CITY OF SOMERVILLE, MASSACHUSETTS
JOSEPH A. CURTATONE
MAYOR
DEPARTMENT of INFRASTRUCTURE & ASSET MANAGEMENT
ENGINEERING DIVISION

RICHARD E. RAICHE, PE, PMP
DIRECTOR OF INFRASTRUCTURE & ASSET MANAGEMENT

JESSICA FOSBROOK, PE
DIRECTOR OF ENGINEERING

SITE CONSTRUCTION PERMIT RULES & REGULATIONS

Date: June 2020

Applicability

If the proposed project includes ANY of the following, the property owner, or their representative, must apply for and receive a Site Construction Permit prior to start of construction. If multiple projects on the same property within a 24 month period exceed ANY of these thresholds a Permit covering all projects is required.

1. Moving more than 200 CF of soil.
2. Changing the landscape cover over more than 400 SF.
3. Construction on an existing or proposed slope of 25% (4:1) or steeper.
4. Constructing and/or reconstructing pavement (including patios, pools, decks or porches) that covers more than 30 SF or within 24" of the property line for more than 5 feet.
5. Repairing existing pavement that covers more than 100 SF or within 24" of the property line for more than 5 feet.
6. Increasing building roof area by more than 30 SF or within 24" of the property line for more than 5 feet.
7. Altering, installing or constructing a stormwater collection or management system (including pervious pavements, downspouts and rainleaders).
8. Altering the flow of stormwater across property lines.

All Site Construction Permits will also be reviewed by ISD's Zoning Enforcement Officer to determine if additional zoning requirements apply, or if a Development Review Application (as defined by the Somerville Zoning Ordinance) is required for the project to proceed.

The following guidelines apply to redevelopment projects, which applies to most every Construction Project in Somerville. Notify Somerville Engineering Division if the project is considered a new development, different criteria may apply.

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Project Reviews

Project reviews will be calibrated to the scale and scope of the proposed projects as delineated below.

Small Project Review

1. Less than 1/5 acre property, AND
2. Less than 100 SF of constructed/reconstructed pavement and/or new roof area, AND
3. No stormwater connections (piped or overland) to the public right of way and/or to the municipal stormwater/wastewater systems.

Medium Project Review

1. Less than 1 acre property, AND
2. Less than 10,000 SF of total impervious area, AND
3. No stormwater connections (piped or overland) to the public right of way and/or to the municipal stormwater/wastewater systems.

Large Project Review

1. All other projects.

Submittal Requirements:

1. Permit Review Fee:
    a. Small Project Review: $100.
    b. Medium Project Review: $500.
    c. Large Project Review: $2500.
2. Provide on all plans, calculations & reports:
    a. Name, address, phone & email of Property Owner
    b. Name, address, phone & email of Applicant (if different)
    c. Legal address of project location (as listed by Somerville assessing department)
3. Dimensioned existing and proposed conditions plans:
    a. Provide clear & legible design plans. Hand drawn plans accepted for Small Projects.
    b. Provide photos of existing conditions.
    c. Required for Medium and Large Projects:
        i. Plans prepared by a Professional Licensed Surveyor (PLS) or Professional Engineer (PE) or a Professional Landscape Architect (PLA) currently licensed in Massachusetts.
        ii. Plans at a common scale of 1”=5’, 1”=10’ or 1”=20’.
        iii. Plan Border size of 11”x17” or 22”x34”.
        iv. Elevations & grades referencing the NAVD 1988 datum.

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v. Different scales or borders may be approved by City Engineer prior to application.
vi. Hand drawn plans may be accepted for Medium Projects if agreed to by City Engineer prior to application.

d. Show direction of slope, pointing in the downslope direction.
e. Callout building and the extents of all surface materials.
f. Callout downspouts, roof drains and/or sump pump discharge.
g. Callout all sidewalk conditions within 30' of the property:
    i. Sidewalk material
    ii. Utility poles
    iii. Sign posts
    iv. Hydrants
    v. Trees
    vi. Curb cuts
    vii. Wheelchair ramps
    viii. Water and/or gas gate boxes
    ix. Provide current photos if a certified survey is not provided.
h. Provide dimensions to determine:
    i. Property area
    ii. Building footprint area (all roofed structures, including sheds and porches)
    iii. Pavement area (driveway, patios, un-roofed decks, etc.)
    iv. Pervious pavement area (stone, gravel, porous pavers, porous asphalt, etc.)
    v. Landscaped area
    vi. Driveway width(s) and length(s)
    vii. Curb cut width(s)
i. Stormwater management features if required by the hydrology calculations.
j. Retaining walls (walls 30" and higher require a building permit)
k. Erosion control plan

4. Construction details for all proposed items on plan (use City Standard Details, Manufacturers Recommended Details and/or Professional Engineer Designed Details); including, but not limited to:
    a. Pavement construction (pervious and impervious)
    b. Curb cut (specific to proposed conditions)
    c. Stormwater management
    d. Retaining walls
    e. Curbs
    f. Sign posts

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5. Required for Medium and Large Projects: table comparing existing and proposed site areas. List in both square foot and lot coverage of total property area. Example Table:

Area Type	**Existing Area (SF)**		**Lot Coverage (% or total area)**	**Proposed Area (SF)**		**Lot Coverage (% or total area)**
Total Lot Area	100			100		
Roof	50		50	50		50
Pavement & Impervious Surfaces	25		25	0		0
Pervious Pavement & Surfaces*	0	X 0.33	0	30	X 0.33	10
Landscaped**	25		25%	20		0%
Total Lot Coverage			**75**			**60**

* Pervious pavements & surfaces are considered to have a runoff coefficient of 0.33, thus their lot coverage is calculated based on 33% of their measured area.

