Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

August 14, 2020

TFM Project No: 45407.33

Juliette Walker, Planning Director
Portsmouth Planning Department
City Hall, 3rd Floor
1 Junkins Avenue
Portsmouth, NH 03801

Re: Site Plan Review, Office with Model Manufactured Homes, 3201 Lafayette Road, Tax Map 291, Lot 8

Dear Juliette,

On behalf of our client, 3201 Lafayette Road, LLC, the following plans and materials were submitted on August 11, 2020 for review by the Planning Board. At the most recent TAC Meeting on August 4, 2020, there were no comments from Staff. However, just prior to the meeting, we received two minor comments from staff via email, and the revisions addressing said comments are outlined below. Included with this letter are the following materials:

- "Site Development Plans, 3201 Lafayette Road, LLC", 3201 Lafayette Road, Portsmouth, NH, Tax Map 291, Lot 8, Dated June 22, 2020, last revised August 11, 2020.
- Color Presentation Plan

The revisions included in the plan resubmittal were; the relocation of the ADA access ramp to the proposed Staffed Model Building, the addition of concrete wheel stops to the end of the proposed parking spaces, specification of walkway materials, and the addition of landscape details.

We look forward to discussing this project with you and the rest of the Planning Board at the August 20th, 2020 meeting.

Sincerely,
MSC a division of TFMoran, Inc.

Dylan K. Erickson, EIT
Project Engineer

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

June 22, 2020

TFM Project No: 45407.33

Juliette Walker, Planning Director
Portsmouth Planning Department
City Hall, 3rd Floor
1 Junkins Avenue
Portsmouth, NH 03801

Re: Site Plan Review, Office with Model Manufactured Homes, 3201 Lafayette Road, Tax Map 291, Lot 8

Dear: Juliette,

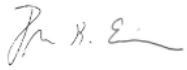
On behalf of our client, 3201 Lafayette Road, LLC, we are submitting the following plans and materials for review by the Planning Board. Included with this letter are the following materials:

- Letter of Authorization
- Site Plan Check List
- Waiver Application
- Traffic Memorandum
- 1 Copy: 11"x17" Plan Set of the "Site Development Plans, 3201 Lafayette Road, LLC", 3201 Lafayette Road, Portsmouth, NH, Tax Map 291, Lot 8, Dated June 22, 2020, last revised June 22, 2020.
- 1 Copy: 22"x34" Plan Set of the "Site Development Plans, 3201 Lafayette Road, LLC", 3201 Lafayette Road, Portsmouth, NH, Tax Map 291, Lot 8, Dated June 22, 2020, last revised June 22, 2020.
- Renderings of Model Manufactured Homes
- Drainage Report
- Electronic Copy: Video of Existing Sewer Service

This proposal is to include the removal of the existing garage on site and the construction of six model manufactured homes (of varying size and height), and a crushed stone storage area for the storage of boat and RV trailers as well as other model manufactured homes. The existing two-story office building on-site is to remain. This project has previously been presented at the Technical Advisory Committee Work Session and to the Zoning Board of Adjustment.

We look forward to discussing this project with you and the rest of the Planning Board at the July 16th, 2020 meeting.

Sincerely,
MSC a division of TFMoran, Inc.



Dylan K. Erickson, EIT
Project Engineer

Civil Engineers
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Scientists

June 22, 2020

TFM Project No: 45407.33

Juliette Walker, Planning Director
Portsmouth Planning Department
City Hall, 3rd Floor
1 Junkins Avenue
Portsmouth, NH 03801

Re: Waiver Requests, Office with Model Manufactured Homes, 3201 Lafayette Road, Tax Map 291, Lot 8

Dear: Juliette,

On behalf of our client, 3201 Lafayette Road, LLC, we are submitting the following waiver requests as part of the submittal for the Office and Model Manufactured Homes at 3201 Lafayette Road:

Waiver Request for Site Plan Review Regulations Section 2.5.4.3J: The type and placement of outdoor lighting fixtures for the exterior of the buildings, parking areas, and any other areas of the site, and photometric plan
Explanation: The proposed exterior lighting associated with the site improvements are solely a single building mounted light for each model unit, and a standard safety light source (mounted on the existing utility pole) that is to be installed by the utility provider. We do not anticipate that these minimal light sources will result in any spill over on to abutting properties, and therefore believe that a photometric plan is not required.

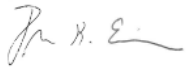
Waiver Request for Site Plan Review Regulations Section 2.5.4.3B: Elevations of building(s) indicating their height, massing, placement, materials, lighting and façade treatments.
Explanation: The color renderings provided are an accurate depiction of the anticipated aesthetics for the model manufactured homes. The proposed model homes are interchangeable and are subject to being switched with other similar model homes.

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

MSC a division of TFMoran, Inc.
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603)431-2222 www.tfmoran.com

We look forward to your review of these waiver requests. If you require additional information please let us know.

Sincerely,
MSC a division of TFMoran, Inc.



Dylan K. Erickson, EIT
Project Engineer

LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
	2	PYRUS CALLERYANA 'CHANTICLEER' CHANTICLEER FLOWERING PEAR	2 1/2" TO 3" CAL.	B&B
	6	MAACKIA AMURENSIS AMUR MAACKIA	2 1/2" TO 3" CAL.	B&B
	3	CORNUS SERICEA 'KELSEYI' KELSEYI RED–OSIER DOGWOOD	7 GAL.	CONT.
	16	HYDRANGEA PANICULATA 'BOBO' BOBO PANICLE HYDRANGEA	5 GAL.	CONT.
	14	JUNIPERUS C. 'PFITZERIANA COMPACTA' COMPACT PFITZER JUNIPER	2' TO 2 1/2'	B&B
	26	PENNISETUM A. 'HAMELN' HAMELN FOUNTAIN GRASS	5 GAL.	CONT.
	14	RHODODENDRON 'NOVA ZEMBLA' NOVA ZEMBLA RHODODENDRON	2' TO 2 1/2'	B&B
	2	RHODODENDRON 'PJM' PJM RHODODENDRON	2' TO 2 1/2'	B&B
	7	SPIRAEA BUMALDA 'GOLDFLAME' GOLDFLAME SPIREA	5 GAL.	CONT.
	16	SPIRAEA JAPONICA 'LEMON PRINCESS' LEMON PRINCESS SPIREA	5 GAL.	CONT.
	13	TAXUS MEDIA 'EVER–LOW' EVER–LOW YEW	2' TO 2 1/2'	B&B

LANDSCAPE NOTES

(SEE DETAILS FOR ADDITIONAL NOTES)

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL–FORMED UPPER GROWTH AND A LARGE, FIBEROUS, COMPACT ROOT SYSTEM.
7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
8. ALL TREES SHALL BE BALLED AND BURLAPPED (B & B) UNLESS OTHERWISE NOTED OR APPROVED BY LANDSCAPE ARCHITECT.
9. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
10. ALL INVASIVE PLANT SPECIES FROM THE "NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST", TO BE REMOVED SHALL BE DONE SO IN ACCORDANCE WITH THE "INVASIVE SPECIES ACT, HB 1258–FN."
11. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
12. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
13. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.

GUARANTEE

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

LANDSCAPE PLAN

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

1"=40' (11"X17")

SCALE: 1"=20' (22"X34") **JUNE 22, 2020**

REV.	DATE	DESCRIPTION	DR	CK
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
1	7/8/2020	REVISIONS PER CITY STAFF & TAC COMMENTS	DKE	CRR

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472–4488
Fax (603) 472–9747
www.tfmoran.com

FILE	45407.33	DR	DKE	FB	–	C–07
		CK	CRR	CADFILE	45407–33 – LANDSCAPE	

DIG SAFE
CALL BEFORE YOU DIG
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

Aug 11, 2020 - 11:16am
F:\msc projects\45407 - lafayette road - portsmouth\45407-33 - 3201 lafayette rd llc_model home\Design\production drawings\45407-33 - Landscape.dwg

SITE DEVELOPMENT PLANS

3201 LAFAYETTE ROAD, LLC

3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

JUNE 22, 2020
(LAST REVISED AUGUST 11, 2020)

GENERAL INFORMATION

OWNER/APPLICANT
MAP 291 LOT 8
3201 LAFAYETTE ROAD, LLC
72 SOUTH BROADWAY
SALEM, NH 03079
603-231-3363

RESOURCE LIST

PLANNING/ZONING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7216
JULIET WALKER, PLANNING DIRECTOR

BUILDING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7243
ROBERT MARSILIA,
CHIEF BUILDING INSPECTOR

PUBLIC WORKS
600 PEVERLY HILL RD
PORTSMOUTH, NH 03801
603-427-1530
PETER RICE, PUBLIC WORKS DIRECTOR

POLICE DEPARTMENT
3 JUNKINS AVE
PORTSMOUTH, NH 03801
603-427-1510
ROBERT MERNER, CHIEF

FIRE DEPARTMENT
170 COURT STREET
PORTSMOUTH, NH 03801
603-427-1515
TODD GERMAIN, CHIEF

ASSOCIATED PROFESSIONALS

ENVIRONMENTAL SERVICES
GOVE ENVIRONMENTAL SERVICES
8 CONTINENTAL DRIVE
BUILDING 2 - UNIT H
EXETER, NH 03833

SOIL SCIENTIST
TES ENVIRONMENTAL CONSULTANTS, LLC
1494 ROUTE 3A, UNIT 1
BOW, NH 03304
(603) 856-8925
THOMAS E. SOKOLOSKI, WETLANDS SCIENTIST

LAND SURVEYORS
MSC: A DIVISION OF TFMORAN, INC.
170 COMMERCE WAY
PORTSMOUTH, NH 03801
(603) 431-2222
J. COREY COLWELL, LLS

ABUTTERS

MAP 292, LOT 151-2
WEEKS REALTY TRUST
PO BOX 100
HAMPTON FALLS, 03844

MAP 292, LOT 150
CHRIS G. & LISA ALEXANDROPOULOS
3168 LAFAYETTE ROAD
PORTSMOUTH, NH 03801

MAP 292, LOT 149
ELIZABETH BATICK RICCI
REVOCABLE TRUST OF 1993
55 HARDING ROAD
PORTSMOUTH, NH 03801

MAP 292, LOT 148
KERRIGAN REVOCABLE TRUST
3202 LAFAYETTE ROAD
PORTSMOUTH, NH 03801

MAP 292, LOT 147
KERRY E. RILEY
3224 LAFAYETTE ROAD
PORTSMOUTH, NH 03801

MAP 292, LOT 146
YANG CHU FAMILY
REVOCABLE TRUST OF 2019
6 DRURY PLAINS ROAD
STRATHAM, NH 03885

MAP 292, LOT 145
LINDSAY A. BLAKEY
95 CARDINAL LANE
PORTSMOUTH, NH 03801

MAP 292, LOT 247
KAREN E. KAPELOS
REVOCABLE TRUST OF 1995
1537B OYSTER CATCHER POINT
NAPLES, FL 34105

MAP 291, LOT 6
KATHERINE L. NADEAU
FAMILY TRUST OF 2015
125 GRANT ROAD
NEWMARKET, NH 03857

MAP 291, LOT 5
MJD REAL ESTATE HOLDINGS LLC
200 HOLLEDER PARKWAY
ROCHESTER, NY 14615

MAP 291, LOT 4
FORTY LONG MEADOW/ PORTSMOUTH
40 LONGMEADOW ROAD
PORTSMOUTH, NH 03801

MAP 291, LOT 7
HILLCREST AT PORTSMOUTH, LLC
PO BOX 2431
SALEM, NH 03079

VICINITY PLAN

HORIZONTAL SCALE 1"=1,000'
1,000 500 0 1,000

INDEX OF SHEETS

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
CITY SITE PLAN REVIEW		PENDING	
CITY VARIANCE	-	05/21/2020	05/21/2022
EPA SWPPP		PENDING	
NHDOT DRIVEWAY		PENDING	

VARIANCES

THE FOLLOWING VARIANCES FROM THE CITY OF PORTSMOUTH ZONING ORDINANCE HAVE BEEN GRANTED BY THE ZONING BOARD OF ADJUSTMENT (ON 5/21/20):

1. CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.5B83.10 -
   REQUIRED OFF-STREET PARKING SHALL NOT BE LOCATED BETWEEN A PRINCIPAL BUILDING AND A STREET OR WITHIN ANY REQUIRED BUFFER AREA.
2. CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.113.20 -
   REQUIRED OFF-STREET PARKING SHALL NOT BE LOCATED IN ANY REQUIRED FRONT YARD, OR BETWEEN A PRINCIPAL BUILDING AND A STREET.

SPECIAL EXCEPTION

THE FOLLOWING SPECIAL EXCEPTION FROM THE CITY OF PORTSMOUTH ZONING ORDINANCE HAS BEEN GRANTED BY THE ZONING BOARD OF ADJUSTMENT:

1. CITY OF PORTSMOUTH ZONING ORDINANCE SECTION 10.44011.3 -
   TO ALLOW MANUFACTURED HOUSING SALES IN THE G1 ZONE.

WAIVERS

THE FOLLOWING WAIVERS FROM THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS HAVE BEEN REQUESTED:

1. CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS SECTION 2.5.4.3J -
   PHOTOMETRIC PLAN FOR PROPOSED EXTERIOR LIGHTING.
2. CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS SECTION 2.5.4.3B -
   ELEVATIONS OF BUILDING(S) INDICATING THEIR HEIGHT, MASSING, PLACEMENT, MATERIALS, LIGHTING AND FACADE TREAMENTS.

THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8
COVER

3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR
3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
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Fax (603) 472-9747
www.tfmoran.com

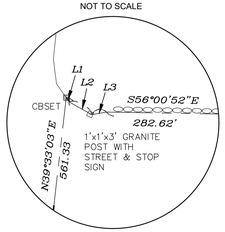
FILE	DR	DKE	FB	-	SHEET
45407.33	CK	CRR	CADFILE	45407-33 - COVER	C-00

DIG SAFE MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

LEGEND:

292/151-2	ASSESSOR'S MAP & LOT NUMBER
AC	ASBESTOS PIPE
CBSET	CONCRETE BOUND SET ON 06/14/2013
CI	CAST IRON PIPE
DHSET	DRILL HOLE SET ON 06/14/2013
EL1	EASEMENT LENGTH
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
GA/MH	GARDEN APARTMENT/ MOBILE HOME ZONE
G1	GATEWAY CORRIDOR
GM	GAS METER
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HANDICAP
INV.	INVERT
IRSET	IRON ROD SET ON 06/14/2013
L1	LINE LENGTH
PP	PLASTIC PIPE
RCP	REINFORCED CONCRETE PIPE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
SGC	SLOPED GRANITE CURB
S.F.	SQUARE FEET
TBM	TEMPORARY BENCH MARK
WM	WATER METER
	PROPERTY LINE
50	EXISTING CONTOUR
	STONE WALL
	TREE LINE
	WETLAND BUFFER
	EDGE OF WETLANDS
W	EXISTING WATER
G	EXISTING GAS
S	EXISTING SEWER
FM	EXISTING FORCE MAIN
D	EXISTING DRAIN
OHU	EXISTING OVERHEAD UTILITIES
UGU	EXISTING UNDERGROUND UTILITIES
	GUY POLE
	UTILITY POLE
	LIGHT POLE
	SIGN
	CATCH BASIN
S	SEWER MANHOLE
D	DRAIN MANHOLE
	HYDRANT
W	WATER MANHOLE
	WATER VALVE
	WATER SHUTOFF
	DECIDUOUS TREE
	EVERGREEN TREE
	PARKING SPACES
	HANDICAP
	LANDSCAPE BOULDER
TP1	TEST PIT
	WETLANDS
	CONCRETE
	DEBRIS/FILL PILE IN WETLAND BUFFER
	DEBRIS/FILL PILE OUTSIDE OF WETLAND BUFFER
	LANDSCAPED AREA
	ACCESS EASEMENT

DETAIL
NOT TO SCALE



ABUTTERS ACROSS LAFAYETTE ROAD

292/151-2 N/F
PUBLIC LAND HOLDINGS LLC
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833
RCRD BK.6097 PG.1357

292/150 N/F
CHRIS G. & LISA ALEXANDROPOULOS
3168 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
RCRD BK.4175 PG.1509

292/149 N/F
ELIZABETH BATICK RICCI REVOCABLE TRUST OF 1993
55 HARDING ROAD
PORTSMOUTH, NH 03801
RCRD BK.5189 PG.1131

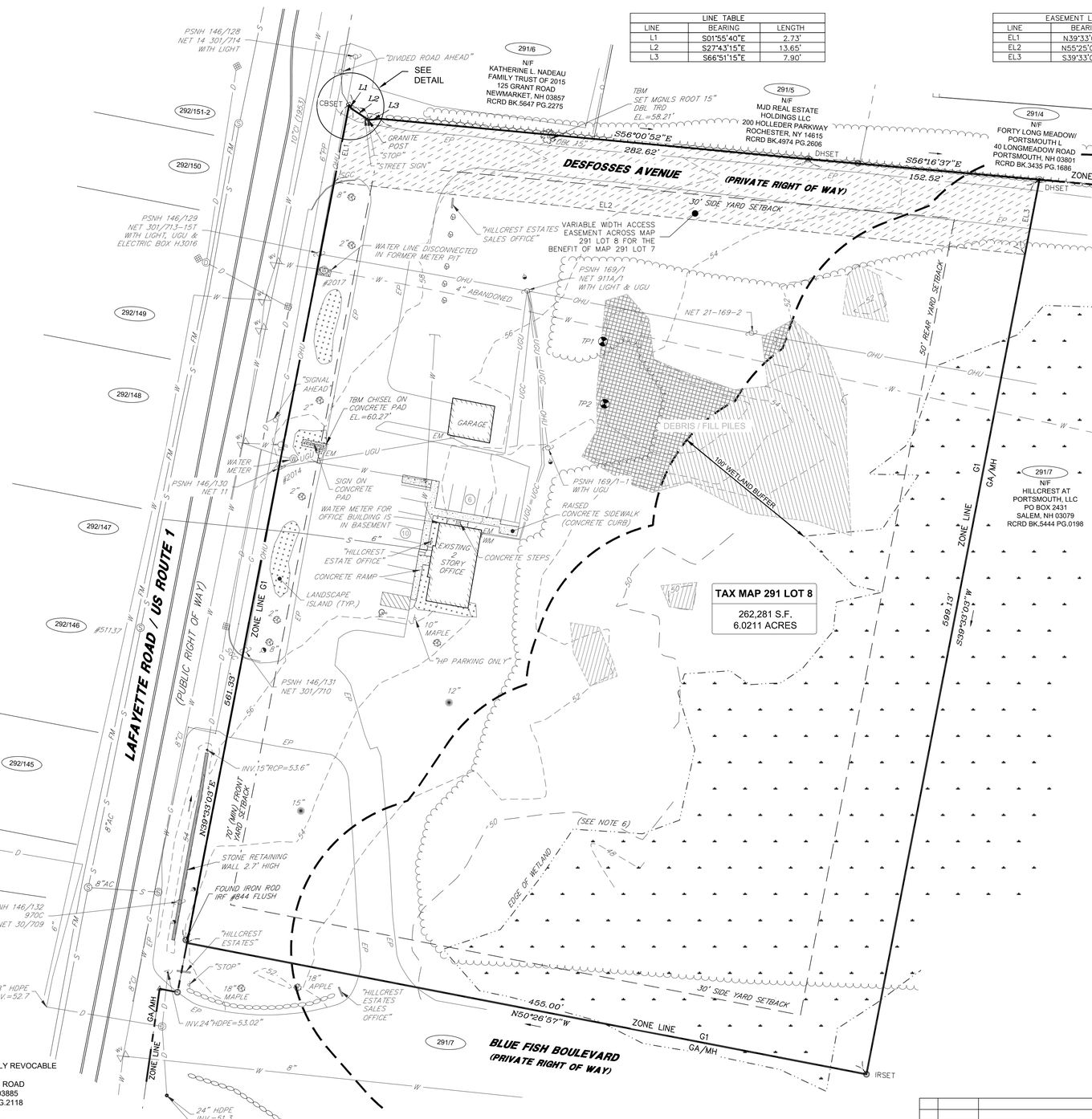
292/148 N/F
KERRIGAN REVOCABLE TRUST
3202 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
RCRD BK.5296 PG.1541

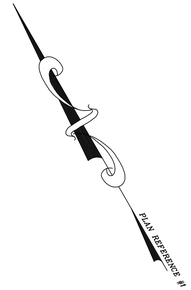
292/147 N/F
KERRY E. RILEY
3224 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
RCRD BK.5239 PG.2663

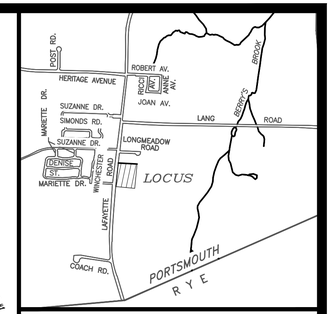
292/146 N/F
YANG CHU FAMILY REVOCABLE TRUST OF 2019
6 DRURY PLAINS ROAD
STRATHAM, NH 03885
RCRD BK.6022 PG.2118

292/145 N/F
LINDSAY A. BLAKEY
95 CARDINAL LANE
PORTSMOUTH, NH 03801
RCRD BK.5791 PG.0929

292/247 N/F
KAREN E. KAPELOS REVOCABLE TRUST OF 1995
1537B OYSTER CATCHER POINT
NAPLES, FL 34105
RCRD BK.3569 PG.2269







LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE CITY OF PORTSMOUTH GATEWAY CORRIDOR (G1) ZONE.
2. THE PARCEL IS AS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 291 AS LOT 8.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X AS SHOWN ON FLOOD INSURANCE RATE MAP, ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, MAP NUMBER 33015C0270E, EFFECTIVE DATE MAY 17, 2005.
4. OWNER OF RECORD:

   3201 LAFAYETTE ROAD, LLC
   72 SOUTH BROADWAY
   SALEM, NH 03079
   RCRD BK.5617 PG.1045

5. ZONING REQUIREMENTS:

   SEE ARTICLE 5B, SECTION 10.5B20 – GENERAL STANDARDS FOR ALL BUILDINGS AND DEVELOPMENT OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE ZONING ORDINANCE.

5. TOTAL PARCEL AREA:

   262,281 S.F.
   6.0211 ACRES

6. PETER S. SCHAUER, CERTIFIED WETLAND SCIENTIST #48, OF SCHAUER ENVIRONMENTAL CONSULTANTS, L.L.C. OF LOUDON, NH AND THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND MAPPING BETWEEN MARCH 26, 2014 AND AUGUST 25, 2017 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.
7. ALL MONUMENTS SHOWN HEREON WERE OBSERVED OR SET AS PART OF THIS SURVEY.
8. FIELD SURVEY WAS COMPLETED BY TCE IN JUNE 2020, WITH A TOPCON DS103 AND TOPCON TESLA DATA COLLECTOR.
9. HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983.
10. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
11. UTILITIES SHOWN HEREON ARE A COMPILATION OF FIELD LOCATION AND RECORD PLANS. THEY ARE APPROXIMATE LOCATION ONLY. CONTACT DIGSAFE AT 811 OR 1-888-DIG-SAFE TO VERIFY UTILITIES.

