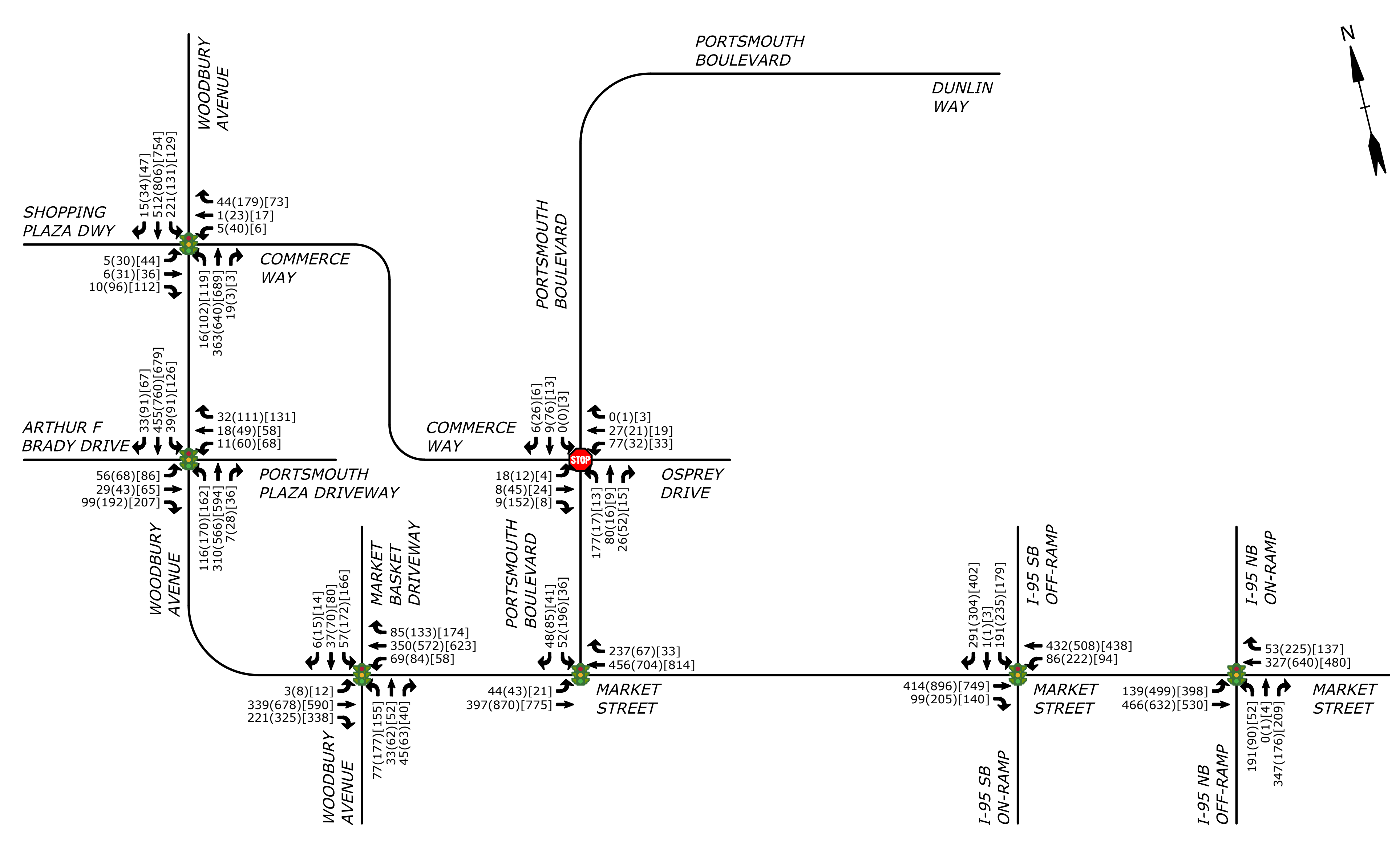
Tighe&Bond

LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

2027 NO BUILD
TRAFFIC VOLUMES

DATE: 09/12/2025	Tighe&Bond
SCALE: NTS	
FIGURE 3	

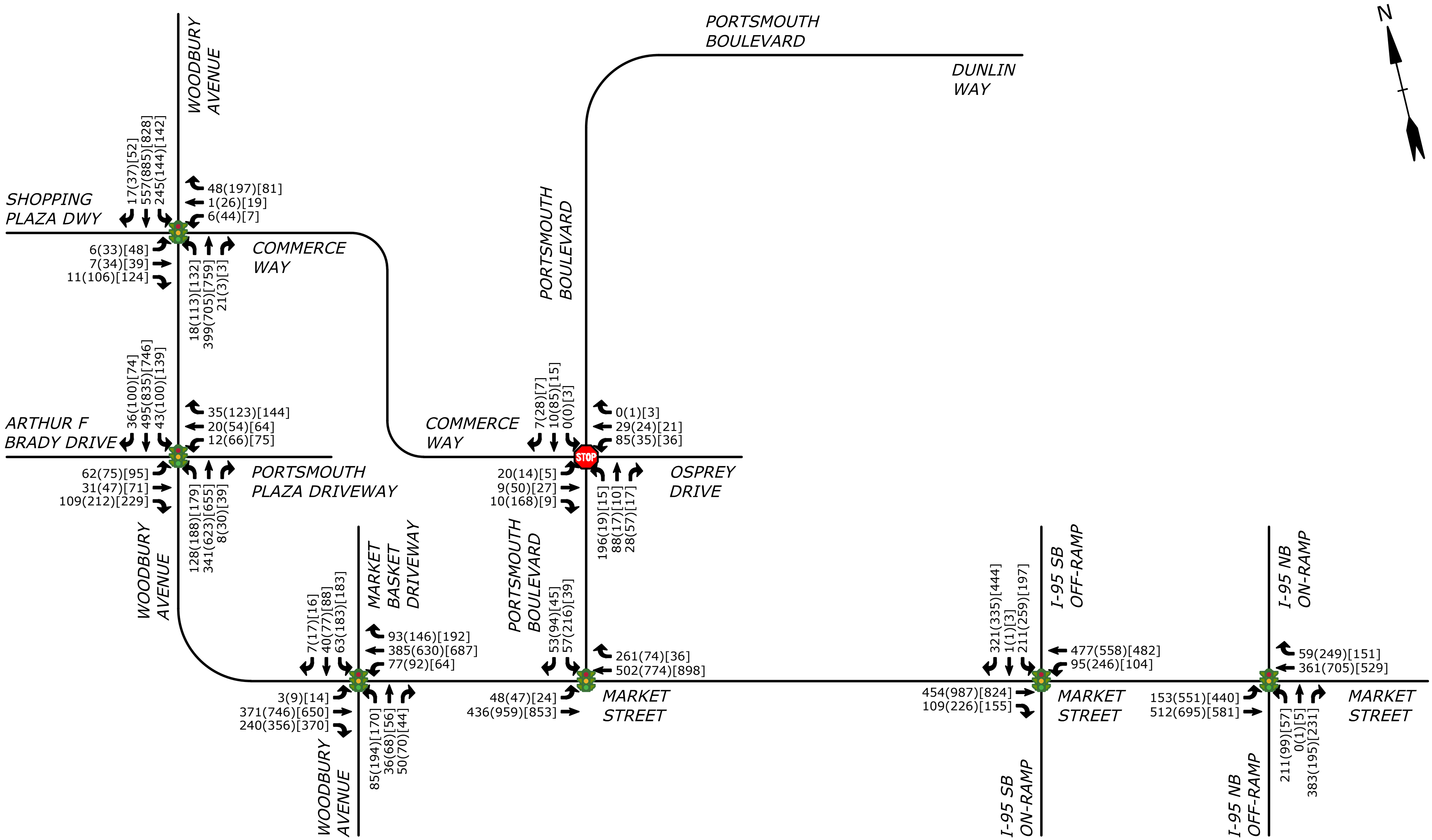
LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

2037 NO BUILD
TRAFFIC VOLUMES

DATE: 09/12/2025
SCALE: NTS
FIGURE 4

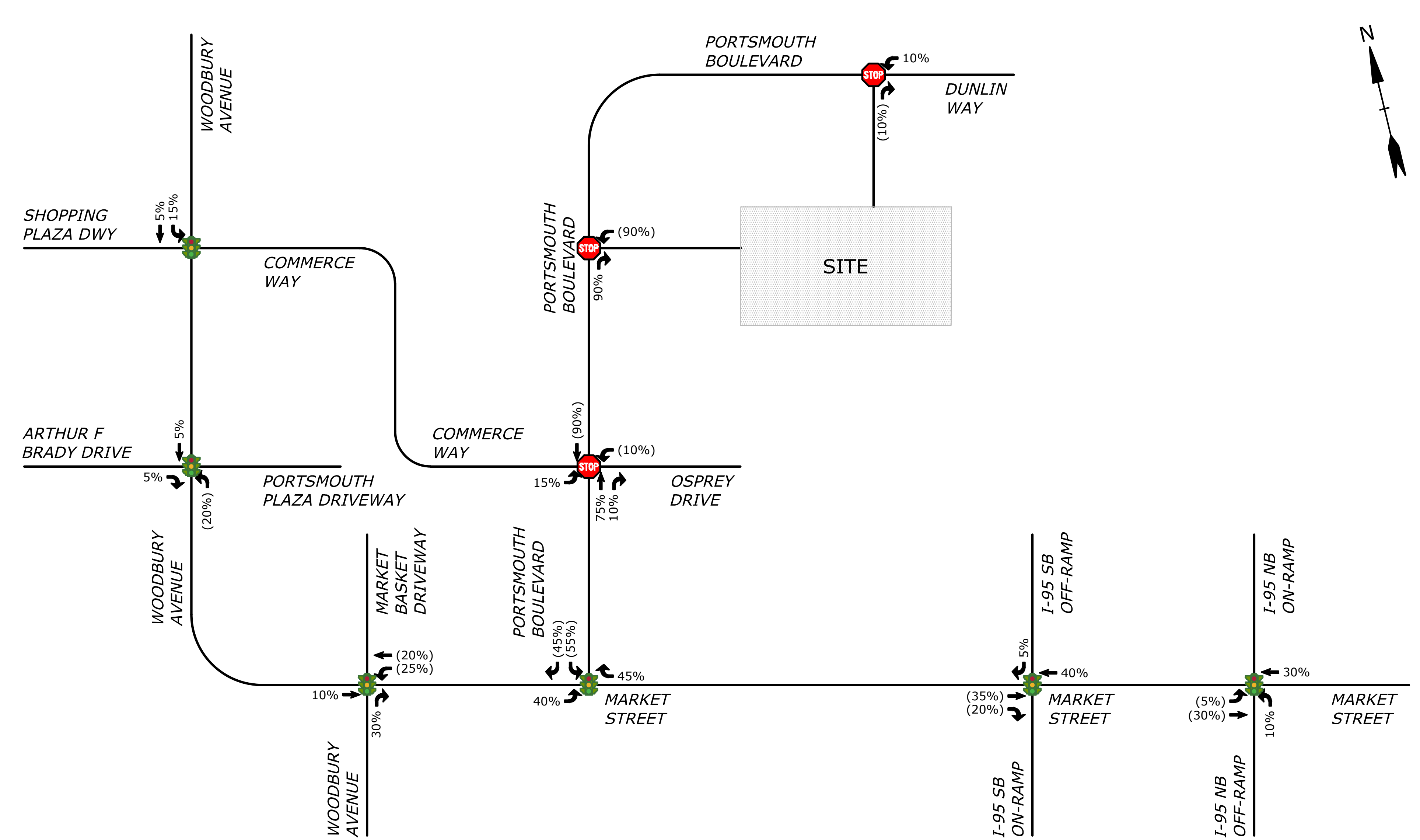
Tighe&Bond

LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

ARRIVAL & DEPARTURE
TRIP DISTRIBUTION

DATE: 09/12/2025
SCALE: NTS
FIGURE 5

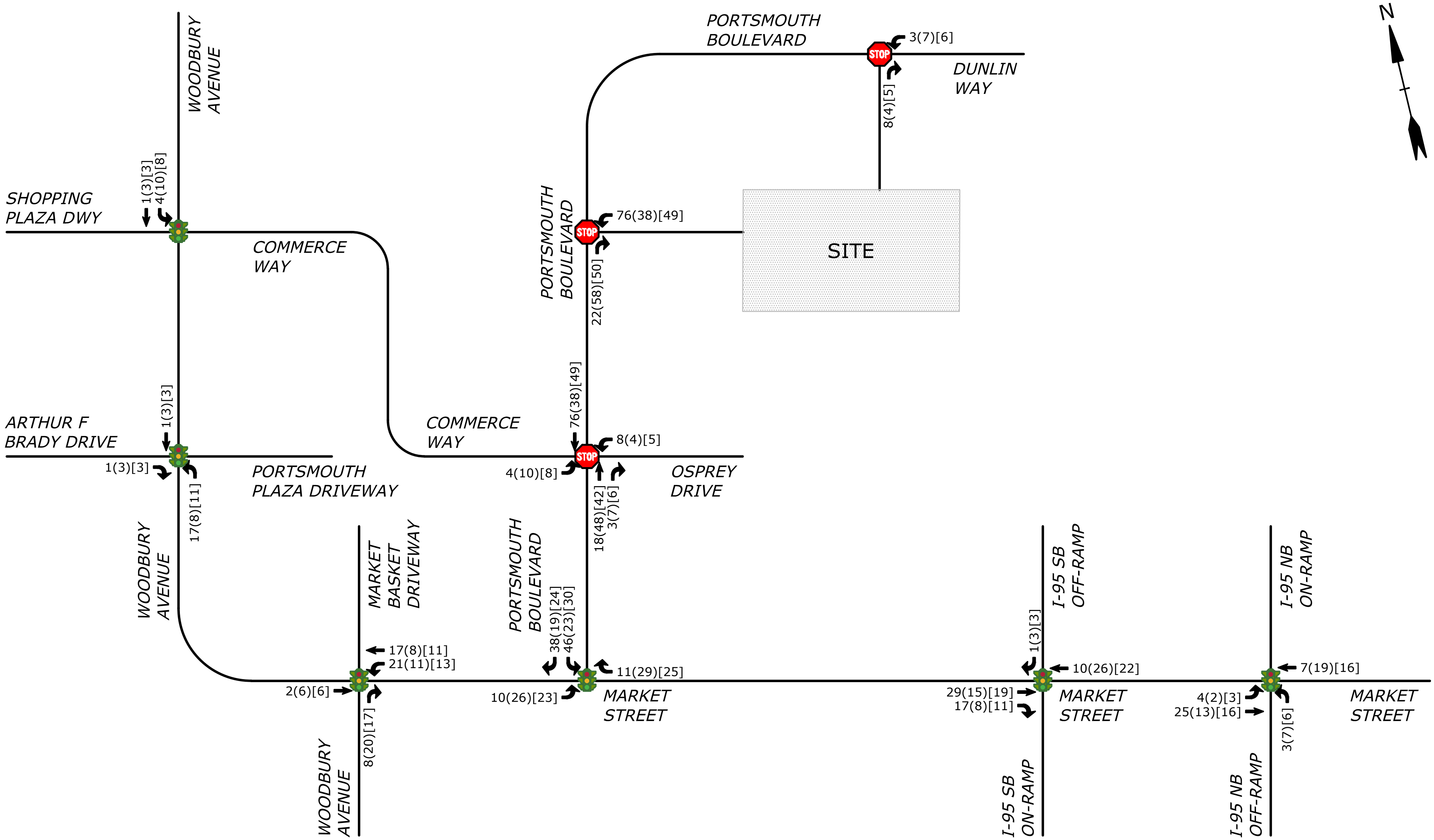
Tighe&Bond

LEGEND

VOLUMES: ENTERING (EXITING)

TRAFFIC SIGNAL

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

SITE GENERATED
TRAFFIC VOLUMES

DATE: 09/12/2025
SCALE: NTS
FIGURE 6

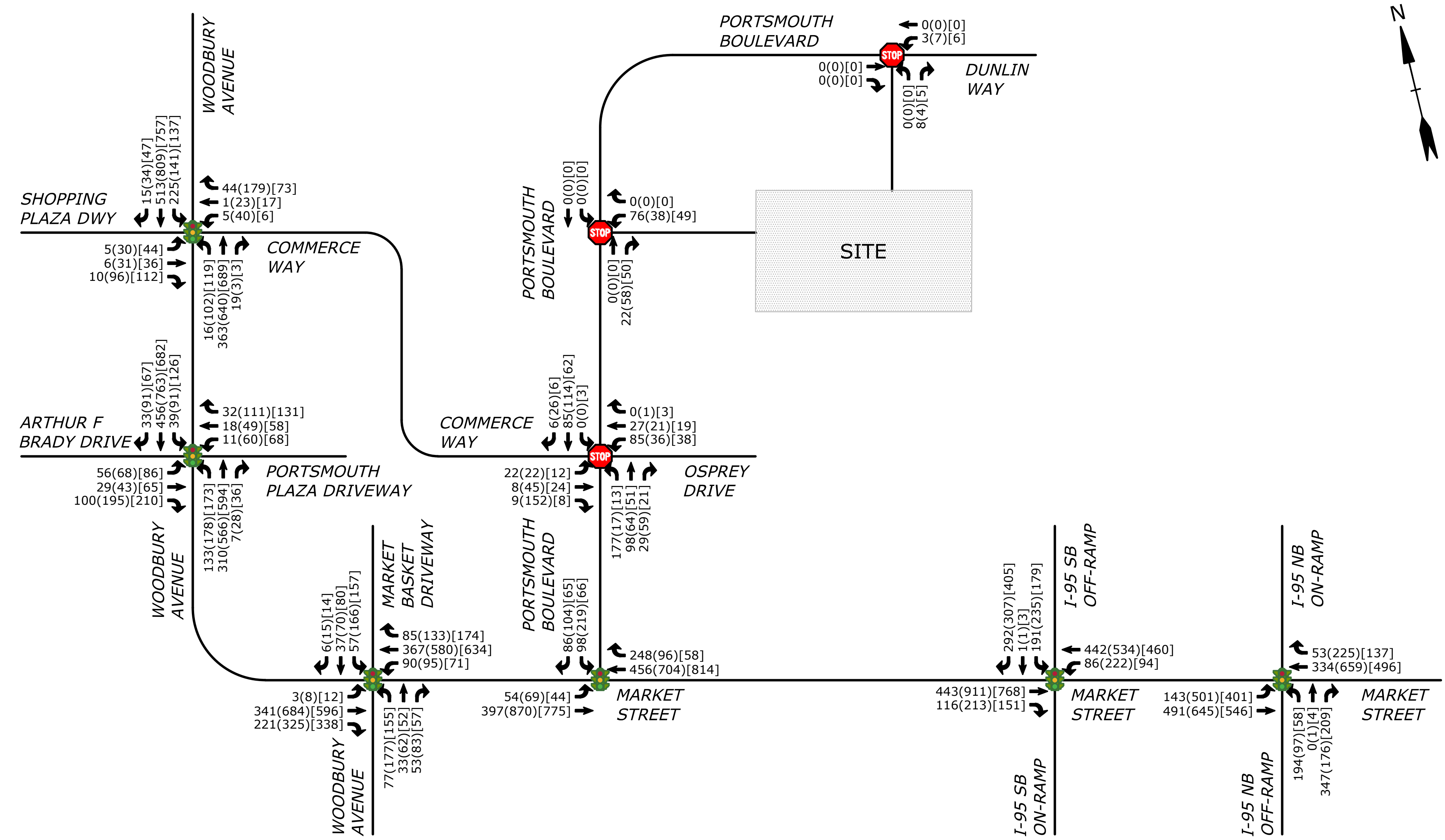
Tighe&Bond

LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

2027 BUILD
TRAFFIC VOLUMES

DATE: 09/12/2025
SCALE: NTS
FIGURE 7

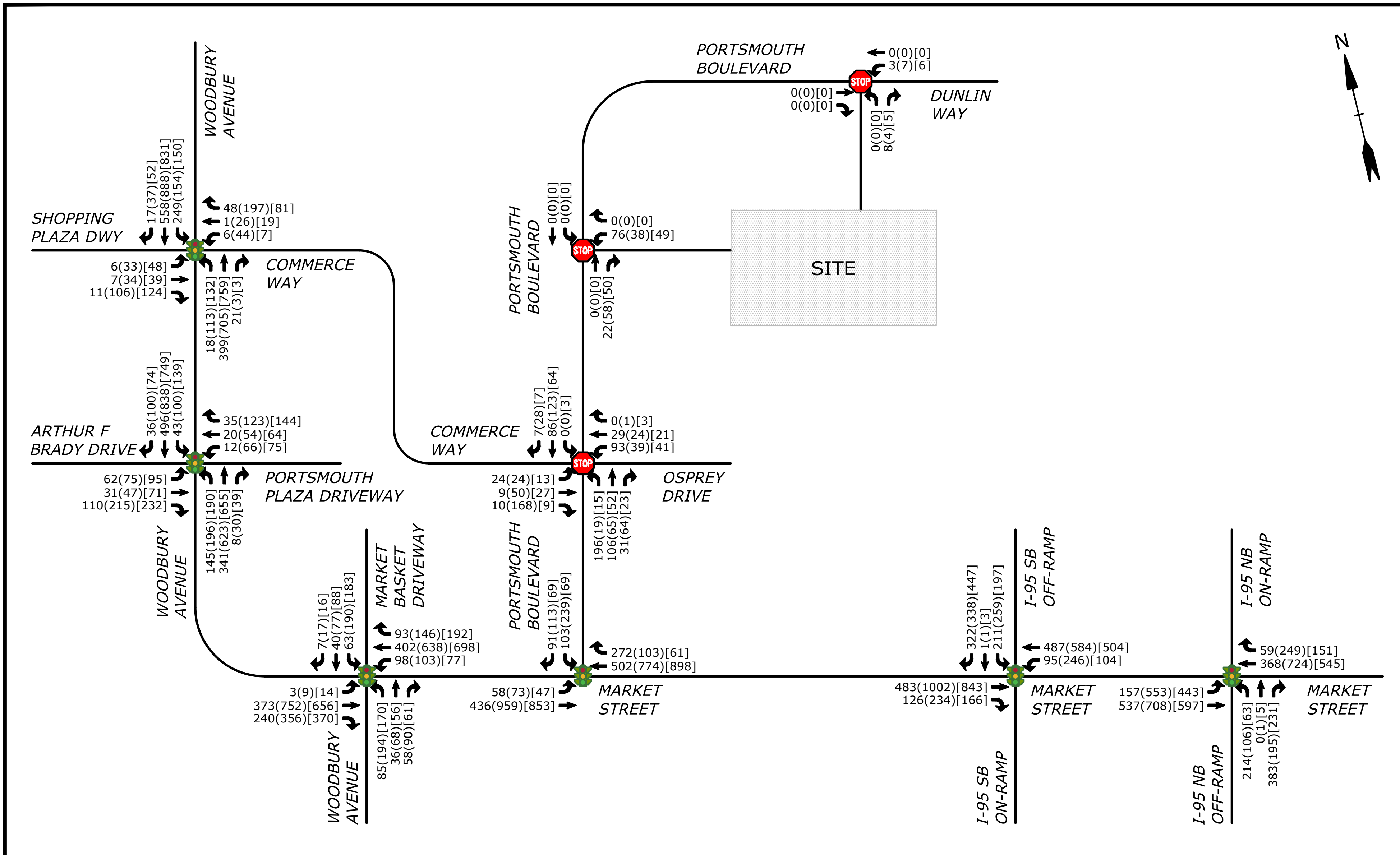
Tighe&Bond

LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP SIGN



150 PORTSMOUTH BOULEVARD
MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

2037 BUILD
TRAFFIC VOLUMES

DATE: 09/12/2025
SCALE: NTS
FIGURE 8

Tighe&Bond

LEGEND

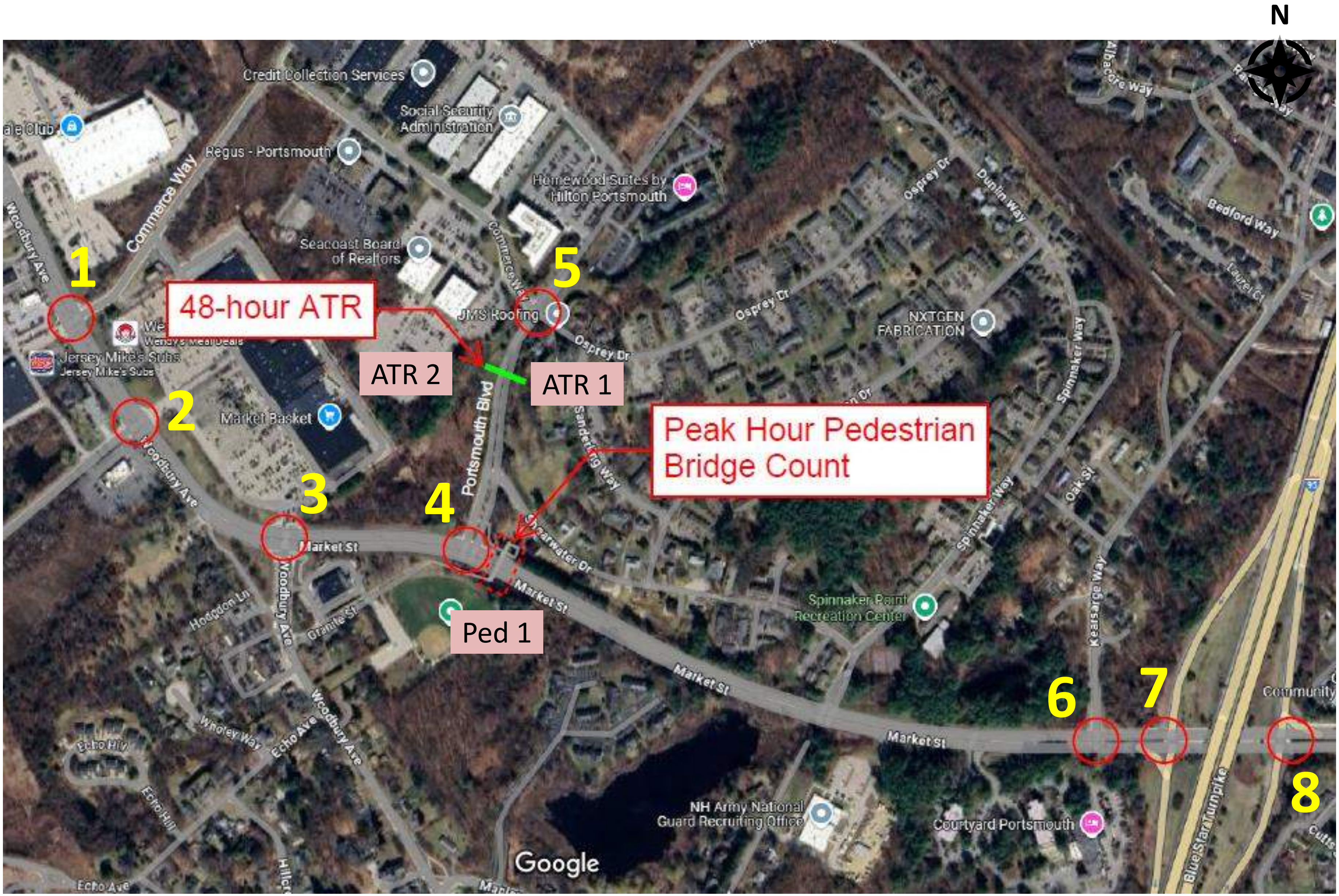
VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

STOP SIGN

APPENDIX A

Traffic Count Data



BOSTON TRAFFIC DATA	BTD ID: 1712_1_TB	Portsmouth, NH	# of TMC's: 08	Client: Tighe & Bond
		Collected on July 9 to 12, 2025	# of ATR's: 02	Contact: Matthew Stoutz, PE, PTOE, RSP1

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 1
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Commerce Way
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	2	0	6	0	20	68	1	0	2	43	1
7:15 AM	0	1	0	2	0	1	0	10	0	31	79	5	0	1	66	2
7:30 AM	0	1	2	3	0	1	0	8	0	28	83	2	0	6	65	2
7:45 AM	0	2	1	0	0	2	1	7	0	52	100	3	0	3	76	4
8:00 AM	0	1	4	2	0	2	0	9	1	50	98	3	0	5	82	10
8:15 AM	0	2	1	2	0	0	0	10	1	69	110	8	0	3	85	2
8:30 AM	0	0	0	6	0	1	0	17	0	42	108	1	0	4	80	2
8:45 AM	0	2	1	4	0	0	0	8	0	37	93	1	0	11	82	3
3:00 PM	0	10	10	26	0	3	3	25	0	38	170	7	0	21	136	1
3:15 PM	0	6	6	20	0	2	4	32	0	34	163	7	0	17	147	2
3:30 PM	0	11	2	18	0	18	7	24	0	40	181	7	0	25	159	2
3:45 PM	0	5	12	26	0	8	6	20	0	33	184	11	0	14	120	2
4:00 PM	0	8	2	24	0	8	7	31	0	31	202	8	0	22	159	1
4:15 PM	0	8	5	19	0	5	1	33	0	29	159	9	0	20	159	2
4:30 PM	0	8	8	32	0	5	6	31	0	21	175	10	0	25	145	0
4:45 PM	0	6	4	18	0	11	4	41	0	33	196	8	0	16	130	0
5:00 PM	0	8	10	20	0	19	7	68	0	42	191	8	0	21	126	1
5:15 PM	0	7	8	23	0	4	6	33	0	31	174	7	0	28	131	2
5:30 PM	0	5	3	21	0	6	7	32	0	32	160	11	0	16	127	0
5:45 PM	0	7	3	29	0	4	3	15	0	26	149	1	0	21	104	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**6**	**10**	**0**	**5**	**1**	**43**	**2**	**213**	**416**	**15**	**0**	**15**	**323**	**18**
PHF	**0.75**				**0.68**				**0.86**				**0.92**			
HV %	**0.0%**	**20.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.7%**	**0.0%**	**1.9%**	**3.6%**	**0.0%**	**0.0%**	**0.0%**	**3.1%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**29**	**30**	**93**	**0**	**39**	**23**	**173**	**0**	**127**	**736**	**33**	**0**	**90**	**532**	**3**
PHF	**0.79**				**0.63**				**0.93**				**0.92**			
HV %	**0.0%**	**3.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.9%**	**0.0%**	**1.6%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 1
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Commerce Way
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	1	0	0	0	1	3	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	2	2	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	1	0	1	3	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0
8:00 AM	0	1	0	0	0	0	0	1	0	1	3	0	0	0	3	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	3	0	0	0	4	0
8:30 AM	0	0	0	0	0	0	0	0	0	3	3	0	0	0	2	0
8:45 AM	0	0	0	0	0	0	0	0	0	2	5	0	0	0	1	0
3:00 PM	0	0	0	0	0	0	0	3	0	0	1	0	0	0	3	0
3:15 PM	0	0	0	0	0	0	0	3	0	0	1	0	0	0	3	0
3:30 PM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0
3:45 PM	0	0	0	0	0	0	0	1	0	0	3	0	0	0	2	0
4:00 PM	0	2	0	1	0	0	0	1	0	1	1	0	0	0	1	0
4:15 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	1	0	1	4	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**6**	**14**	**0**	**0**	**0**	**10**	**0**
PHF	**0.25**				**0.50**				**0.71**				**0.63**			

PM PEAK HOUR 3:00 PM to 4:00 PM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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**	**7**	**0**	**1**	**7**	**0**	**0**	**0**	**11**	**0**
PHF	**0.00**				**0.58**				**0.67**				**0.92**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 1
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Commerce Way
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

BOSTON
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PEDESTRIANS & BICYCLES

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	1	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	1	0	0
8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1
3:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	1	0	0	0	0	0	1	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	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

AM PEAK HOUR	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
7:45 AM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
8:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1

PM PEAK HOUR	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
4:30 PM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
5:30 PM	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 1
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Commerce Way
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	3	5	21	0	1	2	15	0	31	177	8	0	19	130	0
11:15 AM	0	6	7	22	0	1	5	13	0	30	174	9	0	17	141	2
11:30 AM	0	7	7	27	0	3	6	4	0	33	160	16	0	25	141	2
11:45 AM	0	7	9	21	0	0	5	18	0	26	164	16	0	18	158	2
12:00 PM	0	10	9	22	0	0	5	17	0	28	164	12	0	42	158	0
12:15 PM	0	9	9	27	0	3	6	16	0	26	170	8	0	26	181	0
12:30 PM	0	13	11	32	0	1	4	21	0	33	157	13	0	21	147	3
12:45 PM	0	11	6	28	0	2	2	17	0	38	187	13	0	24	140	0

MID PEAK HOUR 12:00 PM to 1:00 PM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**43**	**35**	**109**	**0**	**6**	**17**	**71**	**0**	**125**	**678**	**46**	**0**	**113**	**626**	**3**
PHF	**0.83**				**0.90**				**0.89**				**0.90**			
HV %	**0.0%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.2%**	**0.0%**	**1.6%**	**0.1%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 1
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Commerce Way
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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HEAVY VEHICLES

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	2	0	0	3	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	1	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
12:30 PM	0	1	0	0	0	0	0	1	0	1	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

MID PEAK HOUR 11:00 AM to 12:00 PM	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave 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**	**2**	**0**	**1**	**7**	**0**	**0**	**0**	**3**	**0**
PHF	**0.00**				**0.25**				**0.67**				**0.38**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 1
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Commerce Way
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
11:15 AM	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

MID PEAK HOUR	Shopping Center Drive Northbound				Commerce Way Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
12:00 PM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
1:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	2

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	4	5	9	0	0	1	6	0	12	49	4	0	11	36	0
7:15 AM	0	9	8	8	0	2	7	9	0	11	67	8	0	18	52	0
7:30 AM	0	8	5	16	0	1	3	4	0	8	74	4	0	20	61	0
7:45 AM	0	12	7	24	0	1	5	8	0	5	84	13	0	22	66	2
8:00 AM	0	11	4	23	0	4	2	10	0	9	85	6	0	29	75	1
8:15 AM	0	12	10	26	0	1	3	7	0	8	97	7	0	30	73	2
8:30 AM	0	15	6	21	0	4	5	6	0	14	91	12	0	23	64	2
8:45 AM	0	16	6	26	0	2	7	7	0	5	86	7	0	29	73	2
3:00 PM	0	12	20	54	0	12	20	30	0	21	153	15	0	34	111	4
3:15 PM	0	19	12	35	0	8	17	22	0	20	163	20	1	33	135	6
3:30 PM	0	14	9	46	0	13	7	25	0	20	165	26	0	39	138	6
3:45 PM	0	14	9	39	0	16	11	22	0	26	172	24	1	42	112	11
4:00 PM	0	20	6	59	0	19	10	28	0	21	191	20	0	37	134	4
4:15 PM	0	18	14	42	0	10	18	31	0	15	152	16	0	46	131	6
4:30 PM	0	9	16	51	0	9	14	22	1	12	167	17	0	39	135	3
4:45 PM	0	13	13	34	0	11	9	16	0	15	199	19	0	46	114	7
5:00 PM	0	17	12	53	0	11	18	18	0	20	183	33	0	36	119	9
5:15 PM	0	17	16	38	0	14	12	14	0	24	162	12	0	43	130	10
5:30 PM	0	20	14	38	0	11	10	18	0	23	160	7	0	29	105	4
5:45 PM	0	5	13	29	0	10	9	22	0	7	159	14	0	23	95	6

AM PEAK HOUR 8:00 AM to 9:00 AM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**54**	**26**	**96**	**0**	**11**	**17**	**30**	**0**	**36**	**359**	**32**	**0**	**111**	**285**	**7**
PHF	**0.92**				**0.91**				**0.91**				**0.96**			
HV %	**0.0%**	**1.9%**	**11.5%**	**5.2%**	**0.0%**	**9.1%**	**5.9%**	**0.0%**	**0.0%**	**0.0%**	**4.2%**	**6.3%**	**0.0%**	**7.2%**	**3.2%**	**0.0%**

PM PEAK HOUR 3:30 PM to 4:30 PM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**66**	**38**	**186**	**0**	**58**	**46**	**106**	**0**	**82**	**680**	**86**	**1**	**164**	**515**	**27**
PHF	**0.85**				**0.89**				**0.91**				**0.97**			
HV %	**0.0%**	**0.0%**	**2.6%**	**2.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**2.3%**	**0.0%**	**0.6%**	**1.4%**	**3.7%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 2
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Arthur Brady Drive
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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HEAVY VEHICLES

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	4	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	1	0	0	1	1	0	0	1	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	3	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0
8:00 AM	0	0	1	1	0	1	0	0	0	0	4	0	0	0	3	0
8:15 AM	0	1	1	1	0	0	0	0	0	0	3	0	0	3	3	0
8:30 AM	0	0	1	1	0	0	0	0	0	0	1	2	0	1	2	0
8:45 AM	0	0	0	2	0	0	1	0	0	0	7	0	0	4	1	0
3:00 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	3	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
3:30 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	3	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	0
4:00 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	1	1	0
4:15 PM	0	0	1	2	0	0	0	0	0	0	2	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	2	1	0	0	1	1
4:45 PM	0	0	0	1	0	1	0	0	0	0	2	0	0	1	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	1	0
5:30 PM	0	1	0	1	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	2	0	0	0	1	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**3**	**5**	**0**	**1**	**1**	**0**	**0**	**0**	**15**	**2**	**0**	**8**	**9**	**0**
PHF	**0.75**				**0.50**				**0.61**				**0.71**			

PM PEAK HOUR 3:45 PM to 4:45 PM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**8**	**3**	**0**	**1**	**5**	**2**
PHF	**0.33**				**0.00**				**0.75**				**1.00**			

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 2
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Arthur Brady Drive
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	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	1	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	1	0	0
8:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0

PM PEAK HOUR 3:30 PM to 4:30 PM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 2
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Arthur Brady Drive
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	18	5	34	0	10	13	18	0	19	152	18	0	35	117	6
11:15 AM	0	20	14	43	0	7	14	20	0	29	159	19	0	39	120	8
11:30 AM	0	19	27	48	0	12	11	29	1	34	142	8	1	35	113	8
11:45 AM	0	21	19	53	0	10	18	24	0	27	148	14	0	38	141	5
12:00 PM	0	16	8	55	0	21	10	36	0	23	138	20	1	46	144	10
12:15 PM	0	22	12	48	0	16	12	30	0	32	163	14	0	36	153	10
12:30 PM	0	24	19	45	0	19	14	35	0	31	137	14	0	36	113	10
12:45 PM	0	19	13	50	0	15	8	25	0	30	166	19	0	35	119	15

MID PEAK HOUR 11:45 AM to 12:45 PM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**83**	**58**	**201**	**0**	**66**	**54**	**125**	**0**	**113**	**586**	**62**	**1**	**156**	**551**	**35**
PHF	**0.92**				**0.90**				**0.91**				**0.92**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 2
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Arthur Brady Drive
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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HEAVY VEHICLES

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave 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	3	0	0	1	0	0
11:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	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	1	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:00 AM to 12:00 PM	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**0**	**0**	**3**	**1**	**0**
PHF	**0.38**				**0.00**				**0.58**				**0.50**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 2
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Arthur Brady Drive
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

BOSTON
TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	1	0	0	0	1

MID PEAK HOUR	Arthur Brady Drive Northbound				Shopping Center Drive Southbound				Woodbury Ave Eastbound				Woodbury Ave Westbound			
11:45 AM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 3
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Market Street
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street 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	6	12	4	0	8	7	0	0	0	43	16	0	11	39	14
7:15 AM	0	7	8	10	0	20	3	1	0	1	45	30	0	7	66	22
7:30 AM	0	10	7	13	0	17	4	1	0	3	56	34	0	10	71	15
7:45 AM	0	9	7	8	0	13	4	2	0	0	73	32	0	19	81	26
8:00 AM	0	12	6	13	0	14	12	1	0	0	59	44	0	12	93	19
8:15 AM	0	13	9	14	0	11	5	1	0	2	89	44	1	20	87	26
8:30 AM	0	21	10	7	0	18	7	4	0	1	73	35	0	16	70	14
8:45 AM	0	24	3	10	0	10	9	0	0	0	74	47	0	16	76	18
3:00 PM	0	34	9	19	0	52	25	3	1	0	148	76	0	22	107	31
3:15 PM	0	37	11	17	0	33	15	7	0	1	132	70	0	16	141	31
3:30 PM	0	50	12	19	0	42	11	5	0	2	134	80	1	24	128	26
3:45 PM	0	35	13	17	0	36	14	5	1	6	141	93	0	21	126	30
4:00 PM	0	30	15	17	0	39	15	3	0	1	176	88	0	18	142	33
4:15 PM	0	41	12	10	0	37	15	4	0	4	146	56	1	19	135	36
4:30 PM	0	43	15	13	0	42	19	2	0	2	151	72	0	21	131	28
4:45 PM	0	40	12	21	0	42	11	6	0	1	166	75	0	22	121	27
5:00 PM	0	33	7	16	0	40	12	6	1	6	140	85	1	31	122	32
5:15 PM	0	40	12	21	0	40	12	7	0	5	145	75	0	19	145	39
5:30 PM	0	36	14	12	0	55	28	3	0	4	133	72	1	20	92	33
5:45 PM	0	26	8	13	0	32	16	2	1	1	115	71	0	15	98	26

AM PEAK HOUR 8:00 AM to 9:00 AM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**70**	**28**	**44**	**0**	**53**	**33**	**6**	**0**	**3**	**295**	**170**	**1**	**64**	**326**	**77**
PHF	**0.93**				**0.79**				**0.87**				**0.87**			
HV %	**0.0%**	**1.4%**	**0.0%**	**2.3%**	**0.0%**	**7.5%**	**0.0%**	**16.7%**	**0.0%**	**0.0%**	**6.1%**	**1.2%**	**0.0%**	**4.7%**	**4.3%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**154**	**54**	**61**	**0**	**160**	**60**	**15**	**0**	**8**	**639**	**291**	**1**	**80**	**529**	**124**
PHF	**0.92**				**0.93**				**0.88**				**0.95**			
HV %	**0.0%**	**1.9%**	**0.0%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.7%**	**0.7%**	**0.0%**	**0.0%**	**1.1%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 3
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Market Street
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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HEAVY VEHICLES

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street 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	2	0	0	0	0	3	1	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	2	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	1	0
8:00 AM	0	0	0	0	0	2	0	0	0	0	4	1	0	0	3	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	5	0	0	2	5	0
8:30 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	2	0
8:45 AM	0	1	0	1	0	0	0	0	0	0	8	0	0	1	4	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
3:15 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3	0
3:30 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	2	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1
4:00 PM	0	1	0	0	0	0	0	0	0	0	2	1	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	3	1	0	0	2	0
4:30 PM	0	2	0	0	0	1	0	0	0	0	2	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	1	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**0**	**1**	**0**	**4**	**0**	**1**	**0**	**0**	**18**	**2**	**0**	**3**	**14**	**0**
PHF	**0.25**				**0.63**				**0.63**				**0.61**			

PM PEAK HOUR 3:45 PM to 4:45 PM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**2**	**0**	**0**	**7**	**1**
PHF	**0.38**				**0.25**				**0.69**				**0.67**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 3
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Market Street
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	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	2	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	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	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	1	0	0	1	1	0	0	1	0	0	0	0	0	0	1	2

PM PEAK HOUR 4:00 PM to 5:00 PM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 3
Location: Portsmouth, NH
Street 1: Woodbury Ave
Street 2: Market Street
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street 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	32	14	14	0	28	12	4	0	7	120	68	0	8	131	35
11:15 AM	0	34	15	12	0	35	20	2	0	0	137	58	0	13	119	38
11:30 AM	0	35	10	4	0	36	15	2	0	3	139	72	0	17	123	27
11:45 AM	0	31	12	9	0	51	20	4	0	1	136	77	0	13	155	47
12:00 PM	0	38	12	12	0	39	19	4	0	3	145	66	0	23	157	45
12:15 PM	0	43	11	9	0	27	14	4	0	4	129	85	0	9	145	31
12:30 PM	0	28	8	9	0	35	15	2	0	4	141	72	0	11	132	40
12:45 PM	0	36	6	14	0	52	21	5	0	7	132	91	0	13	130	28

MID PEAK HOUR 11:45 AM to 12:45 PM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**140**	**43**	**39**	**0**	**152**	**68**	**14**	**0**	**12**	**551**	**300**	**0**	**56**	**589**	**163**
PHF	**0.88**				**0.78**				**0.99**				**0.90**			
HV %	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**7.1%**	**0.0%**	**0.0%**	**0.4%**	**0.7%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 3
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Market Street
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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HEAVY VEHICLES

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street 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	1	0	0	0	0	0	0	4	0	0	0	0	0
11:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0
12:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	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	1	0	0	0	0	0

MID PEAK HOUR 11:00 AM to 12:00 PM	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**0**	**0**	**1**	**0**
PHF	**0.38**				**0.00**				**0.50**				**0.25**			

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 3
Location:	Portsmouth, NH
Street 1:	Woodbury Ave
Street 2:	Market Street
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
12:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
12:30 PM	0	0	0	0	3	0	0	1	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

MID PEAK HOUR	Woodbury Ave Northbound				Shopping Center Drive Southbound				Market Street Eastbound				Market Street Westbound			
11:45 AM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
12:45 PM	0	0	0	0	4	0	0	1	0	0	0	0	1	4	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 4
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Portsmouth Boulevard
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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	8	0	10	0	2	52	0	0	0	52	19
7:15 AM	0	0	0	0	0	7	0	3	0	6	72	0	0	0	94	22
7:30 AM	0	0	0	0	0	12	0	12	1	12	73	0	0	0	83	30
7:45 AM	0	0	0	0	0	14	0	11	0	9	83	0	0	0	112	62
8:00 AM	0	0	0	0	0	16	0	13	0	8	78	0	0	0	114	54
8:15 AM	0	0	0	0	0	11	0	14	0	16	92	0	0	0	115	72
8:30 AM	0	0	0	0	0	9	0	9	0	10	95	0	0	0	92	42
8:45 AM	0	0	0	0	0	11	0	15	0	10	85	0	0	0	93	35
3:00 PM	0	0	0	0	0	25	0	13	1	6	212	0	0	0	154	10
3:15 PM	0	0	0	0	0	24	0	15	0	11	172	0	0	0	175	15
3:30 PM	0	0	0	0	0	35	0	16	0	12	182	0	0	0	156	17
3:45 PM	0	0	0	0	0	17	0	11	0	7	191	0	0	0	170	15
4:00 PM	0	0	0	0	0	39	0	18	0	7	225	0	0	0	173	19
4:15 PM	0	0	0	0	0	26	0	25	0	13	183	0	0	0	165	23
4:30 PM	0	0	0	0	0	49	0	23	0	11	194	0	0	0	153	16
4:45 PM	0	0	0	0	0	21	0	15	0	9	218	0	0	0	164	12
5:00 PM	0	0	0	0	0	81	0	25	0	11	186	0	0	0	161	21
5:15 PM	0	0	0	0	0	39	0	19	0	10	193	0	0	0	178	16
5:30 PM	0	0	0	0	0	41	0	17	0	7	194	0	0	0	122	9
5:45 PM	0	0	0	0	0	18	0	10	0	9	151	0	2	0	121	11

AM PEAK HOUR 7:45 AM to 8:45 AM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**50**	**0**	**47**	**0**	**43**	**348**	**0**	**0**	**0**	**433**	**230**
PHF	**0.00**				**0.84**				**0.91**				**0.89**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.0%**	**0.0%**	**4.3%**	**0.0%**	**2.3%**	**3.7%**	**0.0%**	**0.0%**	**0.0%**	**2.5%**	**2.6%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**190**	**0**	**82**	**0**	**41**	**791**	**0**	**0**	**0**	**656**	**65**
PHF	**0.00**				**0.64**				**0.92**				**0.93**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**0.5%**	**4.6%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 4
Location: Portsmouth, NH
Street 1: Market Street
Street 2: Portsmouth Boulevard
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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	1	0	0	0	0	5	0	0	0	1	2
7:15 AM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	5
8:15 AM	0	0	0	0	0	1	0	2	0	1	3	0	0	0	5	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1
8:45 AM	0	0	0	0	0	0	0	2	0	3	5	0	0	0	4	3
3:00 PM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	3	2
3:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3	0
3:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0
3:45 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	3	3
4:00 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	2	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	2	1
5:00 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0

AM PEAK HOUR 8:00 AM to 9:00 AM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**2**	**0**	**4**	**0**	**4**	**14**	**0**	**0**	**0**	**14**	**9**
PHF	**0.00**				**0.50**				**0.56**				**0.72**			

PM PEAK HOUR 3:00 PM to 4:00 PM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**6**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**11**	**5**
PHF	**0.00**				**0.58**				**0.42**				**0.67**			

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 4
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Portsmouth Boulevard
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

BOSTON
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PEDESTRIANS & BICYCLES

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	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	1	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	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street Westbound			
7:45 AM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

PM PEAK HOUR	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street Westbound			
4:30 PM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 4
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Portsmouth Boulevard
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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	1	8	0	7	1	3	146	0	0	0	162	9
11:15 AM	0	0	0	0	0	5	0	7	0	6	184	0	1	0	161	4
11:30 AM	0	0	0	0	0	7	0	6	0	0	172	0	0	0	165	9
11:45 AM	0	0	0	0	0	10	0	6	0	6	186	0	0	0	216	8
12:00 PM	0	0	0	0	0	5	0	12	1	5	193	0	0	0	208	10
12:15 PM	0	0	0	0	0	10	0	16	0	2	163	0	0	0	167	5
12:30 PM	0	0	0	0	0	10	0	6	0	7	178	0	0	0	178	9
12:45 PM	0	0	0	0	0	8	0	17	1	6	191	0	0	0	165	8

MID PEAK HOUR 11:45 AM to 12:45 PM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**35**	**0**	**40**	**1**	**20**	**720**	**0**	**0**	**0**	**769**	**32**
PHF	0.00				0.72				0.93				0.89			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**11.4%**	**0.0%**	**2.5%**	**0.0%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**6.3%**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 4
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	Portsmouth Boulevard
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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HEAVY VEHICLES

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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	4	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:45 AM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	1	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0

MID PEAK HOUR 11:00 AM to 12:00 PM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street 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**	**2**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**3**
PHF	**0.00**				**0.25**				**0.31**				**1.00**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 4
Location: Portsmouth, NH
Street 1: Market Street
Street 2: Portsmouth Boulevard
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
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	0	0	1	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	1	0	0	0	0	0	0	1	0
12:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0
12:30 PM	0	0	0	0	0	0	0	1	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	1	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Northbound				Portsmouth Boulevard Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	1	2	0	0	0	0	0	2	1	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 5
Location: Portsmouth, NH
Street 1: Portsmouth Boulevard
Street 2: Commerce Way & Osprey Drive
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive 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	15	2	1	0	0	2	0	0	1	3	1	0	16	4	2
7:15 AM	0	14	7	7	0	0	1	2	0	7	1	1	0	6	6	0
7:30 AM	0	19	10	3	0	0	3	0	0	5	0	2	0	23	5	0
7:45 AM	0	45	24	7	0	0	1	2	0	5	0	1	0	19	8	0
8:00 AM	0	39	16	4	0	0	2	2	0	6	2	4	0	22	5	0
8:15 AM	0	55	25	9	0	0	2	0	0	4	2	2	0	21	7	0
8:30 AM	0	33	12	5	0	0	4	2	0	3	4	2	0	12	6	0
8:45 AM	0	26	13	4	0	0	2	1	0	6	2	4	0	20	2	0
3:00 PM	0	6	5	6	0	1	9	2	0	3	8	18	0	12	4	0
3:15 PM	0	4	8	11	0	0	10	2	0	4	5	22	0	9	8	0
3:30 PM	0	4	8	15	0	1	16	4	0	1	9	22	0	9	2	0
3:45 PM	0	4	8	9	0	0	8	1	0	2	3	14	0	12	1	1
4:00 PM	0	6	10	8	0	0	16	3	0	1	9	19	0	16	7	0
4:15 PM	0	2	8	15	0	0	11	2	0	1	11	21	0	12	3	0
4:30 PM	0	5	7	5	0	0	21	10	0	4	9	32	0	8	4	1
4:45 PM	0	1	5	12	0	0	10	5	0	4	6	20	0	6	6	0
5:00 PM	0	7	2	19	0	0	29	5	0	2	20	63	0	8	5	0
5:15 PM	0	4	1	14	0	0	14	5	0	2	9	33	0	9	6	0
5:30 PM	0	0	3	7	0	1	10	9	0	2	13	31	0	6	2	1
5:45 PM	0	3	4	7	0	0	6	1	0	1	11	7	0	9	5	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**172**	**77**	**25**	**0**	**0**	**9**	**6**	**0**	**18**	**8**	**9**	**0**	**74**	**26**	**0**
PHF	**0.77**				**0.63**				**0.73**				**0.89**			
HV %	**0.0%**	**0.6%**	**0.0%**	**12.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.6%**	**0.0%**	**11.1%**	**0.0%**	**2.7%**	**3.8%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**17**	**15**	**50**	**0**	**0**	**74**	**25**	**0**	**12**	**44**	**148**	**0**	**31**	**21**	**1**
PHF	**0.73**				**0.73**				**0.60**				**0.88**			
HV %	**0.0%**	**17.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 5
Location:	Portsmouth, NH
Street 1:	Portsmouth Boulevard
Street 2:	Commerce Way & Osprey Drive
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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HEAVY VEHICLES

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive 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	0	1	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	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1	0
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
8:45 AM	0	0	4	1	0	0	0	0	0	1	1	0	0	1	0	0
3:00 PM	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
3:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00 PM	0	1	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	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
8:00 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:00 AM	**0**	**1**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**0**	**3**	**1**	**0**
PHF	**0.45**				**0.00**				**0.50**				**0.33**			

PM PEAK HOUR	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
3:00 PM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**1**
PHF	**0.38**				**0.25**				**0.50**				**0.25**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 5
Location: Portsmouth, NH
Street 1: Portsmouth Boulevard
Street 2: Commerce Way & Osprey Drive
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	11
3:15 PM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4
3:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	2
3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
5:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1

AM PEAK HOUR 7:45 AM to 8:45 AM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	7

PM PEAK HOUR 4:30 PM to 5:30 PM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 5
Location:	Portsmouth, NH
Street 1:	Portsmouth Boulevard
Street 2:	Commerce Way & Osprey Drive
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey 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	1	1	6	0	1	2	0	0	0	7	1	0	8	8	1
11:15 AM	0	1	0	7	0	0	0	1	0	0	8	1	0	6	5	0
11:30 AM	0	2	2	3	0	0	2	0	0	0	6	1	0	5	4	0
11:45 AM	0	1	1	4	0	0	2	1	0	0	6	4	0	5	4	0
12:00 PM	0	3	3	4	0	0	3	1	0	0	5	1	0	7	6	0
12:15 PM	0	4	3	0	0	2	3	2	0	1	6	1	0	11	5	2
12:30 PM	0	4	2	4	0	1	1	2	0	2	6	3	0	5	3	0
12:45 PM	0	2	1	7	0	0	6	1	0	1	7	3	0	9	5	1

MID PEAK HOUR 12:00 PM to 1:00 PM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**13**	**9**	**15**	**0**	**3**	**13**	**6**	**0**	**4**	**24**	**8**	**0**	**32**	**19**	**3**
PHF	**0.93**				**0.79**				**0.82**				**0.75**			
HV %	**0.0%**	**7.7%**	**0.0%**	**0.0%**	**0.0%**	**33.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**12.5%**	**0.0%**	**0.0%**	**5.3%**	**0.0%**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 5
Location:	Portsmouth, NH
Street 1:	Portsmouth Boulevard
Street 2:	Commerce Way & Osprey Drive
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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HEAVY VEHICLES

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey 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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	1	0	0	0	0	0	0	0	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	1	0	0	0	0
12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:45 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	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**
PHF	**0.25**				**0.25**				**0.50**				**0.25**			

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 5
Location:	Portsmouth, NH
Street 1:	Portsmouth Boulevard
Street 2:	Commerce Way & Osprey Drive
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
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	1
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
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	2	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:00 PM to 1:00 PM	Portsmouth Boulevard Northbound				Portsmouth Boulevard Southbound				Commerce Way Eastbound				Osprey Drive Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	1	0	2	0	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:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 7
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	I-95 SB Ramps
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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	12	0	40	0	0	50	23	0	10	42	0
7:15 AM	0	0	0	0	0	20	0	56	0	0	85	24	0	8	53	0
7:30 AM	0	0	0	0	0	32	0	58	0	0	73	21	1	14	55	0
7:45 AM	0	0	0	0	0	57	1	73	0	0	95	28	0	20	99	0
8:00 AM	0	0	0	0	0	37	0	75	0	0	78	20	0	19	104	0
8:15 AM	0	0	0	0	0	37	0	73	0	0	97	23	0	24	113	0
8:30 AM	0	0	0	0	0	54	0	61	0	0	97	24	0	20	93	0
8:45 AM	0	0	0	0	0	61	1	52	0	0	89	22	0	14	95	0
3:00 PM	0	0	0	0	0	30	1	71	0	0	180	56	0	55	105	0
3:15 PM	0	0	0	0	0	44	0	91	0	0	158	40	0	37	111	0
3:30 PM	0	0	0	0	0	36	0	87	0	0	181	42	0	51	99	0
3:45 PM	0	0	0	0	0	32	0	91	0	0	179	28	0	45	102	0
4:00 PM	0	0	0	0	0	27	0	81	0	0	227	52	0	53	129	0
4:15 PM	0	0	0	0	0	32	0	69	0	0	198	41	0	40	130	0
4:30 PM	0	0	0	0	0	47	0	74	0	0	199	48	0	54	112	0
4:45 PM	0	0	0	0	0	60	0	85	0	0	209	38	0	49	111	0
5:00 PM	0	0	0	0	0	60	1	60	0	0	213	65	0	67	122	0
5:15 PM	0	0	0	0	0	61	0	75	0	0	225	46	0	46	123	0
5:30 PM	0	0	0	0	0	34	0	67	0	0	199	37	0	51	100	0
5:45 PM	0	0	0	0	0	34	0	60	0	0	172	24	0	22	95	0

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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**	**185**	**1**	**282**	**0**	**0**	**367**	**95**	**0**	**83**	**409**	**0**
PHF	**0.00**				**0.89**				**0.94**				**0.90**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.9%**	**0.0%**	**3.2%**	**0.0%**	**0.0%**	**3.5%**	**7.4%**	**0.0%**	**7.2%**	**4.9%**	**0.0%**

PM PEAK HOUR 4:30 PM to 5:30 PM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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**	**228**	**1**	**294**	**0**	**0**	**846**	**197**	**0**	**216**	**468**	**0**
PHF	**0.00**				**0.90**				**0.94**				**0.90**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**1.5%**	**1.5%**	**0.0%**	**1.4%**	**1.3%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 7
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 SB Ramps
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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HEAVY VEHICLES

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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	2	0	1	0	0	3	4	0	3	3	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	5	1	0	1	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	4	1	0	1	5	0
8:00 AM	0	0	0	0	0	3	0	3	0	0	4	0	0	3	7	0
8:15 AM	0	0	0	0	0	3	0	4	0	0	3	3	0	0	4	0
8:30 AM	0	0	0	0	0	2	0	1	0	0	2	3	0	2	4	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	1	0	1	5	0
3:00 PM	0	0	0	0	0	0	0	2	0	0	1	7	0	3	3	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	2	1	0	1	4	0
3:30 PM	0	0	0	0	0	2	0	1	0	0	3	1	0	4	2	0
3:45 PM	0	0	0	0	0	0	0	2	0	0	3	0	0	3	3	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	1	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	2	1	0
4:30 PM	0	0	0	0	0	1	0	1	0	0	3	0	0	1	1	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	3	1	0	1	2	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	2	0	1	2	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	4	0

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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**	**9**	**0**	**9**	**0**	**0**	**13**	**7**	**0**	**6**	**20**	**0**
PHF	**0.00**				**0.64**				**0.83**				**0.65**			

PM PEAK HOUR 3:00 PM to 4:00 PM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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**	**2**	**0**	**6**	**0**	**0**	**9**	**9**	**0**	**11**	**12**	**0**
PHF	**0.00**				**0.67**				**0.56**				**0.96**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 7
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 SB Ramps
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	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	3	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	5	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	1	0	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	0	5	0	1	0	0	0	1	0	0

PM PEAK HOUR 4:30 PM to 5:30 PM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	0	8	0	3	0	0	0	1	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 7
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 SB Ramps
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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	30	0	88	0	0	159	31	0	23	95	0
11:15 AM	0	0	0	0	0	36	1	87	0	0	156	28	0	26	79	0
11:30 AM	0	0	0	0	0	49	0	88	0	0	162	32	0	12	102	0
11:45 AM	0	0	0	0	0	41	1	108	0	0	192	38	0	31	114	0
12:00 PM	0	0	0	0	0	48	1	103	0	0	193	36	0	26	90	0
12:15 PM	0	0	0	0	0	35	1	86	0	0	152	28	0	22	96	0
12:30 PM	0	0	0	0	0	24	0	101	0	0	163	33	0	23	96	0
12:45 PM	0	0	0	0	0	44	0	87	0	0	193	27	0	36	98	0

MID PEAK HOUR 11:30 AM to 12:30 PM	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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**	**173**	**3**	**385**	**0**	**0**	**699**	**134**	**0**	**91**	**402**	**0**
PHF	**0.00**				**0.92**				**0.91**				**0.85**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.6%**	**3.0%**	**0.0%**	**1.1%**	**0.5%**	**0.0%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 7
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 SB Ramps
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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HEAVY VEHICLES

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street 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	4	0	0	0	2	0
11:15 AM	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0
12:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	2	0	0

MID PEAK HOUR	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
12:00 PM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
1:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**7**	**3**	**0**	**3**	**1**	**0**
PHF	**0.00**				**0.38**				**0.63**				**0.50**			

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 7
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	I-95 SB Ramps
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0
11:45 AM	0	0	0	0	0	0	0	3	0	1	0	0	0	1	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	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

