



Office of the Planning Board

Incorporated December 15, 1727

**NEWMARKET PLANNING BOARD
TUESDAY, NOVEMBER 9, 2021
TOWN COUNCIL CHAMBERS
7:00 PM**

AGENDA

- 1. Pledge of Allegiance**
- 2. Public Comments**
- 3. Review and Approval of Minutes**
 - a. 10/12/21
- 4. Regular Business**
 - a. Stormwater Regulations
- 5. New/Old Business**
 - a. Project update from Rob Graham representing Maplewood and Vaughan LLC (aka Shearwater Investment Corporation – Susan Conway) for properties at 177 and 175 Exeter Road at the Newmarket Industrial Park, Tax Map R-3, Lot 6 and 7. Projects involves a 22,000 square foot industrial building on Lot 6, and a 24,000 square foot industrial building on Lot 7. (Planning Board Chairman signed final plans on November 4, 2019.
- 6. Chairman's Report**
- 7. Committee Reports**
- 8. Planner's Report**
- 9. Adjourn**



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Newmarket, NH 03857

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Founded December 15, 1727
Chartered January 1, 1991

TOWN OF NEWMARKET, NEW HAMPSHIRE

ATTACHMENTS:

Description	Upload Date	Type
Minutes	11/4/2021	Backup Material

NEWMARKET PLANNING BOARD
TUESDAY, OCTOBER 12, 2021
TOWN COUNCIL CHAMBERS
7:00 PM

Members Present: Eric Botterman (Chair), Valerie Shelton (Vice Chair), Diane Hardy (Town Planner), Bill Doucet, Jane Ford, Jeff Goldknopf, Michal Zahorik (Alternate), and Scott Blackstone (Town Council ex officio.)

Member Absent: Timothy Rossignol was excused for this evening.

The Chair opened the meeting at 7:00 PM. With the absence of Timothy Rossignol, Michal Zahorik was appointed a voting member this evening. \

1. Pledge of Allegiance

2. Public Comments

There were no public comments this evening. Public comments closed at 7:01 PM.

3. Review and Approval of Minutes

a. September 14, 2021

Motion: Valerie Shelton made a motion to approve the draft minutes of September 14, 2021.

Second: Jane Ford

Discussion: None

Vote: Approved 6-0-1 (Bill Doucet abstained)

4. Regular Business

a. Public hearing for an application for subdivision, requested by Christine Erickson, 11-13 Cedar Street, Tax Map U2, Lot 202, R3 Zone. The proposal is to convert the existing apartment units into condominiums.

Diane Hardy, the Town Planner, reported to the members that she is now in possession of all necessary documents in order for the Planning Board to go forward with a Technical Review.

Motion #1: Valerie Shelton moved that the application for subdivision of the property for condominium conversion at 11-13 Cedar Street, Tax Map U2, Lot 202, R3 Zone be accepted as complete.

Second: Jane Ford

Discussion: None

Vote: Unanimously Approved

Peter Dobberstein, LLS, Ambit Engineering Inc., is here this evening representing the applicant,

Christine Erickson Revocable Trust. Christine Erickson is present in the audience to answer any questions from the Board, if necessary. Mr. Dobberstein described the proposal to divide the current duplex in the New Village development on Cedar Street into two separate properties as condominiums and referred to the condominium site plan presented to the Board. The property currently has two separate sewer and water hookups. The question of the condominium documents was raised by **Diane Hardy**. Ms. Erickson was asked about the Condo Docs. She has them prepared and will send an electronic copy to **Diane Hardy** so that the Planner may send them to the Town Legal Counsel for review. They are ready to set monuments for the two property boundaries. **Valerie Shelton** asked about electricity. Mr. Dobberstein will add them to the site plan. The electricity, like water and sewer, is already separate. He will update the plans to show the separate utilities. The Board had no further questions.

Consideration of Waiver Requests from the Applicant:

Motion #2: **Bill Doucet** made a motion to approve a waiver from Section 4.10(B)(1)(b) requiring an Existing Conditions Plan showing elevation contours at an interval of 2 feet.

Second: **Valerie Shelton**

Discussion: None

Vote: Unanimously Approved

Motion #3: **Valerie Shelton** made a motion to approve a waiver from Section 4.10(B) (2) requiring a delineation of hydric soils by a NH Certified Soil Scientist.

Second: **Jeff Goldknopf**

Discussion: None

Vote: Unanimously Approved

Motion #4: **Jane Ford** made a motion to approve a waiver from Section 4.10 (F) generally relating to depiction of proposed conditions such as plans for transportation, drainage, landscaping, recreational amenities, and test pits and percolation test on the lot.

Second: **Bill Doucet**

Discussion: None

Vote: Unanimously Approved

The Chair opened the Public Hearing to comment from the audience. Hearing none, he closed the public hearing at 7:15 PM.

Diane Hardy asked for additional information on the common area and the footprint of the building (dimensions). The applicant has agreed to provide this information.

Motion #5: **Bill Doucet** made a motion to approve the plans for condominium/minor subdivision, requested by Christine Erickson, 11-13 Cedar Street, Tax Map U2, Lot 202, R3 Zone subject to the conditions set forth by the Town Planner, including legal counsel review of condominium documents and showing water and sewer connections and building setback lines on the Condominium Site Plan.

Second: **Jane Ford**

Discussion: None

Vote: Unanimously Approved

b. Walter Cheney Jr/Cheney Property Management Corp (CPMC)- Continuation of a public hearing for an application for a Site Plan and Special Use Permit for a Mixed Use Development. The proposal is to amend the site plan for the previously approved site plan. The owner has purchased an additional adjacent lot and is proposing to add 17 residential units to the project, for a total of 28 units. The project involves the construction of two buildings. One building is a three (3) story mixed use structure with a 13,388 square footprint with commercial uses on the first floor and residential units on the second and third floors. The second building is a two story building with four (4) residential units with garages on the ground floor. The lot is located at 50-56 Exeter Rd, Tax Map U4, Lots 11 and 15, M2A Zone.

Bill Doucet and **Jeff Goldknopf** recused themselves.

Mr. Michael J. Sievert PE, Horizons Engineering, representing Walter Cheney Jr/Cheney Property Management, addressed the Board this evening regarding the changes requested at the last meeting. Mr. Cheney is also present this evening.

Mr. Sievert gave the Board an update on the project. Two changes were made since the previous meeting when three waiver requests were granted. The first change in the plans this evening is to the dumpster pad and the second change involves the type of sewer pipe (from plastic) to be used to meet the Town's guidelines; therefore not requiring another waiver request. He was asked if there were any changes to the drainage. He did not have any further changes from those described in the previous meeting, but he did describe the water flow patterns during storms. There were no further questions from the Board.

The Chair opened the Public Hearing for comment from the audience. Hearing none, he closed the Public Hearing at 7:22 PM.

Valerie Shelton asked Mr. Sievert if he had any question with regard to the Planner's memo. He did have one request: to change the timeframe for defining "Substantial Development" to coincide with the installation of the foundation, parking, water and sewer facilities, drainage structures, and other utilities. With the current pricing and material availability, the Board was willing to consider a different time frame. Mr. Cheney spoke to the issue and requested as much time possible. The Board discussed a suitable time frame and decided 48 months would be appropriate.

Diane Hardy had one more request of the applicant. In order for vesting to apply to the project, the site plan must be signed and recorded at the Registry of Deeds for Rockingham County. Also, Mr. Cheney must also apply to merge lot 15 and 11 prior to plan signing.

Motion #1: **Valerie Shelton** made a motion to approve the application for amending the site plan from the previous site plan to add 17 residential units to the project, for a total of 28 residential units with the construction of two buildings. One building being a three (3) story mixed use structure with a 13,388 square footprint with commercial uses on the first floor and residential units on the second and third floors. The second building being a two story building with four (4) residential units with garages on the ground floor in regards to the lot located at 50-56 Exeter Rd, Tax Map U4, Lots 11 and 15, M2A Zone subject to the conditions as outlined in the Planner's memo to the applicant dated September 14, 2021, revised October 7, 2021, amended to read completion of substantial development shall be forty-eight (48) months not twenty-four (24), as stated in recommendation # 5.

Second: **Jane Ford**

Discussion: None

Vote: Approved 5-0-0

Bill Doucet and **Jeff Goldknopf** rejoined the meeting.

5. New/Old Business

None.

6. Chairman's Report

None.

7. Committee Reports

Conservation Commission: **Jeff Goldknopf** gave a review of the 'Conservation Conversation' held on October 2, 2021. The events were well attended and the Conservation Commission wants to thank the Newmarket Library and the Newmarket Recreation for helping to make this event possible. More information on the events held:

https://newmarketlibrary.org/uploads/1/0/5/0/105085461/conservation_connections2_pamphlet.pdf You can also see some pictures at the Conservation Commission Facebook page.

Town Council: **Scott Blackstone** had no new information to report.

8. Planner's Report

After the last meeting, **Diane Hardy** spoke with Steve Fournier about the annual joint meeting between the Planning Board and the Town Council. He suggested a date in the first week of November. She wanted to see if the members would be available on November 3. It will likely begin at 6:00 or 6:30 PM and be held in the Town Auditorium to provide space for both groups. Stuart Arnett will be present to give an update on his "Gateway" project. **Diane** has also been contacted by several people about new and old proposals. The 3 North Main Street project has popped up again. The project was pending in 2008 before the economy suffered a depression. Engineer Alex Ross and with architect Charles Hoyt, Charles Hoyt Design, Rye Beach, NH had worked on projects in Newmarket before, including the Rockingham Junction project railroad depot renovation project several years ago. The Rockingham Junction property is on the market again. **Diane** spoke with the owner and he would like to discuss the possibility of a zoning change so that residential use would be an allowed zone in the B-1 Zone at that location. The property has special issues as Newmarket and Newfields have different zoning regulations and

the Town line cuts through the building.

9. Adjourn

Motion: Jane Ford made a motion to adjourn 7:35 PM

Second: Valerie Shelton

Discussion: None

Vote: Unanimously Approved

Respectfully submitted,

Sue Frick
Recording Secretary



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TOWN OF NEWMARKET, NEW HAMPSHIRE

ATTACHMENTS:

Description	Upload Date	Type
MS4 Program Regulations	11/8/2021	Backup Material
MS4 Maps	11/8/2021	Backup Material
Stormwater Site Plan Regulations	11/8/2021	Backup Material
Stormwater Subdivision Regulations	11/8/2021	Backup Material

- stabilize sites when projects are complete or operations have temporarily ceased;
- protect slopes on the construction site;
- protect all storm drain inlets and armor all newly constructed outlets;
- use perimeter controls at the site;
- stabilize construction site entrances and exits to prevent off-site tracking;
- control wastes that may be discharged, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes (these wastes may not be discharged to the MS4); and
- inspect stormwater controls at consistent intervals.

2.3.6 Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)

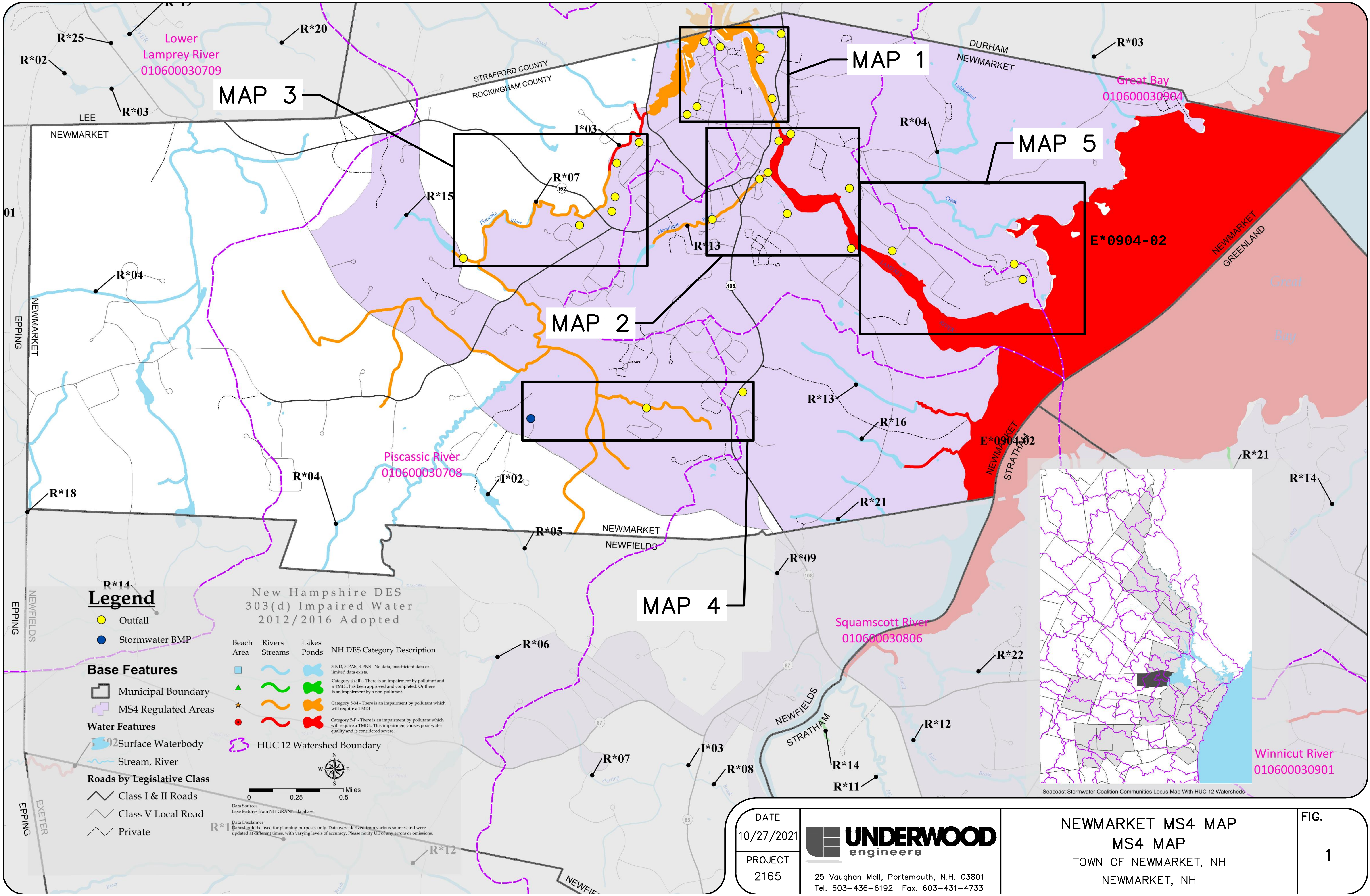
Objective: The objective of this control measure is to minimize the water quality impact from new development and reduce the water quality impact due to stormwater runoff from a redeveloped site.