PLAN REFERENCE:

1. "OVERALL SUBDIVISION PLAN, MAP 289 LOT 1 & MAP 291 LOT 7 (PORTSMOUTH) & MAP 15 LOT 24 (RYE) PROPERTY OF HILLCREST AT PORTSMOUTH LLC, 3201-3203 LAFAYETTE ROAD/LANG ROAD, PORTSMOUTH & RYE, NEW HAMPSHIRE COUNTY OF ROCKINGHAM", BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC, DATED APRIL 15, 2013 WITH REVISION #6 DATED 12/23/2013. RCRD PLAN D-38075.

40 20 0 40
Graphic Scale in Feet

TAX MAP 291 LOT 8

EXISTING CONDITIONS PLAN
3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR

3201 LAFAYETTE ROAD, LLC

SCALE: 1" = 40' (22"x34")
1" = 80' (11"x17")

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK
3	07/23/20	ADDED UTILITY POLE NUMBERS	BMK	JCC
2	07/17/20	UPDATED LABELS	BMK	JCC
1	07/07/20	UPDATED WATER LINES	BMK	JCC

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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FILE	DR	IID	FB	–	C-1
45407.33	CK	JCC	CADFILE		

Jul 23, 2020 - 12:27pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-33 - 3201 Lafayette Rd LLC_Model Home\Carlson Survey\Dwgs\45407-33Survey.dwg

LEGEND

PROPOSED

- PROPERTY LINE
- ZONING LINE
- EASEMENT
- BASELINE
- FLOODPLAIN
- EDGE OF WATERBODY
- EDGE OF WETLAND
- SETBACK (WETLAND)
- SETBACK (STRUCTURE)
- SETBACK (PARKING)
- SETBACK (LANDSCAPE)
- GRAVEL ROAD
- EOP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- CC — CONCRETE CURB
- ICC — INTEGRATED CONCRETE CURB
- BIT — BUTIMINOUS ASPHALT CURB
- CCB — CAPE COD BERM
- SAWCUT
- BUILDING
- BUILDING ROOF OVERHANG
- BUILDING FOUNDATION
- BUILDING ENTRANCE
- OVERHEAD DOOR
- TREE LINE
- FENCE (CHAIN LINK)
- FENCE (WIRE)
- FENCE (STOCKADE)
- GUARDRAIL
- STONE WALL
- RETAINING WALL
- SILT FENCE
- SILT SOCK
- SOIL BOUNDARY
- LIMIT OF GRADING
- XXX — CONTOUR
- TC100.50 BC100.00 OR X100.00 — SPOT GRADE
- ## — PARKING COUNT
- DSLY — YELLOW DOUBLE SOLID LINE
- SSLY — YELLOW SINGLE SOLID LINE
- SSLW — WHITE SINGLE SOLID LINE
- SBLW — WHITE SINGLE BROKEN LINE
- STOP — STOP BAR
- CROSSWALK
- ACCESSIBLE PARKING SYMBOL
- PAVEMENT ARROW
- TRAFFIC FLOW ARROW (NOT PAINTED)
- SIGN (SINGLE POST)
- SIGN (DOUBLE POST)
- SIGN (PYLON)
- SIGN (MONUMENT)
- BOLLARD
- D — DUMPSTER PAD

PROPOSED

- CONCRETE
- GRAVEL
- HEAVY DUTY PAVEMENT
- CONSTRUCTION ENTRANCE
- SNOW STORAGE
- RIPRAP
- INLET PROTECTION
- DRAIN LINE
- DRAINAGE SWALE
- STORMWATER BMP
- S — SEWER LINE
- FM — SEWER FORCE MAIN LINE
- W — WATER LINE
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGE — UNDERGROUND UTILITY LINE
- CATCH BASIN
- DRAIN INLET
- OUTLET CONTROL STRUCTURE
- ROOF DRAIN
- DRAIN CLEANOUT
- DRAIN MANHOLE
- FARED END SECTION
- SEWER CLEAN OUT
- SEWER MANHOLE
- SEWER VENT
- DRAIN/SEWER/WATER PLUG OR CAP
- HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER GATE VALVE
- WATER SHUTOFF
- THRUST BLOCK
- WATER METER
- WATER MANHOLE
- WELL
- GAS GATE VALVE
- GAS SHUT OFF
- GAS METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- TRAFFIC CONTROL CABINET
- ELECTRIC HANDHOLE
- ELECTRIC PULL BOX
- ELECTRIC METER
- FLOOD LIGHT
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- T — TRANSFORMER PAD
- B-# — BORING LOCATION
- TP-# — TEST PIT LOCATION
- IT-# — INFILTRATION TEST LOCATION
- MW-# — MONITORING WELL

ABBREVIATIONS

GENERAL

ABAN	ABANDON
AC	ACRES
ADJ	ADJUST
APPROX	APPROXIMATE
BC	BOTTOM OF CURB
BIT	BITUMINOUS
BK/PG	BOOK & PAGE
BLDG	BUILDING
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
CONC	CONCRETE
COORD	COORDINATE
DIA	DIAMETER
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FND	FOUNDATION
HP	HIGH POINT
INV	INVERT ELEVATION
IT	INFILTRATION TEST
L	LENGTH
LF	LINEAR FEET
LSA	LANDSCAPE AREA
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
NTS	NOT TO SCALE
OC	ON CENTER
PAVE	PAVEMENT
PERF	PERFORATED
PROP	PROPOSED
R	RADIUS
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
REM	REMOVE
RET	RETAIN
RIM	RIM ELEVATION
ROW	RIGHT OF WAY
S	SLOPE
SF	SQUARE FEET
SW	SIDEWALK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TP	TEST PIT
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
WCR	ACCESSIBLE WHEELCHAIR RAMP
W/	WITH

UTILITIES

CB	CATCH BASIN
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
DCB	DOUBLE CATCH BASIN
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FES	FLARED END SECTION
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
LP	LIGHT POLE
OCS	OUTLET CONTROL STRUCTURE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
SOS	SEDIMENT OIL SEPARATOR
TSV	TAPPING SLEEVE, VALVE, AND BOX
UP	UTILITY POLE

DIG SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.
2. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
3. THE SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
4. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF PORTSMOUTH, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK TO CONFORM TO CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY, AND/OR STATE AGENCY.
5. AN ALTERATION OF TERRAIN PERMIT IS NOT REQUIRED PER ENV-WQ 1503.02. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 OR AS APPLICABLE.
6. SEE EXISTING CONDITIONS PLAN FOR THE HORIZONTAL AND VERTICAL DATUM.
7. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
8. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.
9. PRIOR TO COMMENCING ANY SITE WORK ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
10. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
11. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
12. TEMPORARY FENCING SHALL BE PROVIDED AND COVERED WITH A FABRIC MATERIAL TO CONTROL DUST MITIGATION.
13. ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
14. REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, AND PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
15. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
16. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
17. 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 CHANGED SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
18. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
19. CONTRACTOR'S GENERAL RESPONSIBILITIES:
    A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.
    B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.
    C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
    D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
    E. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST AND UNSIGHTLY DEBRIS. CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT BETWEEN THE HOURS OUTLINED IN THE APPLICABLE MUNICIPAL ORDINANCES AND REGULATIONS OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE.
    F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
    G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
    H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
    K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
    L. VERIFY LAYOUT OF PROPOSED BUILDING FOUNDATIONS WITH ARCHITECT AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.
    M. PROVIDE AN AS-BUILT PLAN AT THE COMPLETION OF THE PROJECT TO THE PLANNING DIRECTOR AND PER CITY REGULATIONS.
    N. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
    O. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL, AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.
20. THE USE OF PORTABLE HEATERS IN BOAT STORAGE AREAS SHALL BE PROHIBITED EXCEPT WHERE NECESSARY TO ACCOMPLISH REPAIRS.
21. PORTABLE HEATERS USED IN ACCORDANCE WITH NFPA SECTION 28.1.7.2.1.1.1 SHALL BE USED ONLY WHEN PERSONNEL ARE IN ATTENDANCE.
22. OPEN FLAME HEATERS SHALL NOT BE USED IN BOAT STORAGE AREAS.
23. THE USE OF BLOW TORCHES OR FLAMMABLE PAINT REMOVER SHALL BE PROHIBITED UNLESS PERMITTED BY 8.7.1 OF NFPA 303.
24. THE USE OF GASOLINE OR OTHER FLAMMABLE SOLVENTS FOR CLEANING PURPOSED SHALL BE PROHIBITED.
25. WHERE A BOAT IS TO BE DRY-STORED FOR THE SEASON OR STORED INDOORS FOR AN EXTENDED PERIOD OF TIME, SUCH AS WHILE AWAITING REPAIRS, THE FOLLOWING PRECAUTIONS SHALL BE TAKEN:
    A. THE VESSEL SHALL BE INSPECTED FOR ANY HAZARDOUS MATERIALS OR CONDITIONS THAT COULD EXIST, AND CORRECTIVE ACTION SHALL BE TAKEN.
    B. LIQUEFIED PETROLEUM GAS (LPG) AND COMPRESSED NATURAL GAS (CNG) CYLINDERS, RESERVE SUPPLIES OF STOVE ALCOHOL OR KEROSENE, AND CHARCOAL SHALL BE REMOVED FROM THE PREMISES OR STORED IN A SEPARATE, DESIGNATED SAFE AREA.
    C. ALL PORTABLE FUEL TANKS SHALL BE REMOVED FROM THE PREMISES OR EMPTIED AND, IF EMPTIED, THE CAP SHALL BE REMOVED AND THE TANK LEFT OPEN TO THE ATMOSPHERE.
    D. PERMANENTLY INSTALLED FUEL TANKS SHALL BE STORED AT LEAST 95 PERCENT FULL.
26. NO UNATTENDED ELECTRICAL EQUIPMENT SHALL BE IN USE ABOARD BOATS.
27. ALL STORAGE AREAS SHALL BE ROUTINELY RAKED, SWEPT, OR OTHERWISE POLICED TO PREVENT THE ACCUMULATION OF RUBBISH.

GRADING NOTES

1. THE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
4. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEERS RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE.
5. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
6. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
7. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS, AND ALIGNMENTS.
8. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE, RAMPS AND LOADING AREAS.
9. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER DEEPER THAN 1/4" FOR A PERIOD OF MORE THEN 15 MINUTES AFTER FLOODING.
10. THE FINISHED GRADE AT BOTTOM OF ALL ACCESSIBLE RAMPS SHALL BE FLUSH WITH PAVEMENT WITH A TOLERANCE OF PLUS OR MINUS 1/4".
11. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE PRIOR TO INSTALLATION OF FINISHED PAVEMENT.
12. ROAD CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
13. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
14. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
15. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
16. DENSITY REQUIREMENTS:

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

*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 D-6938.

UTILITY NOTES

1. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
2. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
8. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
9. SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700.
10. ON-SITE WATER DISTRIBUTION SHALL BE TO CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5' COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10' MINIMUM. WHERE A SANITARY LINE CROSSES A WATER LINE, ENCASE THE SANITARY LINE IN 6" THICK CONCRETE FOR A DISTANCE OF 10' EITHER SIDE OF THE CROSSING, OR SUBSTITUTE RUBBER-GASKETED PRESSURE PIPE FOR THE SAME DISTANCE. WHEN SANITARY LINES PASS BELOW WATER LINES, LAY PIPE SO THAT NO JOINT IN THE SANITARY LINE WILL BE CLOSER THAN 3' HORIZONTALLY TO THE WATER LINE.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL LOCATIONS WHERE WATER LINE CHANGES DIRECTIONS OR CONNECTS TO ANOTHER WATER LINE.
12. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
13. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
14. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
15. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
16. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
17. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	PRIVATE
SEWER	MUNICIPAL – (603) 427-1530
WATER	MUNICIPAL – (603) 427-1530
GAS	UNITIL – (888) 301-7700
ELECTRIC	EVERSOURCE – (800) 662-7764
TELEPHONE	CONSOLIDATED COMMUNICATIONS – (800) 240-5019
CABLE	COMCAST – (800) 266-2278

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

NOTES & LEGEND

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR.	CK.
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
1	7/8/2020	REVISIONS PER CITY STAFF & TAC COMMENTS	DKE	CRR

TFM — Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
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FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407-33 – NOTES & LEGEND	C-02

DESFOSSES AVENUE
(PRIVATE RIGHT OF WAY)
282.62'
S56°16'37"E
152.52'
30' SIDE YARD SETBACK
50' REAR YARD SETBACK
GRANITE POST
"STOP"
"STREET SIGN"
PROPOSED PAVEMENT SAWCUT
SIGN TO BE REMOVED
TP-3
"HILLCREST ESTATES SALES OFFICE"
BOULDERS TO BE REMOVED
WATER LINE DISCONNECTED IN FORMER METER PIT
#2017
4" ABANDONED
PROPOSED STABILIZED CONSTRUCTION ENTRANCE
TREES TO BE REMOVED
TP-2
PORTIONS OF FILL PILE OUTSIDE OF WETLAND BUFFER TO BE REMOVED
TP-4
PAVEMENT TO BE REMOVED (TYP.)
GARAGE TO BE REMOVED
GARAGE
"SIGNAL AHEAD"
TBM CHISEL ON CONCRETE PAD EL.=60.27'
#2014
SIGN ON CONCRETE PAD
ELECTRIC METER TO BE REMOVED
DEBRIS / FILL PILES
100' WETLAND BUFFER
TREES TO BE REMOVED
PROPOSED SILT SOCK (TYP.)
EXISTING 2 STORY OFFICE
CONCRETE STEPS
"HILLCREST ESTATE OFFICE"
CONCRETE RAMP
PROPOSED TREELINE (TYP.)
10" MAPLE
"HP PARKING ONLY"
LAFAYETTE ROAD / US ROUTE 1
(PUBLIC RIGHT OF WAY)
N40°E

TAX MAP 291 LOT 8
262,281 S.F.
6.021±

HORIZONTAL SCALE 1"=20'
20 10 0 20

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

SITE PREPARATION PLAN

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")
JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
1	7/8/2020	REVISIONS PER CITY STAFF & TAC COMMENTS	DKE	CRR

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407-33 – SITE PREPARATION	C-03

DIG SAFE
811 NH RSA 374
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

Aug 11, 2020 - 12:26pm
F:\tmsc projects\45407 - lafayette road - portsmouth\45407-33 - 3201 lafayette rd llc_model home\Design\production drawings\45407-33 - Site Preparation.dwg

SITE DATA

ZONED: GATEWAY CORRIDOR (G1)
EXISTING USE: OFFICES
PROPOSED USE: OFFICES WITH MODEL UNITS

A SPECIAL EXCEPTION WAS GRANTED BY THE CITY OF PORTSMOUTH ZONING BOARD OF ADJUSTMENT ON 5/19/20 IN ORDER TO ALLOW MANUFACTURED HOME SALES IN THE GATEWAY NEIGHBORHOOD CORRIDOR (G1) DISTRICT.

DIMENSIONAL REQUIREMENTS –
SEE ARTICLE 5B, SECTION 10.5B20 – GENERAL STANDARDS FOR ALL BUILDINGS AND DEVELOPMENT OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE ZONING ORDINANCE.

PARKING REQUIREMENTS

BUSINESS OFFICE	1 SPACE / 250 SF	
OFFICES	1554 SF (*2 FLOORS) * 1 SPACE / 250 SF = (1554 SF * 2)/250	= 12.4 SPACES
	1769 SF * 1 SPACE / 250 SF = 1769 SF / 250	= 7.1 SPACES
	TOTAL REQUIRED	= 20 SPACES
	TOTAL PROVIDED	= 20 SPACES
		(INCLUDING 1 ACCESSIBLE SPACE)

SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R7-8[1]	RESERVED PARKING	12	18	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	1

LOT COVERAGE CALCULATIONS:

TOTAL LOT AREA: 262,281-S.F.

BUILDING AREA:

USE	AREA
EX. OFFICE	1,554-S.F.
PROP. MODEL BUILDINGS	8,747-S.F.
TOTAL	10,301-S.F.
BUILDING LOT COVERAGE	4%

OTHER IMPERVIOUS AREAS:

PAVEMENT & CONCRETE	40,926-S.F.
STEPS AND LANDING	768-S.F.
CRUSHED STONE STORAGE AREA	23,124-S.F.
TOTAL	64,818-S.F.
OTHER IMPERVIOUS COVERAGE	24%

TOTAL LOT COVERAGE	75,119-S.F.
IMPERVIOUS LOT COVERAGE	28%

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SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

SITE LAYOUT PLAN

3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR
3201 LAFAYETTE ROAD, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") — JUNE 22, 2020

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45407.33	CK	CRR	CADFILE	45407-33 – SITE LAYOUT	C-04

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DESFOSSES AVENUE

(PRIVATE RIGHT OF WAY)

PROPOSED STABILIZED CONSTRUCTION ENTRANCE

DHSET

PROPOSED MODEL BUILDING #1 (1,597–S.F., 1–STORY) (SIZE VARIES) F.F.=61.85

PROPOSED MODEL BUILDING #2 (992–S.F., 1–STORY) (SIZE VARIES) F.F.=61.69

PROPOSED MODEL BUILDING #3 (992–S.F., 1–STORY) (SIZE VARIES) F.F.=61.47

PROPOSED MODEL BUILDING #4 (1,707–S.F., 1–STORY) (SIZE VARIES) F.F.=61.29

PROPOSED STAFFED MODEL BUILDING (1,769–S.F., 1–STORY) (SIZE VARIES) F.F.=60.57

PROPOSED MODEL BUILDING #5 (1,690–S.F., 1–STORY) (SIZE VARIES) F.F.=60.83

BOAT TRAILER (TYP OF 2)

BOAT TRAILER/RV (TYP OF 6)

BOAT TRAILER/RV (TYP OF 2)

PROPOSED TEMPORARY MANUFACTURED HOME STORAGE (LOCATION VARIES ALONG EAST EDGE OF CRUSHED STONE)

PROP. SURFACE FLOW DIRECTION (TYP.)

PROP. SILT SOCK (TYP.)

PROP. LIMIT OF DISTURBANCE (AREA=53,108–S.F.)

DEBRIS / FILL PILES

100' WETLAND BUFFER

PROP. TREELINE (TYP.)

EXISTING 2 STORY OFFICE

TBM CHISEL ON CONCRETE PAD EL.=60.27'

LAFAYETTE ROAD / US ROUTE 1

(PUBLIC RIGHT OF WAY)

HORIZONTAL SCALE 1"=20'
20 10 0 20

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

GRADING & DRAINAGE PLAN

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

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SCALE: 1"=20' (22"X34")

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45407.33	CK	CRR	CADFILE	45407–33 – GRADING	C–05

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DESFOSSES AVENUE

(PRIVATE RIGHT OF WAY)

DHSET

FORTY LONG MEADOW/
PORTSMOUTH L
40 LONGMEADOW ROAD
PORTSMOUTH, NH 03801
RCRD BK.3435 PG.1686

PROPOSED MODEL BUILDING #1
(1,597–S.F., 1–STORY)
(SIZE VARIES)
F.F.=61.85

PROPOSED MODEL BUILDING #2
(992–S.F., 1–STORY)
(SIZE VARIES)
F.F.=61.69

PROPOSED MODEL BUILDING #3
(992–S.F., 1–STORY)
(SIZE VARIES)
F.F.=61.47

PROPOSED MODEL BUILDING #4
(1,707–S.F., 1–STORY)
(SIZE VARIES)
F.F.=61.29

PROPOSED STAFFED MODEL BUILDING
(1,769–S.F., 1–STORY)
(SIZE VARIES)
F.F.=60.57

PROPOSED MODEL BUILDING
(1,690–S.F., 1–STORY)
(SIZE VARIES)
F.F.=60.83

PROP. BUILDING MOUNTED LIGHTING (TYP. OF 6)

PROP. DROP FROM UTILITY POLE

PROP. UNDERGROUND ELECTRIC SERVICE (TYP.)

PROP. ELECTRIC HANDHOLE (TYP.)

BOAT TRAILER/RV (TYP OF 6)

BOAT TRAILER (TYP OF 2)

PROP. UNDERGROUND ELECTRIC, TELEPHONE AND COMMUNICATIONS SERVICE (TYP.)

PROP. PROPANE TANK (TYP.)

PROPOSED TEMPORARY MANUFACTURED HOME STORAGE (LOCATION VARIES ALONG EAST EDGE OF CRUSHED STONE)

PROPOSED TEMPORARY MANUFACTURED HOME STORAGE (LOCATION VARIES ALONG EAST EDGE OF CRUSHED STONE)

PROPOSED TEMPORARY MANUFACTURED HOME STORAGE (LOCATION VARIES ALONG EAST EDGE OF CRUSHED STONE)

DEBRIS / FILL PILES

100' WETLAND BUFFER

291/7
N/F
HILLCREST AT
PORTSMOUTH, LLC
PO BOX 2431
SALEM, NH 03079
RCRD BK.5444 PG.0198

PROPOSED 2" RIGID STYROFOAM INSULATION (DOW HI-40 OR EQUAL) (TYP.)

TBM CHISEL ON CONCRETE PAD EL.=60.27'

INV. OUT= 53.55

CUT AND CAP WATER SERVICE

WATER SERVICE CAP (TYP.)

PROPOSED 3/4" PEX WATER SERVICE TO CONNECT TO EXISTING SERVICE (WATER METER TO BE LOCATED INSIDE STAFFED MODEL HOME)

ABANDON INACTIVE SERVICE

EXISTING HYDRANT

4" SDR35 PVC
L=114 L.F.
S=0.036

PROPOSED WYE AT EXISTING SEWER SERVICE INV.=49.44
(CONTRACTOR TO VERIFY INVERT OF EXISTING SERVICE)

EXISTING 2 STORY OFFICE

WATER LINE DISCONNECTED IN FORMER METER PIT.