MID PEAK HOUR	I-95 SB On-Ramp Northbound				I-95 SB Off-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
11:30 AM to	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
12:30 PM	0	0	0	0	0	0	0	7	0	1	0	0	0	5	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 8
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	I-95 NB Ramps
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street 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	23	0	36	0	0	0	0	0	13	42	0	0	0	27	8
7:15 AM	0	23	0	38	0	0	0	0	0	43	67	0	0	0	38	14
7:30 AM	0	27	0	49	0	0	0	0	0	28	78	0	0	0	43	9
7:45 AM	0	49	0	90	0	0	0	0	0	30	117	0	0	0	67	11
8:00 AM	0	45	0	77	0	0	0	0	0	32	87	0	0	0	86	10
8:15 AM	0	50	0	77	0	0	0	0	1	36	96	0	0	0	82	16
8:30 AM	0	39	0	93	0	0	0	0	0	36	116	0	0	0	71	14
8:45 AM	0	31	1	85	0	0	0	0	0	38	112	0	1	0	79	14
3:00 PM	0	21	2	45	0	0	0	0	0	98	107	0	0	0	143	48
3:15 PM	0	17	2	33	0	0	0	0	0	104	104	0	1	0	130	47
3:30 PM	0	21	1	17	0	0	0	0	0	104	111	0	0	0	136	64
3:45 PM	0	14	1	34	0	0	0	0	0	111	102	0	0	0	126	41
4:00 PM	0	13	1	28	0	0	0	0	0	131	123	0	0	0	169	44
4:15 PM	0	17	0	30	0	0	0	0	0	106	124	0	0	0	153	34
4:30 PM	0	14	0	25	0	0	0	0	0	121	121	0	1	0	152	57
4:45 PM	0	17	1	35	0	0	0	0	0	112	161	0	0	0	143	74
5:00 PM	0	31	0	57	0	0	0	0	0	119	153	0	0	0	154	42
5:15 PM	0	24	0	54	0	0	0	0	0	131	156	0	0	0	149	46
5:30 PM	0	23	0	55	0	0	0	0	0	99	134	0	0	0	123	38
5:45 PM	0	24	1	24	0	0	0	0	0	89	123	0	0	0	94	30

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**183**	**0**	**337**	**0**	**0**	**0**	**0**	**1**	**134**	**416**	**0**	**0**	**0**	**306**	**51**
PHF	**0.94**				**0.00**				**0.91**				**0.91**			
HV %	**0.0%**	**4.9%**	**0.0%**	**2.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**6.0%**	**3.4%**	**0.0%**	**0.0%**	**0.0%**	**5.2%**	**3.9%**

PM PEAK HOUR 4:30 PM to 5:30 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**86**	**1**	**171**	**0**	**0**	**0**	**0**	**0**	**483**	**591**	**0**	**1**	**0**	**598**	**219**
PHF	**0.73**				**0.00**				**0.94**				**0.94**			
HV %	**0.0%**	**3.5%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.1%**	**0.8%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**1.8%**

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 8
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 NB Ramps
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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HEAVY VEHICLES

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street 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	2	0	0	0	0	0	0	5	0	0	0	5	1
7:15 AM	0	0	0	2	0	0	0	0	0	4	1	0	0	0	1	1
7:30 AM	0	1	0	3	0	0	0	0	0	2	2	0	0	0	2	0
7:45 AM	0	1	0	3	0	0	0	0	0	2	3	0	0	0	4	0
8:00 AM	0	3	0	1	0	0	0	0	0	1	6	0	0	0	7	0
8:15 AM	0	3	0	1	0	0	0	0	0	3	3	0	0	0	1	2
8:30 AM	0	2	0	4	0	0	0	0	0	2	2	0	0	0	4	0
8:45 AM	0	4	0	3	0	0	0	0	0	1	2	0	1	0	1	1
3:00 PM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	6	0
3:15 PM	0	1	0	2	0	0	0	0	0	2	0	0	0	0	3	1
3:30 PM	0	2	0	1	0	0	0	0	0	1	2	0	0	0	4	0
3:45 PM	0	0	0	0	0	0	0	0	0	3	2	0	0	0	6	0
4:00 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	4	1
4:15 PM	0	1	0	0	0	0	0	0	0	1	1	0	0	0	2	1
4:30 PM	0	1	0	0	0	0	0	0	0	2	1	0	0	0	1	1
4:45 PM	0	1	0	0	0	0	0	0	0	1	3	0	0	0	2	1
5:00 PM	0	1	0	2	0	0	0	0	0	2	0	0	0	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	0	5	1	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
5:45 PM	0	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**9**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**8**	**14**	**0**	**0**	**0**	**16**	**2**
PHF	**0.75**				**0.00**				**0.79**				**0.64**			

PM PEAK HOUR 3:00 PM to 4:00 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**0**	**0**	**0**	**19**	**1**
PHF	**0.67**				**0.00**				**0.55**				**0.83**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 8
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 NB Ramps
Count Date: 7/9/2025
Day of Week: Wednesday
Weather: Cloudy, 70°F

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PEDESTRIANS & BICYCLES

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	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	3	0	1	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	0

PM PEAK HOUR 4:30 PM to 5:30 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	0	0	0	0	2	0	1	0	0	0	1	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 8
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	I-95 NB Ramps
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street 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	12	1	50	0	0	0	0	0	86	97	0	0	0	101	27
11:15 AM	0	12	0	46	0	0	0	0	0	89	104	0	0	0	94	23
11:30 AM	0	18	1	51	0	0	0	0	0	90	120	0	0	0	95	39
11:45 AM	0	8	1	55	0	0	0	0	0	91	123	0	0	0	138	33
12:00 PM	0	14	2	51	0	0	0	0	0	120	138	0	0	0	102	32
12:15 PM	0	9	0	46	0	0	0	0	0	84	106	0	0	0	112	29
12:30 PM	0	14	1	50	0	0	0	0	0	73	108	0	0	0	108	49
12:45 PM	0	14	0	46	0	0	0	0	0	107	128	0	1	0	119	32

MID PEAK HOUR 11:30 AM to 12:30 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**49**	**4**	**203**	**0**	**0**	**0**	**0**	**0**	**385**	**487**	**0**	**0**	**0**	**447**	**133**
PHF	**0.91**				**0.00**				**0.84**				**0.85**			
HV %	**0.0%**	**2.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Location 8
Location:	Portsmouth, NH
Street 1:	Market Street
Street 2:	I-95 NB Ramps
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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HEAVY VEHICLES

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street 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	2	2	0	0	0	2	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
11:30 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
12:00 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	1	0
12:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
12:45 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0

MID PEAK HOUR 12:00 PM to 1:00 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**6**	**0**	**0**	**0**	**4**	**0**
PHF	**0.50**				**0.00**				**0.56**				**0.50**			

Client: Matthew Stoutz, PE, PTOE, RSP1
Project #: 1712_1_TB
BTD #: Location 8
Location: Portsmouth, NH
Street 1: Market Street
Street 2: I-95 NB Ramps
Count Date: 7/12/2025
Day of Week: Saturday
Weather: Cloudy, 80°F

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PEDESTRIANS & BICYCLES

	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
11:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0
11:45 AM	0	0	0	1	0	0	0	3	0	1	0	0	0	1	0	0
12:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:30 AM to 12:30 PM	I-95 NB Off-Ramp Northbound				I-95 NB On-Ramp Southbound				Market Street Eastbound				Market Street Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	0	0	0	1	0	0	0	7	0	1	0	0	0	5	0	1

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Ped 1
Location:	Portsmouth, NH
	Pedestrian Bridge
Street:	over Market Street
Count Date:	7/9/2025
Day of Week:	Wednesday
Weather:	Cloudy, 70°F

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PEDESTRIANS

Start Time	Northbound	Southbound
7:00 AM	0	0
7:15 AM	1	1
7:30 AM	0	0
7:45 AM	1	0
8:00 AM	0	0
8:15 AM	4	1
8:30 AM	0	2
8:45 AM	0	0
3:00 PM	2	1
3:15 PM	1	0
3:30 PM	0	1
3:45 PM	1	1
4:00 PM	0	1
4:15 PM	0	1
4:30 PM	0	0
4:45 PM	1	0
5:00 PM	0	1
5:15 PM	0	0
5:30 PM	0	0
5:45 PM	0	4
TOTAL	**11**	**14**

Client:	Matthew Stoutz, PE, PTOE, RSP1
Project #:	1712_1_TB
BTD #:	Ped 1
Location:	Portsmouth, NH
	Pedestrian Bridge
Street:	over Market Street
Count Date:	7/12/2025
Day of Week:	Saturday
Weather:	Cloudy, 80°F

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PEDESTRIANS

Start Time	Northbound	Southbound
11:00 AM	0	0
11:15 AM	0	0
11:30 AM	1	1
11:45 AM	0	2
12:00 PM	0	0
12:15 PM	0	0
12:30 PM	0	0
12:45 PM	2	0
TOTAL	**3**	**3**

Volume Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 1
Location Portsmouth Blvd NB, south of Commerce Way

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Wednesday, July 9, 2025

Time	Total		NB				Time	Total		NB			
0000	0		0		0		1200	18		18		0	
0015	1		1		0		1215	20		20		0	
0030	1		1		0		1230	29		29		0	
0045	1	3	1	3	0	0	1245	35	102	35	102	0	0
0100	0		0		0		1300	23		23		0	
0115	1		1		0		1315	26		26		0	
0130	0		0		0		1330	19		19		0	
0145	0	1	0	1	0	0	1345	32	100	32	100	0	0
0200	0		0		0		1400	24		24		0	
0215	2		2		0		1415	26		26		0	
0230	0		0		0		1430	30		30		0	
0245	1	3	1	3	0	0	1445	21	101	21	101	0	0
0300	4		4		0		1500	17		17		0	
0315	1		1		0		1515	26		26		0	
0330	0		0		0		1530	28		28		0	
0345	2	7	2	7	0	0	1545	20	91	20	91	0	0
0400	0		0		0		1600	25		25		0	
0415	2		2		0		1615	24		24		0	
0430	2		2		0		1630	17		17		0	
0445	2	6	2	6	0	0	1645	18	84	18	84	0	0
0500	0		0		0		1700	30		30		0	
0515	2		2		0		1715	17		17		0	
0530	3		3		0		1730	10		10		0	
0545	8	13	8	13	0	0	1745	15	72	15	72	0	0
0600	8		8		0		1800	15		15		0	
0615	6		6		0		1815	8		8		0	
0630	14		14		0		1830	11		11		0	
0645	18	46	18	46	0	0	1845	10	44	10	44	0	0
0700	18		18		0		1900	8		8		0	
0715	28		28		0		1915	9		9		0	
0730	36		36		0		1930	13		13		0	
0745	71	153	71	153	0	0	1945	9	39	9	39	0	0
0800	60		60		0		2000	10		10		0	
0815	87		87		0		2015	11		11		0	
0830	53		53		0		2030	6		6		0	
0845	44	244	44	244	0	0	2045	5	32	5	32	0	0
0900	46		46		0		2100	5		5		0	
0915	29		29		0		2115	5		5		0	
0930	27		27		0		2130	6		6		0	
0945	28	130	28	130	0	0	2145	6	22	6	22	0	0
1000	22		22		0		2200	13		13		0	
1015	30		30		0		2215	4		4		0	
1030	16		16		0		2230	4		4		0	
1045	17	85	17	85	0	0	2245	4	25	4	25	0	0
1100	31		31		0		2300	5		5		0	
1115	18		18		0		2315	2		2		0	
1130	19		19		0		2330	3		3		0	
1145	20	88	20	88	0	0	2345	1	11	1	11	0	0
							Total	**1502**		**1502**		**0**	

Volume Report

Job	1712_1_TB
Area	1712_Portsmouth NH_ATR 1
Location	Portsmouth Blvd NB, south of Commerce Way

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Thursday, July 10, 2025

Time	Total		NB				Time	Total		NB			
0000	4		4		0		1200	20		20		0	
0015	5		5		0		1215	24		24		0	
0030	1		1		0		1230	24		24		0	
0045	1	11	1	11	0	0	1245	37	105	37	105	0	0
0100	1		1		0		1300	29		29		0	
0115	2		2		0		1315	28		28		0	
0130	1		1		0		1330	22		22		0	
0145	1	5	1	5	0	0	1345	23	102	23	102	0	0
0200	1		1		0		1400	18		18		0	
0215	0		0		0		1415	29		29		0	
0230	0		0		0		1430	25		25		0	
0245	1	2	1	2	0	0	1445	23	95	23	95	0	0
0300	4		4		0		1500	25		25		0	
0315	1		1		0		1515	19		19		0	
0330	0		0		0		1530	14		14		0	
0345	3	8	3	8	0	0	1545	17	75	17	75	0	0
0400	1		1		0		1600	14		14		0	
0415	0		0		0		1615	16		16		0	
0430	2		2		0		1630	16		16		0	
0445	2	5	2	5	0	0	1645	18	64	18	64	0	0
0500	3		3		0		1700	17		17		0	
0515	0		0		0		1715	17		17		0	
0530	3		3		0		1730	26		26		0	
0545	5	11	5	11	0	0	1745	18	78	18	78	0	0
0600	13		13		0		1800	18		18		0	
0615	5		5		0		1815	9		9		0	
0630	7		7		0		1830	14		14		0	
0645	16	41	16	41	0	0	1845	13	54	13	54	0	0
0700	16		16		0		1900	14		14		0	
0715	25		25		0		1915	7		7		0	
0730	39		39		0		1930	13		13		0	
0745	63	143	63	143	0	0	1945	13	47	13	47	0	0
0800	86		86		0		2000	6		6		0	
0815	101		101		0		2015	5		5		0	
0830	57		57		0		2030	2		2		0	
0845	40	284	40	284	0	0	2045	10	23	10	23	0	0
0900	46		46		0		2100	5		5		0	
0915	31		31		0		2115	13		13		0	
0930	29		29		0		2130	6		6		0	
0945	31	137	31	137	0	0	2145	3	27	3	27	0	0
1000	13		13		0		2200	10		10		0	
1015	17		17		0		2215	2		2		0	
1030	21		21		0		2230	7		7		0	
1045	22	73	22	73	0	0	2245	4	23	4	23	0	0
1100	25		25		0		2300	6		6		0	
1115	17		17		0		2315	2		2		0	
1130	23		23		0		2330	1		1		0	
1145	19	84	19	84	0	0	2345	2	11	2	11	0	0
							Total	**1508**		**1508**		**0**	

Volume Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way

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Wednesday, July 9, 2025

Time	Total		SB				Time	Total		SB			
0000	0		0		0		1200	45		45		0	
0015	2		2		0		1215	31		31		0	
0030	2		2		0		1230	30		30		0	
0045	2	6	2	6	0	0	1245	24	130	24	130	0	0
0100	1		1		0		1300	23		23		0	
0115	0		0		0		1315	27		27		0	
0130	0		0		0		1330	33		33		0	
0145	0	1	0	1	0	0	1345	32	115	32	115	0	0
0200	0		0		0		1400	28		28		0	
0215	3		3		0		1415	21		21		0	
0230	0		0		0		1430	43		43		0	
0245	2	5	2	5	0	0	1445	31	123	31	123	0	0
0300	2		2		0		1500	39		39		0	
0315	1		1		0		1515	41		41		0	
0330	0		0		0		1530	47		47		0	
0345	7	10	7	10	0	0	1545	34	161	34	161	0	0
0400	2		2		0		1600	51		51		0	
0415	9		9		0		1615	44		44		0	
0430	8		8		0		1630	61		61		0	
0445	4	23	4	23	0	0	1645	36	192	36	192	0	0
0500	8		8		0		1700	100		100		0	
0515	8		8		0		1715	56		56		0	
0530	10		10		0		1730	47		47		0	
0545	6	32	6	32	0	0	1745	22	225	22	225	0	0
0600	3		3		0		1800	17		17		0	
0615	3		3		0		1815	24		24		0	
0630	14		14		0		1830	9		9		0	
0645	16	36	16	36	0	0	1845	17	67	17	67	0	0
0700	19		19		0		1900	15		15		0	
0715	8		8		0		1915	8		8		0	
0730	28		28		0		1930	12		12		0	
0745	21	76	21	76	0	0	1945	6	41	6	41	0	0
0800	27		27		0		2000	10		10		0	
0815	24		24		0		2015	11		11		0	
0830	18		18		0		2030	3		3		0	
0845	26	95	26	95	0	0	2045	5	29	5	29	0	0
0900	27		27		0		2100	3		3		0	
0915	21		21		0		2115	6		6		0	
0930	31		31		0		2130	2		2		0	
0945	20	99	20	99	0	0	2145	2	13	2	13	0	0
1000	20		20		0		2200	4		4		0	
1015	23		23		0		2215	5		5		0	
1030	27		27		0		2230	1		1		0	
1045	14	84	14	84	0	0	2245	1	11	1	11	0	0
1100	18		18		0		2300	3		3		0	
1115	23		23		0		2315	0		0		0	
1130	32		32		0		2330	2		2		0	
1145	44	117	44	117	0	0	2345	3	8	3	8	0	0
							Total	**1699**		**1699**		**0**	

Volume Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way

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Thursday, July 10, 2025

Time	Total		SB				Time	Total		SB			
0000	4		4		0		1200	44		44		0	
0015	1		1		0		1215	30		30		0	
0030	1		1		0		1230	27		27		0	
0045	1	7	1	7	0	0	1245	31	132	31	132	0	0
0100	0		0		0		1300	28		28		0	
0115	0		0		0		1315	20		20		0	
0130	0		0		0		1330	23		23		0	
0145	0	0	0	0	0	0	1345	22	93	22	93	0	0
0200	1		1		0		1400	19		19		0	
0215	0		0		0		1415	23		23		0	
0230	1		1		0		1430	37		37		0	
0245	4	6	4	6	0	0	1445	21	100	21	100	0	0
0300	3		3		0		1500	42		42		0	
0315	0		0		0		1515	42		42		0	
0330	1		1		0		1530	51		51		0	
0345	5	9	5	9	0	0	1545	43	178	43	178	0	0
0400	3		3		0		1600	60		60		0	
0415	7		7		0		1615	34		34		0	
0430	8		8		0		1630	46		46		0	
0445	4	22	4	22	0	0	1645	37	177	37	177	0	0
0500	10		10		0		1700	83		83		0	
0515	3		3		0		1715	34		34		0	
0530	13		13		0		1730	43		43		0	
0545	11	37	11	37	0	0	1745	39	199	39	199	0	0
0600	1		1		0		1800	23		23		0	
0615	5		5		0		1815	16		16		0	
0630	5		5		0		1830	21		21		0	
0645	15	26	15	26	0	0	1845	11	71	11	71	0	0
0700	16		16		0		1900	9		9		0	
0715	19		19		0		1915	14		14		0	
0730	26		26		0		1930	9		9		0	
0745	17	78	17	78	0	0	1945	6	38	6	38	0	0
0800	28		28		0		2000	8		8		0	
0815	26		26		0		2015	6		6		0	
0830	25		25		0		2030	5		5		0	
0845	20	99	20	99	0	0	2045	8	27	8	27	0	0
0900	53		53		0		2100	6		6		0	
0915	20		20		0		2115	4		4		0	
0930	16		16		0		2130	4		4		0	
0945	25	114	25	114	0	0	2145	5	19	5	19	0	0
1000	11		11		0		2200	7		7		0	
1015	16		16		0		2215	3		3		0	
1030	39		39		0		2230	2		2		0	
1045	24	90	24	90	0	0	2245	1	13	1	13	0	0
1100	38		38		0		2300	4		4		0	
1115	28		28		0		2315	1		1		0	
1130	32		32		0		2330	0		0		0	
1145	39	137	39	137	0	0	2345	3	8	3	8	0	0
							Total	**1680**		**1680**		**0**	

Classification Report

Job # 1712_1_TB
Area 1712_Portsmouth NH_ATR 1
Location Portsmouth Blvd NB, south of Commerce Way
Direction Northbound
Wednesday, July 9, 2025

BOSTON TRAFFIC DATA
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Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0100	1	0	0	1	0	0	0	0	0	0	0	0	0	0
0200	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0300	7	0	6	1	0	0	0	0	0	0	0	0	0	0
0400	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0500	13	0	12	0	1	0	0	0	0	0	0	0	0	0
0600	46	0	42	4	0	0	0	0	0	0	0	0	0	0
0700	153	0	138	14	0	1	0	0	0	0	0	0	0	0
0800	244	0	207	33	2	2	0	0	0	0	0	0	0	0
0900	130	1	103	22	2	2	0	0	0	0	0	0	0	0
1000	85	3	69	10	2	1	0	0	0	0	0	0	0	0
1100	88	0	80	4	0	4	0	0	0	0	0	0	0	0
1200	102	0	90	9	0	3	0	0	0	0	0	0	0	0
1300	100	0	85	12	1	2	0	0	0	0	0	0	0	0
1400	101	0	80	19	0	2	0	0	0	0	0	0	0	0
1500	91	0	80	8	1	2	0	0	0	0	0	0	0	0
1600	84	0	73	9	0	2	0	0	0	0	0	0	0	0
1700	72	1	63	5	1	2	0	0	0	0	0	0	0	0
1800	44	1	38	4	0	1	0	0	0	0	0	0	0	0
1900	39	0	33	5	0	1	0	0	0	0	0	0	0	0
2000	32	0	28	3	0	1	0	0	0	0	0	0	0	0
2100	22	0	21	1	0	0	0	0	0	0	0	0	0	0
2200	25	1	21	3	0	0	0	0	0	0	0	0	0	0
2300	11	0	9	2	0	0	0	0	0	0	0	0	0	0
Total	**1502**	**7**	**1290**	**169**	**10**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.47%**	**85.89%**	**11.25%**	**0.67%**	**1.73%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1712_1_TB
Area 1712_Portsmouth NH_ATR 1
Location Portsmouth Blvd NB, south of Commerce Way
Direction Northbound
Thursday, July 10, 2025

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	11	0	10	0	1	0	0	0	0	0	0	0	0	0
0100	5	0	3	2	0	0	0	0	0	0	0	0	0	0
0200	2	0	1	1	0	0	0	0	0	0	0	0	0	0
0300	8	0	5	3	0	0	0	0	0	0	0	0	0	0
0400	5	0	4	1	0	0	0	0	0	0	0	0	0	0
0500	11	0	9	1	0	0	1	0	0	0	0	0	0	0
0600	41	1	36	3	0	0	1	0	0	0	0	0	0	0
0700	143	0	124	16	0	2	1	0	0	0	0	0	0	0
0800	284	0	251	30	2	1	0	0	0	0	0	0	0	0
0900	137	0	123	13	0	1	0	0	0	0	0	0	0	0
1000	73	0	57	13	1	2	0	0	0	0	0	0	0	0
1100	84	1	69	13	0	1	0	0	0	0	0	0	0	0
1200	105	0	85	15	0	4	1	0	0	0	0	0	0	0
1300	102	0	88	11	1	1	1	0	0	0	0	0	0	0
1400	95	0	76	17	0	2	0	0	0	0	0	0	0	0
1500	75	0	61	12	1	1	0	0	0	0	0	0	0	0
1600	64	0	54	7	0	3	0	0	0	0	0	0	0	0
1700	78	0	70	5	1	2	0	0	0	0	0	0	0	0
1800	54	1	46	6	0	1	0	0	0	0	0	0	0	0
1900	47	0	39	7	0	1	0	0	0	0	0	0	0	0
2000	23	0	21	1	0	1	0	0	0	0	0	0	0	0
2100	27	0	25	2	0	0	0	0	0	0	0	0	0	0
2200	23	0	21	2	0	0	0	0	0	0	0	0	0	0
2300	11	0	10	1	0	0	0	0	0	0	0	0	0	0
Total	**1508**	**3**	**1288**	**182**	**7**	**23**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.20%**	**85.41%**	**12.07%**	**0.46%**	**1.53%**	**0.33%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way
Direction Southbound
Wednesday, July 9, 2025

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	6	0	6	0	0	0	0	0	0	0	0	0	0	0
0100	1	0	1	0	0	0	0	0	0	0	0	0	0	0
0200	5	0	4	1	0	0	0	0	0	0	0	0	0	0
0300	10	0	8	2	0	0	0	0	0	0	0	0	0	0
0400	23	0	23	0	0	0	0	0	0	0	0	0	0	0
0500	32	0	26	5	1	0	0	0	0	0	0	0	0	0
0600	36	0	30	4	0	1	1	0	0	0	0	0	0	0
0700	76	0	65	8	1	2	0	0	0	0	0	0	0	0
0800	95	0	78	14	1	1	1	0	0	0	0	0	0	0
0900	99	1	75	19	2	1	0	0	0	1	0	0	0	0
1000	84	0	73	8	1	2	0	0	0	0	0	0	0	0
1100	117	0	97	14	1	4	0	0	0	1	0	0	0	0
1200	130	2	109	16	0	2	1	0	0	0	0	0	0	0
1300	115	1	101	11	0	2	0	0	0	0	0	0	0	0
1400	123	1	100	19	0	3	0	0	0	0	0	0	0	0
1500	161	0	147	13	0	1	0	0	0	0	0	0	0	0
1600	192	0	166	24	0	2	0	0	0	0	0	0	0	0
1700	225	0	201	23	0	1	0	0	0	0	0	0	0	0
1800	67	1	58	6	1	1	0	0	0	0	0	0	0	0
1900	41	0	39	1	0	1	0	0	0	0	0	0	0	0
2000	29	1	24	1	0	3	0	0	0	0	0	0	0	0
2100	13	0	12	1	0	0	0	0	0	0	0	0	0	0
2200	11	0	10	1	0	0	0	0	0	0	0	0	0	0
2300	8	0	7	1	0	0	0	0	0	0	0	0	0	0
Total	**1699**	**7**	**1460**	**192**	**8**	**27**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**
	100.00%	**0.41%**	**85.93%**	**11.30%**	**0.47%**	**1.59%**	**0.18%**	**0.00%**	**0.00%**	**0.12%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way
Direction Southbound
Thursday, July 10, 2025

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	7	0	7	0	0	0	0	0	0	0	0	0	0	0
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200	6	0	4	2	0	0	0	0	0	0	0	0	0	0
0300	9	0	7	2	0	0	0	0	0	0	0	0	0	0
0400	22	0	22	0	0	0	0	0	0	0	0	0	0	0
0500	37	0	28	9	0	0	0	0	0	0	0	0	0	0
0600	26	0	20	5	0	1	0	0	0	0	0	0	0	0
0700	78	0	66	6	1	3	1	0	0	1	0	0	0	0
0800	99	0	86	11	1	1	0	0	0	0	0	0	0	0
0900	114	0	97	15	1	1	0	0	0	0	0	0	0	0
1000	90	0	80	9	0	1	0	0	0	0	0	0	0	0
1100	137	0	120	14	0	3	0	0	0	0	0	0	0	0
1200	132	0	113	18	0	1	0	0	0	0	0	0	0	0
1300	93	0	78	12	0	2	1	0	0	0	0	0	0	0
1400	100	0	78	18	0	3	1	0	0	0	0	0	0	0
1500	178	0	150	27	0	1	0	0	0	0	0	0	0	0
1600	177	1	154	19	0	3	0	0	0	0	0	0	0	0
1700	199	2	177	19	0	1	0	0	0	0	0	0	0	0
1800	71	0	61	6	1	3	0	0	0	0	0	0	0	0
1900	38	0	34	3	0	1	0	0	0	0	0	0	0	0
2000	27	0	22	3	0	2	0	0	0	0	0	0	0	0
2100	19	0	18	1	0	0	0	0	0	0	0	0	0	0
2200	13	0	13	0	0	0	0	0	0	0	0	0	0	0
2300	8	0	7	1	0	0	0	0	0	0	0	0	0	0
Total	**1680**	**3**	**1442**	**200**	**4**	**27**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
	100.00%	**0.18%**	**85.83%**	**11.90%**	**0.24%**	**1.61%**	**0.18%**	**0.00%**	**0.00%**	**0.06%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Speed Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 1
Location Portsmouth Blvd NB, south of Commerce Way
Dir Northbound
Wednesday, July 9, 2025

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	3	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
0100	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0200	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
0300	7	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	0
0400	6	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0
0500	13	0	0	0	3	8	2	0	0	0	0	0	0	0	0	0	0
0600	46	0	0	0	11	23	11	1	0	0	0	0	0	0	0	0	0
0700	153	0	0	4	53	83	13	0	0	0	0	0	0	0	0	0	0
0800	244	0	3	20	90	120	9	2	0	0	0	0	0	0	0	0	0
0900	130	0	0	3	40	75	11	1	0	0	0	0	0	0	0	0	0
1000	85	0	1	2	30	40	12	0	0	0	0	0	0	0	0	0	0
1100	88	0	0	0	39	35	13	1	0	0	0	0	0	0	0	0	0
1200	102	0	0	3	31	62	6	0	0	0	0	0	0	0	0	0	0
1300	100	0	0	0	27	55	18	0	0	0	0	0	0	0	0	0	0
1400	101	0	0	6	36	52	5	2	0	0	0	0	0	0	0	0	0
1500	91	0	0	0	36	43	12	0	0	0	0	0	0	0	0	0	0
1600	84	0	0	2	21	46	11	4	0	0	0	0	0	0	0	0	0
1700	72	0	0	1	18	42	10	1	0	0	0	0	0	0	0	0	0
1800	44	0	0	0	10	26	8	0	0	0	0	0	0	0	0	0	0
1900	39	0	0	0	6	26	7	0	0	0	0	0	0	0	0	0	0
2000	32	0	0	3	9	12	8	0	0	0	0	0	0	0	0	0	0
2100	22	0	0	2	9	7	3	1	0	0	0	0	0	0	0	0	0
2200	25	0	0	0	8	14	3	0	0	0	0	0	0	0	0	0	0
2300	11	0	1	0	5	3	1	1	0	0	0	0	0	0	0	0	0
Total	**1502**	**0**	**5**	**47**	**487**	**780**	**168**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.0%	**0.0%**	**0.3%**	**3.1%**	**32.4%**	**51.9%**	**11.2%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Maximum = 32.2 mph, Minimum = 8.1 mph, Mean = 21.2 mph
85% Speed = 24.55 mph, 95% Speed = 27.07 mph, Median = 21.14 mph
10 mph Pace = 16 - 26, Number in Pace = 1286 (85.62%)
Variance = 12.17, Standard Deviation = 3.49 mph

Speed Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 1
Location Portsmouth Blvd NB, south of Commerce Way
Dir Northbound
Thursday, July 10, 2025

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	11	0	0	0	2	6	3	0	0	0	0	0	0	0	0	0	0
0100	5	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0
0200	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
0300	8	0	0	0	3	2	3	0	0	0	0	0	0	0	0	0	0
0400	5	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0
0500	11	0	0	0	2	5	4	0	0	0	0	0	0	0	0	0	0
0600	41	0	2	1	8	24	6	0	0	0	0	0	0	0	0	0	0
0700	143	0	0	2	49	80	11	1	0	0	0	0	0	0	0	0	0
0800	284	0	1	18	124	122	19	0	0	0	0	0	0	0	0	0	0
0900	137	0	0	9	49	68	10	1	0	0	0	0	0	0	0	0	0
1000	73	0	0	1	32	35	5	0	0	0	0	0	0	0	0	0	0
1100	84	0	0	5	31	42	6	0	0	0	0	0	0	0	0	0	0
1200	105	0	0	4	50	47	3	1	0	0	0	0	0	0	0	0	0
1300	102	0	3	5	39	47	7	1	0	0	0	0	0	0	0	0	0
1400	95	0	0	6	31	48	10	0	0	0	0	0	0	0	0	0	0
1500	75	0	0	1	26	39	9	0	0	0	0	0	0	0	0	0	0
1600	64	0	0	2	18	39	5	0	0	0	0	0	0	0	0	0	0
1700	78	0	0	0	19	45	13	1	0	0	0	0	0	0	0	0	0
1800	54	0	0	2	15	33	4	0	0	0	0	0	0	0	0	0	0
1900	47	0	0	0	10	30	7	0	0	0	0	0	0	0	0	0	0
2000	23	0	0	3	8	10	2	0	0	0	0	0	0	0	0	0	0
2100	27	0	0	0	9	13	5	0	0	0	0	0	0	0	0	0	0
2200	23	0	0	1	8	10	3	1	0	0	0	0	0	0	0	0	0
2300	11	0	0	0	2	7	2	0	0	0	0	0	0	0	0	0	0
Total	**1508**	**0**	**6**	**61**	**535**	**759**	**141**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.0%	**0.0%**	**0.4%**	**4.0%**	**35.5%**	**50.3%**	**9.4%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Maximum = 32.6 mph, Minimum = 6.1 mph, Mean = 20.8 mph
85% Speed = 24.25 mph, 95% Speed = 26.28 mph, Median = 20.86 mph
10 mph Pace = 16 - 26, Number in Pace = 1324 (87.80%)
Variance = 11.34, Standard Deviation = 3.37 mph

Speed Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way
Dir Southbound
Wednesday, July 9, 2025

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	6	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0
0100	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0200	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
0300	10	0	0	0	1	7	2	0	0	0	0	0	0	0	0	0	0
0400	23	0	0	0	1	7	10	4	1	0	0	0	0	0	0	0	0
0500	32	0	0	1	4	11	12	3	1	0	0	0	0	0	0	0	0
0600	36	0	0	0	9	20	7	0	0	0	0	0	0	0	0	0	0
0700	76	0	0	0	9	54	12	1	0	0	0	0	0	0	0	0	0
0800	95	0	0	0	16	58	19	2	0	0	0	0	0	0	0	0	0
0900	99	0	0	1	27	56	15	0	0	0	0	0	0	0	0	0	0
1000	84	0	0	0	17	51	12	4	0	0	0	0	0	0	0	0	0
1100	117	0	0	3	10	61	37	6	0	0	0	0	0	0	0	0	0
1200	130	0	0	1	20	76	27	6	0	0	0	0	0	0	0	0	0
1300	115	0	0	1	20	71	17	5	1	0	0	0	0	0	0	0	0
1400	123	0	0	3	24	61	31	4	0	0	0	0	0	0	0	0	0
1500	161	0	0	1	19	102	34	5	0	0	0	0	0	0	0	0	0
1600	192	0	0	0	15	116	54	7	0	0	0	0	0	0	0	0	0
1700	225	0	0	0	9	128	82	6	0	0	0	0	0	0	0	0	0
1800	67	0	0	0	13	35	18	1	0	0	0	0	0	0	0	0	0
1900	41	0	0	1	3	24	13	0	0	0	0	0	0	0	0	0	0
2000	29	0	0	2	5	17	3	2	0	0	0	0	0	0	0	0	0
2100	13	0	0	0	5	6	0	2	0	0	0	0	0	0	0	0	0
2200	11	0	0	0	0	9	2	0	0	0	0	0	0	0	0	0	0
2300	8	0	0	0	0	3	4	1	0	0	0	0	0	0	0	0	0
Total	**1699**	**0**	**0**	**14**	**228**	**984**	**411**	**59**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.0%	**0.0%**	**0.0%**	**0.8%**	**13.4%**	**57.9%**	**24.2%**	**3.5%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Maximum = 37.4 mph, Minimum = 11.8 mph, Mean = 23.3 mph
85% Speed = 26.56 mph, 95% Speed = 29.14 mph, Median = 23.15 mph
10 mph Pace = 18 - 28, Number in Pace = 1489 (87.64%)
Variance = 11.36, Standard Deviation = 3.37 mph

Speed Report

Job 1712_1_TB
Area 1712_Portsmouth NH_ATR 2
Location Portsmouth Blvd SB, south of Commerce Way
Dir Southbound
Thursday, July 10, 2025

BOSTON
TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	7	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200	6	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0
0300	9	0	0	0	1	7	1	0	0	0	0	0	0	0	0	0	0
0400	22	0	0	0	1	7	13	0	1	0	0	0	0	0	0	0	0
0500	37	0	0	1	4	19	7	5	1	0	0	0	0	0	0	0	0
0600	26	0	0	0	7	15	4	0	0	0	0	0	0	0	0	0	0
0700	78	0	0	1	11	44	20	2	0	0	0	0	0	0	0	0	0
0800	99	0	0	0	9	70	18	2	0	0	0	0	0	0	0	0	0
0900	114	0	1	1	29	64	16	3	0	0	0	0	0	0	0	0	0
1000	90	0	0	1	14	55	19	1	0	0	0	0	0	0	0	0	0
1100	137	0	0	0	17	93	24	2	1	0	0	0	0	0	0	0	0
1200	132	0	0	0	15	86	30	1	0	0	0	0	0	0	0	0	0
1300	93	0	0	1	23	48	20	0	1	0	0	0	0	0	0	0	0
1400	100	0	0	3	25	51	18	3	0	0	0	0	0	0	0	0	0
1500	178	0	0	1	29	105	40	3	0	0	0	0	0	0	0	0	0
1600	177	0	0	1	21	116	37	2	0	0	0	0	0	0	0	0	0
1700	199	0	0	0	22	115	59	3	0	0	0	0	0	0	0	0	0
1800	71	0	0	0	13	37	19	2	0	0	0	0	0	0	0	0	0
1900	38	0	0	1	4	20	13	0	0	0	0	0	0	0	0	0	0
2000	27	0	0	0	7	17	1	2	0	0	0	0	0	0	0	0	0
2100	19	0	0	0	3	12	3	1	0	0	0	0	0	0	0	0	0
2200	13	0	0	0	2	8	3	0	0	0	0	0	0	0	0	0	0
2300	8	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0
Total	**1680**	**0**	**1**	**11**	**259**	**1001**	**372**	**32**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	100.0%	**0.0%**	**0.1%**	**0.7%**	**15.4%**	**59.6%**	**22.1%**	**1.9%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Maximum = 36.8 mph, Minimum = 9.7 mph, Mean = 23.0 mph
85% Speed = 26.17 mph, 95% Speed = 28.46 mph, Median = 22.93 mph
10 mph Pace = 18 - 28, Number in Pace = 1489 (88.63%)
Variance = 10.57, Standard Deviation = 3.25 mph

APPENDIX B

NHDOT Traffic Data

Group 4 Averages: Urban Highways

Month	MADT	Adjustment to Average	Adjustment to Peak
January	14,556	1.04	1.09
February	15,385	0.98	1.03
March	14,276	1.06	1.11
April	14,515	1.04	1.10
May	15,571	0.97	1.02
June	15,918	0.95	1.00
July	15,765	0.96	1.01
August	15,856	0.95	1.00
September	15,571	0.97	1.02
October	15,698	0.96	1.01
November	14,429	1.05	1.10
December	13,960	1.08	1.14

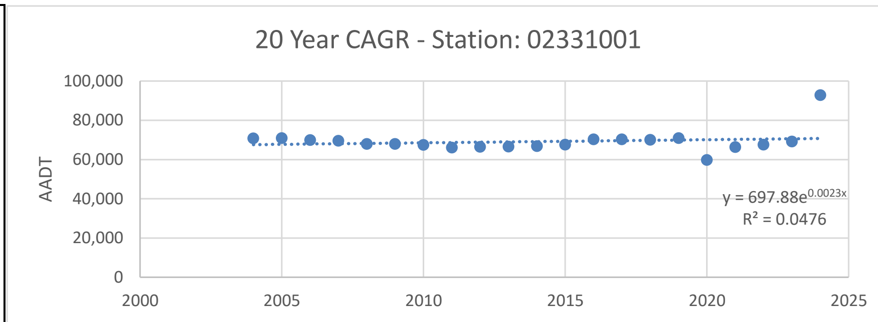
Average ADT: 15,125
Peak ADT: 15,918

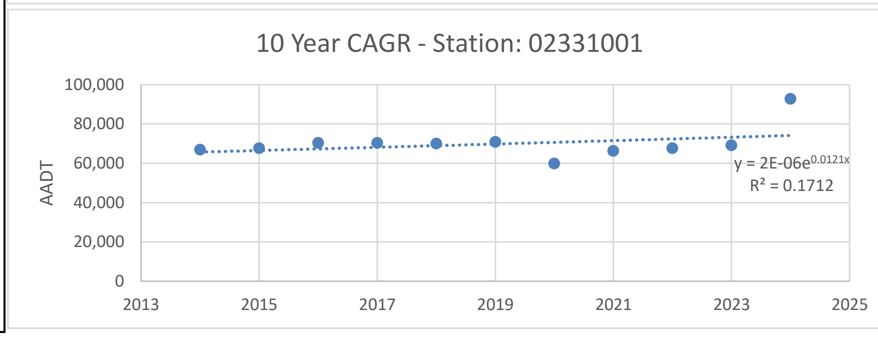
GROUP	Station	TOWN	LOCATION
04	02051003	Bow	NH 3A south of Robinson Rd
04	02089001	Chichester	NH 28 (Suncook Valley Rd) north of Bear Hill Rd
04	02091001	Claremont	NH 12/103 east of Vermont SL
04	02125001	Dover	Dover Point Rd south of Thornwood Ln
04	02133021	Durham	US 4 east of NH 108
04	02229022	Hudson	Circumferential Hwy east of Nashua TL
04	02253025	Lebanon	NH 120 1 mile south of Hanover TL (south of Lahaye Dr)
04	02255001	Barrington	NH 125 (Calef Hwy) north of Pinkham Rd
04	02287001	Marlborough	NH 12 at Swanzey TL
04	02297001	Merrimack	US 3 (Daniel Webster Hwy) north of Hilton Dr
04	*02303001*	*Amherst*	*NH 101A at Amherst TL (west of Overlook Dr)*
04	*02315051*	*Hudson*	*NH 111 (Bridge / Ferry St) at Hudson TL*
04	02339001	Newport	NH 10 1 mile south of Croydon TL (north of Corbin Rd)
04	02345001	North Hamptor	US 1 (Lafayette Rd) north of North Rd
04	02445001	Wilton	NH 101 at Wilton TL (west of Old County Farm Rd)
04	*02489001*	*Windham*	*NH 28 at Derry TL (north of Northland Rd)*
04	*62099056*	*Concord*	*NH 106 (Sheep Davis Rd) at Loudon TL (north of Ashby Rd)*
04	*62099059*	*Concord*	*Clinton St Rte: NH 13*
04	*62387052*	*Rindge*	*US 202 at Jaffrey TL (north of County Rd)*
04	62389040	Rochester	Spaulding Tpke N
04	72099278	Concord	US 3 (Fisherville Rd) north of Sewalls Falls Rd
04	82037087	Bedford	New Boston Rd
04	*82101031*	*Conway*	*White Mountain Hwy at Washington St*
04	*82101032*	*Conway*	*Pleasent St*
04	*82101033*	*Conway*	*White Mountain Hwy at Pleasant St*
04	*82169060*	*Gilford*	*Weirs Rd Rte: NH 11B*
04	82197076	Hampton Falls	US 1 (Lafayette Rd) south of Ramp to NH 101
04	*82213067*	*Henniker*	*Rush Rd*
04	*82237075*	*Keene*	*Keene By-Pass Rte: NH 101*
04	82243052	Kingston	NH Route 125 Rte: NH 107
04	82253117	Lebanon	Meriden Rd Rte: NH 120
04	*82253119*	*Lebanon*	*Etna Rd*
04	*82303020*	*Milford*	*NH 101 (Milford Bypass) North of Phelan Rd*
04	*82303066*	*Milford*	*NH 101 (Milford Bypass) East of NH 13*

** denotes Station that is not included in calculation*

10 and 20 Year Growth Rates				Station Finder	Select The Year, Town, and Location
Town:	Newington			1) Town:	Newington
Location:	US 4/NH 16 (Spaulding TPK) east/south of General Sullivan Bridge (Exit 4-5)			2) Location:	US 4/NH 16 (Spaulding TPK) east/south of General Sullivan Bridge (Exit 4-5)
Station:	02331001	FC:	2	Station:	02331001
Group:	3	Region:	E	Manual Station:	

Year	AADT	Annual Change
2004	70,866	
2005	71,000	0.19%
2006	69,945	-1.49%
2007	69,614	-0.47%
2008	68,000	-2.32%
2009	68,000	0.00%
2010	67,491	-0.75%
2011	66,177	-1.95%
2012	66,537	0.54%
2013	66,679	0.21%
2014	66,891	0.32%
2015	67,673	1.17%
2016	70,393	4.02%
2017	70,335	-0.08%
2018	70,054	-0.40%
2019	70,895	1.20%
2020	59,835	-15.60%
2021	66,357	10.90%
2022	67,618	1.90%
2023	69,173	2.30%
2024	92,809	34.17%





20 Year CAGR:	1.36%	10 Year CAGR:	3.33%
20 Year EXP:	0.23%	10 Year EXP:	1.21%
20-Average:	0.79%	10-Average:	2.27%

Data Notes: Limited data collected in 2024, estimate only

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

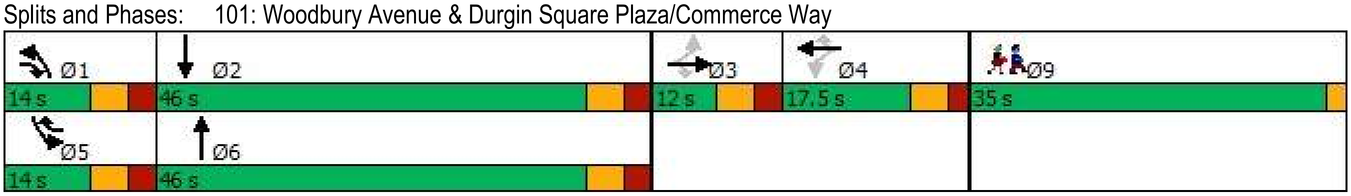
Capacity Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	5	6	10	5	1	43	16	342	217	420	
Future Volume (vph)	5	6	10	5	1	43	16	342	217	420	
Lane Group Flow (vph)	0	15	13	0	8	63	17	393	252	505	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.05	0.04		0.03	0.14	0.06	0.36	0.68	0.21	
Control Delay		28.5	0.2		28.2	2.5	27.4	16.4	34.0	12.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		28.5	0.2		28.2	2.5	27.4	16.4	34.0	12.3	
Queue Length 50th (ft)		2	0		1	0	2	22	33	0	
Queue Length 95th (ft)		26	0		16	0	33	166	#407	204	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		308	436		621	445	384	2938	371	2947	
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		0.05	0.03		0.01	0.14	0.04	0.13	0.68	0.17	

Intersection Summary

Cycle Length: 124.5
Actuated Cycle Length: 45.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	6	10	5	1	43	16	342	19	217	420	15
Future Volume (vph)	5	6	10	5	1	43	16	342	19	217	420	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1538		1750	1553	1694	3357		1636	3368	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1810	1538		1827	1553	1694	3357		1636	3368	
Peak-hour factor, PHF	0.75	0.75	0.75	0.68	0.68	0.68	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	7	8	13	7	1	63	17	372	21	252	488	17
RTOR Reduction (vph)	0	0	12	0	0	52	0	3	0	0	2	0
Lane Group Flow (vph)	0	15	1	0	8	11	17	390	0	252	503	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		0.5	3.1		0.6	10.9	2.6	20.1		10.3	27.8	
Effective Green, g (s)		0.5	3.1		0.6	10.9	2.6	20.1		10.3	27.8	
Actuated g/C Ratio		0.01	0.05		0.01	0.18	0.04	0.34		0.17	0.46	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		15	79		18	283	73	1128		281	1565	
v/s Ratio Prot			0.00			0.01	0.01	0.12		c0.15	c0.15	
v/s Ratio Perm		c0.01	0.00		c0.00	0.00						
v/c Ratio		1.00	0.01		0.44	0.04	0.23	0.35		0.90	0.32	
Uniform Delay, d1		29.6	26.9		29.4	20.1	27.6	14.9		24.2	10.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		232.4	0.0		16.5	0.1	1.6	0.2		28.4	0.1	
Delay (s)		262.0	26.9		45.9	20.2	29.3	15.1		52.7	10.2	
Level of Service		F	C		D	C	C	B		D	B	
Approach Delay (s)		152.9			23.1			15.7			24.3	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	25.5
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	26	97	17	30	114	292	36	367	
Future Volume (vph)	26	97	17	30	114	292	36	367	
Lane Group Flow (vph)	88	105	31	33	119	311	40	438	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.43	0.17	0.16	0.08	0.42	0.34	0.20	0.57	
Control Delay	42.2	1.9	36.1	0.4	36.4	23.2	35.7	27.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.2	1.9	36.1	0.4	36.4	23.2	35.7	27.5	
Queue Length 50th (ft)	31	0	11	0	40	47	14	76	
Queue Length 95th (ft)	#149	12	50	0	#165	138	60	193	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	203	635	320	681	318	1671	530	2111	
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	0.43	0.17	0.10	0.05	0.37	0.19	0.08	0.21	

Intersection Summary

Cycle Length: 121.5

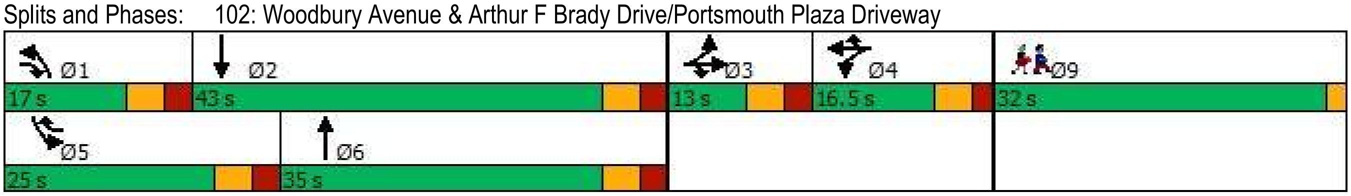
Actuated Cycle Length: 64.4

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	26	97	11	17	30	114	292	7	36	367	32
Future Volume (vph)	55	26	97	11	17	30	114	292	7	36	367	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1692	1487		1689	1463	1678	3342		1620	3309	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1692	1487		1689	1463	1678	3342		1620	3309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.96	0.96	0.96	0.91	0.91	0.91
Adj. Flow (vph)	60	28	105	12	19	33	119	304	7	40	403	35
RTOR Reduction (vph)	0	0	76	0	0	27	0	1	0	0	6	0
Lane Group Flow (vph)	0	88	29	0	31	6	119	310	0	40	432	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.8	18.7		4.1	12.1	10.9	17.8		8.0	14.9	
Effective Green, g (s)		7.8	18.7		4.1	12.1	10.9	17.8		8.0	14.9	
Actuated g/C Ratio		0.12	0.28		0.06	0.18	0.16	0.27		0.12	0.22	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		197	416		103	265	273	890		194	738	
v/s Ratio Prot		c0.05	0.02		c0.02	0.00	c0.07	c0.09		0.02	c0.13	
v/s Ratio Perm												
v/c Ratio		0.45	0.07		0.30	0.02	0.44	0.35		0.21	0.59	
Uniform Delay, d1		27.5	17.7		30.0	22.5	25.2	19.8		26.5	23.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.1		1.6	0.0	1.1	0.2		0.5	1.2	
Delay (s)		29.1	17.7		31.6	22.5	26.3	20.0		27.1	24.4	
Level of Service		C	B		C	C	C	C		C	C	
Approach Delay (s)		22.9			26.9			21.8			24.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	25.5
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	71	28	54	33	68	336	3	298	172	
Future Volume (vph)	71	28	54	33	68	336	3	298	172	
Lane Group Flow (vph)	76	77	68	50	78	478	3	343	198	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.20	0.33	0.29	0.20	0.35	0.34	0.02	0.38	0.23	
Control Delay	34.8	22.7	36.5	31.8	38.0	18.2	39.7	27.9	4.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.8	22.7	36.5	31.8	38.0	18.2	39.7	27.9	4.1	
Queue Length 50th (ft)	13	10	23	15	27	54	1	60	0	
Queue Length 95th (ft)	49	66	78	57	98	196	12	157	43	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	592	327	501	520	323	1586	215	1402	880	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.24	0.14	0.10	0.24	0.30	0.01	0.24	0.23	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 68.1
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	28	44	54	33	6	68	336	80	3	298	172
Future Volume (vph)	71	28	44	54	33	6	68	336	80	3	298	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	0.91		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1634		1834	1884		1678	3245		1647	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1634		1834	1884		1678	3245		1647	3355	1501
Peak-hour factor, PHF	0.93	0.93	0.93	0.79	0.79	0.79	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	76	30	47	68	42	8	78	386	92	3	343	198
RTOR Reduction (vph)	0	42	0	0	6	0	0	14	0	0	0	101
Lane Group Flow (vph)	76	35	0	68	44	0	78	464	0	3	343	97
Confl. Peds. (#/hr)			2	2			1		1	1		1
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	7.9	7.9		6.8	6.8		7.1	29.1		0.8	22.8	37.2
Effective Green, g (s)	7.9	7.9		6.8	6.8		7.1	29.1		0.8	22.8	37.2
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.09	0.38		0.01	0.30	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	349	170		164	169		157	1247		17	1010	737
v/s Ratio Prot	c0.02	0.02		c0.04	0.02		c0.05	c0.14		0.00	0.10	0.06
v/s Ratio Perm												
v/c Ratio	0.22	0.21		0.41	0.26		0.50	0.37		0.18	0.34	0.13
Uniform Delay, d1	31.1	31.0		32.6	32.1		32.6	16.7		37.1	20.6	10.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.6		1.7	0.8		2.5	0.2		4.9	0.2	0.1
Delay (s)	31.4	31.6		34.3	32.9		35.1	16.9		42.0	20.8	10.6
Level of Service	C	C		C	C		D	B		D	C	B
Approach Delay (s)		31.5			33.7			19.5			17.2	
Approach LOS		C			C			B			B	

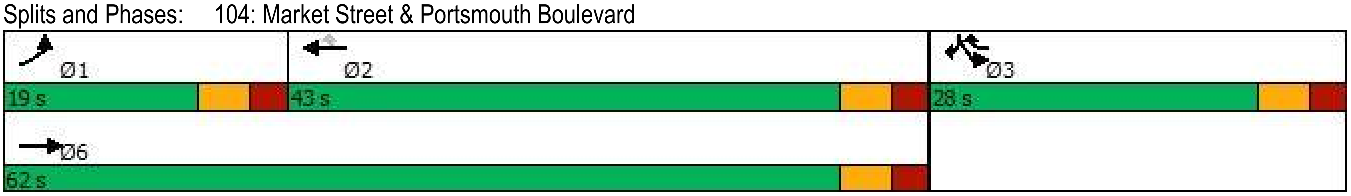
Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	28.0
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	353	437	232	51	47
Future Volume (vph)	43	353	437	232	51	47
Lane Group Flow (vph)	47	388	491	261	61	56
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.15	0.24	0.38	0.26	0.10	0.17
Control Delay	20.9	5.4	10.8	1.4	19.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	5.4	10.8	1.4	19.8	9.7
Queue Length 50th (ft)	6	20	26	0	4	0
Queue Length 95th (ft)	47	37	94	17	26	26
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	604	3213	2939	1343	2122	1032
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.12	0.17	0.19	0.03	0.05

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 40.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



104: Market Street & Portsmouth Boulevard
2025 Existing Conditions Weekday AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	353	437	232	51	47
Future Volume (vph)	43	353	437	232	51	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1678	3355	3388	1546	3255	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1678	3355	3388	1546	3255	1553
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.84	0.84
Adj. Flow (vph)	47	388	491	261	61	56
RTOR Reduction (vph)	0	0	0	123	0	46
Lane Group Flow (vph)	47	388	491	138	61	10
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.5	24.1	15.6	23.0	7.4	7.4
Effective Green, g (s)	2.5	24.1	15.6	23.0	7.4	7.4
Actuated g/C Ratio	0.06	0.55	0.36	0.53	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	96	1858	1215	1030	553	264
v/s Ratio Prot	0.03	c0.12	c0.14	c0.02	0.02	0.01
v/s Ratio Perm				0.07		
v/c Ratio	0.49	0.21	0.40	0.13	0.11	0.04
Uniform Delay, d1	19.9	4.9	10.5	5.2	15.3	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.1	0.2	0.1	0.1	0.1
Delay (s)	23.8	4.9	10.7	5.3	15.4	15.1
Level of Service	C	A	B	A	B	B
Approach Delay (s)		7.0	8.8		15.2	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	371	96	84	414	187	1	285
Future Volume (vph)	371	96	84	414	187	1	285
Lane Group Flow (vph)	395	102	93	460	185	173	173
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	25.0		26.0	51.0	39.0	39.0	39.0
Total Split (%)	27.8%		28.9%	56.7%	43.3%	43.3%	43.3%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.15	0.06	0.49	0.20	0.63	0.46	0.43
Control Delay	14.7	0.1	49.6	6.7	42.9	11.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	0.1	49.6	6.7	42.9	11.6	8.1
Queue Length 50th (ft)	50	0	55	25	104	14	0
Queue Length 95th (ft)	86	0	98	125	156	65	49
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2558	1724	356	2286	604	621	650
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	103	0	4	5
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.06	0.26	0.21	0.31	0.28	0.27

Intersection Summary

Cycle Length: 90

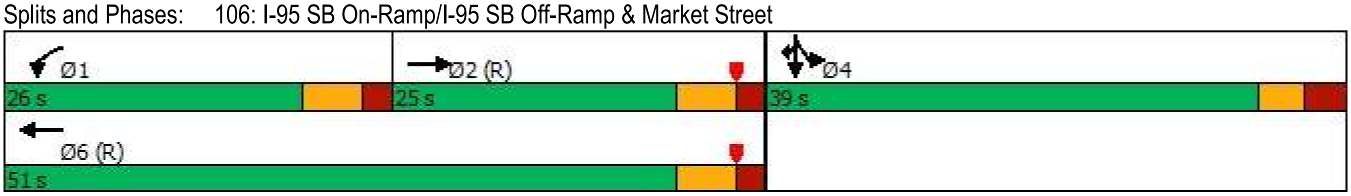
Actuated Cycle Length: 90

Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	371	96	84	414	0	0	0	0	187	1	285
Future Volume (vph)	0	371	96	84	414	0	0	0	0	187	1	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.87	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4821	1724	1604	3323					1649	1440	1475
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4821	1724	1604	3323					1649	1440	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	0	395	102	93	460	0	0	0	0	210	1	320
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	121	142
Lane Group Flow (vph)	0	395	102	93	460	0	0	0	0	185	52	31
Confl. Peds. (#/hr)	5					5						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		46.5	90.0	9.4	61.9					16.1	16.1	16.1
Effective Green, g (s)		46.5	90.0	9.4	61.9					16.1	16.1	16.1
Actuated g/C Ratio		0.52	1.00	0.10	0.69					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2490	1724	167	2285					294	257	263
v/s Ratio Prot		0.08		c0.06	c0.14					c0.11	0.04	0.02
v/s Ratio Perm			0.06									
v/c Ratio		0.16	0.06	0.56	0.20					0.63	0.20	0.12
Uniform Delay, d1		11.5	0.0	38.3	5.1					34.2	31.5	31.0
Progression Factor		1.09	1.00	1.12	1.12					1.00	1.00	1.00
Incremental Delay, d2		0.1	0.1	3.9	0.2					4.2	0.4	0.2
Delay (s)		12.6	0.1	47.0	5.9					38.4	31.9	31.2
Level of Service		B	A	D	A					D	C	C
Approach Delay (s)		10.1			12.8			0.0			33.9	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	136	422	312	52	0	340
Future Volume (vph)	136	422	312	52	0	340
Lane Group Flow (vph)	149	464	343	57	198	362
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	32.0	32.0
Total Split (s)	14.0	52.0	38.0	38.0	38.0	38.0
Total Split (%)	15.6%	57.8%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.43	0.21	0.20	0.06	0.59	0.63
Control Delay	31.7	3.3	14.4	0.7	39.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	3.3	14.4	0.7	39.2	9.8
Queue Length 50th (ft)	26	3	52	0	105	12
Queue Length 95th (ft)	60	107	102	5	152	79
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	351	2261	1724	928	622	774
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.21	0.20	0.06	0.32	0.47

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street

107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street
2025 Existing Conditions Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	422	0	0	312	52	186	0	340	0	0	0
Future Volume (vph)	136	422	0	0	312	52	186	0	340	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3255	3355			3438	1743		1752	1568			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3255	3355			3438	1743		1752	1568			
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	149	464	0	0	343	57	198	0	362	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	271	0	0	0
Lane Group Flow (vph)	149	464	0	0	343	29	0	198	91	0	0	0
Confl. Peds. (#/hr)	4					4						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	9.5	60.7			45.2	45.2		17.3	17.3			
Effective Green, g (s)	9.5	60.7			45.2	45.2		17.3	17.3			
Actuated g/C Ratio	0.11	0.67			0.50	0.50		0.19	0.19			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	343	2262			1726	875		336	301			
v/s Ratio Prot	c0.05	c0.14			0.10	0.02		c0.11	0.06			
v/s Ratio Perm												
v/c Ratio	0.43	0.21			0.20	0.03		0.59	0.30			
Uniform Delay, d1	37.7	5.5			12.4	11.3		33.1	31.2			
Progression Factor	0.74	0.49			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.2			0.3	0.1		3.1	0.8			
Delay (s)	28.9	2.9			12.6	11.4		36.2	31.9			
Level of Service	C	A			B	B		D	C			
Approach Delay (s)		9.2			12.5			33.5			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	8	9	75	26	0	174	78	25	0	9	6
Future Vol, veh/h	18	8	9	75	26	0	174	78	25	0	9	6
Peak Hour Factor	0.73	0.73	0.73	0.89	0.89	0.89	0.77	0.77	0.77	0.63	0.63	0.63
Heavy Vehicles, %	6	6	6	3	3	3	1	1	1	0	0	0
Mvmt Flow	25	11	12	84	29	0	226	101	32	0	14	10
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.8	10	10.2	7.9
HCM LOS	A	A	B	A