** Landscaped areas do not count towards lot coverage.

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6. Required for all Large Projects and Medium if proposed lot coverage exceeds existing lot coverage: runoff hydrology calculations and stormwater management system to meet Design Standards.
    a. Hydrology calculations and stormwater management system design by a Professional Engineer (PE) currently licensed in Massachusetts.
    b. Rainfall events updated annually based on NOAA Atlas 14 Point Precipitation Frequency Estimates for Boston Logan International Airport (19-0770):

Storm Recurrence	Storm Depth
1yr 6hr	1.6”
1yr 24hr	2.5”
2y 24hr	3.1”
5yr 24hr	4.1”
10yr 24hr	5.0”
25yr 24hr	6.1”
100yr 24hr	7.9”

    c. Hydrology modeling by USDA TR-20 or USDA TR-55.
    d. Runoff Curve Numbers (CNs) from Table 2-2a of TR-55, use the following forund cover types:
        i. Open Space in fair condition for existing and proposed lawns.
        ii. Impervious Areas for all impervious pavements and roofs.
        iii. Brush in fair condition for landscaped areas.
        iv. Woods – grass combination in fair condition, for pervious areas within the drip line of trees.
7. Required for all Large Projects: Water quality calculations for Total Suspended Solids (TSS) and Total Phosphorous (TP).
    a. Calculate each stormwater treatment train separately.
    b. Base calculations on Volume 2 Chapter 2: Structural BMP Specification for the Massachusetts Stormwater Handbook.
8. Sediment & Erosion Control Plan as specified in Design Standards.
9. Any additional documents required by the City Zoning Enforcement Officer as required to determine compliance with the Zoning Ordinance project. A separate Development Review Application (DRA) may be required.

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Design Standards

Small Project Review

1. Runoff from all reconstructed impervious areas discharges to pervious areas at least 10 feet from the property line, or into a drywall or pervious pavement with storage volumes of at least 1" times impervious area.
2. All runoff from newly constructed impervious areas discharge into a drywell or pervious pavement with storage volumes of at least 2" times impervious area.
3. Direct all downspouts, roof drain and/or sump pump discharge outlets pervious areas at least 10 feet from the property line, or into a drywall or pervious pavement.
4. Perimeter sediment and erosion control protections.

Medium Project Review

1. Hydrology Design
    a. Hydrology calculations for 1-yr to 100-yr storms.
    b. No increase in runoff volume or peak flow across all property lines.
2. Stormwater Management System Design
    a. No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.
    b. Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.
    c. Runoff from all existing and proposed impervious areas discharges to pervious areas at least 10 feet from the property line or into a stormwater management system (e.g. infiltration system or pervious pavement).
    d. No stormwater overflow to the public way or municipal system is permitted. Any project with an existing over flow to remain or proposed overflow will be reviewed as a Large Project.
3. Water Quality Design
    a. All runoff from driveways and parking areas are completely infiltrated on-site during a 1-inch storm.
4. Operations & Maintenance
    a. Provide O&M plan for stormwater management systems (including pervious pavements).
    b. Provide as-built drawings prior to project Certificate of Occupancy.
5. Erosion & Sediment Control
    a. Perimeter erosion control required for all projects. Erosion control may include a combination of sediment tubes (aka silt socks), silt fences and/or haybales.
    b. Provide sediment bags (aka silt sacks) in all on-site catchbasins and each down-stream catch basin(s) in the public right-of-way.
    c. Identify and protect all other downstream inlets to the municipal sewer system.
    d. Identify and protect all receiving water bodies.
    e. Identify and protect all trees on property or in the public right-of way.

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f. Construction entrance protection and street sweeping,
g. Slope erosion protection, and
h. Inspect, clean and repair all controls monthly.