- a. Permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and redevelopment projects⁹ that disturb a minimum of one or more acre(s) and discharge into the permittees MS4 at a minimum. The permittee's new development/ redevelopment program shall include projects less than one acre if the project is part of a larger common plan of development or redevelopment which disturbs one or more acre. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their program and modify as necessary to meet the requirements of this Part.
 - i. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within three (3) years of the effective date of the permit to be at least as stringent as Section 4 Element C and Element D of the Southeast Watershed Alliance's Model Stormwater Standards for Coastal Watershed Communities (SWA Model Standards).¹⁰ Pollutant removal for Stormwater Best Management Practices shall be evaluated consistent with Attachment 3 to Appendix F and the Stormwater Best Management Practices (BMP) Performance Analysis¹¹ or other tools provided by EPA Region 1 consistent with these resources. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved¹² BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.

⁹ See Appendix A for definitions of new development and redevelopment.

¹⁰ Model Stormwater Standards for Coastal Watershed Communities, Southeast Watershed Alliance, December 2012. https://southeastwatershedalliance.org/wp/wp-content/uploads/2017/02/Final_SWA_SWStandards_Dec_2012.pdf

¹¹ Stormwater Best Management Practices (BMP) Performance Analysis, Tetra Tech, Inc. for U.S. EPA Region 1, Rev. March 2010. <https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/BMP-Performance-Analysis-Report.pdf>.



Legend

- Outfall
- Stormwater BMP

Base Features

- ▭ Municipal Boundary
- ▭ MS4 Regulated Areas

Water Features

- ▭ Surface Waterbody
- ▭ Stream, River

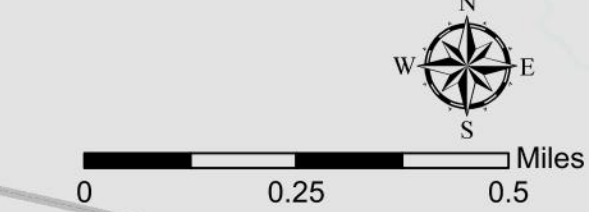
Roads by Legislative Class

- ▭ Class I & II Roads
- ▭ Class V Local Road
- ▭ Private

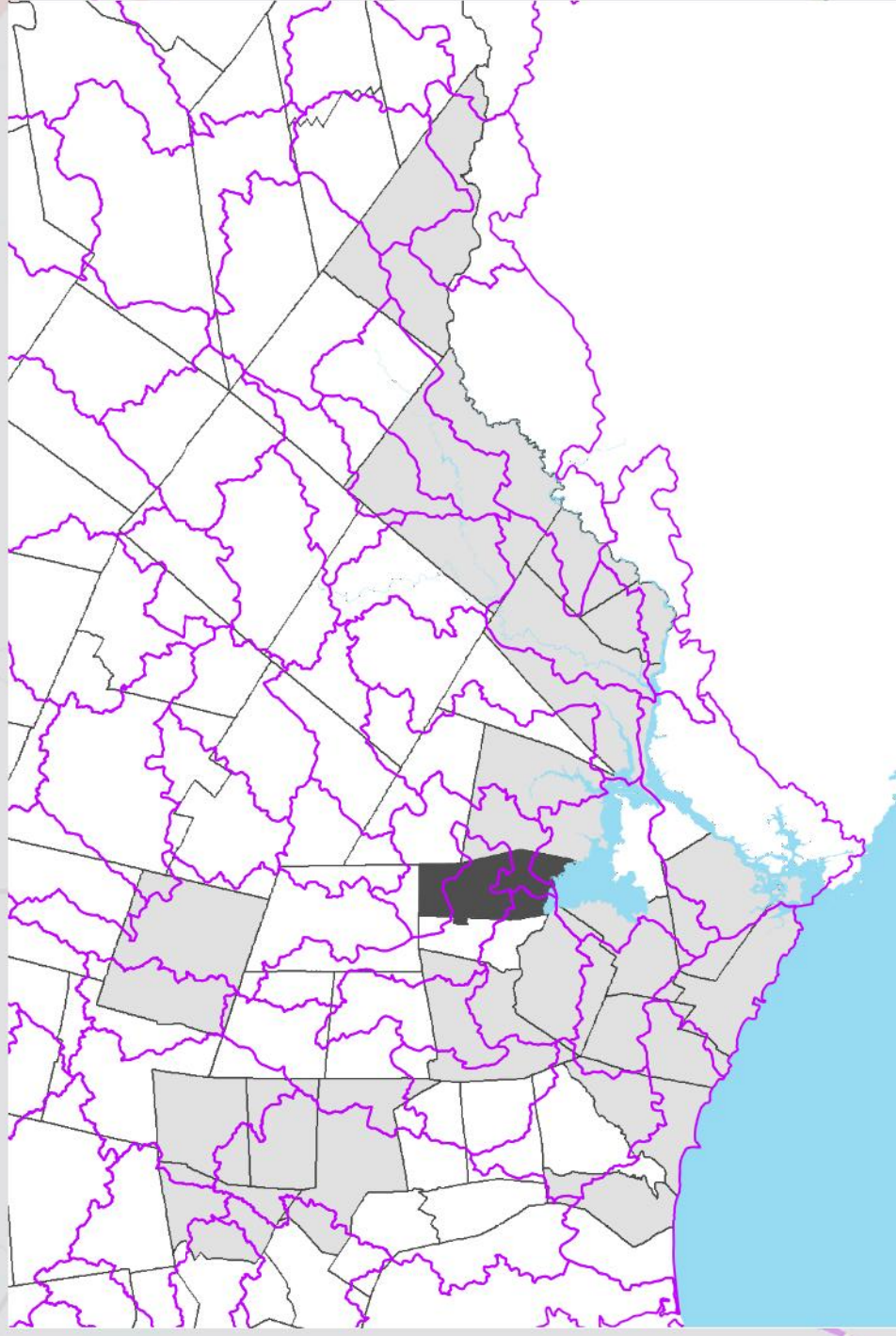
New Hampshire DES
303(d) Impaired Water
2012/2016 Adopted

Beach Area	Rivers Streams	Lakes Ponds	NH DES Category Description
▭	▭	▭	3-ND, 3-PAS, 3-PNS - No data, insufficient data or limited data exists.
▭	▭	▭	Category 4 (all) - There is an impairment by pollutant and a TMDL has been approved and completed. Or there is an impairment by a non-pollutant.
▭	▭	▭	Category 5-M - There is an impairment by pollutant which will require a TMDL.
▭	▭	▭	Category 5-P - There is an impairment by pollutant which will require a TMDL. This impairment causes poor water quality and is considered severe.

HUC 12 Watershed Boundary



Data Sources
Base features from NH GRANIT database.
Data Disclaimer
Data should be used for planning purposes only. Data were derived from various sources and were updated at different times, with varying levels of accuracy. Please notify UE of any errors or omissions.