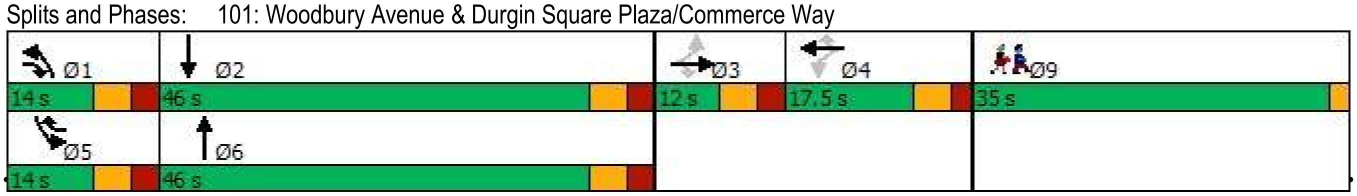
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	69%	0%	74%	0%	0%
Vol Thru, %	0%	76%	31%	0%	26%	100%	0%
Vol Right, %	0%	24%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	103	26	9	101	9	6
LT Vol	174	0	18	0	75	0	0
Through Vol	0	78	8	0	26	9	0
RT Vol	0	25	0	9	0	0	6
Lane Flow Rate	226	134	36	12	113	14	10
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.345	0.18	0.06	0.017	0.179	0.021	0.012
Departure Headway (Hd)	5.504	4.831	6.051	4.998	5.691	5.335	4.63
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	653	742	591	714	630	669	770
Service Time	3.234	2.561	3.798	2.744	3.729	3.084	2.378
HCM Lane V/C Ratio	0.346	0.181	0.061	0.017	0.179	0.021	0.013
HCM Control Delay	11.1	8.6	9.2	7.8	10	8.2	7.4
HCM Lane LOS	B	A	A	A	A	A	A
HCM 95th-tile Q	1.5	0.7	0.2	0.1	0.6	0.1	0

101: Woodbury Avenue & Durgin Square Plaza/Commerce Way
2025 Existing Conditions Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	29	30	94	39	23	175	100	591	128	743	
Future Volume (vph)	29	30	94	39	23	175	100	591	128	743	
Lane Group Flow (vph)	0	75	119	0	99	278	109	645	138	834	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.10	0.31		0.51	0.41	0.61	0.59	0.79	0.77	
Control Delay		180.0	6.5		47.9	4.8	55.1	26.8	71.1	31.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		180.0	6.5		47.9	4.8	55.1	26.8	71.1	31.3	
Queue Length 50th (ft)		~38	0		41	0	48	125	62	173	
Queue Length 95th (ft)		#165	19		95	0	#210	290	#275	392	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		68	388		222	674	180	1804	174	1795	
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		1.10	0.31		0.45	0.41	0.61	0.36	0.79	0.46	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 81.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	30	94	39	23	175	100	591	3	128	743	33
Future Volume (vph)	29	30	94	39	23	175	100	591	3	128	743	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1590		1804	1583	1728	3453		1668	3430	
Flt Permitted		0.47	1.00		0.77	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		878	1590		1424	1583	1728	3453		1668	3430	
Peak-hour factor, PHF	0.79	0.79	0.79	0.63	0.63	0.63	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	37	38	119	62	37	278	109	642	3	138	799	35
RTOR Reduction (vph)	0	0	97	0	0	211	0	0	0	0	3	0
Lane Group Flow (vph)	0	75	22	0	99	67	109	645	0	138	831	0
Confl. Peds. (#/hr)			1	1			1					1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.4	14.9		11.1	19.6	8.5	25.7		8.5	25.7	
Effective Green, g (s)		6.4	14.9		11.1	19.6	8.5	25.7		8.5	25.7	
Actuated g/C Ratio		0.08	0.18		0.14	0.24	0.10	0.32		0.10	0.32	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		68	290		193	380	180	1088		173	1081	
v/s Ratio Prot			0.01			0.02	0.06	0.19		c0.08	c0.24	
v/s Ratio Perm		c0.09	0.01		c0.07	0.02						
v/c Ratio		1.10	0.08		0.51	0.18	0.61	0.59		0.80	0.77	
Uniform Delay, d1		37.5	27.6		32.7	24.5	34.9	23.5		35.7	25.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		140.1	0.1		2.3	0.2	5.7	0.9		22.0	3.4	
Delay (s)		177.6	27.7		35.0	24.8	40.6	24.4		57.7	28.6	
Level of Service		F	C		C	C	D	C		E	C	
Approach Delay (s)		85.7			27.5			26.7			32.7	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	81.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

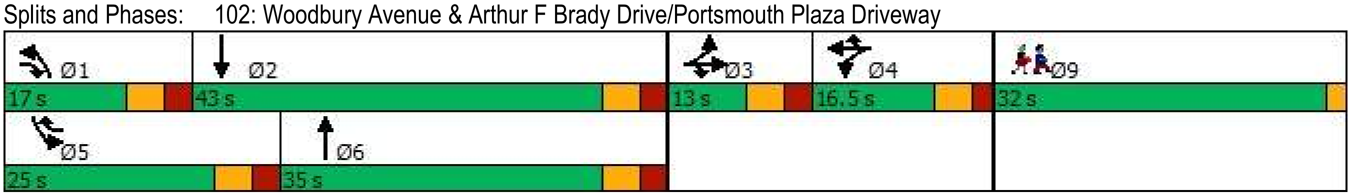
c Critical Lane Group

102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway
2025 Existing Conditions Weekday PM Peak

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	38	188	46	107	167	520	85	702	
Future Volume (vph)	38	188	46	107	167	520	85	702	
Lane Group Flow (vph)	124	221	118	120	172	564	93	869	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.84	0.44	0.55	0.22	0.74	0.50	0.45	0.80	
Control Delay	83.9	5.7	50.1	4.7	59.6	27.1	45.1	33.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	83.9	5.7	50.1	4.7	59.6	27.1	45.1	33.8	
Queue Length 50th (ft)	61	0	55	0	82	112	43	195	
Queue Length 95th (ft)	#228	28	#184	27	#297	268	122	413	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	148	507	231	672	231	1225	385	1532	
Starvation Cap Reductn	0	0	0	0	0	0	0	19	
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	0.84	0.44	0.51	0.18	0.74	0.46	0.24	0.57	

Intersection Summary
Cycle Length: 121.5
Actuated Cycle Length: 85.4
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	38	188	59	46	107	167	520	27	85	702	89
Future Volume (vph)	67	38	188	59	46	107	167	520	27	85	702	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1745	1531		1725	1507	1728	3429		1668	3389	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1745	1531		1725	1507	1728	3429		1668	3389	
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.97	0.97	0.97	0.91	0.91	0.91
Adj. Flow (vph)	79	45	221	66	52	120	172	536	28	93	771	98
RTOR Reduction (vph)	0	0	173	0	0	90	0	3	0	0	8	0
Lane Group Flow (vph)	0	124	48	0	118	30	172	561	0	93	861	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.7		10.6	21.3	11.4	27.9		10.7	27.2	
Effective Green, g (s)		7.3	18.7		10.6	21.3	11.4	27.9		10.7	27.2	
Actuated g/C Ratio		0.08	0.22		0.12	0.25	0.13	0.32		0.12	0.32	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		147	332		212	372	228	1109		207	1069	
v/s Ratio Prot		c0.07	0.03		c0.07	0.02	c0.10	0.16		0.06	c0.25	
v/s Ratio Perm												
v/c Ratio		0.84	0.14		0.56	0.08	0.75	0.51		0.45	0.81	
Uniform Delay, d1		38.9	27.3		35.6	24.9	36.1	23.6		35.0	27.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		33.3	0.2		3.1	0.1	13.2	0.4		1.6	4.5	
Delay (s)		72.2	27.5		38.7	25.0	49.3	23.9		36.6	31.6	
Level of Service		E	C		D	C	D	C		D	C	
Approach Delay (s)		43.6			31.8			29.9			32.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	158	55	162	61	82	541	8	645	294	
Future Volume (vph)	158	55	162	61	82	541	8	645	294	
Lane Group Flow (vph)	172	127	174	82	86	701	9	733	334	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.44	0.56	0.61	0.27	0.45	0.49	0.07	0.71	0.36	
Control Delay	43.9	41.2	48.0	36.9	49.3	22.2	47.0	34.6	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.9	41.2	48.0	36.9	49.3	22.2	47.0	34.6	3.7	
Queue Length 50th (ft)	44	46	89	36	44	117	5	183	0	
Queue Length 95th (ft)	103	#151	204	101	118	332	24	#406	54	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	459	261	404	418	258	1554	172	1120	961	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.49	0.43	0.20	0.33	0.45	0.05	0.65	0.35	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 85.6
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	55	62	162	61	15	82	541	125	8	645	294
Future Volume (vph)	158	55	62	162	61	15	82	541	125	8	645	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1675		1906	1943		1728	3344		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1675		1906	1943		1728	3344		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	172	60	67	174	66	16	86	569	132	9	733	334
RTOR Reduction (vph)	0	33	0	0	7	0	0	13	0	0	0	166
Lane Group Flow (vph)	172	94	0	174	75	0	86	688	0	9	733	168
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	9.9	9.9		12.9	12.9		7.6	36.0		1.1	29.5	45.9
Effective Green, g (s)	9.9	9.9		12.9	12.9		7.6	36.0		1.1	29.5	45.9
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.08	0.39		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	362	181		268	273		143	1315		20	1113	775
v/s Ratio Prot	0.05	c0.06		c0.09	0.04		c0.05	c0.21		0.01	c0.21	0.11
v/s Ratio Perm												
v/c Ratio	0.48	0.52		0.65	0.28		0.60	0.52		0.45	0.66	0.22
Uniform Delay, d1	38.4	38.6		37.2	35.1		40.5	21.2		44.9	26.7	12.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	2.5		5.3	0.5		6.9	0.4		15.3	1.4	0.1
Delay (s)	39.3	41.1		42.5	35.7		47.4	21.6		60.2	28.1	12.9
Level of Service	D	D		D	D		D	C		E	C	B
Approach Delay (s)		40.1			40.3			24.4			23.6	
Approach LOS		D			D			C			C	

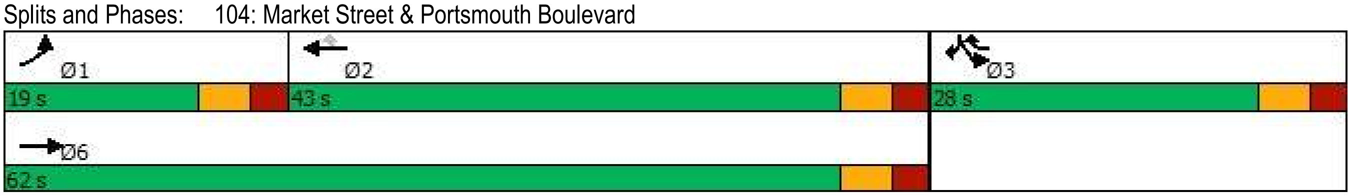
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	28.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

104: Market Street & Portsmouth Boulevard
2025 Existing Conditions Weekday PM Peak

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	42	827	665	66	192	83
Future Volume (vph)	42	827	665	66	192	83
Lane Group Flow (vph)	46	899	715	71	300	130
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.16	0.53	0.52	0.07	0.39	0.28
Control Delay	26.0	9.0	13.9	1.2	20.2	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	9.0	13.9	1.2	20.2	7.1
Queue Length 50th (ft)	9	72	54	0	27	0
Queue Length 95th (ft)	51	139	178	9	70	14
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	521	3216	2783	1252	1712	880
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.28	0.26	0.06	0.18	0.15

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 48.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	42	827	665	66	192	83
Future Volume (vph)	42	827	665	66	192	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1577	3351	1599
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1577	3351	1599
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.64	0.64
Adj. Flow (vph)	46	899	715	71	300	130
RTOR Reduction (vph)	0	0	0	28	0	101
Lane Group Flow (vph)	46	899	715	43	300	29
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.6	28.1	19.5	30.8	11.3	11.3
Effective Green, g (s)	2.6	28.1	19.5	30.8	11.3	11.3
Actuated g/C Ratio	0.05	0.55	0.38	0.60	0.22	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	1888	1310	1129	736	351
v/s Ratio Prot	0.03	c0.26	c0.21	0.01	c0.09	0.02
v/s Ratio Perm				0.02		
v/c Ratio	0.53	0.48	0.55	0.04	0.41	0.08
Uniform Delay, d1	23.8	7.1	12.5	4.2	17.2	15.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7	0.2	0.5	0.0	0.4	0.1
Delay (s)	29.5	7.3	13.0	4.2	17.6	16.0
Level of Service	C	A	B	A	B	B
Approach Delay (s)		8.4	12.2		17.1	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

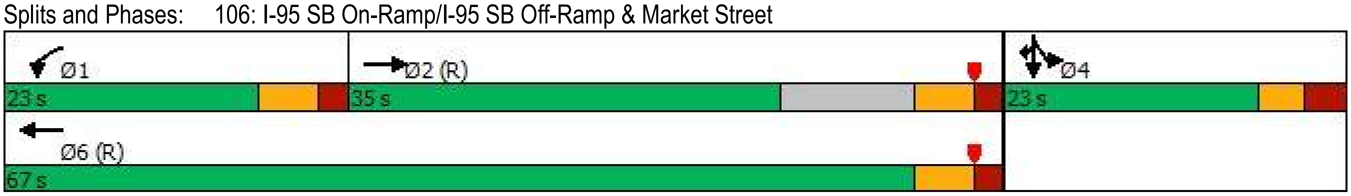
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	855	199	218	474	230	1	297
Future Volume (vph)	855	199	218	474	230	1	297
Lane Group Flow (vph)	910	212	242	527	205	194	188
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	35.0		23.0	67.0	23.0	23.0	23.0
Total Split (%)	38.9%		25.6%	74.4%	25.6%	25.6%	25.6%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.44	0.12	0.75	0.22	0.66	0.50	0.44
Control Delay	19.1	0.1	36.2	1.1	43.6	15.2	7.7
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	0.1	36.2	1.1	43.6	15.2	7.7
Queue Length 50th (ft)	139	0	74	0	115	31	0
Queue Length 95th (ft)	198	0	#213	0	173	91	52
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2248	1757	342	2427	353	420	465
Starvation Cap Reductn	506	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	34	0	1	1
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.12	0.71	0.22	0.58	0.46	0.41

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 55
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2025 Existing Conditions Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	855	199	218	474	0	0	0	0	230	1	297
Future Volume (vph)	0	855	199	218	474	0	0	0	0	230	1	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4916	1757	1668	3455					1698	1504	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4916	1757	1668	3455					1698	1504	1519
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	910	212	242	527	0	0	0	0	256	1	330
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	110	154
Lane Group Flow (vph)	0	910	212	242	527	0	0	0	0	205	84	34
Confl. Peds. (#/hr)	8					8						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		38.1	90.0	17.4	61.5					16.5	16.5	16.5
Effective Green, g (s)		38.1	90.0	17.4	61.5					16.5	16.5	16.5
Actuated g/C Ratio		0.42	1.00	0.19	0.68					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2081	1757	322	2360					311	275	278
v/s Ratio Prot		c0.19		c0.15	0.15					c0.12	0.06	0.02
v/s Ratio Perm			0.12									
v/c Ratio		0.44	0.12	0.75	0.22					0.66	0.30	0.12
Uniform Delay, d1		18.4	0.0	34.3	5.3					34.1	31.8	30.7
Progression Factor		0.92	1.00	0.61	0.15					1.00	1.00	1.00
Incremental Delay, d2		0.6	0.1	9.0	0.2					5.0	0.6	0.2
Delay (s)		17.6	0.1	30.0	1.0					39.1	32.4	30.9
Level of Service		B	A	C	A					D	C	C
Approach Delay (s)		14.3			10.1			0.0			34.3	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

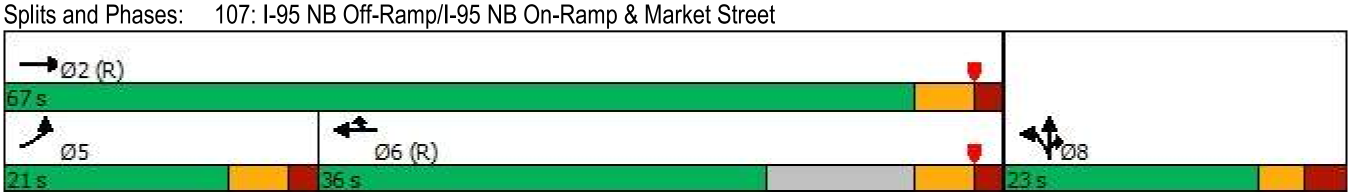
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	488	597	605	221	1	173
Future Volume (vph)	488	597	605	221	1	173
Lane Group Flow (vph)	519	635	644	235	120	237
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	23.0	23.0
Total Split (s)	21.0	67.0	36.0	36.0	23.0	23.0
Total Split (%)	23.3%	74.4%	40.0%	40.0%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.69	0.25	0.41	0.25	0.49	0.56
Control Delay	29.9	10.6	19.5	3.6	42.1	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	10.6	19.5	3.6	42.1	10.2
Queue Length 50th (ft)	151	143	128	0	64	0
Queue Length 95th (ft)	201	207	203	47	88	26
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	749	2519	1671	972	335	491
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.25	0.39	0.24	0.36	0.48

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 59 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	488	597	0	0	605	221	87	1	173	0	0	0
Future Volume (vph)	488	597	0	0	605	221	87	1	173	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1775	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.73	0.73	0.73	0.92	0.92	0.92
Adj. Flow (vph)	519	635	0	0	644	235	119	1	237	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	132	0	0	204	0	0	0
Lane Group Flow (vph)	519	635	0	0	644	103	0	120	33	0	0	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	20.1	65.6			39.5	39.5		12.4	12.4			
Effective Green, g (s)	20.1	65.6			39.5	39.5		12.4	12.4			
Actuated g/C Ratio	0.22	0.73			0.44	0.44		0.14	0.14			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	748	2518			1568	795		244	218			
v/s Ratio Prot	c0.15	0.18			c0.18	0.06		c0.07	0.02			
v/s Ratio Perm												
v/c Ratio	0.69	0.25			0.41	0.13		0.49	0.15			
Uniform Delay, d1	32.1	4.1			17.3	15.0		35.9	34.2			
Progression Factor	0.79	2.34			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.6	0.2			0.8	0.3		2.1	0.4			
Delay (s)	27.9	9.7			18.1	15.4		38.0	34.6			
Level of Service	C	A			B	B		D	C			
Approach Delay (s)		17.9			17.4			35.7			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	44	149	31	21	1	17	15	51	0	75	25
Future Vol, veh/h	12	44	149	31	21	1	17	15	51	0	75	25
Peak Hour Factor	0.60	0.60	0.60	0.88	0.88	0.88	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1
Mvmt Flow	20	73	248	35	24	1	23	21	70	0	103	34
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	9.2	9.3	8.8	9
HCM LOS	A	A	A	A

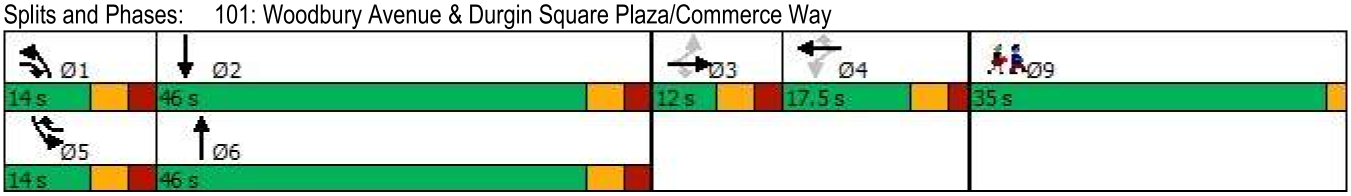
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	21%	0%	58%	0%	0%
Vol Thru, %	0%	23%	79%	0%	40%	100%	0%
Vol Right, %	0%	77%	0%	100%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	66	56	149	53	75	25
LT Vol	17	0	12	0	31	0	0
Through Vol	0	15	44	0	21	75	0
RT Vol	0	51	0	149	1	0	25
Lane Flow Rate	23	90	93	248	60	103	34
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.04	0.129	0.138	0.312	0.094	0.16	0.046
Departure Headway (Hd)	6.178	5.127	5.336	4.525	5.636	5.591	4.884
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	694	670	792	632	638	728
Service Time	3.943	2.892	3.084	2.273	3.702	3.354	2.647
HCM Lane V/C Ratio	0.04	0.13	0.139	0.313	0.095	0.161	0.047
HCM Control Delay	9.2	8.7	8.9	9.3	9.3	9.4	7.9
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.5	1.3	0.3	0.6	0.1

101: Woodbury Avenue & Durgin Square Plaza/Commerce Way
2025 Existing Conditions Saturday Midday Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	43	35	110	6	17	72	117	647	126	685	
Future Volume (vph)	43	35	110	6	17	72	117	647	126	685	
Lane Group Flow (vph)	0	94	133	0	26	80	130	722	142	822	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.09	0.28		0.13	0.22	0.56	0.61	0.64	0.69	
Control Delay		164.3	5.7		39.3	5.2	46.0	22.9	49.5	24.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		164.3	5.7		39.3	5.2	46.0	22.9	49.5	24.6	
Queue Length 50th (ft)		30	0		7	0	38	86	43	102	
Queue Length 95th (ft)		#210	23		49	20	#251	323	#274	369	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		86	473		361	370	231	2310	223	2294	
Starvation Cap Reductn		0	0		0	0	0	45	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		1.09	0.28		0.07	0.22	0.56	0.32	0.64	0.36	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 68
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	35	110	6	17	72	117	647	3	126	685	46
Future Volume (vph)	43	35	110	6	17	72	117	647	3	126	685	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1589		1813	1568	1728	3453		1668	3422	
Flt Permitted		0.46	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		859	1589		1794	1568	1728	3453		1668	3422	
Peak-hour factor, PHF	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	52	42	133	7	19	80	130	719	3	142	770	52
RTOR Reduction (vph)	0	0	103	0	0	67	0	0	0	0	4	0
Lane Group Flow (vph)	0	94	30	0	26	13	130	722	0	142	818	0
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.8	15.9		2.6	11.7	9.1	23.4		9.1	23.4	
Effective Green, g (s)		6.8	15.9		2.6	11.7	9.1	23.4		9.1	23.4	
Actuated g/C Ratio		0.10	0.22		0.04	0.16	0.13	0.33		0.13	0.33	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		82	355		65	258	221	1136		213	1126	
v/s Ratio Prot			0.01			0.01	0.08	0.21		c0.09	c0.24	
v/s Ratio Perm		c0.11	0.01		c0.01	0.00						
v/c Ratio		1.15	0.08		0.40	0.05	0.59	0.64		0.67	0.73	
Uniform Delay, d1		32.1	21.8		33.5	25.0	29.2	20.2		29.6	21.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		144.3	0.1		4.0	0.1	4.0	1.2		7.7	2.4	
Delay (s)		176.5	21.9		37.5	25.1	33.2	21.4		37.2	23.4	
Level of Service		F	C		D	C	C	C		D	C	
Approach Delay (s)		85.9			28.1			23.2			25.4	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	71.1	Sum of lost time (s)	25.5
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

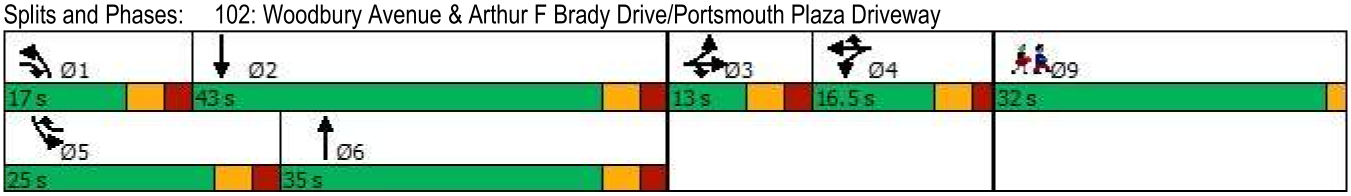
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	59	203	55	126	159	557	119	616	
Future Volume (vph)	59	203	55	126	159	557	119	616	
Lane Group Flow (vph)	155	221	135	140	173	643	131	750	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.99	0.42	0.58	0.23	0.72	0.67	0.53	0.76	
Control Delay	113.7	5.5	48.9	4.1	55.8	32.4	43.7	33.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	113.7	5.5	48.9	4.1	55.8	32.4	43.7	33.0	
Queue Length 50th (ft)	72	0	58	0	77	135	56	161	
Queue Length 95th (ft)	#307	35	#224	28	#300	318	161	345	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	156	522	240	727	240	1257	400	1594	
Starvation Cap Reductn	0	0	0	0	0	0	0	21	
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	0.99	0.42	0.56	0.19	0.72	0.51	0.33	0.48	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 82.6
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	59	203	67	55	126	159	557	35	119	616	66
Future Volume (vph)	84	59	203	67	55	126	159	557	35	119	616	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767	1546		1726	1507	1728	3419		1668	3397	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1767	1546		1726	1507	1728	3419		1668	3397	
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	91	64	221	74	61	140	173	605	38	131	677	73
RTOR Reduction (vph)	0	0	171	0	0	101	0	4	0	0	7	0
Lane Group Flow (vph)	0	155	50	0	135	39	173	639	0	131	743	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.8		11.1	23.3	11.5	23.1		12.2	23.8	
Effective Green, g (s)		7.3	18.8		11.1	23.3	11.5	23.1		12.2	23.8	
Actuated g/C Ratio		0.09	0.23		0.13	0.28	0.14	0.28		0.15	0.29	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		154	348		229	421	238	948		244	970	
v/s Ratio Prot		c0.09	0.03		c0.08	0.03	c0.10	0.19		0.08	c0.22	
v/s Ratio Perm												
v/c Ratio		1.01	0.14		0.59	0.09	0.73	0.67		0.54	0.77	
Uniform Delay, d1		38.0	25.8		34.0	22.2	34.4	26.8		32.9	27.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		74.2	0.2		3.8	0.1	10.5	1.9		2.3	3.7	
Delay (s)		112.2	26.0		37.8	22.3	44.9	28.7		35.2	30.9	
Level of Service		F	C		D	C	D	C		D	C	
Approach Delay (s)		61.5			29.9			32.1			31.5	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	141	43	154	69	57	596	12	557	303	
Future Volume (vph)	141	43	154	69	57	596	12	557	303	
Lane Group Flow (vph)	160	93	197	106	63	845	12	563	306	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.42	0.42	0.61	0.31	0.35	0.63	0.09	0.59	0.34	
Control Delay	42.0	35.8	44.5	35.7	45.6	25.2	45.8	32.6	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.0	35.8	44.5	35.7	45.6	25.2	45.8	32.6	3.8	
Queue Length 50th (ft)	38	29	89	42	29	150	6	129	0	
Queue Length 95th (ft)	94	99	195	107	92	#468	29	279	58	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	469	262	413	429	264	1407	176	1145	895	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.35	0.48	0.25	0.24	0.60	0.07	0.49	0.34	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 82.8

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	43	39	154	69	14	57	596	165	12	557	303
Future Volume (vph)	141	43	39	154	69	14	57	596	165	12	557	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1689		1906	1955		1728	3325		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1689		1906	1955		1728	3325		1728	3455	1546
Peak-hour factor, PHF	0.88	0.88	0.88	0.78	0.78	0.78	0.90	0.90	0.90	0.99	0.99	0.99
Adj. Flow (vph)	160	49	44	197	88	18	63	662	183	12	563	306
RTOR Reduction (vph)	0	27	0	0	6	0	0	18	0	0	0	159
Lane Group Flow (vph)	160	66	0	197	100	0	63	827	0	12	563	147
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	9.5	9.5		14.0	14.0		7.1	32.9		1.1	26.9	42.9
Effective Green, g (s)	9.5	9.5		14.0	14.0		7.1	32.9		1.1	26.9	42.9
Actuated g/C Ratio	0.11	0.11		0.16	0.16		0.08	0.37		0.01	0.30	0.48
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	357	180		299	307		137	1229		21	1044	745
v/s Ratio Prot	c0.05	0.04		c0.10	0.05		c0.04	c0.25		0.01	0.16	0.10
v/s Ratio Perm												
v/c Ratio	0.45	0.37		0.66	0.33		0.46	0.67		0.57	0.54	0.20
Uniform Delay, d1	37.3	37.0		35.3	33.3		39.1	23.5		43.7	25.9	13.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	1.3		5.2	0.6		2.4	1.5		32.5	0.5	0.1
Delay (s)	38.2	38.2		40.4	33.9		41.6	25.0		76.2	26.4	13.3
Level of Service	D	D		D	C		D	C		E	C	B
Approach Delay (s)		38.2			38.2			26.2			22.6	
Approach LOS		D			D			C			C	

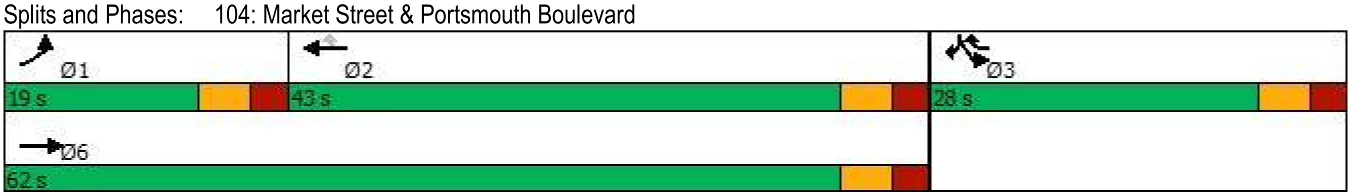
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	729	778	32	35	40
Future Volume (vph)	21	729	778	32	35	40
Lane Group Flow (vph)	23	784	874	36	49	56
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.08	0.35	0.41	0.03	0.10	0.19
Control Delay	21.0	5.1	7.7	1.1	19.8	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	5.1	7.7	1.1	19.8	9.8
Queue Length 50th (ft)	3	45	52	0	3	0
Queue Length 95th (ft)	28	74	165	6	19	19
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	559	3330	2963	1325	1733	852
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.24	0.29	0.03	0.03	0.07

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 43.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	729	778	32	35	40
Future Volume (vph)	21	729	778	32	35	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1569	3164	1509
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1569	3164	1509
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.72	0.72
Adj. Flow (vph)	23	784	874	36	49	56
RTOR Reduction (vph)	0	0	0	14	0	50
Lane Group Flow (vph)	23	784	874	22	49	6
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	1%	1%	1%	7%	7%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	1.0	32.0	25.0	30.4	5.4	5.4
Effective Green, g (s)	1.0	32.0	25.0	30.4	5.4	5.4
Actuated g/C Ratio	0.02	0.65	0.51	0.62	0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	34	2238	1748	1156	345	164
v/s Ratio Prot	0.01	c0.23	c0.25	0.00	c0.02	0.00
v/s Ratio Perm				0.01		
v/c Ratio	0.68	0.35	0.50	0.02	0.14	0.04
Uniform Delay, d1	24.0	4.0	8.1	3.7	19.9	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	42.2	0.1	0.2	0.0	0.2	0.1
Delay (s)	66.3	4.1	8.3	3.7	20.1	19.8
Level of Service	E	A	A	A	C	B
Approach Delay (s)		5.8	8.1		19.9	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	706	135	92	410	175	3	393
Future Volume (vph)	706	135	92	410	175	3	393
Lane Group Flow (vph)	776	148	108	482	171	227	222
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	36.0		21.0	57.0	43.0	43.0	43.0
Total Split (%)	36.0%		21.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.29	0.08	0.55	0.19	0.62	0.55	0.51
Control Delay	12.7	0.1	68.0	3.2	47.9	12.1	9.1
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	0.1	68.0	3.2	47.9	12.1	9.1
Queue Length 50th (ft)	112	0	76	26	107	13	0
Queue Length 95th (ft)	169	0	124	35	166	81	61
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2675	1775	255	2477	628	674	701
Starvation Cap Reductn	1020	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.08	0.42	0.19	0.27	0.34	0.32

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street

106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2025 Existing Conditions Saturday Midday Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	706	135	92	410	0	0	0	0	175	3	393
Future Volume (vph)	0	706	135	92	410	0	0	0	0	175	3	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.86	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		4964	1775	1668	3455					1698	1474	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		4964	1775	1668	3455					1698	1474	1519
Peak-hour factor, PHF	0.91	0.91	0.91	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	776	148	108	482	0	0	0	0	190	3	427
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	172	186
Lane Group Flow (vph)	0	776	148	108	482	0	0	0	0	171	55	36
Confl. Peds. (#/hr)	7					7						
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		53.9	100.0	11.8	71.7					16.3	16.3	16.3
Effective Green, g (s)		53.9	100.0	11.8	71.7					16.3	16.3	16.3
Actuated g/C Ratio		0.54	1.00	0.12	0.72					0.16	0.16	0.16
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2675	1775	196	2477					276	240	247
v/s Ratio Prot		c0.16		c0.06	0.14					c0.10	0.04	0.02
v/s Ratio Perm			0.08									
v/c Ratio		0.29	0.08	0.55	0.19					0.62	0.23	0.15
Uniform Delay, d1		12.6	0.0	41.6	4.7					39.0	36.4	35.9
Progression Factor		0.88	1.00	1.42	0.57					1.00	1.00	1.00
Incremental Delay, d2		0.3	0.1	3.2	0.2					4.1	0.5	0.3
Delay (s)		11.4	0.1	62.2	2.8					43.1	36.9	36.2
Level of Service		B	A	E	A					D	D	D
Approach Delay (s)		9.6			13.7			0.0			38.3	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

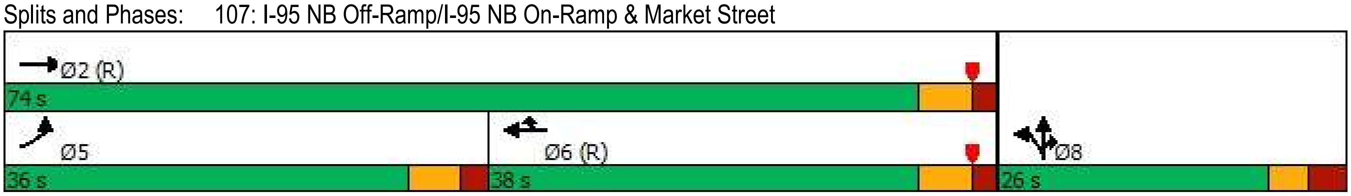
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	389	492	453	134	4	205
Future Volume (vph)	389	492	453	134	4	205
Lane Group Flow (vph)	463	586	533	158	58	225
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	26.0	26.0
Total Split (s)	36.0	74.0	38.0	38.0	26.0	26.0
Total Split (%)	36.0%	74.0%	38.0%	38.0%	26.0%	26.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.71	0.22	0.29	0.16	0.28	0.59
Control Delay	54.7	2.7	16.1	3.6	42.4	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	2.7	16.1	3.6	42.4	11.9
Queue Length 50th (ft)	162	20	93	0	35	0
Queue Length 95th (ft)	200	61	164	34	66	61
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	1005	2647	1832	1006	359	499
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.22	0.29	0.16	0.16	0.45

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	389	492	0	0	453	134	49	4	205	0	0	0
Future Volume (vph)	389	492	0	0	453	134	49	4	205	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1798	1599			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1798	1599			
Peak-hour factor, PHF	0.84	0.84	0.84	0.85	0.85	0.85	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	463	586	0	0	533	158	54	4	225	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	77	0	0	199	0	0	0
Lane Group Flow (vph)	463	586	0	0	533	81	0	58	26	0	0	0
Confl. Peds. (#/hr)	7		1	1		7			1	1		
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	19.4	76.6			51.2	51.2		11.4	11.4			
Effective Green, g (s)	19.4	76.6			51.2	51.2		11.4	11.4			
Actuated g/C Ratio	0.19	0.77			0.51	0.51		0.11	0.11			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	650	2646			1829	927		204	182			
v/s Ratio Prot	c0.14	0.17			c0.15	0.04		c0.03	0.02			
v/s Ratio Perm												
v/c Ratio	0.71	0.22			0.29	0.09		0.28	0.14			
Uniform Delay, d1	37.7	3.3			14.0	12.5		40.6	39.9			
Progression Factor	1.29	0.66			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.6	0.2			0.4	0.2		1.0	0.5			
Delay (s)	52.4	2.4			14.4	12.6		41.6	40.4			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		24.5			14.0			40.6			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	24	8	32	19	3	13	9	15	3	13	6
Future Vol, veh/h	4	24	8	32	19	3	13	9	15	3	13	6
Peak Hour Factor	0.82	0.82	0.82	0.75	0.75	0.75	0.93	0.93	0.93	0.79	0.79	0.79
Heavy Vehicles, %	3	3	3	2	2	2	3	3	3	5	5	5
Mvmt Flow	5	29	10	43	25	4	14	10	16	4	16	8
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

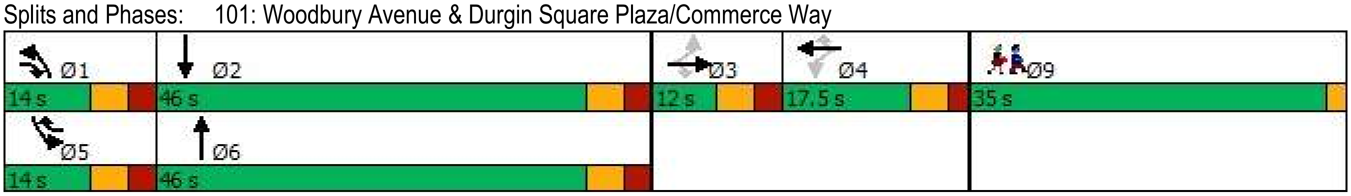
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	7.6	8.3	7.6	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	14%	0%	59%	19%	0%
Vol Thru, %	0%	38%	86%	0%	35%	81%	0%
Vol Right, %	0%	62%	0%	100%	6%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	24	28	8	54	16	6
LT Vol	13	0	4	0	32	3	0
Through Vol	0	9	24	0	19	13	0
RT Vol	0	15	0	8	3	0	6
Lane Flow Rate	14	26	34	10	72	20	8
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.021	0.032	0.045	0.011	0.095	0.028	0.009
Departure Headway (Hd)	5.368	4.428	4.774	4.001	4.767	5.003	4.207
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	671	813	743	883	745	720	855
Service Time	3.068	2.128	2.55	1.777	2.838	2.705	1.909
HCM Lane V/C Ratio	0.021	0.032	0.046	0.011	0.097	0.028	0.009
HCM Control Delay	8.2	7.3	7.8	6.8	8.3	7.8	6.9
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0	0.3	0.1	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	5	6	10	5	1	44	16	363	221	512	
Future Volume (vph)	5	6	10	5	1	44	16	363	221	512	
Lane Group Flow (vph)	0	12	11	0	6	48	17	416	240	573	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.04	0.03		0.02	0.11	0.06	0.36	0.67	0.23	
Control Delay		29.5	0.2		29.7	0.8	28.2	15.9	34.3	12.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.5	0.2		29.7	0.8	28.2	15.9	34.3	12.0	
Queue Length 50th (ft)		2	0		1	0	2	24	31	0	
Queue Length 95th (ft)		28	0		18	2	34	174	#420	245	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		299	426		603	435	373	2932	360	2945	
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		0.04	0.03		0.01	0.11	0.05	0.14	0.67	0.19	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 46.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	6	10	5	1	44	16	363	19	221	512	15
Future Volume (vph)	5	6	10	5	1	44	16	363	19	221	512	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1773	1538		1754	1553	1694	3359		1636	3372	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1810	1538		1827	1553	1694	3359		1636	3372	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	7	11	5	1	48	17	395	21	240	557	16
RTOR Reduction (vph)	0	0	10	0	0	39	0	3	0	0	1	0
Lane Group Flow (vph)	0	12	1	0	6	9	17	413	0	240	572	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		0.5	3.0		0.6	10.9	2.5	21.4		10.3	29.2	
Effective Green, g (s)		0.5	3.0		0.6	10.9	2.5	21.4		10.3	29.2	
Actuated g/C Ratio		0.01	0.05		0.01	0.18	0.04	0.35		0.17	0.48	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		14	75		17	277	69	1176		275	1611	
v/s Ratio Prot			0.00			0.01	0.01	0.12		c0.15	c0.17	
v/s Ratio Perm		c0.01	0.00		c0.00	0.00						
v/c Ratio		0.86	0.01		0.35	0.03	0.25	0.35		0.87	0.36	
Uniform Delay, d1		30.3	27.6		30.1	20.7	28.4	14.7		24.8	10.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		164.6	0.0		12.2	0.0	1.9	0.2		24.8	0.1	
Delay (s)		194.9	27.7		42.3	20.8	30.3	14.9		49.6	10.2	
Level of Service		F	C		D	C	C	B		D	B	
Approach Delay (s)		114.9			23.2			15.5			21.8	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	25.5
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	29	99	18	32	116	310	39	455	
Future Volume (vph)	29	99	18	32	116	310	39	455	
Lane Group Flow (vph)	93	108	32	35	121	330	42	531	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.47	0.18	0.16	0.09	0.44	0.33	0.21	0.63	
Control Delay	45.0	2.1	37.8	0.4	38.5	22.6	37.3	27.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	2.1	37.8	0.4	38.5	22.6	37.3	27.9	
Queue Length 50th (ft)	35	0	12	0	42	51	15	96	
Queue Length 95th (ft)	#170	13	54	0	#180	147	65	236	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	197	620	310	662	308	1618	513	2049	
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	0.47	0.17	0.10	0.05	0.39	0.20	0.08	0.26	

Intersection Summary

Cycle Length: 121.5

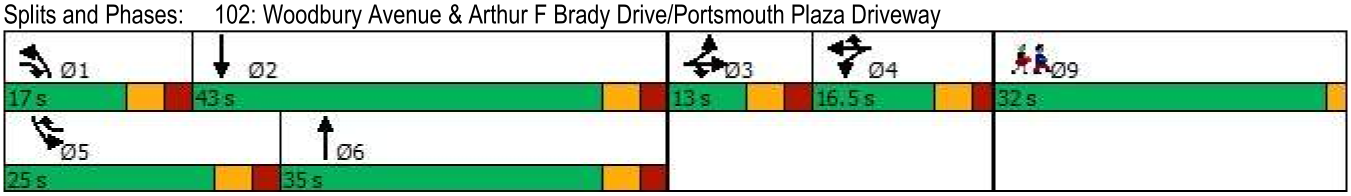
Actuated Cycle Length: 66.9

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	29	99	11	18	32	116	310	7	39	455	33
Future Volume (vph)	56	29	99	11	18	32	116	310	7	39	455	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1694	1487		1690	1463	1678	3343		1620	3316	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1694	1487		1690	1463	1678	3343		1620	3316	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Adj. Flow (vph)	61	32	108	12	20	35	121	323	7	42	495	36
RTOR Reduction (vph)	0	0	79	0	0	29	0	1	0	0	5	0
Lane Group Flow (vph)	0	93	29	0	32	6	121	329	0	42	526	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.8	18.9		4.2	12.4	11.1	19.9		8.2	17.0	
Effective Green, g (s)		7.8	18.9		4.2	12.4	11.1	19.9		8.2	17.0	
Actuated g/C Ratio		0.11	0.27		0.06	0.18	0.16	0.29		0.12	0.25	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		190	406		102	262	269	961		191	814	
v/s Ratio Prot		c0.05	0.02		c0.02	0.00	c0.07	c0.10		0.03	c0.16	
v/s Ratio Perm												
v/c Ratio		0.49	0.07		0.31	0.02	0.45	0.34		0.22	0.65	
Uniform Delay, d1		28.8	18.7		31.1	23.4	26.3	19.5		27.6	23.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0	0.1		1.8	0.0	1.2	0.2		0.6	1.8	
Delay (s)		30.8	18.7		32.9	23.4	27.5	19.7		28.2	25.2	
Level of Service		C	B		C	C	C	B		C	C	
Approach Delay (s)		24.3			28.0			21.8			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	77	33	57	37	69	350	3	339	221	
Future Volume (vph)	77	33	57	37	69	350	3	339	221	
Lane Group Flow (vph)	83	83	62	47	75	472	3	368	240	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.21	0.36	0.27	0.20	0.34	0.33	0.02	0.39	0.26	
Control Delay	35.3	24.7	37.2	32.9	38.5	17.7	40.3	27.5	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.3	24.7	37.2	32.9	38.5	17.7	40.3	27.5	3.8	
Queue Length 50th (ft)	14	13	22	14	26	53	1	65	0	
Queue Length 95th (ft)	53	75	85	64	100	201	12	174	51	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	587	324	496	515	320	1578	213	1389	904	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.26	0.13	0.09	0.23	0.30	0.01	0.26	0.27	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 68.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

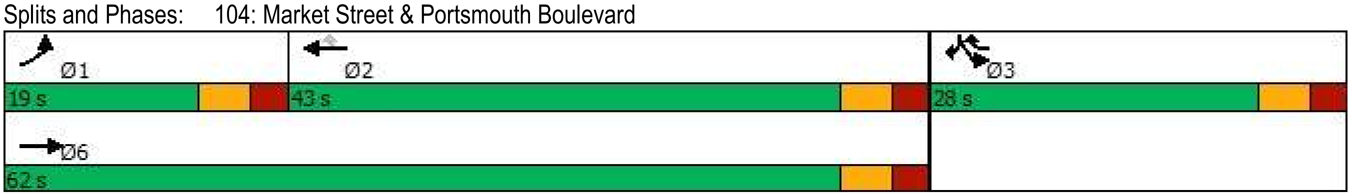
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	33	45	57	37	6	69	350	85	3	339	221
Future Volume (vph)	77	33	45	57	37	6	69	350	85	3	339	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	0.91		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1644		1834	1887		1678	3244		1646	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1644		1834	1887		1678	3244		1646	3355	1501
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	35	48	62	40	7	75	380	92	3	368	240
RTOR Reduction (vph)	0	40	0	0	5	0	0	15	0	0	0	120
Lane Group Flow (vph)	83	43	0	62	42	0	75	457	0	3	368	120
Confl. Peds. (#/hr)			2	2			1		1	1		1
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.0	8.0		6.7	6.7		7.1	29.9		0.8	23.6	38.1
Effective Green, g (s)	8.0	8.0		6.7	6.7		7.1	29.9		0.8	23.6	38.1
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.09	0.39		0.01	0.31	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	350	171		160	165		155	1267		17	1035	747
v/s Ratio Prot	0.02	c0.03		c0.03	0.02		c0.04	c0.14		0.00	0.11	0.08
v/s Ratio Perm												
v/c Ratio	0.24	0.25		0.39	0.25		0.48	0.36		0.18	0.36	0.16
Uniform Delay, d1	31.4	31.5		33.0	32.6		33.0	16.5		37.5	20.5	10.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.8		1.6	0.8		2.4	0.2		4.9	0.2	0.1
Delay (s)	31.8	32.3		34.5	33.4		35.3	16.7		42.4	20.8	10.6
Level of Service	C	C		C	C		D	B		D	C	B
Approach Delay (s)		32.0			34.0			19.3			16.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	28.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	397	456	237	52	48
Future Volume (vph)	44	397	456	237	52	48
Lane Group Flow (vph)	48	432	496	258	57	52
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.15	0.26	0.38	0.26	0.10	0.16
Control Delay	20.9	5.5	10.8	1.4	20.0	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	5.5	10.8	1.4	20.0	10.0
Queue Length 50th (ft)	6	22	26	0	3	0
Queue Length 95th (ft)	48	41	96	17	27	28
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	602	3213	2940	1343	2118	1028
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.13	0.17	0.19	0.03	0.05

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 40.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	397	456	237	52	48
Future Volume (vph)	44	397	456	237	52	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1678	3355	3388	1546	3255	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1678	3355	3388	1546	3255	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	432	496	258	57	52
RTOR Reduction (vph)	0	0	0	121	0	43
Lane Group Flow (vph)	48	432	496	137	57	9
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.5	24.2	15.7	23.1	7.4	7.4
Effective Green, g (s)	2.5	24.2	15.7	23.1	7.4	7.4
Actuated g/C Ratio	0.06	0.56	0.36	0.53	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	96	1862	1219	1031	552	263
v/s Ratio Prot	0.03	c0.13	c0.15	c0.02	0.02	0.01
v/s Ratio Perm				0.07		
v/c Ratio	0.50	0.23	0.41	0.13	0.10	0.03
Uniform Delay, d1	19.9	5.0	10.5	5.2	15.3	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.1	0.2	0.1	0.1	0.1
Delay (s)	24.0	5.0	10.7	5.2	15.4	15.2
Level of Service	C	A	B	A	B	B
Approach Delay (s)		6.9	8.8		15.3	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	414	99	86	432	191	1	291
Future Volume (vph)	414	99	86	432	191	1	291
Lane Group Flow (vph)	440	105	93	470	183	171	171
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	25.0		26.0	51.0	39.0	39.0	39.0
Total Split (%)	27.8%		28.9%	56.7%	43.3%	43.3%	43.3%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.17	0.06	0.49	0.21	0.63	0.46	0.43
Control Delay	14.2	0.1	49.1	7.0	42.9	11.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	0.1	49.1	7.0	42.9	11.6	8.1
Queue Length 50th (ft)	55	0	55	25	103	14	0
Queue Length 95th (ft)	94	0	98	131	157	67	50
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2563	1724	356	2289	604	620	649
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	93	0	4	4
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.06	0.26	0.21	0.30	0.28	0.27

Intersection Summary

Cycle Length: 90

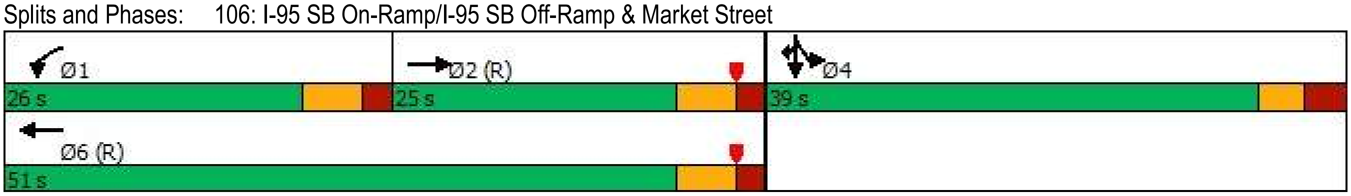
Actuated Cycle Length: 90

Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	414	99	86	432	0	0	0	0	191	1	291
Future Volume (vph)	0	414	99	86	432	0	0	0	0	191	1	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.87	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4821	1724	1604	3323					1649	1441	1475
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4821	1724	1604	3323					1649	1441	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	440	105	93	470	0	0	0	0	208	1	316
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	119	141
Lane Group Flow (vph)	0	440	105	93	470	0	0	0	0	183	52	30
Confl. Peds. (#/hr)	5					5						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		46.6	90.0	9.4	62.0					16.0	16.0	16.0
Effective Green, g (s)		46.6	90.0	9.4	62.0					16.0	16.0	16.0
Actuated g/C Ratio		0.52	1.00	0.10	0.69					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2496	1724	167	2289					293	256	262
v/s Ratio Prot		0.09		c0.06	c0.14					c0.11	0.04	0.02
v/s Ratio Perm			0.06									
v/c Ratio		0.18	0.06	0.56	0.21					0.62	0.20	0.12
Uniform Delay, d1		11.5	0.0	38.3	5.1					34.2	31.6	31.1
Progression Factor		1.05	1.00	1.11	1.17					1.00	1.00	1.00
Incremental Delay, d2		0.2	0.1	3.9	0.2					4.1	0.4	0.2
Delay (s)		12.3	0.1	46.5	6.1					38.3	31.9	31.3
Level of Service		B	A	D	A					D	C	C
Approach Delay (s)		9.9			12.8			0.0			34.0	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street
2027 No Build Conditions Weekday AM Peak

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	139	466	327	53	0	347
Future Volume (vph)	139	466	327	53	0	347
Lane Group Flow (vph)	151	507	355	58	203	369
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	32.0	32.0
Total Split (s)	14.0	52.0	38.0	38.0	38.0	38.0
Total Split (%)	15.6%	57.8%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.44	0.23	0.21	0.06	0.60	0.67
Control Delay	31.3	3.4	14.6	0.8	39.3	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	3.4	14.6	0.8	39.3	13.3
Queue Length 50th (ft)	26	3	55	0	107	33
Queue Length 95th (ft)	52	118	106	5	155	107
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	354	2253	1714	923	622	751
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.23	0.21	0.06	0.33	0.49

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	466	0	0	327	53	191	0	347	0	0	0
Future Volume (vph)	139	466	0	0	327	53	191	0	347	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3255	3355			3438	1743		1752	1568			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3255	3355			3438	1743		1752	1568			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	151	507	0	0	355	58	203	0	369	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	242	0	0	0
Lane Group Flow (vph)	151	507	0	0	355	29	0	203	127	0	0	0
Confl. Peds. (#/hr)	4					4						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	9.6	60.5			44.9	44.9		17.5	17.5			
Effective Green, g (s)	9.6	60.5			44.9	44.9		17.5	17.5			
Actuated g/C Ratio	0.11	0.67			0.50	0.50		0.19	0.19			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	347	2255			1715	869		340	304			
v/s Ratio Prot	c0.05	c0.15			0.10	0.02		c0.12	0.08			
v/s Ratio Perm												
v/c Ratio	0.44	0.22			0.21	0.03		0.60	0.42			
Uniform Delay, d1	37.7	5.7			12.6	11.5		33.0	31.8			
Progression Factor	0.73	0.49			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.2			0.3	0.1		3.3	1.3			
Delay (s)	28.5	3.0			12.9	11.6		36.3	33.0			
Level of Service	C	A			B	B		D	C			
Approach Delay (s)		8.9			12.7			34.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	8	9	77	27	0	177	80	26	0	9	6
Future Vol, veh/h	18	8	9	77	27	0	177	80	26	0	9	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	3	3	3	1	1	1	0	0	0
Mvmt Flow	20	9	10	84	29	0	192	87	28	0	10	7
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

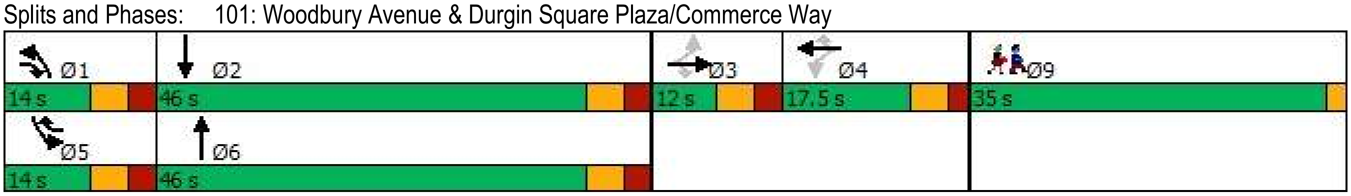
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.6	9.7	9.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	69%	0%	74%	0%	0%
Vol Thru, %	0%	75%	31%	0%	26%	100%	0%
Vol Right, %	0%	25%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	106	26	9	104	9	6
LT Vol	177	0	18	0	77	0	0
Through Vol	0	80	8	0	27	9	0
RT Vol	0	26	0	9	0	0	6
Lane Flow Rate	192	115	28	10	113	10	7
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.292	0.153	0.046	0.013	0.174	0.014	0.008
Departure Headway (Hd)	5.459	4.785	5.9	4.848	5.543	5.237	4.532
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	660	750	607	738	648	683	788
Service Time	3.183	2.509	3.635	2.582	3.57	2.973	2.268
HCM Lane V/C Ratio	0.291	0.153	0.046	0.014	0.174	0.015	0.009
HCM Control Delay	10.4	8.4	8.9	7.6	9.7	8	7.3
HCM Lane LOS	B	A	A	A	A	A	A
HCM 95th-tile Q	1.2	0.5	0.1	0	0.6	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	30	31	96	40	23	179	102	640	131	806	
Future Volume (vph)	30	31	96	40	23	179	102	640	131	806	
Lane Group Flow (vph)	0	67	104	0	68	195	111	699	141	904	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.94	0.26		0.39	0.36	0.57	0.60	0.75	0.77	
Control Delay		136.1	6.4		45.7	5.4	52.8	25.6	65.1	30.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		136.1	6.4		45.7	5.4	52.8	25.6	65.1	30.1	
Queue Length 50th (ft)		31	0		28	0	49	131	63	183	
Queue Length 95th (ft)		#175	27		103	39	#215	318	#280	434	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		71	397		242	549	195	1950	188	1940	
Starvation Cap Reductn		0	0		0	0	0	45	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		0.94	0.26		0.28	0.36	0.57	0.37	0.75	0.47	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 77.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	31	96	40	23	179	102	640	3	131	806	34
Future Volume (vph)	30	31	96	40	23	179	102	640	3	131	806	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1590		1802	1583	1728	3453		1668	3431	
Flt Permitted		0.45	1.00		0.77	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		851	1590		1428	1583	1728	3453		1668	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	33	34	104	43	25	195	111	696	3	141	867	37
RTOR Reduction (vph)	0	0	84	0	0	155	0	0	0	0	3	0
Lane Group Flow (vph)	0	67	20	0	68	40	111	699	0	141	901	0
Confl. Peds. (#/hr)			1	1			1					1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.6	15.4		7.6	16.4	8.8	26.5		8.8	26.5	
Effective Green, g (s)		6.6	15.4		7.6	16.4	8.8	26.5		8.8	26.5	
Actuated g/C Ratio		0.08	0.19		0.10	0.21	0.11	0.34		0.11	0.34	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		71	309		137	328	192	1156		185	1149	
v/s Ratio Prot			0.01			0.01	0.06	0.20		c0.08	c0.26	
v/s Ratio Perm		c0.08	0.01		c0.05	0.01						
v/c Ratio		0.94	0.07		0.50	0.12	0.58	0.60		0.76	0.78	
Uniform Delay, d1		36.1	26.0		33.9	25.5	33.4	21.9		34.1	23.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		86.8	0.1		2.8	0.2	4.2	0.9		16.8	3.6	
Delay (s)		122.9	26.1		36.7	25.7	37.6	22.8		50.9	27.3	
Level of Service		F	C		D	C	D	C		D	C	
Approach Delay (s)		64.0			28.5			24.9			30.5	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	25.5
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	43	192	49	111	170	566	91	760	
Future Volume (vph)	43	192	49	111	170	566	91	760	
Lane Group Flow (vph)	121	209	118	121	175	613	99	925	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.84	0.43	0.57	0.22	0.78	0.52	0.47	0.81	
Control Delay	86.5	5.8	51.7	4.7	64.3	27.5	46.2	33.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	86.5	5.8	51.7	4.7	64.3	27.5	46.2	33.8	
Queue Length 50th (ft)	62	0	57	0	87	124	48	213	
Queue Length 95th (ft)	#240	34	#189	27	#303	297	128	#475	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	144	489	224	657	224	1206	374	1489	
Starvation Cap Reductn	0	0	0	0	0	0	0	18	
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	0.84	0.43	0.53	0.18	0.78	0.51	0.26	0.63	

Intersection Summary

Cycle Length: 121.5

Actuated Cycle Length: 87.5

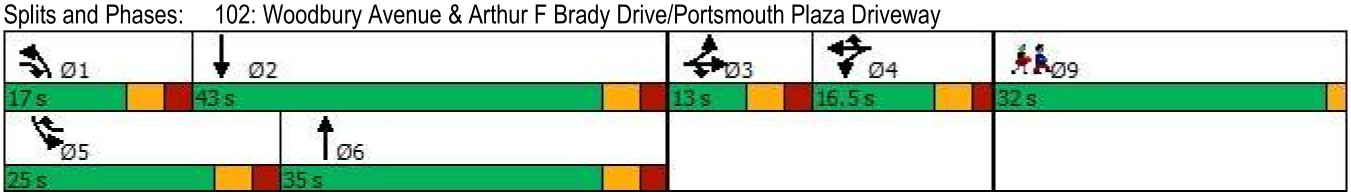
Natural Cycle: 115

Control Type: Actuated-Uncoordinated

\#   95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	43	192	60	49	111	170	566	28	91	760	91
Future Volume (vph)	68	43	192	60	49	111	170	566	28	91	760	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747	1531		1726	1507	1728	3431		1668	3392	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1747	1531		1726	1507	1728	3431		1668	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	74	47	209	65	53	121	175	584	29	99	826	99
RTOR Reduction (vph)	0	0	165	0	0	91	0	3	0	0	7	0
Lane Group Flow (vph)	0	121	44	0	118	30	175	610	0	99	918	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.6		10.6	21.6	11.4	29.8		11.0	29.4	
Effective Green, g (s)		7.2	18.6		10.6	21.6	11.4	29.8		11.0	29.4	
Actuated g/C Ratio		0.08	0.21		0.12	0.24	0.13	0.34		0.12	0.33	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		142	322		206	368	222	1156		207	1128	
v/s Ratio Prot		c0.07	0.03		c0.07	0.02	c0.10	0.18		0.06	c0.27	
v/s Ratio Perm												
v/c Ratio		0.85	0.14		0.57	0.08	0.79	0.53		0.48	0.81	
Uniform Delay, d1		40.1	28.4		36.8	25.7	37.3	23.6		36.0	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.0	0.2		3.8	0.1	16.7	0.4		1.7	4.6	
Delay (s)		76.1	28.6		40.6	25.8	54.1	24.1		37.8	31.6	
Level of Service		E	C		D	C	D	C		D	C	
Approach Delay (s)		46.0			33.1			30.7			32.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	177	62	172	70	84	572	8	678	325	
Future Volume (vph)	177	62	172	70	84	572	8	678	325	
Lane Group Flow (vph)	192	135	185	91	88	742	9	737	353	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.49	0.59	0.62	0.29	0.46	0.52	0.07	0.72	0.37	
Control Delay	44.9	44.0	48.3	37.7	50.0	23.0	47.2	35.2	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.9	44.0	48.3	37.7	50.0	23.0	47.2	35.2	3.7	
Queue Length 50th (ft)	51	52	95	41	46	128	5	187	0	
Queue Length 95th (ft)	113	#172	#221	110	120	#373	24	#426	62	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	451	255	397	411	254	1531	169	1100	960	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.43	0.53	0.47	0.22	0.35	0.48	0.05	0.67	0.37	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 86.7
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