#2017

#2014

LAFAYETTE ROAD / US ROUTE 1

(PUBLIC RIGHT OF WAY)

169.4'

45°

SANITARY WASTEWATER FLOW

BUILDING USE: OFFICE

NHDES UNIT DESIGN FLOW:

OFFICE (WITHOUT CAFETERIA) = 10 GPD/EMPLOYEE

ESTIMATED FLOW:

OFFICE: 10 GPD/EMPLOYEE X 1 EMPLOYEE = 10 GPD

HORIZONTAL SCALE 1"=20'
20 10 0 20

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SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

UTILITY PLAN

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	45407.33	CK	CRR	CADFILE	45407-33 – UTILITY	C–06

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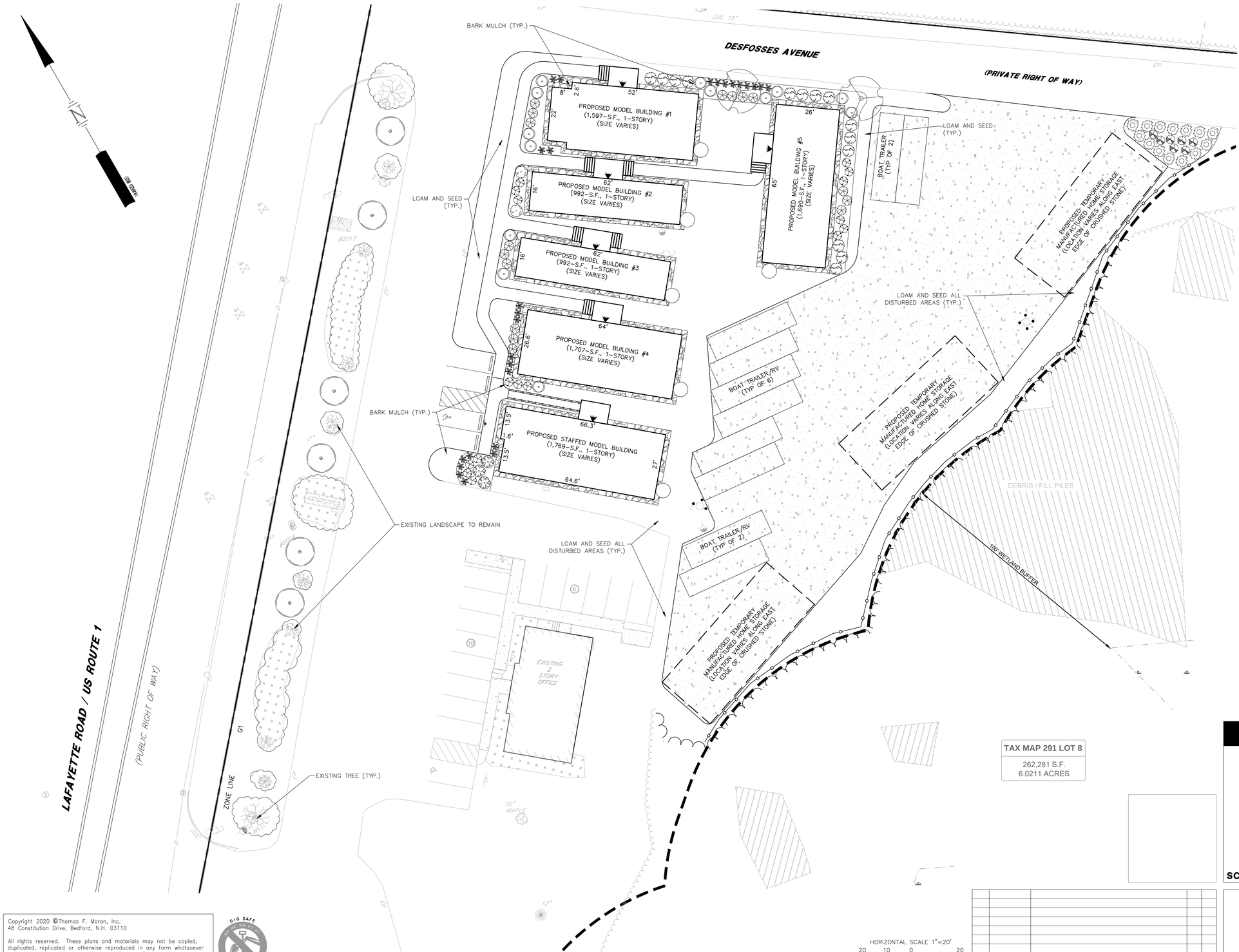

LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
	2	PYRUS CALLERYANA 'CHANTICLEER' CHANTICLEER FLOWERING PEAR	2 1/2" TO 3" CAL.	B&B
	6	MAACKIA AMURENSIS AMUR MAACKIA	2 1/2" TO 3" CAL.	B&B
	3	CORNUS SERICEA 'KELSEYI' KELSEYI RED–OSIER DOGWOOD	7 GAL.	CONT.
	16	HYDRANGEA PANICULATA 'BOBO' BOBO PANICLE HYDRANGEA	5 GAL.	CONT.
	14	JUNIPERUS C. 'PFITZERIANA COMPACTA' COMPACT PFITZER JUNIPER	2' TO 2 1/2'	B&B
	26	PENNISETUM A. 'HAMELN' HAMELN FOUNTAIN GRASS	5 GAL.	CONT.
	14	RHODODENDRON 'NOVA ZEMBLA' NOVA ZEMBLA RHODODENDRON	2' TO 2 1/2'	B&B
	2	RHODODENDRON 'PJM' PJM RHODODENDRON	2' TO 2 1/2'	B&B
	7	SPIRAEA BUMALDA 'GOLDFLAME' GOLDFLAME SPIREA	5 GAL.	CONT.
	16	SPIRAEA JAPONICA 'LEMON PRINCESS' LEMON PRINCESS SPIREA	5 GAL.	CONT.
	13	TAXUS MEDIA 'EVER–LOW' EVER–LOW YEW	2' TO 2 1/2'	B&B

LANDSCAPE NOTES

(SEE DETAILS FOR ADDITIONAL NOTES)

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL–FORMED UPPER GROWTH AND A LARGE, FIBEROUS, COMPACT ROOT SYSTEM.
7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
8. ALL TREES SHALL BE BALLED AND BURLAPPED (B & B) UNLESS OTHERWISE NOTED OR APPROVED BY LANDSCAPE ARCHITECT.
9. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
10. ALL INVASIVE PLANT SPECIES FROM THE "NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST", TO BE REMOVED SHALL BE DONE SO IN ACCORDANCE WITH THE "INVASIVE SPECIES ACT, HB 1258–FN."
11. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
12. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
13. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.

GUARANTEE

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

TAX MAP 291 LOT 8

262,281 S.F.
6.0211 ACRES

HORIZONTAL SCALE 1"=20'
20 10 0 20

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

LANDSCAPE PLAN

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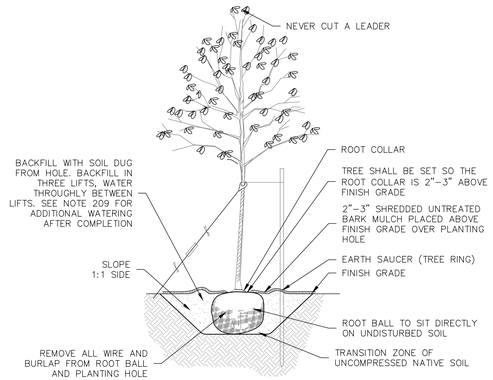
FILE	DR	CK	FB	CADFILE	–	SHEET
45407.33	DKE	CRR		45407–33 – LANDSCAPE		C–07

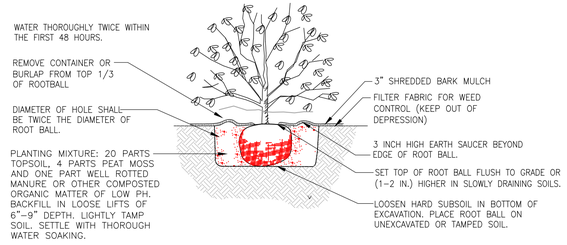
LANDSCAPE NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES FOR IMPLEMENTATION OF PLANTING PLAN.
2. CONTRACTOR WILL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES WILL IMMEDIATELY BE REPORTED TO THE LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE, SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
3. CONTRACTOR WILL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
4. SEE PLANTING DETAILS AND IF INCLUDED, SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
6. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH UNLESS OTHERWISE NOTED IN SPECIFICATIONS. THERE WILL BE NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT BY PROVIDING ADDITIONAL WATERING.
7. ALL PLANTS WILL BE NURSERY GROWN.
8. PLANTS WILL BE IN ACCORDANCE, AT A MINIMUM, WITH CURRENT EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION.
9. TREES WILL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 PART 1, "TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE STANDARD PRACTICES".
10. PLANTS MATERIAL IS SUBJECT TO APPROVAL / REJECTION BY THE LANDSCAPE ARCHITECT AT THE SITE AND AT THE NURSERY.
11. ALL PLANTS WILL BE MOVED WITH ROOT SYSTEMS AS SOLID UNITS AND WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT WILL BE ACCEPTED WHEN BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE WILL BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS WILL BE WRAPPED WITH WIND PROOF COVERING.
12. PROPOSED TREES OVERHANGING SIDEWALKS, ROADS OR PARKING WILL BEGIN BRANCHING NATURALLY (NOT PRUNED) AT 6' HEIGHT.
13. MULCH FOR PLANTED AREAS (NOT INCLUDING RAIN GARDENS) WILL BE AGED SHREDDED PINE BARK, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS UNLESS OTHERWISE SHOWN.
14. PLANT MATERIAL WILL BE LOCATED OUTSIDE BUILDING DRIPLINES AND ROOF VALLEY POINTS OF CONCENTRATION TO PREVENT DAMAGE TO PLANTS. CLARIFY RELOCATION WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
15. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, WILL RECEIVE SIX (6) INCH LOAM AND SEED.
16. TREE STAKES AND WRAP WILL REMAIN IN PLACE FOR NO MORE THAN 1 YEAR. CONTRACTOR WILL REMOVE.
17. ALL PLANT GROUPINGS WILL BE IN MULCH BEDS UNLESS OTHERWISE SPECIFIED OR NOTED ON PLANS. WHERE MULCHED PLANT BED ABUTS LAWN, PROVIDE TURF CUT EDGE.
18. ALL PLANT BEDS WILL INTERSECT WITH PAVEMENT AT 90 DEGREES UNLESS OTHERWISE NOTED ON PLANS.
19. ALL PLANT BED EDGES WILL BE SMOOTH AND CONSISTENT IN LAYOUT OF RADII AND TANGENTS. IRREGULAR, WAVY EDGES WILL NOT BE ACCEPTED.
20. CONTRACTOR WILL VERIFY PRIOR TO PRICING IF SITE SOILS ARE VERY POORLY DRAINING OR IF LEDGE IS PRESENT. IF CONTRACTOR ENCOUNTERS VERY POORLY DRAINING SOILS (BATH TUB EFFECT) OR LEDGE THAT IMPACTS PROPOSED PLANTING PLAN, NOTIFY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE FOR DIRECTION PRIOR TO PRICING AND AGAIN PRIOR TO PERFORMING ANY WORK.
21. PARKING AREA PLANTED ISLANDS WILL HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
22. EXISTING TREES SHOWN ON THE PLAN WILL REMAIN UNDISTURBED. ALL EXISTING TREES SHOWN TO REMAIN WILL BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK.
23. CONTRACTOR WILL STAKE OR PLACE ON GROUND ALL PROPOSED PLANT MATERIALS PER PLAN. CONTACT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
24. EXISTING NON-NATIVE, INVASIVE PLANT SPECIES WILL BE IDENTIFIED, REMOVED, DESTROYED AND LEGALLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE LATEST UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION METHODS OF DISPOSING NON-NATIVE INVASIVE PLANTS. SEE "MANAGE AND CONTROL INVASIVES" AND PROPERLY DISPOSE OF INVASIVE PLANTS".
25. HYDROSEEDING MAY BE USED AS AN ALTERNATE METHOD OF SEEDING. THE APPLICATION OF LIMESTONE AS NECESSARY, FERTILIZER AND GRASS SEED MAY BE ACCOMPLISHED IN ONE OPERATION BY THE USE OF A SPRAYING MACHINE APPROVED BY THE LANDSCAPE ARCHITECT OR CIVIL ENGINEER. THE MATERIALS SHALL BE MIXED WITH WATER IN THE MACHINE AND SHALL CONFORM TO RELATIVE REQUIREMENTS OF SECTION 644 OF NH. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
26. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES OF WATERING.
27. CONTRACTOR WILL BEGIN WATERING IMMEDIATELY AFTER PLANTING. ALL PLANTS WILL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS WILL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR.
28. WATER ALL LAWNS AS REQUIRED. DO NOT LET NEWLY PLANTED LAWNS DRY OUT DURING THE FIRST FOUR WEEKS MINIMUM.
29. ALL GENERAL LAWN SEEDED AREAS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR ACCEPTANCE. MAINTENANCE AND MOWING WILL CONTINUE UNTIL ACCEPTED BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE IS ISSUED IN WRITING.
30. THE CONTRACTOR WILL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR OR TWO (2) GROWING SEASONS, WHICHEVER IS LONGER, BEGINNING AT THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWING LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
31. ALL ORNAMENTAL GRASSES WILL BE CUT BACK EVERY FALL OR EARLY SPRING.
32. DECIDUOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO STAGE OF LEAF PHYSIOLOGY. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.
33. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
34. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
35. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.



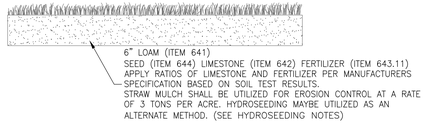
TREE PLANTING

NOT TO SCALE



SHRUB PLANTING

NOT TO SCALE



LOAM & SEED

NOT TO SCALE

PART 1 – GENERAL:

1.1 THE BASE OF THE CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS IS THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPLANTING. ANSI A300 PART 6 LAYS OUT TERMS AND BASIC STANDARDS AS SET FORTH BY INDUSTRY BUT IT IS NOT THE "END ALL" FOR THE CITY OF PORTSMOUTH. THE FOLLOWING ARE THE CITY OF PORTSMOUTH, NH TREE PLANTING REQUIREMENTS THAT ARE IN ADDITION TO OR THAT GO BEYOND THE ANSI A300 PART 6.

PART 2 – EXECUTION:

2.1 ALL PLANTING HOLES SHALL BE DUG BY HAND – NO MACHINES. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANGING PITS, PLANTING BEDS WITH GRANITE CURBING, AND PLANTING SITES WITH SILVA CELLS ARE BEING CREATED. IF A MACHINE IS USED TO DIG IN ANY OF THESE SITUATIONS AND PLANTING DEPTH NEEDS TO BE RAISED, THE MATERIAL IN THE BOTTOM OF THE PLANTING HOLE MUST BE FIRMED WITH MACHINE TO PREVENT SINKING OF THE ROOT BALL.

2.2 ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.

2.3 THE ROOT BALL OF THE TREE SHALL BE WORKED SO THAT THE ROOT COLLAR OF THE TREE IS VISIBLE AND NO GIRDLING ROOTS ARE PRESENT.

2.4 THE ROOT COLLAR OF THE TREE SHALL BE 2"-3" ABOVE GRADE OF PLANTING HOLE FOR FINISHING DEPTH.

2.5 ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED NO MORE THAN 20% WITH ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE THE NEW CONSTRUCTION WHERE ENGINEERED SOIL IS BEING USED IN CONJUNCTION WITH SILVA CELLS AND WHERE NEW PLANTING BEDS ARE BEING CREATED.

2.6 ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILL BE SET AND FREE OF AIR POCKETS – NO EXCEPTIONS.

2.7 AN EARTH BERM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.

2.8 2"-3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.

2.9 AT THE TIME THAT PLANTING IS COMPLETE, THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

2.10 STAKES AND GUYS SHALL BE USED WHERE APPROPRIATE AND/OR NECESSARY. GUY MATERIAL SHALL BE NON-DAMAGING TO THE TREE.

2.11 ALL PLANTING STOCK SHALL BE SPECIMEN QUALITY, FREE OF DEFECTS, AND DISEASE OR INJURY. THE CITY OF PORTSMOUTH NH RESERVES THE RIGHT TO REFUSE/REJECT ANY PLANT MATERIAL OR PLANTING ACTION THAT FAILS TO MEET THE STANDARDS SET FORTH IN THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPORTATION AND/OR THE CITY OF PORTSMOUTH, NH PLANTING REQUIREMENTS.

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

LANDSCAPE DETAILS

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
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SOIL CHARACTERISTICS

THE SOIL IN THE VICINITY OF THE SITE CONSIST OF URBAN LAND–CANTON COMPLEX, THE MAJORITY OF THE SOIL IS HSG TYPE A.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 53,108 SQUARE FEET (1.21 ACRES). CONSTRUCTION SHALL BE PHASED TO LIMIT DISTURBED AREAS TO LESS THAN 5 ACRES.

CRITICAL NOTE: THIS DRAWING IS PROVIDED FOR GENERAL GUIDANCE. ALL SPECIAL EROSION CONTROL MEASURES MUST BE EXECUTED IN ACCORDANCE WITH CURRENT STATE AND LOCAL REGULATIONS, APPROVED SWPPP AND PERMIT REQUIREMENTS.

SEQUENCE OF MAJOR ACTIVITIES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY EROSION CONTROL MEASURES PER APPROVED SWPPP IF REQUIRED.
2. DEMOLISH EXISTING SITE WORK DESIGNATED FOR REMOVAL.
3. COMPLETE MAJOR GRADING OF SITE.
4. CONSTRUCT BUILDING PAD, STORMWATER SYSTEM, AND SITE UTILITIES.
5. CONSTRUCT PARKING LOT.
6. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED, REMOVE ALL INLET PROTECTION, SILT BARRIERS AND SEDIMENT THAT HAS BEEN TRAPPED BY THESE DEVICES.
7. CONSULT APPROVED SWPPP FOR CONDITIONS RELATED TO NOTICE OF TERMINATION, IF REQUIRED.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL 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. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
3. A MINIMUM OF 3" OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

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 BARRIERS. ALL STORM DRAIN INLETS SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIPRAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSIVE VELOCITIES ARE ENCOUNTERED.

OFF SITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.

INSTALLATION, MAINTENANCE AND INSPECTION OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.

1. STABILIZATION OF ALL SWALES, DITCHES AND PONDS IS REQUIRED PRIOR TO DIRECTING FLOW TO THEM.
2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. (5 AC MAX)
3. ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.10" OR GREATER.
4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT BARRIER WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE BARRIER.
6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
9. THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

B. FILTERS / BARRIERS

1. SILT SOCKS

A. KNOTTED MESH NETTING MATERIAL SHALL BE DELIVERED TO SITE IN A 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" MATERIAL, FILLED WITH COMPOST CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
PH	TMECC 04.11–A	5.0 TO 8.0
PARTICLE SIZE	TMECC 02.02–B	2" SIEVE AND MIN. 60% GREATER THAN THE ⅜" SIEVE
MOISTURE CONTENT		STND TESTING < 60%

MATERIAL SHALL BE RELATIVELY FREE OF INERT OR FOREIGN MAN–MADE MATERIALS

MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER, FREE FROM ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH.

B. SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK SHALL BE REMOVED ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE SILT SOCK.

C. SILT BARRIER SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.

2. SEQUENCE OF INSTALLATION

SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.

3. MAINTENANCE

A. SILT BARRIERS SHALL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.

B. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) THE HEIGHT OF THE BARRIER.

D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFIRM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

C. MULCHING

1. TIMING

IN ORDER FOR MULCH TO BE EFFECTIVE, IT MUST BE IN PLACE PRIOR TO MAJOR STORM EVENTS. THERE ARE TWO (2) TYPES OF STANDARDS WHICH SHALL BE USED TO ASSURE THIS:

A. APPLY MULCH PRIOR TO ANY STORM EVENT.

THIS IS APPLICABLE WHEN WORKING WITHIN 100' OF WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.

B. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD.

THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON AN AREA, WHERE THE LENGTH OF TIME VARIES WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.

2. GUIDELINES FOR WINTER MULCH APPLICATION.

WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6,000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH.

3. MAINTENANCE

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.

D. VEGETATIVE PRACTICE

1. AFTER ROUGH GRADING OF THE SUBGRADE HAS BEEN COMPLETED AND APPROVED, THE SUB GRADE SURFACE SHALL BE SCARIFIED TO A DEPTH OF 4". THEN, FURNISH AND INSTALL A LAYER OF LOAM PROVIDING A ROLLED THICKNESS AS SPECIFIED IN THESE PLANS. ANY DEPRESSIONS WHICH MAY OCCUR DURING ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM, REGRADED AND REROLLED UNTIL THE SURFACE IS TRUE TO THE FINISHED LINES AND GRADES. ALL LOAM NECESSARY TO COMPLETE THE WORK UNDER THIS SECTION SHALL BE SUPPLIED BY THE SITE SUBCONTRACTOR.
2. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, DEBRIS, GLASS, STUMPS, LITTER AND OTHER FOREIGN MATERIAL, AS WELL AS STONES OVER 1" IN DIAMETER, SHALL BE REMOVED FROM THE LOAM AND DISPOSED OF OFF SITE. THE LOAM SHALL BE RAKED SMOOTH AND EVEN.
3. THE LOAM SHALL BE PREPARED TO RECEIVE SEED BY REMOVING STONES, FOREIGN OBJECTS AND GRADING TO ELIMINATE WATER POCKETS AND IRREGULARITIES PRIOR TO PLACING SEED. FINISH GRADING SHALL RESULT IN STRAIGHT UNIFORM GRADES AND SMOOTH, EVEN SURFACES WITHOUT IRREGULARITIES TO LOW POINTS.
4. SHAPE THE AREAS TO THE LINES AND GRADES REQUIRED. THE SITE SUBCONTRACTOR'S ATTENTION IS DIRECTED TO THE SCHEDULING OF LOAMING AND SEEDING OF GRADED AREAS TO PERMIT SUFFICIENT TIME FOR THE STABILIZATION OF THESE AREAS. IT SHALL BE THE SITE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE AREAS DURING THE CONSTRUCTION PERIOD AND REGRADE, LOAM AND RESEED ANY DAMAGED AREAS.
5. ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY LINES AND NOT COVERED BY STRUCTURES, PAVEMENT, OR MULCH SHALL BE LOAMED AND SEEDED.
6. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10–20–20 FERTILIZER.
8. 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.
9. 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" AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH THAT BLOWS OR WASHES AWAY SHALL BE REPLACED IMMEDIATELY AND ANCHORED USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.
11. 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.
12. THE SITE SUBCONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED, INCLUDING CUTTING, AS SPECIFIED HEREIN AFTER UNDER MAINTENANCE AND PROTECTION.
13. UNLESS OTHERWISE APPROVED, SEEDING SHALL BE DONE DURING THE APPROXIMATE PERIODS OF EARLY SPRING TO SEPTEMBER 30, WHEN SOIL CONDITIONS AND WEATHER ARE SUITABLE FOR SUCH WORK. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. FOR TEMPORARY PLANTINGS AFTER SEPTEMBER 30, TO EARLY SPRING AND FOR TEMPORARY PROTECTION OF DISTURBED AREAS:

A. FOLLOW ABOVE SLOPE, LOAM DEPTH AND GRADING REQUIREMENTS.
B. FERTILIZER SHALL BE SPREAD AND WORKED INTO THE SURFACE AT A RATE OF 500 POUNDS PER ACRE.

MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

WINTER RYE (FALL SEEDING)	2.5 LBS/1,000 SF
OATS (SPRING SEEDING)	2.0 LBS/1,000 SF
MULCH	1.5 TONS/ACRE

E. WINTER CONSTRUCTION SEQUENCE

1. ALL PROPOSED POST–DEVELOPMENT LANDSCAPED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, 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 PLACEMENT 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 EVENT.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, ALL TRAVEL SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOWFALL AFTER EACH STORM EVENT.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

WASTE DISPOSAL

1. WASTE MATERIALS
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.

2. HAZARDOUS WASTE
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.

3. SANITARY WASTE
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION

1. MATERIAL MANAGEMENT PRACTICES
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:

GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:

A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.

B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

HAZARDOUS PRODUCTS:
THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.

C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

2. PRODUCT SPECIFICATION PRACTICES
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

PETROLEUM PRODUCTS:
ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS:
FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS:
ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS:
CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA DESIGNATED ON SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

E. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

F. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL 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.

G. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

H. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

I. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

J. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.

K. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

DUST CONTROL

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

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

EROSION CONTROL NOTES

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

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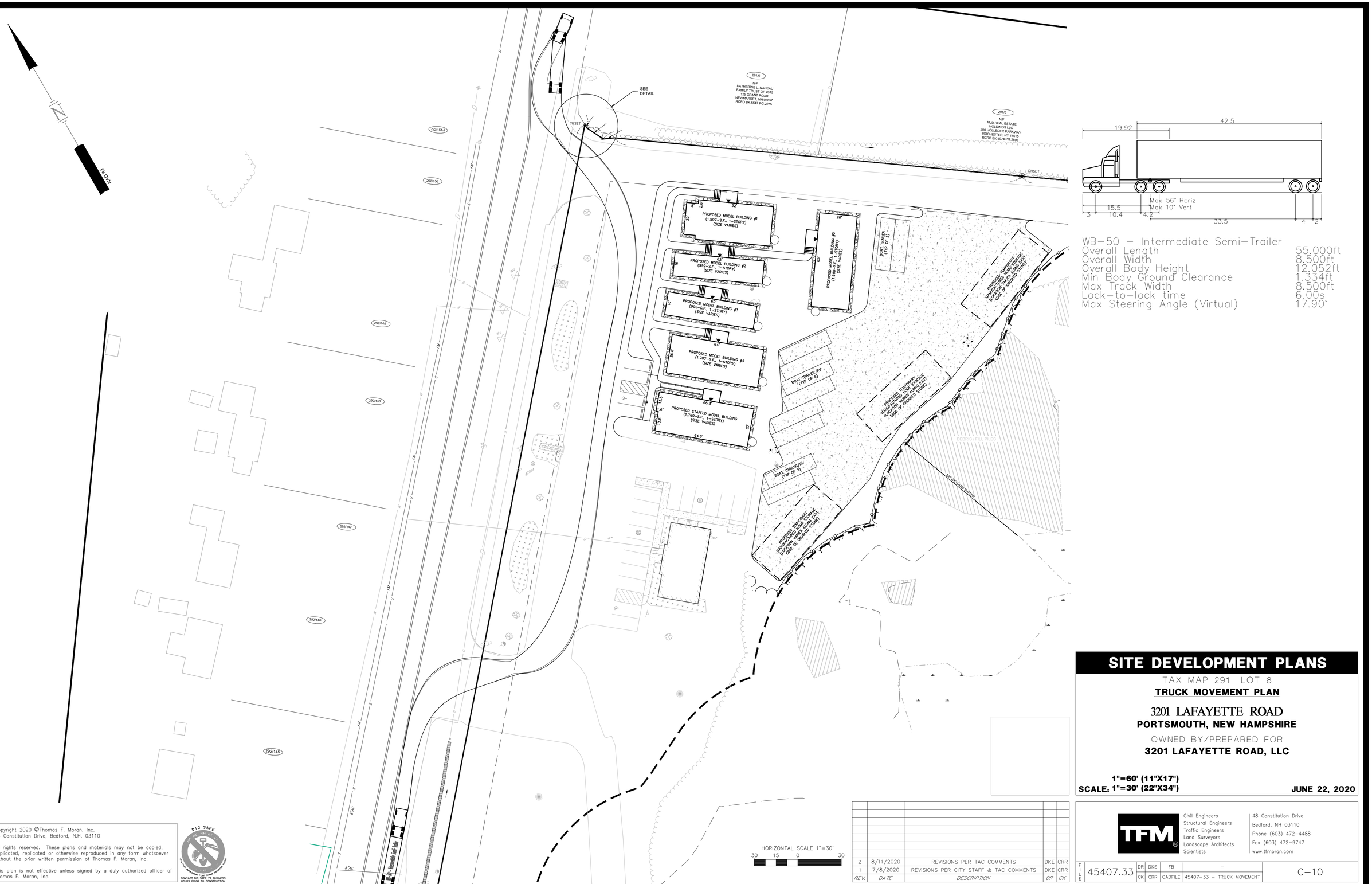
FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407-33 – EROSION CONTROL NOTES	C–09

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



WB–50 – Intermediate Semi–Trailer

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock–to–lock time	6.00s
Max Steering Angle (Virtual)	17.90°

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

TRUCK MOVEMENT PLAN

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

1"=60' (11"X17")
SCALE: 1"=30' (22"X34")

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR.	CK.
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
1	7/8/2020	REVISIONS PER CITY STAFF & TAC COMMENTS	DKE	CRR

DIG SAFE
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TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472–4488
Fax (603) 472–9747
www.tfmoran.com

FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407–33 – TRUCK MOVEMENT	C–10

Aug 11, 2020 - 12:27pm
F:\tmsc projects\45407 - lafayette road - portsmouth\45407-33 - 3201 lafayette rd llc_model home\Design\production drawings\45407-33 - Truck Movement.dwg

CONSTRUCTION SEQUENCE NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CUT AND CLEAR TREES WITHIN AREA OF DISTURBANCE UNLESS OTHERWISE NOTED.
3. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE
4. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES PRIOR TO ANY EARTH MOVING OPERATION.
5. ROUGH GRADE SITE OR PHASED WORK AREA. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED NO LATER THAN 72 HOURS AFTER CONSTRUCTION ACTIVITY CEASES. IF EARTHWORK TEMPORARILY CEASES ON A PORTION OF OR THE ENTIRE SITE, AND WILL NOT RESUME WITHIN 21 DAYS, THE AREA SHALL BE STABILIZED.
6. AN AREA SHALL BE CONSIDERED STABILIZED IF:
   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 STONE OR RIPRAP HAS BEEN INSTALLED, OR
   D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
7. INSTALL ALL UNDERGROUND UTILITIES.
8. CONSTRUCT BUILDINGS.
9. CONSTRUCT PARKING AND FINISH GRADE SITE ACCORDING TO PLAN. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES PERIODICALLY AND IMMEDIATELY AFTER STORM EVENTS.
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
12. REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE ALL AREAS ARE STABILIZED WITH A SUITABLE STAND OF GRASS, PAVEMENT OR COMPACTED GRAVELS.
13. LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

* REFER TO THE GRADING PLAN FOR EROSION CONTROL MEASURES AND SPECIFIC INFORMATION.

GENERAL NOTES

1. 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
2. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
4. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
5. EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE NHDES STANDARDS. THESE DETAILS SERVE AS A GUIDE ONLY.
6. REFER TO THE TOWN STANDARD DETAILS, LATEST REVISION, FOR ADDITIONAL INFORMATION AND CRITERIA.
7. THE CONTRACTOR SHALL STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING FLOW TO THEM.
8. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
9. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NESESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
10. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
11. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

STOCKPILE NOTES

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORMWATER AND DRAINAGE COURSES.
2. PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES.
3. STOCKPILES SHOULD BE SURROUNDED BY SEDIMENT BARRIERS, SUCH AS SILT FENCE OR SILT SOCK, TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.
4. IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
5. PLACE BAGGED MATERIALS ON PALLETS AND UNDER COVER.
6. INACTIVE STOCKPILES
   a. INACTIVE SOIL STOCKPILES sHOULD BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIERS AT ALL TIMES.
   b. INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS AND OTHER SIMILAR MATERIALS SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHOULD ALSO BE COVERED.
7. ACTIVE STOCKPILES
   a. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
   b. WHEN A STORM EVENT IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

WINTER CONSTRUCTION

1. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED AS SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
2. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.
3. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.
4. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THE SAME DAY.
5. IN THE EVENT OF A SNOWFALL GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.
6. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

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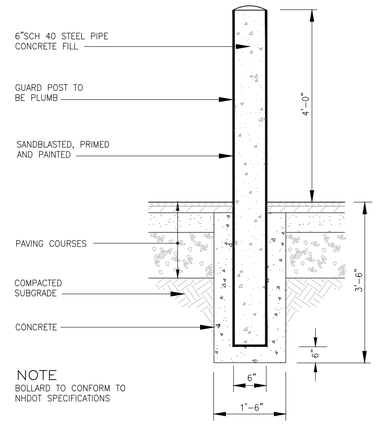
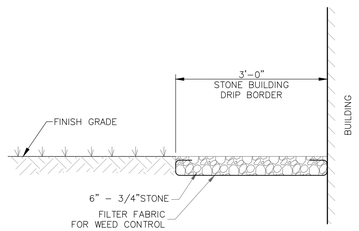


NOTE
BOLLARD TO CONFORM TO NHDOT SPECIFICATIONS

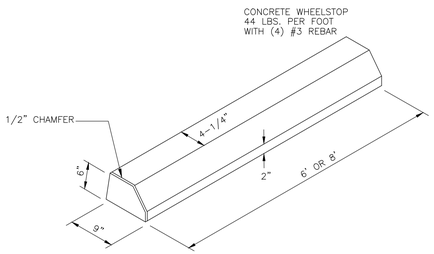
BOLLARD

NOT TO SCALE



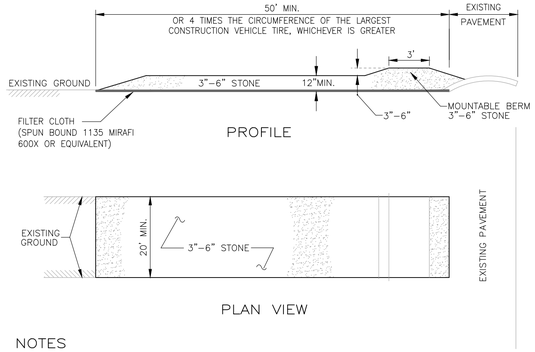
STONE DRIP EDGE

NOT TO SCALE



CONCRETE WHEELSTOP

NOT TO SCALE

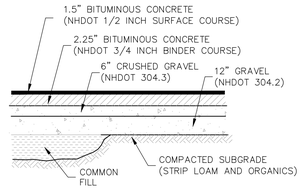


NOTES

1. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. NO SURFACE WATER SHALL BE DIRECTED TOWARD CONSTRUCTION ENTRANCES.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

STABILIZED CONSTRUCTION ENTRANCE

SEE PLAN FOR PROPOSED LOCATION NOT TO SCALE

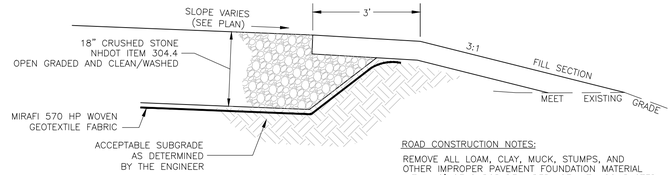


STANDARD DUTY PAVEMENT

NOTES

1. SEE GRADING PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
2. PROVIDE CLEAN BUTT TO EXISTING PAVEMENT– USE TACK COAT. A TACK COAT SHALL ALSO BE PLACED BETWEEN GRAVEL COURSE AND SUCCESSIVE LAYERS OF BITUMINOUS CONCRETE. SPECIFICALLY, A TACK COAT SHALL BE PLACED ATOP THE BINDER COURSE PAVEMENT PRIOR TO PLACING THE WEARING COURSE.
3. REMOVE ALL LOAM AND/OR YIELDING MATERIAL BELOW PAVEMENT.
4. BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SECTION 401.
5. BITUMINOUS CONCRETE SHALL BE COMPACTED TO AT LEAST 92.5% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D2041 OR AASHTO T209. PLACEMENT TEMPERATURES OF BITUMINOUS CONCRETE MIXES, IN GENERAL, RANGE BETWEEN 270 AND 310 DEGREES FAHRENHEIT.
6. PAVEMENT BASE COURSE AGGREGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
7. PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOF ROLLED AND COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY.
8. THE EXPOSED SOIL SUBGRADE SHOULD BE PROOF ROLLED PRIOR TO THE PLACEMENT OF SUBBASE GRAVEL, AND SOFT AREAS SHOULD BE REPAIRED AND REPLACED.

PAVEMENT SECTION
NOT TO SCALE



MAINTENANCE:

1. INSPECT CRUSHED STONE PARKING AREA FOLLOWING MAJOR STORM EVENT, CHECK FOR PONDING AND RUTTING AND REPLACE STONE AS NECESSARY.
2. ONCE PER YEAR (IN SPRING FOLLOWING SNOW MELT), INSPECT CRUSHED STONE; REMOVE SECTION OF STONE TO GEOTEXTILE FABRIC LAYER TO VERIFY IF SEDIMENT HAS ACCUMULATED. IF THERE IS ACCUMULATED SEDIMENT, CRUSHED STONE TO BE REMOVED, REMOVE SEDIMENT AND REPLACE STONE.
3. FOR SNOW REMOVAL OF CRUSHED STONE AREA, PLOW BLADE SHALL BE RAISED 1" TO PREVENT MIGRATION OF STONE

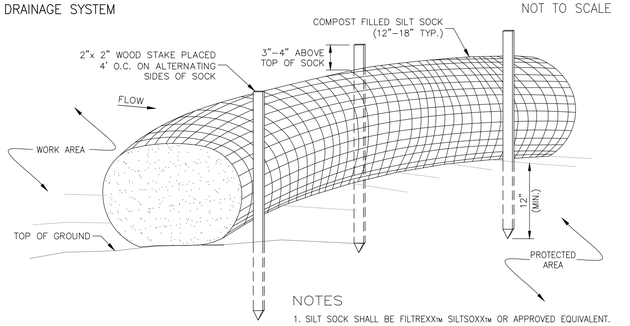
ROAD CONSTRUCTION NOTES:

REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER PAVEMENT FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.

ALL BASE MATERIALS AND WORKMANSHIP TO BE IN COMPLIANCE WITH N.H.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.

CRUSHED STONE PARKING LOT SECTION

OPEN DRAINAGE SYSTEM NOT TO SCALE

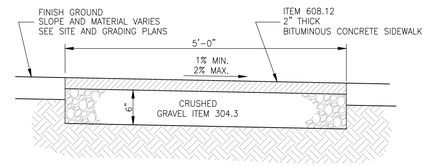


NOTES

1. SILT SOCK SHALL BE FILTREXX™ SILTSOXX™ OR APPROVED EQUIVALENT.
2. SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

SILT SOCK

NOT TO SCALE



BITUMINOUS SIDEWALK

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

DETAILS

3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR
3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK
2	8/11/2020	REVISIONS PER TAC COMMENTS	DKE	CRR
1	7/8/2020	REVISIONS PER CITY STAFF & TAC COMMENTS	DKE	CRR

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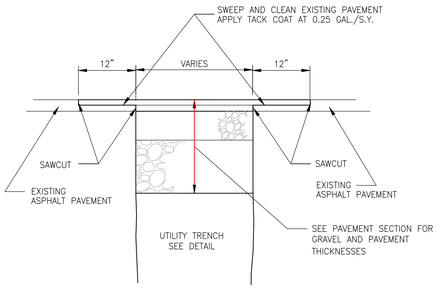
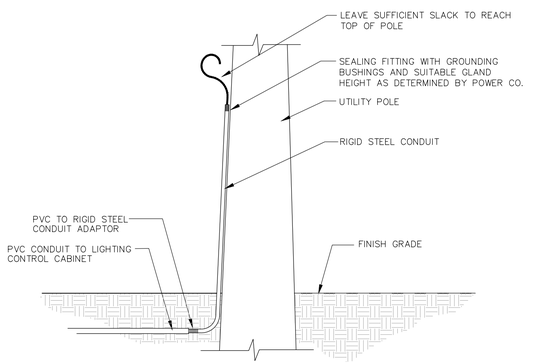
FILE	DR	DKE	FB	–	C-11
45407.33	CK	CRR	CADFILE	45407-33 – DETAILS	



PAVEMENT TRENCH PATCH

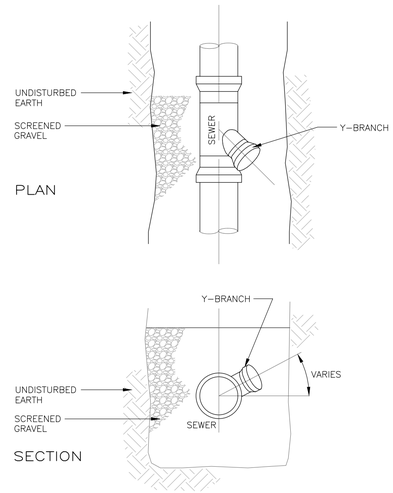
FLUSH NOT TO SCALE



NOTE: CONDUIT SIZE AS INDICATED ON DRAWINGS.

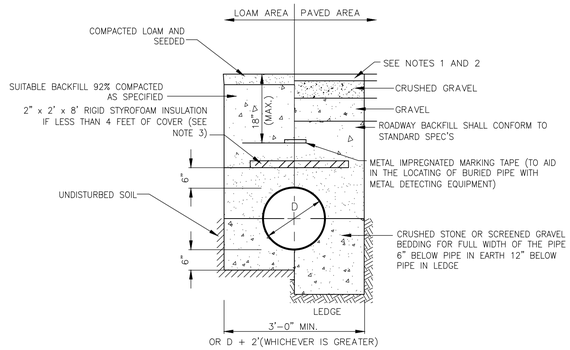
SERVICE POLE RISER

NOT TO SCALE



PVC WYE BRANCH

NOT TO SCALE

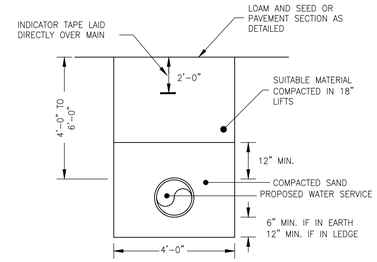


NOTES

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
3. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2" x 2' x 2' PIECE OF INSULATION CENTERED OVER GAP.

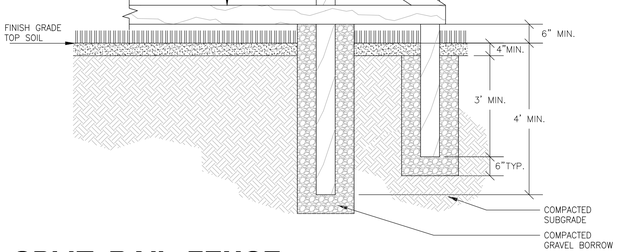
SEWER TRENCH WITH OPTIONAL INSULATION

NOT TO SCALE



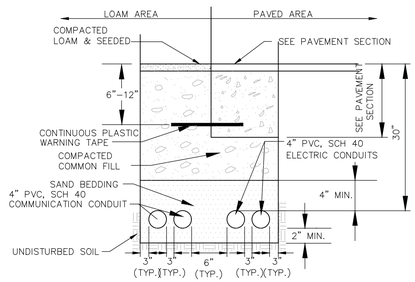
WATER MAIN TRENCH

NOT TO SCALE



SPLIT RAIL FENCE

NOT TO SCALE



NOTES

1. ELECTRIC SERVICE INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.
2. COMMUNICATION SERVICE INSTALLATION SHALL MEET ALL CONSTRUCTION REQUIREMENTS.
3. ACTUAL NUMBER OF CONDUITS TO BE DETERMINED BY RESPECTIVE COMPANIES..
4. VERIFY INSTALLATION REQUIREMENTS WITH RESPECTIVE COMPANIES.

ELECTRIC/COMMUNICATIONS CONDUIT

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

DETAILS

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

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45407.33	CK	CRR	CADFILE	45407-33 – DETAILS	C-12

MANUFACTURED MODEL HOME EXAMPLE #1

MANUFACTURED MODEL HOME EXAMPLE #2

MANUFACTURED MODEL HOME EXAMPLE #3

MANUFACTURED MODEL HOME EXAMPLE #4

MANUFACTURED MODEL HOME EXAMPLE #5

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

MANUFACTURED MODEL HOME EXAMPLES

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

OWNED BY/PREPARED FOR

3201 LAFAYETTE ROAD, LLC

JUNE 22, 2020

DIG SAFE
CALL NH DIG SAFE
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FILE		DR	DKE	FB	–	
	45407.33	CK	CRR	CADFILE	45407-33 – COLOR RENDERINGS	C-13

Proposed Model Home

Proposed Model Home

Proposed Model Home

Proposed Model Home

Proposed Model Home

Stormwater Management Report

Office with Model Manufactured Homes

3201 Lafayette Road
Tax Map 291 Lot 8
Portsmouth, NH

Date:

June 18, 2020

Prepared for:

3201 Lafayette Road, LLC
72 South Broadway
Salem, NH 02921

Job #: 45407.33

Prepared By:

TFM MSC A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

170 Commerce Way, Suite 102, Portsmouth, NH 03801
Tel: (603) 431-2222 **Fax**: (603) 431-0190
www.tfmoran.com

Office with Model Manufactured Homes
3201 Lafayette Road, Portsmouth, NH 03801

Table of Contents

Executive Summary

- 3201 Lafayette Road, LLC of Salem, NH is proposing to construct six model manufactured homes and a crushed stone storage area at 3201 Lafayette Road in Portsmouth, NH.

- A Best Management Practice is proposed to manage the stormwater from the development and propose treatment. An open drainage system is proposed to capture runoff from the project. The Best Management Practice on site is a porous storage area utilizing infiltration.

- There will be no increase in the peak rate of flow to the Discharge Point.

Description of Project

The subject parcel is located on Lafayette Road in Portsmouth, NH. The parcel included is Map 291 Lot 8. The total area of the subject parcel is 262,281 S.F.± or 6.02 Ac. The property is zoned G1: Gateway Corridor.

The proposed improvements are to include the removal of the existing garage on site and the construction of six model manufactured homes (of varying size and height), and a crushed stone storage area for the storage of boat and RV trailers as well as other model manufactured homes. Due to the size of the project, only a City of Portsmouth Site Plan approval will be required for the site redevelopment project. The objective for the Post-Development drainage design is to use the best management practice to provide treatment to collected stormwater.