6. Inspections
    a. During Construction, schedule a site visit 1 business day prior to the following activities:
        1. Pervious pavement subbase completion, prior to placing pervious pavement
        2. Stormwater management system, prior to backfill
    b. Project Completion, schedule a site visit 1 week prior to completion, final inspection to include:
        1. Constructed in conformance with approved & permitted design
        2. ADA/MAAB slope and width compliance of curb cut and/or sidewalk

Large Project Review

1. Hydrology Design
    a. Hydrology calculations for 1-yr to 100-yr storms.
    b. No increase in runoff volume or peak flow across all property lines and drainage outlets. (Standard 2 of Massachusetts Stormwater Handbook)
    c. Approximate annual recharge of the existing site. (Standard 3 of Massachusetts Stormwater Handbook)
    d. Reduce stormwater runoff to the public right of way (piped and overland) such that the 10-yr proposed peak flow is less than the existing 2-yr peak flow.
2. Stormwater Management System Design
    a. No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. (Standard 1 of Massachusetts Stormwater Handbook)
    b. Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.
    c. No water from the ground, building pump, mechanical equipment, irrigation, pool, cleaning opeations or any other non-stormwater flow may discharge to the public storm drain system or public wastewater system (except to MS4 systems as provided by Illicit Discharge Ordinance).
    d. Provide a direct (piped) stormwater connections to one of the following within 150 feet of the project site in the following order of priority:
        1. MS4 storm drain.
        2. Any other public storm drain.
        3. Combined sewer.
3. Water Quality Design
    a. Provide 80% TSS (Total Suspended Solids) removal, OR stormwater retention/infiltration of 1” over all impervious areas in the proposed conditions.
    b. Reduce TP (Total Phosphorus) loads by 50% for properties that discharge to an MS4. Prioritizing the installation of infiltration BMPs in the project’s stormwater management systems.
    c. Reduce TP loads by 51%, or as required by Charles River TMDL, for properties within the drainage area of the Poplar St Pump Station.

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4. Operations & Maintenance
    a. Provide O&M plan for stormwater management systems (including pervious pavements). O&M plan shall include quarterly inspections submitted to City annually.
    b. Provide as-built drawings prior to project Certificate of Occupancy.
5. Erosion & Sediment Control
    a. StormWater Management Plan (SWMP), comply with the standard requirements of the NPDES CGP SWPPP.
    b. Perimeter sediment & erosion control protections,
    c. Storm inlet and catchbasin protections,
    d. Construction entrance protection and street sweeping,
    e. Slope erosion protection,
    f. Site cleanliness, dust supression, construction/demolition debris removal, and sanitary waste removal,
    g. Collection and spill containment of all oils, greases, fuels, chemicals and other liquid wastes, and
    h. Inspect, clean and repair all controls weekly. Identify the responsible party, and provide logs to City monthly.
6. Inspections
    a. During Construction, schedule a site visit 1 business day prior to the following activities:
        1. Pervious pavement subbase completion, prior to placing pervious pavement
        2. Stormwater management system, prior to backfill
        3. Stormwater outlet connection
    b. During Construction, City will conduct random site inspections approximately 6 times per year.
    c. Project Completion, schedule a site visit 1 week prior to completion, final inspection to include:
        1. Constructed in conformance with approved & permitted design
        2. ADA/MAAB slope and width compliance of curb cut and/or sidewalk

Construction Standards & Requirements

1. Infiltration system (including drywells):
    a. May be composed of drywells, infiltration trenches, proprietary infiltration structures, and/or reservoir course beneath pavements.
    b. Stone in infiltration system within 18” below vehicle areas:
        i. double washed (no fines) AASHTO #57 stone (25% void ratio)
    c. Stone in infiltration system:
        i. double washed (no fines) AASHTO #2 (33% void ratio), and/or
        ii. double washed (no fines) AASHTO #57 stone (25% void ratio)
    d. Bottom of infiltration system to be at least 6” above ESHGW.
    e. Separation from existing basements:

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i. Horizontal: at least 10 feet, and/or
ii. Vertical: top of system is 6” below basement floor (ESHGW separation at bottom still applies).
iii. Impermeable barriers may be considered on a case-by-case basis.

2. Porous pavement:
    a. Composed of durable and porous surfaces, such as: porous asphalt, permeable concrete pavers, stone surfaces, and flexible rubber aggregate surfaces.
    b. Minimum aggregate size for setting beds and/or joint sweeping is AASHTO #9 stone (polymeric sand is NOT permitted)
    c. Stone base material to be AASHTO #57 stone (25% void ratio)
    d. Minimum depth of stone base from surface grade is 12”, 24” is recommended to minimize freezing conditions
    e. Bottom of porous pavement system to be at least 24” above ESHGW.
    f. TR-20/TR-55 hydrology analysis model as:
        i. Use open space CN with no additional storage, or
        ii. Model porous surface as impervious area that discharges to pond that models the storage volume beneath the porous surface (useful when routing other impervious areas to the porous pavement system).
3. Street Occupancy Permit required for the following:
    a. Any work in the public way,
    b. Use of construction equipment in the public way, including but not limited to:
        i. Asphalt paving up to property line,
        ii. Concrete and or asphalt vehicles parked or staged on the public way, and/or
        iii. Staging construction equipment or materials in the public way (does not include daily – or less frequent – delivery and removal of equipment or materials stored on private property).
    c. Street Occupancy will require a Traffic Management Plan (TMP).
4. BMP Designs should meet the following reference standards where applicable and/or as directed by the City Engineer:
    a. MA MS4 General Permit
    b. MA Stormwater Handbook, including Volume 2 Chapter 2: Structural BMP Specification for the Massachusetts Stormwater Handbook
    c. NPDES CGP, and supporting documents, regulations and guidelines
    d. Somerville Standard Details and Specifications

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