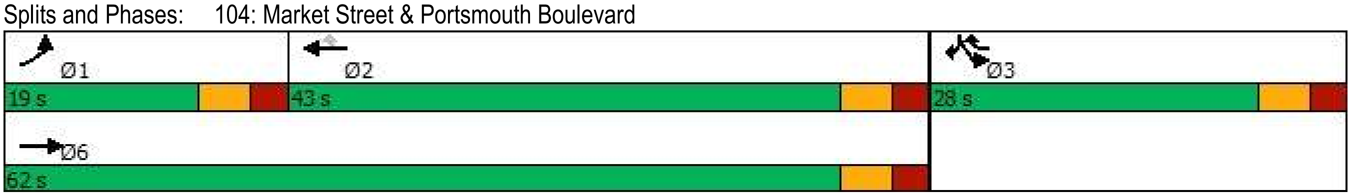
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	62	63	172	70	15	84	572	133	8	678	325
Future Volume (vph)	177	62	63	172	70	15	84	572	133	8	678	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1681		1906	1949		1728	3344		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1681		1906	1949		1728	3344		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	192	67	68	185	75	16	88	602	140	9	737	353
RTOR Reduction (vph)	0	30	0	0	6	0	0	13	0	0	0	176
Lane Group Flow (vph)	192	105	0	185	85	0	88	729	0	9	737	177
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.2	10.2		13.5	13.5		7.7	36.3		1.1	29.7	46.4
Effective Green, g (s)	10.2	10.2		13.5	13.5		7.7	36.3		1.1	29.7	46.4
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.08	0.39		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	368	184		277	283		143	1309		20	1106	773
v/s Ratio Prot	0.06	c0.06		c0.10	0.04		c0.05	c0.22		0.01	c0.21	0.11
v/s Ratio Perm												
v/c Ratio	0.52	0.57		0.67	0.30		0.62	0.56		0.45	0.67	0.23
Uniform Delay, d1	38.9	39.2		37.5	35.4		41.1	21.9		45.5	27.2	13.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	4.0		6.0	0.6		7.6	0.5		15.3	1.5	0.2
Delay (s)	40.3	43.2		43.5	36.0		48.7	22.5		60.8	28.8	13.2
Level of Service	D	D		D	D		D	C		E	C	B
Approach Delay (s)		41.5			41.0			25.2			24.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	92.7	Sum of lost time (s)	28.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	870	704	67	196	85
Future Volume (vph)	43	870	704	67	196	85
Lane Group Flow (vph)	47	946	757	72	213	92
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.17	0.52	0.51	0.07	0.32	0.23
Control Delay	24.6	7.9	12.6	1.3	20.9	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	7.9	12.6	1.3	20.9	8.3
Queue Length 50th (ft)	9	71	53	0	19	0
Queue Length 95th (ft)	50	126	173	9	75	37
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	517	3276	2843	1279	1698	855
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.29	0.27	0.06	0.13	0.11

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 47.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



104: Market Street & Portsmouth Boulevard
2027 No Build Conditions Weekday PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	870	704	67	196	85
Future Volume (vph)	43	870	704	67	196	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1576	3351	1599
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1576	3351	1599
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.92	0.92
Adj. Flow (vph)	47	946	757	72	213	92
RTOR Reduction (vph)	0	0	0	29	0	75
Lane Group Flow (vph)	47	946	757	43	213	17
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.6	29.2	20.6	30.2	9.6	9.6
Effective Green, g (s)	2.6	29.2	20.6	30.2	9.6	9.6
Actuated g/C Ratio	0.05	0.57	0.41	0.59	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	88	1985	1401	1123	633	302
v/s Ratio Prot	0.03	c0.27	c0.22	0.01	c0.06	0.01
v/s Ratio Perm				0.02		
v/c Ratio	0.53	0.48	0.54	0.04	0.34	0.06
Uniform Delay, d1	23.5	6.3	11.5	4.3	17.8	16.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.2	0.4	0.0	0.3	0.1
Delay (s)	29.6	6.5	11.9	4.3	18.2	17.0
Level of Service	C	A	B	A	B	B
Approach Delay (s)		7.6	11.3		17.8	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

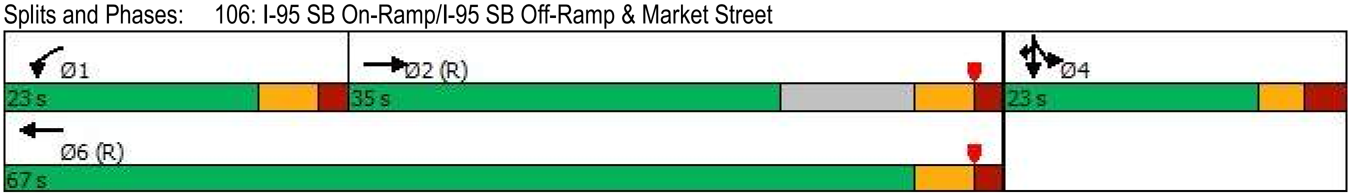
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	896	205	222	508	235	1	304
Future Volume (vph)	896	205	222	508	235	1	304
Lane Group Flow (vph)	953	218	241	552	204	194	188
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	35.0		23.0	67.0	23.0	23.0	23.0
Total Split (%)	38.9%		25.6%	74.4%	25.6%	25.6%	25.6%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.45	0.12	0.76	0.23	0.66	0.51	0.44
Control Delay	18.7	0.1	37.2	1.5	43.8	15.3	7.8
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	0.1	37.2	1.5	43.8	15.3	7.8
Queue Length 50th (ft)	146	0	86	1	115	31	0
Queue Length 95th (ft)	203	0	#222	1	173	91	52
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2249	1757	337	2428	352	419	464
Starvation Cap Reductn	498	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	49	0	1	2
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.12	0.72	0.23	0.58	0.46	0.41

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	896	205	222	508	0	0	0	0	235	1	304
Future Volume (vph)	0	896	205	222	508	0	0	0	0	235	1	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4916	1757	1668	3455					1698	1504	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4916	1757	1668	3455					1698	1504	1519
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	953	218	241	552	0	0	0	0	255	1	330
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	110	154
Lane Group Flow (vph)	0	953	218	241	552	0	0	0	0	204	84	34
Confl. Peds. (#/hr)	8					8						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		38.5	90.0	17.1	61.6					16.4	16.4	16.4
Effective Green, g (s)		38.5	90.0	17.1	61.6					16.4	16.4	16.4
Actuated g/C Ratio		0.43	1.00	0.19	0.68					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2102	1757	316	2364					309	274	276
v/s Ratio Prot		c0.19		c0.14	0.16					c0.12	0.06	0.02
v/s Ratio Perm			0.12									
v/c Ratio		0.45	0.12	0.76	0.23					0.66	0.31	0.12
Uniform Delay, d1		18.3	0.0	34.5	5.3					34.2	31.9	30.8
Progression Factor		0.91	1.00	0.60	0.23					1.00	1.00	1.00
Incremental Delay, d2		0.7	0.1	9.8	0.2					5.2	0.6	0.2
Delay (s)		17.3	0.1	30.7	1.4					39.4	32.5	31.0
Level of Service		B	A	C	A					D	C	C
Approach Delay (s)		14.1			10.3			0.0			34.4	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

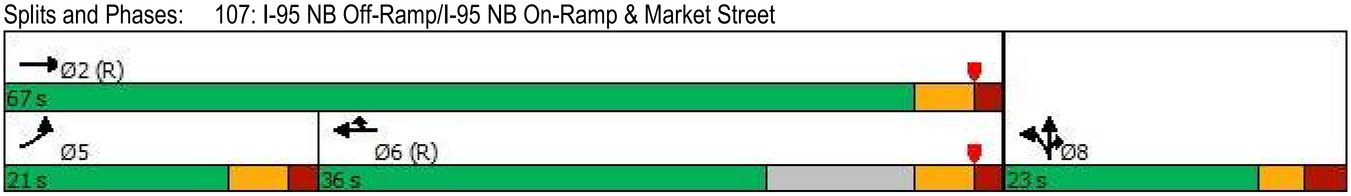
c Critical Lane Group

107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street
2027 No Build Conditions Weekday PM Peak

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	499	632	640	225	1	176
Future Volume (vph)	499	632	640	225	1	176
Lane Group Flow (vph)	531	672	681	239	99	191
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	23.0	23.0
Total Split (s)	21.0	67.0	36.0	36.0	23.0	23.0
Total Split (%)	23.3%	74.4%	40.0%	40.0%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.70	0.26	0.43	0.26	0.43	0.51
Control Delay	29.6	10.5	19.3	3.4	40.8	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	10.5	19.3	3.4	40.8	10.4
Queue Length 50th (ft)	152	151	136	0	53	0
Queue Length 95th (ft)	209	222	210	46	95	56
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	757	2542	1665	972	335	453
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.26	0.41	0.25	0.30	0.42

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 59 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	499	632	0	0	640	225	90	1	176	0	0	0
Future Volume (vph)	499	632	0	0	640	225	90	1	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1775	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	531	672	0	0	681	239	98	1	191	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	166	0	0	0
Lane Group Flow (vph)	531	672	0	0	681	106	0	99	25	0	0	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	20.3	66.2			39.9	39.9		11.8	11.8			
Effective Green, g (s)	20.3	66.2			39.9	39.9		11.8	11.8			
Actuated g/C Ratio	0.23	0.74			0.44	0.44		0.13	0.13			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	755	2541			1584	803		232	207			
v/s Ratio Prot	c0.16	0.19			c0.19	0.06		c0.06	0.02			
v/s Ratio Perm												
v/c Ratio	0.70	0.26			0.43	0.13		0.43	0.12			
Uniform Delay, d1	32.1	3.9			17.2	14.8		36.0	34.5			
Progression Factor	0.77	2.41			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.7	0.2			0.9	0.3		1.7	0.4			
Delay (s)	27.4	9.6			18.1	15.2		37.7	34.9			
Level of Service	C	A			B	B		D	C			
Approach Delay (s)		17.5			17.3			35.8			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	45	152	32	21	1	17	16	52	0	76	26
Future Vol, veh/h	12	45	152	32	21	1	17	16	52	0	76	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1
Mvmt Flow	13	49	165	35	23	1	18	17	57	0	83	28
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.3	8.9	8.2	8.5
HCM LOS	A	A	A	A

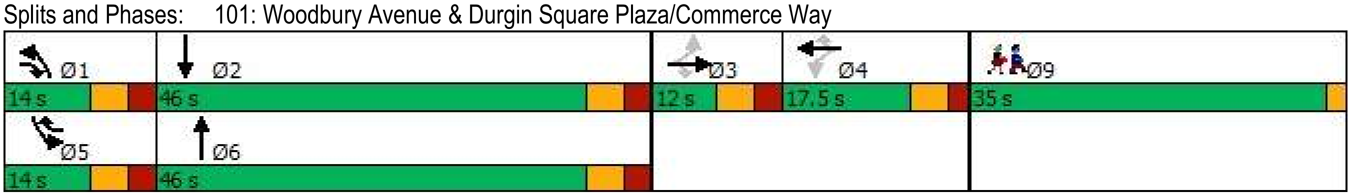
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	21%	0%	59%	0%	0%
Vol Thru, %	0%	24%	79%	0%	39%	100%	0%
Vol Right, %	0%	76%	0%	100%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	68	57	152	54	76	26
LT Vol	17	0	12	0	32	0	0
Through Vol	0	16	45	0	21	76	0
RT Vol	0	52	0	152	1	0	26
Lane Flow Rate	18	74	62	165	59	83	28
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.03	0.099	0.089	0.201	0.087	0.121	0.036
Departure Headway (Hd)	5.864	4.821	5.189	4.381	5.363	5.288	4.583
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	611	743	691	819	668	678	781
Service Time	3.597	2.555	2.915	2.107	3.398	3.02	2.315
HCM Lane V/C Ratio	0.029	0.1	0.09	0.201	0.088	0.122	0.036
HCM Control Delay	8.8	8.1	8.4	8.2	8.9	8.8	7.5
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.7	0.3	0.4	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	44	36	112	6	17	73	119	689	129	754	
Future Volume (vph)	44	36	112	6	17	73	119	689	129	754	
Lane Group Flow (vph)	0	87	122	0	25	79	129	752	140	871	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.04	0.27		0.12	0.22	0.57	0.61	0.64	0.71	
Control Delay		149.0	5.9		40.0	5.1	47.0	22.9	50.3	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		149.0	5.9		40.0	5.1	47.0	22.9	50.3	25.0	
Queue Length 50th (ft)		29	0		8	0	40	91	44	110	
Queue Length 95th (ft)		#217	28		48	19	#247	338	#274	403	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		84	458		357	365	227	2266	219	2250	
Starvation Cap Reductn		0	0		0	0	0	45	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		1.04	0.27		0.07	0.22	0.57	0.34	0.64	0.39	

Intersection Summary

Cycle Length: 124.5
Actuated Cycle Length: 68.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



101: Woodbury Avenue & Durgin Square Plaza/Commerce Way
2027 No Build Conditions Saturday Midday Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	36	112	6	17	73	119	689	3	129	754	47
Future Volume (vph)	44	36	112	6	17	73	119	689	3	129	754	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1589		1812	1568	1728	3453		1668	3425	
Flt Permitted		0.46	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		859	1589		1809	1568	1728	3453		1668	3425	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	39	122	7	18	79	129	749	3	140	820	51
RTOR Reduction (vph)	0	0	95	0	0	66	0	0	0	0	3	0
Lane Group Flow (vph)	0	87	27	0	25	13	129	752	0	140	868	0
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.8	15.9		2.6	11.7	9.1	24.5		9.1	24.5	
Effective Green, g (s)		6.8	15.9		2.6	11.7	9.1	24.5		9.1	24.5	
Actuated g/C Ratio		0.09	0.22		0.04	0.16	0.13	0.34		0.13	0.34	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		80	349		65	254	217	1171		210	1162	
v/s Ratio Prot			0.01			0.01	0.07	0.22		c0.08	c0.25	
v/s Ratio Perm		c0.10	0.01		c0.01	0.00						
v/c Ratio		1.09	0.08		0.38	0.05	0.59	0.64		0.67	0.75	
Uniform Delay, d1		32.7	22.3		34.0	25.6	29.8	20.1		30.1	21.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		126.5	0.1		3.8	0.1	4.3	1.2		7.8	2.7	
Delay (s)		159.2	22.4		37.8	25.6	34.1	21.4		37.9	23.8	
Level of Service		F	C		D	C	C	C		D	C	
Approach Delay (s)		79.3			28.6			23.2			25.7	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

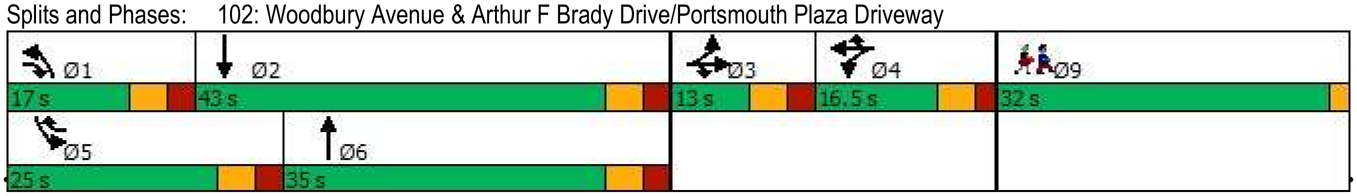
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	65	207	58	131	162	594	126	679	
Future Volume (vph)	65	207	58	131	162	594	126	679	
Lane Group Flow (vph)	164	225	137	142	176	685	137	811	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	1.08	0.43	0.60	0.23	0.75	0.69	0.55	0.78	
Control Delay	135.9	5.6	50.5	4.1	59.2	32.8	44.9	33.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	135.9	5.6	50.5	4.1	59.2	32.8	44.9	33.7	
Queue Length 50th (ft)	~80	0	61	0	80	147	60	178	
Queue Length 95th (ft)	#327	35	#228	29	#307	#347	168	379	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	152	518	234	714	234	1226	391	1557	
Starvation Cap Reductn	0	0	0	0	0	0	0	20	
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	1.08	0.43	0.59	0.20	0.75	0.56	0.35	0.53	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 84.3
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	65	207	68	58	131	162	594	36	126	679	67
Future Volume (vph)	86	65	207	68	58	131	162	594	36	126	679	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1546		1727	1507	1728	3420		1668	3402	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1768	1546		1727	1507	1728	3420		1668	3402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	71	225	74	63	142	176	646	39	137	738	73
RTOR Reduction (vph)	0	0	176	0	0	102	0	4	0	0	6	0
Lane Group Flow (vph)	0	164	49	0	137	40	176	681	0	137	805	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.7		11.2	23.8	11.4	24.4		12.6	25.6	
Effective Green, g (s)		7.3	18.7		11.2	23.8	11.4	24.4		12.6	25.6	
Actuated g/C Ratio		0.09	0.22		0.13	0.28	0.13	0.29		0.15	0.30	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151	339		227	420	231	979		246	1022	
v/s Ratio Prot		c0.09	0.03		c0.08	0.03	c0.10	0.20		0.08	c0.24	
v/s Ratio Perm												
v/c Ratio		1.09	0.15		0.60	0.09	0.76	0.70		0.56	0.79	
Uniform Delay, d1		39.0	26.8		34.9	22.7	35.6	27.1		33.7	27.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		98.1	0.2		4.5	0.1	13.8	2.2		2.7	4.1	
Delay (s)		137.1	27.0		39.4	22.8	49.4	29.3		36.4	31.4	
Level of Service		F	C		D	C	D	C		D	C	
Approach Delay (s)		73.4			31.0			33.4			32.1	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	155	52	166	80	58	623	12	590	338	
Future Volume (vph)	155	52	166	80	58	623	12	590	338	
Lane Group Flow (vph)	168	100	180	102	63	866	12	596	341	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.43	0.45	0.61	0.33	0.35	0.62	0.09	0.59	0.37	
Control Delay	42.2	38.8	45.8	37.0	46.1	24.6	46.0	32.0	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.2	38.8	45.8	37.0	46.1	24.6	46.0	32.0	3.7	
Queue Length 50th (ft)	40	35	84	43	30	154	6	138	0	
Queue Length 95th (ft)	101	114	211	123	92	#487	29	296	61	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	460	255	405	421	259	1411	172	1145	937	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.39	0.44	0.24	0.24	0.61	0.07	0.52	0.36	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 83.9

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	52	40	166	80	14	58	623	174	12	590	338
Future Volume (vph)	155	52	40	166	80	14	58	623	174	12	590	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1701		1906	1962		1728	3324		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1701		1906	1962		1728	3324		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	168	57	43	180	87	15	63	677	189	12	596	341
RTOR Reduction (vph)	0	22	0	0	5	0	0	17	0	0	0	171
Lane Group Flow (vph)	168	78	0	180	97	0	63	849	0	12	596	170
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	9.8	9.8		13.1	13.1		7.1	34.7		1.1	28.7	45.0
Effective Green, g (s)	9.8	9.8		13.1	13.1		7.1	34.7		1.1	28.7	45.0
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.08	0.38		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	364	184		276	284		136	1278		21	1099	771
v/s Ratio Prot	c0.05	0.05		c0.09	0.05		c0.04	c0.26		0.01	0.17	0.11
v/s Ratio Perm												
v/c Ratio	0.46	0.42		0.65	0.34		0.46	0.66		0.57	0.54	0.22
Uniform Delay, d1	37.7	37.6		36.4	34.7		39.7	22.9		44.3	25.3	12.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	1.6		5.4	0.7		2.5	1.3		32.5	0.5	0.1
Delay (s)	38.7	39.1		41.8	35.4		42.2	24.2		76.8	25.9	12.9
Level of Service	D	D		D	D		D	C		E	C	B
Approach Delay (s)		38.8			39.5			25.5			21.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	28.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

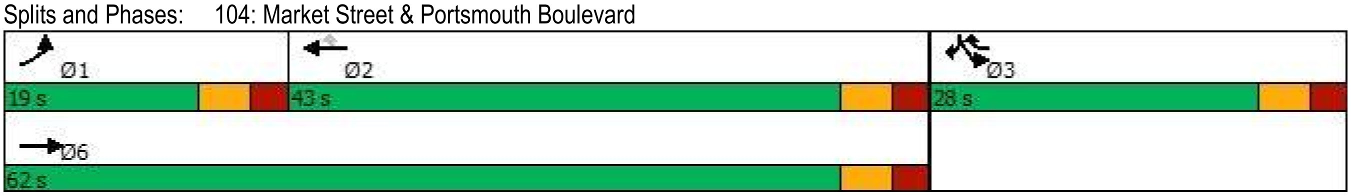
c Critical Lane Group

104: Market Street & Portsmouth Boulevard
2027 No Build Conditions Saturday Midday Peak

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	775	814	33	36	41
Future Volume (vph)	21	775	814	33	36	41
Lane Group Flow (vph)	23	833	885	36	39	45
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.08	0.36	0.41	0.03	0.08	0.16
Control Delay	20.9	5.1	7.6	1.1	20.0	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	5.1	7.6	1.1	20.0	10.3
Queue Length 50th (ft)	4	48	53	0	3	0
Queue Length 95th (ft)	28	78	168	6	20	27
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	553	3334	2956	1329	1716	839
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.25	0.30	0.03	0.02	0.05

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 43.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	775	814	33	36	41
Future Volume (vph)	21	775	814	33	36	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1569	3164	1509
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1569	3164	1509
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	833	885	36	39	45
RTOR Reduction (vph)	0	0	0	14	0	40
Lane Group Flow (vph)	23	833	885	22	39	5
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	1%	1%	1%	7%	7%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	1.0	32.5	25.5	30.7	5.2	5.2
Effective Green, g (s)	1.0	32.5	25.5	30.7	5.2	5.2
Actuated g/C Ratio	0.02	0.65	0.51	0.62	0.10	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	34	2259	1772	1158	331	157
v/s Ratio Prot	0.01	c0.24	c0.26	0.00	c0.01	0.00
v/s Ratio Perm				0.01		
v/c Ratio	0.68	0.37	0.50	0.02	0.12	0.03
Uniform Delay, d1	24.2	3.9	7.9	3.7	20.2	20.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	42.2	0.1	0.2	0.0	0.2	0.1
Delay (s)	66.4	4.0	8.1	3.7	20.3	20.1
Level of Service	E	A	A	A	C	C
Approach Delay (s)		5.7	8.0		20.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	49.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2027 No Build Conditions Saturday Midday Peak

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	749	140	94	438	179	3	402
Future Volume (vph)	749	140	94	438	179	3	402
Lane Group Flow (vph)	814	152	102	476	175	233	227
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	36.0		21.0	57.0	43.0	43.0	43.0
Total Split (%)	36.0%		21.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.29	0.09	0.53	0.19	0.62	0.56	0.52
Control Delay	12.1	0.1	69.9	3.1	47.9	12.0	9.0
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	0.1	69.9	3.1	47.9	12.0	9.0
Queue Length 50th (ft)	113	0	71	24	110	14	0
Queue Length 95th (ft)	173	0	126	33	169	83	62
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2808	1775	253	2469	628	678	705
Starvation Cap Reductn	985	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.09	0.40	0.19	0.28	0.34	0.32

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	749	140	94	438	0	0	0	0	179	3	402
Future Volume (vph)	0	749	140	94	438	0	0	0	0	179	3	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.86	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		4964	1775	1668	3455					1698	1474	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		4964	1775	1668	3455					1698	1474	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	814	152	102	476	0	0	0	0	195	3	437
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	175	190
Lane Group Flow (vph)	0	814	152	102	476	0	0	0	0	175	58	37
Confl. Peds. (#/hr)	7					7						
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		55.4	100.0	10.1	71.5					16.5	16.5	16.5
Effective Green, g (s)		55.4	100.0	10.1	71.5					16.5	16.5	16.5
Actuated g/C Ratio		0.55	1.00	0.10	0.72					0.16	0.16	0.16
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2750	1775	168	2470					280	243	250
v/s Ratio Prot		c0.16		c0.06	0.14					c0.10	0.04	0.02
v/s Ratio Perm			0.09									
v/c Ratio		0.30	0.09	0.61	0.19					0.62	0.24	0.15
Uniform Delay, d1		11.9	0.0	43.0	4.7					38.9	36.3	35.7
Progression Factor		0.88	1.00	1.47	0.54					1.00	1.00	1.00
Incremental Delay, d2		0.3	0.1	5.9	0.2					4.3	0.5	0.3
Delay (s)		10.7	0.1	69.0	2.7					43.2	36.8	36.0
Level of Service		B	A	E	A					D	D	D
Approach Delay (s)		9.1			14.4			0.0			38.3	
Approach LOS		A			B			A			D	

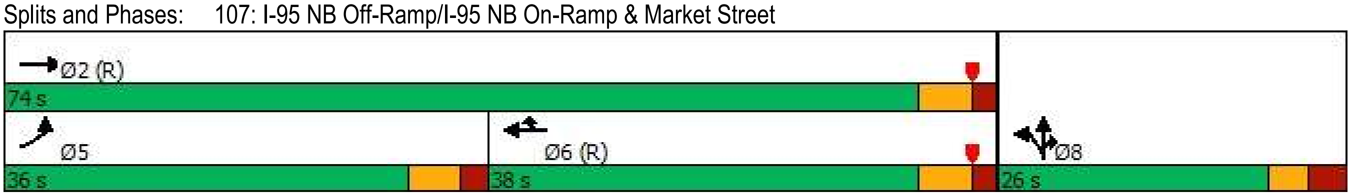
Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	398	530	480	137	4	209
Future Volume (vph)	398	530	480	137	4	209
Lane Group Flow (vph)	433	576	522	149	61	227
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	26.0	26.0
Total Split (s)	36.0	74.0	38.0	38.0	26.0	26.0
Total Split (%)	36.0%	74.0%	38.0%	38.0%	26.0%	26.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.71	0.22	0.28	0.15	0.30	0.59
Control Delay	52.7	2.6	15.3	3.4	42.6	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	2.6	15.3	3.4	42.6	11.8
Queue Length 50th (ft)	153	19	89	0	37	0
Queue Length 95th (ft)	205	64	166	38	69	61
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	1005	2645	1866	1017	359	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.28	0.15	0.17	0.45

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	530	0	0	480	137	52	4	209	0	0	0
Future Volume (vph)	398	530	0	0	480	137	52	4	209	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1797	1599			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1797	1599			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	433	576	0	0	522	149	57	4	227	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	71	0	0	201	0	0	0
Lane Group Flow (vph)	433	576	0	0	522	78	0	61	26	0	0	0
Confl. Peds. (#/hr)	7		1	1		7			1	1		
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	18.3	76.6			52.3	52.3		11.4	11.4			
Effective Green, g (s)	18.3	76.6			52.3	52.3		11.4	11.4			
Actuated g/C Ratio	0.18	0.77			0.52	0.52		0.11	0.11			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	613	2646			1869	947		204	182			
v/s Ratio Prot	c0.13	0.17			c0.15	0.04		c0.03	0.02			
v/s Ratio Perm												
v/c Ratio	0.71	0.22			0.28	0.08		0.30	0.14			
Uniform Delay, d1	38.3	3.3			13.3	11.9		40.6	39.9			
Progression Factor	1.22	0.64			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.6	0.2			0.4	0.2		1.1	0.5			
Delay (s)	50.4	2.3			13.7	12.1		41.8	40.4			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		22.9			13.3			40.7			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	24	8	33	19	3	13	9	15	3	13	6
Future Vol, veh/h	4	24	8	33	19	3	13	9	15	3	13	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	2	2	2	3	3	3	5	5	5
Mvmt Flow	4	26	9	36	21	3	14	10	16	3	14	7
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

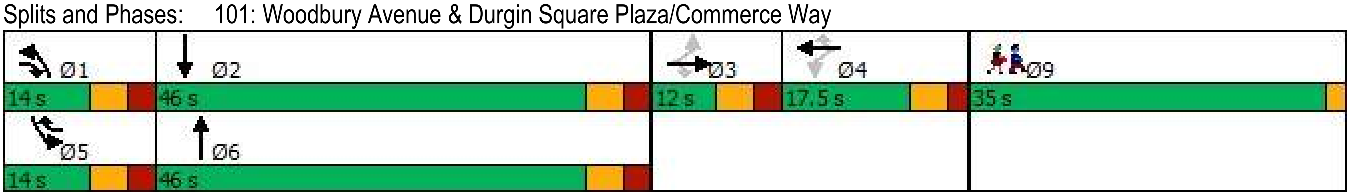
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	7.5	8.2	7.5	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	14%	0%	60%	19%	0%
Vol Thru, %	0%	38%	86%	0%	35%	81%	0%
Vol Right, %	0%	62%	0%	100%	5%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	24	28	8	55	16	6
LT Vol	13	0	4	0	33	3	0
Through Vol	0	9	24	0	19	13	0
RT Vol	0	15	0	8	3	0	6
Lane Flow Rate	14	26	30	9	60	17	7
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.02	0.031	0.04	0.01	0.079	0.024	0.007
Departure Headway (Hd)	5.235	4.296	4.76	3.987	4.758	4.871	4.075
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	677	822	747	889	748	726	864
Service Time	3.021	2.081	2.525	1.752	2.82	2.66	1.865
HCM Lane V/C Ratio	0.021	0.032	0.04	0.01	0.08	0.023	0.008
HCM Control Delay	8.1	7.2	7.7	6.8	8.2	7.8	6.9
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0	0.3	0.1	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	5	6	10	5	1	44	16	363	225	513	
Future Volume (vph)	5	6	10	5	1	44	16	363	225	513	
Lane Group Flow (vph)	0	12	11	0	6	48	17	416	245	574	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.04	0.03		0.02	0.11	0.06	0.37	0.68	0.23	
Control Delay		29.5	0.2		29.7	0.8	28.2	15.9	34.7	12.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		29.5	0.2		29.7	0.8	28.2	15.9	34.7	12.0	
Queue Length 50th (ft)		2	0		1	0	2	24	32	0	
Queue Length 95th (ft)		28	0		18	2	34	174	#430	245	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		300	427		606	436	374	2932	361	2945	
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		0.04	0.03		0.01	0.11	0.05	0.14	0.68	0.19	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 46.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	6	10	5	1	44	16	363	19	225	513	15
Future Volume (vph)	5	6	10	5	1	44	16	363	19	225	513	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1773	1538		1754	1553	1694	3359		1636	3372	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1810	1538		1827	1553	1694	3359		1636	3372	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	7	11	5	1	48	17	395	21	245	558	16
RTOR Reduction (vph)	0	0	10	0	0	39	0	3	0	0	1	0
Lane Group Flow (vph)	0	12	1	0	6	9	17	413	0	245	573	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		0.5	3.0		0.6	10.9	2.5	21.3		10.3	29.1	
Effective Green, g (s)		0.5	3.0		0.6	10.9	2.5	21.3		10.3	29.1	
Actuated g/C Ratio		0.01	0.05		0.01	0.18	0.04	0.35		0.17	0.48	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		14	75		17	277	69	1172		276	1608	
v/s Ratio Prot			0.00			0.01	0.01	0.12		c0.15	c0.17	
v/s Ratio Perm		c0.01	0.00		c0.00	0.00						
v/c Ratio		0.86	0.01		0.35	0.03	0.25	0.35		0.89	0.36	
Uniform Delay, d1		30.2	27.6		30.0	20.7	28.3	14.7		24.8	10.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		164.6	0.0		12.2	0.0	1.9	0.2		27.1	0.1	
Delay (s)		194.9	27.6		42.2	20.7	30.2	14.9		51.9	10.2	
Level of Service		F	C		D	C	C	B		D	B	
Approach Delay (s)		114.9			23.1			15.5			22.7	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

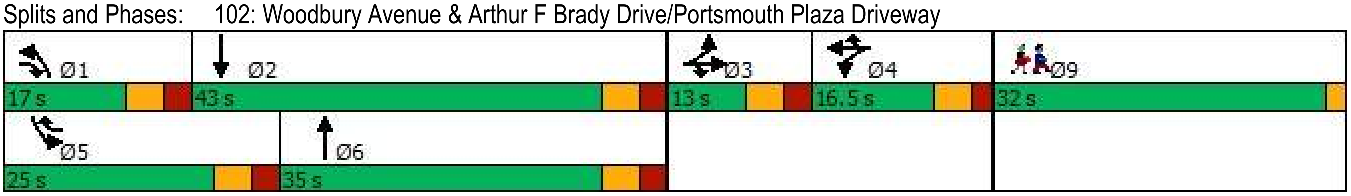
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	29	100	18	32	133	310	39	456	
Future Volume (vph)	29	100	18	32	133	310	39	456	
Lane Group Flow (vph)	93	109	32	35	139	330	42	532	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.48	0.18	0.17	0.09	0.47	0.32	0.22	0.63	
Control Delay	45.4	2.2	37.8	0.4	38.9	22.4	37.5	28.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.4	2.2	37.8	0.4	38.9	22.4	37.5	28.2	
Queue Length 50th (ft)	35	0	12	0	49	51	15	96	
Queue Length 95th (ft)	#170	13	54	0	#215	147	65	236	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	194	610	304	653	302	1588	503	2011	
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	0.48	0.18	0.11	0.05	0.46	0.21	0.08	0.26	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 67.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	29	100	11	18	32	133	310	7	39	456	33
Future Volume (vph)	56	29	100	11	18	32	133	310	7	39	456	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1694	1487		1690	1463	1678	3343		1620	3316	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1694	1487		1690	1463	1678	3343		1620	3316	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Adj. Flow (vph)	61	32	109	12	20	35	139	323	7	42	496	36
RTOR Reduction (vph)	0	0	78	0	0	29	0	1	0	0	5	0
Lane Group Flow (vph)	0	93	31	0	32	6	139	329	0	42	527	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.7	19.6		4.2	12.4	11.9	20.8		8.2	17.1	
Effective Green, g (s)		7.7	19.6		4.2	12.4	11.9	20.8		8.2	17.1	
Actuated g/C Ratio		0.11	0.28		0.06	0.18	0.17	0.30		0.12	0.24	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		186	416		101	259	285	993		189	810	
v/s Ratio Prot		c0.05	0.02		c0.02	0.00	c0.08	c0.10		0.03	c0.16	
v/s Ratio Perm												
v/c Ratio		0.50	0.07		0.32	0.02	0.49	0.33		0.22	0.65	
Uniform Delay, d1		29.3	18.5		31.5	23.8	26.3	19.2		28.0	23.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1	0.1		1.8	0.0	1.3	0.2		0.6	1.9	
Delay (s)		31.4	18.6		33.3	23.8	27.6	19.4		28.6	25.7	
Level of Service		C	B		C	C	C	B		C	C	
Approach Delay (s)		24.5			28.4			21.8			25.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	77	33	57	37	90	367	3	341	221	
Future Volume (vph)	77	33	57	37	90	367	3	341	221	
Lane Group Flow (vph)	83	92	62	47	98	491	3	371	240	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.21	0.39	0.28	0.20	0.42	0.34	0.02	0.39	0.26	
Control Delay	35.7	24.0	37.6	33.3	39.8	17.9	41.0	27.9	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	24.0	37.6	33.3	39.8	17.9	41.0	27.9	3.8	
Queue Length 50th (ft)	15	14	22	15	35	57	1	67	0	
Queue Length 95th (ft)	53	78	85	64	124	210	12	175	51	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	579	326	490	509	316	1572	211	1372	899	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.28	0.13	0.09	0.31	0.31	0.01	0.27	0.27	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 69.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

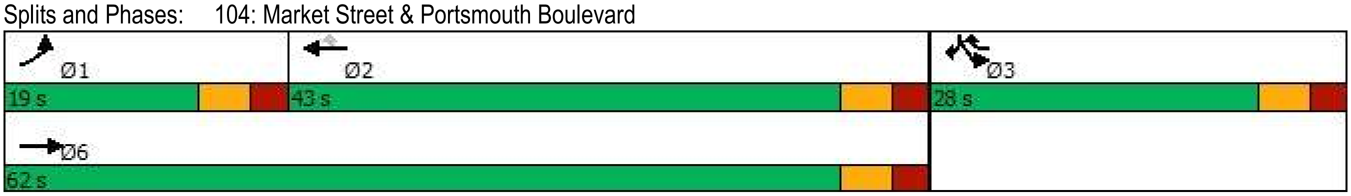
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	33	53	57	37	6	90	367	85	3	341	221
Future Volume (vph)	77	33	53	57	37	6	90	367	85	3	341	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	0.91		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1631		1834	1887		1678	3248		1647	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1631		1834	1887		1678	3248		1647	3355	1501
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	35	57	62	40	7	98	399	92	3	371	240
RTOR Reduction (vph)	0	48	0	0	5	0	0	13	0	0	0	121
Lane Group Flow (vph)	83	44	0	62	42	0	98	478	0	3	371	119
Confl. Peds. (#/hr)			2	2			1		1	1		1
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.1	8.1		6.6	6.6		7.7	30.7		0.8	23.8	38.4
Effective Green, g (s)	8.1	8.1		6.6	6.6		7.7	30.7		0.8	23.8	38.4
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.10	0.40		0.01	0.31	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	351	170		156	161		167	1289		17	1032	745
v/s Ratio Prot	0.02	c0.03		c0.03	0.02		c0.06	c0.15		0.00	0.11	0.08
v/s Ratio Perm												
v/c Ratio	0.24	0.26		0.40	0.26		0.59	0.37		0.18	0.36	0.16
Uniform Delay, d1	31.8	31.8		33.5	33.1		33.3	16.5		37.9	20.8	10.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.8		1.7	0.9		5.2	0.2		4.9	0.2	0.1
Delay (s)	32.1	32.6		35.1	33.9		38.5	16.7		42.8	21.0	10.7
Level of Service	C	C		D	C		D	B		D	C	B
Approach Delay (s)		32.4			34.6			20.3			17.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	77.3	Sum of lost time (s)	28.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	54	397	456	248	98	86
Future Volume (vph)	54	397	456	248	98	86
Lane Group Flow (vph)	59	432	496	270	107	93
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.18	0.27	0.40	0.27	0.17	0.24
Control Delay	21.5	6.0	11.6	1.4	19.6	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	6.0	11.6	1.4	19.6	8.6
Queue Length 50th (ft)	8	23	27	0	7	0
Queue Length 95th (ft)	57	45	103	18	43	38
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	597	3197	2893	1328	2099	1034
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.14	0.17	0.20	0.05	0.09

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 41.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	54	397	456	248	98	86
Future Volume (vph)	54	397	456	248	98	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1678	3355	3388	1547	3255	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1678	3355	3388	1547	3255	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	432	496	270	107	93
RTOR Reduction (vph)	0	0	0	125	0	76
Lane Group Flow (vph)	59	432	496	145	107	17
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.6	24.1	15.5	23.8	8.3	8.3
Effective Green, g (s)	2.6	24.1	15.5	23.8	8.3	8.3
Actuated g/C Ratio	0.06	0.54	0.35	0.54	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	98	1821	1182	1038	608	290
v/s Ratio Prot	c0.04	0.13	c0.15	c0.03	0.03	0.01
v/s Ratio Perm				0.07		
v/c Ratio	0.60	0.24	0.42	0.14	0.18	0.06
Uniform Delay, d1	20.4	5.3	11.0	5.2	15.2	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.1	0.2	0.1	0.1	0.1
Delay (s)	30.4	5.4	11.3	5.2	15.3	14.9
Level of Service	C	A	B	A	B	B
Approach Delay (s)		8.4	9.1		15.1	
Approach LOS		A	A		B	

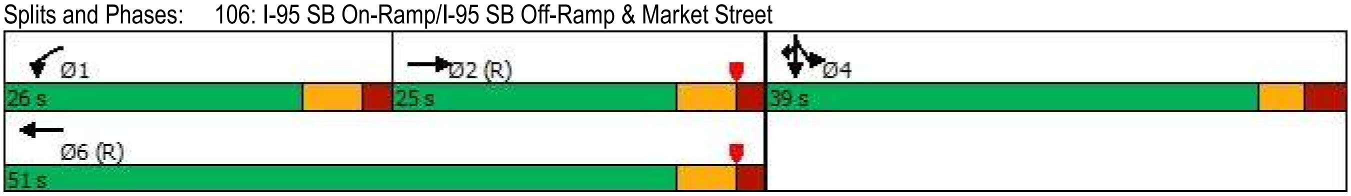
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	44.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2027 Build Conditions Weekday AM Conditions

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	443	116	86	442	191	1	292
Future Volume (vph)	443	116	86	442	191	1	292
Lane Group Flow (vph)	471	123	93	480	183	172	171
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	25.0		26.0	51.0	39.0	39.0	39.0
Total Split (%)	27.8%		28.9%	56.7%	43.3%	43.3%	43.3%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.18	0.07	0.49	0.21	0.63	0.46	0.43
Control Delay	13.9	0.1	48.6	7.2	42.9	11.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	0.1	48.6	7.2	42.9	11.6	8.1
Queue Length 50th (ft)	58	0	55	26	103	14	0
Queue Length 95th (ft)	99	0	96	133	157	67	50
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2563	1724	356	2289	604	620	649
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	91	0	4	4
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.07	0.26	0.22	0.30	0.28	0.27

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	443	116	86	442	0	0	0	0	191	1	292
Future Volume (vph)	0	443	116	86	442	0	0	0	0	191	1	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.87	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4821	1724	1604	3323					1649	1440	1475
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4821	1724	1604	3323					1649	1440	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	471	123	93	480	0	0	0	0	208	1	317
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	120	141
Lane Group Flow (vph)	0	471	123	93	480	0	0	0	0	183	52	30
Confl. Peds. (#/hr)	5					5						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		46.6	90.0	9.4	62.0					16.0	16.0	16.0
Effective Green, g (s)		46.6	90.0	9.4	62.0					16.0	16.0	16.0
Actuated g/C Ratio		0.52	1.00	0.10	0.69					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2496	1724	167	2289					293	256	262
v/s Ratio Prot		0.10		c0.06	c0.14					c0.11	0.04	0.02
v/s Ratio Perm			0.07									
v/c Ratio		0.19	0.07	0.56	0.21					0.62	0.20	0.12
Uniform Delay, d1		11.6	0.0	38.3	5.1					34.2	31.6	31.1
Progression Factor		1.03	1.00	1.10	1.21					1.00	1.00	1.00
Incremental Delay, d2		0.2	0.1	3.9	0.2					4.1	0.4	0.2
Delay (s)		12.1	0.1	46.0	6.3					38.3	32.0	31.3
Level of Service		B	A	D	A					D	C	C
Approach Delay (s)		9.6			12.8			0.0			33.9	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	143	491	334	53	0	347
Future Volume (vph)	143	491	334	53	0	347
Lane Group Flow (vph)	155	534	363	58	206	369
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	32.0	32.0
Total Split (s)	14.0	52.0	38.0	38.0	38.0	38.0
Total Split (%)	15.6%	57.8%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.44	0.24	0.21	0.06	0.60	0.69
Control Delay	31.0	3.4	14.8	0.8	39.4	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	3.4	14.8	0.8	39.4	15.5
Queue Length 50th (ft)	26	3	57	0	109	44
Queue Length 95th (ft)	47	7	109	5	158	121
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	358	2250	1706	920	622	737
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.24	0.21	0.06	0.33	0.50

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 30 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	491	0	0	334	53	194	0	347	0	0	0
Future Volume (vph)	143	491	0	0	334	53	194	0	347	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3255	3355			3438	1743		1752	1568			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3255	3355			3438	1743		1752	1568			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	155	534	0	0	363	58	206	0	369	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	225	0	0	0
Lane Group Flow (vph)	155	534	0	0	363	29	0	206	144	0	0	0
Confl. Peds. (#/hr)	4					4						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	9.7	60.4			44.7	44.7		17.6	17.6			
Effective Green, g (s)	9.7	60.4			44.7	44.7		17.6	17.6			
Actuated g/C Ratio	0.11	0.67			0.50	0.50		0.20	0.20			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	350	2251			1707	865		342	306			
v/s Ratio Prot	c0.05	c0.16			0.11	0.02		c0.12	0.09			
v/s Ratio Perm												
v/c Ratio	0.44	0.24			0.21	0.03		0.60	0.47			
Uniform Delay, d1	37.6	5.8			12.7	11.6		33.0	32.1			
Progression Factor	0.73	0.48			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.2			0.3	0.1		3.4	1.6			
Delay (s)	28.2	3.0			13.0	11.7		36.5	33.6			
Level of Service	C	A			B	B		D	C			
Approach Delay (s)		8.7			12.8			34.6			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	8	9	85	27	0	177	98	29	0	85	6
Future Vol, veh/h	22	8	9	85	27	0	177	98	29	0	85	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	3	3	3	1	1	1	0	0	0
Mvmt Flow	24	9	10	92	29	0	192	107	32	0	92	7
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	9	10.3	9.9	8.8
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	73%	0%	76%	0%	0%
Vol Thru, %	0%	77%	27%	0%	24%	100%	0%
Vol Right, %	0%	23%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	127	30	9	112	85	6
LT Vol	177	0	22	0	85	0	0
Through Vol	0	98	8	0	27	85	0
RT Vol	0	29	0	9	0	0	6
Lane Flow Rate	192	138	33	10	122	92	7
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.299	0.189	0.056	0.014	0.196	0.137	0.008
Departure Headway (Hd)	5.594	4.93	6.2	5.125	5.802	5.322	4.617
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	726	575	694	617	671	770
Service Time	3.336	2.673	3.966	2.889	3.855	3.078	2.373
HCM Lane V/C Ratio	0.299	0.19	0.057	0.014	0.198	0.137	0.009
HCM Control Delay	10.7	8.8	9.3	8	10.3	8.9	7.4
HCM Lane LOS	B	A	A	A	B	A	A
HCM 95th-tile Q	1.3	0.7	0.2	0	0.7	0.5	0

Intersection						
Int Delay, s/veh	6.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	0	0	22	0	0
Future Vol, veh/h	76	0	0	22	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	0	0	24	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	13	12	0	0	24	0
Stage 1	12	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1006	1069	-	-	1591	-
Stage 1	1011	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1006	1069	-	-	1591	-
Mov Cap-2 Maneuver	1006	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1006	1591	-
HCM Lane V/C Ratio	-	-	0.082	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection						
Int Delay, s/veh	7.3					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	3	0	0	8
Future Vol, veh/h	0	0	3	0	0	8
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	3	0	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	7	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	6	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1014	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1012	1084
Mov Cap-2 Maneuver	-	-	-	-	1012	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1015	-

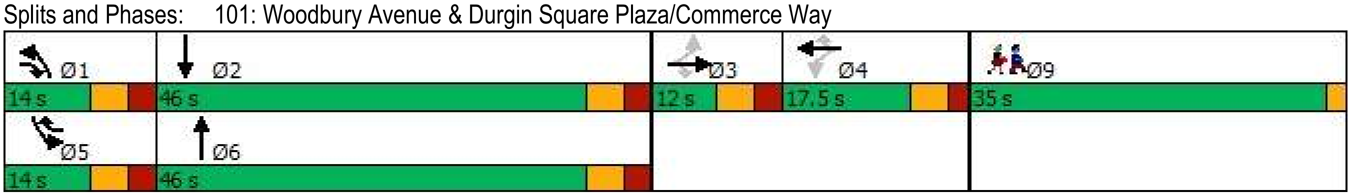
Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.008	-	-	0.002	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	30	31	96	40	23	179	102	640	141	809	
Future Volume (vph)	30	31	96	40	23	179	102	640	141	809	
Lane Group Flow (vph)	0	67	104	0	68	195	111	699	152	907	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.94	0.26		0.39	0.36	0.57	0.60	0.81	0.78	
Control Delay		136.1	6.4		45.8	5.4	52.9	25.6	71.9	30.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		136.1	6.4		45.8	5.4	52.9	25.6	71.9	30.2	
Queue Length 50th (ft)		31	0		29	0	49	131	69	184	
Queue Length 95th (ft)		#175	27		103	39	#215	318	#304	436	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		71	397		241	549	195	1949	188	1938	
Starvation Cap Reductn		0	0		0	0	0	45	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		0.94	0.26		0.28	0.36	0.57	0.37	0.81	0.47	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 77.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	31	96	40	23	179	102	640	3	141	809	34
Future Volume (vph)	30	31	96	40	23	179	102	640	3	141	809	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1590		1802	1583	1728	3453		1668	3431	
Flt Permitted		0.45	1.00		0.77	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		851	1590		1428	1583	1728	3453		1668	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	33	34	104	43	25	195	111	696	3	152	870	37
RTOR Reduction (vph)	0	0	84	0	0	155	0	0	0	0	3	0
Lane Group Flow (vph)	0	67	20	0	68	40	111	699	0	152	904	0
Confl. Peds. (#/hr)			1	1			1					1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.6	15.4		7.6	16.4	8.8	26.5		8.8	26.5	
Effective Green, g (s)		6.6	15.4		7.6	16.4	8.8	26.5		8.8	26.5	
Actuated g/C Ratio		0.08	0.19		0.10	0.21	0.11	0.34		0.11	0.34	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		71	309		137	328	192	1156		185	1149	
v/s Ratio Prot			0.01			0.01	0.06	0.20		c0.09	c0.26	
v/s Ratio Perm		c0.08	0.01		c0.05	0.01						
v/c Ratio		0.94	0.07		0.50	0.12	0.58	0.60		0.82	0.79	
Uniform Delay, d1		36.1	26.0		33.9	25.5	33.4	21.9		34.4	23.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		86.8	0.1		2.8	0.2	4.2	0.9		24.5	3.6	
Delay (s)		122.9	26.1		36.7	25.7	37.6	22.8		58.8	27.4	
Level of Service		F	C		D	C	D	C		E	C	
Approach Delay (s)		64.0			28.5			24.9			31.9	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	25.5
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

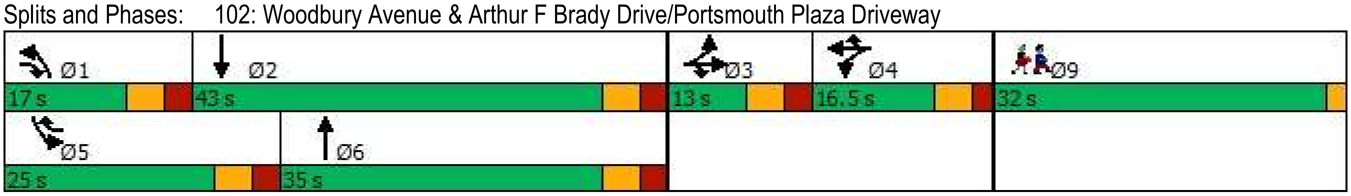
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	43	195	49	111	178	566	91	763	
Future Volume (vph)	43	195	49	111	178	566	91	763	
Lane Group Flow (vph)	121	212	118	121	184	613	99	928	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.84	0.43	0.57	0.22	0.82	0.52	0.47	0.81	
Control Delay	86.5	5.9	51.8	4.7	69.0	27.5	46.3	33.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	86.5	5.9	51.8	4.7	69.0	27.5	46.3	33.8	
Queue Length 50th (ft)	62	0	57	0	93	124	48	214	
Queue Length 95th (ft)	#240	35	#189	27	#321	297	128	#478	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	144	492	223	656	224	1207	373	1486	
Starvation Cap Reductn	0	0	0	0	0	0	0	18	
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	0.84	0.43	0.53	0.18	0.82	0.51	0.27	0.63	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 87.6
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	43	195	60	49	111	178	566	28	91	763	91
Future Volume (vph)	68	43	195	60	49	111	178	566	28	91	763	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747	1531		1726	1507	1728	3431		1668	3392	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1747	1531		1726	1507	1728	3431		1668	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	74	47	212	65	53	121	184	584	29	99	829	99
RTOR Reduction (vph)	0	0	167	0	0	91	0	3	0	0	7	0
Lane Group Flow (vph)	0	121	45	0	118	30	184	610	0	99	921	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.6		10.6	21.6	11.4	29.9		11.0	29.5	
Effective Green, g (s)		7.2	18.6		10.6	21.6	11.4	29.9		11.0	29.5	
Actuated g/C Ratio		0.08	0.21		0.12	0.24	0.13	0.34		0.12	0.33	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		142	321		206	367	222	1159		207	1130	
v/s Ratio Prot		c0.07	0.03		c0.07	0.02	c0.11	0.18		0.06	c0.27	
v/s Ratio Perm												
v/c Ratio		0.85	0.14		0.57	0.08	0.83	0.53		0.48	0.81	
Uniform Delay, d1		40.1	28.4		36.8	25.8	37.6	23.6		36.1	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.0	0.2		3.8	0.1	21.8	0.4		1.7	4.6	
Delay (s)		76.1	28.6		40.6	25.9	59.4	24.0		37.8	31.6	
Level of Service		E	C		D	C	E	C		D	C	
Approach Delay (s)		45.9			33.2			32.2			32.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	177	62	172	70	95	580	8	684	325	
Future Volume (vph)	177	62	172	70	95	580	8	684	325	
Lane Group Flow (vph)	192	157	185	91	100	751	9	743	353	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.48	0.66	0.63	0.30	0.51	0.52	0.07	0.71	0.37	
Control Delay	44.7	45.0	48.9	38.0	51.5	23.0	47.5	35.5	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.7	45.0	48.9	38.0	51.5	23.0	47.5	35.5	3.7	
Queue Length 50th (ft)	51	59	96	41	52	132	5	192	0	
Queue Length 95th (ft)	113	#202	#221	110	133	#382	24	#432	62	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	436	254	384	398	245	1501	163	1064	942	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	0.62	0.48	0.23	0.41	0.50	0.06	0.70	0.37	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 88.4
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

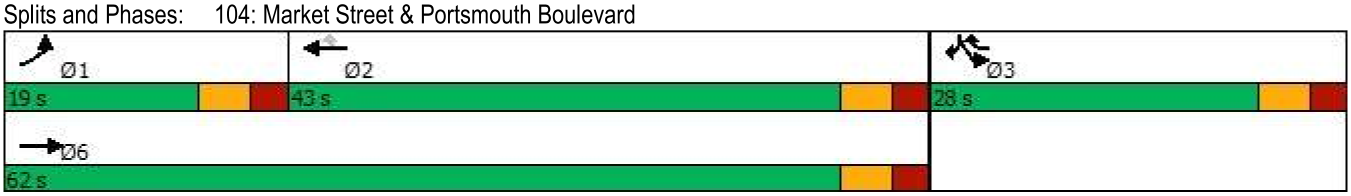
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	62	83	172	70	15	95	580	133	8	684	325
Future Volume (vph)	177	62	83	172	70	15	95	580	133	8	684	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.91		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1662		1906	1949		1728	3345		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1662		1906	1949		1728	3345		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	192	67	90	185	75	16	100	611	140	9	743	353
RTOR Reduction (vph)	0	39	0	0	6	0	0	13	0	0	0	175
Lane Group Flow (vph)	192	118	0	185	85	0	100	738	0	9	743	178
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		13.6	13.6		8.1	37.6		1.1	30.6	47.7
Effective Green, g (s)	10.6	10.6		13.6	13.6		8.1	37.6		1.1	30.6	47.7
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.09	0.40		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	375	186		274	280		147	1329		20	1117	779
v/s Ratio Prot	0.06	c0.07		c0.10	0.04		c0.06	c0.22		0.01	c0.22	0.12
v/s Ratio Perm												
v/c Ratio	0.51	0.63		0.68	0.30		0.68	0.56		0.45	0.67	0.23
Uniform Delay, d1	39.6	40.1		38.4	36.3		42.0	22.0		46.4	27.6	13.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	6.9		6.4	0.6		12.2	0.5		15.3	1.5	0.2
Delay (s)	40.7	47.0		44.8	36.9		54.2	22.5		61.7	29.1	13.3
Level of Service	D	D		D	D		D	C		E	C	B
Approach Delay (s)		43.6			42.2			26.3			24.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	94.6	Sum of lost time (s)	28.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	69	870	704	96	219	104
Future Volume (vph)	69	870	704	96	219	104
Lane Group Flow (vph)	75	946	757	103	238	113
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.26	0.51	0.56	0.11	0.35	0.27
Control Delay	26.8	7.8	15.6	1.3	23.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	7.8	15.6	1.3	23.0	8.0
Queue Length 50th (ft)	21	73	104	0	35	0
Queue Length 95th (ft)	71	132	186	12	86	41
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	486	3209	2611	1234	1597	821
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.29	0.29	0.08	0.15	0.14

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 51.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	69	870	704	96	219	104
Future Volume (vph)	69	870	704	96	219	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1576	3351	1599
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1576	3351	1599
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.92	0.92
Adj. Flow (vph)	75	946	757	103	238	113
RTOR Reduction (vph)	0	0	0	44	0	91
Lane Group Flow (vph)	75	946	757	59	238	22
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	4.7	30.9	20.2	30.6	10.4	10.4
Effective Green, g (s)	4.7	30.9	20.2	30.6	10.4	10.4
Actuated g/C Ratio	0.09	0.58	0.38	0.57	0.20	0.20
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	152	2002	1309	1082	653	312
v/s Ratio Prot	0.04	c0.27	c0.22	0.01	c0.07	0.01
v/s Ratio Perm				0.03		
v/c Ratio	0.49	0.47	0.58	0.05	0.36	0.07
Uniform Delay, d1	23.2	6.5	13.2	5.0	18.6	17.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2	0.6	0.0	0.3	0.1
Delay (s)	25.7	6.7	13.8	5.0	18.9	17.6
Level of Service	C	A	B	A	B	B
Approach Delay (s)		8.1	12.7		18.5	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	911	213	222	534	235	1	307
Future Volume (vph)	911	213	222	534	235	1	307
Lane Group Flow (vph)	969	227	241	580	204	196	190
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	35.0		23.0	67.0	23.0	23.0	23.0
Total Split (%)	38.9%		25.6%	74.4%	25.6%	25.6%	25.6%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.46	0.13	0.76	0.25	0.66	0.51	0.44
Control Delay	18.6	0.1	37.4	1.3	44.0	15.3	7.8
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	0.1	37.4	1.3	44.0	15.4	7.9
Queue Length 50th (ft)	149	0	71	1	115	31	0
Queue Length 95th (ft)	206	0	#224	1	174	92	52
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2249	1757	337	2428	351	420	465
Starvation Cap Reductn	491	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	75	0	2	4
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.13	0.72	0.25	0.58	0.47	0.41

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

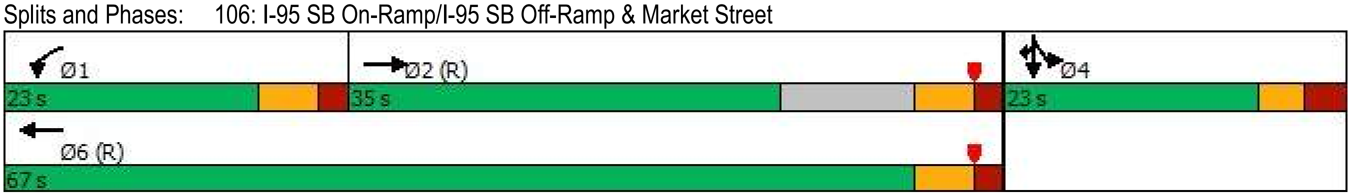
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 50

Control Type: Actuated-Coordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	911	213	222	534	0	0	0	0	235	1	307
Future Volume (vph)	0	911	213	222	534	0	0	0	0	235	1	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4916	1757	1668	3455					1698	1504	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4916	1757	1668	3455					1698	1504	1519
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	969	227	241	580	0	0	0	0	255	1	334
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	112	155
Lane Group Flow (vph)	0	969	227	241	580	0	0	0	0	204	84	35
Confl. Peds. (#/hr)	8					8						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		38.5	90.0	17.1	61.6					16.4	16.4	16.4
Effective Green, g (s)		38.5	90.0	17.1	61.6					16.4	16.4	16.4
Actuated g/C Ratio		0.43	1.00	0.19	0.68					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2102	1757	316	2364					309	274	276
v/s Ratio Prot		c0.20		c0.14	0.17					c0.12	0.06	0.02
v/s Ratio Perm			0.13									
v/c Ratio		0.46	0.13	0.76	0.25					0.66	0.31	0.13
Uniform Delay, d1		18.4	0.0	34.5	5.4					34.2	31.9	30.8
Progression Factor		0.91	1.00	0.61	0.18					1.00	1.00	1.00
Incremental Delay, d2		0.7	0.1	9.8	0.2					5.2	0.6	0.2
Delay (s)		17.3	0.1	30.9	1.2					39.4	32.5	31.0
Level of Service		B	A	C	A					D	C	C
Approach Delay (s)		14.1			9.9			0.0			34.4	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

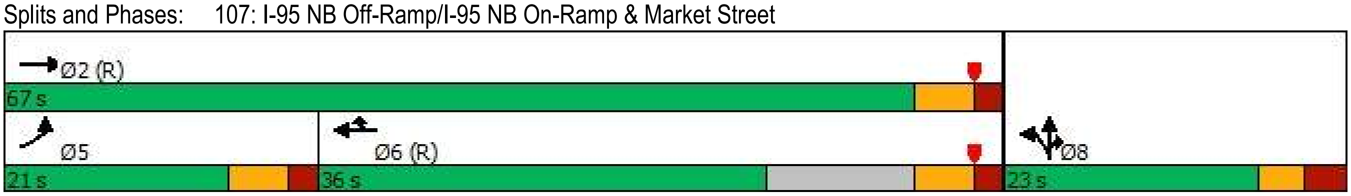
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	501	645	659	225	1	176
Future Volume (vph)	501	645	659	225	1	176
Lane Group Flow (vph)	533	686	701	239	106	191
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	23.0	23.0
Total Split (s)	21.0	67.0	36.0	36.0	23.0	23.0
Total Split (%)	23.3%	74.4%	40.0%	40.0%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.70	0.27	0.45	0.26	0.45	0.51
Control Delay	29.8	11.0	19.6	3.4	41.2	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	11.0	19.6	3.4	41.2	10.2
Queue Length 50th (ft)	153	157	142	0	57	0
Queue Length 95th (ft)	211	226	215	46	100	56
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	757	2534	1661	970	335	453
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.27	0.42	0.25	0.32	0.42