The intent of this report is: 1) To analyze the rate of runoff from the site for the pre-development and post-development conditions and 2) To provide stormwater treatment for the runoff from the development prior to discharging from the site in accordance with the requirements of the City of Portsmouth.

Storm Water Methodology

Pre-Development Conditions

The existing property is located on Lafayette Road in Portsmouth, NH and is approximately 6.02 acres. The site is zoned G1: Gateway Corridor. The site abuts Lafayette Road (US Route 1) to the west, Desfosses Avenue to the north, Blue Fish Boulevard to the south, and a residential area to the east.

The property is currently partially developed with a two-story office, detached garage, and associated paved parking area in the western portion of the lot, and a wooded area on the eastern portion of the lot predominantly occupied by wetlands.

Within the drainage study area, there are three soil types according to the NRCS Web Soil Survey: 299: Udorthents, smoothed, 699: Urban land, 799: Udorthents land-Canton complex, (3-15% slopes).

Based on the existing topography of the site, stormwater primarily flows from west to east from Lafayette Road to the wetland area. Existing runoff is collected primarily via surface flow and flows directly to the wetland area. The drainage model represents the flow to the discharge point identified along the limits of the project area where runoff would leave the development area. The curve numbers for each subcatchment were calculated based on the existing ground cover and hydrologic soil group. The time of concentration for each subcatchment was determined using the land ground cover and the slope of the land.

Calculation Methods

To model the site drainage, HydroCAD Version 10.00 program has been used. The software is based on the SCS TR-20 technique used for modeling the hydrology and hydraulics of storm water runoff. This project complies with City Regulations and as such there is no increase in peak rate of runoff for the 2-year, 10-year, 25-year, and 50-year storm events. Rainfall frequencies were used to determine storm-event intensities.

Rainfall Intensity

The following precipitation estimates were obtained from the Northeast Regional Climate Center (NRCC):

24-Hour Rainfall Intensity	City of Portsmouth Northeast Regional Climate Center
2-year	3.25 inches
10-year	4.93 inches
25-year	6.25 inches
50-year	7.49 inches

Post-Development Conditions

The objectives for the post-development drainage design is to use a best management practice to improve treatment to collected stormwater on site. A porous storage area (consisting of crushed stone) is proposed to provide treatment and attenuate flow for the site.

The post-development drainage model represents the project drainage areas divided into multiple subcatchments based on the layout of the site.

An open drainage system is proposed, which utilizes surface flow to collect runoff from the site and distribute flow to the porous storage area. Flows directed to the porous storage area will percolate through the crushed stone and will infiltrate to native soils. In higher storm intensities, the void space within the stone area will reach its maximum capacity and will outlet to a hillside which will discharge to the wetlands on-site.

The pre-development discharge point has been analyzed in post-development conditions.

Stormwater Treatment

Stormwater Treatment is achieved via the porous storage area. As runoff percolates through the crushed stone, sediment and other pollutants will settle out, and any runoff infiltrating will filter through native soils. The proposed practice was designed to infiltrate and treat the storm event required by the City of Portsmouth (0.5-inch). The resulting runoff from the 0.5-inch storm event that enters the proposed practice is entirely contained within the crushed stone and infiltrates to native soils.

Treatment Efficiency

Appendix B of Volume 2 of the New Hampshire Stormwater [1] lists the pollutant removal efficiencies of various BMP's. An Infiltration Practice more than 75' from surface water has a 90% efficiency for removing Total Suspended Solids (TSS), a 60% efficiency in removing Total Nitrogen (TN) and a 65% efficiency in removing Total Phosphorous (TP). These efficiencies meet the City of Portsmouth requirement of minimizing the export of phosphorous and nitrogen from the site.

Erosion Control Measures

Erosion Control Measures will be used as shown on the grading and drainage plan. The erosion control notes and construction sequence notes on the Detail Sheets contain specifications for stabilizing disturbed areas and limiting the length of time these areas are exposed.

Temporary Erosion Control Measures

Temporary erosion control measures include a construction entrance and silt socks.

Permanent Erosion Control Measures

The porous storage area is used to slow down off-site flows and volumes.

Flood Protection

Examination of the Flood Insurance Rate Map for Rockingham County, New Hampshire (all jurisdictions), map number 33015C0270E, effective May 17, 2005, indicates that the subject parcel is located within Flood Zone X (area of minimal flood hazard).

Conclusion

Peak Rate Flows

There will be no increase in the peak rate of flow to any of the Discharge Points.

Discharge Point	PRE-DEVELOPMENT Q (cfs)				POST-DEVELOPMENT Q (cfs)			
	2-yr	10-yr	25-yr	50-yr	2-yr	10-yr	25-yr	50-yr
POI-1	0.1	1.8	4.6	7.8	0.0	0.3	0.8	1.4

Channel Protection Requirements

Channel protection criteria were analyzed at the Discharge Point. The 2-year 24-hour post-development storm volume has decreased over the pre-development volume at Discharge Point POI-1 and will not result in any erosion control issues in channels downstream of the site. See results in the Discharge Point chart above.

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

June 11, 2020

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.

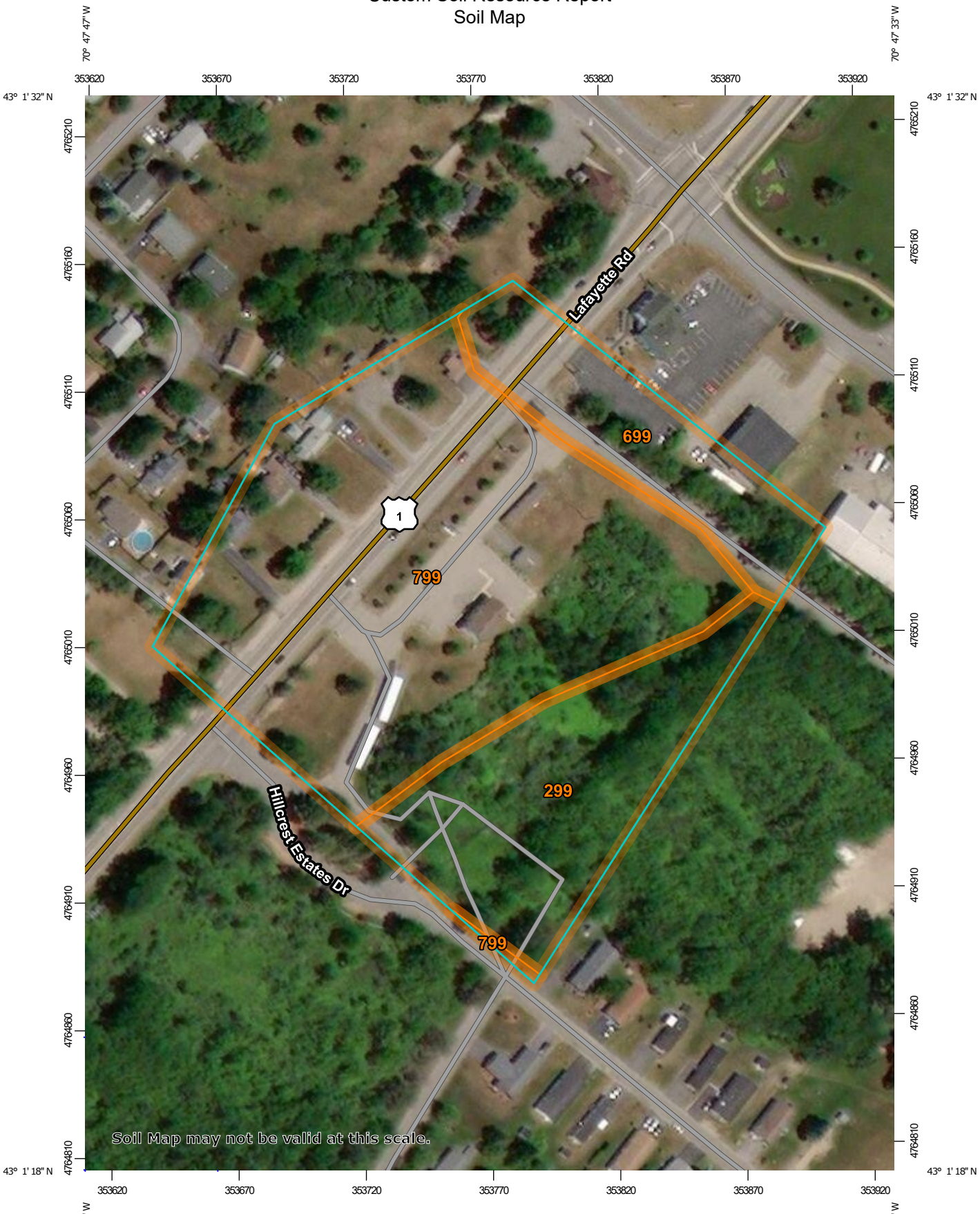
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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: 1:2,050 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 50 100 200 300

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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 21, Sep 16, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Jun 14, 2017

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
299	Udorthents, smoothed	2.3	23.2%
699	Urban land	1.4	14.4%
799	Urban land-Canton complex, 3 to 15 percent slopes	6.1	62.3%
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

299—Udorthents, smoothed

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Properties and qualities

Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

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
Natural 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 storage in profile: Low (about 5.3 inches)

Interpretive groups

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

Minor Components

Udorthents

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

Squamscott and scitico

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

Boxford and eldridge

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

Chatfield

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

Scituate and newfields

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

Walpole

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

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.796 degrees West
Latitude	43.024 degrees North
Elevation	0 feet
Date/Time	Thu, 11 Jun 2020 15:22:16 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.98	1.22	1.57	2.05	2.69	2.96	**1yr**	2.38	2.84	3.26	3.98	4.61	**1yr**
2yr	0.32	0.50	0.62	0.82	1.03	1.30	**2yr**	0.89	1.19	1.52	1.95	2.51	3.25	3.61	**2yr**	2.87	3.47	3.98	4.73	5.38	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.90	2.45	3.17	4.12	4.64	**5yr**	3.64	4.46	5.11	6.01	6.78	**5yr**
10yr	0.41	0.65	0.82	1.12	1.46	1.90	**10yr**	1.26	1.73	2.25	2.92	3.79	4.93	5.60	**10yr**	4.36	5.39	6.17	7.20	8.08	**10yr**
25yr	0.48	0.77	0.98	1.35	1.79	2.36	**25yr**	1.54	2.16	2.80	3.67	4.79	6.25	7.20	**25yr**	5.54	6.92	7.93	9.16	10.19	**25yr**
50yr	0.54	0.87	1.11	1.55	2.09	2.78	**50yr**	1.80	2.54	3.32	4.37	5.73	7.49	8.70	**50yr**	6.63	8.37	9.59	10.99	12.14	**50yr**
100yr	0.60	0.98	1.26	1.79	2.44	3.29	**100yr**	2.11	3.00	3.95	5.22	6.86	8.98	10.53	**100yr**	7.95	10.12	11.60	13.19	14.48	**100yr**
200yr	0.68	1.11	1.44	2.07	2.86	3.88	**200yr**	2.47	3.55	4.67	6.21	8.19	10.77	12.74	**200yr**	9.53	12.25	14.04	15.83	17.28	**200yr**
500yr	0.81	1.33	1.74	2.52	3.52	4.83	**500yr**	3.04	4.42	5.84	7.81	10.37	13.70	16.39	**500yr**	12.12	15.76	18.07	20.17	21.84	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.89	**1yr**	0.62	0.87	0.92	1.33	1.67	2.26	2.59	**1yr**	2.00	2.50	2.90	3.17	3.95	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.87	1.17	1.37	1.82	2.33	3.09	3.51	**2yr**	2.74	3.37	3.88	4.61	5.14	**2yr**
5yr	0.35	0.54	0.67	0.93	1.18	1.41	**5yr**	1.02	1.38	1.61	2.12	2.73	3.85	4.28	**5yr**	3.41	4.12	4.79	5.64	6.36	**5yr**
10yr	0.39	0.60	0.74	1.04	1.34	1.61	**10yr**	1.16	1.57	1.81	2.39	3.06	4.45	4.99	**10yr**	3.94	4.80	5.59	6.56	7.35	**10yr**
25yr	0.45	0.68	0.84	1.20	1.58	1.91	**25yr**	1.37	1.87	2.11	2.75	3.53	4.80	6.08	**25yr**	4.24	5.85	6.89	8.03	8.90	**25yr**
50yr	0.49	0.75	0.93	1.34	1.80	2.19	**50yr**	1.55	2.14	2.36	3.07	3.93	5.43	7.06	**50yr**	4.81	6.78	8.06	9.36	10.30	**50yr**
100yr	0.55	0.83	1.04	1.50	2.06	2.49	**100yr**	1.77	2.44	2.64	3.40	4.35	6.12	8.19	**100yr**	5.42	7.87	9.45	10.93	11.91	**100yr**
200yr	0.61	0.91	1.16	1.68	2.34	2.85	**200yr**	2.02	2.78	2.95	3.77	4.80	6.88	9.50	**200yr**	6.09	9.13	11.09	12.77	13.80	**200yr**
500yr	0.71	1.06	1.36	1.97	2.80	3.41	**500yr**	2.42	3.33	3.44	4.29	5.48	8.03	11.56	**500yr**	7.11	11.12	13.71	15.72	16.75	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.73	0.89	1.09	**1yr**	0.77	1.06	1.27	1.74	2.20	3.02	3.17	**1yr**	2.68	3.05	3.63	4.41	5.11	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.51	3.46	3.73	**2yr**	3.06	3.58	4.11	4.87	5.69	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.63	**5yr**	1.16	1.59	1.88	2.53	3.24	4.38	4.98	**5yr**	3.88	4.79	5.43	6.40	7.19	**5yr**
10yr	0.47	0.72	0.90	1.25	1.62	1.98	**10yr**	1.40	1.94	2.28	3.10	3.94	5.39	6.20	**10yr**	4.77	5.97	6.81	7.87	8.78	**10yr**
25yr	0.58	0.88	1.10	1.57	2.06	2.58	**25yr**	1.78	2.52	2.95	4.06	5.12	7.86	8.31	**25yr**	6.96	7.99	9.08	10.36	11.43	**25yr**
50yr	0.67	1.03	1.28	1.84	2.48	3.15	**50yr**	2.14	3.08	3.59	4.99	6.28	9.84	10.38	**50yr**	8.71	9.98	11.31	12.73	13.96	**50yr**
100yr	0.79	1.20	1.50	2.17	2.98	3.83	**100yr**	2.57	3.75	4.37	6.14	7.71	12.31	12.97	**100yr**	10.89	12.47	14.07	15.68	17.07	**100yr**
200yr	0.93	1.40	1.77	2.57	3.58	4.68	**200yr**	3.09	4.57	5.33	7.56	9.46	15.43	16.22	**200yr**	13.66	15.59	17.52	19.29	20.88	**200yr**
500yr	1.15	1.72	2.21	3.21	4.56	6.08	**500yr**	3.94	5.94	6.92	9.99	12.43	20.83	21.79	**500yr**	18.43	20.96	23.41	25.38	27.25	**500yr**

Powered by ACIS Northeast Regional Climate Center

TEST PIT REPORT

FOR

Hillcrest Estates
3201 Lafayette Road

Portsmouth, NH

PREPARED FOR

Hillcrest at Portsmouth, LLC

45407.30

PREPARED BY

TFMoran, Inc.
48 Constitution Drive
Bedford, NH 03110

January 21, 2020

TEST PIT # 1 January 21,2020

0-15”	10YR 3/3 Dark Brown, Sandy Loam, Granular, Friable, Many Medium to fine roots
15-37”	10YR 5/3, Brown, Sandy Loam, granular Friable, <5% stones
37-72”	10YR 3/4 Dark Yellowish Brown, Loamy Coarse Sand Gravelly, single grain, loose

Redox Concentrations @ 40” 7.5YR 5/4 common distinct

ESWHT: Obs @40”
Seeps/free water observed @42” Rapid flow
Roots: Observed@16”
Ledge: No refusal to 72”

TEST PIT # 2 January 21, 2020

0-10”	10YR 3/3 Dark Brown, Sandy Loam, Granular, Friable, Many Medium to fine roots
10-23”	10YR 4/4 Dark Yellowish Brown, Loamy Coarse Sand, Granular, Friable, <5% stones, fine roots
23-96”	10YR 4/3 Brown, Loamy Coarse Sand Gravelly, single grain, loose, Saturated Encountered 2” clay waterline at 36”

Redox Concentrations @ 32” 7.5YR 5/8 Prominent, common

ESWHT: Obs @32”
Seeps/free water observed @34” Rapid flow
Roots: Observed@30”
Ledge: No refusal to 72”

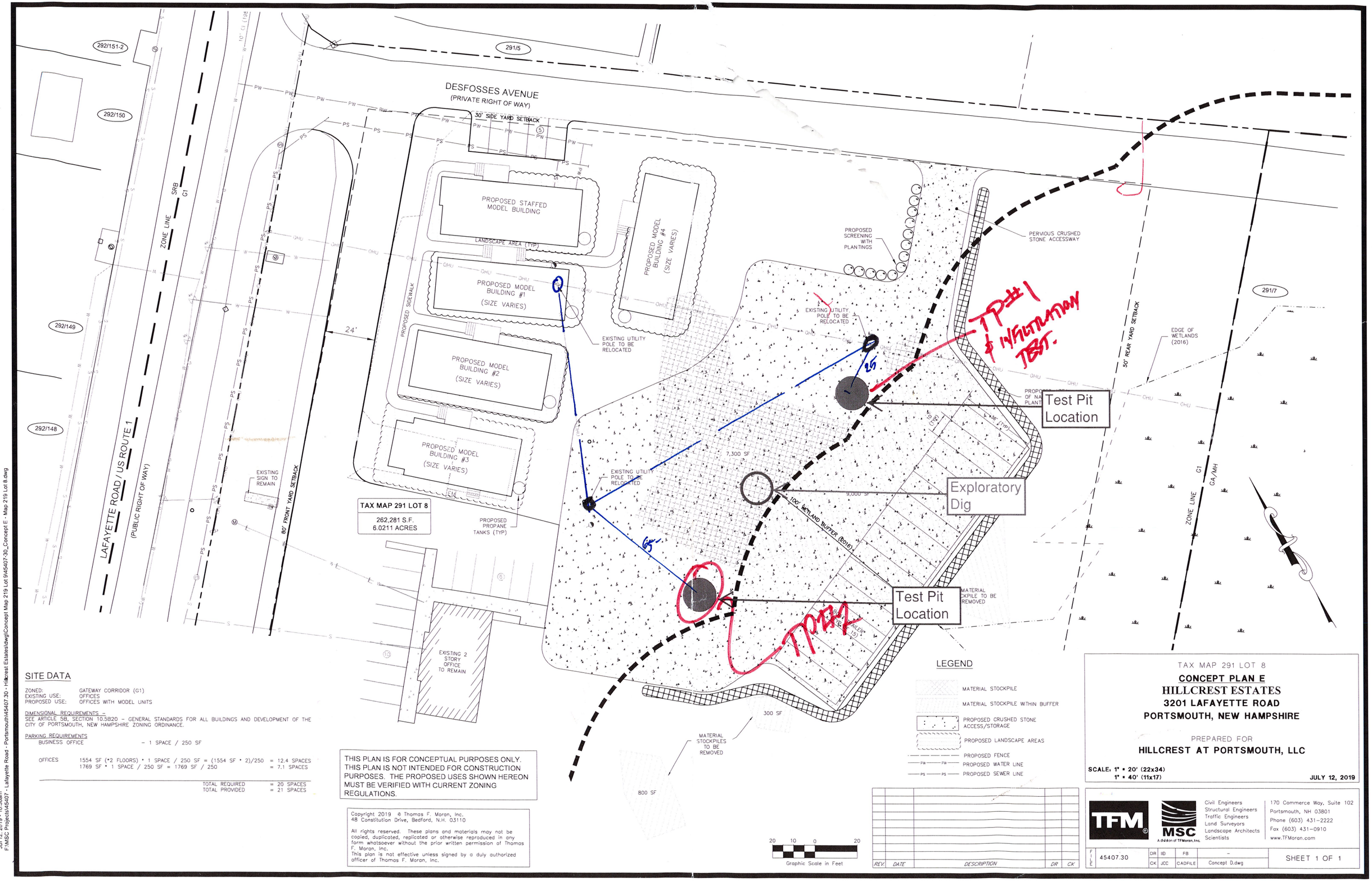
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Amoozemeter Field Data Sheet

DATE: 21Jan2020	Project: 45407.30 Hillcrest Estates		
LOCATION:3201 Lafayette Road, Portsmouth, NH	AIR TEMPERATURE:	10°F	
TEST BY: Chris Danforth			
SOIL MAP UNIT: Udorthents, smoothed (Ur)	NOTES:		
HORIZON: B – Sandy Loam	Test conducted at 20" below existing grade		
DISTURBED SITE: Extensive fill piles throughout site			
SOIL LOG RECORDED: **Test Pit #1**			

SETUP CALCULATIONS	Sample Round 1	Sample Round 2	Sample Round 3
D- Bottom of Hole to Ref line	34cm	35	40
d - H20 Surface to Ref.	19cm	20	25
H1 - CHT TUBE SETTING	19cm	20	25
H - DEPTH OF H20 IN HOLE	15cm	15	15

Amoozemeter Data Calculation Sheet			Hillcrest Estates 45407.30					1/21/2020
TP#1 @ 20" BELOW GRADE							Ksat	Ksat
Drop in Water	Time	Min./hr.	Outflow C.F.		Outflow Q		(cm/hr)	(in/hr)
Sample Set 1 Coefficient A = 0.001056								
5.000	1	0.016667	105		31500		33.2640	13.0961
5.000	1	0.016667	105		31500		33.2640	13.0961
4.000	1	0.016667	105		25200		26.6112	10.4769
4.500	1	0.016667	105		28350		29.9376	11.7865
4.000	1	0.016667	105		25200		26.6112	10.4769
4.500	1	0.016667	105		28350		29.9376	11.7865
						Average	**29.9376**	**11.7865**
						Stand Dev	2.9752	1.1713
Sample Set 2 Coefficient A = 0.001056								
4.000	1	0.016667	105		25200		26.6112	10.4769
4.000	1	0.016667	105		25200		26.6112	10.4769
6.000	1	0.016667	105		37800		39.9168	15.7153
5.500	1	0.016667	105		34650		36.5904	14.4057
5.500	1	0.016667	105		34650		36.5904	14.4057
5.500	1	0.016667	105		34650		36.5904	14.4057
						Average	**33.8184**	**13.3143**
						Stand Dev	6.2231	2.4500
Sample Set 3 Coefficient A = 0.001056								
3.500	1	0.016667	105		22050		23.2848	9.1672
3.500	1	0.016667	105		22050		23.2848	9.1672
3.500	1	0.016667	105		22050		23.2848	9.1672
3.500	1	0.016667	105		22050		23.2848	9.1672
3.500	1	0.016667	105		22050		23.2848	9.1672
3.500	1	0.016667	105		22050		23.2848	9.1672
						Average	**23.2848**	**9.1672**
						Stand Dev	0.0000	0.0000



SITE DATA

ZONED: GATEWAY CORRIDOR (G1)
EXISTING USE: OFFICES
PROPOSED USE: OFFICES WITH MODEL UNITS

DIMENSIONAL REQUIREMENTS –
SEE ARTICLE 5B, SECTION 10.5B20 – GENERAL STANDARDS FOR ALL BUILDINGS AND DEVELOPMENT OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE ZONING ORDINANCE.