Seacoast Stormwater Coalition Communities Locus Map With HUC 12 Watersheds

DATE
10/27/2021
PROJECT
2165



25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

NEWMARKET MS4 MAP
MS4 MAP
TOWN OF NEWMARKET, NH
NEWMARKET, NH

FIG.
1

0 75 150 300 450 600 Feet
1 inch = 250 feet

Map 1 N

Piscassic River
010600030708

Lower Lamprey River
010600030709

1H

1C

1D

1E

1F

1B

1A

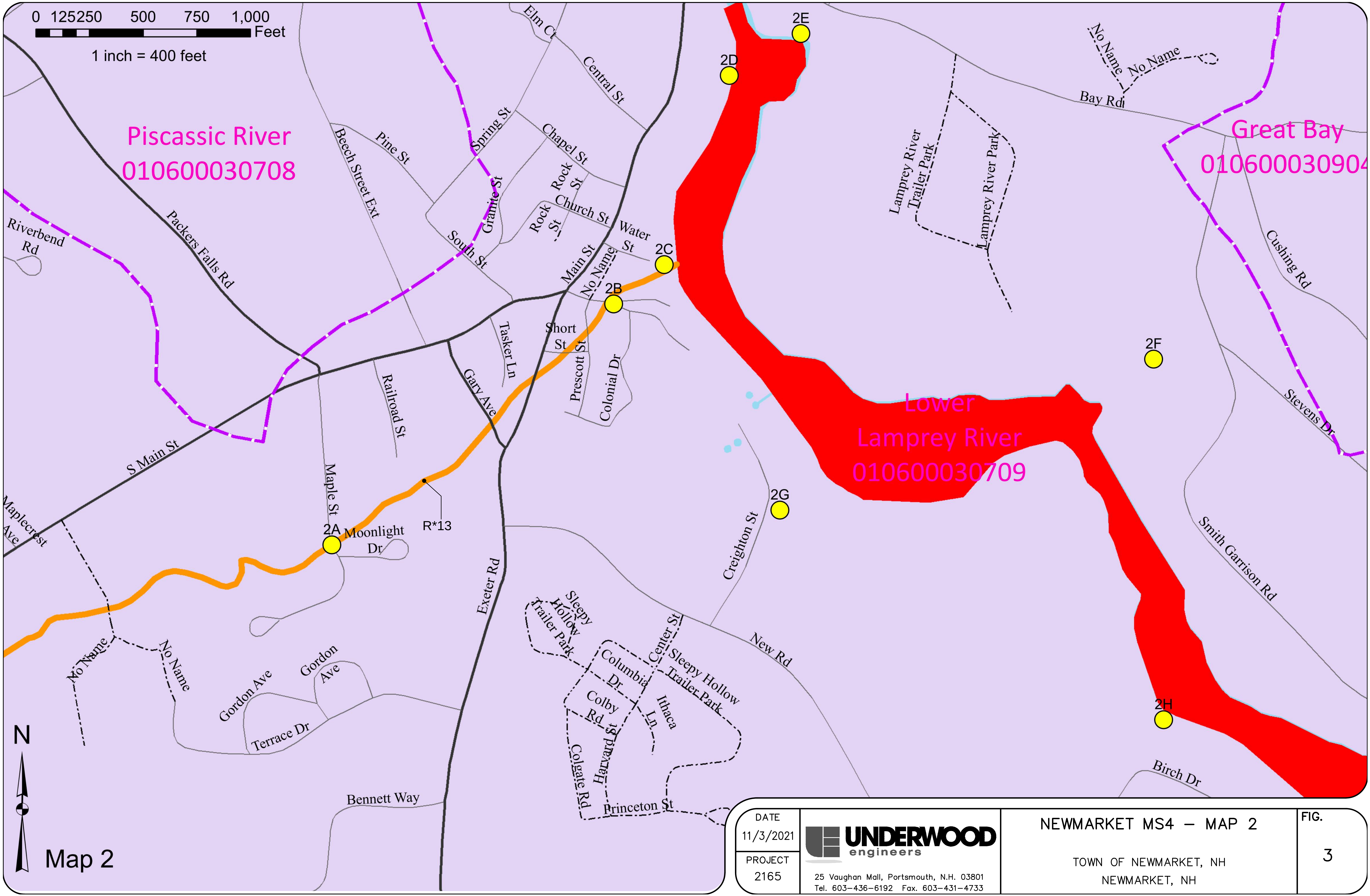
1G

DATE
11/3/2021
PROJECT
2165

UNDERWOOD
engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

NEWMARKET MS4 — MAP 1
TOWN OF NEWMARKET, NH
NEWMARKET, NH

FIG.
2



Map 2

DATE
11/3/2021

PROJECT
2165

UNDERWOOD
engineers

25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

NEWMARKET MS4 – MAP 2

TOWN OF NEWMARKET, NH
NEWMARKET, NH

FIG.
3



Map 3

0 125 250 500 750 1,000 Feet

1 inch = 400 feet

Piscassic River

010600030708

Lower
Lamprey River
010600030709

152

Wadleigh Falls Rd

Martin Dr

Riverbend Rd

Woods Dr

Oak Knoll Dr

Maplecrest Ave

S Main St

Pond St

Briallia Cir

Briallia Cir

Grant Rd

Irrell Dr

Kiely Dr

Langs Ln

Winslow Dr

3A

3B

3C

3D

3F

3E

R*07

R*15

R*13

DATE

11/3/2021

PROJECT

2165



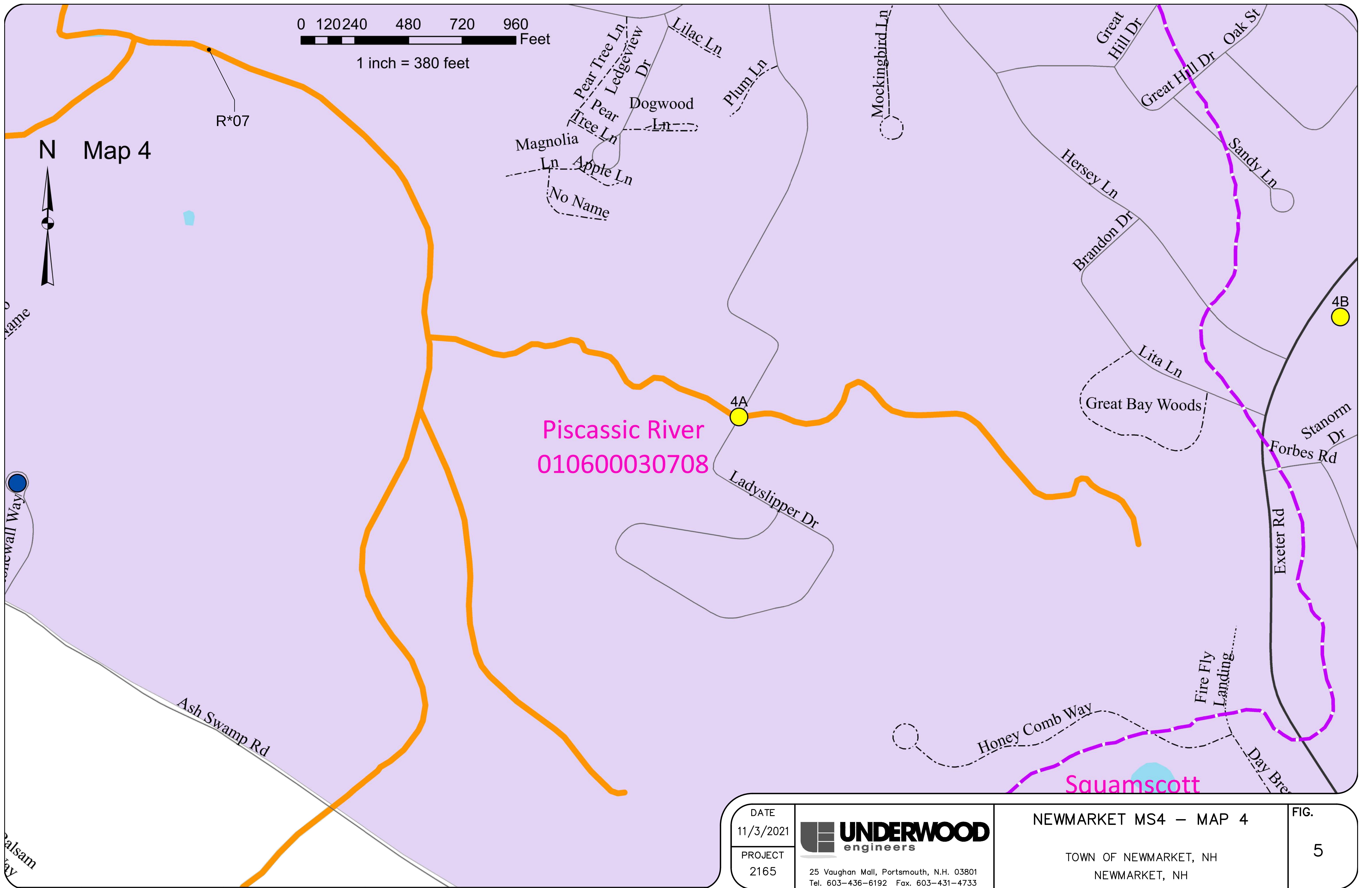
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

NEWMARKET MS4 - MAP 3

TOWN OF NEWMARKET, NH
NEWMARKET, NH

FIG.

4



DATE
11/3/2021

PROJECT
2165

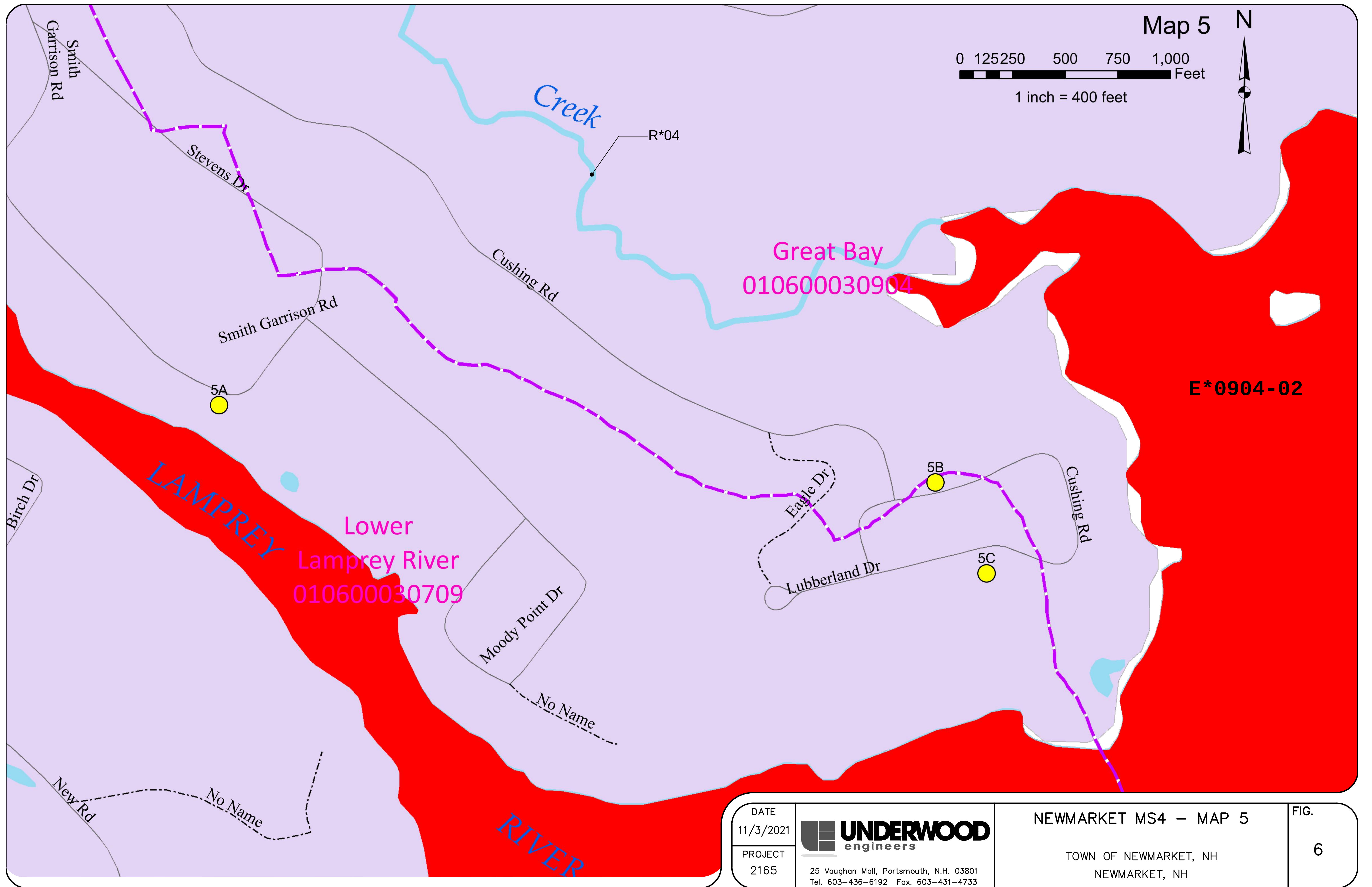
UNDERWOOD
engineers

25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

NEWMARKET MS4 – MAP 4

TOWN OF NEWMARKET, NH
NEWMARKET, NH

FIG.
5



Draft Revisions to Newmarket's Site Plan Regulations

Appendix B – Site Plan

Sec. 3.07 – Stormwater Management

(A) Purpose and Goals

The purpose of stormwater management standards is to provide reasonable guidance for the regulation of stormwater runoff that protects local natural resources from degradation and prevents adverse impacts to adjacent and downstream land, property, facilities and infrastructure. These standards regulate discharges from stormwater and runoff from land development projects and other construction activities to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff. Through these regulations, the Planning Board seeks to balance the public's interest in promoting orderly growth and development and protecting and enhancing water quality with the individual rights of private property owners. These regulations also provide measures for construction site stormwater runoff control as well as stormwater management for new development and redevelopment and post construction stormwater management. These regulations seek to meet the above goals through the following objectives:

- (1) Mitigate stormwater runoff from development to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels.
- (2) Minimize the water quality impact from all new and redevelopment projects. This applies to projects if the project is part of a larger common plan of development or redevelopment.
- (3) Manage nonpoint source pollution caused by stormwater runoff from development which otherwise would degrade local water quality.
- (4) Control the total volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic conditions.
- (5) Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution through stormwater management controls that are properly maintained and pose no threat to public health and safety or cause excessive municipal expenditures.
- (6) Protect the quality of groundwater resources, surface water bodies, and wetlands.
- (7) Control for other wastes on construction sites such as demolition debris, litter, and sanitary wastes.

(B) Definitions

Definitions shall be those provided in the Newmarket Zoning Ordinance adopted February 14, 1996, as amended in Chapter 32 Zoning Sec 32-111, Appendix A - Subdivisions, Sec 1.03, Appendix B: Site Plan Regulations, and other additional definitions referenced below. These definitions are to be used strictly for Stormwater Regulations under Appendix B – Site Plans and Appendix A – Subdivisions. In a case where there are alternative or inconsistent definitions elsewhere in Chapter 32 Zoning, the definitions in the stormwater management section shall apply.

1
2 Best Management Practices (BMPs): A structural or non-structural device designed to temporarily store
3 or treat urban stormwater runoff in order to mitigate flooding, reduce pollution, and provide other
4 amenities. BMPs also include treatment requirements, operating procedures, maintenance protocols, and
5 management practices to prevent and/or reduce the discharge of pollutants to waters of the United
6 States.

7
8 Bioretention: A water quality practice that utilizes vegetation and soils to treat urban stormwater runoff
9 by collecting it in shallow depressions, before filtering through an engineered bioretention planting soil
10 media.

11
12 Buffer: A special type of preserved area along a watercourse or wetland where development is restricted
13 or prohibited. Buffers protect and physically separate a resource from development. Buffers also provide
14 stormwater control flood storage and habitat values.

15
16 Disturbed Area: An area in which the natural vegetative soil cover has been removed or altered and,
17 therefore, is susceptible to erosion.

18
19 Effective Impervious Cover (EIC): The total impervious surface areas less the area of disconnected
20 impervious cover (area where runoff is captured and infiltrated or otherwise treated).

21
22 Filtration: The process of physically or chemically removing pollutants from runoff; practices that capture
23 and store stormwater runoff and pass it through a filtering media such as sand, organic material, or the
24 native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed
25 to remove particulate pollutants and, to a lesser degree, bacteria and nutrients.

26
27 Groundwater Recharge: The process by which water seeps into the ground, eventually replenishing
28 groundwater aquifers and surface waters such as lakes, streams, and the oceans. This process helps
29 maintain water flow in streams and wetlands and preserves water table levels that support drinking water
30 supplies.

31
32 Groundwater Recharge Volume: The post-development design recharge volume (i.e., on a storm event
33 basis) required to minimize the loss of annual pre-development groundwater recharge. The recharge
34 volume is determined as a function of annual pre-development recharge for site-specific soils or surficial
35 materials, average annual rainfall volume, and amount of impervious cover on a site.

36
37 Impaired Waters: Those waterbodies not meeting water quality standards. Pursuant to Section 303(d) of
38 the federal Clean Water Act, each state prepares a list of impaired waters (known as the 303(d) list) which
39 is presented in the state's Integrated Water Report as Category 5 waters. Those impaired waters for which
40 a total maximum daily load (TMDL) has been approved by US EPA and is not otherwise impaired.

41
42 Impervious Cover: Those surfaces that cannot effectively infiltrate rainfall such as building rooftops,
43 pavement, sidewalks, driveways and compacted gravel (e.g., driveways and parking lots).

1
2 Infiltration: The process of runoff percolating into the ground (subsurface materials). Stormwater
3 treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period
4 of days.

5
6 Low Impact Development (LID): Low impact development is a site planning and design strategy intended
7 to maintain or replicate predevelopment hydrology through the use of site planning, source control, and
8 small scale practices integrated throughout the site to capture, infiltrate, and manage runoff as close to
9 its source as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs,
10 bioretention basins and swales, filtrations trenches, and other functionally similar BMPs located near the
11 runoff source.

12
13 Maximum Extent Practicable (MEP): A proposed development meets a standard to the maximum extent
14 practicable, by demonstrating the following:

- 15
16 (1) All reasonable efforts have been made to meet the standard;
17 (2) A complete evaluation of all possible management measures has been performed; and
18 (3) If full compliance cannot be achieved, the highest practicable level of management is being
19 implemented.

20
21 Mitigation: Activities, strategies, policies, programs, and actions that, over time, will serve to avoid,
22 minimize, or compensate for (by treating or removing pollution sources) the impacts to or disruption of
23 water quality and water resources.

24
25 MS4 Program: Refers to the Small Municipal Separate Storm Sewer System General Permit - the MS4
26 General Permit - issued by the EPA under the Clean Water Act. MS4 applies to municipalities, of which
27 Newmarket is one, that contain any portion of an urbanized area as defined by the federal Census. It
28 applies to stormwater conveyances owned by a State, city, town, or other public entity that discharge to
29 'Waters of the United States'. The MS4 Permit requires that operators of small MS4s develop a
30 Stormwater Management Program that uses appropriate Best Management Practices (BMPs) for each of
31 the six minimum control measures required in the MS4 permit under National Pollution Discharge
32 Elimination System (NPDES), including construction site stormwater runoff control and stormwater
33 management for new development and redevelopment (also referred to as post construction stormwater
34 management.)

35
36 Native Vegetation and Plantings: Plants that are indigenous to the region, adapted to the local soil and
37 rainfall conditions, and require minimal supplemental watering, fertilizer, and pesticide application.

38
39 New Development: Any construction, land alteration, or improvement of a site or structure with less
40 than 40 percent of the existing impervious surface, calculated by dividing the total existing impervious
41 surfaces, by the size of the parcel, and convert to a percentage.

1 Pollutant Load: An amount of pollutants that is introduced into a receiving waterbody measured in units
2 of concentration of mass or weight over a specified time period (i.e. lbs/day or lbs/year).