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 59 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	501	645	0	0	659	225	97	1	176	0	0	0
Future Volume (vph)	501	645	0	0	659	225	97	1	176	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1775	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	533	686	0	0	701	239	105	1	191	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	134	0	0	166	0	0	0
Lane Group Flow (vph)	533	686	0	0	701	105	0	106	25	0	0	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	20.3	66.0			39.7	39.7		12.0	12.0			
Effective Green, g (s)	20.3	66.0			39.7	39.7		12.0	12.0			
Actuated g/C Ratio	0.23	0.73			0.44	0.44		0.13	0.13			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	755	2533			1576	799		236	211			
v/s Ratio Prot	c0.16	0.20			c0.20	0.06		c0.06	0.02			
v/s Ratio Perm												
v/c Ratio	0.71	0.27			0.44	0.13		0.45	0.12			
Uniform Delay, d1	32.1	4.0			17.5	14.9		36.0	34.4			
Progression Factor	0.78	2.46			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.7	0.2			0.9	0.3		1.9	0.4			
Delay (s)	27.7	10.0			18.4	15.3		37.8	34.7			
Level of Service	C	B			B	B		D	C			
Approach Delay (s)		17.8			17.6			35.8			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	45	152	36	21	1	17	64	59	0	114	26
Future Vol, veh/h	22	45	152	36	21	1	17	64	59	0	114	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1
Mvmt Flow	24	49	165	39	23	1	18	70	64	0	124	28
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.8	9.4	9.1	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	33%	0%	62%	0%	0%
Vol Thru, %	0%	52%	67%	0%	36%	100%	0%
Vol Right, %	0%	48%	0%	100%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	123	67	152	58	114	26
LT Vol	17	0	22	0	36	0	0
Through Vol	0	64	45	0	21	114	0
RT Vol	0	59	0	152	1	0	26
Lane Flow Rate	18	134	73	165	63	124	28
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.031	0.191	0.112	0.214	0.099	0.187	0.037
Departure Headway (Hd)	5.981	5.138	5.526	4.657	5.677	5.423	4.718
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	695	647	767	627	658	754
Service Time	3.74	2.897	3.278	2.408	3.745	3.183	2.477
HCM Lane V/C Ratio	0.03	0.193	0.113	0.215	0.1	0.188	0.037
HCM Control Delay	8.9	9.1	9	8.7	9.4	9.4	7.7
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.4	0.8	0.3	0.7	0.1

Intersection						
Int Delay, s/veh	3.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	0	0	58	0	0
Future Vol, veh/h	38	0	0	58	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	0	63	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	33	32	0	0	63	0
Stage 1	32	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	980	1042	-	-	1540	-
Stage 1	991	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1042	-	-	1540	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	980	1540	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection						
Int Delay, s/veh	7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	7	0	0	4
Future Vol, veh/h	0	0	7	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	8	0	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	17	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1001	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	996	1084
Mov Cap-2 Maneuver	-	-	-	-	996	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1002	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

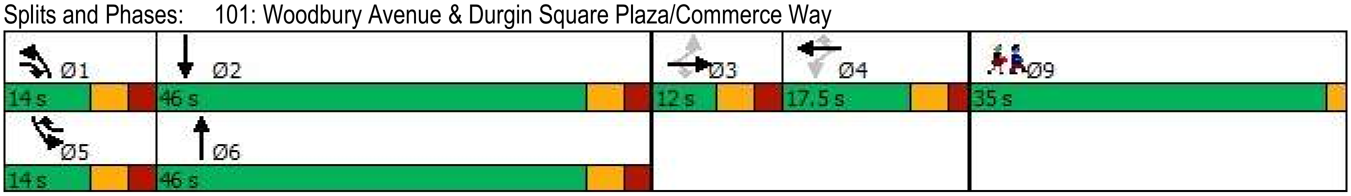
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.004	-	-	0.005	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

101: Woodbury Avenue & Durgin Square Plaza/Commerce Way
2027 Build Conditions Saturday Midday Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	44	36	112	6	17	73	119	689	137	757	
Future Volume (vph)	44	36	112	6	17	73	119	689	137	757	
Lane Group Flow (vph)	0	87	122	0	25	79	129	752	149	874	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.04	0.27		0.12	0.22	0.57	0.61	0.68	0.71	
Control Delay		149.7	5.9		40.0	5.1	47.0	22.8	53.0	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		149.7	5.9		40.0	5.1	47.0	22.8	53.0	25.0	
Queue Length 50th (ft)		29	0		8	0	40	91	47	111	
Queue Length 95th (ft)		#217	28		48	19	#247	338	#292	405	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		84	458		356	365	226	2263	218	2247	
Starvation Cap Reductn		0	0		0	0	0	45	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		1.04	0.27		0.07	0.22	0.57	0.34	0.68	0.39	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 69
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	36	112	6	17	73	119	689	3	137	757	47
Future Volume (vph)	44	36	112	6	17	73	119	689	3	137	757	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1589		1812	1568	1728	3453		1668	3425	
Flt Permitted		0.46	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		859	1589		1809	1568	1728	3453		1668	3425	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	39	122	7	18	79	129	749	3	149	823	51
RTOR Reduction (vph)	0	0	95	0	0	66	0	0	0	0	3	0
Lane Group Flow (vph)	0	87	27	0	25	13	129	752	0	149	871	0
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.8	15.8		2.6	11.6	9.0	24.6		9.0	24.6	
Effective Green, g (s)		6.8	15.8		2.6	11.6	9.0	24.6		9.0	24.6	
Actuated g/C Ratio		0.09	0.22		0.04	0.16	0.12	0.34		0.12	0.34	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		80	347		65	251	215	1176		207	1166	
v/s Ratio Prot			0.01			0.01	0.07	0.22		c0.09	c0.25	
v/s Ratio Perm		c0.10	0.01		c0.01	0.00						
v/c Ratio		1.09	0.08		0.38	0.05	0.60	0.64		0.72	0.75	
Uniform Delay, d1		32.7	22.4		34.0	25.6	29.9	20.1		30.4	21.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		126.5	0.1		3.8	0.1	4.5	1.2		11.4	2.7	
Delay (s)		159.2	22.5		37.8	25.7	34.4	21.2		41.7	23.7	
Level of Service		F	C		D	C	C	C		D	C	
Approach Delay (s)		79.4			28.6			23.1			26.3	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

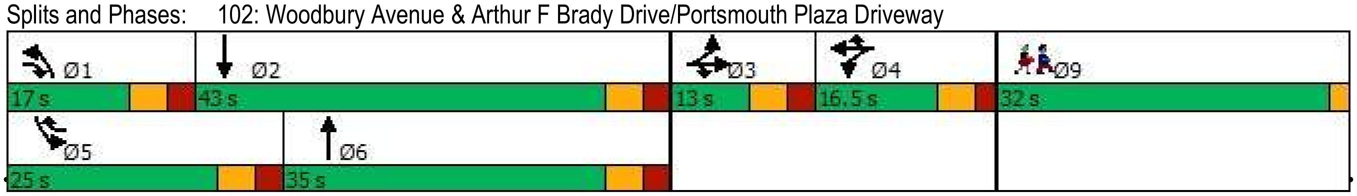
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	65	210	58	131	173	594	126	682	
Future Volume (vph)	65	210	58	131	173	594	126	682	
Lane Group Flow (vph)	164	228	137	142	188	685	137	814	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	1.08	0.44	0.60	0.23	0.80	0.69	0.55	0.79	
Control Delay	135.9	5.6	50.5	4.1	64.1	32.8	44.9	33.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	135.9	5.6	50.5	4.1	64.1	32.8	44.9	33.7	
Queue Length 50th (ft)	~80	0	61	0	87	147	60	179	
Queue Length 95th (ft)	#327	36	#228	29	#329	#347	168	381	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	152	520	234	714	234	1226	390	1558	
Starvation Cap Reductn	0	0	0	0	0	0	0	21	
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	1.08	0.44	0.59	0.20	0.80	0.56	0.35	0.53	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 84.3
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	65	210	68	58	131	173	594	36	126	682	67
Future Volume (vph)	86	65	210	68	58	131	173	594	36	126	682	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1546		1727	1507	1728	3420		1668	3402	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1768	1546		1727	1507	1728	3420		1668	3402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	71	228	74	63	142	188	646	39	137	741	73
RTOR Reduction (vph)	0	0	178	0	0	102	0	4	0	0	6	0
Lane Group Flow (vph)	0	164	50	0	137	40	188	681	0	137	808	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.3	18.7		11.2	23.8	11.4	24.4		12.6	25.6	
Effective Green, g (s)		7.3	18.7		11.2	23.8	11.4	24.4		12.6	25.6	
Actuated g/C Ratio		0.09	0.22		0.13	0.28	0.13	0.29		0.15	0.30	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151	339		227	420	231	979		246	1022	
v/s Ratio Prot		c0.09	0.03		c0.08	0.03	c0.11	0.20		0.08	c0.24	
v/s Ratio Perm												
v/c Ratio		1.09	0.15		0.60	0.09	0.81	0.70		0.56	0.79	
Uniform Delay, d1		39.0	26.8		34.9	22.7	35.9	27.1		33.7	27.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		98.1	0.2		4.5	0.1	19.3	2.2		2.7	4.2	
Delay (s)		137.1	27.0		39.4	22.8	55.1	29.3		36.4	31.6	
Level of Service		F	C		D	C	E	C		D	C	
Approach Delay (s)		73.1			31.0			34.8			32.3	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	155	52	166	80	71	634	12	596	338	
Future Volume (vph)	155	52	166	80	71	634	12	596	338	
Lane Group Flow (vph)	168	119	180	102	77	878	12	602	341	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.44	0.53	0.61	0.33	0.42	0.62	0.09	0.59	0.37	
Control Delay	42.7	38.7	46.6	37.3	47.7	24.5	46.4	32.2	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.7	38.7	46.6	37.3	47.7	24.5	46.4	32.2	3.7	
Queue Length 50th (ft)	40	39	86	44	37	159	6	143	0	
Queue Length 95th (ft)	101	#136	211	123	107	#497	29	300	61	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	452	257	398	414	254	1416	169	1145	935	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.46	0.45	0.25	0.30	0.62	0.07	0.53	0.36	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 85

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	52	57	166	80	14	71	634	174	12	596	338
Future Volume (vph)	155	52	57	166	80	14	71	634	174	12	596	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1676		1906	1962		1728	3326		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1676		1906	1962		1728	3326		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	168	57	62	180	87	15	77	689	189	12	602	341
RTOR Reduction (vph)	0	32	0	0	5	0	0	17	0	0	0	171
Lane Group Flow (vph)	168	87	0	180	97	0	77	861	0	12	602	170
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	9.8	9.8		13.1	13.1		7.6	35.8		1.1	29.3	45.6
Effective Green, g (s)	9.8	9.8		13.1	13.1		7.6	35.8		1.1	29.3	45.6
Actuated g/C Ratio	0.11	0.11		0.14	0.14		0.08	0.39		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	359	179		273	281		143	1302		20	1107	771
v/s Ratio Prot	0.05	c0.05		c0.09	0.05		c0.04	c0.26		0.01	0.17	0.11
v/s Ratio Perm												
v/c Ratio	0.47	0.49		0.66	0.34		0.54	0.66		0.60	0.54	0.22
Uniform Delay, d1	38.3	38.4		37.0	35.3		40.2	22.8		44.9	25.6	12.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	2.1		5.7	0.7		3.9	1.3		40.2	0.5	0.1
Delay (s)	39.3	40.5		42.7	36.0		44.1	24.1		85.1	26.1	13.0
Level of Service	D	D		D	D		D	C		F	C	B
Approach Delay (s)		39.8			40.3			25.7			22.2	
Approach LOS		D			D			C			C	

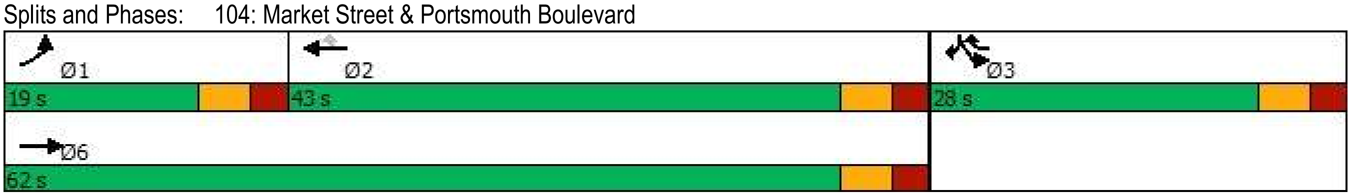
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	91.4	Sum of lost time (s)	28.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	775	814	58	66	65
Future Volume (vph)	44	775	814	58	66	65
Lane Group Flow (vph)	47	833	885	63	72	71
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.16	0.37	0.45	0.06	0.14	0.23
Control Delay	23.4	5.1	10.3	1.4	22.4	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	5.1	10.3	1.4	22.4	10.1
Queue Length 50th (ft)	9	51	55	0	6	0
Queue Length 95th (ft)	47	82	183	9	32	34
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	548	3312	2863	1296	1699	843
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.25	0.31	0.05	0.04	0.08

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 45.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	775	814	58	66	65
Future Volume (vph)	44	775	814	58	66	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1570	3164	1509
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1570	3164	1509
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	833	885	63	72	71
RTOR Reduction (vph)	0	0	0	26	0	63
Lane Group Flow (vph)	47	833	885	37	72	8
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	1%	1%	1%	7%	7%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.6	32.5	23.9	29.6	5.7	5.7
Effective Green, g (s)	2.6	32.5	23.9	29.6	5.7	5.7
Actuated g/C Ratio	0.05	0.65	0.48	0.59	0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	89	2236	1644	1113	359	171
v/s Ratio Prot	0.03	c0.24	c0.26	0.00	c0.02	0.01
v/s Ratio Perm				0.02		
v/c Ratio	0.53	0.37	0.54	0.03	0.20	0.05
Uniform Delay, d1	23.2	4.1	9.3	4.3	20.2	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.1	0.3	0.0	0.3	0.1
Delay (s)	28.8	4.2	9.6	4.3	20.5	19.9
Level of Service	C	A	A	A	C	B
Approach Delay (s)		5.5	9.3		20.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2027 Build Conditions Saturday Midday Conditions

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	768	151	94	460	179	3	405
Future Volume (vph)	768	151	94	460	179	3	405
Lane Group Flow (vph)	835	164	102	500	175	234	229
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	36.0		21.0	57.0	43.0	43.0	43.0
Total Split (%)	36.0%		21.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.30	0.09	0.53	0.20	0.62	0.56	0.52
Control Delay	12.0	0.1	68.6	3.3	47.9	12.0	9.0
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	0.1	68.6	3.3	47.9	12.0	9.0
Queue Length 50th (ft)	116	0	71	26	110	14	0
Queue Length 95th (ft)	178	0	126	38	169	83	62
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2808	1775	253	2469	628	678	706
Starvation Cap Reductn	966	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.09	0.40	0.20	0.28	0.35	0.32

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street

106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2027 Build Conditions Saturday Midday Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	768	151	94	460	0	0	0	0	179	3	405
Future Volume (vph)	0	768	151	94	460	0	0	0	0	179	3	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.86	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		4964	1775	1668	3455					1698	1474	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		4964	1775	1668	3455					1698	1474	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	835	164	102	500	0	0	0	0	195	3	440
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	176	191
Lane Group Flow (vph)	0	835	164	102	500	0	0	0	0	175	58	38
Confl. Peds. (#/hr)	7					7						
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		55.4	100.0	10.1	71.5					16.5	16.5	16.5
Effective Green, g (s)		55.4	100.0	10.1	71.5					16.5	16.5	16.5
Actuated g/C Ratio		0.55	1.00	0.10	0.72					0.16	0.16	0.16
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2750	1775	168	2470					280	243	250
v/s Ratio Prot		c0.17		c0.06	0.14					c0.10	0.04	0.02
v/s Ratio Perm			0.09									
v/c Ratio		0.30	0.09	0.61	0.20					0.62	0.24	0.15
Uniform Delay, d1		12.0	0.0	43.0	4.7					38.9	36.3	35.8
Progression Factor		0.87	1.00	1.43	0.60					1.00	1.00	1.00
Incremental Delay, d2		0.3	0.1	5.9	0.2					4.3	0.5	0.3
Delay (s)		10.7	0.1	67.5	3.0					43.2	36.8	36.0
Level of Service		B	A	E	A					D	D	D
Approach Delay (s)		8.9			14.0			0.0			38.3	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

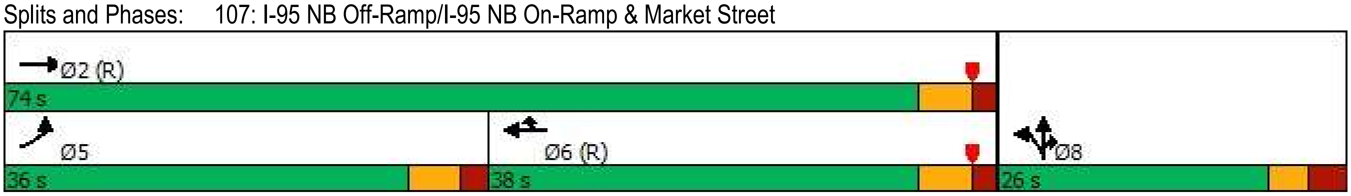
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	401	546	496	137	4	209
Future Volume (vph)	401	546	496	137	4	209
Lane Group Flow (vph)	436	593	539	149	67	227
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	26.0	26.0
Total Split (s)	36.0	74.0	38.0	38.0	26.0	26.0
Total Split (%)	36.0%	74.0%	38.0%	38.0%	26.0%	26.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.71	0.22	0.29	0.15	0.32	0.59
Control Delay	53.4	2.7	15.6	3.5	43.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	2.7	15.6	3.5	43.1	11.7
Queue Length 50th (ft)	154	20	93	0	41	0
Queue Length 95th (ft)	206	65	173	38	74	61
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	1005	2639	1857	1013	359	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.29	0.15	0.19	0.45

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	401	546	0	0	496	137	58	4	209	0	0	0
Future Volume (vph)	401	546	0	0	496	137	58	4	209	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1797	1599			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1797	1599			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	436	593	0	0	539	149	63	4	227	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	72	0	0	201	0	0	0
Lane Group Flow (vph)	436	593	0	0	539	77	0	67	26	0	0	0
Confl. Peds. (#/hr)	7		1	1		7			1	1		
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	18.4	76.4			52.0	52.0		11.6	11.6			
Effective Green, g (s)	18.4	76.4			52.0	52.0		11.6	11.6			
Actuated g/C Ratio	0.18	0.76			0.52	0.52		0.12	0.12			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	616	2639			1858	942		208	185			
v/s Ratio Prot	c0.13	0.17			c0.15	0.04		c0.04	0.02			
v/s Ratio Perm												
v/c Ratio	0.71	0.22			0.29	0.08		0.32	0.14			
Uniform Delay, d1	38.3	3.4			13.6	12.0		40.6	39.7			
Progression Factor	1.24	0.64			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.6	0.2			0.4	0.2		1.2	0.5			
Delay (s)	51.0	2.4			14.0	12.2		41.8	40.2			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		23.0			13.6			40.6			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	24	8	38	19	3	13	51	21	3	62	6
Future Vol, veh/h	12	24	8	38	19	3	13	51	21	3	62	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	2	2	2	3	3	3	5	5	5
Mvmt Flow	13	26	9	41	21	3	14	55	23	3	67	7
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8	8.6	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	33%	0%	63%	5%	0%
Vol Thru, %	0%	71%	67%	0%	32%	95%	0%
Vol Right, %	0%	29%	0%	100%	5%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	72	36	8	60	65	6
LT Vol	13	0	12	0	38	3	0
Through Vol	0	51	24	0	19	62	0
RT Vol	0	21	0	8	3	0	6
Lane Flow Rate	14	77	39	9	65	71	7
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.021	0.101	0.056	0.01	0.093	0.098	0.008
Departure Headway (Hd)	5.417	4.711	5.196	4.327	5.107	4.985	4.26
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	663	763	691	830	704	722	843
Service Time	3.128	2.421	2.91	2.04	3.119	2.694	1.969
HCM Lane V/C Ratio	0.021	0.101	0.056	0.011	0.092	0.098	0.008
HCM Control Delay	8.2	8	8.2	7.1	8.6	8.2	7
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.2	0	0.3	0.3	0

Intersection						
Int Delay, s/veh	4.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	0	0	50	0	0
Future Vol, veh/h	49	0	0	50	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	0	0	54	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	27	0	0	54	0
Stage 1	27	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	987	1048	-	-	1551	-
Stage 1	996	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	987	1048	-	-	1551	-
Mov Cap-2 Maneuver	987	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	987	1551	-
HCM Lane V/C Ratio	-	-	0.054	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection						
Int Delay, s/veh	7.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	0	0	5
Future Vol, veh/h	0	0	6	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	7	0	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	15	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1004	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1000	1084
Mov Cap-2 Maneuver	-	-	-	-	1000	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.005	-	-	0.004	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	6	7	11	6	1	48	18	399	245	557	
Future Volume (vph)	6	7	11	6	1	48	18	399	245	557	
Lane Group Flow (vph)	0	15	12	0	8	52	20	457	266	623	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.05	0.03		0.03	0.12	0.07	0.40	0.74	0.25	
Control Delay		30.3	0.2		30.0	1.2	29.0	16.0	37.6	11.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		30.3	0.2		30.0	1.2	29.0	16.0	37.6	11.9	
Queue Length 50th (ft)		2	0		1	0	3	26	35	0	
Queue Length 95th (ft)		33	0		22	4	39	192	#477	269	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		300	427		605	436	374	2926	361	2938	
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		0.05	0.03		0.01	0.12	0.05	0.16	0.74	0.21	

Intersection Summary

Cycle Length: 124.5

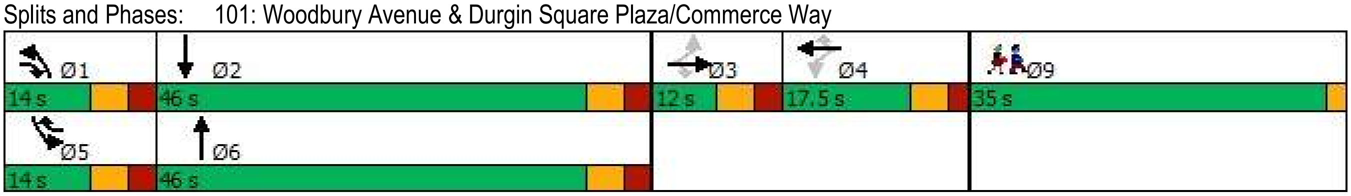
Actuated Cycle Length: 47.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	7	11	6	1	48	18	399	21	245	557	17
Future Volume (vph)	6	7	11	6	1	48	18	399	21	245	557	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1538		1750	1553	1694	3359		1636	3371	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1810	1538		1827	1553	1694	3359		1636	3371	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	8	12	7	1	52	20	434	23	266	605	18
RTOR Reduction (vph)	0	0	11	0	0	43	0	3	0	0	1	0
Lane Group Flow (vph)	0	15	1	0	8	9	20	454	0	266	622	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		0.5	3.0		0.6	11.0	2.5	21.7		10.4	29.6	
Effective Green, g (s)		0.5	3.0		0.6	11.0	2.5	21.7		10.4	29.6	
Actuated g/C Ratio		0.01	0.05		0.01	0.18	0.04	0.35		0.17	0.48	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		14	75		17	277	68	1185		276	1622	
v/s Ratio Prot			0.00			0.01	0.01	0.14		c0.16	c0.18	
v/s Ratio Perm		c0.01	0.00		c0.00	0.00						
v/c Ratio		1.07	0.01		0.47	0.03	0.29	0.38		0.96	0.38	
Uniform Delay, d1		30.5	27.8		30.3	20.9	28.6	14.9		25.4	10.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		265.6	0.0		19.2	0.0	2.4	0.2		43.9	0.2	
Delay (s)		296.1	27.9		49.5	20.9	31.1	15.1		69.3	10.3	
Level of Service		F	C		D	C	C	B		E	B	
Approach Delay (s)		176.9			24.7			15.8			28.0	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

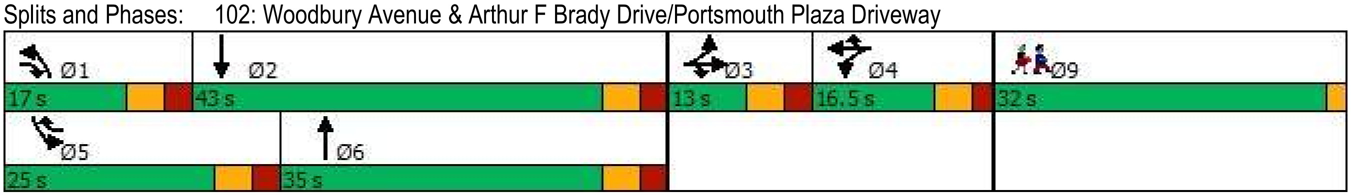
c Critical Lane Group

102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway
2037 No Build Conditions Weekday AM Peak

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	31	109	20	35	128	341	43	495	
Future Volume (vph)	31	109	20	35	128	341	43	495	
Lane Group Flow (vph)	101	118	35	38	133	363	47	577	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.53	0.20	0.18	0.09	0.47	0.34	0.24	0.65	
Control Delay	48.2	2.9	38.8	0.5	40.1	22.5	38.4	28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.2	2.9	38.8	0.5	40.1	22.5	38.4	28.1	
Queue Length 50th (ft)	39	0	13	0	48	57	17	107	
Queue Length 95th (ft)	#190	17	58	0	#210	163	71	259	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	190	603	299	643	297	1571	496	1980	
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	0.20	0.12	0.06	0.45	0.23	0.09	0.29	

Intersection Summary
Cycle Length: 121.5
Actuated Cycle Length: 69
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	31	109	12	20	35	128	341	8	43	495	36
Future Volume (vph)	62	31	109	12	20	35	128	341	8	43	495	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1693	1487		1690	1463	1678	3343		1620	3316	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1693	1487		1690	1463	1678	3343		1620	3316	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Adj. Flow (vph)	67	34	118	13	22	38	133	355	8	47	538	39
RTOR Reduction (vph)	0	0	86	0	0	31	0	1	0	0	4	0
Lane Group Flow (vph)	0	101	32	0	35	7	133	362	0	47	573	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.8	19.5		4.3	12.7	11.7	21.7		8.4	18.4	
Effective Green, g (s)		7.8	19.5		4.3	12.7	11.7	21.7		8.4	18.4	
Actuated g/C Ratio		0.11	0.27		0.06	0.18	0.16	0.30		0.12	0.26	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		185	406		101	260	275	1017		190	855	
v/s Ratio Prot		c0.06	0.02		c0.02	0.00	c0.08	c0.11		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio		0.55	0.08		0.35	0.03	0.48	0.36		0.25	0.67	
Uniform Delay, d1		30.1	19.2		32.2	24.2	27.1	19.3		28.6	23.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.3	0.1		2.1	0.0	1.3	0.2		0.7	2.0	
Delay (s)		33.3	19.3		34.2	24.2	28.4	19.6		29.3	25.7	
Level of Service		C	B		C	C	C	B		C	C	
Approach Delay (s)		25.8			29.0			21.9			26.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	85	36	63	40	77	385	3	371	240	
Future Volume (vph)	85	36	63	40	77	385	3	371	240	
Lane Group Flow (vph)	91	93	68	51	84	519	3	403	261	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.23	0.40	0.30	0.21	0.38	0.36	0.02	0.42	0.28	
Control Delay	36.3	27.0	38.3	33.3	40.2	18.2	41.7	27.9	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.3	27.0	38.3	33.3	40.2	18.2	41.7	27.9	3.7	
Queue Length 50th (ft)	17	17	25	16	31	62	1	74	0	
Queue Length 95th (ft)	58	87	93	68	112	224	12	191	53	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	573	319	485	503	313	1562	209	1358	912	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.29	0.14	0.10	0.27	0.33	0.01	0.30	0.29	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 70.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

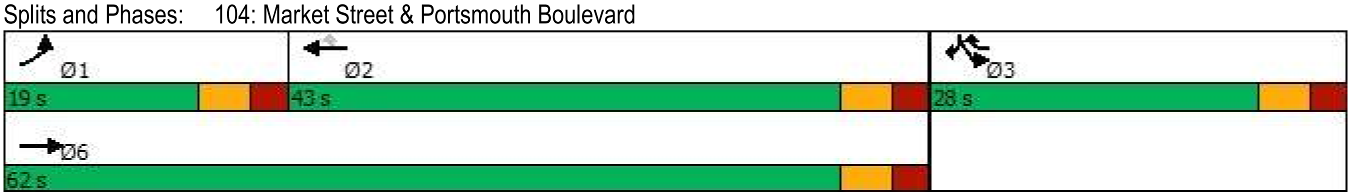
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	36	50	63	40	7	77	385	93	3	371	240
Future Volume (vph)	85	36	50	63	40	7	77	385	93	3	371	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	0.91		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1643		1834	1885		1678	3244		1647	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1643		1834	1885		1678	3244		1647	3355	1501
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	39	54	68	43	8	84	418	101	3	403	261
RTOR Reduction (vph)	0	41	0	0	6	0	0	14	0	0	0	129
Lane Group Flow (vph)	91	52	0	68	45	0	84	505	0	3	403	132
Confl. Peds. (#/hr)			2	2			1		1	1		1
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.3	8.3		6.9	6.9		7.3	31.1		0.8	24.6	39.4
Effective Green, g (s)	8.3	8.3		6.9	6.9		7.3	31.1		0.8	24.6	39.4
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.09	0.40		0.01	0.31	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	355	174		161	166		156	1290		16	1055	756
v/s Ratio Prot	0.03	c0.03		c0.04	0.02		c0.05	c0.16		0.00	0.12	0.09
v/s Ratio Perm												
v/c Ratio	0.26	0.30		0.42	0.27		0.54	0.39		0.19	0.38	0.17
Uniform Delay, d1	32.1	32.3		33.8	33.3		33.8	16.8		38.4	20.9	10.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.0		1.8	0.9		3.5	0.2		5.6	0.2	0.1
Delay (s)	32.5	33.2		35.5	34.2		37.4	17.0		44.0	21.1	10.7
Level of Service	C	C		D	C		D	B		D	C	B
Approach Delay (s)		32.9			35.0			19.8			17.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	28.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	436	502	261	57	53
Future Volume (vph)	48	436	502	261	57	53
Lane Group Flow (vph)	52	474	546	284	62	58
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.16	0.29	0.42	0.29	0.10	0.18
Control Delay	21.3	5.7	11.1	1.5	20.3	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	5.7	11.1	1.5	20.3	9.8
Queue Length 50th (ft)	7	25	29	0	4	0
Queue Length 95th (ft)	51	45	108	18	28	30
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	606	3210	2909	1399	2268	1099
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.15	0.19	0.20	0.03	0.05

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 41.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



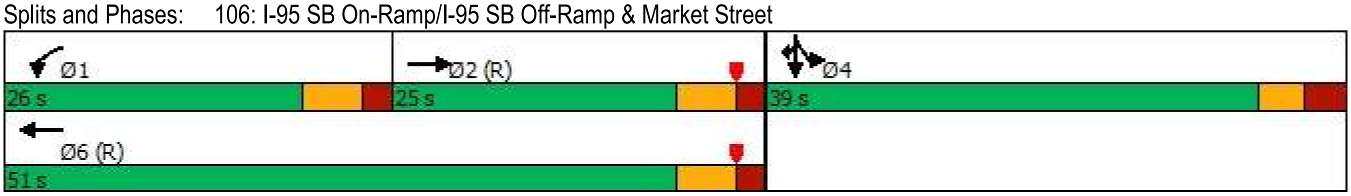
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	436	502	261	57	53
Future Volume (vph)	48	436	502	261	57	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1678	3355	3388	1546	3255	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1678	3355	3388	1546	3255	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	474	546	284	62	58
RTOR Reduction (vph)	0	0	0	133	0	48
Lane Group Flow (vph)	52	474	546	151	62	10
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.5	24.2	15.7	23.2	7.5	7.5
Effective Green, g (s)	2.5	24.2	15.7	23.2	7.5	7.5
Actuated g/C Ratio	0.06	0.55	0.36	0.53	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	95	1857	1217	1033	558	266
v/s Ratio Prot	0.03	c0.14	c0.16	c0.03	0.02	0.01
v/s Ratio Perm				0.07		
v/c Ratio	0.55	0.26	0.45	0.15	0.11	0.04
Uniform Delay, d1	20.0	5.1	10.7	5.2	15.3	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.1	0.3	0.1	0.1	0.1
Delay (s)	26.4	5.1	11.0	5.3	15.4	15.1
Level of Service	C	A	B	A	B	B
Approach Delay (s)		7.2	9.0		15.3	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	454	109	95	477	211	1	321
Future Volume (vph)	454	109	95	477	211	1	321
Lane Group Flow (vph)	483	116	103	518	202	189	188
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	25.0		26.0	51.0	39.0	39.0	39.0
Total Split (%)	27.8%		28.9%	56.7%	43.3%	43.3%	43.3%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.19	0.07	0.52	0.23	0.65	0.47	0.44
Control Delay	15.0	0.1	47.1	8.5	42.8	11.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	0.1	47.1	8.5	42.8	11.0	7.7
Queue Length 50th (ft)	63	0	61	30	113	14	0
Queue Length 95th (ft)	106	0	101	142	169	70	51
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2483	1724	356	2252	604	629	659
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	123	0	5	6
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.07	0.29	0.24	0.33	0.30	0.29

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	454	109	95	477	0	0	0	0	211	1	321
Future Volume (vph)	0	454	109	95	477	0	0	0	0	211	1	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.87	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4821	1724	1604	3323					1649	1440	1475
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4821	1724	1604	3323					1649	1440	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	483	116	103	518	0	0	0	0	229	1	349
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	131	152
Lane Group Flow (vph)	0	483	116	103	518	0	0	0	0	202	58	36
Confl. Peds. (#/hr)	5					5						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		45.2	90.0	9.8	61.0					17.0	17.0	17.0
Effective Green, g (s)		45.2	90.0	9.8	61.0					17.0	17.0	17.0
Actuated g/C Ratio		0.50	1.00	0.11	0.68					0.19	0.19	0.19
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2421	1724	174	2252					311	272	278
v/s Ratio Prot		0.10		c0.06	c0.16					c0.12	0.04	0.02
v/s Ratio Perm			0.07									
v/c Ratio		0.20	0.07	0.59	0.23					0.65	0.21	0.13
Uniform Delay, d1		12.4	0.0	38.2	5.5					33.7	30.9	30.3
Progression Factor		1.03	1.00	1.05	1.30					1.00	1.00	1.00
Incremental Delay, d2		0.2	0.1	5.2	0.2					4.6	0.4	0.2
Delay (s)		13.0	0.1	45.4	7.4					38.4	31.3	30.5
Level of Service		B	A	D	A					D	C	C
Approach Delay (s)		10.5			13.7			0.0			33.5	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	153	512	361	59	0	383
Future Volume (vph)	153	512	361	59	0	383
Lane Group Flow (vph)	166	557	392	64	224	407
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	32.0	32.0
Total Split (s)	14.0	52.0	38.0	38.0	38.0	38.0
Total Split (%)	15.6%	57.8%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.46	0.25	0.24	0.07	0.60	0.75
Control Delay	31.1	3.8	16.2	1.4	37.9	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	3.8	16.2	1.4	37.9	20.2
Queue Length 50th (ft)	28	4	65	0	117	73
Queue Length 95th (ft)	49	10	124	9	164	157
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	366	2195	1650	893	622	727
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.25	0.24	0.07	0.36	0.56

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	512	0	0	361	59	211	0	383	0	0	0
Future Volume (vph)	153	512	0	0	361	59	211	0	383	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3255	3355			3438	1743		1752	1568			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3255	3355			3438	1743		1752	1568			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	166	557	0	0	392	64	224	0	407	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	208	0	0	0
Lane Group Flow (vph)	166	557	0	0	392	31	0	224	199	0	0	0
Confl. Peds. (#/hr)	4					4						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	10.0	58.9			42.9	42.9		19.1	19.1			
Effective Green, g (s)	10.0	58.9			42.9	42.9		19.1	19.1			
Actuated g/C Ratio	0.11	0.65			0.48	0.48		0.21	0.21			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	361	2195			1638	830		371	332			
v/s Ratio Prot	c0.05	c0.17			0.11	0.02		c0.13	0.13			
v/s Ratio Perm												
v/c Ratio	0.46	0.25			0.24	0.04		0.60	0.60			
Uniform Delay, d1	37.5	6.4			13.9	12.5		32.0	32.0			
Progression Factor	0.73	0.47			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.3			0.3	0.1		3.2	3.4			
Delay (s)	28.1	3.3			14.3	12.6		35.2	35.4			
Level of Service	C	A			B	B		D	D			
Approach Delay (s)		9.0			14.0			35.3			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	9	10	85	29	0	196	88	28	0	10	7
Future Vol, veh/h	20	9	10	85	29	0	196	88	28	0	10	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	3	3	3	1	1	1	0	0	0
Mvmt Flow	22	10	11	92	32	0	213	96	30	0	11	8
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.8	10	10	7.9
HCM LOS	A	A	A	A

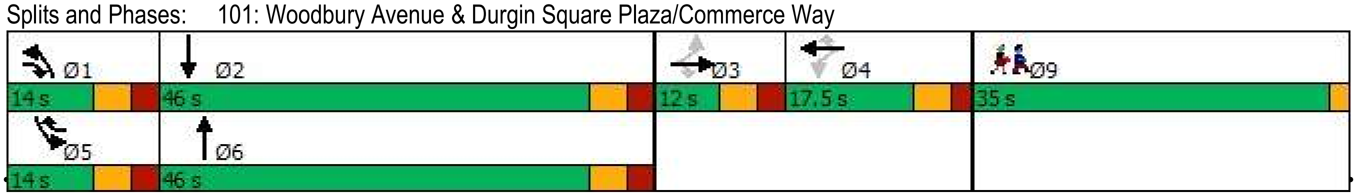
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	69%	0%	75%	0%	0%
Vol Thru, %	0%	76%	31%	0%	25%	100%	0%
Vol Right, %	0%	24%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	116	29	10	114	10	7
LT Vol	196	0	20	0	85	0	0
Through Vol	0	88	9	0	29	10	0
RT Vol	0	28	0	10	0	0	7
Lane Flow Rate	213	126	32	11	124	11	8
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.326	0.169	0.053	0.015	0.194	0.016	0.01
Departure Headway (Hd)	5.509	4.837	6.003	4.951	5.63	5.327	4.621
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	652	741	596	721	637	670	771
Service Time	3.241	2.569	3.746	2.693	3.664	3.075	2.369
HCM Lane V/C Ratio	0.327	0.17	0.054	0.015	0.195	0.016	0.01
HCM Control Delay	10.9	8.6	9.1	7.8	10	8.2	7.4
HCM Lane LOS	B	A	A	A	A	A	A
HCM 95th-tile Q	1.4	0.6	0.2	0	0.7	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	33	34	106	44	26	197	113	705	144	885	
Future Volume (vph)	33	34	106	44	26	197	113	705	144	885	
Lane Group Flow (vph)	0	73	115	0	76	214	123	769	155	992	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.06	0.29		0.44	0.39	0.67	0.61	0.87	0.78	
Control Delay		172.8	6.7		48.7	5.6	60.5	25.5	84.4	30.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		172.8	6.7		48.7	5.6	60.5	25.5	84.4	30.1	
Queue Length 50th (ft)		~41	0		34	0	58	150	76	211	
Queue Length 95th (ft)		#190	28		#114	41	#240	356	#310	#520	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		69	390		228	550	184	1845	178	1836	
Starvation Cap Reductn		0	0		0	0	0	44	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		1.06	0.29		0.33	0.39	0.67	0.43	0.87	0.54	

Intersection Summary

Cycle Length: 124.5
Actuated Cycle Length: 81.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	34	106	44	26	197	113	705	3	144	885	37
Future Volume (vph)	33	34	106	44	26	197	113	705	3	144	885	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1590		1802	1583	1728	3453		1668	3431	
Flt Permitted		0.46	1.00		0.76	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		864	1590		1422	1583	1728	3453		1668	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	36	37	115	48	28	214	123	766	3	155	952	40
RTOR Reduction (vph)	0	0	94	0	0	171	0	0	0	0	3	0
Lane Group Flow (vph)	0	73	21	0	76	43	123	769	0	155	989	0
Confl. Peds. (#/hr)			1	1			1					1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.5	15.2		7.9	16.6	8.7	30.0		8.7	30.0	
Effective Green, g (s)		6.5	15.2		7.9	16.6	8.7	30.0		8.7	30.0	
Actuated g/C Ratio		0.08	0.18		0.10	0.20	0.10	0.36		0.10	0.36	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		67	291		135	316	181	1249		175	1241	
v/s Ratio Prot			0.01			0.01	0.07	0.22		c0.09	c0.29	
v/s Ratio Perm		c0.08	0.01		c0.05	0.01						
v/c Ratio		1.09	0.07		0.56	0.14	0.68	0.62		0.89	0.80	
Uniform Delay, d1		38.2	28.0		35.8	27.3	35.8	21.7		36.6	23.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		136.7	0.1		5.3	0.2	9.7	0.9		37.3	3.7	
Delay (s)		174.9	28.1		41.1	27.4	45.5	22.6		73.9	27.4	
Level of Service		F	C		D	C	D	C		E	C	
Approach Delay (s)		85.1			31.0			25.8			33.7	
Approach LOS		F			C			C			C	

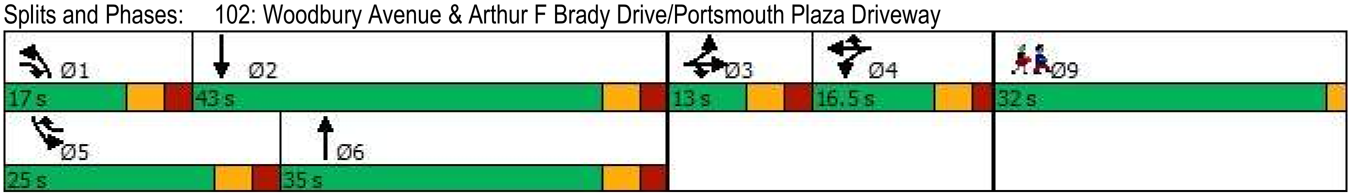
Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	25.5
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	47	212	54	123	188	623	100	835	
Future Volume (vph)	47	212	54	123	188	623	100	835	
Lane Group Flow (vph)	133	230	131	134	194	673	109	1017	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.99	0.47	0.65	0.25	0.93	0.53	0.53	0.79	
Control Delay	123.7	6.3	58.3	4.7	91.0	27.4	49.7	32.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
Total Delay	123.7	6.3	58.3	4.7	91.0	27.4	49.7	32.8	
Queue Length 50th (ft)	75	0	70	0	108	141	57	244	
Queue Length 95th (ft)	#264	36	#215	28	#341	334	138	#559	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	134	486	208	644	208	1278	347	1382	
Starvation Cap Reductn	0	0	0	0	0	0	0	43	
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	0.99	0.47	0.63	0.21	0.93	0.53	0.31	0.76	

Intersection Summary
Cycle Length: 121.5
Actuated Cycle Length: 93.1
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	47	212	66	54	123	188	623	30	100	835	100
Future Volume (vph)	75	47	212	66	54	123	188	623	30	100	835	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747	1531		1726	1507	1728	3431		1668	3392	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1747	1531		1726	1507	1728	3431		1668	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	82	51	230	72	59	134	194	642	31	109	908	109
RTOR Reduction (vph)	0	0	185	0	0	102	0	3	0	0	7	0
Lane Group Flow (vph)	0	133	45	0	131	32	194	670	0	109	1010	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.1	18.3		10.9	22.5	11.2	34.6		11.6	35.0	
Effective Green, g (s)		7.1	18.3		10.9	22.5	11.2	34.6		11.6	35.0	
Actuated g/C Ratio		0.08	0.19		0.12	0.24	0.12	0.37		0.12	0.37	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		131	297		199	359	205	1258		205	1258	
v/s Ratio Prot		c0.08	0.03		c0.08	0.02	c0.11	0.20		0.07	c0.30	
v/s Ratio Perm												
v/c Ratio		1.02	0.15		0.66	0.09	0.95	0.53		0.53	0.80	
Uniform Delay, d1		43.6	31.5		39.9	27.9	41.3	23.5		38.8	26.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		82.7	0.2		7.6	0.1	47.3	0.4		2.6	3.8	
Delay (s)		126.3	31.8		47.6	28.0	88.6	23.9		41.4	30.4	
Level of Service		F	C		D	C	F	C		D	C	
Approach Delay (s)		66.4			37.7			38.4			31.4	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	94.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	194	68	190	77	92	630	9	746	356	
Future Volume (vph)	194	68	190	77	92	630	9	746	356	
Lane Group Flow (vph)	211	150	204	101	97	817	10	811	387	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.53	0.66	0.66	0.31	0.51	0.57	0.08	0.78	0.40	
Control Delay	46.2	47.3	49.5	37.6	51.9	24.2	47.9	38.0	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.2	47.3	49.5	37.6	51.9	24.2	47.9	38.0	3.8	
Queue Length 50th (ft)	57	62	107	46	52	152	5	220	1	
Queue Length 95th (ft)	123	#203	#262	120	130	#442	26	#491	66	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	427	244	376	390	240	1470	160	1042	970	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.61	0.54	0.26	0.40	0.56	0.06	0.78	0.40	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 89.6
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

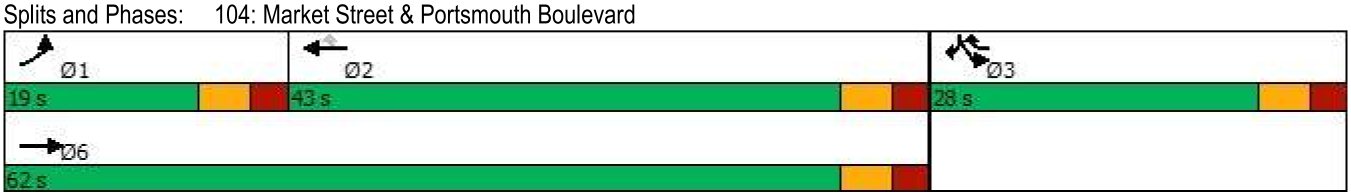
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	68	70	190	77	17	92	630	146	9	746	356
Future Volume (vph)	194	68	70	190	77	17	92	630	146	9	746	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1680		1906	1948		1728	3344		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1680		1906	1948		1728	3344		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	211	74	76	204	83	18	97	663	154	10	811	387
RTOR Reduction (vph)	0	30	0	0	7	0	0	13	0	0	0	192
Lane Group Flow (vph)	211	120	0	204	94	0	97	804	0	10	811	195
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.6	10.6		14.6	14.6		8.1	38.0		1.1	31.0	48.1
Effective Green, g (s)	10.6	10.6		14.6	14.6		8.1	38.0		1.1	31.0	48.1
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.08	0.40		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	369	185		289	295		145	1322		19	1114	773
v/s Ratio Prot	0.06	c0.07		c0.11	0.05		c0.06	c0.24		0.01	c0.23	0.13
v/s Ratio Perm												
v/c Ratio	0.57	0.65		0.71	0.32		0.67	0.61		0.53	0.73	0.25
Uniform Delay, d1	40.6	41.0		38.7	36.3		42.7	23.1		47.2	28.8	13.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.1	7.6		7.6	0.6		11.1	0.8		23.9	2.4	0.2
Delay (s)	42.7	48.5		46.3	37.0		53.8	23.9		71.1	31.2	13.9
Level of Service	D	D		D	D		D	C		E	C	B
Approach Delay (s)		45.1			43.2			27.1			26.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	96.1	Sum of lost time (s)	28.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	959	774	74	216	94
Future Volume (vph)	47	959	774	74	216	94
Lane Group Flow (vph)	51	1042	832	80	235	102
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.19	0.55	0.58	0.08	0.36	0.26
Control Delay	27.1	7.9	15.1	1.2	23.2	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	7.9	15.1	1.2	23.2	8.3
Queue Length 50th (ft)	15	84	115	0	34	0
Queue Length 95th (ft)	54	148	199	10	82	38
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	479	3222	2617	1251	1574	805
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.32	0.32	0.06	0.15	0.13

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 51.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	959	774	74	216	94
Future Volume (vph)	47	959	774	74	216	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1576	3351	1599
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1576	3351	1599
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.92	0.92
Adj. Flow (vph)	51	1042	832	80	235	102
RTOR Reduction (vph)	0	0	0	33	0	83
Lane Group Flow (vph)	51	1042	832	47	235	19
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	4.2	31.5	21.3	31.3	10.0	10.0
Effective Green, g (s)	4.2	31.5	21.3	31.3	10.0	10.0
Actuated g/C Ratio	0.08	0.59	0.40	0.59	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	135	2034	1375	1098	626	298
v/s Ratio Prot	0.03	c0.30	c0.24	0.01	c0.07	0.01
v/s Ratio Perm				0.02		
v/c Ratio	0.38	0.51	0.61	0.04	0.38	0.06
Uniform Delay, d1	23.4	6.5	12.8	4.7	19.0	17.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	0.8	0.0	0.4	0.1
Delay (s)	25.2	6.7	13.5	4.7	19.4	18.0
Level of Service	C	A	B	A	B	B
Approach Delay (s)		7.6	12.8		19.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	987	226	246	558	259	1	335
Future Volume (vph)	987	226	246	558	259	1	335
Lane Group Flow (vph)	1050	240	267	607	226	214	207
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	35.0		23.0	67.0	23.0	23.0	23.0
Total Split (%)	38.9%		25.6%	74.4%	25.6%	25.6%	25.6%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.53	0.14	0.79	0.26	0.69	0.54	0.45
Control Delay	20.3	0.2	38.0	0.6	44.8	17.3	7.7
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	0.2	38.0	0.6	44.8	17.4	7.8
Queue Length 50th (ft)	179	0	63	1	125	41	0
Queue Length 95th (ft)	219	0	#260	1	198	110	56
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2177	1757	347	2400	355	422	481
Starvation Cap Reductn	387	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	115	0	4	6
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.14	0.77	0.27	0.64	0.51	0.44

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

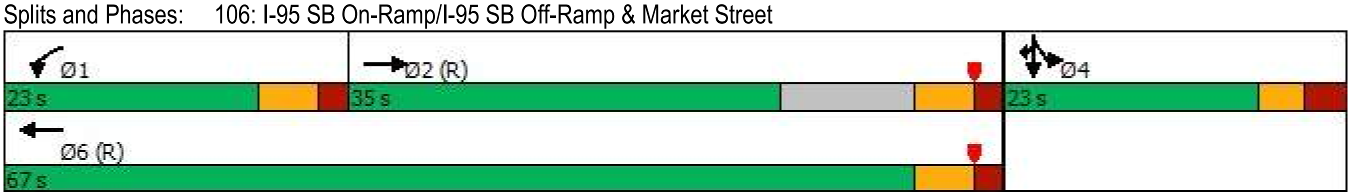
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 55

Control Type: Actuated-Coordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	987	226	246	558	0	0	0	0	259	1	335
Future Volume (vph)	0	987	226	246	558	0	0	0	0	259	1	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4916	1757	1668	3455					1698	1504	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4916	1757	1668	3455					1698	1504	1519
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1050	240	267	607	0	0	0	0	282	1	364
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	110	167
Lane Group Flow (vph)	0	1050	240	267	607	0	0	0	0	226	104	40
Confl. Peds. (#/hr)	8					8						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		36.5	90.0	18.2	60.7					17.3	17.3	17.3
Effective Green, g (s)		36.5	90.0	18.2	60.7					17.3	17.3	17.3
Actuated g/C Ratio		0.41	1.00	0.20	0.67					0.19	0.19	0.19
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1993	1757	337	2330					326	289	291
v/s Ratio Prot		c0.21		c0.16	0.18					c0.13	0.07	0.03
v/s Ratio Perm			0.14									
v/c Ratio		0.53	0.14	0.79	0.26					0.69	0.36	0.14
Uniform Delay, d1		20.2	0.0	34.1	5.8					33.9	31.5	30.2
Progression Factor		0.91	1.00	0.58	0.06					1.00	1.00	1.00
Incremental Delay, d2		0.9	0.1	11.1	0.2					6.3	0.8	0.2
Delay (s)		19.2	0.1	30.9	0.6					40.1	32.3	30.4
Level of Service		B	A	C	A					D	C	C
Approach Delay (s)		15.7			9.8			0.0			34.4	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

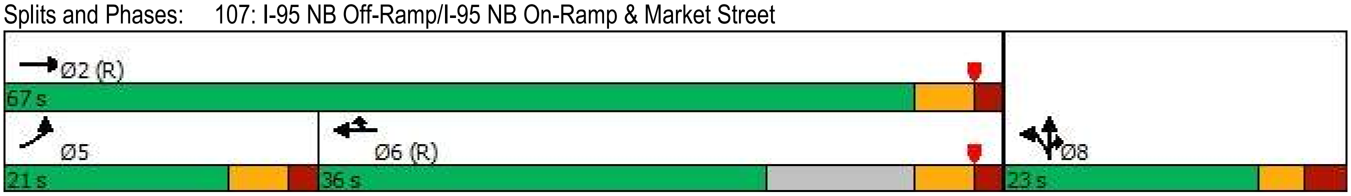
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	551	695	705	249	1	195
Future Volume (vph)	551	695	705	249	1	195
Lane Group Flow (vph)	586	739	750	265	109	212
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	23.0	23.0
Total Split (s)	21.0	67.0	36.0	36.0	23.0	23.0
Total Split (%)	23.3%	74.4%	40.0%	40.0%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.68	0.29	0.51	0.29	0.46	0.54
Control Delay	28.3	11.3	21.8	3.4	41.3	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	11.3	21.8	3.4	41.3	10.3
Queue Length 50th (ft)	171	171	163	0	58	0
Queue Length 95th (ft)	#237	241	226	46	103	58
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	856	2530	1590	953	335	470
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.29	0.47	0.28	0.33	0.45

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 59 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	551	695	0	0	705	249	99	1	195	0	0	0
Future Volume (vph)	551	695	0	0	705	249	99	1	195	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1775	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	586	739	0	0	750	265	108	1	212	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	156	0	0	183	0	0	0
Lane Group Flow (vph)	586	739	0	0	750	109	0	109	29	0	0	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	23.0	65.9			36.9	36.9		12.1	12.1			
Effective Green, g (s)	23.0	65.9			36.9	36.9		12.1	12.1			
Actuated g/C Ratio	0.26	0.73			0.41	0.41		0.13	0.13			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	856	2529			1465	742		238	212			
v/s Ratio Prot	c0.17	0.21			c0.21	0.06		c0.06	0.02			
v/s Ratio Perm												
v/c Ratio	0.68	0.29			0.51	0.15		0.46	0.13			
Uniform Delay, d1	30.2	4.1			19.8	16.7		35.9	34.3			
Progression Factor	0.78	2.46			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.0	0.3			1.3	0.4		1.9	0.4			
Delay (s)	25.7	10.3			21.1	17.1		37.8	34.7			
Level of Service	C	B			C	B		D	C			
Approach Delay (s)		17.1			20.1			35.8			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	50	168	35	24	1	19	17	57	0	85	28
Future Vol, veh/h	14	50	168	35	24	1	19	17	57	0	85	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1
Mvmt Flow	15	54	183	38	26	1	21	18	62	0	92	30
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.5	9.1	8.4	8.7
HCM LOS	A	A	A	A

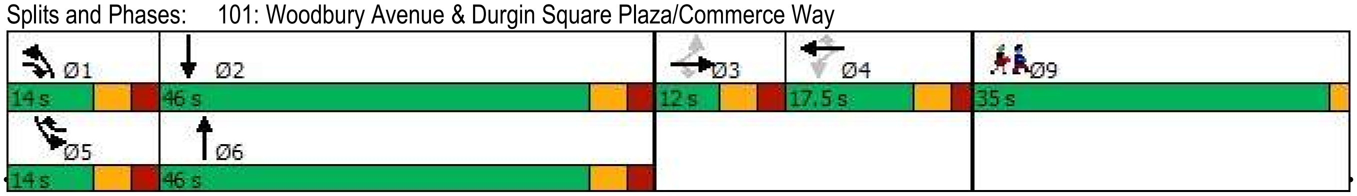
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	22%	0%	58%	0%	0%
Vol Thru, %	0%	23%	78%	0%	40%	100%	0%
Vol Right, %	0%	77%	0%	100%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	74	64	168	60	85	28
LT Vol	19	0	14	0	35	0	0
Through Vol	0	17	50	0	24	85	0
RT Vol	0	57	0	168	1	0	28
Lane Flow Rate	21	80	70	183	65	92	30
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.034	0.11	0.102	0.226	0.099	0.138	0.039
Departure Headway (Hd)	5.958	4.911	5.259	4.447	5.452	5.378	4.672
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	600	727	681	807	656	665	764
Service Time	3.707	2.659	2.992	2.18	3.497	3.124	2.418
HCM Lane V/C Ratio	0.035	0.11	0.103	0.227	0.099	0.138	0.039
HCM Control Delay	8.9	8.3	8.6	8.5	9.1	9	7.6
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.3	0.9	0.3	0.5	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	48	39	124	7	19	81	132	759	142	828	
Future Volume (vph)	48	39	124	7	19	81	132	759	142	828	
Lane Group Flow (vph)	0	94	135	0	29	88	143	828	154	957	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.16	0.30		0.15	0.25	0.67	0.63	0.74	0.73	
Control Delay		186.0	6.0		41.0	6.3	53.2	22.9	59.8	25.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		186.0	6.0		41.0	6.3	53.2	22.9	59.8	25.1	
Queue Length 50th (ft)		~38	0		9	0	49	103	53	125	
Queue Length 95th (ft)		#232	29		53	25	#279	382	#305	458	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		81	452		326	354	215	2153	208	2138	
Starvation Cap Reductn		0	0		0	0	0	43	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		1.16	0.30		0.09	0.25	0.67	0.39	0.74	0.45	

Intersection Summary

Cycle Length: 124.5
Actuated Cycle Length: 71.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	39	124	7	19	81	132	759	3	142	828	52
Future Volume (vph)	48	39	124	7	19	81	132	759	3	142	828	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1589		1812	1568	1728	3453		1668	3424	
Flt Permitted		0.46	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		872	1589		1736	1568	1728	3453		1668	3424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	42	135	8	21	88	143	825	3	154	900	57
RTOR Reduction (vph)	0	0	107	0	0	74	0	0	0	0	3	0
Lane Group Flow (vph)	0	94	28	0	29	14	143	828	0	154	954	0
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.7	15.6		2.7	11.6	8.9	27.5		8.9	27.5	
Effective Green, g (s)		6.7	15.6		2.7	11.6	8.9	27.5		8.9	27.5	
Actuated g/C Ratio		0.09	0.21		0.04	0.15	0.12	0.37		0.12	0.37	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		77	329		62	241	204	1262		197	1252	
v/s Ratio Prot			0.01			0.01	0.08	0.24		c0.09	c0.28	
v/s Ratio Perm		c0.11	0.01		c0.02	0.00						
v/c Ratio		1.22	0.09		0.47	0.06	0.70	0.66		0.78	0.76	
Uniform Delay, d1		34.2	24.0		35.5	27.1	31.9	19.9		32.2	21.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		173.4	0.1		5.5	0.1	10.4	1.2		18.0	2.8	
Delay (s)		207.7	24.2		41.0	27.2	42.2	21.1		50.2	23.8	
Level of Service		F	C		D	C	D	C		D	C	
Approach Delay (s)		99.5			30.6			24.3			27.4	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	25.5
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

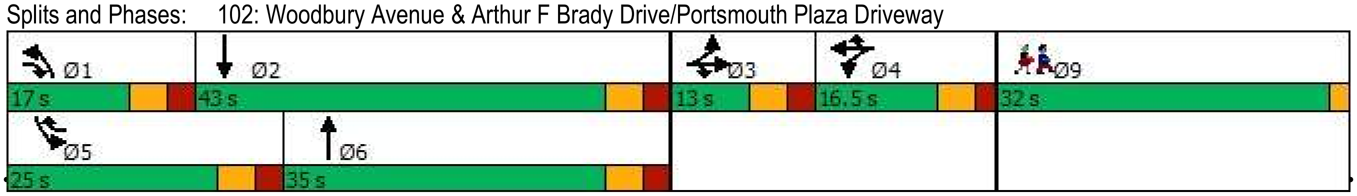
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	71	229	64	144	179	655	139	746	
Future Volume (vph)	71	229	64	144	179	655	139	746	
Lane Group Flow (vph)	180	249	152	157	195	754	151	891	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	1.23	0.48	0.68	0.25	0.87	0.72	0.60	0.80	
Control Delay	188.4	6.4	56.0	4.1	75.1	33.5	47.7	33.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	188.4	6.4	56.0	4.1	75.1	33.5	47.7	33.8	
Queue Length 50th (ft)	~109	2	73	0	96	170	70	203	
Queue Length 95th (ft)	#358	40	#258	30	#343	#420	183	426	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	146	518	224	719	225	1177	374	1494	
Starvation Cap Reductn	0	0	0	0	0	0	0	20	
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	1.23	0.48	0.68	0.22	0.87	0.64	0.40	0.60	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 87.3
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	71	229	75	64	144	179	655	39	139	746	74
Future Volume (vph)	95	71	229	75	64	144	179	655	39	139	746	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1546		1727	1507	1728	3421		1668	3402	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1768	1546		1727	1507	1728	3421		1668	3402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	77	249	82	70	157	195	712	42	151	811	80
RTOR Reduction (vph)	0	0	190	0	0	113	0	3	0	0	6	0
Lane Group Flow (vph)	0	180	59	0	152	44	195	751	0	151	885	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.6		11.4	24.6	11.4	26.7		13.2	28.5	
Effective Green, g (s)		7.2	18.6		11.4	24.6	11.4	26.7		13.2	28.5	
Actuated g/C Ratio		0.08	0.21		0.13	0.28	0.13	0.30		0.15	0.32	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		144	325		222	419	223	1034		249	1098	
v/s Ratio Prot		c0.10	0.04		c0.09	0.03	c0.11	0.22		0.09	c0.26	
v/s Ratio Perm												
v/c Ratio		1.25	0.18		0.68	0.10	0.87	0.73		0.61	0.81	
Uniform Delay, d1		40.5	28.6		36.7	23.7	37.7	27.5		35.1	27.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		157.2	0.3		8.4	0.1	29.3	2.6		4.1	4.4	
Delay (s)		197.8	28.9		45.2	23.8	67.1	30.1		39.3	31.8	
Level of Service		F	C		D	C	E	C		D	C	
Approach Delay (s)		99.7			34.3			37.7			32.9	
Approach LOS		F			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	88.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	170	56	183	88	64	687	14	650	370	
Future Volume (vph)	170	56	183	88	64	687	14	650	370	
Lane Group Flow (vph)	185	109	199	113	70	956	14	657	374	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.49	0.50	0.65	0.35	0.40	0.67	0.11	0.62	0.39	
Control Delay	44.6	41.3	47.9	37.9	48.7	25.9	47.2	33.0	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.6	41.3	47.9	37.9	48.7	25.9	47.2	33.0	3.7	
Queue Length 50th (ft)	48	42	100	51	36	186	7	162	0	
Queue Length 95th (ft)	110	#126	#252	134	99	#568	32	#355	63	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	437	244	384	400	246	1420	164	1108	955	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.42	0.45	0.52	0.28	0.28	0.67	0.09	0.59	0.39	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 87.5
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	56	44	183	88	16	64	687	192	14	650	370
Future Volume (vph)	170	56	44	183	88	16	64	687	192	14	650	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1698		1906	1961		1728	3324		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1698		1906	1961		1728	3324		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	185	61	48	199	96	17	70	747	209	14	657	374
RTOR Reduction (vph)	0	23	0	0	5	0	0	17	0	0	0	186
Lane Group Flow (vph)	185	86	0	199	108	0	70	939	0	14	657	188
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.0	10.0		14.2	14.2		7.3	37.0		1.2	30.9	47.4
Effective Green, g (s)	10.0	10.0		14.2	14.2		7.3	37.0		1.2	30.9	47.4
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.08	0.39		0.01	0.33	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	356	180		287	295		134	1306		22	1134	778
v/s Ratio Prot	c0.06	0.05		c0.10	0.06		c0.04	c0.28		0.01	0.19	0.12
v/s Ratio Perm												
v/c Ratio	0.52	0.48		0.69	0.37		0.52	0.72		0.64	0.58	0.24
Uniform Delay, d1	39.8	39.6		37.9	35.9		41.7	24.2		46.2	26.2	13.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	2.0		7.1	0.8		3.6	1.9		47.5	0.7	0.2
Delay (s)	41.1	41.6		45.0	36.7		45.4	26.1		93.7	26.9	13.4
Level of Service	D	D		D	D		D	C		F	C	B
Approach Delay (s)		41.3			42.0			27.4			23.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	94.1	Sum of lost time (s)	28.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