PARKING REQUIREMENTS
BUSINESS OFFICE – 1 SPACE / 250 SF

OFFICES	1554 SF (*2 FLOORS) * 1 SPACE / 250 SF = (1554 SF * 2)/250	= 12.4 SPACES
	1769 SF * 1 SPACE / 250 SF = 1769 SF / 250	= 7.1 SPACES
	TOTAL REQUIRED	= 20 SPACES
	TOTAL PROVIDED	= 21 SPACES

THIS PLAN IS FOR CONCEPTUAL PURPOSES ONLY. THIS PLAN IS NOT INTENDED FOR CONSTRUCTION PURPOSES. THE PROPOSED USES SHOWN HEREON MUST BE VERIFIED WITH CURRENT ZONING REGULATIONS.

Graphic Scale in Feet
20 10 0 20

LEGEND

- MATERIAL STOCKPILE
- MATERIAL STOCKPILE WITHIN BUFFER
- PROPOSED CRUSHED STONE ACCESS/STORAGE
- PROPOSED LANDSCAPE AREAS
- PW PW PROPOSED WATER LINE
- PS PS PROPOSED SEWER LINE

REV.	DATE	DESCRIPTION	DR	CK

TAX MAP 291 LOT 8

CONCEPT PLAN E
HILLCREST ESTATES
3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR
HILLCREST AT PORTSMOUTH, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)
JULY 12, 2019

TFM MSC
A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.TFMoran.com

FILE	DR	ID	FB	–	
45407.30	CK	JCC	CADFILE	Concept D.dwg	SHEET 1 OF 1

Jul 12, 2019 - 10:36am
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407.30 - Hillcrest Estates\dwg\Concept Map 219 Lot 9\45407-30_Concept E - Map 219 Lot 8.dwg

TEST PIT REPORT

for

3201 Lafayette Road, LLC

3201 Lafayette Road
Portsmouth, NH

PREPARED FOR

Hillcrest at Portsmouth, LLC
45407.30

PREPARED BY

TFMoran, Inc.
48 Constitution Drive
Bedford, NH 03110

June 9, 2020

Test Pit #3 6/9/2020

0-10” 10YR 3/2 Very Dark Grayish Brown, Loamy Sand, Granular, Friable, Fine Roots
10-36” 7.5YR 4/4 Brown, Loamy Sand, gravelly, Granular, Friable, Fine Roots
36-52” 10YR 4/3 Brown, Gravelly coarse Sand, Single \ Grain, Loose, 10% stones
52-96” 10YR 5/3 Brown, Medium Sand, Single Grain Loose, saturated

ESHWT: Obs @ 72” 7.5YR 3/3 Redox Concentrations Few, Distinct
Seeps: None observed at 96”
Roots: obs to 30”
No Refusal @ 96”

Test Pit #4 6/9/2020

0-10” 10YR 3/2 Very Dark Grayish Brown, Loamy Sand, Granular, Friable, Fine Roots
10-28” 7.5YR 4/4 Brown, Loamy Sand, gravelly, Single Grain, Loose
28-46” 10YR 4/3 Brown, Gravelly coarse Sand, Single \ Grain, Loose, 10% stones
46-96” 10YR 5/4Yellowish Brown, Medium Sand, Single Grain Loose, saturated

ESHWT: Obs @ 72” 7.5YR 3/3 Redox Concentrations Few, Distinct
Seeps: None observed at 96”
Roots: obs to 12”
No Refusal @ 96”

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Amoozemeter Field Data Sheet

DATE: 9June2020	Project: 45407.30 Hillcrest Estates		
LOCATION:3201 Lafayette Road, Portsmouth, NH	AIR TEMPERATURE:	70°F	
TEST BY: Chris Danforth			
SOIL MAP UNIT: (799) Urban Land Canton Complex	NOTES:		
HORIZON: B – Gravelly Coarse Sand	Test conducted at 32" below existing grade		
DISTURBED SITE: Lawn Area			
SOIL LOG RECORDED: **Test Pit #3**			

SETUP CALCULATIONS	Sample Round 1	Sample Round 2	Sample Round 3
D- Bottom of Hole to Ref line			
d - H20 Surface to Ref.			
H1 - CHT TUBE SETTING			
H - DEPTH OF H20 IN HOLE			

Amoozemeter Data Calculation Sheet			3201 Lafayette Road, LLC 45407.31				6/8/2020
TP#3 34" BELOW GRADE						Ksat	Ksat
Drop in Water	Time	Min./hr.	Outflow C.F.		Outflow Q	(cm/hr)	(in/hr)
Sample Set 1 Coefficient A =0*							
0.000	1	0.016667	105		0	0*	
Sample Set 2 Coefficient A = 0*							
0.000	1	0.016667	105		0	0*	
Sample Set 3 Coefficient A = 0*							
0.000	1	0.016667	105		0	0*	
*Unable to maintain minimum volume of water in 6cm dia. Hole. Rate exceeds capacity of this infiltrometer							
Refer to published Ksat values in SSSNNE Special Publication No. 5 (See Env-Wq 1504.14)							

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Amoozemeter Field Data Sheet

DATE: 9June2020	Project: 45407.30 Hillcrest Estates		
LOCATION:3201 Lafayette Road, Portsmouth, NH	AIR TEMPERATURE:	70°F	
TEST BY: Chris Danforth			
SOIL MAP UNIT: (799) Urban Land Canton Complex	NOTES:		
HORIZON: B – Gravelly Coarse Sand	Test conducted at 40" below existing grade		
DISTURBED SITE: Lawn Area			
SOIL LOG RECORDED: **Test Pit #4**			

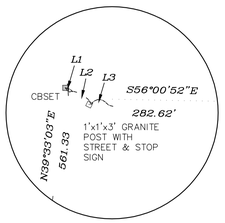
SETUP CALCULATIONS	Sample Round 1	Sample Round 2	Sample Round 3
D- Bottom of Hole to Ref line			
d - H20 Surface to Ref.			
H1 - CHT TUBE SETTING			
H - DEPTH OF H20 IN HOLE			

Amoozemeter Data Calculation Sheet			3201 Lafayette Road, LLC 45407.31					6/8/2020	
TP#4 @ 40" BELOW GRADE							Ksat	Ksat	
Drop in Water	Time	Min./hr.	Outflow C.F.		Outflow Q		(cm/hr)	(in/hr)	
Sample Set 1 Coefficient A =0*									
0.000	1	0.016667	105		0		0*		
Sample Set 2 Coefficient A = 0*									
0.000	1	0.016667	105		0		0*		
Sample Set 3 Coefficient A = 0*									
0.000	1	0.016667	105		0		0*		
*Unable to maintain minimum volume of water in 6cm dia. Hole. Rate exceeds capacity of this infiltrometer									
Refer to published Ksat values in SSSNNE Special Publication No. 5 (See Env-Wq 1504.14)									

LEGEND:

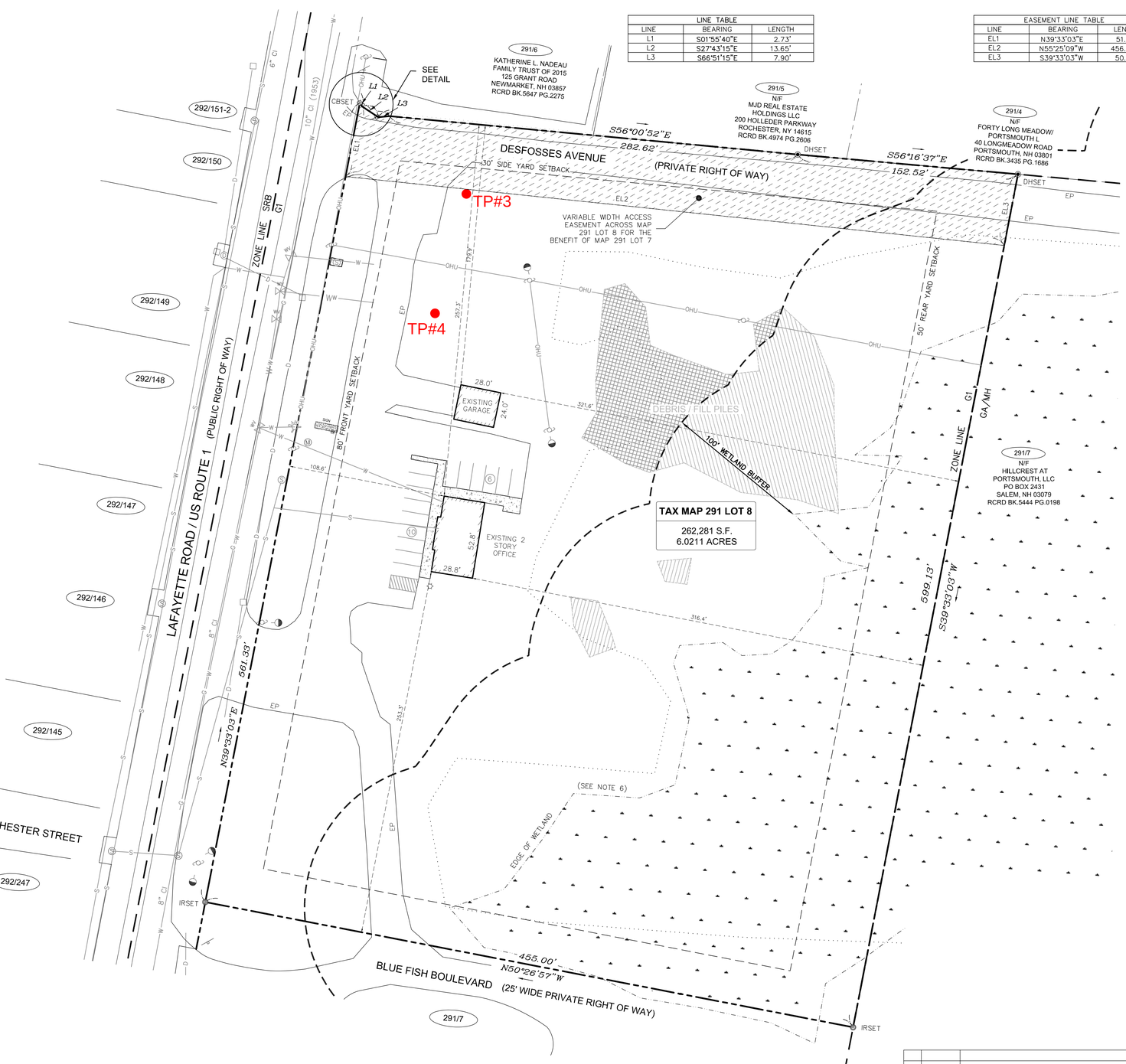
CBSET	CONCRETE BOUND SET ON 06/14/2013
CI	CAST IRON PIPE
DHSET	DRILL HOLE SET ON 06/14/2013
EP	EDGE OF PAVEMENT
GA/MH	GARDEN APARTMENT/ MOBILE HOME ZONE
G1	GATEWAY CORRIDOR
IRSET	IRON ROD SET ON 06/14/2013
L1	LINE LENGTH
S.F.	SQUARE FEET
	PROPERTY LINE
	STONE WALL
	TREE LINE
	EDGE OF WETLANDS
W	EXISTING WATER LINE
G	EXISTING GAS
S	EXISTING SEWER
D	EXISTING SEWER
	GUY POLE
	UTILITY POLE
	LIGHT POLE
	SIGN
	CATCH BASIN
S	SEWER MANHOLE
D	DRAIN MANHOLE
	HYDRANT
M	MANHOLE
WV	WATER VALVE
	WETLANDS
	CONCRETE
	DEBRIS/FILL PILE IN WETLAND
	DEBRIS/FILL PILE IN WETLAND BUFFER

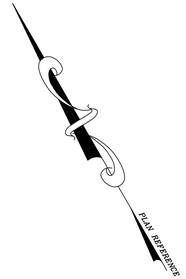
DETAIL
NOT TO SCALE

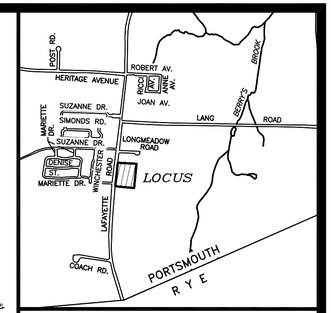


LINE TABLE		
LINE	BEARING	LENGTH
L1	S01°55'40"E	2.73'
L2	S27°43'15"E	13.65'
L3	S66°51'15"E	7.90'

EASEMENT LINE TABLE		
LINE	BEARING	LENGTH
EL1	N39°33'03"E	51.76'
EL2	N55°25'09"W	456.72'
EL3	S39°33'03"W	50.00'







LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE CITY OF PORTSMOUTH GATEWAY CORRIDOR (G1) ZONE.
2. THE PARCEL IS AS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 291 AS LOT 8.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X AS SHOWN ON FLOOD INSURANCE RATE MAP, ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, MAP NUMBER 33015C0270E, EFFECTIVE DATE MAY 17, 2005.
4. OWNER OF RECORD:

   3201 LAFAYETTE ROAD, LLC
   72 SOUTH BROADWAY
   SALEM, NH 03079
   RCRD BK.5617 PG.1045

5. ZONING REQUIREMENTS:

   SEE ARTICLE 5B, SECTION 10.5B20 – GENERAL STANDARDS FOR ALL BUILDINGS AND DEVELOPMENT OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE ZONING ORDINANCE.

5. TOTAL PARCEL AREA:

   262,281 S.F.
   6.0211 ACRES

6. PETER S. SCHAUER, CERTIFIED WETLAND SCIENTIST #48, OF SCHAUER ENVIRONMENTAL CONSULTANTS, L.L.C. OF LOUDON, NH AND THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, L.L.C. OF BOW, NH, PERFORMED THE WETLAND MAPPING BETWEEN MARCH 26, 2014 AND AUGUST 25, 2017 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.
7. ALL MONUMENTS SHOWN HEREON WERE OBSERVED OR SET AS PART OF THIS SURVEY.
8. FIELD SURVEY WAS COMPLETED BY TCE BETWEEN NOVEMBER 2014 AND JANUARY 2020, WITH A TOPCON DS103 AND TOPCON TESLA DATA COLLECTOR.
9. HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983.
10. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
11. UTILITIES SHOWN HEREON ARE A COMPILATION OF FIELD LOCATION AND RECORD PLANS. THEY ARE APPROXIMATE LOCATION ONLY. CONTACT DIGSAFE AT 811 OR 1–888–DIG–SAFE TO VERIFY UTILITIES.

PLAN REFERENCE:

1. "OVERALL SUBDIVISION PLAN, MAP 289 LOT 1 & MAP 291 LOT 7 (PORTSMOUTH) & MAP 15 LOT 24 (RYE) PROPERTY OF HILLCREST AT PORTSMOUTH LLC, 3201–3203 LAFAYETTE ROAD/LANG ROAD, PORTSMOUTH & RYE, NEW HAMPSHIRE COUNTY OF ROCKINGHAM", BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC, DATED APRIL 15, 2013 WITH REVISIONS #6 DATED 12/23/2013. RCRD PLAN D–38075.

ABUTTERS ACROSS LAFAYETTE ROAD

292/151-2	WEEKS REALTY TRUST PO BOX 100 HAMPTON FALLS, 03844 RCRD BK.2738 PG.818
292/150	CHRIS G. & LISA ALEXANDROPOULOS 3168 LAFAYETTE ROAD PORTSMOUTH, NH 03801 RCRD BK.4175 PG.1509
292/149	ELIZABETH BATICK RICCI REVOCABLE TRUST OF 1993 55 HARDING ROAD PORTSMOUTH, NH 03801 RCRD BK.5189 PG.1131
292/148	KERRIGAN REVOCABLE TRUST 3202 LAFAYETTE ROAD PORTSMOUTH, NH 03801 RCRD BK.5296 PG.1541
292/147	KERRY E. RILEY 3224 LAFAYETTE ROAD PORTSMOUTH, NH 03801 RCRD BK.5239 PG.2663
292/146	YANG CHU FAMILY REVOCABLE TRUST OF 2019 6 DRURY PLAINS ROAD STRATHAM, NH 03885 RCRD BK.6022 PG.2118
292/145	LINDSAY A. BLAKEY 95 CARDINAL LANE PORTSMOUTH, NH 03801 RCRD BK.5791 PG.0929
292/247	KAREN E. KAPELOS REVOCABLE TRUST OF 1995 1537B OYSTER CATCHER POINT NAPLES, FL 34105 RCRD BK.3569 PG.2269

TAX MAP 291 LOT 8

EXISTING CONDITIONS PLAN
3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR

3201 LAFAYETTE ROAD, LLC

SCALE: 1" = 40' (22"x34")
1" = 80' (11"x17")

JUNE 2, 2020

40 20 0 40
Graphic Scale in Feet

REV.	DATE	DESCRIPTION	DR	CK

TFM MSC A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
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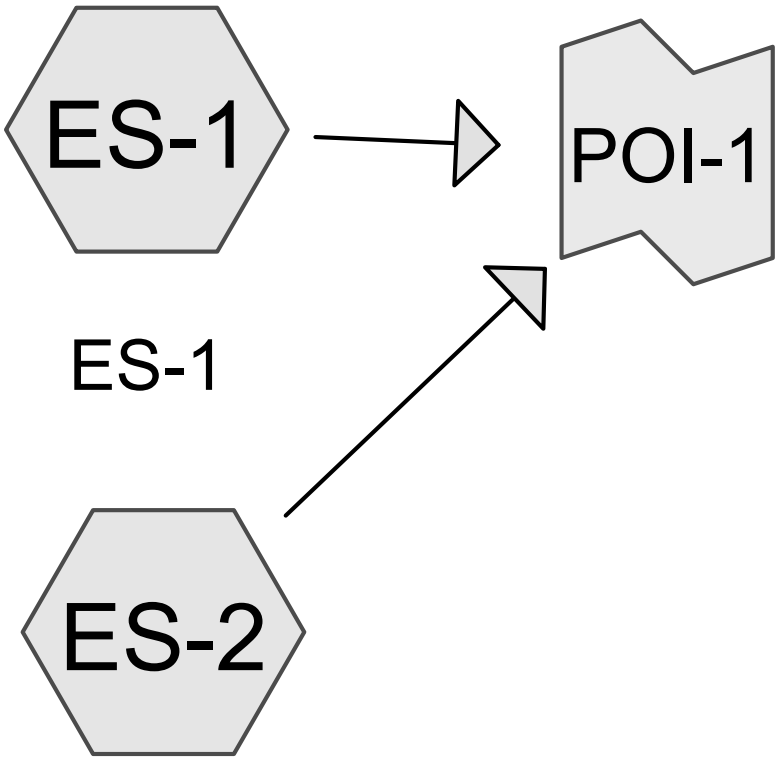
FILE	45407.31	DR	IID	FB	–	C-01
		CK	JCC	CADFILE		

Jun 02, 2020 - 2:20pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-33 - 3201 Lafayette Rd LLC_Modal Home\Design\PRODUCTION DRAWINGS\45407-33 - Hillcrest - Cover & Existing.dwg

Total Area =
159,386-S.F.