3
4 Redevelopment: For purposes of determining whether a site must meet either new development or
5 redevelopment requirements, a site is considered redevelopment if it has 40 percent or more of existing
6 impervious surface, calculated by dividing the total existing impervious surface by the size of the parcel,
7 and converting it a percentage. Otherwise, the project must meet the new development treatment
8 standards. The following activities are not considered redevelopment:

- 9 a. Interior and exterior building renovation
- 10 b. Resurfacing of an existing paved surface (e.g. parking lot, walkway or roadway)
- 11 c. Pavement excavation and patching that is incidental to the primary project purpose,
12 such as replacement of a collapsed storm drain
- 13 d. Landscaping installation and maintenance.

14
15 Regulated Substances: petroleum, petroleum products, regulated contaminants for which an ambient
16 groundwater quality standard has been established under RSA 485-C:6, and substances listed under 40
17 CFR 302, 7-1-05 edition, as amended, excluding substances used in the treatment of drinking water or
18 wastewater at town facilities.

19
20 Subdivision: Division of a lot into two or more lots, plats, sites, or other divisions of land for the purpose,
21 whether immediate or future, of sale, rent, lease, condominium conveyance or building development. It
22 includes re-subdivision and, where appropriate to the context, relates to the process of subdividing or to
23 the land or territory subdivided. The division of a parcel of land held in common and subsequently divided
24 into parts among several owners shall be deemed a subdivision. The granting of an easement in gross
25 for public utilities shall not be deemed a subdivision

26
27 Surface Water Body: Surface waters, including lakes, rivers and other navigable waters, streams, wet-
28 lands, coastal areas protected under the federal Clean Water Act.

29 Total Suspended Solids (TSS): The total amount of soils and particulate matter which are suspended in
30 the water column.

31
32 Water Quality Volume: The amount of stormwater runoff from a rainfall event that should be captured
33 and treated to remove the majority of stormwater pollutants on an average annual basis. The
34 recommended volume is that associated with the first one-inch of rainfall, which is equivalent to capturing
35 and treating the runoff from the 90th percentile of all rainfall. Source: NH DES Stormwater Manual: Volume
36 2 Post-Construction Best Management Practices: Selection and Design, December 2008.

37
38 Watershed: All land and water area from which runoff may run to a common (design) discharge point.
39

1
2
3 (C) Minimum Thresholds for Applicability
4

5 (1) These stormwater management standards apply to all proposed developments and
6 redevelopment projects that are subject to the Town of Newmarket Site Plan Review regulations
7 and disturb more than 5,000 square feet of area or more than 2,500 square feet of area if within
8 100 feet of a surface water body.
9

10 (2) Conditions for Granting Waivers.
11

12 The Planning Board may grant a waiver from these regulations as set forth in Section 5.01 (A)
13 and upon the submission of appropriate demonstration by the applicant as to why these
14 regulations should not apply and with consideration by the Planning Board of the following
15 conditions of approval:

- 16 a. All runoff from new impervious surfaces and structures shall be directed to a subsurface
17 filtration and/or infiltration device or properly discharged to a naturally occurring or
18 fully replanted and vegetated area with slopes of 15 percent or less and with adequate
19 controls to prevent soil erosion and concentrated flow.
20 b. Impervious surfaces for parking areas and roads shall be minimized to the extent
21 possible (including minimum parking requirements for proposed uses).
22 c. All runoff generated from new impervious surfaces shall be retained on the
23 development site and property.
24 d. Determination of compliance with standards (a.-c. above) will be made by the Planning
25 Board on a case by case basis as site conditions and constraints will differ greatly
26 between various development proposals.
27

28 (3) The following activities are considered exempt from preparing and submitting a stormwater
29 management plan:

- 30 a. Agricultural and forestry practices in accordance with BMP's published by the NH
31 Department of Agriculture.
32 b. Resurfacing and routine maintenance of roads and parking lots.
33 c. Exterior and interior alterations and maintenance to existing buildings and structures.
34

35 (4) All applications shall be accompanied by a completed Site Plan Review Application and
36 Stormwater Management Checklist to the Planning Board prior to consideration for review. Prior
37 to commencement of land disturbance, the applicant must obtain an approved permit under
38 these regulations.
39

40 (5) All projects of magnitude under review by the Planning Board may require a stormwater permits
41 from EPA Construction General Permit (CGP) program or NH Department of Environmental
42 Services (NHDES) and shall comply with the standards of EPA and/or NH DES permits and this

section, where the stricter standards apply. Copies of the following permits shall be required, as applicable, as conditions of approval.

- a. EPA Construction General Permit – A permit issued by EPA that authorizes the discharge of pollutants to waters of the United States. For a cumulative disturbance of one (1) acre of land that is considered “construction activity” which includes, but is not limited to clearing, grading, excavation, and other activities that expose soil typically related to landscaping, demolition, and construction of structures and roads, a federal permit is required, in addition to any state or local permits
- b. Alteration of Terrain Permit (AOT) - RSA 485-A:1 requires a permit from the New Hampshire Department of Environmental Services (NH DES) Water Supply and Pollution Control Division for “any person proposing to significantly alter the characteristic of the terrain, in such a manner as to impede natural runoff and unnatural runoff. Under this program, a permit is required for a project involving more than 100,000 contiguous square feet of disturbance or if such an activity occurs in or on the border of surface waters of the state. 76

(D) Stormwater Management for New Development

All proposed stormwater management practices and treatment systems shall meet the following performance standards:

- (1) Projects subject to the new development standards include all proposed projects on completely undeveloped parcels or previously developed parcels where less than 40% of the total parcel area is comprised of impervious areas. Impervious surfaces include all paved surfaces, rooftops and compacted gravel or dirt surfaces. If 40% or more of the proposed development parcel consists of impervious surfaces then the project is subject to the redevelopment standards listed in Section E below.
- (2) All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturer’s specifications and performance standards in the NH Stormwater Management Manual Volume 2 (December 2008 or current revision), a copy of which is available from the NH DES website.
www.des.nh.gov/organization/divisions/water/stormwater/manual
- (3) Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and at least 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NHDES “Stormwater Manual Volume 1 and Volume 2”, and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means. In urbanized areas where Pollutant loading concentrations may be higher and space constraints have been demonstrated, equivalent means of calculating nutrient load reductions may include the EPA BMP Performance Curves published in “Methods to Calculate Phosphorus and Nitrogen

- 4 (4) Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface
5 gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen
6 removal efficiency. All new impervious area draining to surface waters listed as nutrient shall be
7 treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such
8 nutrients based on design standards and performance data published by the UNH Stormwater
9 Center and/or included in the latest version of the NHDES Stormwater Manual.
10
- 11 (5) Measures shall be taken to control the post-development peak rate runoff so that it does not
12 exceed pre-development runoff. Drainage analyses shall include calculations comparing pre-
13 and post-development stormwater runoff rates (cubic feet/second) and volumes (cubic feet) for
14 the 1-inch rainstorm and the 2-year, 10-year, 25-year and 50-year, 24-hour storm events. Similar
15 measures shall be taken to control the post-development runoff volume to infiltrate the
16 groundwater recharge volume (GRV) according to ratios referenced in the NHDES "Stormwater
17 Manual Volume 2" and any subsequent revisions. For sites where infiltration is limited or not
18 practicable, the applicant must demonstrate that the project will not create or contribute to
19 water quality impairment. Infiltration structures should be in locations with the highest
20 permeability on the site, to the extent possible.
21
- 22 (6) The physical, biological and chemical integrity of receiving water shall not be degraded by the
23 stormwater runoff from the site.
24
- 25 (7) Surface runoff shall be directed into appropriate stormwater control measures designed for
26 treatment and/or filtration to the maximum extent practicable and/or captured and reused
27 onsite.
28
- 29 (8) Low Impact Development (LID) site planning and design strategies shall be used to the maximum
30 extent practicable to reduce stormwater runoff volumes, protect water quality, and maintain
31 predevelopment site hydrology. LID techniques that preserve existing vegetation, reduce the
32 development footprint, minimize or disconnect impervious areas, locate impervious areas in low
33 infiltration soil areas (i.e. HSG-D), and use enhanced stormwater BMP's (such as raingardens,
34 bioretention systems, tree box filters, and similar stormwater management landscaping
35 techniques) shall be incorporated into landscaped areas. Efforts shall be made to limit any single,
36 contiguous section of impervious area draining to one outlet area to be no more than 10% of
37 the lot area. The capture and reuse of stormwater is strongly encouraged. The applicant must
38 document in writing why LID strategies are not appropriate when not used to manage
39 stormwater. Every effort shall be made to use pervious parking surfaces as an alternative to
40 impervious asphalt or concrete for general and overflow parking areas. Pervious pavement shall
41 be appropriately sited and designed for traffic and vehicle loading conditions.
42

- (9) The design of the stormwater drainage systems shall provide for the discharge of stormwater without flooding or functional impairment to adjacent and downstream properties, streets, drainage structures, culverts, soils, wetlands, stream channels or vegetation.
- (10) The design of the stormwater management systems shall account for upstream and upgradient runoff within the watershed that flows onto, over, or through the site to be developed. Any runoff that flows through the site from upgradient properties shall be included in the calculations.
- (11) All stormwater treatment areas shall be planted with native plantings appropriate for the site conditions: grasses, shrubs, trees, and/or other native plants in sufficient numbers and density to prevent soil erosion and achieve the water quality treatment requirements of this section.
- (12) All stormwater installations and areas that receive rainfall runoff shall be designed to drain within a maximum of 72 hours for vector control.
- (13) The site design shall include adequate temporary and permanent erosion control measures consistent with the design guidelines and specifications included in the NHDES "Stormwater Manual Volume 3", and any subsequent revisions. Appropriate sediment and erosion control measures for construction sites, include: minimizing the amount of disturbed area, protecting natural resources, stabilizing sites when projects are complete or operations have temporarily ceased, protecting slopes on the site, protecting all storm drain inlets and armoring all newly constructed outlets the use of perimeter controls, stabilizing construction site entrances and exits to prevent off-site tracking; and inspecting stormwater controls at consistent intervals.
- (14) The site design shall include provisions to control wastes, including, but not limited to, discarded building materials, concrete truck wash-out, chemicals, litter and sanitary wastes, all of which shall not be discharged into the stormwater system.
- (15) Prior to any soil disturbance or tree clearing, appropriate erosion and sediment control measures shall be installed and areas to be protected shall be clearly marked and delineated using construction fencing or some other appropriate means to prevent damage from construction equipment.
- (16) Stormwater management and erosion and sediment control practices shall be located outside any specific buffer zones unless otherwise approved by the Planning Board. Alternatives to stream and wetland crossings that eliminate or minimize environmental impacts shall be considered whenever possible.
- (17) Salt storage areas shall be fully covered and loading/offloading areas shall be located and designed to not drain directly to receiving waters and maintained with good housekeeping measures in accordance with NHDES published guidance. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. Reference published guidance fact sheets on road

salt and water quality, and snow disposal:
<http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm>, or as amended.

(18) Runoff shall be directed into recessed vegetated and landscaped areas designed for the treatment and/or filtration to the Maximum Extent Practical to minimize Effective Impervious Cover (EIC) and reduce the need for irrigation systems.

(19) All newly generated stormwater shall be treated on the development site. Runoff shall not be discharged from the development site to municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than discharged under existing conditions. A development plan shall include provisions to retain natural predevelopment watershed areas on the site by using the natural flow patterns. Any new development that proposes to connect to the municipal storm drainage system shall comply with Section K: Municipal Storm Connections.

(20) Whenever practicable, native site vegetation shall be retained, protected, or supplemented. Any stripping of vegetation shall be done in a manner that minimizes soil erosion.

(21) After erosion control measures have been installed and the areas to be protected are clearly marked, an onsite meeting shall be held with the Town's Engineering consultant prior to the start of any soil disturbance activities to review the construction sequence, timing and measures to protect sensitive areas.

(22) All temporary control measures shall be removed after final site stabilization. Any trapped sediment contained within the storm drain system or treatment areas shall be removed using appropriate measures consistent with the maintenance plan included in the approved Stormwater Management Plan.

(23) The Planning Board may request weekly erosion control inspections to be conducted by either the Town Engineer or another qualified professional at the expense of the applicant, depending on the development size, anticipated construction period, time of year and sensitivity of adjacent resources.

(24) The applicant shall submit as-built drawings of the constructed stormwater management system following construction.

(E) Stormwater Management for Redevelopment

For proposed projects meeting the definition of a redevelopment project, the applicant shall meet the minimum stormwater management requirements of this section for the entire developed area of the site to the maximum extent practical.

- (1) Redevelopment applications shall comply with the requirements of Sections (G) Submission Requirements for Stormwater Management Report and Plans, (H) General Performance Criteria for Stormwater Management Plans, and (I) Spill Prevention, Control, and Response (SPCR) Plan.
- (2) A development plan shall include provisions to retain stormwater on the site by using the natural flow patterns. Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NHDES "Stormwater Manual Volume 1 and Volume 2", and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means. In urbanized areas where Pollutant loading concentrations may be higher and space constraints have been demonstrated, equivalent means of calculating nutrient load reductions may include the EPA BMP Performance Curves published in "Methods to Calculate Phosphorus and Nitrogen Load Reductions for Structural Stormwater Best Management Practices in the Watershed" (NH 2017 M Permit - Appendix F; Attachment 3).
- (3) Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen removal efficiency. All new impervious areas draining to surface waters listed as nutrient shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such nutrients based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NHDES Stormwater Manual.
- (4) All newly generated stormwater from redevelopment shall be treated on the development site. Runoff shall not be discharged from the redevelopment site to municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than that discharged under existing system shall comply with Section J: Municipal Storm Connections.
- (3) For sites meeting the definition of a redevelopment project, stormwater shall be managed for water quality in accordance with one or more of the following techniques listed in order of preference:
- a. Implement measures onsite that result in disconnection or treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of filtration media; or
 - b. Implement other LID techniques onsite to the maximum extent practicable to provide treatment for at least 50% of the entire site area.