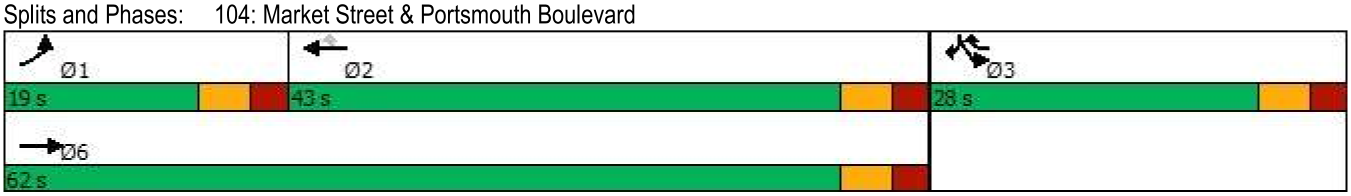
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	853	898	36	39	45
Future Volume (vph)	24	853	898	36	39	45
Lane Group Flow (vph)	26	917	976	39	42	49
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.10	0.38	0.47	0.04	0.09	0.18
Control Delay	23.7	4.8	9.6	1.4	22.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	4.8	9.6	1.4	22.7	11.0
Queue Length 50th (ft)	4	55	60	0	3	0
Queue Length 95th (ft)	31	90	194	7	21	28
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	517	3325	2747	1320	1603	788
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.28	0.36	0.03	0.03	0.06

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	853	898	36	39	45
Future Volume (vph)	24	853	898	36	39	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1569	3164	1509
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1569	3164	1509
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	917	976	39	42	49
RTOR Reduction (vph)	0	0	0	15	0	44
Lane Group Flow (vph)	26	917	976	24	42	5
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	1%	1%	1%	7%	7%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	2.3	35.1	26.8	32.0	5.2	5.2
Effective Green, g (s)	2.3	35.1	26.8	32.0	5.2	5.2
Actuated g/C Ratio	0.04	0.67	0.51	0.61	0.10	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	75	2318	1770	1140	314	150
v/s Ratio Prot	0.02	c0.27	c0.28	0.00	c0.01	0.00
v/s Ratio Perm				0.01		
v/c Ratio	0.35	0.40	0.55	0.02	0.13	0.03
Uniform Delay, d1	24.3	3.9	8.7	4.0	21.5	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.1	0.4	0.0	0.2	0.1
Delay (s)	27.0	4.0	9.0	4.0	21.7	21.4
Level of Service	C	A	A	A	C	C
Approach Delay (s)		4.6	8.8		21.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	824	155	104	482	197	3	444
Future Volume (vph)	824	155	104	482	197	3	444
Lane Group Flow (vph)	896	168	113	524	193	256	251
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	36.0		21.0	57.0	43.0	43.0	43.0
Total Split (%)	36.0%		21.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.35	0.09	0.56	0.22	0.64	0.56	0.53
Control Delay	14.0	0.1	71.1	3.3	46.6	11.2	8.4
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.1	71.1	3.3	46.6	11.2	8.4
Queue Length 50th (ft)	131	0	78	25	121	14	0
Queue Length 95th (ft)	201	0	136	35	180	84	62
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2580	1775	256	2421	628	691	720
Starvation Cap Reductn	856	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.09	0.44	0.22	0.31	0.37	0.35

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	824	155	104	482	0	0	0	0	197	3	444
Future Volume (vph)	0	824	155	104	482	0	0	0	0	197	3	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.86	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		4964	1775	1668	3455					1698	1473	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		4964	1775	1668	3455					1698	1473	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	896	168	113	524	0	0	0	0	214	3	483
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	190	206
Lane Group Flow (vph)	0	896	168	113	524	0	0	0	0	193	66	45
Confl. Peds. (#/hr)	7					7						
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		52.0	100.0	12.1	70.1					17.9	17.9	17.9
Effective Green, g (s)		52.0	100.0	12.1	70.1					17.9	17.9	17.9
Actuated g/C Ratio		0.52	1.00	0.12	0.70					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2581	1775	201	2421					303	263	271
v/s Ratio Prot		c0.18		c0.07	0.15					c0.11	0.04	0.03
v/s Ratio Perm			0.09									
v/c Ratio		0.35	0.09	0.56	0.22					0.64	0.25	0.17
Uniform Delay, d1		14.1	0.0	41.5	5.3					38.0	35.3	34.7
Progression Factor		0.87	1.00	1.50	0.50					1.00	1.00	1.00
Incremental Delay, d2		0.4	0.1	3.5	0.2					4.3	0.5	0.3
Delay (s)		12.6	0.1	65.7	2.8					42.4	35.8	35.0
Level of Service		B	A	E	A					D	D	D
Approach Delay (s)		10.6			14.0			0.0			37.3	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

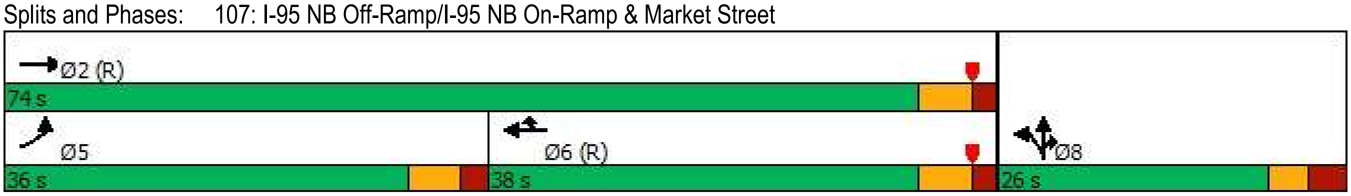
c Critical Lane Group

107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street
2037 No Build Conditions Saturday Midday Peak

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	440	581	529	151	5	231
Future Volume (vph)	440	581	529	151	5	231
Lane Group Flow (vph)	478	632	575	164	67	251
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	26.0	26.0
Total Split (s)	36.0	74.0	38.0	38.0	26.0	26.0
Total Split (%)	36.0%	74.0%	38.0%	38.0%	26.0%	26.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.72	0.24	0.32	0.16	0.32	0.62
Control Delay	52.3	2.6	16.7	3.6	43.1	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	2.6	16.7	3.6	43.1	11.9
Queue Length 50th (ft)	169	22	104	0	41	0
Queue Length 95th (ft)	223	65	192	41	74	64
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	1005	2639	1808	997	359	520
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.24	0.32	0.16	0.19	0.48

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	581	0	0	529	151	57	5	231	0	0	0
Future Volume (vph)	440	581	0	0	529	151	57	5	231	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1798	1599			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1798	1599			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	632	0	0	575	164	62	5	251	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	81	0	0	222	0	0	0
Lane Group Flow (vph)	478	632	0	0	575	83	0	67	29	0	0	0
Confl. Peds. (#/hr)	7		1	1		7			1	1		
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	19.8	76.4			50.6	50.6		11.6	11.6			
Effective Green, g (s)	19.8	76.4			50.6	50.6		11.6	11.6			
Actuated g/C Ratio	0.20	0.76			0.51	0.51		0.12	0.12			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	663	2639			1808	916		208	185			
v/s Ratio Prot	c0.14	0.18			c0.16	0.05		c0.04	0.02			
v/s Ratio Perm												
v/c Ratio	0.72	0.24			0.32	0.09		0.32	0.16			
Uniform Delay, d1	37.5	3.4			14.5	12.8		40.6	39.8			
Progression Factor	1.24	0.62			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.7	0.2			0.5	0.2		1.2	0.5			
Delay (s)	50.2	2.3			15.0	13.0		41.8	40.3			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		22.9			14.6			40.7			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	27	9	36	21	3	15	10	17	3	15	7
Future Vol, veh/h	5	27	9	36	21	3	15	10	17	3	15	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	2	2	2	3	3	3	5	5	5
Mvmt Flow	5	29	10	39	23	3	16	11	18	3	16	8
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	7.6	8.3	7.6	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	16%	0%	60%	17%	0%
Vol Thru, %	0%	37%	84%	0%	35%	83%	0%
Vol Right, %	0%	63%	0%	100%	5%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	27	32	9	60	18	7
LT Vol	15	0	5	0	36	3	0
Through Vol	0	10	27	0	21	15	0
RT Vol	0	17	0	9	3	0	7
Lane Flow Rate	16	29	35	10	65	20	8
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.024	0.035	0.046	0.011	0.087	0.027	0.009
Departure Headway (Hd)	5.256	4.314	4.785	4.006	4.78	4.984	4.199
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	673	817	741	882	743	723	857
Service Time	3.053	2.11	2.562	1.782	2.853	2.684	1.899
HCM Lane V/C Ratio	0.024	0.035	0.047	0.011	0.087	0.028	0.009
HCM Control Delay	8.2	7.3	7.8	6.8	8.3	7.8	6.9
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0	0.3	0.1	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	6	7	11	6	1	48	18	399	249	558	
Future Volume (vph)	6	7	11	6	1	48	18	399	249	558	
Lane Group Flow (vph)	0	15	12	0	8	52	20	457	271	625	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		0.05	0.03		0.03	0.12	0.07	0.40	0.75	0.25	
Control Delay		30.3	0.2		30.1	1.2	29.1	16.0	38.5	11.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		30.3	0.2		30.1	1.2	29.1	16.0	38.5	11.9	
Queue Length 50th (ft)		2	0		1	0	3	26	36	0	
Queue Length 95th (ft)		33	0		22	4	40	192	#487	270	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		300	427		605	436	374	2925	361	2938	
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		0.05	0.03		0.01	0.12	0.05	0.16	0.75	0.21	

Intersection Summary

Cycle Length: 124.5

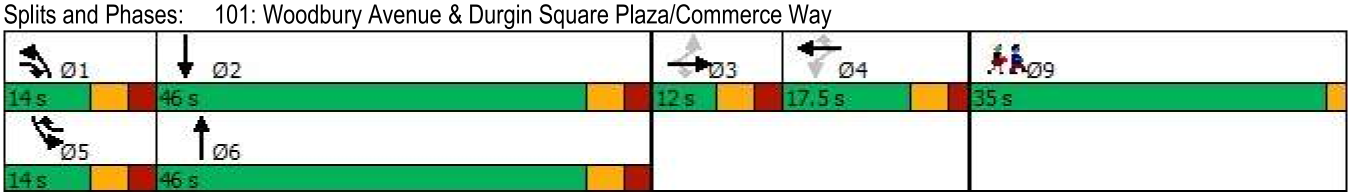
Actuated Cycle Length: 47.3

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	7	11	6	1	48	18	399	21	249	558	17
Future Volume (vph)	6	7	11	6	1	48	18	399	21	249	558	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1538		1750	1553	1694	3359		1636	3371	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1810	1538		1827	1553	1694	3359		1636	3371	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	8	12	7	1	52	20	434	23	271	607	18
RTOR Reduction (vph)	0	0	11	0	0	43	0	3	0	0	1	0
Lane Group Flow (vph)	0	15	1	0	8	9	20	454	0	271	624	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		0.5	3.0		0.6	11.1	2.5	21.7		10.5	29.7	
Effective Green, g (s)		0.5	3.0		0.6	11.1	2.5	21.7		10.5	29.7	
Actuated g/C Ratio		0.01	0.05		0.01	0.18	0.04	0.35		0.17	0.48	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		14	74		17	279	68	1183		278	1625	
v/s Ratio Prot			0.00			0.01	0.01	0.14		c0.17	c0.19	
v/s Ratio Perm		c0.01	0.00		c0.00	0.00						
v/c Ratio		1.07	0.01		0.47	0.03	0.29	0.38		0.97	0.38	
Uniform Delay, d1		30.6	27.9		30.3	20.8	28.7	14.9		25.4	10.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		265.6	0.0		19.2	0.0	2.4	0.2		46.6	0.2	
Delay (s)		296.1	27.9		49.5	20.9	31.1	15.2		72.1	10.3	
Level of Service		F	C		D	C	C	B		E	B	
Approach Delay (s)		176.9			24.7			15.8			29.0	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	25.5
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

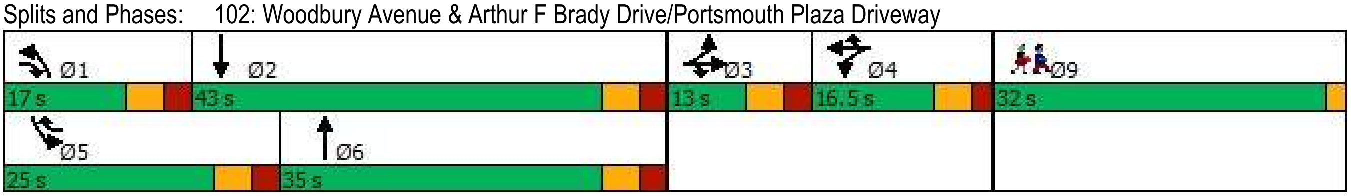
102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway
2037 Build Conditions Weekday AM Conditions

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	31	110	20	35	145	341	43	496	
Future Volume (vph)	31	110	20	35	145	341	43	496	
Lane Group Flow (vph)	101	120	35	38	151	363	47	578	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	0.54	0.20	0.18	0.09	0.51	0.34	0.24	0.65	
Control Delay	48.6	3.0	38.8	0.5	40.7	22.4	38.4	28.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.6	3.0	38.8	0.5	40.7	22.4	38.4	28.2	
Queue Length 50th (ft)	39	0	13	0	55	57	17	107	
Queue Length 95th (ft)	#191	18	58	0	#246	163	71	260	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	188	598	296	639	294	1555	490	1959	
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	0.54	0.20	0.12	0.06	0.51	0.23	0.10	0.30	

Intersection Summary

Cycle Length: 121.5
Actuated Cycle Length: 69.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway
2037 Build Conditions Weekday AM Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	31	110	12	20	35	145	341	8	43	496	36
Future Volume (vph)	62	31	110	12	20	35	145	341	8	43	496	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1693	1487		1690	1463	1678	3343		1620	3316	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1693	1487		1690	1463	1678	3343		1620	3316	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Adj. Flow (vph)	67	34	120	13	22	38	151	355	8	47	539	39
RTOR Reduction (vph)	0	0	87	0	0	31	0	1	0	0	4	0
Lane Group Flow (vph)	0	101	33	0	35	7	151	362	0	47	574	0
Confl. Peds. (#/hr)							2		1	1		2
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.7	19.9		4.3	12.7	12.2	22.2		8.4	18.4	
Effective Green, g (s)		7.7	19.9		4.3	12.7	12.2	22.2		8.4	18.4	
Actuated g/C Ratio		0.11	0.28		0.06	0.18	0.17	0.31		0.12	0.26	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		181	412		101	259	285	1035		189	850	
v/s Ratio Prot		c0.06	0.02		c0.02	0.00	c0.09	c0.11		0.03	c0.17	
v/s Ratio Perm												
v/c Ratio		0.56	0.08		0.35	0.03	0.53	0.35		0.25	0.67	
Uniform Delay, d1		30.4	19.1		32.4	24.4	27.1	19.2		28.8	24.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.7	0.1		2.1	0.0	1.8	0.2		0.7	2.1	
Delay (s)		34.1	19.2		34.4	24.4	28.9	19.4		29.5	26.1	
Level of Service		C	B		C	C	C	B		C	C	
Approach Delay (s)		26.0			29.2			22.2			26.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	71.7	Sum of lost time (s)	25.5
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

103: Market Street & Woodbury Avenue & Market Basket Driveway
2037 Build Conditions Weekday AM Conditions

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	85	36	63	40	98	402	3	373	240	
Future Volume (vph)	85	36	63	40	98	402	3	373	240	
Lane Group Flow (vph)	91	101	68	51	107	538	3	405	261	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.23	0.42	0.29	0.21	0.43	0.38	0.02	0.44	0.28	
Control Delay	36.7	26.5	38.7	33.7	40.8	18.3	42.0	28.7	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.7	26.5	38.7	33.7	40.8	18.3	42.0	28.7	3.7	
Queue Length 50th (ft)	17	18	26	16	40	65	1	77	0	
Queue Length 95th (ft)	59	90	93	68	#144	234	12	192	53	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	587	329	496	515	320	1623	213	1389	931	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.31	0.14	0.10	0.33	0.33	0.01	0.29	0.28	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 70.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	36	58	63	40	7	98	402	93	3	373	240
Future Volume (vph)	85	36	58	63	40	7	98	402	93	3	373	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	0.91		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1633		1834	1885		1678	3248		1648	3355	1501
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1633		1834	1885		1678	3248		1648	3355	1501
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	39	62	68	43	8	107	437	101	3	405	261
RTOR Reduction (vph)	0	47	0	0	6	0	0	13	0	0	0	132
Lane Group Flow (vph)	91	54	0	68	45	0	107	525	0	3	405	129
Confl. Peds. (#/hr)			2	2			1		1	1		1
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	8.5	8.5		6.8	6.8		8.0	30.8		0.8	23.6	38.6
Effective Green, g (s)	8.5	8.5		6.8	6.8		8.0	30.8		0.8	23.6	38.6
Actuated g/C Ratio	0.11	0.11		0.09	0.09		0.10	0.39		0.01	0.30	0.49
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	365	177		159	164		172	1282		16	1015	742
v/s Ratio Prot	0.03	c0.03		c0.04	0.02		c0.06	c0.16		0.00	0.12	0.09
v/s Ratio Perm												
v/c Ratio	0.25	0.30		0.43	0.27		0.62	0.41		0.19	0.40	0.17
Uniform Delay, d1	31.8	32.0		33.8	33.3		33.6	17.0		38.3	21.6	10.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.0		1.8	0.9		6.8	0.2		5.6	0.3	0.1
Delay (s)	32.2	33.0		35.6	34.2		40.4	17.2		43.9	21.8	11.0
Level of Service	C	C		D	C		D	B		D	C	B
Approach Delay (s)		32.6			35.0			21.1			17.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	436	502	272	103	91
Future Volume (vph)	58	436	502	272	103	91
Lane Group Flow (vph)	63	474	546	296	112	99
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.21	0.27	0.45	0.30	0.19	0.27
Control Delay	23.8	5.6	13.6	1.5	21.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	5.6	13.6	1.5	21.4	8.6
Queue Length 50th (ft)	15	26	63	0	13	0
Queue Length 95th (ft)	61	52	118	19	45	39
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	542	3186	2737	1320	1921	957
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.15	0.20	0.22	0.06	0.10

Intersection Summary

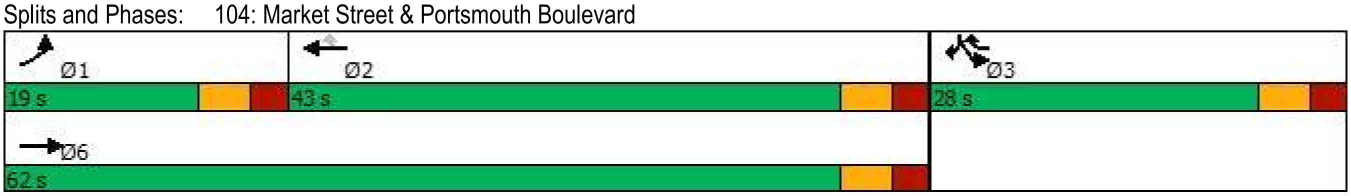
Cycle Length: 90

Actuated Cycle Length: 45.8

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



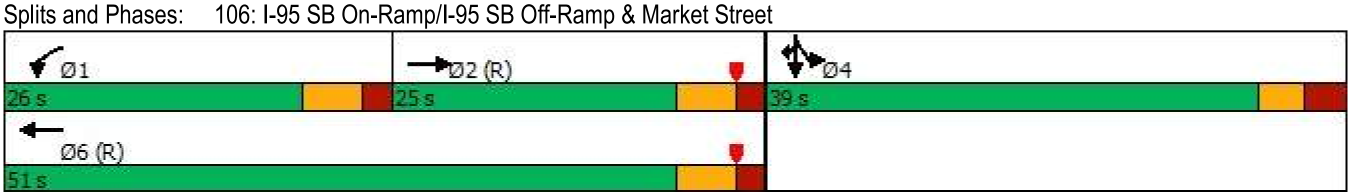
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	436	502	272	103	91
Future Volume (vph)	58	436	502	272	103	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1678	3355	3388	1547	3255	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1678	3355	3388	1547	3255	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	474	546	296	112	99
RTOR Reduction (vph)	0	0	0	140	0	81
Lane Group Flow (vph)	63	474	546	156	112	18
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	4.3	26.6	16.3	24.8	8.5	8.5
Effective Green, g (s)	4.3	26.6	16.3	24.8	8.5	8.5
Actuated g/C Ratio	0.09	0.56	0.35	0.53	0.18	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	153	1894	1172	1011	587	280
v/s Ratio Prot	0.04	c0.14	c0.16	c0.03	0.03	0.01
v/s Ratio Perm				0.07		
v/c Ratio	0.41	0.25	0.47	0.15	0.19	0.06
Uniform Delay, d1	20.2	5.2	12.0	5.7	16.4	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.1	0.3	0.1	0.2	0.1
Delay (s)	22.0	5.3	12.3	5.8	16.5	16.1
Level of Service	C	A	B	A	B	B
Approach Delay (s)		7.2	10.0		16.3	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	47.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	483	126	95	487	211	1	322
Future Volume (vph)	483	126	95	487	211	1	322
Lane Group Flow (vph)	514	134	103	529	202	189	189
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	25.0		26.0	51.0	39.0	39.0	39.0
Total Split (%)	27.8%		28.9%	56.7%	43.3%	43.3%	43.3%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.21	0.08	0.52	0.23	0.65	0.47	0.44
Control Delay	14.9	0.1	46.4	9.2	42.8	11.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	0.1	46.4	9.2	42.8	11.0	7.7
Queue Length 50th (ft)	67	0	0	31	113	14	0
Queue Length 95th (ft)	112	0	96	144	169	70	51
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2483	1724	356	2252	604	629	660
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	109	0	5	6
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.08	0.29	0.25	0.33	0.30	0.29

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	483	126	95	487	0	0	0	0	211	1	322
Future Volume (vph)	0	483	126	95	487	0	0	0	0	211	1	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.87	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4821	1724	1604	3323					1649	1440	1475
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4821	1724	1604	3323					1649	1440	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	514	134	103	529	0	0	0	0	229	1	350
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	131	153
Lane Group Flow (vph)	0	514	134	103	529	0	0	0	0	202	58	36
Confl. Peds. (#/hr)	5					5						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		45.2	90.0	9.8	61.0					17.0	17.0	17.0
Effective Green, g (s)		45.2	90.0	9.8	61.0					17.0	17.0	17.0
Actuated g/C Ratio		0.50	1.00	0.11	0.68					0.19	0.19	0.19
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2421	1724	174	2252					311	272	278
v/s Ratio Prot		0.11		c0.06	c0.16					c0.12	0.04	0.02
v/s Ratio Perm			0.08									
v/c Ratio		0.21	0.08	0.59	0.23					0.65	0.21	0.13
Uniform Delay, d1		12.5	0.0	38.2	5.6					33.7	30.9	30.3
Progression Factor		1.01	1.00	1.04	1.41					1.00	1.00	1.00
Incremental Delay, d2		0.2	0.1	5.2	0.2					4.6	0.4	0.2
Delay (s)		12.9	0.1	44.7	8.1					38.4	31.3	30.6
Level of Service		B	A	D	A					D	C	C
Approach Delay (s)		10.2			14.1			0.0			33.5	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	157	537	368	59	0	383
Future Volume (vph)	157	537	368	59	0	383
Lane Group Flow (vph)	171	584	400	64	228	407
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	32.0	32.0
Total Split (s)	14.0	52.0	38.0	38.0	38.0	38.0
Total Split (%)	15.6%	57.8%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.47	0.27	0.25	0.07	0.60	0.76
Control Delay	30.8	4.1	16.7	1.4	37.2	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	4.1	16.7	1.4	37.2	21.8
Queue Length 50th (ft)	28	5	67	0	119	85
Queue Length 95th (ft)	43	15	129	9	164	166
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	371	2178	1634	885	622	716
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.27	0.24	0.07	0.37	0.57

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 30 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	537	0	0	368	59	214	0	383	0	0	0
Future Volume (vph)	157	537	0	0	368	59	214	0	383	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3255	3355			3438	1743		1752	1568			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3255	3355			3438	1743		1752	1568			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	171	584	0	0	400	64	228	0	407	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	192	0	0	0
Lane Group Flow (vph)	171	584	0	0	400	30	0	228	215	0	0	0
Confl. Peds. (#/hr)	4					4						
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	10.1	58.4			42.3	42.3		19.6	19.6			
Effective Green, g (s)	10.1	58.4			42.3	42.3		19.6	19.6			
Actuated g/C Ratio	0.11	0.65			0.47	0.47		0.22	0.22			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	365	2177			1615	819		381	341			
v/s Ratio Prot	c0.05	c0.17			0.12	0.02		0.13	c0.14			
v/s Ratio Perm												
v/c Ratio	0.47	0.27			0.25	0.04		0.60	0.63			
Uniform Delay, d1	37.4	6.7			14.3	12.9		31.7	31.9			
Progression Factor	0.72	0.49			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.3			0.4	0.1		3.0	4.1			
Delay (s)	27.8	3.6			14.7	12.9		34.6	36.0			
Level of Service	C	A			B	B		C	D			
Approach Delay (s)		9.1			14.4			35.5			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	9	10	93	29	0	196	106	31	0	86	7
Future Vol, veh/h	24	9	10	93	29	0	196	106	31	0	86	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	3	3	3	1	1	1	0	0	0
Mvmt Flow	26	10	11	101	32	0	213	115	34	0	93	8
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	9.2	10.6	10.3	9
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	73%	0%	76%	0%	0%
Vol Thru, %	0%	77%	27%	0%	24%	100%	0%
Vol Right, %	0%	23%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	137	33	10	122	86	7
LT Vol	196	0	24	0	93	0	0
Through Vol	0	106	9	0	29	86	0
RT Vol	0	31	0	10	0	0	7
Lane Flow Rate	213	149	36	11	133	93	8
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.334	0.206	0.063	0.016	0.217	0.141	0.01
Departure Headway (Hd)	5.649	4.987	6.303	5.23	5.888	5.416	4.71
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	635	716	565	679	607	658	754
Service Time	3.401	2.738	4.08	3.006	3.951	3.184	2.478
HCM Lane V/C Ratio	0.335	0.208	0.064	0.016	0.219	0.141	0.011
HCM Control Delay	11.2	9	9.5	8.1	10.6	9.1	7.5
HCM Lane LOS	B	A	A	A	B	A	A
HCM 95th-tile Q	1.5	0.8	0.2	0	0.8	0.5	0

Intersection						
Int Delay, s/veh	6.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	0	0	22	0	0
Future Vol, veh/h	76	0	0	22	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	0	0	24	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	13	12	0	0	24	0
Stage 1	12	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1006	1069	-	-	1591	-
Stage 1	1011	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1006	1069	-	-	1591	-
Mov Cap-2 Maneuver	1006	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1006	1591	-
HCM Lane V/C Ratio	-	-	0.082	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	3	0	0	8
Future Vol, veh/h	0	0	3	0	0	8
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	3	0	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	7	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	6	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1014	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1012	1084
Mov Cap-2 Maneuver	-	-	-	-	1012	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

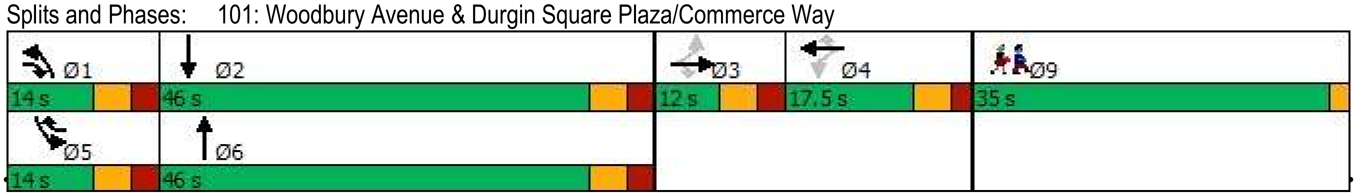
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.008	-	-	0.002	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	33	34	106	44	26	197	113	705	154	888	
Future Volume (vph)	33	34	106	44	26	197	113	705	154	888	
Lane Group Flow (vph)	0	73	115	0	76	214	123	769	166	995	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.06	0.29		0.44	0.39	0.67	0.60	0.94	0.78	
Control Delay		172.8	6.7		48.8	5.6	60.8	25.4	96.4	30.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		172.8	6.7		48.8	5.6	60.8	25.4	96.4	30.1	
Queue Length 50th (ft)		~41	0		34	0	59	150	82	212	
Queue Length 95th (ft)		#190	28		#114	41	#240	356	#332	#523	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		69	390		227	549	184	1840	177	1831	
Starvation Cap Reductn		0	0		0	0	0	44	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		1.06	0.29		0.33	0.39	0.67	0.43	0.94	0.54	

Intersection Summary

Cycle Length: 124.5
Actuated Cycle Length: 81.6
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	34	106	44	26	197	113	705	3	154	888	37
Future Volume (vph)	33	34	106	44	26	197	113	705	3	154	888	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1590		1802	1583	1728	3453		1668	3431	
Flt Permitted		0.46	1.00		0.76	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		864	1590		1422	1583	1728	3453		1668	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	36	37	115	48	28	214	123	766	3	166	955	40
RTOR Reduction (vph)	0	0	94	0	0	171	0	0	0	0	3	0
Lane Group Flow (vph)	0	73	21	0	76	43	123	769	0	166	992	0
Confl. Peds. (#/hr)			1	1			1					1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.5	15.2		7.9	16.6	8.7	30.1		8.7	30.1	
Effective Green, g (s)		6.5	15.2		7.9	16.6	8.7	30.1		8.7	30.1	
Actuated g/C Ratio		0.08	0.18		0.10	0.20	0.10	0.36		0.10	0.36	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		67	291		135	316	181	1252		174	1244	
v/s Ratio Prot			0.01			0.01	0.07	0.22		c0.10	c0.29	
v/s Ratio Perm		c0.08	0.01		c0.05	0.01						
v/c Ratio		1.09	0.07		0.56	0.14	0.68	0.61		0.95	0.80	
Uniform Delay, d1		38.2	28.1		35.9	27.3	35.8	21.7		37.0	23.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		136.7	0.1		5.3	0.2	9.7	0.9		54.4	3.7	
Delay (s)		174.9	28.2		41.2	27.5	45.5	22.6		91.4	27.4	
Level of Service		F	C		D	C	D	C		F	C	
Approach Delay (s)		85.2			31.1			25.8			36.5	
Approach LOS		F			C			C			D	

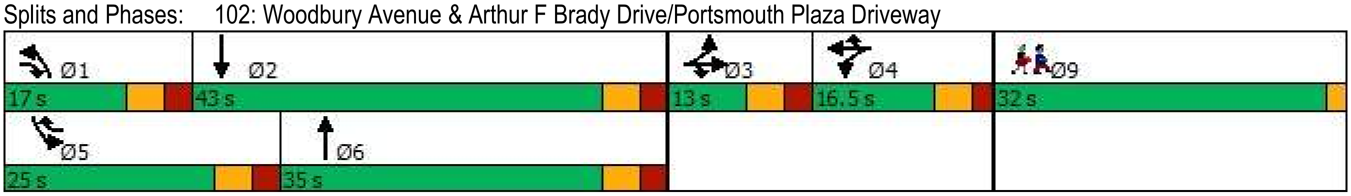
Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	83.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	47	215	54	123	196	623	100	838	
Future Volume (vph)	47	215	54	123	196	623	100	838	
Lane Group Flow (vph)	133	234	131	134	202	673	109	1020	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	1.00	0.48	0.65	0.25	0.98	0.52	0.53	0.79	
Control Delay	125.1	6.3	58.5	4.7	100.6	27.4	49.8	32.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
Total Delay	125.1	6.3	58.5	4.7	100.6	27.4	49.8	32.7	
Queue Length 50th (ft)	75	0	70	0	113	141	58	245	
Queue Length 95th (ft)	#264	36	#215	28	#356	334	138	#561	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	133	488	207	643	207	1283	346	1378	
Starvation Cap Reductn	0	0	0	0	0	0	0	46	
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	1.00	0.48	0.63	0.21	0.98	0.52	0.32	0.77	

Intersection Summary
Cycle Length: 121.5
Actuated Cycle Length: 93.3
Natural Cycle: 135
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	47	215	66	54	123	196	623	30	100	838	100
Future Volume (vph)	75	47	215	66	54	123	196	623	30	100	838	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747	1531		1726	1507	1728	3431		1668	3392	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1747	1531		1726	1507	1728	3431		1668	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	82	51	234	72	59	134	202	642	31	109	911	109
RTOR Reduction (vph)	0	0	189	0	0	102	0	3	0	0	7	0
Lane Group Flow (vph)	0	133	45	0	131	32	202	670	0	109	1013	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.1	18.3		10.9	22.5	11.2	34.9		11.6	35.3	
Effective Green, g (s)		7.1	18.3		10.9	22.5	11.2	34.9		11.6	35.3	
Actuated g/C Ratio		0.08	0.19		0.12	0.24	0.12	0.37		0.12	0.37	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		131	296		198	358	204	1265		204	1265	
v/s Ratio Prot		c0.08	0.03		c0.08	0.02	c0.12	0.20		0.07	c0.30	
v/s Ratio Perm												
v/c Ratio		1.02	0.15		0.66	0.09	0.99	0.53		0.53	0.80	
Uniform Delay, d1		43.8	31.7		40.1	28.1	41.6	23.4		39.0	26.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		82.7	0.2		8.0	0.1	60.0	0.4		2.7	3.7	
Delay (s)		126.5	31.9		48.1	28.2	101.7	23.8		41.6	30.2	
Level of Service		F	C		D	C	F	C		D	C	
Approach Delay (s)		66.2			38.0			41.8			31.3	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	94.6	Sum of lost time (s)	25.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	194	68	190	77	103	638	9	752	356	
Future Volume (vph)	194	68	190	77	103	638	9	752	356	
Lane Group Flow (vph)	211	172	204	101	108	826	10	817	387	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.54	0.74	0.68	0.32	0.56	0.55	0.08	0.83	0.42	
Control Delay	46.8	51.1	51.7	37.6	53.9	23.8	48.1	41.7	4.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.8	51.1	51.7	37.6	53.9	23.8	48.1	41.7	4.0	
Queue Length 50th (ft)	58	70	108	46	58	154	5	224	2	
Queue Length 95th (ft)	123	#233	#262	120	#152	#450	26	#496	69	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	403	239	355	369	226	1496	151	983	935	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.72	0.57	0.27	0.48	0.55	0.07	0.83	0.41	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 93.1
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

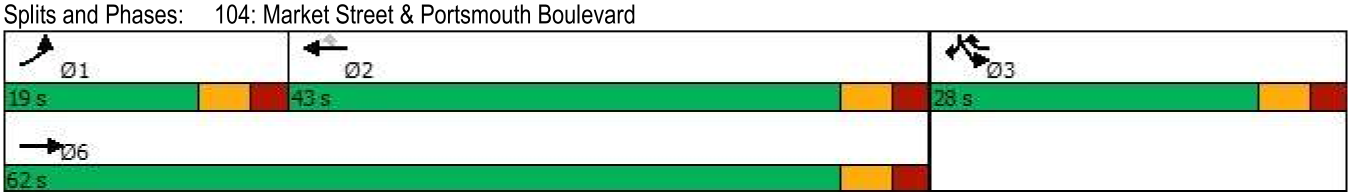
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	68	90	190	77	17	103	638	146	9	752	356
Future Volume (vph)	194	68	90	190	77	17	103	638	146	9	752	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.91		1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1663		1906	1948		1728	3345		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1663		1906	1948		1728	3345		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	211	74	98	204	83	18	108	672	154	10	817	387
RTOR Reduction (vph)	0	39	0	0	7	0	0	13	0	0	0	192
Lane Group Flow (vph)	211	133	0	204	94	0	108	813	0	10	817	195
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.9	10.9		14.5	14.5		10.4	41.3		1.2	32.1	49.5
Effective Green, g (s)	10.9	10.9		14.5	14.5		10.4	41.3		1.2	32.1	49.5
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.10	0.41		0.01	0.32	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	365	181		276	283		180	1384		20	1111	766
v/s Ratio Prot	0.06	c0.08		c0.11	0.05		c0.06	c0.24		0.01	c0.24	0.13
v/s Ratio Perm												
v/c Ratio	0.58	0.73		0.74	0.33		0.60	0.59		0.50	0.74	0.25
Uniform Delay, d1	42.3	43.0		40.8	38.3		42.7	22.7		49.0	30.1	14.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	14.3		9.9	0.7		5.3	0.6		18.3	2.6	0.2
Delay (s)	44.5	57.3		50.8	39.0		48.0	23.3		67.3	32.6	14.7
Level of Service	D	E		D	D		D	C		E	C	B
Approach Delay (s)		50.2			46.9			26.2			27.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	99.8	Sum of lost time (s)	28.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	73	959	774	103	239	113
Future Volume (vph)	73	959	774	103	239	113
Lane Group Flow (vph)	79	1042	832	111	260	123
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.29	0.52	0.64	0.12	0.40	0.30
Control Delay	29.2	7.9	18.1	1.3	24.9	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	7.9	18.1	1.3	24.9	8.0
Queue Length 50th (ft)	24	87	121	0	40	0
Queue Length 95th (ft)	76	162	221	13	93	42
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	434	3151	2362	1209	1424	750
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.33	0.35	0.09	0.18	0.16

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 56.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	73	959	774	103	239	113
Future Volume (vph)	73	959	774	103	239	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1576	3351	1599
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1576	3351	1599
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.92	0.92
Adj. Flow (vph)	79	1042	832	111	260	123
RTOR Reduction (vph)	0	0	0	48	0	99
Lane Group Flow (vph)	79	1042	832	63	260	24
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	6.7	34.2	21.5	32.5	11.0	11.0
Effective Green, g (s)	6.7	34.2	21.5	32.5	11.0	11.0
Actuated g/C Ratio	0.12	0.60	0.38	0.57	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	202	2065	1298	1060	644	307
v/s Ratio Prot	0.05	c0.30	c0.24	0.01	c0.08	0.01
v/s Ratio Perm				0.03		
v/c Ratio	0.39	0.50	0.64	0.06	0.40	0.08
Uniform Delay, d1	23.4	6.6	14.7	5.5	20.2	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.2	1.1	0.0	0.4	0.1
Delay (s)	24.6	6.8	15.8	5.5	20.6	19.0
Level of Service	C	A	B	A	C	B
Approach Delay (s)		8.1	14.6		20.1	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	57.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1002	234	246	584	259	1	338
Future Volume (vph)	1002	234	246	584	259	1	338
Lane Group Flow (vph)	1066	249	267	635	226	215	209
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	35.0		23.0	67.0	23.0	23.0	23.0
Total Split (%)	38.9%		25.6%	74.4%	25.6%	25.6%	25.6%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.53	0.14	0.80	0.27	0.70	0.54	0.46
Control Delay	19.9	0.2	39.0	0.6	45.6	17.6	7.9
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.1	0.1
Total Delay	20.1	0.2	39.0	0.6	45.6	17.6	7.9
Queue Length 50th (ft)	182	0	66	1	125	41	0
Queue Length 95th (ft)	219	0	#261	1	201	113	57
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2177	1757	344	2400	352	420	480
Starvation Cap Reductn	387	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	176	0	6	10
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.14	0.78	0.29	0.64	0.52	0.44

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

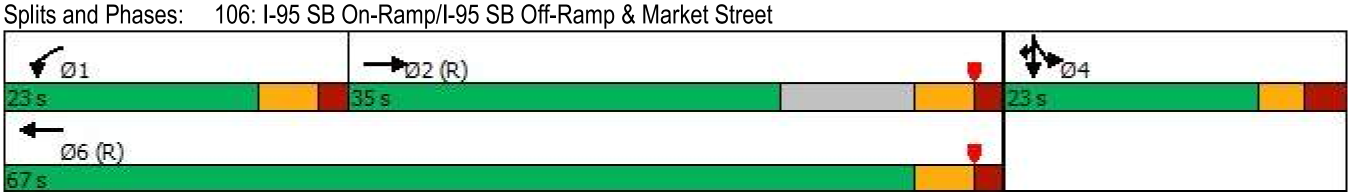
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Red

Natural Cycle: 60

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street



106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street
2037 Build Conditions Weekday PM Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1002	234	246	584	0	0	0	0	259	1	338
Future Volume (vph)	0	1002	234	246	584	0	0	0	0	259	1	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.89	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		4916	1757	1668	3455					1698	1504	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (perm)		4916	1757	1668	3455					1698	1504	1519
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1066	249	267	635	0	0	0	0	282	1	367
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	111	169
Lane Group Flow (vph)	0	1066	249	267	635	0	0	0	0	226	104	40
Confl. Peds. (#/hr)	8					8						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		36.9	90.0	18.0	60.9					17.1	17.1	17.1
Effective Green, g (s)		36.9	90.0	18.0	60.9					17.1	17.1	17.1
Actuated g/C Ratio		0.41	1.00	0.20	0.68					0.19	0.19	0.19
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2015	1757	333	2337					322	285	288
v/s Ratio Prot		c0.22		c0.16	0.18					c0.13	0.07	0.03
v/s Ratio Perm			0.14									
v/c Ratio		0.53	0.14	0.80	0.27					0.70	0.37	0.14
Uniform Delay, d1		20.0	0.0	34.3	5.8					34.1	31.7	30.3
Progression Factor		0.90	1.00	0.59	0.06					1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2	11.9	0.3					6.8	0.8	0.2
Delay (s)		18.9	0.2	32.0	0.6					40.8	32.5	30.5
Level of Service		B	A	C	A					D	C	C
Approach Delay (s)		15.4			9.9			0.0			34.8	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

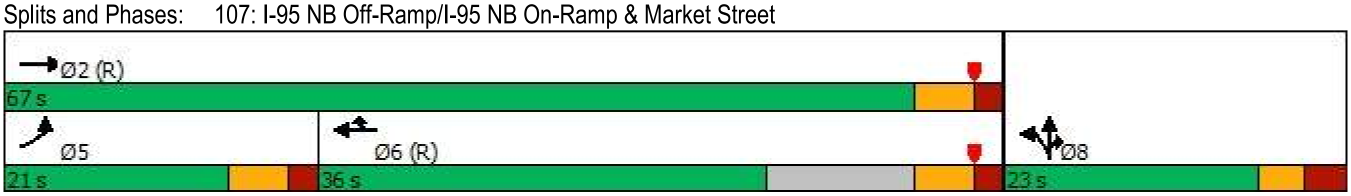
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	553	708	724	249	1	195
Future Volume (vph)	553	708	724	249	1	195
Lane Group Flow (vph)	588	753	770	265	116	212
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	23.0	23.0
Total Split (s)	21.0	67.0	36.0	36.0	23.0	23.0
Total Split (%)	23.3%	74.4%	40.0%	40.0%	25.6%	25.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.68	0.30	0.53	0.30	0.48	0.53
Control Delay	28.5	11.3	22.2	3.4	41.9	10.2
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	28.5	11.8	22.2	3.4	41.9	10.2
Queue Length 50th (ft)	171	174	170	0	62	0
Queue Length 95th (ft)	#246	245	231	46	108	58
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	860	2524	1588	952	335	470
Starvation Cap Reductn	0	1239	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.59	0.48	0.28	0.35	0.45

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 59 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 65
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	553	708	0	0	724	249	106	1	195	0	0	0
Future Volume (vph)	553	708	0	0	724	249	106	1	195	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1775	1583			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	588	753	0	0	770	265	115	1	212	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	157	0	0	183	0	0	0
Lane Group Flow (vph)	588	753	0	0	770	108	0	116	29	0	0	0
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	23.1	65.8			36.7	36.7		12.2	12.2			
Effective Green, g (s)	23.1	65.8			36.7	36.7		12.2	12.2			
Actuated g/C Ratio	0.26	0.73			0.41	0.41		0.14	0.14			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	860	2525			1457	738		240	214			
v/s Ratio Prot	c0.18	0.22			c0.22	0.06		c0.07	0.02			
v/s Ratio Perm												
v/c Ratio	0.68	0.30			0.53	0.15		0.48	0.13			
Uniform Delay, d1	30.2	4.2			20.1	16.8		36.0	34.3			
Progression Factor	0.79	2.41			1.00	1.00		1.00	1.00			
Incremental Delay, d2	2.0	0.3			1.4	0.4		2.1	0.4			
Delay (s)	25.7	10.3			21.5	17.2		38.1	34.6			
Level of Service	C	B			C	B		D	C			
Approach Delay (s)		17.1			20.4			35.9			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	50	168	39	24	1	19	65	64	0	123	28
Future Vol, veh/h	24	50	168	39	24	1	19	65	64	0	123	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1
Mvmt Flow	26	54	183	42	26	1	21	71	70	0	134	30
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	9.1	9.6	9.4	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	32%	0%	61%	0%	0%
Vol Thru, %	0%	50%	68%	0%	38%	100%	0%
Vol Right, %	0%	50%	0%	100%	2%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	129	74	168	64	123	28
LT Vol	19	0	24	0	39	0	0
Through Vol	0	65	50	0	24	123	0
RT Vol	0	64	0	168	1	0	28
Lane Flow Rate	21	140	80	183	70	134	30
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.035	0.204	0.125	0.24	0.111	0.205	0.041
Departure Headway (Hd)	6.082	5.227	5.592	4.725	5.769	5.521	4.814
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	585	681	638	754	616	646	737
Service Time	3.854	2.998	3.355	2.488	3.852	3.291	2.585
HCM Lane V/C Ratio	0.036	0.206	0.125	0.243	0.114	0.207	0.041
HCM Control Delay	9.1	9.4	9.2	9	9.6	9.7	7.8
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.4	0.9	0.4	0.8	0.1

Intersection						
Int Delay, s/veh	3.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	0	0	58	0	0
Future Vol, veh/h	38	0	0	58	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	0	63	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	33	32	0	0	63	0
Stage 1	32	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	980	1042	-	-	1540	-
Stage 1	991	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1042	-	-	1540	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	980	1540	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection						
Int Delay, s/veh	7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	7	0	0	4
Future Vol, veh/h	0	0	7	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	8	0	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	17	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1001	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	996	1084
Mov Cap-2 Maneuver	-	-	-	-	996	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1002	-

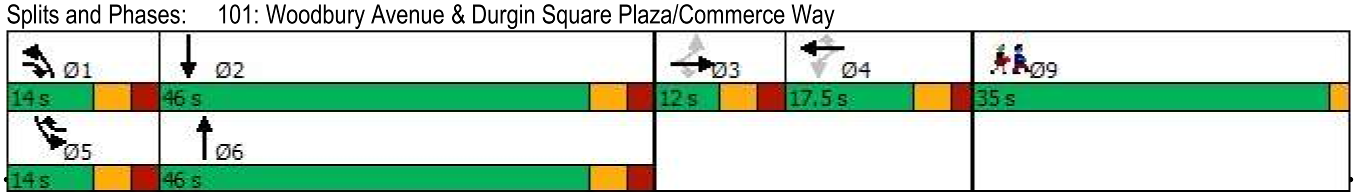
Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.004	-	-	0.005	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations											
Traffic Volume (vph)	48	39	124	7	19	81	132	759	150	831	
Future Volume (vph)	48	39	124	7	19	81	132	759	150	831	
Lane Group Flow (vph)	0	94	135	0	29	88	143	828	163	960	
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	Prot	NA	
Protected Phases		3	1		4	5	1	6	5	2	9
Permitted Phases	3		3	4		4					
Detector Phase	3	3	1	4	4	5	1	6	5	2	
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	11.5	11.5	12.0	12.0	16.0	12.0	16.0	35.0
Total Split (s)	12.0	12.0	14.0	17.5	17.5	14.0	14.0	46.0	14.0	46.0	35.0
Total Split (%)	9.6%	9.6%	11.2%	14.1%	14.1%	11.2%	11.2%	36.9%	11.2%	36.9%	28%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		5.5	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	None
v/c Ratio		1.16	0.30		0.15	0.25	0.67	0.62	0.79	0.73	
Control Delay		188.2	6.0		40.9	6.3	53.4	22.8	64.2	25.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		188.2	6.0		40.9	6.3	53.4	22.8	64.2	25.1	
Queue Length 50th (ft)		~38	0		9	0	49	103	56	126	
Queue Length 95th (ft)		#232	29		53	25	#279	382	#321	460	
Internal Link Dist (ft)		286			401			403		253	
Turn Bay Length (ft)			100			125	100		150		
Base Capacity (vph)		81	451		325	353	215	2150	207	2135	
Starvation Cap Reductn		0	0		0	0	0	43	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		1.16	0.30		0.09	0.25	0.67	0.39	0.79	0.45	

Intersection Summary
Cycle Length: 124.5
Actuated Cycle Length: 71.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury Avenue & Durgin Square Plaza/Commerce Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	39	124	7	19	81	132	759	3	150	831	52
Future Volume (vph)	48	39	124	7	19	81	132	759	3	150	831	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	10	11	12
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1831	1589		1812	1568	1728	3453		1668	3424	
Flt Permitted		0.46	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		872	1589		1736	1568	1728	3453		1668	3424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	42	135	8	21	88	143	825	3	163	903	57
RTOR Reduction (vph)	0	0	107	0	0	74	0	0	0	0	3	0
Lane Group Flow (vph)	0	94	28	0	29	14	143	828	0	163	957	0
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		3	1		4	5	1	6		5	2	
Permitted Phases	3		3	4		4						
Actuated Green, G (s)		6.7	15.6		2.7	11.6	8.9	27.6		8.9	27.6	
Effective Green, g (s)		6.7	15.6		2.7	11.6	8.9	27.6		8.9	27.6	
Actuated g/C Ratio		0.09	0.21		0.04	0.15	0.12	0.37		0.12	0.37	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		77	329		62	241	204	1265		197	1255	
v/s Ratio Prot			0.01			0.01	0.08	0.24		c0.10	c0.28	
v/s Ratio Perm		c0.11	0.01		c0.02	0.00						
v/c Ratio		1.22	0.09		0.47	0.06	0.70	0.65		0.83	0.76	
Uniform Delay, d1		34.3	24.1		35.6	27.2	31.9	19.9		32.4	21.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		173.4	0.1		5.5	0.1	10.4	1.2		23.9	2.8	
Delay (s)		207.7	24.2		41.1	27.3	42.3	21.1		56.3	23.8	
Level of Service		F	C		D	C	D	C		E	C	
Approach Delay (s)		99.5			30.7			24.2			28.5	
Approach LOS		F			C			C			C	

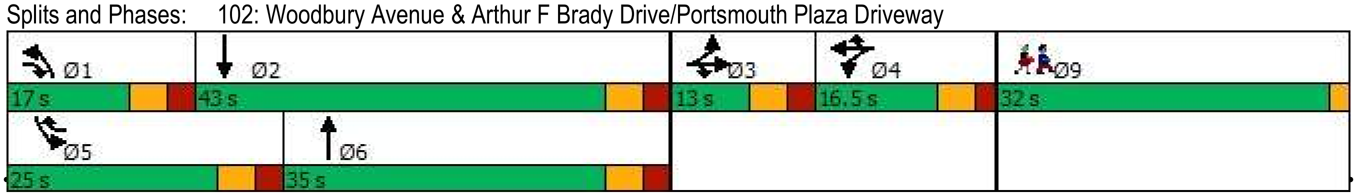
Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	25.5
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	Ø9
Lane Configurations									
Traffic Volume (vph)	71	232	64	144	190	655	139	749	
Future Volume (vph)	71	232	64	144	190	655	139	749	
Lane Group Flow (vph)	180	252	152	157	207	754	151	894	
Turn Type	NA	pt+ov	NA	pt+ov	Prot	NA	Prot	NA	
Protected Phases	3	1 3	4	4 5	1	6	5	2	9
Permitted Phases									
Detector Phase	3	1 3	4	4 5	1	6	5	2	
Switch Phase									
Minimum Initial (s)	6.0		6.0		6.0	10.0	6.0	10.0	7.0
Minimum Split (s)	12.0		11.5		12.0	16.0	12.0	16.0	32.0
Total Split (s)	13.0		16.5		17.0	35.0	25.0	43.0	32.0
Total Split (%)	10.7%		13.6%		14.0%	28.8%	20.6%	35.4%	26%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.5	3.5	2.0
All-Red Time (s)	2.5		2.0		2.5	2.5	2.5	2.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0		5.5		6.0	6.0	6.0	6.0	
Lead/Lag	Lead		Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	
Recall Mode	None		None		None	Min	Min	Min	None
v/c Ratio	1.23	0.48	0.68	0.25	0.92	0.72	0.60	0.80	
Control Delay	188.4	6.5	56.2	4.1	84.8	33.4	47.7	33.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	188.4	6.5	56.2	4.1	84.8	33.4	47.7	33.9	
Queue Length 50th (ft)	~109	2	73	0	103	170	70	204	
Queue Length 95th (ft)	#358	41	#258	30	#365	#420	183	#431	
Internal Link Dist (ft)	352		79			702		403	
Turn Bay Length (ft)		100			300		250		
Base Capacity (vph)	146	520	224	719	224	1176	374	1493	
Starvation Cap Reductn	0	0	0	0	0	0	0	20	
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	1.23	0.48	0.68	0.22	0.92	0.64	0.40	0.61	

Intersection Summary
Cycle Length: 121.5
Actuated Cycle Length: 87.4
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 102: Woodbury Avenue & Arthur F Brady Drive/Portsmouth Plaza Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	71	232	75	64	144	190	655	39	139	749	74
Future Volume (vph)	95	71	232	75	64	144	190	655	39	139	749	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	11	11
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1546		1727	1507	1728	3421		1668	3402	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1768	1546		1727	1507	1728	3421		1668	3402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	77	252	82	70	157	207	712	42	151	814	80
RTOR Reduction (vph)	0	0	192	0	0	113	0	3	0	0	6	0
Lane Group Flow (vph)	0	180	60	0	152	44	207	751	0	151	888	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	3	3	1 3	4	4	4 5	1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		7.2	18.6		11.4	24.6	11.4	26.8		13.2	28.6	
Effective Green, g (s)		7.2	18.6		11.4	24.6	11.4	26.8		13.2	28.6	
Actuated g/C Ratio		0.08	0.21		0.13	0.28	0.13	0.30		0.15	0.32	
Clearance Time (s)		6.0			5.5		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		144	325		222	419	222	1037		249	1100	
v/s Ratio Prot		c0.10	0.04		c0.09	0.03	c0.12	0.22		0.09	c0.26	
v/s Ratio Perm												
v/c Ratio		1.25	0.19		0.68	0.10	0.93	0.72		0.61	0.81	
Uniform Delay, d1		40.6	28.7		36.8	23.7	38.1	27.5		35.2	27.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		157.2	0.3		8.4	0.1	41.8	2.5		4.1	4.4	
Delay (s)		197.8	28.9		45.2	23.8	79.9	30.0		39.3	31.8	
Level of Service		F	C		D	C	E	C		D	C	
Approach Delay (s)		99.3			34.3			40.8			32.9	
Approach LOS		F			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	46.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	25.5
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	Ø9
Lane Configurations										
Traffic Volume (vph)	170	56	183	88	77	698	14	656	370	
Future Volume (vph)	170	56	183	88	77	698	14	656	370	
Lane Group Flow (vph)	185	127	199	113	84	968	14	663	374	
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA	pt+ov	
Protected Phases	3	3	4	4	1	6	5	2	2 3	9
Permitted Phases										
Detector Phase	3	3	4	4	1	6	5	2	2 3	
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	10.0	6.0	10.0		1.0
Minimum Split (s)	12.5	12.5	12.5	12.5	12.5	16.5	12.5	16.5		28.0
Total Split (s)	17.5	17.5	23.5	23.5	18.5	36.5	14.5	32.5		28.0
Total Split (%)	14.6%	14.6%	19.6%	19.6%	15.4%	30.4%	12.1%	27.1%		23%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		2.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	None	Min		None
v/c Ratio	0.49	0.57	0.65	0.35	0.46	0.68	0.11	0.63	0.39	
Control Delay	45.0	41.8	48.6	38.2	50.2	25.9	47.5	33.3	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	41.8	48.6	38.2	50.2	25.9	47.5	33.3	3.7	
Queue Length 50th (ft)	49	47	102	52	44	190	7	166	0	
Queue Length 95th (ft)	110	#153	#252	134	115	#579	32	#360	63	
Internal Link Dist (ft)		627		118		637		702		
Turn Bay Length (ft)	275				300		275		200	
Base Capacity (vph)	434	248	381	397	244	1434	162	1099	951	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.43	0.51	0.52	0.28	0.34	0.68	0.09	0.60	0.39	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 88.2
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 103: Market Street & Woodbury Avenue & Market Basket Driveway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	56	61	183	88	16	77	698	192	14	656	370
Future Volume (vph)	170	56	61	183	88	16	77	698	192	14	656	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	14	14	14	11	11	11	11	11	11
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.97	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3351	1677		1906	1961		1728	3325		1728	3455	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3351	1677		1906	1961		1728	3325		1728	3455	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	185	61	66	199	96	17	84	759	209	14	663	374
RTOR Reduction (vph)	0	32	0	0	5	0	0	17	0	0	0	186
Lane Group Flow (vph)	185	95	0	199	108	0	84	951	0	14	663	188
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									4			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	pt+ov
Protected Phases	3	3		4	4		1	6		5	2	2 3
Permitted Phases												
Actuated Green, G (s)	10.0	10.0		14.2	14.2		7.8	37.6		1.2	31.0	47.5
Effective Green, g (s)	10.0	10.0		14.2	14.2		7.8	37.6		1.2	31.0	47.5
Actuated g/C Ratio	0.11	0.11		0.15	0.15		0.08	0.40		0.01	0.33	0.50
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	353	177		285	294		142	1320		21	1130	775
v/s Ratio Prot	0.06	c0.06		c0.10	0.06		c0.05	c0.29		0.01	0.19	0.12
v/s Ratio Perm												
v/c Ratio	0.52	0.54		0.70	0.37		0.59	0.72		0.67	0.59	0.24
Uniform Delay, d1	40.1	40.1		38.2	36.2		41.9	24.1		46.6	26.5	13.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	3.1		7.3	0.8		6.5	2.0		58.7	0.8	0.2
Delay (s)	41.5	43.2		45.5	37.0		48.4	26.1		105.2	27.3	13.6
Level of Service	D	D		D	D		D	C		F	C	B
Approach Delay (s)		42.2			42.4			27.9			23.4	
Approach LOS		D			D			C			C	

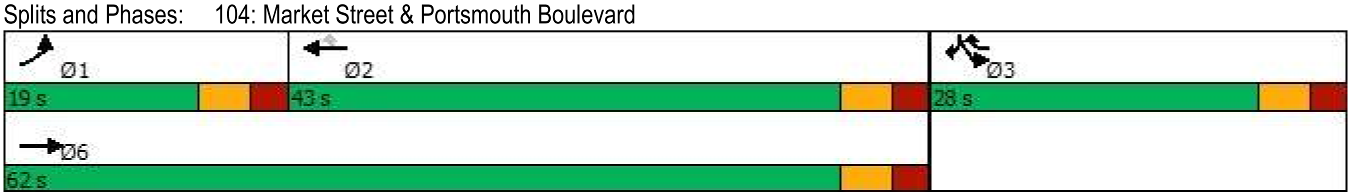
Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	28.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	853	898	61	69	69
Future Volume (vph)	47	853	898	61	69	69
Lane Group Flow (vph)	51	917	976	66	75	75
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Detector Phase	1	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	6.0	10.0	10.0	6.0	6.0	6.0
Minimum Split (s)	12.0	16.0	40.0	12.0	12.0	12.0
Total Split (s)	19.0	62.0	43.0	28.0	28.0	28.0
Total Split (%)	21.1%	68.9%	47.8%	31.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min	None	None	None
v/c Ratio	0.18	0.38	0.51	0.07	0.15	0.25
Control Delay	25.6	4.9	12.2	1.4	24.6	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	4.9	12.2	1.4	24.6	10.3
Queue Length 50th (ft)	15	59	131	0	11	0
Queue Length 95th (ft)	50	94	211	9	33	34
Internal Link Dist (ft)		637	2574		923	
Turn Bay Length (ft)	200			200	175	
Base Capacity (vph)	503	3265	2644	1285	1559	781
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.28	0.37	0.05	0.05	0.10