Subcat Reach Pond Link

Routing Diagram for 45407-33 - Pre
Prepared by MSC a Division of TFMoran, Inc., Printed 6/19/2020

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
43,314	39	>75% Grass cover, Good, HSG A (ES-1, ES-2)
35,914	98	Paved parking, HSG A (ES-1, ES-2)
1,841	98	Roofs, HSG A (ES-2)
78,317	30	Woods, Good, HSG A (ES-1, ES-2)
159,386	**49**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
159,386	HSG A	ES-1, ES-2
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
159,386		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
43,314	0	0	0	0	43,314	>75% Grass cover, Good	
35,914	0	0	0	0	35,914	Paved parking	
1,841	0	0	0	0	1,841	Roofs	
78,317	0	0	0	0	78,317	Woods, Good	
159,386	**0**	**0**	**0**	**0**	**159,386**	**TOTAL AREA**	

Summary for Subcatchment ES-1: ES-1

Runoff = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 0.5" Rainfall=0.50"

Area (sf)	CN	Description
9,108	98	Paved parking, HSG A
26,771	30	Woods, Good, HSG A
19,672	39	>75% Grass cover, Good, HSG A
55,551	44	Weighted Average
46,443		83.60% Pervious Area
9,108		16.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0270	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
1.8	109	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	139	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.2	348	Total			

Summary for Subcatchment ES-2: ES-2

Runoff = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 0.5" Rainfall=0.50"

Area (sf)	CN	Description
51,546	30	Woods, Good, HSG A
23,642	39	>75% Grass cover, Good, HSG A
26,806	98	Paved parking, HSG A
1,841	98	Roofs, HSG A
103,835	51	Weighted Average
75,188		72.41% Pervious Area
28,647		27.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0240	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.2	16	0.0312	1.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	245	0.0212	0.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	361	Total			

Summary for Link POI-1:

Inflow Area = 159,386 sf, 23.69% Impervious, Inflow Depth = 0.00" for 0.5" event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment ES-1: ES-1

Runoff = 0.0 cfs @ 17.94 hrs, Volume= 102 cf, Depth> 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.25"

Area (sf)	CN	Description
9,108	98	Paved parking, HSG A
26,771	30	Woods, Good, HSG A
19,672	39	>75% Grass cover, Good, HSG A
55,551	44	Weighted Average
46,443		83.60% Pervious Area
9,108		16.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0270	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
1.8	109	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	139	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.2	348	Total			

Summary for Subcatchment ES-2: ES-2

Runoff = 0.1 cfs @ 12.20 hrs, Volume= 1,088 cf, Depth> 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.25"

Area (sf)	CN	Description
51,546	30	Woods, Good, HSG A
23,642	39	>75% Grass cover, Good, HSG A
26,806	98	Paved parking, HSG A
1,841	98	Roofs, HSG A
103,835	51	Weighted Average
75,188		72.41% Pervious Area
28,647		27.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0240	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.2	16	0.0312	1.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	245	0.0212	0.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	361	Total			

Summary for Link POI-1:

Inflow Area = 159,386 sf, 23.69% Impervious, Inflow Depth > 0.09" for 2-yr event
Inflow = 0.1 cfs @ 12.20 hrs, Volume= 1,190 cf
Primary = 0.1 cfs @ 12.20 hrs, Volume= 1,190 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment ES-1: ES-1

Runoff = 0.3 cfs @ 12.12 hrs, Volume= 1,421 cf, Depth> 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.93"

Area (sf)	CN	Description
9,108	98	Paved parking, HSG A
26,771	30	Woods, Good, HSG A
19,672	39	>75% Grass cover, Good, HSG A
55,551	44	Weighted Average
46,443		83.60% Pervious Area
9,108		16.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0270	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
1.8	109	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	139	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.2	348	Total			

Summary for Subcatchment ES-2: ES-2

Runoff = 1.6 cfs @ 12.11 hrs, Volume= 5,324 cf, Depth> 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.93"

Area (sf)	CN	Description
51,546	30	Woods, Good, HSG A
23,642	39	>75% Grass cover, Good, HSG A
26,806	98	Paved parking, HSG A
1,841	98	Roofs, HSG A
103,835	51	Weighted Average
75,188		72.41% Pervious Area
28,647		27.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0240	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.2	16	0.0312	1.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	245	0.0212	0.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	361	Total			

Summary for Link POI-1:

Inflow Area = 159,386 sf, 23.69% Impervious, Inflow Depth > 0.51" for 10-yr event
Inflow = 1.8 cfs @ 12.11 hrs, Volume= 6,745 cf
Primary = 1.8 cfs @ 12.11 hrs, Volume= 6,745 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment ES-1: ES-1

Runoff = 1.0 cfs @ 12.09 hrs, Volume= 3,300 cf, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.25"

Area (sf)	CN	Description
9,108	98	Paved parking, HSG A
26,771	30	Woods, Good, HSG A
19,672	39	>75% Grass cover, Good, HSG A
55,551	44	Weighted Average
46,443		83.60% Pervious Area
9,108		16.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0270	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
1.8	109	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	139	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.2	348	Total			

Summary for Subcatchment ES-2: ES-2

Runoff = 3.6 cfs @ 12.09 hrs, Volume= 10,224 cf, Depth> 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.25"

Area (sf)	CN	Description
51,546	30	Woods, Good, HSG A
23,642	39	>75% Grass cover, Good, HSG A
26,806	98	Paved parking, HSG A
1,841	98	Roofs, HSG A
103,835	51	Weighted Average
75,188		72.41% Pervious Area
28,647		27.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0240	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.2	16	0.0312	1.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	245	0.0212	0.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	361	Total			

Summary for Link POI-1:

Inflow Area = 159,386 sf, 23.69% Impervious, Inflow Depth > 1.02" for 25-yr event
Inflow = 4.6 cfs @ 12.09 hrs, Volume= 13,524 cf
Primary = 4.6 cfs @ 12.09 hrs, Volume= 13,524 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment ES-1: ES-1

Runoff = 2.0 cfs @ 12.08 hrs, Volume= 5,583 cf, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.49"

Area (sf)	CN	Description
9,108	98	Paved parking, HSG A
26,771	30	Woods, Good, HSG A
19,672	39	>75% Grass cover, Good, HSG A
55,551	44	Weighted Average
46,443		83.60% Pervious Area
9,108		16.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0270	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
1.8	109	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.8	139	0.0280	0.84		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.2	348	Total			

Summary for Subcatchment ES-2: ES-2

Runoff = 5.8 cfs @ 12.09 hrs, Volume= 15,744 cf, Depth> 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.49"

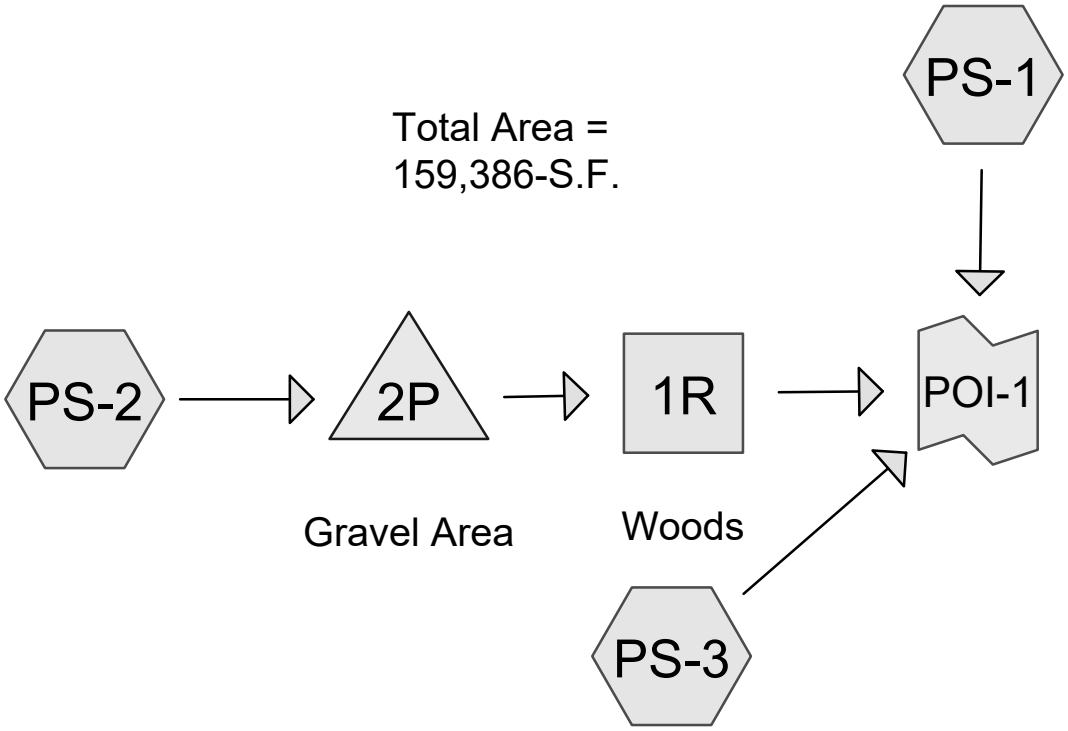
Area (sf)	CN	Description
51,546	30	Woods, Good, HSG A
23,642	39	>75% Grass cover, Good, HSG A
26,806	98	Paved parking, HSG A
1,841	98	Roofs, HSG A
103,835	51	Weighted Average
75,188		72.41% Pervious Area
28,647		27.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0240	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.2	16	0.0312	1.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	245	0.0212	0.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	361	Total			

Summary for Link POI-1:

Inflow Area = 159,386 sf, 23.69% Impervious, Inflow Depth > 1.61" for 50-yr event
Inflow = 7.8 cfs @ 12.08 hrs, Volume= 21,327 cf
Primary = 7.8 cfs @ 12.08 hrs, Volume= 21,327 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for 45407-33 - Post
Prepared by MSC a Division of TFMoran, Inc., Printed 6/19/2020

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
31,815	39	>75% Grass cover, Good, HSG A (PS-1, PS-2, PS-3)
23,216	96	Gravel surface, HSG A (PS-1, PS-2)
35,519	98	Paved parking, HSG A (PS-1, PS-2)
9,897	98	Roofs, HSG A (PS-1, PS-2, PS-3)
58,939	30	Woods, Good, HSG A (PS-1, PS-3)
159,386	**61**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
159,386	HSG A	PS-1, PS-2, PS-3
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
159,386		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
31,815	0	0	0	0	31,815	>75% Grass cover, Good	
23,216	0	0	0	0	23,216	Gravel surface	
35,519	0	0	0	0	35,519	Paved parking	
9,897	0	0	0	0	9,897	Roofs	
58,939	0	0	0	0	58,939	Woods, Good	
159,386	**0**	**0**	**0**	**0**	**159,386**	**TOTAL AREA**	

Summary for Subcatchment PS-1:

Runoff = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 0.5" Rainfall=0.50"

Area (sf)	CN	Description
6,878	39	>75% Grass cover, Good, HSG A
20,028	30	Woods, Good, HSG A
6,429	98	Paved parking, HSG A
793	98	Roofs, HSG A
703	96	Gravel surface, HSG A
34,831	47	Weighted Average
27,609		79.27% Pervious Area
7,222		20.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0350	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
0.2	12	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.2	112	Total			

Summary for Subcatchment PS-2:

Runoff = 0.0 cfs @ 18.55 hrs, Volume= 14 cf, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 0.5" Rainfall=0.50"

Area (sf)	CN	Description
8,802	98	Roofs, HSG A
29,090	98	Paved parking, HSG A
20,350	39	>75% Grass cover, Good, HSG A
22,513	96	Gravel surface, HSG A
80,755	83	Weighted Average
42,863		53.08% Pervious Area
37,892		46.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	42	0.0280	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.8	58	0.0200	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.25"
1.0	130	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	49	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	8	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	287	Total			

Summary for Subcatchment PS-3:

Runoff = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 0.5" Rainfall=0.50"

Area (sf)	CN	Description
302	98	Roofs, HSG A
4,587	39	>75% Grass cover, Good, HSG A
38,911	30	Woods, Good, HSG A
43,800	31	Weighted Average
43,498		99.31% Pervious Area
302		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0330	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
3.3	120	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	220	Total			

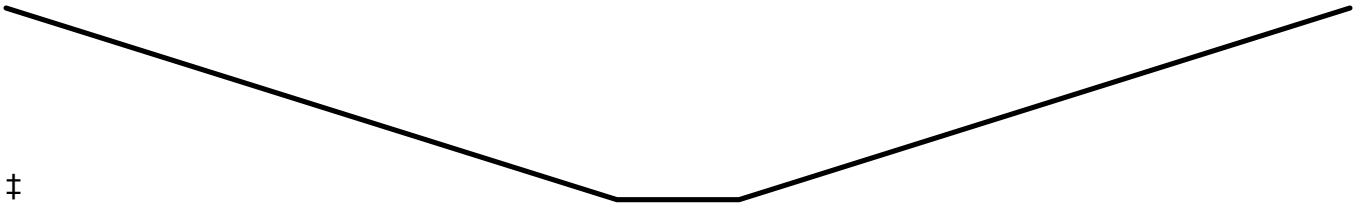
Summary for Reach 1R: Woods

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth = 0.00" for 0.5" event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 30.0 sf, Capacity= 7.4 cfs

10.00' x 0.50' deep channel, n= 0.400 Sheet flow: Woods+light brush
Side Slope Z-value= 100.0 '/' Top Width= 110.00'
Length= 190.0' Slope= 0.0247 '/'
Inlet Invert= 53.50', Outlet Invert= 48.80'



‡

Summary for Pond 2P: Gravel Area

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth > 0.00" for 0.5" event
Inflow = 0.0 cfs @ 18.55 hrs, Volume= 14 cf
Outflow = 0.0 cfs @ 18.56 hrs, Volume= 14 cf, Atten= 0%, Lag= 0.8 min
Discarded = 0.0 cfs @ 18.56 hrs, Volume= 14 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.50' @ 18.56 hrs Surf.Area= 23,366 sf Storage= 0 cf

Plug-Flow detention time= 0.9 min calculated for 14 cf (100% of inflow)
Center-of-Mass det. time= 0.5 min (1,051.3 - 1,050.8)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	14,020 cf	**Gravel Area (Prismatic)**Listed below (Recalc) 35,049 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.50	23,366	0	0
53.00	23,366	35,049	35,049

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.50'	**4.580 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=2.5 cfs @ 18.56 hrs HW=51.50' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 2.5 cfs)

Primary OutFlow Max=0.0 cfs @ 5.00 hrs HW=51.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POI-1:

Inflow Area = 159,386 sf, 28.49% Impervious, Inflow Depth = 0.00" for 0.5" event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PS-1:

Runoff = 0.0 cfs @ 13.57 hrs, Volume= 164 cf, Depth> 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.25"

Area (sf)	CN	Description
6,878	39	>75% Grass cover, Good, HSG A
20,028	30	Woods, Good, HSG A
6,429	98	Paved parking, HSG A
793	98	Roofs, HSG A
703	96	Gravel surface, HSG A
34,831	47	Weighted Average
27,609		79.27% Pervious Area
7,222		20.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0350	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
0.2	12	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.2	112	Total			

Summary for Subcatchment PS-2:

Runoff = 5.3 cfs @ 11.98 hrs, Volume= 10,230 cf, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.25"

Area (sf)	CN	Description
8,802	98	Roofs, HSG A
29,090	98	Paved parking, HSG A
20,350	39	>75% Grass cover, Good, HSG A
22,513	96	Gravel surface, HSG A
80,755	83	Weighted Average
42,863		53.08% Pervious Area
37,892		46.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	42	0.0280	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.8	58	0.0200	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.25"
1.0	130	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	49	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	8	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	287	Total			

Summary for Subcatchment PS-3:

Runoff = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.25"

Area (sf)	CN	Description
302	98	Roofs, HSG A
4,587	39	>75% Grass cover, Good, HSG A
38,911	30	Woods, Good, HSG A
43,800	31	Weighted Average
43,498		99.31% Pervious Area
302		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0330	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
3.3	120	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	220	Total			

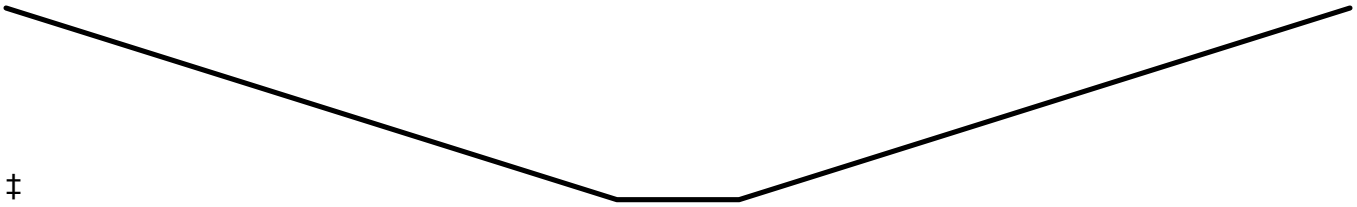
Summary for Reach 1R: Woods

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 30.0 sf, Capacity= 7.4 cfs

10.00' x 0.50' deep channel, n= 0.400 Sheet flow: Woods+light brush
Side Slope Z-value= 100.0 '/' Top Width= 110.00'
Length= 190.0' Slope= 0.0247 '/'
Inlet Invert= 53.50', Outlet Invert= 48.80'



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Summary for Pond 2P: Gravel Area

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth > 1.52" for 2-yr event
Inflow = 5.3 cfs @ 11.98 hrs, Volume= 10,230 cf
Outflow = 2.5 cfs @ 11.90 hrs, Volume= 10,226 cf, Atten= 53%, Lag= 0.0 min
Discarded = 2.5 cfs @ 11.90 hrs, Volume= 10,226 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.65' @ 12.08 hrs Surf.Area= 23,366 sf Storage= 1,413 cf

Plug-Flow detention time= 2.9 min calculated for 10,192 cf (100% of inflow)
Center-of-Mass det. time= 2.7 min (789.9 - 787.2)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	14,020 cf	**Gravel Area (Prismatic)**Listed below (Recalc) 35,049 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.50	23,366	0	0
53.00	23,366	35,049	35,049

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.50'	**4.580 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=2.5 cfs @ 11.90 hrs HW=51.53' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 2.5 cfs)

Primary OutFlow Max=0.0 cfs @ 5.00 hrs HW=51.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POI-1:

Inflow Area = 159,386 sf, 28.49% Impervious, Inflow Depth > 0.01" for 2-yr event
Inflow = 0.0 cfs @ 13.57 hrs, Volume= 164 cf
Primary = 0.0 cfs @ 13.57 hrs, Volume= 164 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PS-1:

Runoff = 0.3 cfs @ 12.16 hrs, Volume= 1,243 cf, Depth> 0.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.93"

Area (sf)	CN	Description
6,878	39	>75% Grass cover, Good, HSG A
20,028	30	Woods, Good, HSG A
6,429	98	Paved parking, HSG A
793	98	Roofs, HSG A
703	96	Gravel surface, HSG A
34,831	47	Weighted Average
27,609		79.27% Pervious Area
7,222		20.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0350	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
0.2	12	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.2	112	Total			

Summary for Subcatchment PS-2:

Runoff = 9.6 cfs @ 11.97 hrs, Volume= 19,475 cf, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.93"

Area (sf)	CN	Description
8,802	98	Roofs, HSG A
29,090	98	Paved parking, HSG A
20,350	39	>75% Grass cover, Good, HSG A
22,513	96	Gravel surface, HSG A
80,755	83	Weighted Average
42,863		53.08% Pervious Area
37,892		46.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	42	0.0280	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.8	58	0.0200	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.25"
1.0	130	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	49	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	8	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	287	Total			

Summary for Subcatchment PS-3:

Runoff = 0.0 cfs @ 20.00 hrs, Volume= 8 cf, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.93"

Area (sf)	CN	Description
302	98	Roofs, HSG A
4,587	39	>75% Grass cover, Good, HSG A
38,911	30	Woods, Good, HSG A
43,800	31	Weighted Average
43,498		99.31% Pervious Area
302		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0330	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
3.3	120	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	220	Total			

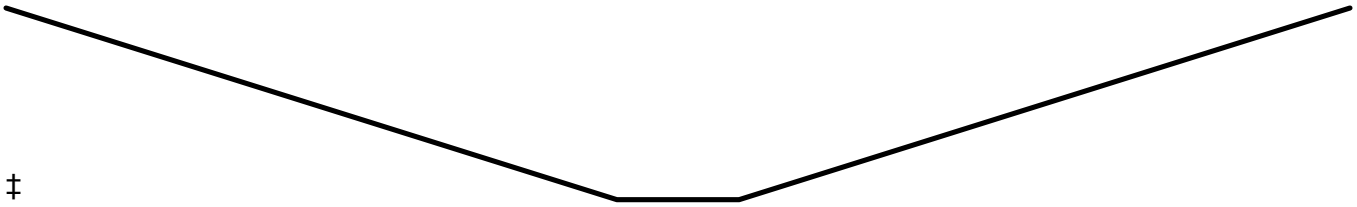
Summary for Reach 1R: Woods

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 30.0 sf, Capacity= 7.4 cfs

10.00' x 0.50' deep channel, n= 0.400 Sheet flow: Woods+light brush
Side Slope Z-value= 100.0 '/' Top Width= 110.00'
Length= 190.0' Slope= 0.0247 '/'
Inlet Invert= 53.50', Outlet Invert= 48.80'



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Summary for Pond 2P: Gravel Area

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth > 2.89" for 10-yr event
Inflow = 9.6 cfs @ 11.97 hrs, Volume= 19,475 cf
Outflow = 2.5 cfs @ 11.75 hrs, Volume= 19,468 cf, Atten= 74%, Lag= 0.0 min
Discarded = 2.5 cfs @ 11.75 hrs, Volume= 19,468 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.02' @ 12.13 hrs Surf.Area= 23,366 sf Storage= 4,878 cf

Plug-Flow detention time= 10.5 min calculated for 19,404 cf (100% of inflow)
Center-of-Mass det. time= 10.4 min (783.4 - 773.1)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	14,020 cf	**Gravel Area (Prismatic)**Listed below (Recalc) 35,049 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.50	23,366	0	0
53.00	23,366	35,049	35,049

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.50'	**4.580 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=2.5 cfs @ 11.75 hrs HW=51.52' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 2.5 cfs)

Primary OutFlow Max=0.0 cfs @ 5.00 hrs HW=51.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POI-1:

Inflow Area = 159,386 sf, 28.49% Impervious, Inflow Depth > 0.09" for 10-yr event
Inflow = 0.3 cfs @ 12.16 hrs, Volume= 1,251 cf
Primary = 0.3 cfs @ 12.16 hrs, Volume= 1,251 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PS-1:

Runoff = 0.8 cfs @ 12.13 hrs, Volume= 2,621 cf, Depth> 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.25"

Area (sf)	CN	Description
6,878	39	>75% Grass cover, Good, HSG A
20,028	30	Woods, Good, HSG A
6,429	98	Paved parking, HSG A
793	98	Roofs, HSG A
703	96	Gravel surface, HSG A
34,831	47	Weighted Average
27,609		79.27% Pervious Area
7,222		20.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0350	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
0.2	12	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.2	112	Total			

Summary for Subcatchment PS-2:

Runoff = 13.2 cfs @ 11.97 hrs, Volume= 27,184 cf, Depth> 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.25"

Area (sf)	CN	Description
8,802	98	Roofs, HSG A
29,090	98	Paved parking, HSG A
20,350	39	>75% Grass cover, Good, HSG A
22,513	96	Gravel surface, HSG A
80,755	83	Weighted Average
42,863		53.08% Pervious Area
37,892		46.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	42	0.0280	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.8	58	0.0200	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.25"
1.0	130	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	49	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	8	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	287	Total			

Summary for Subcatchment PS-3:

Runoff = 0.0 cfs @ 15.10 hrs, Volume= 334 cf, Depth> 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=6.25"

Area (sf)	CN	Description
302	98	Roofs, HSG A
4,587	39	>75% Grass cover, Good, HSG A
38,911	30	Woods, Good, HSG A
43,800	31	Weighted Average
43,498		99.31% Pervious Area
302		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0330	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
3.3	120	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	220	Total			

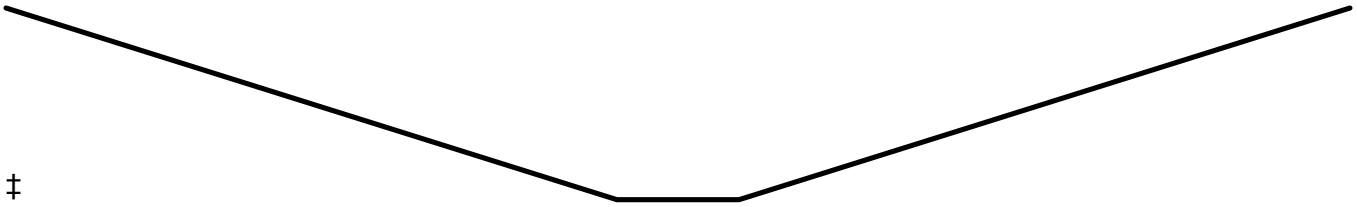
Summary for Reach 1R: Woods

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth = 0.00" for 25-yr event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 30.0 sf, Capacity= 7.4 cfs

10.00' x 0.50' deep channel, n= 0.400 Sheet flow: Woods+light brush
Side Slope Z-value= 100.0 '/' Top Width= 110.00'
Length= 190.0' Slope= 0.0247 '/'
Inlet Invert= 53.50', Outlet Invert= 48.80'



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Summary for Pond 2P: Gravel Area