- 1 (4) Salt storage areas shall be fully covered and loading/offloading areas shall be located and
2 designed to not drain directly to receiving waters and maintained with good housekeeping
3 measures in accordance with NHDES published guidance. Runoff from snow and salt
4 storage areas shall enter treatment areas as specified above before being discharged to
5 receiving waters or allowed to infiltrate into the groundwater. Reference published guidance
6 fact sheets on road salt and water quality, and snow disposal:
7 http://des.nh.gov/organization/_commissioner/pip/factsheets/wmb/index.htm or as
8 amended.
9 (5) The applicant shall submit as-built drawings of the constructed stormwater management
10 system following construction.
11

12 (F) Options to Allow for Mitigation for Redevelopment

13
14 For sites having less than 40% impervious areas, the stormwater management requirements will be the
15 same as for new development under Section D New Development with the exception that the applicant
16 can meet those requirements either on-site or at an approved off-site location, as set forth below:
17

- 18 (1) In cases where the applicant demonstrates, to the satisfaction of the Planning Board, that on-site
19 treatment has been implemented to the maximum extent possible or is not feasible, off-site
20 mitigation will be an acceptable alternative. Off-site mitigation shall be implemented within the
21 same subwatershed as the redevelopment, within the project's drainage area, or within the
22 drainage area of the receiving waterbody
23
24 (2) Off-site mitigation shall treat no less than the total area of impervious area not treated on-site.
25 Treatment of the impervious area shall comply with all standards of this regulation.
26
27 (3) An approved off-site location shall be identified, the specific management measures shall be
28 stipulated and an implementation schedule shall be developed in accordance with the Planning
29 Board's review. Municipally-owned land should be considered as a first priority in the selection of
30 lands for off-site mitigation. If the off-site location is not owned by the applicant, a written
31 agreement with the property owner(s) shall be submitted as part of the application.
32 (4) As part of their request to utilize the off-site mitigation option for redevelopment, the applicant
33 shall also demonstrate there are no adverse downstream flooding impacts that would result from
34 not providing appropriate on-site management from the 50-yr or greater storm event.
35

36 (G) Submission Requirements for Stormwater Management Plan (SMP)

37
38 A Stormwater Management Plan (SMP) shall be submitted with the Site Plan Review Application, as
39 applicable, and shall be prepared and certified by a NH licensed Professional Engineer, specializing in
40 Civil Engineering. This plan shall include the following information:
41

- (1) A narrative description and an existing conditions plan showing all pre-development impervious surfaces, buildings, and structures; surface water bodies and wetlands; sub-catchment and watershed boundaries, drainage patterns; building setbacks and buffers, locations of various hydrologic group soil types, mature vegetation, land topographic contours with minimum 2-foot intervals and spot grades, where necessary, for sites that are flat.
- (2) A narrative description and a proposed conditions plan showing all post-development important hydrologic features created or preserved on the site; subcatchment and watershed boundaries, drainage patterns, channelized flow areas; proposed areas of disturbance; temporary stock pile areas, construction refueling areas; proposed impervious surfaces, buildings, and structures; all temporary and permanent stormwater treatment BMPs and management elements, including BMP GIS coordinates and GIS files; building setbacks and buffers; proposed tree clearing and topographic contours with minimum 2-foot intervals; erosion control measures, stormwater outlet locations and any drainage and maintenance access easements. The plan shall provide calculations and identification of the total area of disturbance proposed on site (and off-site if applicable) and total area of new impervious surface created. A summary of the drainage analysis showing a comparison of the estimated peak flow and volumes for various design storms (see Table 1: Stormwater Infrastructure Design Criteria) at each of the points of analysis shall be included on the plan.
- (3) A description of the general approach and strategies implemented, and the facts and assumptions relied upon, to meet the purpose and goals for stormwater management. The SMP shall include design plans and/or graphic sketches of all proposed LID practices.
- (4) Calculations of the change in impervious area, pollution loading and reductions for each best management practice. GIS files containing the coordinates of all stormwater infrastructure elements (e.g. catch basins, swales, detention/bioretention areas, and piping) upon request.
- (5) A description and a proposed site plan showing proposed erosion and sediment control measures, limits of disturbance, temporary and permanent soil stabilization measures in accordance with the NHDES "Stormwater Manual Volume 3" and any subsequent revisions, as well as a construction site inspection plan including phased installation of best management practices and final inspection upon completion of construction.
- (6) Landscaping plan and details that show planting areas, proposed plant species focusing of native species suitable to anticipated site conditions, and provisions for controlling the establishment of nuisance invasive species.
- (7) A short and long-term operations and maintenance (O&M) plan that outlines the proposed inspection and maintenance schedule for all temporary erosion control, permanent stormwater treatment measures, and best management practices. The Plan shall describe the inspection protocols and thresholds for determining when maintenance activities are needed and identify the qualified and responsible individuals or parties (and contact information) who will perform these activities. The inspection frequency, maintenance, reporting protocols, and sample reporting forms shall be included.
- (8) The Plan shall also describe the methods for reporting and recordkeeping to ensure the activities have been performed. Records shall be submitted to the Code Enforcement Officer annually as to comply with the maintenance program. Annual reporting records shall also be

uploaded to the Great Bay Pollution Tracking and Accounting Program (PTAP) Data Base hosted at <https://www.unh.edu/unhsc/ptapp> (as amended)

- (9) Covenant documents for filing with the Rockingham County Registry of Deeds which demonstrate the owner's obligation for stormwater BMP maintenance, which runs with the land and that the Town has legal access to inspect and/or maintain, if necessary, onsite stormwater infrastructure.
- (10) A listing and copies of any additional federal or state permit application documents and associated correspondence that may be required.
- (11) A description of identified locations of any proposed deicing chemicals and/or snow storage areas. The SMP shall describe how deicing chemical use will be minimized or used more efficiently.
- (12) For urbanized areas that are subject to the EPA MS4 Stormwater Permit which drain to chloride-impaired waters, a description of measures that will be used to minimize salt usage, and track and report amounts applied using the UNH Technology Transfer Center online tool (<http://www.roadsalt.unh.edu/Salt/>) (as amended) in accordance with Appendix H of the NH MS4 Permit, as applicable, shall be submitted.
- (13) All stormwater management practices involving bioretention and vegetative cover as a key functional component must have a landscaping plan detailing both the type and quantities of plants and vegetation to be in used in the practice and how and who will manage and maintain this vegetation. The landscaping plan must be prepared by a registered landscape architect.

(H) General Performance Criteria for Stormwater Management Plans

- (1) All applications shall apply practices to reduce the generation of stormwater in the post-developed condition, reduce overall impervious surface coverage, seek opportunities to capture and reuse and minimize the discharge of stormwater to the municipal stormwater management system.
- (2) Water Quality Protection
 - a. All stormwater runoff generated from new development shall not be discharged directly into a jurisdictional wetland or surface water body without adequate treatment.
 - b. All developments shall provide treatment and management of stormwater runoff and prevent discharge of stormwater runoff from creating or contributing to water quality impairment
- (3) Onsite groundwater recharge shall be maintained by promoting infiltration through use of structural and non-structural methods. The annual recharge from the post development site shall remain equal or exceed the annual recharge from pre-development site conditions. Capture and reuse of stormwater runoff is encouraged in instances where groundwater recharge is limited by site conditions. All stormwater management practices shall be designed to convey stormwater to allow for maximum groundwater recharge. This may include, but not be limited to:
 - a. Maximizing flow paths from collection points to outflow points.
 - b. Use of multiple best management practices.
 - c. Retention of and discharge to fully vegetated areas.

1 d. Maximizing use of infiltration practices.

2
3 (4) Stormwater system design performance standards shall be provided as prescribed in Table 1:
4 Stormwater Infrastructure Design Criteria. Calculations shall include sizing of all structures and
5 best management practices. Sizing of emergency overflow structures shall be based on
6 assessment of the 100-year 24-hour frequency storm discharge rate.

7
8 (5) The sizing and design of stormwater management practices shall utilize new precipitation data
9 from the Northeast Region Climate Center (NRCC) or the most recent precipitation atlas
10 published by the National Oceanic and Atmospheric Administration (NOAA) for the sizing and
11 design of all stormwater management practices. See the NRCC website at
12 <http://precip.eas.cornell.edu/>.

13
14 (6) The use of native plantings appropriate for site conditions is strongly encouraged for these types
15 of stormwater treatment areas. All invasive plant species identified in [Chapter Agr 3800](#), pursuant
16 to RSA 430:55 are prohibited. All non-native plant species identified in the [New Hampshire](#)
17 [Restricted Invasive Plant Species/Watch List](#) (as amended) are strongly discouraged.

18
19 (I) **Spill Prevention, Control, and Response (SPCR) Plan**

20
21 (1) For any application under this section for a proposed commercial or industrial use having
22 regulated substances in amounts greater than 55 gallons or 660lbs of a regulated substance,
23 the applicant shall submit a spill prevention, control, and response plan to the Fire Department.
24 The Fire Department shall determine whether the plan will prevent, contain, and minimize
25 releases from ordinary or catastrophic events as spills, floods, or fires that may cause large
26 releases of regulated substances, which shall include the following:

- 27 a. Disclosure statements describing the types, quantities, and storage locations of all
28 regulated substances.
29 b. Owner and spill response manager's contact information.
30 c. Location of all surface waters and drainage patterns.
31 d. A narrative of spill prevention practices to be employed when routinely using such
32 substances.
33 e. Containment controls, both structural and non-structural.
34 f. Spill reporting procedures, including a list of personnel or agencies to be contacted
35 g. A description of equipment to prevent regulated substances from infiltrating into the
36 ground and discharging to the Town's stormwater system

37
38 (2) All regulated substances in a container with a capacity of five (5) gallons or more shall be stored
39 in product tight containers, on an impervious surface, and maintained to prevent flow to exposed
40 soils, flow drains, and outside drains.
41

1
2 (J) **Municipal Storm Connections**
3

4 Connections to the municipal storm drainage system shall be allowed only, as necessary, after
5 required provisions to control the peak rate and volume of post-development run-off through
6 onsite detention, water quality treatment and groundwater recharge have been fully explored
7 and included in the site design to the maximum extent practicable, as determined by the Board,
8 after a review and recommendation by the Town's engineer. If onsite stormwater management
9 is not feasible due to site constraints, the applicant must fully demonstrate why onsite LID
10 strategies and stormwater BMPs are not feasible and submit a written request for a waiver
11 pursuant to Appendix B – Site Plans Section 5.01 Waivers or Substitutions.
12

- 13 (1) Any proposed connection to the municipal stormwater drainage system shall be designed and
14 constructed in accordance with standards and specifications of the Town of Newmarket.
15 Stormwater contributions to the Town's sanitary sewer system are strictly prohibited.
16 (2) Where adequate municipal stormwater drainage facilities are not available at the time of
17 application and are deemed necessary due to site constraints or if onsite treatment has been
18 determined to potentially result in adverse impacts to abutting properties (e.g., wet basements,
19 flooding, etc.) or natural resources, it will be the applicant's responsibility to install the necessary
20 municipal storm drain system improvements including additional capacity needed downgradient
21 of the site, as determined by the Public Works Director and/or Town Engineer
22 (3) Any new connections or extensions to the municipal storm drain as approved by the Planning
23 Board shall be in the form of a subsurface piped storm sewer system. Such drainage facilities
24 shall be located in the street rights-of-way where feasible. Where topography or other
25 conditions are such as to make this impractical, perpetual unobstructed easements for future
26 maintenance, repair and upgrade of the system shall be provided across all properties. Such
27 easements shall be 25' or more in width, and shall have satisfactory access to the road. Any new
28 connection or extension to municipal storm drain system shall include water quality treatment
29 provisions to capture sediment and petroleum products that may be generated onsite from
30 driveways, roads and parking lots prior to exiting the site.
31

32 (K) **Stormwater Management Plan and Site Inspections**
33

34 The property owner shall bear responsibility for the installation, construction, inspection, and
35 maintenance of all stormwater management and erosion control measures required by the
36 provisions of these regulations and as approved by the Planning Board, including emergency
37 repairs completed by the Town.
38

39 (L) **Stormwater Management Plan Recordation**
40

- 41 (1) Stormwater management and sediment and erosion control plans shall be incorporated
42 as part of any approved site plan. A Notice of Decision acknowledging the Planning Board
43 approval of these plans shall be recorded at the County Registry of Deeds. The Notice of

Decision shall be referenced to the property deed (title/book/page number) and apply to all persons that may acquire any property subject to the approved stormwater management and sediment control plans. The Notice of Decision shall reference the requirements for maintenance pursuant to the stormwater management and erosion and sediment control plans as approved by the Planning Board.

- (2) The applicant shall submit as-built drawings of the constructed stormwater management system following construction.