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 49.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 104: Market Street & Portsmouth Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	853	898	61	69	69
Future Volume (vph)	47	853	898	61	69	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	12
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	3455	3455	1569	3164	1509
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1728	3455	3455	1569	3164	1509
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	917	976	66	75	75
RTOR Reduction (vph)	0	0	0	27	0	67
Lane Group Flow (vph)	51	917	976	39	75	8
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	1%	1%	1%	7%	7%
Turn Type	Prot	NA	NA	pm+ov	Prot	Prot
Protected Phases	1	6	2	3	3	3
Permitted Phases				2		
Actuated Green, G (s)	4.1	35.6	25.5	31.2	5.7	5.7
Effective Green, g (s)	4.1	35.6	25.5	31.2	5.7	5.7
Actuated g/C Ratio	0.08	0.67	0.48	0.59	0.11	0.11
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	132	2307	1652	1095	338	161
v/s Ratio Prot	0.03	c0.27	c0.28	0.00	c0.02	0.01
v/s Ratio Perm				0.02		
v/c Ratio	0.39	0.40	0.59	0.04	0.22	0.05
Uniform Delay, d1	23.4	4.0	10.1	4.7	21.8	21.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1	0.6	0.0	0.3	0.1
Delay (s)	25.3	4.1	10.7	4.7	22.1	21.5
Level of Service	C	A	B	A	C	C
Approach Delay (s)		5.2	10.3		21.8	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	843	166	104	504	197	3	447
Future Volume (vph)	843	166	104	504	197	3	447
Lane Group Flow (vph)	916	180	113	548	193	257	253
Turn Type	NA	Free	Prot	NA	Split	NA	Prot
Protected Phases	2		1	6	4	4	4
Permitted Phases		Free					
Detector Phase	2		1	6	4	4	4
Switch Phase							
Minimum Initial (s)	8.0		4.0	8.0	4.0	4.0	4.0
Minimum Split (s)	14.0		10.0	36.0	10.0	10.0	10.0
Total Split (s)	36.0		21.0	57.0	43.0	43.0	43.0
Total Split (%)	36.0%		21.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	4.0		4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	C-Min		None	C-Min	None	None	None
v/c Ratio	0.36	0.10	0.56	0.23	0.64	0.57	0.53
Control Delay	14.0	0.1	70.5	3.4	46.6	11.2	8.3
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	0.1	70.5	3.4	46.6	11.2	8.3
Queue Length 50th (ft)	134	0	79	28	121	14	0
Queue Length 95th (ft)	206	0	136	38	180	84	63
Internal Link Dist (ft)	222			349		806	
Turn Bay Length (ft)			200		250		250
Base Capacity (vph)	2580	1775	256	2421	628	691	721
Starvation Cap Reductn	839	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.10	0.44	0.23	0.31	0.37	0.35

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 106: I-95 SB On-Ramp/I-95 SB Off-Ramp & Market Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	843	166	104	504	0	0	0	0	197	3	447
Future Volume (vph)	0	843	166	104	504	0	0	0	0	197	3	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	16	10	11	12	12	12	12	12	12	12
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	6.0
Lane Util. Factor		0.91	1.00	1.00	0.95					0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	0.86	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		4964	1775	1668	3455					1698	1473	1519
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		4964	1775	1668	3455					1698	1473	1519
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	916	180	113	548	0	0	0	0	214	3	486
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	191	208
Lane Group Flow (vph)	0	916	180	113	548	0	0	0	0	193	66	45
Confl. Peds. (#/hr)	7					7						
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Turn Type		NA	Free	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			Free									
Actuated Green, G (s)		52.0	100.0	12.1	70.1					17.9	17.9	17.9
Effective Green, g (s)		52.0	100.0	12.1	70.1					17.9	17.9	17.9
Actuated g/C Ratio		0.52	1.00	0.12	0.70					0.18	0.18	0.18
Clearance Time (s)		6.0		6.0	6.0					6.0	6.0	6.0
Vehicle Extension (s)		4.0		3.0	4.0					3.0	3.0	3.0
Lane Grp Cap (vph)		2581	1775	201	2421					303	263	271
v/s Ratio Prot		c0.18		c0.07	0.16					c0.11	0.04	0.03
v/s Ratio Perm			0.10									
v/c Ratio		0.35	0.10	0.56	0.23					0.64	0.25	0.17
Uniform Delay, d1		14.1	0.0	41.5	5.3					38.0	35.3	34.7
Progression Factor		0.86	1.00	1.48	0.54					1.00	1.00	1.00
Incremental Delay, d2		0.4	0.1	3.4	0.2					4.3	0.5	0.3
Delay (s)		12.6	0.1	64.9	3.1					42.4	35.8	35.0
Level of Service		B	A	E	A					D	D	D
Approach Delay (s)		10.5			13.6			0.0			37.3	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

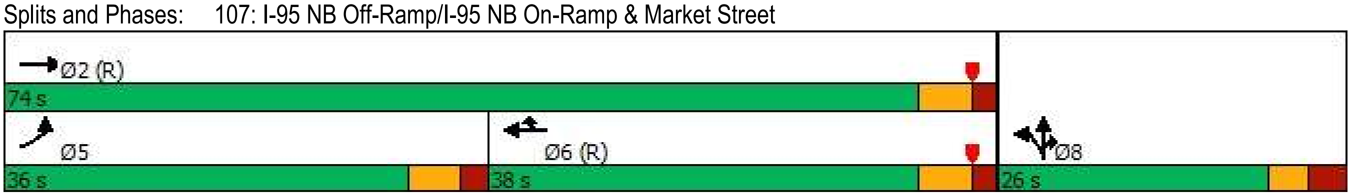
107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street
2037 Build Conditions Saturday Midday Conditions

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	443	597	545	151	5	231
Future Volume (vph)	443	597	545	151	5	231
Lane Group Flow (vph)	482	649	592	164	73	251
Turn Type	Prot	NA	NA	Prot	NA	Prot
Protected Phases	5	2	6	6	8	8
Permitted Phases						
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	4.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.0	14.0	27.0	27.0	26.0	26.0
Total Split (s)	36.0	74.0	38.0	38.0	26.0	26.0
Total Split (%)	36.0%	74.0%	38.0%	38.0%	26.0%	26.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.72	0.25	0.33	0.17	0.34	0.61
Control Delay	52.5	2.7	17.1	3.6	43.4	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	2.7	17.1	3.6	43.4	11.7
Queue Length 50th (ft)	170	22	109	0	44	0
Queue Length 95th (ft)	225	67	198	41	79	64
Internal Link Dist (ft)		349	924		883	
Turn Bay Length (ft)				200		150
Base Capacity (vph)	1005	2632	1795	991	359	520
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.25	0.33	0.17	0.20	0.48

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Red
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 107: I-95 NB Off-Ramp/I-95 NB On-Ramp & Market Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	443	597	0	0	545	151	63	5	231	0	0	0
Future Volume (vph)	443	597	0	0	545	151	63	5	231	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	12	16	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	0.97	0.95			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	3351	3455			3574	1812		1797	1599			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	3351	3455			3574	1812		1797	1599			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	482	649	0	0	592	164	68	5	251	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	82	0	0	221	0	0	0
Lane Group Flow (vph)	482	649	0	0	592	82	0	73	30	0	0	0
Confl. Peds. (#/hr)	7		1	1		7			1	1		
Confl. Bikes (#/hr)			1			5						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA			NA	Prot	Split	NA	Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	19.9	76.2			50.3	50.3		11.8	11.8			
Effective Green, g (s)	19.9	76.2			50.3	50.3		11.8	11.8			
Actuated g/C Ratio	0.20	0.76			0.50	0.50		0.12	0.12			
Clearance Time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	4.0			4.0	4.0		4.0	4.0			
Lane Grp Cap (vph)	666	2632			1797	911		212	188			
v/s Ratio Prot	c0.14	0.19			c0.17	0.05		c0.04	0.02			
v/s Ratio Perm												
v/c Ratio	0.72	0.25			0.33	0.09		0.34	0.16			
Uniform Delay, d1	37.5	3.5			14.8	12.9		40.5	39.6			
Progression Factor	1.25	0.62			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.7	0.2			0.5	0.2		1.3	0.5			
Delay (s)	50.5	2.4			15.3	13.1		41.9	40.2			
Level of Service	D	A			B	B		D	D			
Approach Delay (s)		22.9			14.8			40.6			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	27	9	41	21	3	15	52	23	3	64	7
Future Vol, veh/h	13	27	9	41	21	3	15	52	23	3	64	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	2	2	2	3	3	3	5	5	5
Mvmt Flow	14	29	10	45	23	3	16	56	25	3	70	8
Number of Lanes	0	1	1	0	1	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	8.1	8.7	8.1	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	33%	0%	63%	4%	0%
Vol Thru, %	0%	69%	68%	0%	32%	96%	0%
Vol Right, %	0%	31%	0%	100%	5%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	75	40	9	65	67	7
LT Vol	15	0	13	0	41	3	0
Through Vol	0	52	27	0	21	64	0
RT Vol	0	23	0	9	3	0	7
Lane Flow Rate	16	81	43	10	71	73	8
Geometry Grp	5	5	5	5	4b	5	5
Degree of Util (X)	0.024	0.106	0.063	0.012	0.101	0.102	0.009
Departure Headway (Hd)	5.451	4.734	5.222	4.357	5.139	5.019	4.294
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	659	760	688	824	699	717	836
Service Time	3.165	2.448	2.936	2.07	3.153	2.733	2.008
HCM Lane V/C Ratio	0.024	0.107	0.063	0.012	0.102	0.102	0.01
HCM Control Delay	8.3	8	8.3	7.1	8.7	8.3	7
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.2	0	0.3	0.3	0

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	0	0	50	0	0
Future Vol, veh/h	49	0	0	50	0	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	0	0	54	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	27	0	0	54	0
Stage 1	27	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	987	1048	-	-	1551	-
Stage 1	996	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	987	1048	-	-	1551	-
Mov Cap-2 Maneuver	987	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	987	1551	-
HCM Lane V/C Ratio	-	-	0.054	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	0	0	5
Future Vol, veh/h	0	0	6	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	7	0	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	15	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1004	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1000	1084
Mov Cap-2 Maneuver	-	-	-	-	1000	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

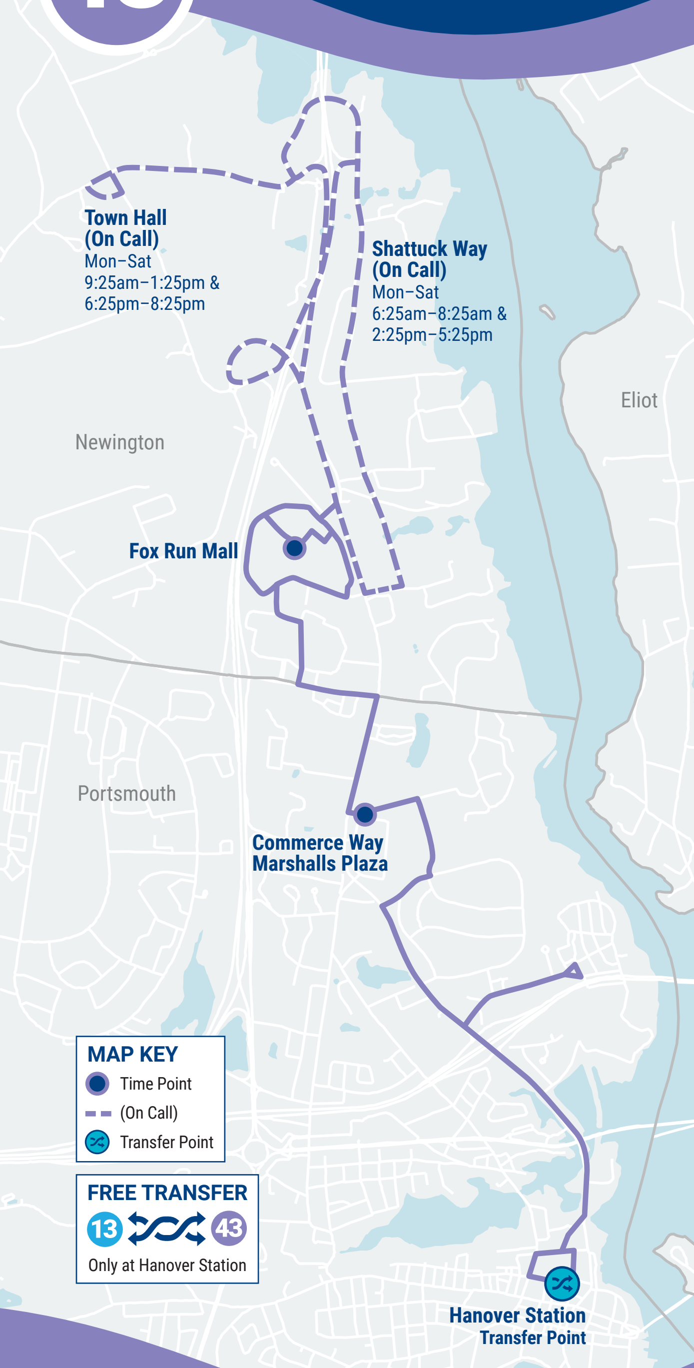
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.005	-	-	0.004	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

APPENDIX E

COAST Bus Schedule & Map

43 Route 43 Map

Portsmouth • Newington



Ride Information

COAST BUS FARES

Base Cash Fare **$1.50**

All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **$ 0.75**

Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes

Available at ***www.coastbus.org*** *or call 603-743-5777, TTY 711.*

Unlimited Monthly Pass **$ 52**

Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

COAST adheres to all Federal regulations regarding Civil Rights. If you need to request an ADA Reasonable Modification/ Accommodation, or if you believe you have been discriminated against or would like to file a complaint under the ADA or Title VI, please contact COAST's Civil Rights Officer at 603-516-0788, TTY 711 or email CivilRights@coastbus.org.

NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Martin Luther King Jr./ Civil Rights Day
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Eve Day
- Christmas Day

COAST

42 Sumner Drive • Dover, NH 03820
603-743-5777 • TTY 711 • **www.coastbus.org**

This brochure is available in alternative formats upon request.

Bus Schedule & Map 43

COAST

Effective 09.17.22

ROUTE 43

Portsmouth • Newington

Find all of the full COAST schedules online at **coastbus.org**

MAP OUT
YOUR GAME PLAN

Planning your trip has never been easier!

www.coastbus.org

COAST SYSTEM MAP

EXPRESS • INBOUND • OUTBOUND

Route 43 Portsmouth • Newington

How to Read the Schedule

Printed bus schedules only show the timepoints ● (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. For a full listing of bus stops, visit **www.coastbus.org**, or use the Passio GO! App.

The times shown represent the number of minutes after the hour that the bus will depart from that stop. Last stop times are arrivals. Any exceptions will be noted.

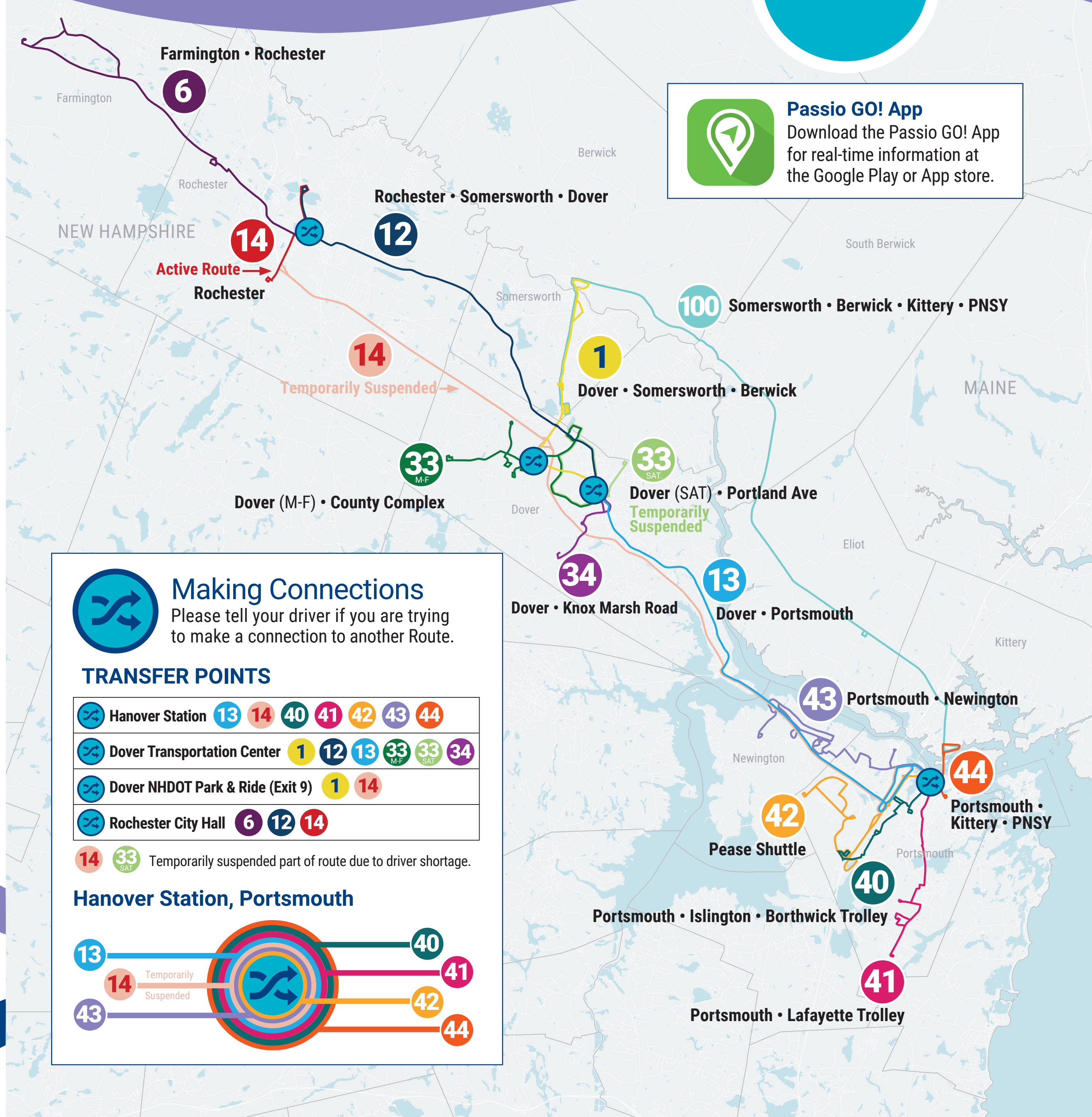
EXPRESS (M-Sat)	Single Run Only		
DOVER - NEWINGTON	First Bus	Minutes Past Hour	Last Bus
● Dover Transportation Center	6:30am	--	--
● Fox Run Mall	6:45am	--	--

INBOUND (M-Sat)	Service On Every Hour		
NEWINGTON - PORTSMOUTH	First Bus	Minutes Past Hour	Last Bus
● Fox Run Mall	6:30am	:30	8:30pm
● Commerce Way (Marshalls Plaza)	6:36am	:36	8:36pm
● Hanover Station	6:57am	:57	8:57pm

OUTBOUND (M-Sat)	Service On Every Hour		
PORTSMOUTH - NEWINGTON	First Bus	Minutes Past Hour	Last Bus
● Hanover Station	7:00am	:00	8:00pm
● Commerce Way (Marshalls Plaza)	7:09am	:09	8:09pm
● Fox Run Mall	7:22am	:22	8:22pm

MAP IT!

For a full listing of bus stops, visit **www.coastbus.org** or use the Passio GO! App.



Passio GO! App

Download the Passio GO! App for real-time information at the Google Play or App store.

Making Connections

Please tell your driver if you are trying to make a connection to another Route.

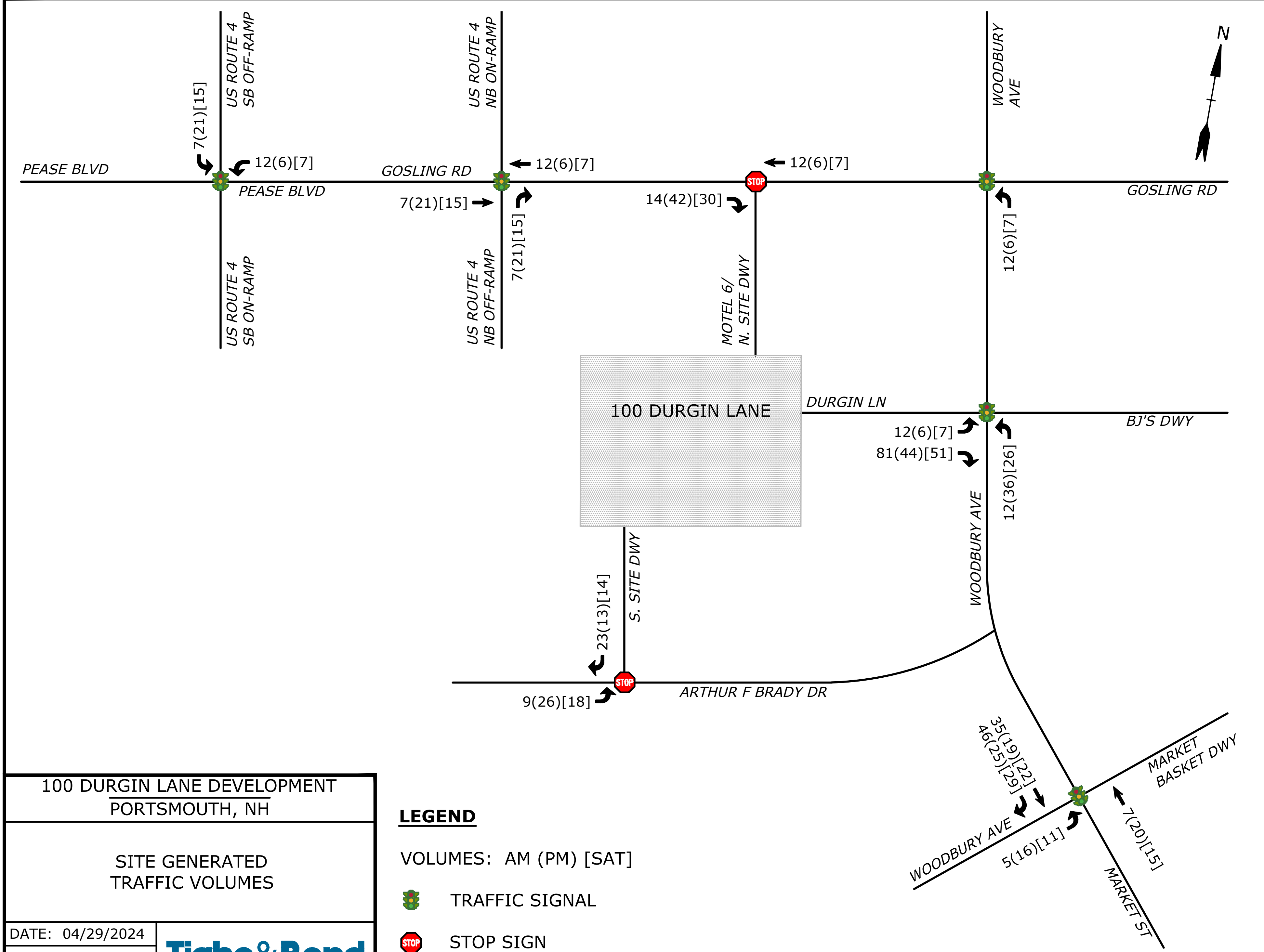
TRANSFER POINTS

Hanover Station	13 14 40 41 42 43 44
Dover Transportation Center	1 12 13 33 M-F 33 SAT 34
Dover NHDOT Park & Ride (Exit 9)	1 14
Rochester City Hall	6 12 14

14 33 SAT Temporarily suspended part of route due to driver shortage.

Hanover Station, Portsmouth

APPENDIX F
Background Development Traffic Volumes



LEGEND

VOLUMES: AM (PM) [SAT]

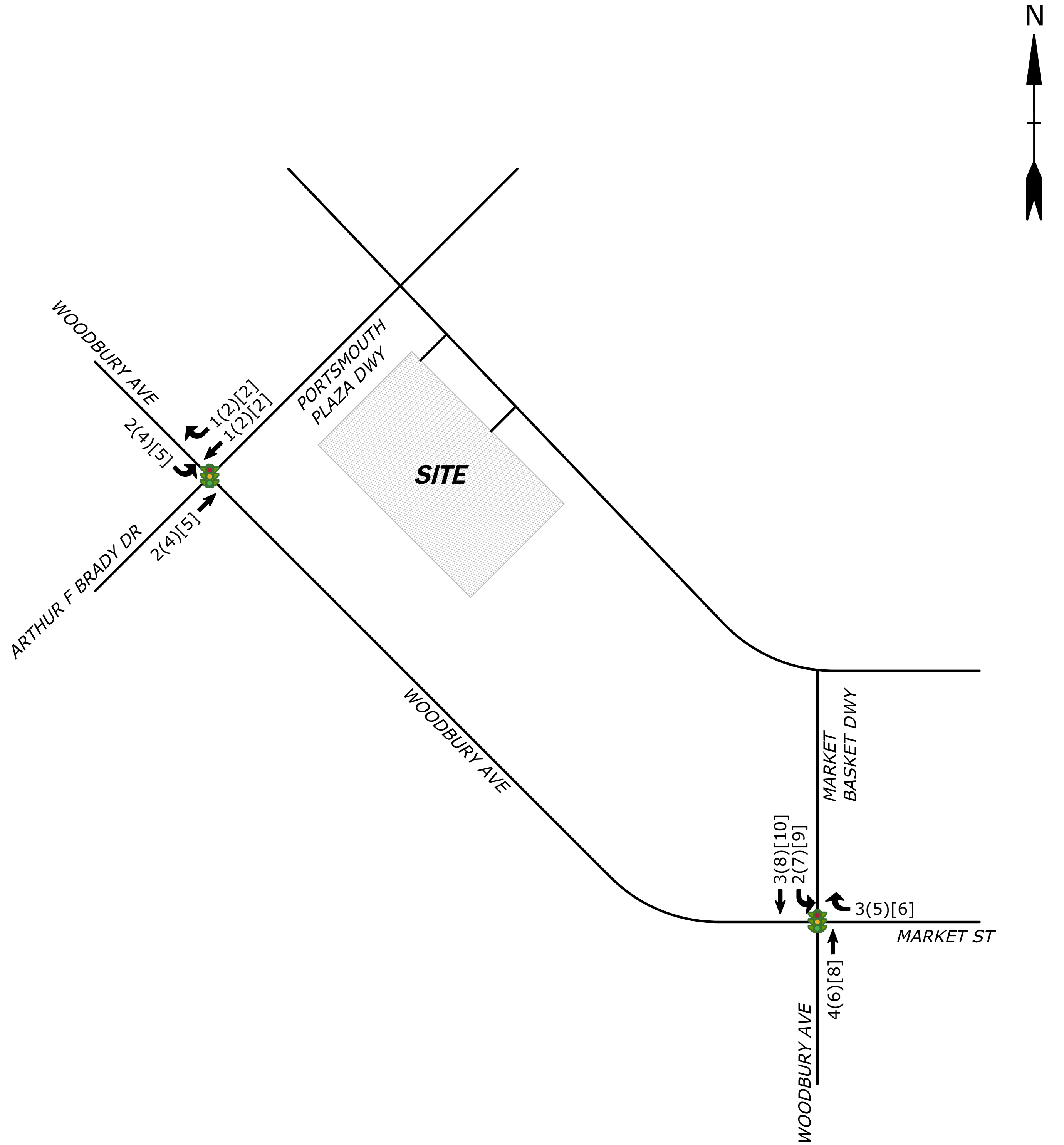
TRAFFIC SIGNAL

STOP SIGN

100 DURGIN LANE DEVELOPMENT
PORTSMOUTH, NH

SITE GENERATED
TRAFFIC VOLUMES

DATE: 04/29/2024
SCALE: NTS
FIGURE 6



LEGEND

VOLUMES: AM (PM) [SAT]

TRAFFIC SIGNAL

1465 WOODBURY AVENUE
PORTSMOUTH, NH

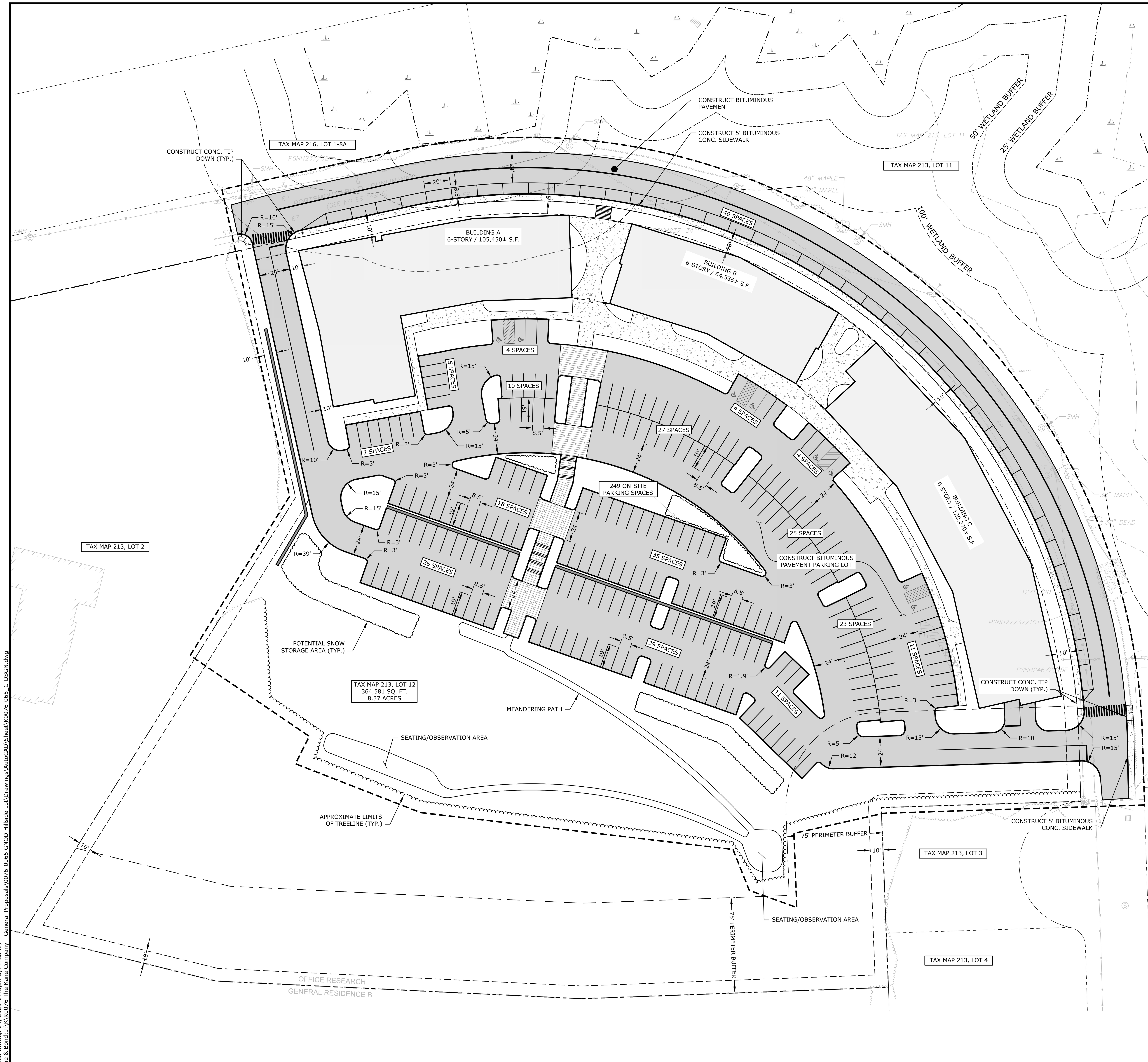
SITE GENERATED
TRAFFIC VOLUMES (NEW TRIPS)

DATE:	6/24/2025
SCALE:	NO SCALE
FIGURE:	6

Tighe&Bond

APPENDIX G

Site Development Plan



SITE DATA:

LOCATION: TAX MAP 118 LOT 28

OWNER: BRORA LLC
210 COMMERCE WAY
SUITE 300
PORTSMOUTH, NH 03801

ZONING DISTRICT: OFFICE RESEARCH (OR)
GATEWAY NEIGHBORHOOD OVERLAY DISTRICT (GNOD)

PROPOSED USE: MULTI-FAMILY RESIDENTIAL

EXISTING LOT SIZE: 364,581 SQ. FT. (8.37 ACRES)

DEVELOPMENT STANDARDS

BUILDING PLACEMENT:	REQUIRED	PROPOSED
MINIMUM FRONT YARD:	10 FT	10 FT
MINIMUM SIDE YARD:	10 FT	10 FT
MINIMUM REAR YARD:	10 FT	450 FT±
MINIMUM PERIMETER BUFFER:	75 FT	75 FT±

BUILDING AND LOT OCCUPATION:	REQUIRED	PROPOSED
MAXIMUM BUILDING COVERAGE:	75%	13%
MAXIMUM BUILDING FOOTPRINT:	NR	19,220 SQ FT
MAXIMUM BUILDING LENGTH:	400'	321 FT
MINIMUM SITE FRONTAGE:	300 FT	948 FT
MINIMUM SITE DEPTH:	100 FT	855 FT
MINIMUM OPEN SPACE:	10%	>10%

BUILDING FORM (PRINCIPAL BUILDING):	REQUIRED	PROPOSED
MAXIMUM DWELLINGS PER UNIT:	120 UNITS(1)	113(1)
MAXIMUM BUILDING HEIGHT:	6 STORIES(2)	6 STORIES(2)
	80 FT	<80 FT(2)

OFF-STREET PARKING REQUIREMENTS

PARKING SPACES REQUIRED:

DWELLING UNITS:		
RESIDENTIAL UNITS (LESS THAN 500 SQ FT)	45 UNITS X 0.5 SPACES	22.5 SPACES
RESIDENTIAL UNITS (500 - 750 SQ FT)	124 UNITS X 1 SPACE	124 SPACES
RESIDENTIAL UNITS (>750 SQ FT)	105 X UNITS X 1.3 SPACES	136.5 SPACES
VISITOR PARKING, 1.0 SPACE PER 5 UNITS	274 UNITS	54.8 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		337.8 SPACES
AFTER PUBLIC TRANSIT PROXIMITY REDUCTION (20%)		271 SPACES

PARKING SPACES	REQUIRED	PROPOSED
	271 SPACES	298 SPACES*

*INCLUDES 49 UNDERGROUND PARKING SPACES UNDER BUILDING C. DOES NOT INCLUDE 40 OFF-SITE SPACES.

ADA PARKING SPACES	REQUIRED	PROPOSED
	8 SPACES	8 SPACES
	(2 VAN SPACE)	(8 VAN SPACES)

PARKING SPACE DIMENSIONAL REQUIREMENTS:		
STANDARD 90° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
STANDARD 0° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	20 FT MIN	20 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT
0° (2-WAY TRAFFIC)	24 FT	24 FT

BICYCLE SPACES	REQUIRED	PROPOSED
1 BICYCLE SPACE / 5 DWELLING UNITS:	30 SPACES (MAX)	TBD

NOTES:
(1) - UP TO 120 DWELLING UNITS PER BUILDING SHALL BE ALLOWED WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.
(2) - MAXIMUM BUILDING HEIGHT FOR ANY APARTMENT BUILDING OR MIXED USE BUILDING SHALL BE 6-STORIES OR 80 FT WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.

SITE RECORDING NOTES:
1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

SEE SHEET C-101 FOR PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-DSGN.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-301

www.tighebond.com

100% Recyclable

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. <u>The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.</u>

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. <u>Waiver requests must be submitted in writing with appropriate justification</u>.

Name of Applicant: Brora, LLC Date Submitted: 9/22/2025

Application # (in City's online permitting): LU 25-114

Site Address: 150, 200, 250 Portsmouth Boulevard Map: 213 Lot: 12

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Enclosed	N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Enclosed	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Enclosed	
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Building Floor Plans	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Existing Conditions Plan, Site Plan C-300	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Enclosed	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Existing Conditions Plan	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☑	List of reference plans. **(2.5.3.1H)**	Existing Conditions Plans	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	General Notes Sheet C-101	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Existing Conditions Plans	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	Existing Conditions Plan	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	All plan sheets	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All plan sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	General Notes Sheet C-101	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Existing Conditions Plan Sheets	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Site Plan C-301 Building Floor Plans & Elevations	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Site Plan C-301	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Site Plan C-301 Landscape Plan L-101	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Utility Plan C-501	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Utility Plan C-501	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Utility Plan C-501	
☑	**8. Solid Waste Facilities: (2.5.4.3H)**		
	• The size, type and location of solid waste facilities.		
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Grading, Drainage, and Erosion Control Plans C-401	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Photometrics Plans	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Lighting Cut Sheets	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Landscape Plan L-101	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Grading, Drainage, and Erosion Control Plans C-401	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Site Plan C-301 Landscape Plan L-101	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Existing Conditions Plan Sheets	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	N/A	
☑	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Enclosed	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Grading and Drainage Plan Sheet C-401	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	Enclosed	
☑	Inspection and Maintenance Plan **(7.6.5)**	Enclosed	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Cover Sheet	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Enclosed	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	To be recieved	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Cover Sheet	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Site Plan Sheet C-301	N/A
☑	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Site Plan Sheet C-301	N/A

Applicant's Signature: ______________________ **Date:** 9/22/2025

City of Portsmouth, New Hampshire

Wetland Conditional Use Permit Application Checklist

This wetland conditional use permit application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Conservation Commission and Planning Board review. The checklist is required to be uploaded as part of your wetland conditional use permit application to ensure a full and complete application is submitted to the Planning and Sustainability Department and to the online portal. A pre-application conference with a member of the Planning and Sustainability Department is encouraged as additional project information may be required depending on the size and scope of the project. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all wetland conditional use permit requirements. Please refer to Article 10 of the City of Portsmouth Zoning Ordinance for full details.

Applicant Responsibilities: Applicable fees are due upon application submittal to the Planning Board (no fees are required for Conservation Commission submission). The application will be reviewed by Planning and Sustainability Department staff to determine completeness. Incomplete applications which do not provide required information for the evaluation of the proposed site development shall not be provided review by the Conservation Commission or Planning Board.

Name of Applicant: Brora, LLC Date Submitted: 9/22/2025

Application # (in City's online permitting): LU 25-114

Site Address: 150, 200, 250 Portsmouth Boulevard Map: 213 Lot: 12

☑	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)
✔	Complete application form submitted via the City's web-based permitting program	Enclosed
✔	All application documents, plans, supporting documentation, this checklist and other materials uploaded to the application form in OpenGov in digital **Portable Document Format (PDF)**. One hard copy of all plans and materials shall be submitted to the Planning and Sustainability Department by the published deadline.	Enclosed

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
✔	Basic property and wetland resource information. **(10.1017.21)**	Existing Conditions Plans
✔	Additional information required for projects proposing greater than 250 square feet of permanent or temporary impacts. **(10.1017.22)**	Cover Letter
✔	Demonstrate impacts as they relate to the criteria for approval set forth in Section 10.1017.50 (or Section 10.1017.60 in the case of utility installation in a right-of-way). **(10.1017.23)**	Cover Letter
✔	Balance impervious surface impacts with removal and/or wetland buffer enhancement plan. **(10.1017.24)**	Cover Letter, Wetland Buffer Impervious Surface Exhibit

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
✔	Wetland buffer enhancement plan. **(10.1017.25)**	Landscape Plan L-101
☐	Living shoreline strategy provided for tidal wetland and/or tidal buffer impacts. **(10.1017.26)**	N/A
✔	Stormwater management must be in accordance with Best Management Practices including but not limited to: *1. New Hampshire Stormwater Manual, NHDES, current version.* *2. Best Management Practices to Control Non-point Source Pollution: A Guide for Citizens and City Officials, NHDES, January 2004.* **(10.1018.10)**	Drainage Report Grading, Drainage, and Erosion Control Plan C-401
☐	Vegetated Buffer Strip slope of greater than or equal to 10%. **(10.1018.22)**	N/A
✔	Removal or cutting of vegetation, use of fertilizers, pesticides and herbicides. **(10.1018.23/10.1018.24/10.1018.25)**	General Notes C-101 #18 and #19
☐	All new pavement within a wetland buffer shall be porous pavement. **(10.1018.31)**	N/A
☐	An application that proposes porous pavement in a wetland buffer shall include a pavement maintenance plan. **(10.1018.32)**	N/A
☐	Permanent wetland boundary markers shall be shown on the plan submitted with an application for a conditional use permit and shall be installed during project construction. **(10.1018.40)**	TBD
☑	**Requested Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**
✔	A narrative/letter addressed to the Conservation Commission Chair (if recommended to Planning Board then an additional narrative addressed to the Planning Board Chair at that time) describing the project and any proposed wetland and/or wetland buffer impacts. Please visit the WCUP instruction page for further application instructions.	Cover Letter
☐	If New Hampshire Department of Environmental Services (NHDES) Standard Dredge and Fill Permit is required for this work, please provide this permit application at the same time as your submission for a Wetland Conditional Use Permit.	N/A

Applicant's Signature: ______________________ **Date:** 9/22/2025

Catalog # : ____________ Project : ____________ Type : ____________

Prepared By : ____________ Date : ____________

V-Locity Small (VALS)

Outdoor LED Area Light

OVERVIEW	
Lumen Package	6,000 - 27,000
Wattage Range	36 - 178
Efficacy Range (LPW)	142 - 171
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical units. Cast aluminum wiring access door located underneath.
- Self-contained optic, board and heat sink assembly can be rotated or replaced in the field.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: TBD lbs in carton.

Optical System

- State-of-the-Art acrylic optics delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary refractor optics provide exceptional coverage and uniformity in distribution types 2, 3M, 3W, 4M, 4W, 4F, FTM, 5QN, 5QM, 5Q, 5QW, AM, WF and LC/RC.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377 as well as phosphor converted amber.
- Minimum CRI of 80 (optional 70 CRI for 5000K and 4000K).
- Factory or field installable integral shielding available for enhanced spill light control.
- Zero Uplight (excludes adjustable arms).

Electrical

- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard, must specify EXT option for dimming leads to be extended to fixture exterior.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation

- REDiMount pole mount arm allows for a true one person installation.
- Side arm pole mount designed to mount to square or round poles.
- Pole mount arms can accommodate pole drill patterns from 2.4 to 5" on center and utilize LSI's reduced B3 or traditional B5 drill patterns.
- Additional mounting options are available including a mast arm or adjustable slip fitter that allow for luminaire attachment to a 2 3/8" tenon or mast arm.
- Adjustable arms allow for 65° of tilt (-5°below horizontal to +60° above horizontal) in 5° increments.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- DarkSky approved with 3000K or warmer color temperature selection (side arm pole and mast arm mounting only).
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.

V-Locity Small (VALS) Outdoor LED Area Light

Type : ________________

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: VALS 18L 4W UNV 40K8 BLK SA ALBMR2LR IS

Prefix	Lumen Package	Distribution	Orientation[2]	Voltage	Color Temp /Rendering	Finish
VALS - V-Locity Area Light Small	**6L** - 6,000 lms, 36W	**2** - Type 2	**(Blank)** - Standard	**UNV** - Universal Voltage (120-277V)	**50K7**- 5000 CCT - 70 CRI	**BLK -** Black
	9L - 9,000 lms, 54W	**3M** - Type 3 Medium	**L**- Optics rotated left 90º	**HV** - High Voltage (347-480V)	**50K8**- 5000 CCT - 80 CRI	**BRZ -** Dark Bronze
	12L - 12,000 lms, 74W	**3W** - Type 3 Wide	**R** - Optics rotated right 90º		**40K7** - 4000 CCT - 70 CRI	**GMG -** Gun Metal Gray
	15L - 15,000 lms, 91W	**4M**- Type 4 Medium			**40K8**- 4000 CCT - 80 CRI	**GPT -** Graphite
	18L - 18,000 lms, 111W	**4F** - Type 4 Forward			**35K8**- 3500 CCT - 80 CRI	**MSV -** Metallic Silver
	21L - 21,000 lms, 130W	**4W** - Type 4 Wide			**30K8** - 3000 CCT - 80 CRI	**PLP -** Platinum Plus
	24L - 24,000 lms, 155W	**FTM** - Forward Throw Medium			**27K8** - 2700 CCT - 80 CRI	**SVG -** Satin Verde Green
	27L - 27,000 lms, 178W	**5QN** - Type 5 Square Narrow			**AMB** - Phosphor Converted Amber	**WHT -** White
	Custom Lumen Packages[1]	**5QM** - Type 5 Square Medium				
		5Q - Type 5 Square				
		5QW - Type 5 Square Wide				
		AM- Automotive Merchandise				
		WF - 6x6 Wide Flood				
		LC - Left Corner				
		RC - Right Corner				

Mounting	Controls (Choose One)		Options
SA - Universal Side Arm Pole Mount **SF** - Adjustable Slip Fitter **UA**- Universal Adjustable Pole Mount Arm **MA** - Mast Arm	**(Blank)** - None **Wireless Controls System** **ALSC** - AirLink Synapse Control System **ALSCS2** - AirLink Synapse Control System with 12-20' MH Motion Sensor **ALSCS4 -** AirLink Synapse Control System with 20-40' MH Motion Sensor **ALBMR1LR** - AirLink Blue Long Range Wireless Multi-Range Sensor Controller (8-15' MH)[4] **ALBMR2LR** - AirLink Blue Long Range Wireless Multi-Range Sensor Controller (16-40' MH)[4]	**Stand-Alone Controls** **EXT** - 0-10v Dimming leads extended to housing exterior **CR7P** - 7 Pin Control Receptacle ANSI C136.41[3] **IMSBTL1** - Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[4] **IMSBTL2** - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[4] **PCIU** - 120-277 Button Photocell **PCI347** - 347V Button Photocell	**IS -** Integral Shield[2] **TE** - Tooless Entry (Mast Arm Only)

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

Accessory Ordering Information[5]

CONTROLS ACCESSORIES	
Description	**Order Number**
Twist Lock Photocell (120V) for use with CR7P	122514
Twist Lock Photocell (208-277) for use with CR7P	122515
Twist Lock Photocell (347V) for use with CR7P	122516
Twist Lock Photocell (480V) for use with CR7P	1225180
AirLink 5 Pin Twist Lock Controller	661409
AirLink 7 Pin Twist Lock Controller	661410
Shorting Cap for use with CR7P	149328

FUSING OPTIONS[7]	
Description	**Order Number**
Single Fusing (120V)	See Fusing Accessory Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS	
Description	**Order Number**
1.5" External Shield	See Shielding Guide
3" External Shield	

1. Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
2. Not available on Type 5 or wide flood distributions.
3. Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
4. Motion sensors are field configurable via the LSI app that can be downloaded from your smartphone's native app store.
5. Accessories are shipped separately and field installed.
6. "CLR" denotes finish. See Finish options.
7 Fusing must be located in hand hole of pole. See Fusing Accessory Guide for compatability.

V-Locity Small (VALS) Outdoor LED Area Light

Type : ____________

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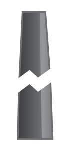
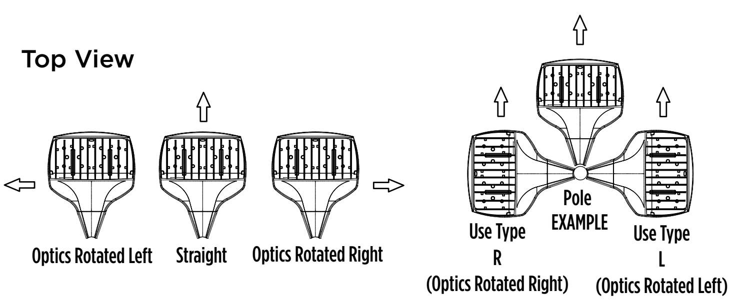
ACCESSORIES

MOUNTING ACCESSORIES		
Side Arm	**Bullhorn Bracket** Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 adjustable slip fitter mount luminaires **Part Number: BKS PTB 2 CLR / BKS PTB 12 CLR (2 Luminaires)** **Part Number: BKS PTB 3-30 CLR / BKS PTB 13-30 CLR (3 Luminaires)** **Part Number: BKS PTB 4 CLR / BKS PTB 14 CLR (4 Luminaires)**	
Side Arm	**Flood Wall Mount Bracket** Mounts onto vertical wall surface (hardware/anchors not included) **Part Number: BKS FMW 5 CLR (5" Straight Version)** **Part Number: BKS FMW 18 CLR (18" Curved Version)**	
Side Arm	**Bolt on Side Tenon Mount** Bolt on Side Tenon Mount **Part Number: BKSFBO 5 CLR (5" Straight Version)** **Part Number: BKSFBO 18 CLR (18" Curved Version)** **Part Number: BKSFBO 30 CLR (30" Dual Tenon Version)**	
Tenon / Slipfitter	**Square Tenon Top** Allows to seamlessly integrate LSI luminaires to open top 4", 5" or 6" square poles with 11 ga. Or 7 ga. wall thickness **Part Number: BKA ISF10 _SQ CLR**	
Tenon / Slipfitter	**Square Tenon Top** Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 luminaires **Part Number: BKA XNM ***	
Tenon / Slipfitter	**Square Internal Slipfitter** Mounts inside 4" or 5" square pole and allows for mounting up to 4 lumianires **Part Number: BKA X_ISF * CLR**	
Wall Mount/ Wood Pole	**Wall Mount Bracket** Mounts onto vertical wall surface (hardware/anchors not included) **Part Number: BKS XBO WM CLR**	
Wall Mount/ Wood Pole	**Wood Pole Bracket** Mounts onto wooden poles (6" minimum OD, hardware/anchors not inlcuded) **Part Number: BKS XBO WP CLR**	

SHIELDING, POLES & MISC. ACCESSORIES		
Shielding	**Integral Shield for Asymmetric Distributions** Field Install Integral shield provides maximum backlight control by shiedling each individual row of LEDS with minimal impact on Streett/front side distribution **Part Number: TBD**	
Shielding	**Integral Shield for Left and Right Corner Distributions** Field install integral shield provides cutoff from two sides for maximum spill light control when utilizing LC or RC corner distributions **Part Number: TBD**	
Shielding	**External Shield** External shield blocks view of light source from anyside of luminaire, additional shielding configurations available **Part Number: TBD (1.5") / TBD (3")**	
Poles	**Square Poles** 14 - 39' steel and aluminum poles in 4", 5" and 6" sizes for retrofit and new construction **Part Number: 4SQ/5SQ/6SQ**	
Poles	**Round Poles** 10 - 30' steel and aluminum poles in 4" and 5" sizes for retrofit and new construction **Part Number: 4RP/5RP**	
Poles	**Tapered Poles** 20' - 39' steel and aluminum poles for retrofit and new construction **Part Number: RTP**	
Misc.	**Bird Spikes** 10' linear bird spike (3' recommended per luminaire) silcone adhesive (covers approximately 25' linear fee of bird spike) and application tool **Spike Part Number: 751631** **Adhesive Part Number: 751632** **Caulk Gun Part Number: 751636**	

1 Replace CLR with paint finish description
2 Repleace XX with SQ for square pole or RD for round pole (≥3" OD)
3 Replace * with S (Single), D180 (Double @180°), D90 (Double @90°), T90 (Triple), Q90 (Quad)
4 Replace _ with 4 (4" square pole) or 5 (5" square pole)

OPTICS ROTATION

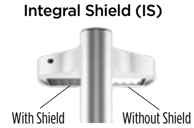


ACCESSORIES/OPTIONS

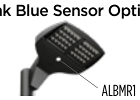
Integral Shield (IS)

Integral Shield (IS) available for improved backlight control without sacrificing Streett side performance. LSI's Integral Shield (IS) option delivers backlight control that significantly reduces spill light behind the pole for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Shields rotate with the optical distribution.

Integral Shield (IS)



Luminaire Shown with AirLink Blue Sensor Option



7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with CR7P

V-Locity Small (VALS) Outdoor LED Area Light

Type : ____________

Have questions? Call us at (800) 436-7800

PHOTOMETRICS

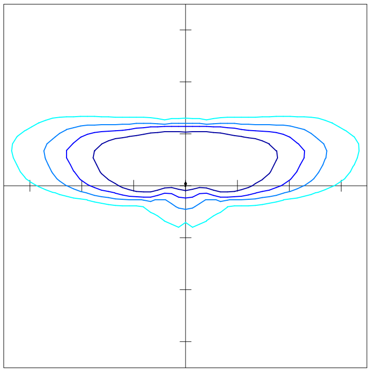
Back to Quick Links

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

VALS 18L 2 40K8

V-LOCITY Area Small, 18,000lm, Type 2 Distribution



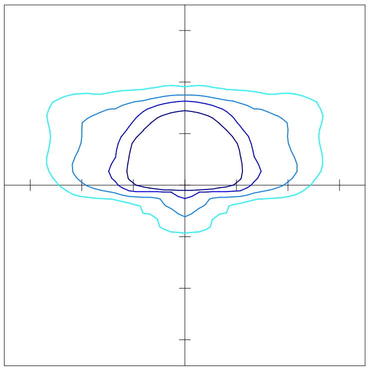
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	II Medium
BUG Rating	B2-U0-G4
Street Side Lumen %	88.9%
House Side Lumen %	11.1%
Uplight %	0.0%

VALS 18L 3M 40K8

V-LOCITY Area Small, 18,000lm, Type 3 Medium Distribution



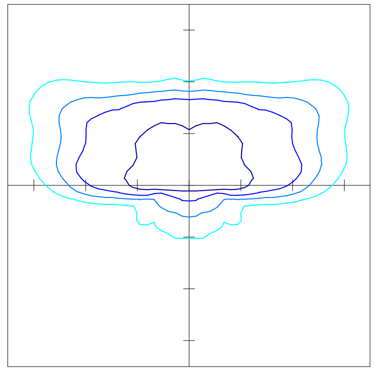
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B2-U0-G3
Street Side Lumen %	90.1%
House Side Lumen %	9.9%
Uplight %	0.0%

VALS 18L 3W 40K8

V-LOCITY Area Small, 18,000lm, Type 3 Wide Distribution



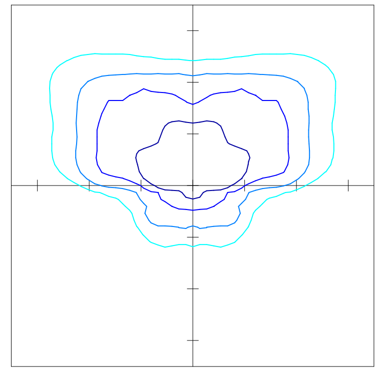
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Medium
BUG Rating	B2-U0-G4
Street Side Lumen %	86.1%
House Side Lumen %	13.9%
Uplight %	0.0%

VALS 18L 4W 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Wide Distribution



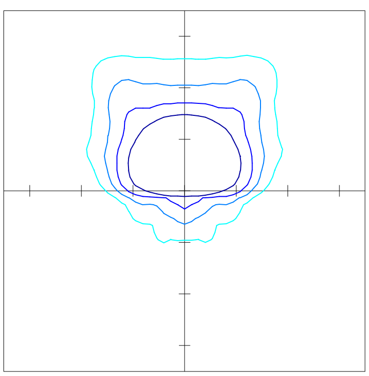
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Medium
BUG Rating	B2-U0-G5
Street Side Lumen %	86.3%
House Side Lumen %	13.7%
Uplight %	0.0%

VALS 18L 4M 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Medium Distribution



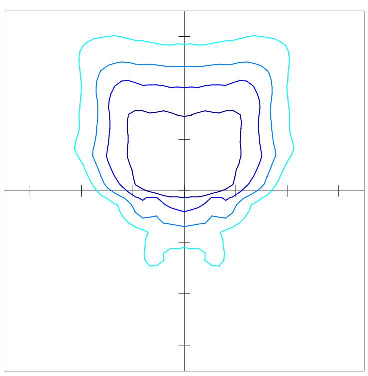
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Very Short
BUG Rating	B1-U0-G3
Street Side Lumen %	91.0%
House Side Lumen %	9.0%
Uplight %	0.0%

VALS 18L 4F 40K8

V-LOCITY Area Small, 18,000lm, Type 4 Forward Distribution



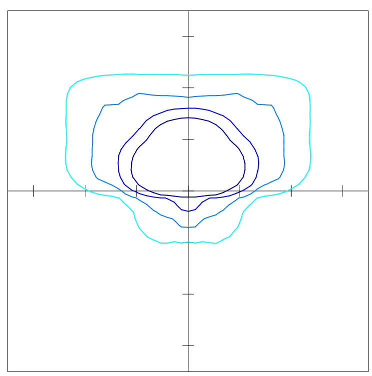
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	IV Short
BUG Rating	B2-U0-G4
Street Side Lumen %	87.9%
House Side Lumen %	12.1%
Uplight %	0.0%

VALS 18L FTM 40K8

V-LOCITY Area Small, 18,000lm, Forward Throw Medium Distribution



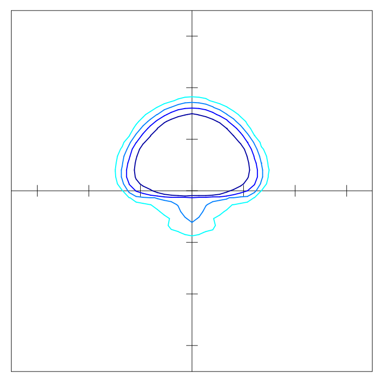
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B1-U0-G2
Street Side Lumen %	90.2%
House Side Lumen %	9.8%
Uplight %	0.0%

VALS 18L AM 40K8

V-LOCITY Area Small, 18,000lm, Automotive Merchandise Distribution



20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	III Very Short
BUG Rating	B1-U0-G2
Street Side Lumen %	94.1%
House Side Lumen %	5.9%
Uplight %	0.0%

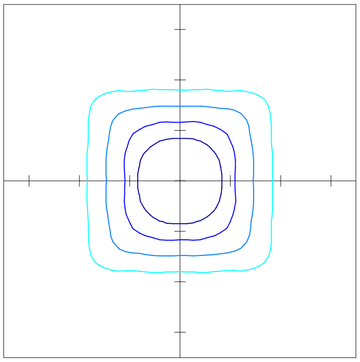
PHOTOMETRICS (CONTINUED)

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

VALS 18L 5QN 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Narrow Distribution



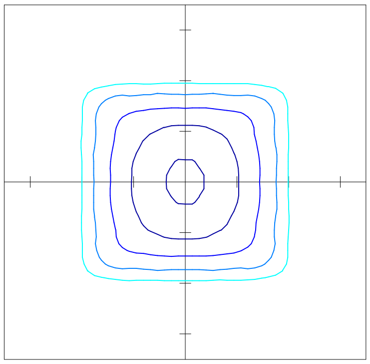
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Very Short
BUG Rating	B3-U0-G2
0 - 60° Zonal Lumens	73.8%
60 - 90° Zonal Lumens	26.2%
Uplight %	0.0%

VALS 18L 5QM 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Medium Distribution



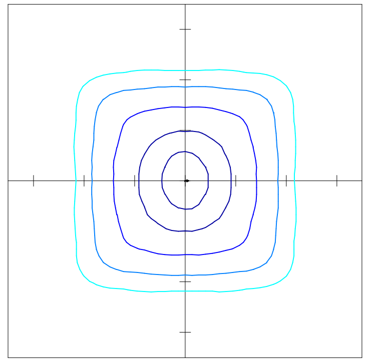
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Short
BUG Rating	B4-U0-G2
0 - 60° Zonal Lumens	51.0%
60 - 90° Zonal Lumens	49.0%
Uplight %	0.0%

VALS 18L 5Q 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Distribution



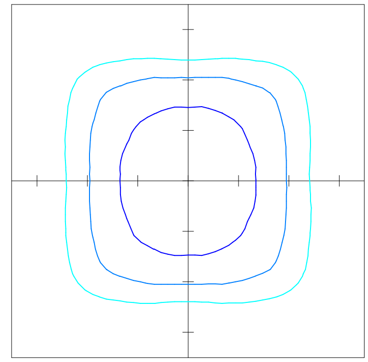
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Medium
BUG Rating	B5-U0-G3
0 - 60° Zonal Lumens	41.8%
60 - 90° Zonal Lumens	58.2%
Uplight %	0.0%

VALS 18L 5QW 40K8

V-LOCITY Area Small, 18,000lm, Type 5 Square Wide Distribution



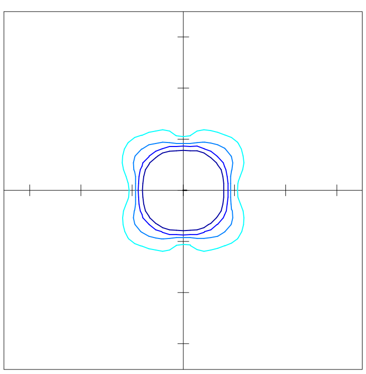
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	VS Medium
BUG Rating	B5-U0-G3
0 - 60° Zonal Lumens	33.7%
60 - 90° Zonal Lumens	66.3%
Uplight %	0.0%

VALS 18L WF 40K8

V-LOCITY Area Small, 18,000lm, Wide Flood Distribution



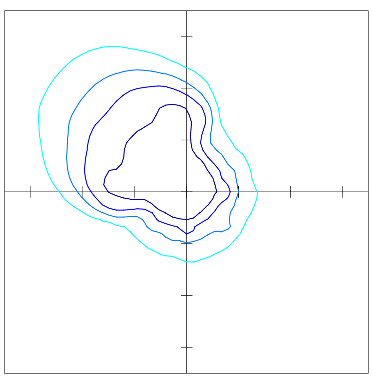
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

NEMA Type	6x6
Max Candela	9,352
Max Candela Angle	-19.5H x -29V
Beam Angle	80.7 x 90.0°
Field Angle	109.9 x 117.7°

VALS 18L LC 40K8

V-LOCITY Area Small, 18,000lm, Left Corner Distribution



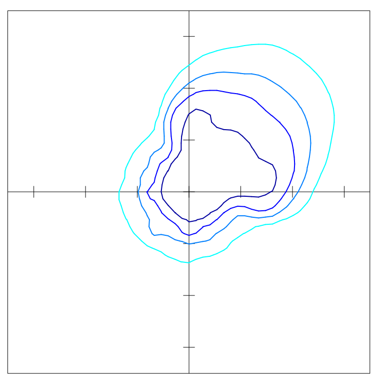
20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	N/A
BUG Rating	B3-U0-G4
Street Side Lumen %	74.3%
House Side Lumen %	25.7%
Uplight %	0.0%

VALS 18L RC 40K8

V-LOCITY Area Small, 18,000lm, Right Corner Distribution



20' Mounting Height / 30' Grid Spacing

2 FC 1 FC 0.5 FC 0.2 FC

IES Type	N/A
BUG Rating	B3-U0-G4
Street Side Lumen %	74.3%
House Side Lumen %	25.7%
Uplight %	0.0%

PRODUCT DIMENSIONS

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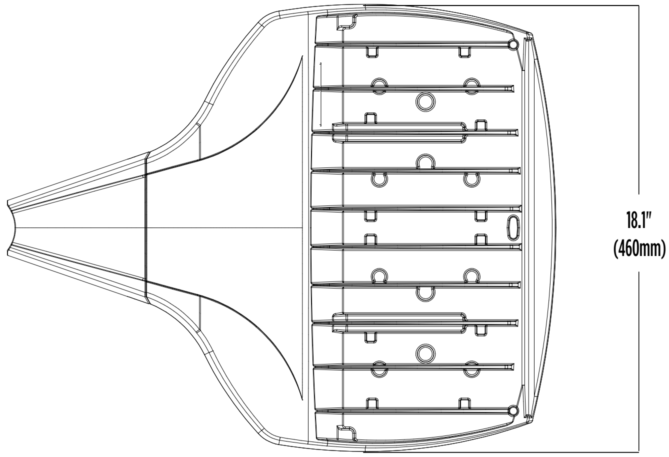


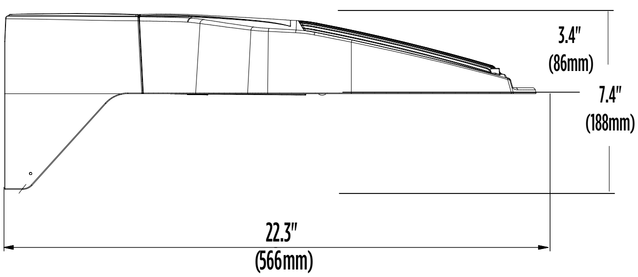
Luminaire EPA Chart - SA Side Arm		
Tilt Degree		0°
	Single	0.7
	D180°	1.3
	D90°	1.0
	T90°	1.4
	TN120°	1.5
	Q90°	1.4

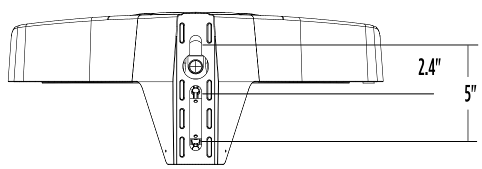
Luminaire EPA Chart - UA Universal Adjustable Arm						
Tilt Degree		0°	15°	30°	45°	60°
	Single	0.8	0.8	1.3	1.8	2.1
	D180°	1.5	1.9	2.5	3.2	3.8
	D90°	1.5	1.9	2.5	3.2	3.8
	T90°	1.8	2.1	2.7	3.2	3.8
	TN120°	1.8	2.3	3.4	4.3	5.0
	Q90°	1.8	2.1	2.7	3.2	3.8

Luminaire EPA Chart - MA Mast Arm		
Tilt Degree		0°
	Single	0.5

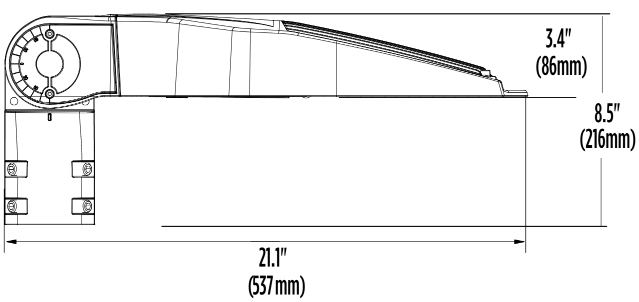
Luminaire EPA Chart - SF Adjustable Slip Fitter						
Tilt Degree		0°	15°	30°	45°	60°
	Single	0.7	1.3	1.4	1.8	2.2

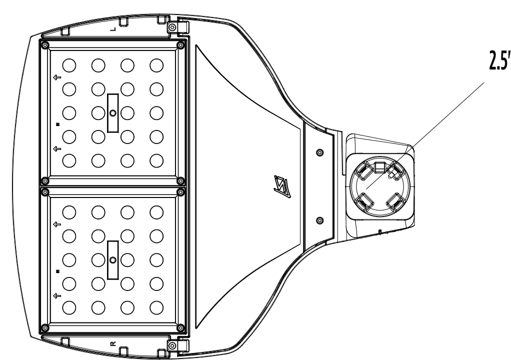
SA Universal Side Arm Mount



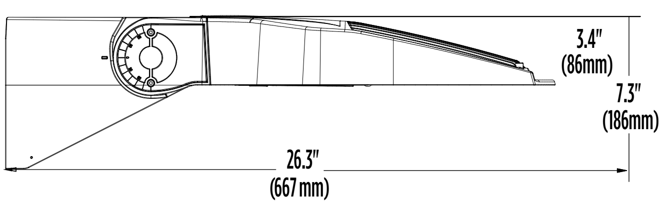


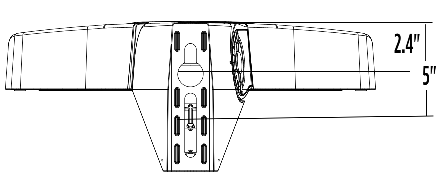
SF Adjustable Slipfitter



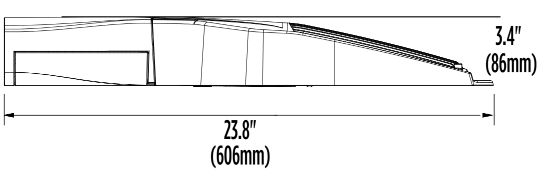


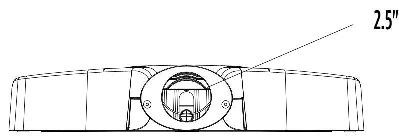
UA Universal Adjustable Arm





MA Mast Arm





CONTROLS

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Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App Apple Android

AirLink Blue (ALBMRxLR, ALBCSx)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
OMSBTxL/IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High
OMS	Motion	No Motion	N/A	N/A	N/A	30 seconds	Auto

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

Catalog # : ____ Project : ____

Prepared By : ____ Date : ____

Steel Poles

Square Straight

MANUFACTURED IN THE USA

QUICK LINKS

Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft

- Straight poles are 4”, 5”, or 6” square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8” O.D. high-strength pipe. Tenon is 4-3/4” in length.