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth > 4.04" for 25-yr event
Inflow = 13.2 cfs @ 11.97 hrs, Volume= 27,184 cf
Outflow = 2.5 cfs @ 11.70 hrs, Volume= 27,176 cf, Atten= 81%, Lag= 0.0 min
Discarded = 2.5 cfs @ 11.70 hrs, Volume= 27,176 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.38' @ 12.17 hrs Surf.Area= 23,366 sf Storage= 8,214 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 19.2 min (784.6 - 765.4)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	14,020 cf	**Gravel Area (Prismatic)**Listed below (Recalc) 35,049 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.50	23,366	0	0
53.00	23,366	35,049	35,049

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.50'	**4.580 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=2.5 cfs @ 11.70 hrs HW=51.52' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 2.5 cfs)

Primary OutFlow Max=0.0 cfs @ 5.00 hrs HW=51.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POI-1:

Inflow Area = 159,386 sf, 28.49% Impervious, Inflow Depth > 0.22" for 25-yr event
Inflow = 0.8 cfs @ 12.13 hrs, Volume= 2,955 cf
Primary = 0.8 cfs @ 12.13 hrs, Volume= 2,955 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PS-1:

Runoff = 1.4 cfs @ 12.12 hrs, Volume= 4,235 cf, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.49"

Area (sf)	CN	Description
6,878	39	>75% Grass cover, Good, HSG A
20,028	30	Woods, Good, HSG A
6,429	98	Paved parking, HSG A
793	98	Roofs, HSG A
703	96	Gravel surface, HSG A
34,831	47	Weighted Average
27,609		79.27% Pervious Area
7,222		20.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0350	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
0.2	12	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.2	112	Total			

Summary for Subcatchment PS-2:

Runoff = 16.5 cfs @ 11.97 hrs, Volume= 34,612 cf, Depth> 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.49"

Area (sf)	CN	Description
8,802	98	Roofs, HSG A
29,090	98	Paved parking, HSG A
20,350	39	>75% Grass cover, Good, HSG A
22,513	96	Gravel surface, HSG A
80,755	83	Weighted Average
42,863		53.08% Pervious Area
37,892		46.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	42	0.0280	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.25"
0.8	58	0.0200	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.25"
1.0	130	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	49	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	8	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	287	Total			

Summary for Subcatchment PS-3:

Runoff = 0.1 cfs @ 12.49 hrs, Volume= 1,028 cf, Depth> 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.49"

Area (sf)	CN	Description
302	98	Roofs, HSG A
4,587	39	>75% Grass cover, Good, HSG A
38,911	30	Woods, Good, HSG A
43,800	31	Weighted Average
43,498		99.31% Pervious Area
302		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0330	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.25"
3.3	120	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	220	Total			

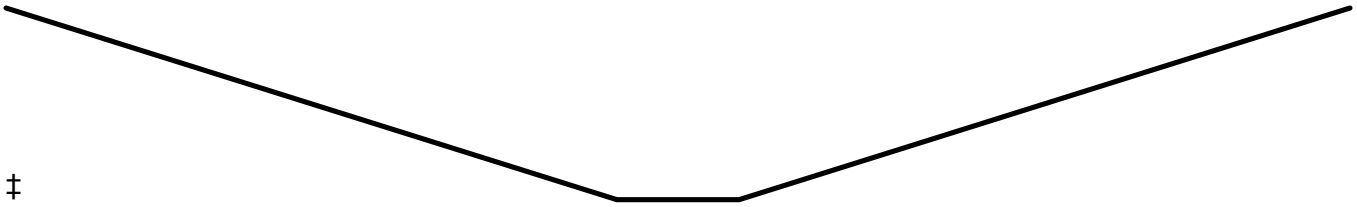
Summary for Reach 1R: Woods

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth = 0.00" for 50-yr event
Inflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 5.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 30.0 sf, Capacity= 7.4 cfs

10.00' x 0.50' deep channel, n= 0.400 Sheet flow: Woods+light brush
Side Slope Z-value= 100.0 '/' Top Width= 110.00'
Length= 190.0' Slope= 0.0247 '/'
Inlet Invert= 53.50', Outlet Invert= 48.80'



‡

Summary for Pond 2P: Gravel Area

Inflow Area = 80,755 sf, 46.92% Impervious, Inflow Depth > 5.14" for 50-yr event
Inflow = 16.5 cfs @ 11.97 hrs, Volume= 34,612 cf
Outflow = 2.5 cfs @ 11.70 hrs, Volume= 34,602 cf, Atten= 85%, Lag= 0.0 min
Discarded = 2.5 cfs @ 11.70 hrs, Volume= 34,602 cf
Primary = 0.0 cfs @ 5.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.74' @ 12.21 hrs Surf.Area= 23,366 sf Storage= 11,550 cf

Plug-Flow detention time= 29.1 min calculated for 34,601 cf (100% of inflow)
Center-of-Mass det. time= 29.0 min (788.7 - 759.7)

Volume	Invert	Avail.Storage	Storage Description
#1	51.50'	14,020 cf	**Gravel Area (Prismatic)**Listed below (Recalc) 35,049 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.50	23,366	0	0
53.00	23,366	35,049	35,049

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.50'	**4.580 in/hr Exfiltration over Surface area**
#2	Primary	53.00'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

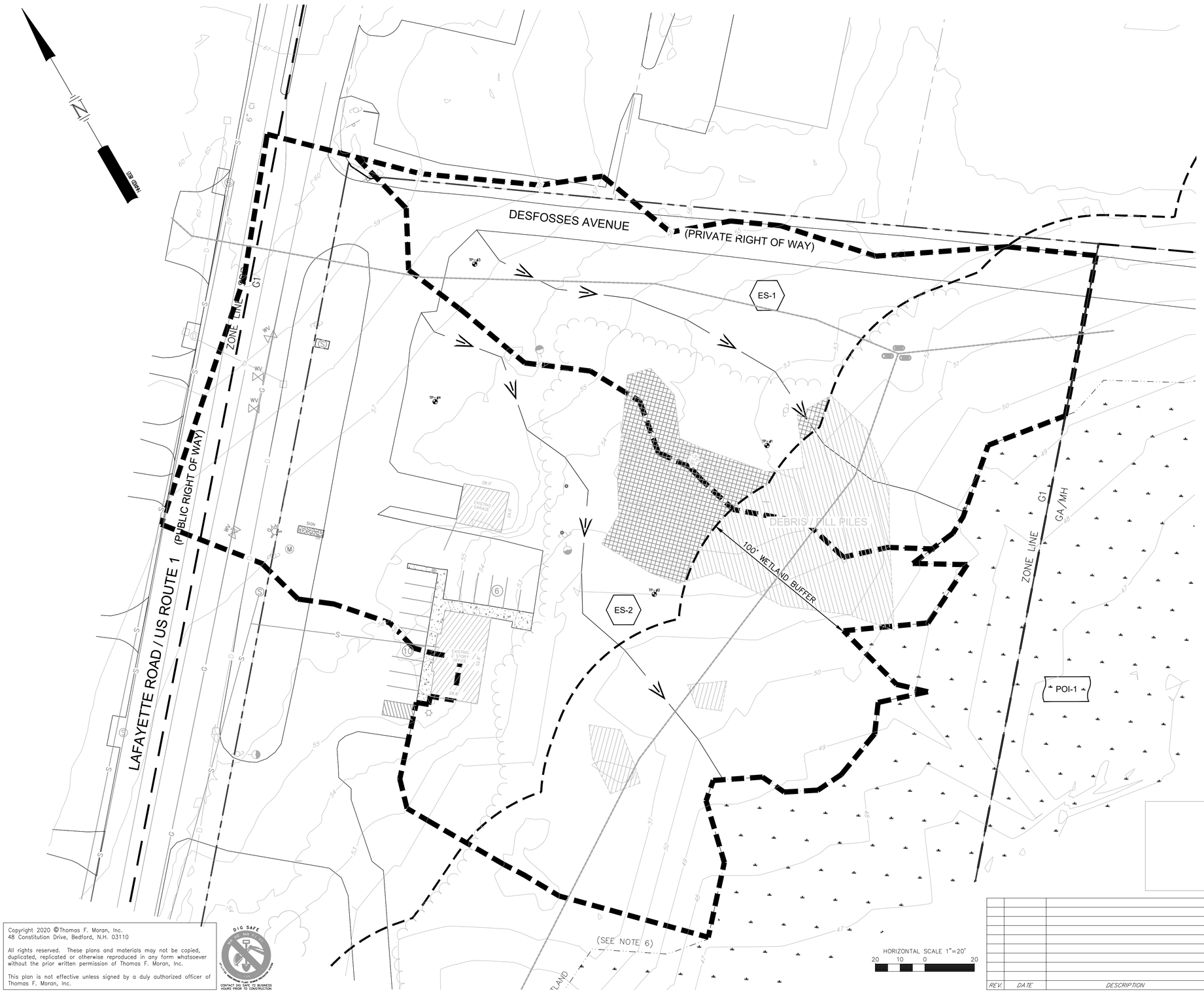
Discarded OutFlow Max=2.5 cfs @ 11.70 hrs HW=51.53' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 2.5 cfs)

Primary OutFlow Max=0.0 cfs @ 5.00 hrs HW=51.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Link POI-1:

Inflow Area = 159,386 sf, 28.49% Impervious, Inflow Depth > 0.40" for 50-yr event
Inflow = 1.4 cfs @ 12.12 hrs, Volume= 5,264 cf
Primary = 1.4 cfs @ 12.12 hrs, Volume= 5,264 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



LEGEND

- PROPERTY LINE
- LIMITS OF DRAINAGE SUBCATCHMENT
- XXX — SOIL GROUP BREAKLINE
- FLOW PATH (Tc LINE)
- REACH
- POI-1 — POINT OF INTEREST
- ES-1 — SUBCATCHMENT AREA
- EP-1 — POND, CULVERT, OR CATCH BASIN
- ER-1 — REACH

SOIL LEGEND
(PER USDA NRCS WEB SOIL SURVEY)

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP	DRAINAGE CLASS
799	URBAN LAND–CANTON COMPLEX	A	WELL
699	URBAN LAND	N/A	N/A
299	UDORTHENTS, SMOOTHED	N/A	EXCESSIVE

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

PRE-DEVELOPMENT DRAINAGE MAP

3201 LAFAYETTE ROAD

PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR

3201 LAFAYETTE ROAD, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

JUNE 22, 2020

REV.	DATE	DESCRIPTION	DR	CK

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407-33 – DRAINAGE	D-01

LEGEND

- PROPERTY LINE
- LIMITS OF DRAINAGE SUBCATCHMENT
- (XXX) SOIL GROUP BREAKLINE
- FLOW PATH (Tc LINE)
- REACH
- POI-1 POINT OF INTEREST
- PS-1 SUBCATCHMENT AREA
- PP-1 POND, CULVERT, OR CATCH BASIN
- PR-1 REACH

SOIL LEGEND
(PER USDA NRCS WEB SOIL SURVEY)

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP	DRAINAGE CLASS
799	URBAN LAND–CANTON COMPLEX	A	WELL
699	URBAN LAND	N/A	N/A
299	UDORTHENTS, SMOOTHED	N/A	EXCESSIVE

SITE DEVELOPMENT PLANS

TAX MAP 291 LOT 8

POST-DEVELOPMENT DRAINAGE MAP

3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR

3201 LAFAYETTE ROAD, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **JUNE 22, 2020**

DIG SAFE
CALL US BEFORE YOU DIG
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

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FILE	DR	DKE	FB	–	
45407.33	CK	CRR	CADFILE	45407-33 – DRAINAGE	D–02

Jun 15, 2020 - 3:43pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-33 - 3201 Lafayette Rd LLC_Model Home\Drainage\Drawings\45407-33 - Drainage.dwg

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. 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. 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.

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. Waiver requests must be submitted in writing with appropriate justification.

Name of Owner/Applicant: 3201 Lafayette Road, LLC Date Submitted: June 22, 2020

Phone Number: 603-231-3363 E-mail: glenn@salemmh.com

Site Address: 3201 Lafayette Road, Portsmouth, NH 03801 Map: 291 Lot: 8

Zoning District: Gateway Corridor (G1) Lot area: 262,281 sq. ft.

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☒	Fully executed and signed Application form. **(2.5.2.3)**	Submitted via Viewpoint	N/A
☒	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). **(2.5.2.8)**	Submitted via Viewpoint	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. **(2.5.3.1A)**	N/A	
☒	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1B)**	Plan Sheet C-01	N/A
☒	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1C)**	Plan Sheet C-01	N/A
☒	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1D)**	Plan Sheet C-00 (Signature will be provided on final plans)	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	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. **(2.5.3.1E)**	Plan Sheet C-00	N/A
☒	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1F)**	Plan Sheet C-00	N/A
☒	List of reference plans. **(2.5.3.1G)**	Plan Sheet C-01	N/A
☒	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1H)**	Plan Sheet C-02	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. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. **(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)**	Plan Sheet C-01	N/A
☒	Plans shall be drawn to scale. **(2.5.4.1D)**	Required on all plan sheets	N/A
☒	Plans shall be prepared and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Stamp to be provided on final plans.	N/A
☒	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	Plan Sheet C-01	N/A
☒	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	All sheets in plan.	N/A
☒	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Plan Sheet C-00	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)**	Plan Sheet C-01	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	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)**	Plan Sheet C-02 (General Note #18)	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)**	Plan Sheet C-02 (General Notes #3 & #17)	N/A
☒	Plan sheets showing landscaping and screening shall also include the following additional notes: a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." **(2.13.4)**	Plan Sheet C-07 (Notes #11-#13)	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)		
☒	a. Surveyed plan of site showing existing natural and built features;	Sheet C-01	
☒	b. Zoning boundaries;	Sheet C-01	
☒	c. Dimensional Regulations;	Sheet C-01	
☒	d. Wetland delineation, wetland function and value assessment;	Sheet C-01	
☒	e. SFHA, 100-year flood elevation line and BFE data.	Sheet C-01	
	2. Buildings and Structures: (2.5.4.3B)		
☒	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	Sheet C-04	
☐	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;		Yes
☒	c. Total Floor Area;	Sheet C-04	
☒	d. Number of Usable Floors;	Sheet C-04	
☒	e. Gross floor area by floor and use.	Sheet C-04	
	3. Access and Circulation: (2.5.4.3C)		
☒	a. Location/width of access ways within site;	Sheet C-01	
☒	b. Location of curbing, right of ways, edge of pavement and sidewalks;	Sheet C-01	
☒	c. Location, type, size and design of traffic signing (pavement markings);	Sheet C-01	
☒	d. Names/layout of existing abutting streets;	Sheet C-01	
☒	e. Driveway curb cuts for abutting prop. and public roads;	Sheet C-01	
☐	f. If subdivision; Names of all roads, right of way lines and easements noted;	N/A	
☒	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Sheet C-10	
	4. Parking and Loading: (2.5.4.3D)		
☒	a. Location of off street parking/loading areas, landscaped areas/buffers;	Sheet C-04 & C-07	
☒	b. Parking Calculations (# required and the # provided).	Sheet C-04	
	5. Water Infrastructure: (2.5.4.3E)		
☒	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	Sheet C-01 & C-06	
☐	b. Location of wells and monitoring wells (include protective radii).	N/A	
	6. Sewer Infrastructure: (2.5.4.3F)		
☒	a. Size, type and location of sanitary sewage facilities & Engineering data.	Sheet C-01 & C-06	
	7. Utilities: (2.5.4.3G)		
☒	a. The size, type and location of all above & below ground utilities;	Sheet C-01 & C-06	
☒	b. Size type and location of generator pads, transformers and other fixtures.	Sheet C-01 & C-06	

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
☐	a. The size, type and location of solid waste facilities.	N/A	
	9. Storm water Management: (2.5.4.3I)		
☐	a. The location, elevation and layout of all storm-water drainage.	N/A	
	10. Outdoor Lighting: (2.5.4.3J)		
☐	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.		Yes
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	N/A	
	12. Landscaping: (2.5.4.3K)		
☒	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	Sheet C-01 & C-07	
☐	**b.** Location of any irrigation system and water source.	N/A	
	13. Contours and Elevation: (2.5.4.3L)		
☒	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C-05	
	14. Open Space: (2.5.4.3M)		
☐	a. Type, extent and location of all existing/proposed open space.	N/A	
☒	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Sheet C-01	
☒	**16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)**	Sheet C-04	
☐	**17. Character/Civic District (All following information shall be included): (2.5.4.3Q)**	N/A	
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
	b. Applicable Special Requirements (10.5A21.30);		
	c. Proposed building form/type (10.5A43);		
	d. Proposed community space (10.5A46).		

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. (*Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application*) **(3.2.1-2)**	Submitted on Viewpoint and to Planning Dept.	
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	N/A	
☐	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	
☒	Indicate where measures to minimize impervious surfaces have been implemented. **(7.4.3)**	Sheet C-04	
☒	Calculation of the maximum effective impervious surface as a percentage of the site. **(7.4.3.2)**	Sheet C-04	
☒	Stormwater Management and Erosion Control Plan. (*Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application*) **(7.4.4.1)**	Submitted on Viewpoint and to Planning Dept.	

Final Site Plan Approval Required Information - N/A (Not a Final Site Plan Submittal)			
☑	**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: a. Waivers; b. Driveway permits; c. Special exceptions; d. Variances granted; e. Easements; f. Licenses. **(2.5.3.2A)**		
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. **(2.5.3.2B)**		

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	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)**		
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**		

Applicant's Signature: _____ **Date:** 6/22/20

(TFMoran, Inc. - Engineer)

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

TRIP GENERATION MEMORANDUM

Date: June 15 2020

To: City of Portsmouth Planning Department
Attn: Juliet Walker

From: Robert Duval, PE
Jen Porter, PE

Re: Proposed Manufactured Home Sales and Boat Trailer/RV Storage

3201 Lafayette Road, Portsmouth, NH, Tax Map 291, Lot 8

TFM Project No. 45407.33

INTRODUCTION

TFMoran has completed this traffic memo to evaluate site trips associated with a proposed Manufactured Home Sales Office and Boat Trailer/RV storage yard at 3201 Lafayette Road (corner of Lafayette Road and Desfosses Avenue) in Portsmouth. The existing site contains a commercial building with 16 parking spaces that are to remain.

The proposed site development includes a new 1,664 sf model mobile home that will be used as a sales office for mobile home sales and trailer/RV storage and rentals. There will be five other mobile home models on the site for customers to walk through. Along the existing driveway, five new parking spaces will be provided to serve the new sales and storage office.

A new cub cut is proposed along Desfosses Avenue to provide access to the rear storage area. Along with boat trailer and RV storage, designated space will be provided for temporary mobile home storage as they are being readied for shipment to customers.

TRIP GENERATION

As there are no Land Use Code trip generation rates published by the ITE (10th Edition) for "Manufactured Home Sales" or "Boat Trailer & RV Storage/Rental", we used an analogous use to determine likely generation rates. We believe that New Automobile Sales (LUC 840) would be the land use code most likely to have similar trip patterns in that both uses: provide sales of major purchases directly to the public, have few employees per square foot, are likely to have mainly primary trips; and individual customers may make several visits before purchasing.

The table below represents the estimated new trips expected for this type of sales use. To the extent that a much larger population will purchase autos versus a mobile home, these generation rates are likely to be somewhat conservative.

Table 1 – Manufactured Home Sales (Automobile Dealership LUC 840)

Land Use	In	Out	Total
Proposed 1,664 sf Building (Sales Office)			
Weekday AM Peak Hour of Adjacent Street	2	1	3
Weekday PM Peak Hour of Adjacent Street	2	2	4
Weekend SAT Peak Hour of Generator	4	3	7

CONCLUSION

Based on the foregoing, we anticipate the traffic impacts associated with the proposed Manufactured Home Sales Office and Boat Trailer/RV storage/rental to be minimal.

This use is expected to generate only 3 trips during the weekday am peak hour, 4 trips during the weekday pm peak, and 7 trips during the Saturday peak hour. These are very low trip volumes (as much as twenty minutes between trips), and are well under the typical allowance for background growth on a major travel corridor such as Lafayette Road.

We therefore conclude that the effect of this project on the Lafayette Road/Desfosses Avenue intersection and the adjacent roadway network will be negligible.

Respectfully Submitted,

TFMORAN, INC.

Robert E. Duval, P.E.
Chief Engineer

Proposed Trip Generation - ITE 10th Edition

Proposed is a Mobile Home Sales facitliy.
The site will have a 1,664 sf office and several models & boat/trailer storage.
There is no LUC for this use - below is a similar sales type use.

ITE LUC 840 - Automobile Sales (New): 1,664 s.f. Gross Floor Area

Time Period	Rate/Equn		Rate/ Eq	Trip Ends	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	1.7	1.87	Rate	3	73%	27%	2	1
Weekday PM Peak Hour Adjacent Street	1.7	2.43	Rate	4	40%	60%	2	2
Weekend SAT Peak Hour Adjacent Street	1.7	4.02	Rate	7	50%	50%	4	3

SITE DATA

ZONED: GATEWAY CORRIDOR (G1)
EXISTING USE: OFFICES
PROPOSED USE: OFFICES WITH MODEL UNITS

DIMENSIONAL REQUIREMENTS –
SEE ARTICLE 5B, SECTION 10.5B20 – GENERAL STANDARDS FOR ALL BUILDINGS AND DEVELOPMENT OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE ZONING ORDINANCE.

PARKING REQUIREMENTS
BUSINESS OFFICE – 1 SPACE / 250 SF

OFFICES	1554 SF (*2 FLOORS) * 1 SPACE / 250 SF = (1554 SF * 2)/250	= 12.4 SPACES
	1769 SF * 1 SPACE / 250 SF = 1769 SF / 250	= 7.1 SPACES
	TOTAL REQUIRED	= 20 SPACES
	TOTAL PROVIDED	= 21 SPACES

LEGEND

- MATERIAL STOCKPILE
- MATERIAL STOCKPILE WITHIN BUFFER
- PROPOSED CRUSHED STONE ACCESS/STORAGE
- PROPOSED LANDSCAPE AREAS
- PW — PROPOSED WATER LINE
- PS — PROPOSED SEWER LINE

20 10 0 20
Graphic Scale in Feet

REV.	DATE	DESCRIPTION	DR	CK

TAX MAP 291 LOT 8

PROPOSED CONDITIONS PLAN
3201 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR
3201 LAFAYETTE ROAD, LLC

SCALE: 1" = 20' (22"x34")
1" = 40' (11"x17")
FEBRUARY 28, 2020

TFM Moran
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Structural Engineers
Traffic Engineers
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Landscape Architects
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www.TFMoran.com

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3201 LAFAYETTE RD, LLC
PO BOX 54
SALEM, NH 03079

3/23/2020

To: Whom it May Concern

Re: Letter of Authorization

This letter hereby authorizes TF Moran and Atty. John Kuzinevich to represent 3201 Lafayette Rd LLC before any municipal land use boards as it pertains to obtaining permitting for 3201 Lafayette Rd Portsmouth, NH.

Sincerely,

Glenn Gidley
Manager