(M) Inspection, Maintenance, and Reporting Responsibilities

- (1) The Code Enforcement Officer or other duly, appointed designee of the Town Manager shall be responsible for enforcement [as referenced in Sec. 5.08 and have site access to undertake routine inspections to ensure compliance with the approved stormwater management and sediment and erosion control plans. Such inspections shall be performed at a time agreed upon with the landowner during project construction.
- (2) If violations or non-compliance with a condition(s) of approval are found on the site during routine inspections, the inspector shall provide a report to the Code Enforcement Officer, documenting these violations of non-compliance including recommended corrective actions. The Code Enforcement Officer shall notify the property owner in writing of these violations of non-compliance and corrective actions necessary to bring the property into full compliance.
- (3) If a property is abandoned or becomes vacant; and in the event a property owner refuses to repair infrastructure that is damaged or is not functioning properly, the Code Enforcement Officer or other duly, appointed designee of the Town Administrator, shall be responsible for enforcement [as referenced in Sec. 5.08].
- (4) Landowners shall be responsible for submitting an annual report to the Planning Department by June each year. Such documents shall be prepared by a Professional Engineer or stormwater professional certifying that all stormwater management and erosion control measures are functioning per the approved stormwater management plan. The annual report shall note if any stormwater infrastructure has needed any repairs other than routine maintenance and the results of those repairs. If the stormwater infrastructure is not functioning per the approved stormwater management plan the landowner shall report on the malfunction in their annual report and include details regarding when the infrastructure shall be repaired and functioning as approved. Annual reporting records shall also be uploaded to the Great Bay Pollution Tracking and Accounting Program (PTAP) Data Base hosted at <https://www.unh.edu/unhsc/ptapp> (as amended).
- (5) If no report is filed by June 1, the Code Enforcement Officer or other duly, appointed designee of the Town Manager, shall be responsible for enforcement [as referenced in Sec. 5.07] and to complete routine inspections to ensure compliance with the approved stormwater management and sediment and erosion control plans. Such inspections shall be performed at a time agreed upon with the landowner.
- (6) The Planning Board reserves the right to request the applicant to post a performance bond or other security to cover the costs of future inspections or maintenance activities associated with

1 any onsite or offsite BMPs, if these inspections and/or maintenance activities are not performed
2 by the landowner(s) or other responsible party.
3

DRAFT

1 Table 1: Stormwater Infrastructure Design Criteria

Design Criteria	Description										
Water Quality Volume (WQV)	$WQV = (P)(R_v)(A)$ $P = 1$ inch of rainfall $R_v =$ unitless runoff coefficient, $R_v = 0.05 + 0.9(I)$ $I =$ percent impervious cover draining to the structure converted to decimal form $A =$ total site area draining to the structure										
Water Quality Flow (WQF)	$WQF = (q_u)(WQV)$ $WQV =$ water quality volume calculated as noted above $q_u =$ unit peak discharge from TR-55 exhibits 4-II and 4-III Variables needed for exhibits 4-II and 4-III: $I_a =$ the initial abstraction = 0.2S $S =$ potential maximum retention in inches = $(1000/CN) - 10$ $CN =$ water quality depth curve number $= 1000 / (10 + 5P + 10Q - 10[Q^2 + 1.25(Q)(P)]^{0.5})$ $P = 1$ inch of rainfall $Q =$ the water quality depth in inches = WQV/A $A =$ total area draining to the design structure										
Groundwater Recharge Volume (GRV)	$GRV = (A_i)(R_d)$ $A_i =$ the total area of effective impervious surfaces that will exist on the site after development $R_d =$ the groundwater recharge depth based on the USDA/NRCS hydrologic soil group, as follows: <table> <tr> <th>Hydrologic Group</th><th>R_d (inches)</th></tr> <tr> <td>A</td><td>0.40</td></tr> <tr> <td>B</td><td>0.25</td></tr> <tr> <td>C</td><td>0.10</td></tr> <tr> <td>D</td><td>0.00</td></tr> </table>	Hydrologic Group	R_d (inches)	A	0.40	B	0.25	C	0.10	D	0.00
Hydrologic Group	R_d (inches)										
A	0.40										
B	0.25										
C	0.10										
D	0.00										
Channel Protection Volume (CPV)	If the 2-year, 24-hour post-development storm volume <i>does not increase</i> due to development then: control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour predevelopment level. If the 2-year, 24-hour post-development storm volume <i>does increase</i> due to development then: control the 2-year, 24-hour post-development peak flow rate to ½ of the 2-year, 24-hour pre-development level or to the 1-year, 24-hour pre-development level.										
Peak Control	Post-development peak discharge rates shall not exceed pre-development peak discharge rates for the 10-year and 50-year, 24-hour storms										
EIC and UDC	$\%EIC = \text{area of effective impervious cover} / \text{total drainage areas within a project area} \times 100$ $\%UDC = \text{area of undisturbed cover} / \text{total drainage area within a project area} \times 100$										

2 NHDES Stormwater Manual: Volume 2 Post-Construction Best Management Practices Selection & Design (December 2008)

Draft Revisions to Newmarket's Subdivision Regulations

Appendix A - Subdivisions

Sec. 3.03 – Stormwater Management

(A) Purpose and Goals

The goals of this section is to set forth stormwater management standards for the development and redevelopment of major subdivisions for the purposes of preventing both onsite and downstream flooding; reducing the water quality impacts of such development, providing effective water quality treatment; and minimizing erosion and maintaining sediments on construction sites and adjacent downgradient areas so they are not transported in stormwater and allowed to discharge into the waters of the U.S, thereby degrading water quality. Through these regulations, the Planning Board seeks to balance the public's interest in promoting orderly growth and development and protecting and enhancing water quality and the individual rights of private property owners.

These regulations seek to meet those goals through the following objectives:

- (1) Mitigate stormwater runoff from development to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels.
- (2) Minimize the water quality impacts from all new development and redevelopment projects considered major subdivisions under the Town's subdivision regulations. This applies to projects if the project is part of a larger common plan.
- (3) Manage nonpoint source pollution caused by stormwater runoff from new development and redevelopment which otherwise would degrade local water quality.
- (4) Control the total volume and runoff rates of surface water which flows from any specific site during and following development and redevelopment to not exceed the pre-development hydrologic conditions.
- (5) Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution through stormwater management controls that are properly maintained and pose no threat to public health and safety or cause excessive municipal expenditures.
- (6) Protect the quality of groundwater resources, surface water bodies, and wetlands.
- (7) Control waste on construction sites such as demolition debris, litter, and sanitary wastes.

(B) Definitions

Definitions shall be those provided in the Newmarket Zoning Ordinance adopted February 14, 1996, as amended in Chapter 32 Zoning Sec 32-111, Appendix A - Subdivisions, Sec 1.03, Appendix B: Site Plan Regulations, and other additional definitions referenced below. The definitions in this section are to be used strictly for Stormwater Regulations under Appendix B – Site Plans and Appendix A – Subdivisions.

1 In a case where there are alternative or inconsistent definitions elsewhere in Chapter 32 Zoning, the
2 definitions in the stormwater management section shall apply
3

4 Best Management Practices (BMP): A structural or non-structural device designed to temporarily store or
5 treat urban stormwater runoff in order to mitigate flooding, reduce pollution, and provide other
6 amenities. BMP's also include treatment requirements, operating procedures, maintenance protocols,
7 and management practices to prevent and/or reduce discharges of pollutants to waters of the United
8 States.
9

10 Bioretention: A water quality practice that utilizes vegetation and soils to treat urban stormwater runoff
11 by collecting it in shallow depressions, before filtering through an engineered bioretention planting soil
12 media.
13

14 Buffer: A special type of preserved area along a watercourse or wetland where development is restricted
15 or prohibited. Buffers protect and physically separate a resource from development. Buffers also provide
16 stormwater control flood storage and habitat values.
17

18 Disturbed Area: An area in which the natural vegetative soil cover has been removed or altered and,
19 therefore, is susceptible to erosion.
20

21 Effective Impervious Cover (EIC): The total impervious surface areas less the area of disconnected
22 impervious cover (area where runoff is captured and infiltrated or otherwise treated).
23

24 Filtration: The process of physically or chemically removing pollutants from runoff; practices that capture
25 and store stormwater runoff and pass it through a filtering media such as sand, organic material, or the
26 native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed
27 to remove particulate pollutants and, to a lesser degree, bacteria and nutrients.
28

29 Groundwater Recharge: The process by which water seeps into the ground, eventually replenishing
30 groundwater aquifers and surface waters such as lakes, streams, and the oceans. This process helps
31 maintain water flow in streams and wetlands and preserves water table levels that support drinking water
32 supplies.
33

34 Groundwater Recharge Volume: The post-development design recharge volume (i.e., on a storm event
35 basis) required to minimize the loss of annual pre-development groundwater recharge. The recharge
36 volume is determined as a function of annual pre-development recharge for site-specific soils or surficial
37 materials, average annual rainfall volume, and amount of impervious cover on a site.
38

39 Impaired Waters: Those waterbodies not meeting water quality standards. Pursuant to Section 303(d) of
40 the federal Clean Water Act, each state prepares a list of impaired waters (known as the 303(d) list) which
41 is presented in the state's Integrated Water Report as Category 5 waters. Those impaired waters for which
42 a total maximum daily load (TMDL) has been approved by US EPA and is not otherwise impaired.
43

1 Impervious Cover: Those surfaces that cannot effectively infiltrate rainfall such as building rooftops,
2 pavement, sidewalks, driveways and compacted gravel (e.g., driveways and parking lots).

3
4 Infiltration: The process of runoff percolating into the ground (subsurface materials). Stormwater
5 treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period
6 of days.

7
8 Low Impact Development (LID): Low impact development is a site planning and design strategy intended
9 to maintain or replicate predevelopment hydrology through the use of site planning, source control, and
10 small scale practices integrated throughout the site to capture, infiltrate, and manage runoff as close to
11 its source as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs,
12 bioretention basins and swales, filtrations trenches, and other functionally similar BMPs located near the
13 runoff source.

14
15 Major Subdivision:

- 16 (1) The division of a lot into a greater number of lots, but which does not fit the definition of a Minor
17 Subdivision.
18 (2) An increase in the number of residential units on a single lot, but which does not fit the definition
19 of a Minor Subdivision.
20

21 Maximum Extent Practicable (MEP): A proposed development meets a standard to the maximum extent
22 practicable, by demonstrating the following:

- 23 (1) All reasonable efforts have been made to meet the standard;
24 (2) A complete evaluation of all possible management measures has been performed; and
25 (3) If full compliance cannot be achieved, the highest practicable level of management is being
26 implemented.
27

28 Minor Subdivision:

- 29 (1) The division of a lot into a greater number of lots, provided that no new road is required; and
30 that the resulting number of lots does not exceed six.
31 (2) An increase in the number of residential units on a single lot, provided that the total proposed
32 number of such units does not exceed six.
33

34 Mitigation: Activities, strategies, policies, programs, and actions that, over time, will serve to avoid,
35 minimize, or compensate for (by treating or removing pollution sources) the impacts to or disruption of
36 water quality and water resources.
37

38 MS4: Refers to the Small Municipal Separate Storm Sewer System General Permit - the MS4 General
39 Permit - issued by the EPA under the Clean Water Act. MS4 applies to municipalities that contain any
40 portion of an urbanized area as defined by the Census. It applies to stormwater conveyances owned by
41 a State, city, town, or other public entity that discharge to 'Waters of the United States'. The MS4 Permit
42 requires that operators of small MS4s develop a Stormwater Management Program that uses appropriate

Best Management Practices (BMPs) for each of the six minimum control measures required in the MS4 permit.

Native Vegetation and Plantings: Plants that are indigenous to the region, adapted to the local soil and rainfall conditions, and require minimal supplemental watering, fertilizer, and pesticide application.

New Development: Any construction, land alteration, or improvement of a site or structure with less than 40% of existing impervious surface, calculated by dividing the total existing impervious surfaces by the size of the parcel, and converting it to a percentage.

Pollutant Load: An amount of pollutants that is introduced into a receiving waterbody measured in units of concentration or mass over a specific time period (i.e. (lbs/day or lbs per year).

Redevelopment: For purposes of determining whether a site must meet either new development or redevelopment requirements a site is considered redevelopment if it has 40 percent or more of existing impervious surface, calculated by dividing the total existing impervious surface by the size of the parcel and converting it to a percentage. Otherwise, the project must meet the new development treatment standards. The following activities listed below are not considered redevelopment:

- a. Interior and exterior building renovation
- b. Resurfacing and existing paved surface (e.g. parking lot, walkway, or roadway)
- c. Pavement excavation and patching that is incidental to the primary project purpose
- d. Landscaping installation and maintenance

Regulated Substances: petroleum, petroleum products, regulated contaminants for which an ambient groundwater quality standard has been established under RSA 485-C:6, and substances listed under 40 CFR 302, 7-1-05 edition, as amended, excluding substances used in the treatment of drinking water or wastewater at town facilities.

Subdivision: Division of a lot into two or more lots, plats, sites, or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease, condominium conveyance or building development. It includes re-subdivision and, where appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. The division of a parcel of land held in common and subsequently divided into parts among several owners shall be deemed a subdivision. The granting of an easement in gross for public utilities shall not be deemed a subdivision

Surface Water Body: Surface waters, including lakes, rivers, and other navigable waters, streams, wetlands, and coastal areas protected under the federal Clean Water Act.

Total Suspended Solids (TSS): The total amount of soil and particulate matter which are suspended in the water column.

Water Quality Volume: The amount of stormwater runoff from a rainfall event that should be captured and treated to remove the majority of stormwater pollutants on an average annual basis. The

recommended volume is that associated with the first one-inch of rainfall, which is equivalent to capturing and treating the runoff from the 90th percentile of all rainfall. Source: New Hampshire Stormwater Manual: Volume 2 Post Construction Best Management Practices: Selection and Design, December 2008.

Watershed: All land and water area from which runoff may run to a common (design) discharge point.

(C) Minimum Threshold for Applicability

(1) These stormwater management regulations shall apply to all major subdivisions as defined in Section 3.03 (B) that result in the creation of a private road or a road intended for adoption as a public road. All stormwater runoff generated from the proposed private or public roadway(s) and any other runoff contributing to the stormwater management system shall be managed and treated in full compliance with these standards.

(2) For major subdivisions comprising of greater than six (6) lots with frontage on existing or public roadways, roadside drainage and any other stormwater runoff from the new lots discharging to the roadside drainage system must be managed for stormwater runoff quantity.

(3) Conditions for Granting of Waivers.