Hand-Hole

- Standard hand-hole location is 12” above pole base.
- Poles 22’ and above have a 3” x 6” reinforced hand-hole. Shorter poles have a 2” x 4” non-reinforced hand-hole.

Base

- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts

- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug

- Ground lug is standard.

Duplex Receptacle

- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter

- Self-testing Ground fault circuit interrupter is optional.

Finishes

- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty:
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Determining The Luminaire/Pole Combination For Your Application:

- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper

- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings

- UL Listed
- BAA/TAA Compliant

Steel Poles - Square Straight

Type: ____________

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: 4SQ B3 S11G 24 S PLP DGP

Pole Series	Mounting Method	Material	Height [2]	Mounting Configuration	Pole Finish	Options
4SQ - 4" x 4" Square Straight Pole (New Build) **5SQ** - 5" x 5" Square Straight Pole (New Build) **6SQ** - 6" x 6" Square Straight Pole (New Build) **4SQU** - 4" x 4" Square Straight Pole (Retrofit) **5SQU** - 5" x 5" Square Straight Pole (Retrofit) **6SQU** - 6" x 6" Square Straight Pole (Retrofit)	**Bolt-On Mount**[1] - See pole selection guide for patterns and fixture matches **B5** - 5" Traditional Drilling Pattern **B3** - 3" Reduced Drilling Pattern **B2** - 2" Reduced Drilling Pattern **T** - Tenon Mount - See pole selection guide for tenon and fixture/bracket matches **I** - No Mounting Holes[1] - Use with: BKA-IFM4 - Flush Mount Adapter[7] Greenlee Lifestyle CH Mounting Style Enterprise, Lexington, Constitution PT Single Mounting[2]	**S11G** – 11 Ga. Steel (4SQ/4SQU and 5SQ/5SQU Only) **S07G** – 07 Ga. Steel	**8'** **10'** **12'** **13'** **14'** **15'** **16'** **17'** **17'6"** **18'** **20'** **22'** **22'6"** **23'** **24'** **25'** **26'** **27'** **28'** **30'** **32'** **35'** **39'**	**S** – Single/Parallel **D180** – Double **D90** – Double **DN90** – Double **T90** – Triple **TN120** – Triple **Q90** – Quad **QN90** – Quad **N** – Tenon Mount (Standard Tenon size is 2-3/8" O.D.)[8]	**BRZ** – Bronze **BLK** – Black **PLP** – Platinum Plus **WHT** – White **SVG** – Satin Verde Green **GPT** – Graphite **MSV** – Metallic Silver **BZA** – Alternate Bronze	**GA** – Galvanized Anchor Bolts **SF** – Single Flood[3] **DF** – Double Flood[3] **DGP** – DuraGrip® Plus **LAB** – Less Anchor Bolts **CRXX** - Conduit Raceway[4]

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

Accessory Ordering Information

DESCRIPTION	PART NUMBER
4BC – 4" Square Base Cover	122559CLR
5BC – 5" Square Base Cover	122561CLR
6BC – 6" Square Base Cover	122563CLR
5BC - 5' Square Universal Base Cover	132488CLR
6BC - 6' Square Universal Base Cover	131252CLR
ER2 – Weatherproof Duplex Receptacle	122566CLR
GFI – Ground Fault Circuit Interrupter	122567CLR
MH5 - mounting Hole Plugs for use with 5" traditional drill pattern (3 set of 3 plugs)	132336
MH3 - mounting Hole Plugs for use with 3" reduced drill pattern (3 set of 3 plugs)	681126
MH2 - Mounting Hole Plugs for use with 2" reduced drill pattern (3 sets of 3 plugs)	725841
Vibration Damper - 4" Square Pole (bolt-on mount only)	172539
Vibration Damper - 5" Square Pole (bolt-on mount only)	172538
Vibration Damper - 6" Square Pole (bolt-on mount only)	178361

FOOTNOTES:
1 - See Area Light Brackets - 3" Reduced Drill Pattern and Area Light Brackets - 5" Traditional Drill Pattern Spec Sheets.
2 - Pole heights will have +/- 1/2" tolerance.
3 - See Flood Lighting Brackets section for choice of FBO brackets.
4 - CR selection must indicate required height and side of pole mounting location. Mounting template required at time of order.

Steel Poles - Square Straight

Type: ____________

Have questions? Call us at (800) 436-7800

DRILLING LOCATIONS

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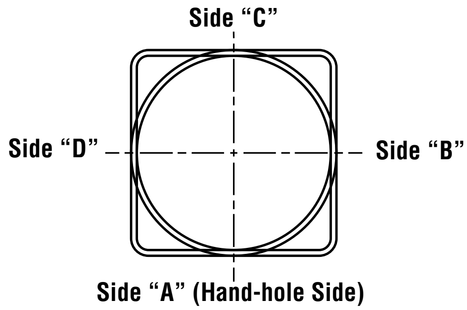
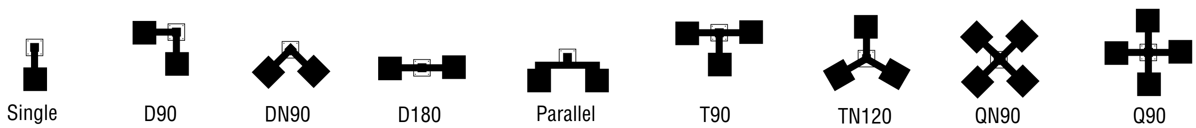
Sides	A	B	C	D
Hand-hole	X			
Single	X			
D180		X		X
D90	X			X
DN90[1]				
T90	X	X		X
TN120[2]				
Q90	X	X	X	X
QN90[3]				
Single FBO	X			
Double FBO		X		X



NOTES:
1 - Two locations will be 45° to the left and right of Side A.
2 - Other two locations will be 120° to the left and right of Side A.
3 - Two locations will be 45° to the left and right of Side A and two locations will be 135° to the left and right of Side A.

Consult factory for custom variations. Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, except on 20' poles. Maximum height for SF and DF pole preparations on 20' poles is 13' from the base.

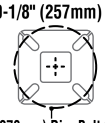
FIXTURE CONFIGURATIONS



BOLT CIRCLE

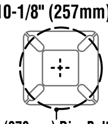
STANDARD BASEPLATE

4" (102mm) square
10-1/8" (257mm) sq.



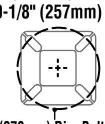
11" (279mm) Dia. Bolt Circle

5" (127mm) square
10-1/8" (257mm) sq.



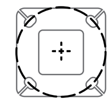
11" (279mm) Dia. Bolt Circle

5" (127mm) square
10-1/8" (257mm) sq.



11" (279mm) Dia. Bolt Circle

6" (152mm) square
12" (305mm) sq.



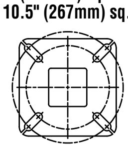
12" (305mm) Dia. Bolt Circle

Bolt Circle Designator	B	C	D	J
Bolt Circle	Slotted 8"-11" (203mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 12" (305mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762mm)	3/4" x 30" (19mm x 762mm)	1" x 36" (25mm x 914mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83mm)	3-1/4" (83mm)	4" (102mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	4-5/8" (117mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 1" thk. (257mm x 25mm)	12" sq. x 1-1/8" thk. (305mm x 29mm)
Pole Gauge	11	11	7	7

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

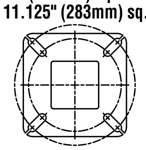
UNIVERSAL BASEPLATE

4" (102mm) square
10.5" (267mm) sq.



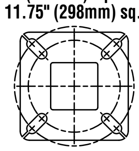
4SQ

5" (127mm) square
11.125" (283mm) sq.



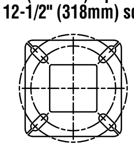
5SQ

5" (127mm) square
11.75" (298mm) sq.



5SQ

6" (152mm) square
12-1/2" (318mm) sq.



14" (356mm) Dia. Bolt Circle

Bolt Circle Designator	E	F	G	H
Bolt Circle	Slotted 9"-12"	Slotted 10-13"	Slotted 10-13"	Slotted 11"-14" (279mm-356mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762 mm)	3/4x 30" (25mm x 914 mm)	1x 36" (25mm x 914 mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83 mm)	3-1/4" (83 mm)	4" (102 mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	5-1/8" (130 mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/2" sq. x 3/4" thk. (267 mm x 19 mm)	11-1/8 sq. x 3/4" thk. (283 mm x 19 mm)	11-3/4" sq. x 1" thk. (298 mm x 25 mm)	12 1/2" sq. x 1 1/8" thk. (318mm x 29mm)
Pole Gauge	11	11	7	7

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the appropriate anchor bolt template.

Steel Poles - Square Straight

Type: ____________________

Have questions? Call us at (800) 436-7800

PRODUCT DIMENSIONS

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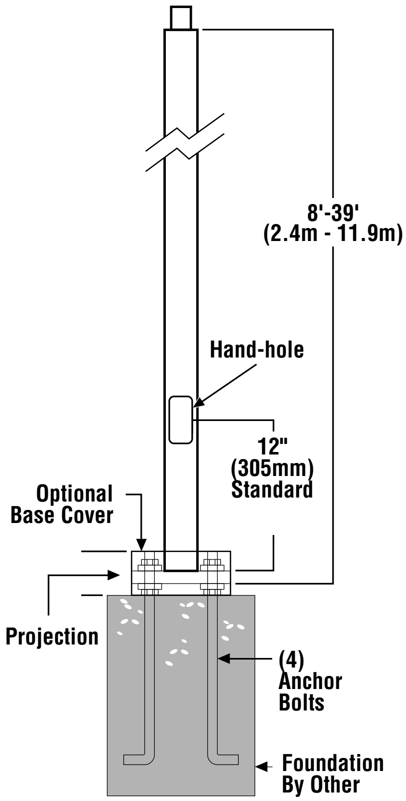
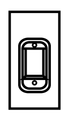
SQT –
N= 2-3/8" (60mm) O.D. x 4-3/4" (121mm) Tenon

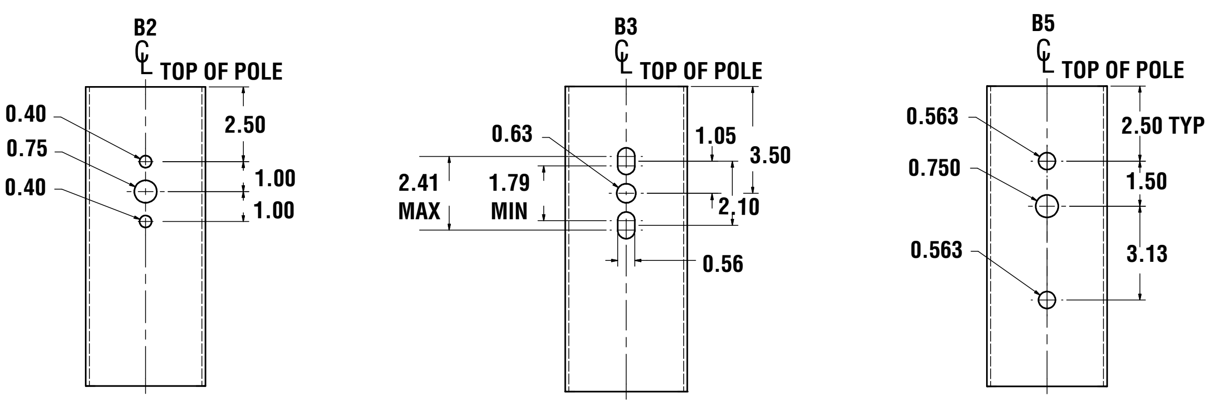


SF –
Single Flood
Pole Preparation



SHIPPING WEIGHTS	
4”(102mm) sq. 11 Ga. is approximately	7.50 lbs./ft.
4”(102mm) sq. 07 Ga. is approximately	10.00 lbs./ft.
5”(127mm) sq. 11 Ga. is approximately	9.00 lbs./ft.
5”(127mm) sq. 07 Ga. is approximately	12.50 lbs./ft.
6”(152mm) sq. 07 Ga. is approximately	15.40 lbs./ft.
Anchor Bolts (3/4” x 30”)(19mm x 762mm)	15 lbs. (7kg)/set
Anchor Bolts (1” x 36”)(25mm x 914mm)	30 lbs. (14kg)/set

Bolt-On Mount 2-Bolt Pattern



WIND SPEED

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EPA Information

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.

CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

NOTE: Pole calculations include a 1.3 gust factor over steady wind velocity. Example: poles designed to withstand 80 MPH steady wind will withstand gusts to 104 MPH. EPAs are for locations 100 miles away from hurricane ocean lines. Consult LSI for other areas. Note: Hurricane ocean lines are the Atlantic and Gulf of Mexico coastal areas. For applications in Florida or Canada, consult factory.

Use ONLY with "Wind Speed Map for ASCE 7-10

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
4" x 11-ga x 12'	12	11	B	8" - 11"	0.75	13.9	12.5	11.3	9.2	7.6	6.3	5.2	4.3	3.6
4" x 11-ga x 14'	14	11	B	8" - 11"	0.75	10.7	9.5	8.5	6.8	5.4	4.4	3.5	2.7	2.1
4" x 11-ga x 16'	16	11	B	8" - 11"	0.75	8.2	7.2	6.4	4.9	3.8	2.9	2.1	1.5	1.0
4" x 11-ga x 18'	18	11	B	8" - 11"	0.75	6.3	5.4	4.7	3.4	2.4	1.6	1.0	0.4	n/a
4" x 11-ga x 20'	20	11	B	8" - 11"	0.75	4.6	3.9	3.2	2.1	1.2	0.6	n/a	n/a	n/a
4" x 11-ga x 22'	22	11	B	8" - 11"	0.75	7.6	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 11-ga x 24'	24	11	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 11-ga x 26'	26	11	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 14'	14	7	B	8" - 11"	0.75	18.3	16.4	14.9	12.2	10.2	8.5	7.1	5.9	5.0
4" x 7-ga x 16'	16	7	B	8" - 11"	0.75	14.7	13.2	11.8	9.6	7.8	6.3	5.2	4.2	3.4
4" x 7-ga x 18'	18	7	B	8" - 11"	0.75	11.9	10.5	9.3	7.4	5.9	4.6	3.6	2.8	2.1
4" x 7-ga x 20'	20	7	B	8" - 11"	0.75	9.6	8.4	7.4	5.7	4.3	3.2	2.3	1.6	0.9
4" x 7-ga x 22'	22	7	B	8" - 11"	0.75	7.7	6.6	5.7	4.2	3.0	2.0	1.2	0.5	n/a
4" x 7-ga x 24'	24	7	B	8" - 11"	0.75	6.0	5.1	4.3	2.9	1.8	0.9	n/a	n/a	n/a
4" x 7-ga x 26'	26	7	B	8" - 11"	0.75	4.6	3.7	3.0	1.7	0.7	n/a	n/a	n/a	n/a
4" x 7-ga x 28'[2]	28	7	B	8" - 11"	0.75	3.3	2.5	1.8	0.7	n/a	n/a	n/a	n/a	n/a
4" x 7-ga x 30'[2]	30	7	B	8" - 11"	0.75	2.2	1.4	0.8	n/a	n/a	n/a	n/a	n/a	n/a
5" x 11-ga x 14'	14	11	C	9" - 11"	0.75	17.4	15.7	14.1	11.5	9.3	7.7	6.3	5.2	4.2
5" x 11-ga x 16'	16	11	C	9" - 11"	0.75	13.8	12.3	10.9	8.7	6.9	5.5	4.3	3.3	2.5
5" x 11-ga x 18'	18	11	C	9" - 11"	0.75	10.8	9.6	8.4	6.5	4.9	3.7	2.6	1.8	1.1
5" x 11-ga x 20'	20	11	C	9" - 11"	0.75	8.5	7.3	6.3	4.6	3.2	2.1	1.2	0.5	n/a
5" x 11-ga x 22'	22	11	C	9" - 11"	0.75	10.9	9.5	8.3	6.2	4.5	3.2	2.1	1.2	0.5
5" x 11-ga x 24'	24	11	C	9" - 11"	0.75	8.8	7.5	6.4	4.5	3.0	1.8	0.8	n/a	n/a
5" x 11-ga x 26'	26	11	C	9" - 11"	0.75	6.8	5.7	4.6	3.0	1.6	0.6	n/a	n/a	n/a
5" x 11-ga x 28'	28	11	C	9" - 11"	0.75	5.2	4.1	3.2	1.6	0.4	n/a	n/a	n/a	n/a
5" x 11-ga x 30'	30	11	C	9" - 11"	0.75	3.6	2.7	1.8	0.4	n/a	n/a	n/a	n/a	n/a
5" x 7-ga x 20'	20	7	D	9" - 11"	1.00	21.6	19.3	17.3	14.0	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 22'	22	7	D	9" - 11"	1.00	20.7	18.6	16.6	13.3	10.7	8.5	6.8	5.4	4.2
5" x 7-ga x 24'	24	7	D	9" - 11"	1.00	17.7	15.6	13.8	10.8	8.5	6.6	5.0	3.7	2.6
5" x 7-ga x 26'	26	7	D	9" - 11"	1.00	14.9	13.1	11.4	8.8	6.6	4.9	3.5	2.3	1.3
5" x 7-ga x 28'	28	7	D	9" - 11"	1.00	12.5	10.9	9.4	6.9	4.9	3.4	2.1	1.0	n/a
5" x 7-ga x 30'	30	7	D	9" - 11"	1.00	10.3	8.9	7.5	5.2	3.4	2.0	0.8	n/a	n/a
5" x 7-ga x 35'	35	7	D	9" - 11"	1.00	6.0	4.8	3.6	1.8	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 24'	24	7	J	12"	1.00	18.6	16.4	14.3	11.2	8.6	6.5	4.8	3.4	2.2
6" x 7-ga x 26'	26	7	J	12"	1.00	15.6	13.4	11.7	8.8	6.5	4.6	3.0	1.8	0.7
6" x 7-ga x 28'	28	7	J	12"	1.00	12.9	10.9	9.3	6.7	4.6	2.8	1.5	n/a	n/a
6" x 7-ga x 30'	30	7	J	12"	1.00	10.4	8.8	7.3	4.8	2.9	1.3	n/a	n/a	n/a
6" x 7-ga x 32'	32	7	J	12"	1.00	8.3	6.8	5.5	3.1	1.3	n/a	n/a	n/a	n/a
6" x 7-ga x 34'	34	7	J	12"	1.00	6.5	5.0	3.7	1.6	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 35'	35	7	J	12"	1.00	5.5	4.2	2.9	0.9	n/a	n/a	n/a	n/a	n/a
6" x 7-ga x 39'	39	7	J	12"	1.00	2.3	1.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

Note:

1- Poles shorter than these listed here in for each gauge have EPA rating equal to or greater than what is provided in this table. To Confirm EPA ratings on shorter poles, contact LSI Industries.

2- LSI Industries recommends a vibration damper be ordered with this length.

Steel Poles - Square Straight

Type: ____________

Have questions? Call us at (800) 436-7800

WIND SPEED

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 11-ga x 14'	14	11	F	11"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 14'	14	11	F	13"	0.75	17.6	15.8	14.2	11.5	9.4	7.7	6.3	5.2	4.3
5" x 11-ga x 16'	16	11	F	11"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 16'	16	11	F	13"	0.75	13.9	12.2	11.0	8.8	7.0	5.5	4.3	3.4	2.5
5" x 11-ga x 18'	18	11	F	11"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 18'	18	11	F	13"	0.75	11.0	9.6	8.4	6.5	5.0	3.7	2.7	1.8	1.1
5" x 11-ga x 20'	20	11	F	11"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 20'	20	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.3	2.2	1.3	0.5	-
5" x 11-ga x 22'	22	11	F	11"	0.75	12.7	11.1	9.6	7.4	5.6	4.1	3.0	2.0	1.1
5" x 11-ga x 22'	22	11	F	12"	0.75	10.3	8.9	7.7	5.7	4.1	2.8	1.8	0.9	-
5" x 11-ga x 22'	22	11	F	13"	0.75	8.6	7.4	6.4	4.6	3.1	2.0	1.1	-	-
5" x 11-ga x 24'	24	11	F	11"	0.75	10.2	8.9	7.6	5.6	4.0	2.6	1.6	0.7	-
5" x 11-ga x 24'	24	11	F	12"	0.75	8.0	6.9	5.8	4.0	2.6	1.5	0.5	-	-
5" x 11-ga x 24'	24	11	F	13"	0.75	6.7	5.5	4.6	3.0	1.7	0.7	-	-	-
5" x 11-ga x 26'	26	11	F	11"	0.75	8.1	6.9	5.8	4.0	2.5	1.3	-	-	-
5" x 11-ga x 26'	26	11	F	12"	0.75	6.2	5.1	4.1	2.6	1.3	-	-	-	-
5" x 11-ga x 26'	26	11	F	13"	0.75	5.0	4.0	3.1	1.6	0.5	-	-	-	-
5" x 11-ga x 28'	28	11	F	11"	0.75	6.3	5.2	4.3	2.5	1.1	-	-	-	-
5" x 11-ga x 28'	28	11	F	12"	0.75	4.6	3.6	2.7	1.2	-	-	-	-	-
5" x 11-ga x 28'	28	11	F	13"	0.75	3.4	2.5	1.7	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	11"	0.75	4.7	3.7	2.8	1.2	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	12"	0.75	3.1	2.2	1.4	-	-	-	-	-	-
5" x 11-ga x 30'	30	11	F	13"	0.75	2.0	1.2	0.5	-	-	-	-	-	-
5" x 7-ga x 20'	20	7	G	11"	0.75	19.0	17.0	15.0	12.2	9.7	7.8	6.2	5.0	3.8
5" x 7-ga x 20'	20	7	G	12"	0.75	21.4	19.1	17.1	13.8	11.2	9.1	7.3	5.9	4.7
5" x 7-ga x 20'	20	7	G	13"	0.75	21.4	19.2	17.2	13.9	11.3	9.2	7.4	6.0	4.8
5" x 7-ga x 20'	20	7	G	11"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 20'	20	7	G	13"	1	21.7	19.4	17.4	14.0	11.4	9.3	7.5	6.0	4.8
5" x 7-ga x 22'	22	7	G	11"	0.75	16.0	14.1	12.5	9.8	7.6	5.9	4.4	3.3	2.3
5" x 7-ga x 22'	22	7	G	12"	0.75	17.7	15.9	14.2	11.2	8.7	7.0	5.4	4.1	3.0
5" x 7-ga x 22'	22	7	G	13"	0.75	19.9	17.3	15.6	12.6	10.0	8.0	6.3	5.0	3.8
5" x 7-ga x 22'	22	7	G	11"	1	21.0	18.7	16.7	13.4	10.6	8.5	6.8	5.4	4.2
5" x 7-ga x 22'	22	7	G	12"	1	23.4	20.6	18.4	15.0	12.2	9.9	8.0	6.4	5.1
5" x 7-ga x 22'	22	7	G	13"	1	21.3	18.8	17.0	13.7	11.0	8.8	7.0	5.6	4.3
5" x 7-ga x 24'	24	7	G	11"	0.75	13.3	11.6	10.0	7.7	5.7	4.2	2.9	1.9	1.0
5" x 7-ga x 24'	24	7	G	12"	0.75	15.0	13.0	11.6	8.9	6.8	5.1	3.8	2.6	1.7
5" x 7-ga x 24'	24	7	G	13"	0.75	16.6	14.6	12.9	10.2	8.0	6.1	4.6	3.3	2.3
5" x 7-ga x 24'	24	7	G	11"	1	17.5	15.7	13.9	10.9	8.6	6.7	5.0	3.7	2.7
5" x 7-ga x 24'	24	7	G	12"	1	20.0	17.4	15.4	12.3	9.9	7.8	6.0	4.7	3.5
5" x 7-ga x 24'	24	7	G	13"	1	18.1	16.0	14.2	11.0	8.7	6.7	5.3	3.9	2.8
5" x 7-ga x 26'	26	7	G	11"	0.75	10.9	9.3	8.0	5.9	4.1	2.7	1.6	0.6	-
5" x 7-ga x 26'	26	7	G	12"	0.75	12.4	10.9	9.5	7.0	5.1	3.6	2.3	1.3	-
5" x 7-ga x 26'	26	7	G	13"	0.75	14.0	12.3	10.7	8.1	6.0	4.4	3.1	2.0	1.0
5" x 7-ga x 26'	26	7	G	11"	1	15.0	13.2	11.5	8.8	6.7	4.9	3.5	2.3	1.3

Steel Poles - Square Straight

Type: ____________________

Have questions? Call us at (800) 436-7800

WIND SPEED

POLE[1]	Mtg. Height Length (ft)	Wall Thick (ga)	BOLT CIRCLE			EPA								
			Designator	Dia. (in)	Anchor bolt Dia {in}	110 MPH	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH
5" x 7-ga x 26'	26	7	G	12"	1	17.0	14.8	13.0	10.2	7.9	6.0	4.4	3.1	2.1
5" x 7-ga x 26'	26	7	G	13"	1	15.3	13.5	11.8	9.0	6.8	5.0	3.6	2.5	1.4
5" x 7-ga x 28'	28	7	G	11"	0.75	8.9	7.4	6.3	4.3	2.7	1.4	-	-	-
5" x 7-ga x 28'	28	7	G	12"	0.75	10.2	8.8	7.5	5.3	3.5	2.1	1.0	-	-
5" x 7-ga x 28'	28	7	G	13"	0.75	11.8	10.2	8.8	6.4	4.5	3.0	1.7	0.7	-
5" x 7-ga x 28'	28	7	G	11"	1	12.5	10.9	9.5	7.0	5.0	3.3	2.1	1.0	-
5" x 7-ga x 28'	28	7	G	12"	1	14.2	12.4	11.0	8.2	6.0	4.3	3.0	1.7	0.8
5" x 7-ga x 28'	28	7	G	13"	1	12.9	11.0	9.7	7.2	5.2	3.6	2.2	1.1	-
5" x 7-ga x 30'	30	7	G	11"	0.75	7.0	5.8	4.7	2.8	1.3	-	-	-	-
5" x 7-ga x 30'	30	7	G	12"	0.75	8.4	7.0	5.8	3.8	2.2	0.9	-	-	-
5" x 7-ga x 30'	30	7	G	13"	0.75	9.7	8.2	7.0	4.8	3.0	1.6	0.5	-	-
5" x 7-ga x 30'	30	7	G	11"	1	10.4	8.8	7.6	5.3	3.4	2.0	0.8	-	-
5" x 7-ga x 30'	30	7	G	12"	1	12.0	10.3	9.0	6.4	4.4	2.9	1.6	0.5	-
5" x 7-ga x 30'	30	7	G	13"	1	10.6	9.1	7.7	5.5	3.6	2.1	1.0	-	-
5" x 7-ga x 35'	35	7	G	11"	0.75	3.2	2.2	1.2	-	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	0.75	4.4	3.2	2.2	0.5	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	0.75	5.5	4.2	3.1	1.3	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	11"	1	6.0	4.8	3.6	1.8	-	-	-	-	-
5" x 7-ga x 35'	35	7	G	12"	1	7.3	6.0	4.8	2.7	1.1	-	-	-	-
5" x 7-ga x 35'	35	7	G	13"	1	6.3	5.0	3.8	1.9	-	-	-	-	-
6" x 7-ga x 24'	24	7	H	11"	1	16.5	14.4	12.6	9.6	7.2	5.3	3.8	2.5	1.4
6" x 7-ga x 24'	24	7	H	12-1/2"	1	19.8	17.5	15.4	12.0	9.2	7.0	5.3	3.8	2.7
6" x 7-ga x 24'	24	7	H	14"	1	23.0	20.5	18.0	14.3	11.2	8.9	6.9	5.3	3.8
6" x 7-ga x 26'	26	7	H	11"	1	13.7	11.8	10.2	7.5	5.3	3.6	2.1	1.0	-
6" x 7-ga x 26'	26	7	H	12-1/2"	1	16.5	14.6	12.6	9.6	7.0	5.2	3.6	2.2	1.1
6" x 7-ga x 26'	26	7	H	14"	1	19.6	17.3	15.2	11.7	8.9	6.7	5.0	3.5	2.2
6" x 7-ga x 28'	28	7	H	11"	1	11.0	9.3	7.8	5.5	3.5	1.9	0.6	-	-
6" x 7-ga x 28'	28	7	H	12-1/2"	1	13.8	12.0	10.2	7.5	5.2	3.4	1.9	0.7	-
6" x 7-ga x 28'	28	7	H	14"	1	16.4	14.5	12.5	9.4	6.9	4.7	3.2	1.8	0.7
6" x 7-ga x 30'	30	7	H	11"	1	9.0	7.3	6.0	3.6	1.9	0.5	-	-	-
6" x 7-ga x 30'	30	7	H	12-1/2"	1	11.4	9.6	8.0	5.5	3.4	1.7	-	-	-
6" x 7-ga x 30'	30	7	H	14"	1	14.0	12.0	10.0	7.2	5.0	3.2	1.6	-	-
6" x 7-ga x 32'	32	7	H	11"	1	7.0	5.5	4.2	2.0	-	-	-	-	-
6" x 7-ga x 32'	32	7	H	12-1/2"	1	9.2	7.6	6.0	3.8	1.8	-	-	-	-
6" x 7-ga x 32'	32	7	H	14"	1	11.4	9.7	8.0	5.4	3.2	1.6	-	-	-
6" x 7-ga x 34'	34	7	H	11"	1	5.1	3.7	2.5	0.6	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	12-1/2"	1	7.2	5.6	4.4	2.2	-	-	-	-	-
6" x 7-ga x 34'	34	7	H	14"	1	9.3	7.6	6.2	3.6	1.7	-	-	-	-
6" x 7-ga x 35'	35	7	H	11"	1	4.2	3.0	1.8	-	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	12-1/2"	1	6.2	4.8	3.6	1.4	-	-	-	-	-
6" x 7-ga x 35'	35	7	H	14"	1	8.2	6.6	5.2	2.9	1.0	-	-	-	-
6" x 7-ga x 39'	39	7	H	11"	1	1.0	-	-	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	12-1/2"	1	3.0	1.6	0.5	-	-	-	-	-	-
6" x 7-ga x 39'	39	7	H	14"	1	4.6	3.3	2.0	-	-	-	-	-	-

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.
CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

Note:
1- Poles shorter than these listed here in for each gauge have EPA rating equal to or greater than what is provided in this table. To Confirm EPA ratings on shorter poles, contact LSI Industries.
2- LSI Industries recommends a vibration damper be ordered with this length.

Catalog # : ________ Project : ________ Type : ________

Prepared By : ________ Date : ________

Mirada Medium Wall Sconce (XWM)

Outdoor Wall Sconce

MANUFACTURED IN THE USA · TITLE 24 COMPLIANT · DLC LISTED PREMIUM · IDA DARK SKY APPROVED · IP65 · IK08

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

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath.
- Galvanized-steel universal wall mount bracket comes standard with hinging mechanism to easily access the junction box wire connections without removing the luminaire.
- Optional pole-mounting bracket (XPMA) permits mounting to standard poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Max shipping weight: 30lbs in carton

Optical System

- State-of-the-Art one piece silicone optic provides industry leading optical control while also acting as an integrated gasket reducing system complexity and improving fixture reliability.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in Types 2, 3, 4, and FT distributions.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- 5000K, 4000K, 3500K, 3000K, and 2700K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours
- Total harmonic distortion (THD): <20%
- 3L to 12L operating temperature: -40°C to +50°C (-40°F to +122°F)
- 15L operating temperature: -40°C to +45°C (-40°F to +113°F).
- 18L operating temperature: -40°C to +40°C (-40°F to +104°F).
- 21L operating temperature: -40°C to +35°C (-40°F to + 95°F).
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door.
- Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during emergency mode.

Controls

- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.
- The ALBMRxLR utilizing an external antenna for long range communications allows for Bluetooth Mesh wireless up to 100' from node to node. Ensures reliable wireless communications for applications where only wall-mount fixture product is being utilized.

Installation

- Universal wall mounting plate easily mounts directly to 4" octagonal or square junction box.
- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for installing/servicing.
- Optional terminal block accepts up to 12 ga wire.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.
- 1 Year warranty on Battery Back-up option.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K or lower color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet Locations.
- IP65 rated luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications when pole mounted (using optional XPMA bracket) or wall mounted.
- IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : ____________

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: XWM 2 LED 03L 30 UE BRZ ALSC

Family	Distribution	Light Source	Lumen Package	Color Temperature
XWM - Mirada Medium Wall Sconce	**2** - Type 2 **3** - Type 3 **4** - Type 4 **FT** - Type 4 Forward Throw	**LED**	**3L** - 3,000 **4L** - 4,000 **6L** - 6,000 **8L** - 8,000 **12L** - 12,000 **15L** - 15,000 **18L** - 18,000 **21L** - 21,000 **Custom Lumen Packages**[1]	**50** - 5000K (70CRI) **50K8** - 5000K (80CRI) **40** - 4000K (70CRI) **40K8** - 4000K (80CRI) **35K8** - 3500K (80CRI) **30** - 3000K (70 CRI) **30K8** - 3000K (80 CRI) **27K8** - 2700K (80 CRI) **AMB** - Phosphor Converted Amber[2]

Voltage	Finish	Controls	Options
UE - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**BLK** - Black **BRZ** - Dark Bronze **GMG** - Gun Metal Gray **GPT** - Graphite **MSV** - Metallic Silver **PLP** - Platinum Plus **SVG** - Satin Verde Green **WHT** - White	**Blank** - None **Wireless Controls** **ALSC** - Airlink Synapse Control System **ALSCS01** - AirLink Synapse Control System with 8-12' Motion Sensor **ALSCS02** - AirLink Synapse Control System with 12-20' Motion Sensor **ALBMR1LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (8 - 15') mounting height)[3] **ALBMR2LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (16 - 40' mounting height)[3] **Standalone Controls** **DIM** - 0-10v Dimming leads extended to housing exterior **IMSBT1L** -Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[3,4] **IMSBT2L** - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[3,4] **Button Type Photocells** **PCI120** - 120V **PCI208-277** - 208 -277V **PCI347** - 347V	**Blank** - None **BB** - Battery Back-up (0°C)[5] **CWBB** - Cold Weather Battery Backup (-20°C)[5] **XPMA** - Pole Mounting Bracket **SP1** - 10kV Surge Protection **TB** - Terminal Block

Need more information?
Click here for our glossary

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FUSING ACCESSORY ORDERING INFORMATION[6]

Part Number	Description
FK120[7]	FK120 - Single Fusing
FK277[7]	FK277 - Single Fusing
FK347[7]	FK347 - Single Fusing
DFK208[7]	DFK - Double Fusing
DFK240[7]	DFK - Double Fusing (240V)
DFK480[7]	DFK - Double Fusing (480V)

MOUNTING ACCESSORY ORDERING INFORMATION[6]

Part Number[8]	Description
809374CLR	XWM Wet Location Surface Conduit/Wiring Box
751632	10' Linear Bird Spike Kit (2' Recommended per Luminaire)

1 Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.
2 Only available in 6L Lumen Package. Consult factory for lead time and availability.
3 IMSBT and ALBMRxLR control options are not available in 3L or 4L lumen packages when high voltage (HV) is specified.
4 IMSBTxL is field configurable via the Leviton app that can be downloaded from your smartphone's app store.
5 Not available in HV.
6 Accessories are shipped separately and field installed.
7 Fusing must be located in a hand hole for pole or in the junction box.
8 "CLR" to be replaced by paint finish selection. See Finish options for paint color selections.

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : ___________________

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PERFORMANCE

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Delivered Lumens[1]

Lumen Package	Distribution	CRI	3000K			4000K			5000K			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
3L	2	70	3,178	138	B1-U0-G1	3,368	146	B1-U0-G1	9,853	159	B1-U0-G1	23
	3		3,224	140	B1-U0-G1	3,416	148	B1-U0-G1	3,361	145	B1-U0-G1	
	4		3,210	140	B1-U0-G2	3,364	146	B1-U0-G2	3,294	143	B1-U0-G2	
	FT		3,160	137	B1-U0-G1	3,349	145	B1-U0-G1	3,294	143	B1-U0-G1	
4L	2	70	4,230	139	B1-U0-G1	4,483	147	B1-U0-G1	4,410	145	B1-U0-G1	30
	3		4,291	141	B1-U0-G1	4,547	150	B1-U0-G1	4,473	147	B1-U0-G1	
	4		4,234	141	B1-U0-G2	4,437	148	B1-U0-G2	4,344	145	B1-U0-G2	
	FT		4,206	138	B1-U0-G1	4,458	147	B1-U0-G1	4,385	144	B1-U0-G1	
6L	2	70	6,326	134	B2-U0-G1	6,704	142	B2-U0-G2	6,595	140	B2-U0-G2	47
	3		6,417	136	B1-U0-G2	6,800	144	B2-U0-G2	6,689	142	B2-U0-G2	
	4		6,336	135	B1-U0-G3	6,640	141	B1-U0-G3	6,500	138	B1-U0-G3	
	FT		6,290	134	B2-U0-G2	6,666	142	B2-U0-G2	6,557	139	B2-U0-G2	
8L	2	70	8,166	128	B2-U0-G2	8,654	135	B2-U0-G2	8,513	133	B2-U0-G2	64
	3		8,283	129	B2-U0-G2	8,778	137	B2-U0-G2	8,635	134	B2-U0-G2	
	4		8,362	131	B1-U0-G3	8,763	137	B2-U0-G3	8,579	134	B1-U0-G3	
	FT		8,120	126	B2-U0-G2	8,605	134	B2-U0-G2	8,465	132	B2-U0-G2	
12L	2	70	11,492	149	B2-U0-G2	12,033	156	B3-U0-G2	11,927	155	B3-U0-G2	77
	3		11,757	153	B2-U0-G2	12,311	160	B2-U0-G2	12,203	158	B2-U0-G2	
	4		11,486	149	B2-U0-G3	12,058	157	B2-U0-G3	11,716	152	B2-U0-G3	
	FT		11,721	152	B2-U0-G2	12,274	159	B2-U0-G3	12,166	158	B2-U0-G3	
15L	2	70	14,221	145	B3-U0-G2	14,891	152	B3-U0-G2	14,760	151	B3-U0-G2	98
	3		14,549	148	B2-U0-G2	15,235	155	B2-U0-G2	15,101	154	B2-U0-G2	
	4		14,099	144	B2-U0-G3	14,801	151	B2-U0-G3	14,382	147	B2-U0-G3	
	FT		14,505	148	B2-U0-G3	15,189	155	B2-U0-G3	15,055	154	B2-U0-G3	
18L	2	70	16,894	138	B3-U0-G3	17,690	145	B3-U0-G3	17,534	144	B3-U0-G3	122
	3		17,285	142	B3-U0-G3	18,099	148	B3-U0-G3	17,940	147	B3-U0-G3	
	4		16,951	139	B2-U0-G3	17,795	146	B3-U0-G3	17,291	142	B3-U0-G3	
	FT		17,231	141	B3-U0-G3	18,044	148	B3-U0-G3	17,885	147	B3-U0-G3	
21L	2	70	19,961	133	B3-U0-G3	20,902	139	B3-U0-G3	20,718	138	B3-U0-G3	150
	3		20,422	136	B3-U0-G3	21,385	143	B3-U0-G3	21,197	141	B3-U0-G3	
	4		19,768	132	B3-U0-G4	20,753	138	B3-U0-G5	20,165	134	B3-U0-G4	
	FT		20,360	136	B3-U0-G3	21,320	142	B3-U0-G3	21,132	141	B3-U0-G3	

LUMEN SCALING FACTOR

70CRI - 80CRI	3000K 70CRI - 3500K 80CRI	3000K 70CRI - 2700K 80CRI
0.93	1.00	0.86

Electrical Data (Amps) - 2700K/3000K/3500K/4000K/5000K[2]

Lumen Package	120V	208V	240V	277V	347V	480V
3L	0.19	0.11	0.10	0.08	0.07	0.05
4L	0.25	0.14	0.13	0.11	0.09	0.06
6L	0.39	0.23	0.20	0.17	0.14	0.10
9L	0.53	0.31	0.27	0.23	0.18	0.13
12L	0.64	0.37	0.32	0.28	0.22	0.16
15L	0.82	0.47	0.41	0.35	0.28	0.20
18L	1.02	0.59	0.51	0.44	0.35	0.25
21L	1.25	0.72	0.63	0.54	0.43	0.31

Delivered Lumens (Phosphor Converted Amber)

Lumen Package	Distribution	Amber			Wattage
		Delivered Lumens	Efficacy	BUG Rating	
6L	2	3,325	76	B1-U0-G1	44
	3	3,385	78	B1-U0-G1	
	4	3,310	75	B1-U0-G1	
	FT	3,343	77	B1-U0-G1	

Recommended Lumen Maintenance - XWM[3]

Ambient Temperature C°	Initial[4]	25K hrs.[4]	50K hrs.[4]	75K hrs.[5]	100K hrs.[5]
35	99%	97%	95%	93%	91%
50	100%	98%	95%	93%	90%

1 LEDs are frequently updated therefore values are nominal
2 Electrical data at 25C (77F). Actual wattage may differ by +/-10%.
3 Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.
4 In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).
5 In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : ________________

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PHOTOMETRICS

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Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

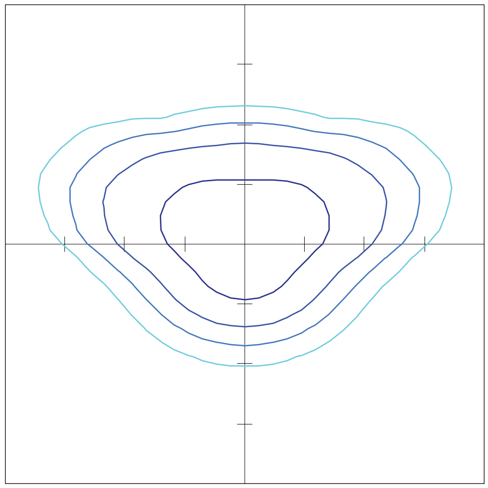
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

XWM-2-LED-12L-40

Luminaire Data	
Type 2 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,033
Watts	77
Efficacy	156
IES Type	Type II - Short
BUG Rating	B3-U0-G2

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
Low (0-30°)	1,961	16%
Medium (30-60°)	6,874	57%
High (60-80°)	3,014	25%
Very High (80-90°)	184	2%
Uplight (90-180°)	0	0%
Total Flux	12,033	100%

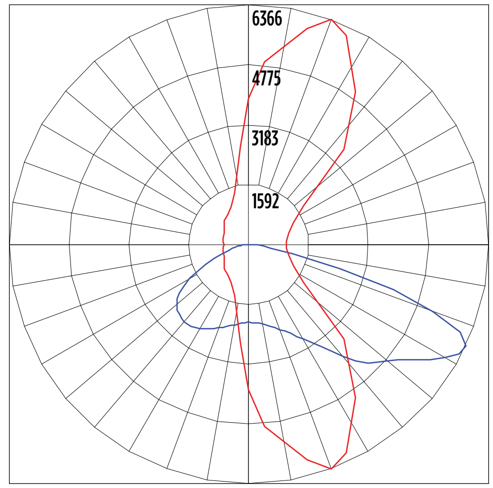
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



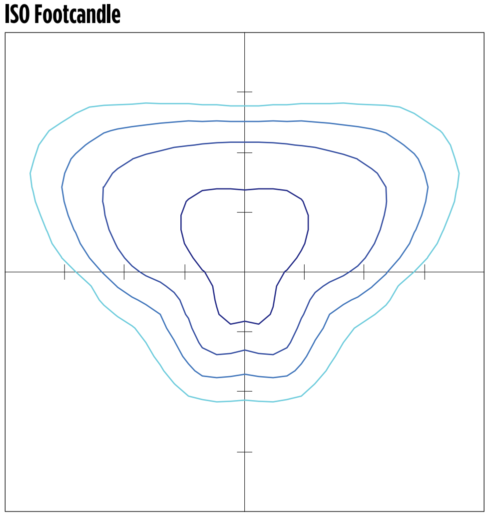
Vertical Plane Horizontal Cone

XWM-3-LED-12L-40

Luminaire Data	
Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,311
Watts	77
Efficacy	160
IES Type	Type III - Short
BUG Rating	B2-U0-G2

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
Low (0-30°)	1,340	11%
Medium (30-60°)	6,164	50%
High (60-80°)	4,549	37%
Very High (80-90°)	258	2%
Uplight (90-180°)	0	0%
Total Flux	12,311	100%

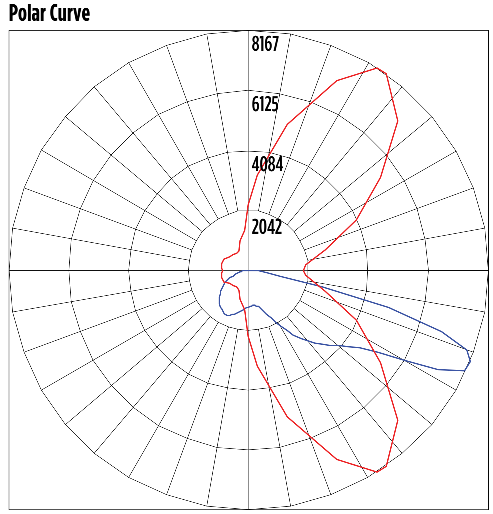
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

10 FC 5 FC 2 FC 1 FC

Polar Curve



Vertical Plane Horizontal Cone

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : ____________

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PHOTOMETRICS

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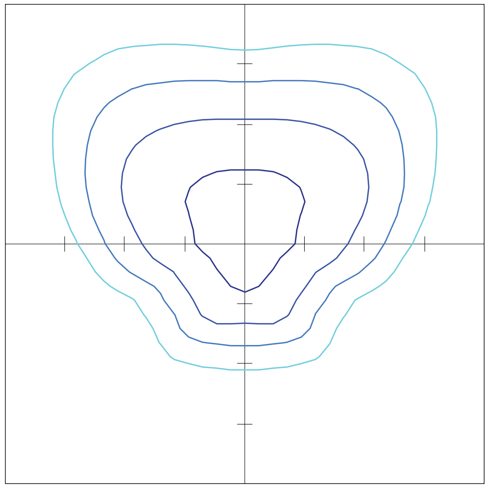
XWM-FT-LED-12L-40

Luminaire Data	
Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,274
Watts	77
Efficacy	159
IES Type	Type IV - Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,578	13%
Medium (30-60°)	5,798	47%
High (60-80°)	4,576	37%
Very High (80-90°)	322	3%
Uplight (90-180°)	0	0%
Total Flux	12,274	100%

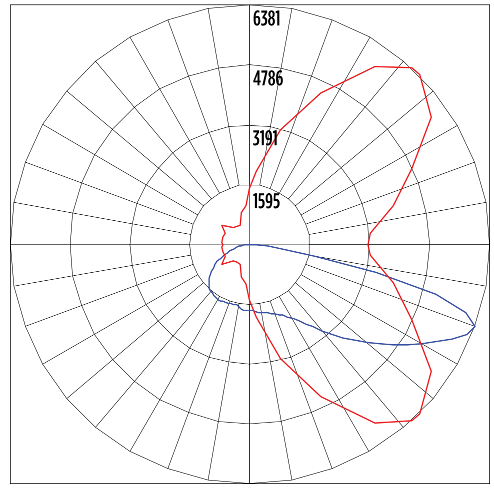
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC   2 FC   1 FC   0.5 FC

Polar Curve



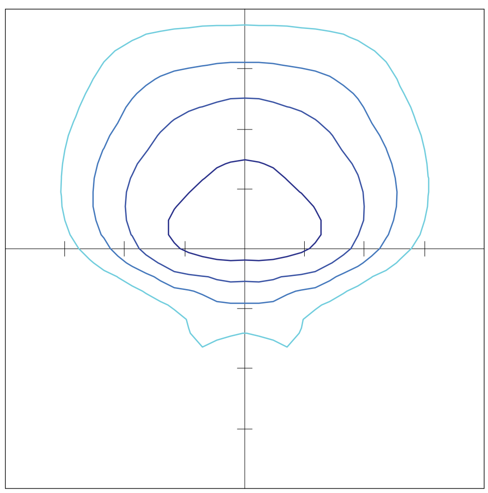
Vertical Plane   Horizontal Cone

XWM-4-LED-12L-40

Luminaire Data	
Type 4 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,058
Watts	77
Efficacy	157
IES Type	Type IV - Very Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,345	11%
Medium (30-60°)	5,394	45%
High (60-80°)	4,855	40%
Very High (80-90°)	464	4%
Uplight (90-180°)	0	0%
Total Flux	12,058	100%

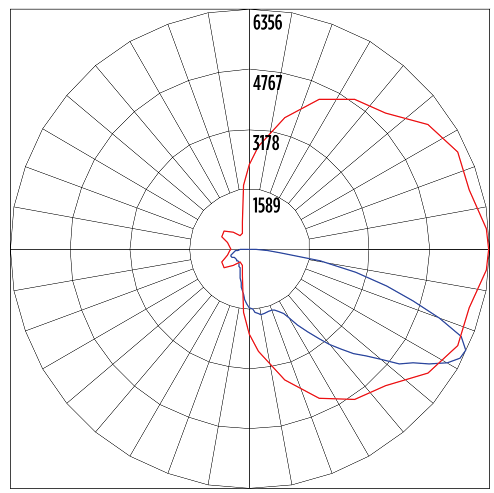
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC   2 FC   1 FC   0.5 FC

Polar Curve



Vertical Plane   Horizontal Cone

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Have questions? Call us at (800) 436-7800

PRODUCT DIMENSIONS

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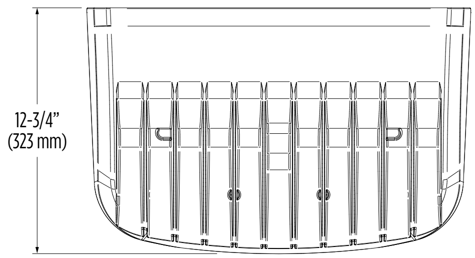
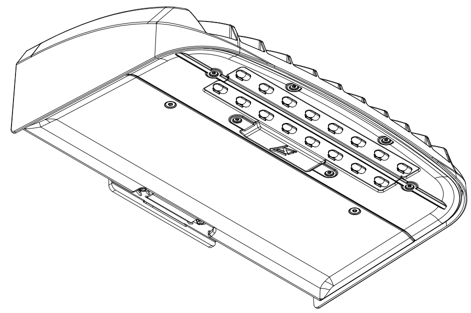
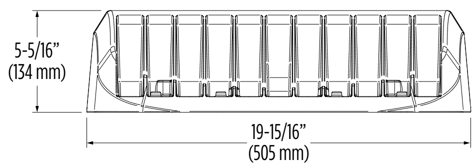
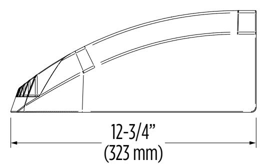


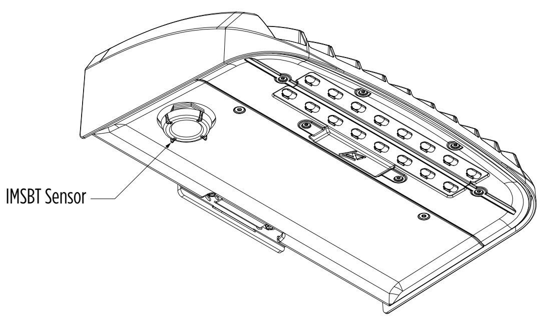






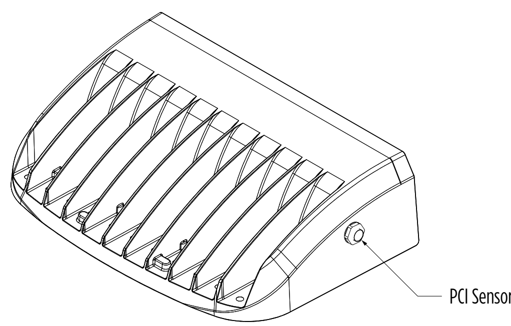
Mirada Medium Wall Sconce with Integral Bluetooth™ Motion and Photocell Sensor

(XWM IMSBTxL)



Mirada Medium Wall Sconce with Button Type Photocell

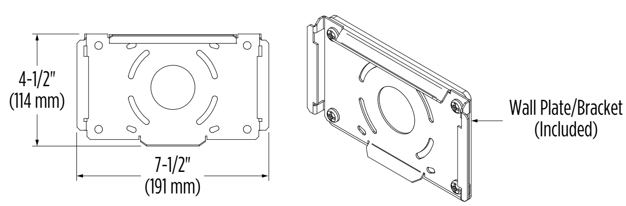
(XWM PCI)



Mounting Options

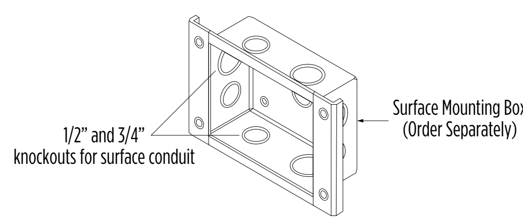
Mounting Over Junction Box

(Standard/Included)



XWM Wet Location Surface Conduit/Wiring Box

(809374CLR)



CONTROLS

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Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App Apple Android

AirLink Wireless Lighting Controller (ALSC, ALSCS)

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture.

Click here to learn more details about AirLink

AirLink Blue (ALBMRxLR)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

Site Plan Review Application Fee

Project: 150 Portsmouth Boulevard **Map/Lot:** Map 213 Lot 12

Applicant: Brora, LLC

All development

Base fee $600			$600.00
Plus $5.00 per $1,000 of site costs			
Site costs	$3,300,000	+***	+ $16,500.00

*****Actual site costs are not known at this time, but anticipated to exceed $3.3M.**

Plus $10.00 per 1,000 S.F. of site development area			
Site development area	323,800	S.F.	+ $3,238.00
		Fee	**$20,000.00**

Maximum fee: $20,000.00

Conditonal Use Permit Application Fee

Wetlands Conditonal Use Permit	Greater than 1,000 SF	**Fee**	**$1,300.00**

Fee received by: ______________________ Date: __________

Note: Initial application fee may be based on the applicant's estimates of site costs and site development area. Following site plan approval, the application fee will be recalculated based on the approved site plan and site engineer's corresponding site cost estimate as approved by the Department of Public Works, and any additional fee shall be paid prior to the issuance of a building permit.

Letter of Authorization
Dunlin Way & Portsmouth Boulevard, Portsmouth
Map 213 Lot 12

The undersigned owner and applicant of the above-referenced property hereby authorize representatives of Tighe & Bond, Inc. to represent their interests, and to submit any and all materials related thereto on their behalf for any local and state permitting applications solely in connection with the multifamily development thereof.

Brora, LLC

Date: 4/21/2025

By: ____________________

Name: Jennifer Stebbins Thomas

Title: Manager

The Kane Company

Date: 4/21/2025

By: ____________________

Name: Kimery Poldrack

Title: SVP Development & Construction

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