The Planning Board may grant a waiver from these regulations as set forth in Section 5.01 (A) and upon the submission of appropriate demonstration by the applicant as to why these regulations should not apply and with consideration by the Planning Board of the following conditions of approval:

- a. All runoff from new impervious surfaces and structures shall be directed to a subsurface filtration and/or infiltration device or properly discharged to a naturally occurring or fully replanted and vegetated area with slopes of 15 percent or less and with adequate controls to prevent soil erosion and concentrated flow.
- b. Impervious surfaces for parking areas and roads shall be minimized to the extent possible (including minimum parking requirements for proposed uses).
- c. All runoff generated from new impervious surfaces shall be retained on the development or redevelopment site and property.
- d. Determination of compliance with standards (a.-c. above) will be made by the Planning Board on a case by case basis as site conditions and constraints will differ greatly between various development proposals.

(4) The following activities are considered exempt from preparing and submitting a stormwater management plan for Major Subdivisions for new development and redevelopment.

- a. Agricultural and forestry practices in accordance with BMP's published by the NH Department of Agriculture.
- b. Resurfacing and routine maintenance of roads and parking lots.
- c. Exterior and interior alterations and maintenance to existing buildings and structures.

- 1 (5) All applications shall be accompanied by a completed Major Subdivision Application and
2 Stormwater Management Checklist to the Planning Board prior to consideration for review. Prior
3 to commencement of land disturbance, the applicant must obtain an approved permit under
4 these regulations.
5
- 6 (6) All major subdivisions of magnitude under review by the Planning Board may require a
7 stormwater permits from EPA Construction General Permit (CGP) program or NH Department
8 of Environmental Services (NHDES) and shall comply with the standards of EPA and/or NH DES
9 permits and this section, where the stricter standards apply. Copies of the following permits shall
10 be required, as applicable, as conditions of approval.
11 a. EPA Construction General Permit – A permit issued by EPA that authorizes the
12 discharge of pollutants to waters of the United States. For a cumulative disturbance of
13 one (1) acre or more of land that is considered “construction activity” which includes,
14 but is not limited to clearing, grading, excavation, and other activities that expose soil
15 typically related to landscaping, demolition, and construction of structures and roads, a
16 federal permit is required, in addition to any state or local permits.
17 b. Alteration of Terrain Permit (AOT) - RSA 485-A: 1 requires a permit from the New
18 Hampshire Department of Environmental Services (NH DES) Water Supply and Pollution
19 Control Division for “any person proposing to significantly alter the characteristic of the
20 terrain, in such a manner as to impede natural and unnatural runoff. Under this
21 program, a permit is required for a project involving more than 100,000 contiguous
22 square feet of disturbance or if such an activity occurs in or on the border of surface
23 waters of the state.
24

25 (D) Stormwater Management for New Development related to Major Subdivisions

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27 All proposed stormwater management practices and treatment systems shall meet the following
28 performance standards for New Development related to Major Subdivisions:
29

- 30 (1) Projects subject to the new development standards related to Major Subdivisions include all
31 proposed projects on completely undeveloped parcels or previously developed parcels where
32 less than 40% of the total parcel area is comprised of impervious areas. Impervious surfaces
33 include all paved surfaces, rooftops and compacted gravel or dirt surfaces. If 40% or more of
34 the proposed new development parcel consists of impervious surfaces then the project is
35 subject to the redevelopment standards listed in Section E below.
36
- 37 (2) All proposed stormwater practices and measures shall be installed and maintained in
38 accordance with manufacturer’s specifications and performance standards in the NH
39 Stormwater Management Manual Volume 2 (December 2008 or current revision), a copy of
40 which is available from the NH DES website. [www.des.nh.gov/organization/water/](http://www.des.nh.gov/organization/water/stormwater/manual)
41 [stormwater/manual](http://www.des.nh.gov/organization/water/stormwater/manual).
42

- (3) Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and at least 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NH DES "Stormwater Manual Volume 1 and Volume 2", and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means. In urbanized areas where pollutant loading concentrations may be higher and space constraints have been demonstrated, equivalent means of calculating nutrient load reductions may include the EPA BMP Performance Curves published in "Methods to Calculate Phosphorus and Nitrogen Load Reductions for Structural Stormwater Best Management Practices in the Watershed" (December 9, 2019 Modification to the Permit - Appendix F; Attachment 3.)
- (4) Where practical, the use of natural, vegetated filtration and/or infiltration practices or sub-surface gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen removal efficiency. All new impervious area draining to surface waters listed as nutrient shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such nutrients based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NHDES Stormwater Manual.
- (5) Measures shall be taken to control the post-development peak runoff so that it does not exceed pre-development runoff. Drainage analyses shall include calculations comparing pre- and post-development stormwater runoff rates (cubic feet/second) and volume (in cubic feet) for the 1-inch rainstorm and the 2-year, 10-year, 25-year and 50-year, 24-hour storm events. Similar measures shall be taken to control the post-development runoff volume to infiltrate the groundwater recharge volume (GRV) according to ratios referenced in the NH DES "Stormwater Manual Volume 2" and any subsequent revisions. For sites where infiltration is limited or not practicable, the applicant must demonstrate that the project will not create or contribute to water quality impairment. Infiltration structures should be in locations with the highest permeability on the site, to the extent possible.
- (6) The physical, biological, and chemical integrity of receiving water shall not be degraded by the stormwater runoff from the site.
- (7) Surface runoff shall be directed into appropriate stormwater control measures designed for treatment and/or filtration to the maximum extent practicable and/or captured and reused onsite.
- (8) Low Impact Development (LID) site planning and design strategies shall be used to the maximum extent practicable to reduce stormwater runoff volumes, protect water quality, and maintain predevelopment site hydrology. LID techniques that preserve existing vegetation, reduce the development footprint, minimize or disconnect impervious areas, locate impervious areas in low infiltration soil areas (i.e. HSG-D), and use enhanced stormwater BMP's (such as rain gardens, bioretention systems, tree box filters, and similar stormwater management

landscaping techniques) shall be incorporated into landscaped areas. Efforts shall be made to limit any single, contiguous section of impervious area draining to one outlet area to be no more than 10% of the lot area. The capture and reuse of stormwater is strongly encouraged. The applicant must document in writing why LID strategies are not appropriate when not used to manage stormwater. Every effort shall be made to use porous or pervious parking surfaces as an alternative to impervious asphalt or concrete for general and overflow parking areas. Pervious pavement shall be appropriately sited and designed for traffic and vehicle loading conditions.

(9) The design of the stormwater drainage systems shall provide for the discharge of stormwater without flooding or functional impairment to adjacent and downstream properties, streets, drainage structures, culverts, soils, wetlands, stream channels or vegetation.

(10) The design of the stormwater management systems shall account for upstream and upgradient runoff within the watershed that flows onto, over, or through the site to be developed. Any runoff that flows through the site from upgradient properties shall be included in the calculations.

(11) All stormwater treatment areas shall be planted with native plantings appropriate for the site conditions: grasses, shrubs, trees, and/or other native plants in sufficient numbers and density to prevent soil erosion and achieve the water quality treatment requirements of this section.

(12) All stormwater installations and areas that receive rainfall runoff shall be designed to drain within a maximum of 72 hours for vector control.

(13) The site design shall include adequate temporary and permanent erosion control measures consistent with the design guidelines and specifications included in the NH DES "Stormwater Manual Volume 3", and any subsequent revisions. Appropriate sediment and erosion control measures for construction sites, include: minimizing the amount of disturbed area, protecting natural resources, stabilizing sites when projects are complete or operations have temporarily ceased, protecting slopes on the site, protecting all storm drain inlets and armoring all newly constructed outlets, the use of perimeter controls, stabilizing construction site entrances and exits to prevent off-site tracking; and inspecting stormwater controls at consistent intervals.

(14) The site design shall include provisions to control wastes, including, but not limited to, discarded building materials, concrete truck wash-out, chemicals, litter and sanitary wastes, all of which shall not be discharged into the stormwater system.

(15) Prior to any soil disturbance or tree clearing, appropriate erosion and sediment control measures shall be installed and areas to be protected shall be clearly marked and delineated using construction fencing or some other appropriate means to prevent damage from construction equipment.

(16) Stormwater management and erosion and sediment control practices shall be located outside any specific buffer zones unless otherwise approved by the Planning Board. Alternatives to

stream and wetland crossings that eliminate or minimize environmental impacts shall be considered whenever possible.

(17) Salt storage areas shall be fully covered with permanent measures and loading/offloading areas shall be located and designed to not drain directly to receiving waters and maintained with good housekeeping measures in accordance with NHDES published guidance. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. Reference published guidance fact sheets on road salt and water quality, and snow disposal: <http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm>, or as amended.

(18) Runoff shall be directed into recessed vegetated and landscaped areas designed for the treatment and/or filtration to the Maximum Extent Practical to minimize Effective Impervious Cover (EIC) and reduce the need for irrigation systems.

(19) All newly generated stormwater from major subdivisions shall be treated on the development site. Runoff shall not be discharged from the development site to municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than discharged under existing conditions. A development plan shall include provisions to retain natural predevelopment watershed areas on the site by using the natural flow patterns. Any new development that proposes to connect to the municipal storm drainage system shall comply with Section G: Municipal Storm Connections.

(20) Whenever practicable, native site vegetation shall be retained, protected, or supplemented. Any stripping of vegetation shall be done in a manner that minimizes soil erosion.

(21) After erosion control measures have been installed and the areas to be protected are clearly marked, an onsite meeting shall be held with the Town's Engineering Consultant prior to the start of any soil disturbance activities to review the construction sequence, timing and measures to protect sensitive areas.

(22) All temporary control measures shall be removed after final site stabilization. Any trapped sediment contained within the storm drain system or treatment areas shall be removed using appropriate measures consistent with the maintenance plan included in the approved Stormwater Management Plan.

(23) The Planning Board may request weekly erosion control inspections to be conducted by either the Town Engineer or another qualified professional at the expense of the applicant, depending on the development size, anticipated construction period, time of year and sensitivity of adjacent resources.

(24) The applicant shall submit as-built drawings of the constructed stormwater management systems following construction.

(E) Stormwater Management for Redevelopment Major Subdivisions

For proposed projects meeting the definition of a redevelopment (if it has 40 percent or more of impervious surface area), the applicant shall meet the minimum stormwater management requirements of this section for the entire developed area of the site to the maximum extent practical.

- (1) Redevelopment applications shall comply with the requirements of Sections (G) Submission Requirements for Stormwater Management Report and Plans, and (H) General Performance Criteria for Stormwater Management Plans.
- (2) A development plan shall include provisions to retain stormwater on the site by using the natural flow patterns. Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NH DES "Stormwater Manual Volume 1 and Volume 2", and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means. In urbanized areas where pollutant loading concentrations may be higher and space constraints have been demonstrated, equivalent means of calculating nutrient load reductions may include the EPA BMP Performance Curves published in "Methods to Calculate Phosphorus and Nitrogen Load Reductions for Structural Stormwater Best Management Practices in the Watershed" (NH Modified Permit December 2020 - Appendix F; Attachment 3).
- (3) Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen removal efficiency. All new impervious areas draining to surface waters listed as nutrient shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such nutrients based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NHDES Stormwater Manual.
- (4) All newly generated stormwater from redevelopment shall be treated on the redevelopment site. Runoff shall not be discharged from the redevelopment site to municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than that discharged under existing system shall comply with Section E: Municipal Storm Connections.
- (5) For sites meeting the definition of a redevelopment project, stormwater shall be managed for water quality in accordance with one or more of the following techniques listed in order of preference:

- 1 a. Implement measures onsite that result in disconnection or treatment of at least
2 30% of the existing impervious cover as well as 50% of the additional proposed
3 impervious surfaces and pavement areas through the application of filtration
4 media; or
5 b. Implement other LID techniques onsite to the maximum extent practicable to
6 provide treatment for at least 50% of the entire site area.
7

- 8 (6) Salt storage areas shall be fully covered and loading/offloading areas shall be located and
9 designed to not drain directly to receiving waters and maintained with good housekeeping
10 measures in accordance with NHDES published guidance. Runoff from snow and salt
11 storage areas shall enter treatment areas as specified above before being discharged to
12 receiving waters or allowed to infiltrate into the groundwater. Reference published guidance
13 fact sheets on road salt and water quality, and snow disposal:
14 <http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm> or as
15 amended.
16
17 (7) The applicant shall submit as-built drawings of the constructed stormwater management
18 system following construction.
19

20 (F) Options to Allow for Mitigation for Redevelopment

21
22 For major subdivision sites having less than 40% impervious areas, the stormwater management
23 requirements will be the same as for new development under Section D New Development with the
24 exception that the applicant can meet those requirements either on-site or at an approved off-site
25 location, as set forth below:
26

- 27 (1) In cases where the applicant demonstrates, to the satisfaction of the Planning Board, that on-site
28 treatment has been implemented to the maximum extent possible or is not feasible, off-site
29 mitigation will be an acceptable alternative. Off-site mitigation shall be implemented within the
30 same subwatershed as the redevelopment, within the project's drainage area, or within the
31 drainage area of the receiving waterbody
32
33 (2) Off-site mitigation shall treat no less than the total area of impervious area not treated on-site.
34 Treatment of the impervious area shall comply with all standards of this regulation.
35
36 (3) An approved off-site location shall be identified, the specific management measures shall be
37 stipulated and an implementation schedule shall be developed in accordance with the Planning
38 Board's review. Municipally-owned land should be considered as a first priority in the selection of
39 lands for off-site mitigation. If the off-site location is not owned by the applicant, a written
40 agreement with the property owner(s) shall be submitted as part of the application.
41

- (4) As part of the request to utilize the off-site mitigation option for redevelopment, the applicant shall also demonstrate there are no adverse downstream flooding impacts that would result from not providing appropriate on-site management from the 50-yr or greater storm.

(G) Submission Requirements for Stormwater Management Plan (SMP)

A Stormwater Management Plan (SMP) shall be submitted with the Major Subdivision application and shall be prepared and certified by a licensed NH Professional Engineer specializing in Civil Engineering. This plan shall include the following information.

- (1) A narrative description and an existing conditions plan showing all pre-development impervious surfaces, buildings, and structures; surface water bodies and wetlands; sub-catchment and watershed boundaries, drainage patterns; building setbacks and buffers, locations of various hydrologic group soil types, mature vegetation, land topographic contours with minimum 2-foot intervals and spot grades, where necessary, for sites that are flat.
- (2) A description and a proposed conditions plan showing all post-development important hydrologic features created or preserved on the site; subcatchment and watershed boundaries, drainage patterns, channelized flow areas; proposed areas of disturbance; temporary stock pile areas, construction refueling areas; proposed impervious surfaces, buildings, and structures; all temporary and permanent stormwater treatment BMPs and management elements, including BMP GIS coordinates and GIS files; building setbacks and buffers; proposed tree clearing and topographic contours with minimum 2-foot intervals; erosion control measures, stormwater outlet locations and any drainage and maintenance access easements. The plan shall provide calculations and identification of the total area of disturbance proposed on site (and off-site if applicable) and total area of new impervious surface created. A summary of the drainage analysis showing a comparison of the estimated peak flow and volumes for various design storms (see Table 1: Stormwater Infrastructure Design Criteria) at each of the points of analysis shall be included on the plan.
- (3) A description of the general approach and strategies implemented, and the facts and assumptions relied upon, to meet the purpose and goals for stormwater management. The SMP shall include design plans and/or graphic sketches of all proposed above ground LID practices.
- (4) Calculations of the change in impervious area, pollution loading and reductions for each best management practice. GIS files containing the coordinates of all stormwater infrastructure elements (e.g. catch basins, swales, detention/bioretenention areas, and piping) upon request.
- (5) A description and a proposed subdivision plan showing proposed erosion and sediment control measures, limits of disturbance, temporary and permanent soil stabilization measures in accordance with the NHDES "Stormwater Manual Volume 3" and any subsequent revisions, as well as a construction site inspection plan including phased installation of best management practices and final inspection upon completion of construction.

- 1
- 2 (6) Landscaping plan and details that show planting areas, proposed plant species focusing on
- 3 native species suitable to anticipated site conditions, and provisions for controlling the
- 4 establishment of nuisance invasive species.
- 5 (7) A short and long-term operations and maintenance (O&M) plan that outlines the proposed
- 6 inspection and maintenance schedule for all temporary erosion control, permanent stormwater
- 7 treatment measures, and best management practices. The plan shall describe the inspection
- 8 protocols and thresholds for determining when maintenance activities are needed and identify
- 9 the qualified and responsible individuals or parties (and contact information) who will perform
- 10 these activities. The inspection frequency, maintenance, reporting protocols, and sample
- 11 reporting forms shall be included. The plan shall also describe the methods for reporting and
- 12 recordkeeping to ensure the activities have been performed. Records shall be submitted to the
- 13 Code Enforcement Officer annually as to comply with the maintenance program. Annual
- 14 reporting records shall also be uploaded to the Great Bay Pollution Tracking and Accounting
- 15 Program (PTAP) Data Base hosted at <https://www.unh.edu/unhsc/ptapp> (as amended)
- 16
- 17 (8) Covenant documents for filing with the Rockingham County Registry of Deeds which
- 18 demonstrate the owner's obligation for stormwater BMP maintenance, which run with the land
- 19 and that the Town has legal access to inspect and/or maintain, if necessary, onsite stormwater
- 20 infrastructure.
- 21
- 22 (9) A listing and copies of any additional federal or state permit application documents and
- 23 associated correspondence that may be required.
- 24
- 25 (10) A description of identified locations of any proposed deicing chemicals and/or snow storage
- 26 areas. The SMP shall describe how deicing chemical use will be minimized or used more
- 27 efficiently.
- 28
- 29 (11) For urbanized areas that are subject to the EPA MS4 Stormwater Permit which drain to chloride-
- 30 impaired waters, a description of measures that will be used to minimize salt usage, and track
- 31 and report amounts applied using the UNH Technology Transfer Center online tool
- 32 (<http://www.roadsalt.unh.edu/Salt/>) (as amended) in accordance with Appendix H of the NH
- 33 MS4 Permit, as applicable, shall be submitted.
- 34
- 35 (12) All stormwater management practices involving bioretention and vegetative cover as a key
- 36 functional component must have a landscaping plan detailing both the type and quantities of
- 37 plants and vegetation to be in used in the practice and how and who will manage and maintain
- 38 this vegetation. The landscaping plan must be prepared by a registered landscape architect.
- 39

40 (H) General Performance Criteria for Stormwater Management Plans

41

- 42 (1) All applications shall apply practices to reduce the generation of stormwater in the post-
- 43 developed condition, reduce overall impervious surface coverage, seek opportunities to capture

and reuse and minimize the discharge of stormwater to the municipal stormwater management system.

(2) Water Quality Protection

(a) All stormwater runoff generated from new development and redevelopment shall not be discharged directly into a jurisdictional wetland or surface water body without adequate treatment.

(b) All new developments and redevelopments shall provide adequate management of stormwater runoff and prevent discharge of stormwater runoff from creating or contributing to water quality impairment.

(3) Onsite groundwater recharge shall be maintained by promoting infiltration through use of structural and non-structural methods. The annual recharge from the post development site shall remain equal or exceed the annual recharge from pre-development site conditions. Capture and reuse of stormwater runoff is encouraged in instances where groundwater recharge is limited by site conditions. All stormwater management practices shall be designed to convey stormwater to allow for maximum groundwater recharge. This may include, but not be limited to:

(a) Maximizing flow paths from collection points to outflow points.

(b) Use of multiple best management practices.

(c) Retention of and discharge to fully vegetated areas.

(d) Maximizing use of infiltration practices.

(4) Stormwater system design, performance standards and protection criteria shall be provided as prescribed in Table 1: Stormwater Infrastructure Design Criteria. Calculations shall include sizing of all structures and best management practices. Sizing of emergency overflow structures shall be based on assessment of the 100-year 24-hour frequency storm discharge rate.

(5) The sizing and design of stormwater management practices shall utilize new precipitation data from the Northeast Region Climate Center (NRCC) or the most recent precipitation atlas published by the National Oceanic and Atmospheric Administration (NOAA) for the sizing and design of all stormwater management practices. See the NRCC website at <http://precip.eas.cornell.edu/>.

(6) The use of native plantings appropriate for site conditions is strongly encouraged for these types of stormwater treatment areas. All invasive plant species identified in [Chapter Agr 3800](#), pursuant to RSA 430:55 are prohibited. All non-native plant species identified in the [New Hampshire Restricted Invasive Plant Species/Watch List](#) (as amended) are strongly discouraged.

(I) Municipal Storm Connections

Connection to the municipal storm drainage system shall be allowed only if the use of vegetated or onsite materials are not available or infeasible due to existing soils, space limitations or other property

constraints, or as otherwise determined necessary by the Planning Board. All projects shall meet the criteria below to the maximum extent practicable, whether or not the onsite drainage facilities are connected to the municipal system.

- (1) The design and installation of any on-site structural BMP measure shall be in accordance with the NH DES Stormwater Manual, Vols. 1 and 2, dated Dec. 8, 2008, or as amended, and meet the requirements therein.
- (2) The applicant shall demonstrate that adequate onsite stormwater provisions and drainage facilities are included to prevent increases in the predevelopment peak runoff rate leaving the site for various design storm frequencies up to a 50-year, 24-hour design storm, consistent with the requirements of § 3.03(B) of these Subdivision Regulations. Provisions for water quality treatment and groundwater recharge shall also be included. Runoff potentially generated from additional lot development aside from the roadway itself shall be included in the analysis.
- (3) Such Drainage facilities shall be located in the street rights-of-way, where feasible, to allow convenient access for future maintenance. Where topography or other conditions are such as to make this impractical, perpetual unobstructed easements for future maintenance, repair and upgrade of the system shall be provided across all properties. Such easements shall be 25' or more in width, and shall have satisfactory access to the road. An Operations and Maintenance Plan shall be included for all stormwater BMPs as described in § 3.03(C) of these Subdivision Regulations.
- (4) Where curbing is included in the road design to channel stormwater into the drainage system, the curbing shall consist of granite.

(J) Stormwater Management Plan and Site Inspections

The property owner shall bear responsibility for the installation, construction, inspection, and maintenance of all stormwater management and erosion control measures required by the provisions of these regulations and as approved by the Planning Board, including emergency repairs completed by the Town.

(K) Stormwater Management Plan Recordation

- (1) Stormwater management and sediment and erosion control plans shall be incorporated as part of any approved subdivision plan. A Notice of Decision acknowledging the Planning Board approval of these plans shall be recorded at the County Registry of Deeds. The Notice of Decision shall be referenced to the property deed (title/book/page number) and apply to all persons that may acquire any property subject to the approved stormwater management and sediment control plans. The Notice of Decision shall reference the requirements for maintenance pursuant to the stormwater management and erosion and sediment control plans as approved by the Planning Board.

- 1
2 (2) The applicant shall submit as-built drawings of the constructed stormwater management system
3 following construction.
4

5 **(L) Inspection, Maintenance, and Reporting Responsibilities**
6

- 7 (1) The Code Enforcement Officer or other duly, appointed designee of the Town Manager shall be
8 responsible for enforcement [as referenced in Sec. 5.08] and have site access to undertake
9 routine inspections to ensure compliance with the approved stormwater management and
10 sediment and erosion control plans. Such inspections shall be performed at a time agreed upon
11 with the landowner during project construction.
12
- 13 (2) If violations or non-compliance with a condition(s) of approval are found on the site during
14 routine inspections, the inspector shall provide a report to the Code Enforcement Officer,
15 documenting these violations of non-compliance including recommended corrective actions.
16 The Code Enforcement Officer shall notify the property owner in writing of these violations of
17 non-compliance and corrective actions necessary to bring the property into full compliance.
18
- 19 (3) If a property is abandoned or becomes vacant; and in the event a property owner refuses to
20 repair infrastructure that is damaged or is not functioning properly, the Code Enforcement
21 Officer or other duly, appointed designee of the Town Manager, shall be responsible for
22 enforcement [as referenced in Sec. 5.08].
23
- 24 (4) Landowners shall be responsible for submitting an annual report to the Planning Department
25 by June 1 each year. Such documents shall be prepared by a Professional Engineer or stormwater
26 professional certifying that all stormwater management and erosion control measures are
27 functioning per the approved stormwater management plan. The annual report shall note if any
28 stormwater infrastructure has needed any repairs other than routine maintenance and the results
29 of those repairs. If the stormwater infrastructure is not functioning per the approved stormwater
30 management plan the landowner shall report on the malfunction in their annual report and
31 include details regarding when the infrastructure shall be repaired and functioning as approved.
32 Annual reporting records shall also be uploaded to the Great Bay Pollution Tracking and
33 Accounting Program (PTAP) Data Base hosted at <https://www.unh.edu/unhsc/ptapp> (as
34 amended).
35
- 36 (5) If no report is filed by September 1, the Code Enforcement Officer or other duly, appointed
37 designee of the Town Manager, shall be responsible for enforcement [as referenced in Sec. 5.07]
38 and to complete routine inspections to ensure compliance with the approved stormwater
39 management and sediment and erosion control plans. Such inspections shall be performed at a
40 time agreed upon with the landowner.
41
- 42 (6) The Planning Board reserves the right to request the applicant to post a performance bond or
43 other security to cover the costs of future inspections or maintenance activities associated with

1 any onsite or offsite BMPs, if these inspections and/or maintenance activities are not performed
2 by the landowner(s) or other responsible party.
3

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1 Table 1: Stormwater Infrastructure Design Criteria

Design Criteria	Description										
Water Quality Volume (WQV)	$WQV = (P)(R_v)(A)$ P = 1 inch of rainfall R _v = unitless runoff coefficient, $R_v = 0.05 + 0.9(I)$ I = percent impervious cover draining to the structure converted to decimal form A = total site area draining to the structure										
Water Quality Flow (WQF)	$WQF = (q_u)(WQV)$ WQV = water quality volume calculated as noted above q _u = unit peak discharge from TR-55 exhibits 4-II and 4-III Variables needed for exhibits 4-II and 4-III: I _a = the initial abstraction = 0.2S S = potential maximum retention in inches = $(1000/CN) - 10$ CN = water quality depth curve number = $1000/(10+5P+10Q-10[Q^2 + 1.25(Q)(P)]^{0.5})$ P = 1 inch of rainfall Q = the water quality depth in inches = WQV/A A = total area draining to the design structure										
Groundwater Recharge Volume (GRV)	$GRV = (A_i)(R_d)$ A _i = the total area of effective impervious surfaces that will exist on the site after development R _d = the groundwater recharge depth based on the USDA/NRCS hydrologic soil group, as follows: <table> <tr> <th>Hydrologic Group</th><th>R_d (inches)</th></tr> <tr> <td>A</td><td>0.40</td></tr> <tr> <td>B</td><td>0.25</td></tr> <tr> <td>C</td><td>0.10</td></tr> <tr> <td>D</td><td>0.00</td></tr> </table>	Hydrologic Group	R _d (inches)	A	0.40	B	0.25	C	0.10	D	0.00
Hydrologic Group	R _d (inches)										
A	0.40										
B	0.25										
C	0.10										
D	0.00										
Channel Protection Volume (CPV)	If the 2-year, 24-hour post-development storm volume <u>does not increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour predevelopment level. If the 2-year, 24-hour post-development storm volume <u>does increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to ½ of the 2-year, 24-hour pre-development level or to the 1-year, 24-hour pre- development level.										
Peak Control	Post-development peak discharge rates shall not exceed pre-development peak discharge rates for the 10-year and 50-year, 24-hour storms										
EIC and UDC	%EIC = area of effective impervious cover/total drainage areas within a project area x 100 %UDC = area of undisturbed cover/total drainage area within a project area x 100										

2 NHDES Stormwater Manual: Volume 2 Post-Construction Best Management Practices Selection & Design (December 2008)



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TOWN OF NEWMARKET, NEW HAMPSHIRE