Appendix A:

Simsbury Center Watershed Planning & Design Framework

Simsbury Center Watershed Planning & Design Framework

September 26, 2011

Soils data, land use boundaries and categories, and growth framework legend designations/descriptions are for use as an illustrative guide only. Detailed planning and engineering shall incorporate soils data, topography, land use data, and other relevant base data verified by a qualified professional.

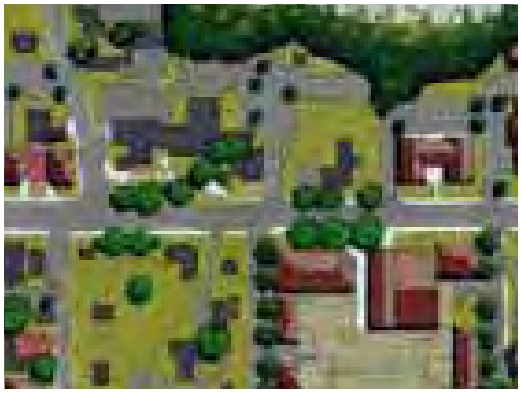
Existing conditions and regulating plan information is approximate, obtained from Town of Simsbury data and Simsbury Center Regulating Plan by Code Studio adopted April 4, 2011.

Soils data obtained from USDA NRCS Web Soil Survey.

- Simsbury Center
- Open Site
- Civic Site
- HSG C & D Soils
- Potential Stormwater Receiving Zone
- FEMA Flood Zone AE (approximate)

Street Frontage

	Existing Road	New Road
SC-1		
SC-2		
SC-3		
SC-4		
SC-5		



Simsbury Center - 1

High Infiltration Capability

Simsbury Center - 1 generally includes less intense development with increased building setbacks to preserve the historic character of Hopmeadow Street. Therefore, there may be lower site impervious area ratios and more flexibility to devote space to natural, vegetated water quantity and quality BMPs. BMPs should be carefully designed to reinforce the historic quality of place in conjunction with neighborhood and site design. Neighborhood/site design should prioritize protection of existing mature vegetation.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities. Properly designed infiltration BMPs such as infiltration trenches, permeable pavement stone reservoirs, and other subsurface systems may provide some peak rate and volume mitigation even in areas of HSG C and D soils.

Grading of parks and other open spaces for storage may not be compatible with the historic character of Hopmeadow Street.

New streets or street retrofits with Simsbury Center - 1 frontage should proiritize matching the historic Hopmeadow Street character, and should incorporate permeable pavement on-street parking spaces, permeable walks, tree box filters, bioretention bump-outs, and water quality swales as appropriate to meet Stormwater Article requirements.

Simsbury Center - 2

High Infiltration Capability

These areas support widespread implementation of block, street, and site scale decentralized infiltration BMPs to maximize water quality treatment and volume recharge, thus reducing land consumption required for larger, centralized structural BMPs. Simsbury Center -2 Frontage is intended to accommodate more dense development, therefore BMPs that do not require extensive land area such as permeable pavement systems, green roofs, stormwater harvesting, tree box filters, underground infiltration systems, and parking lot bioretention/bioswale systems provide stormwater function and are appropriate to urban context.

Parks and other open spaces should be graded to provide storage and infiltration.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities.

Design of new streets or street retrofits with Simsbury Center - 2 frontage should proiritize the needs of retail uses with reduced front building setbacks. Design should incorporate permeable pavement on-street parking spaces, permeable walks, and tree box filters, however bioretention and swales may not be appropriate for some conditions as they reduce visability to retail and may hinder pedestrian access from on-street parking.

Simsbury Center - 3

High Infiltration Capability

These areas support widespread implementation of block, street, and site scale decentralized LID BMPs to maximize water quality treatment and volume recharge, thus reducing land consumption required for larger, centralized structural BMPs. Simsbury Center - 3 Frontage, similar to Simsbury Center -2 Frontage, is intended to accommodate more dense development, therefore BMPs that do not require extensive land area such as permeable pavement systems, green roofs, stormwater harvesting, tree box filters, underground infiltration systems, and parking lot bioretention/bioswale systems provide stormwater function and are appropriate to urban context.

Parks and other open spaces should be graded to provide storage and infiltration.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities.

Design of new streets or street retrofits with Simsbury Center - 3 frontage should proiritize the needs of retail uses with reduced front building setbacks. Design should incorporate permeable pavement on-street parking spaces, permeable walks, and tree box filters, however bioretention and swales may not be appropriate for some conditions as they reduce visability to retail and may hinder pedestrian access from on-street parking.

Simsbury Center - 4

High Infiltration Capability

These areas support widespread implementation of block, street, and site scale decentralized infiltration BMPs to maximize water quality treatment and volume recharge, thus reducing land consumption required for larger, centralized structural BMPs. Simsbury Center -4 Frontage is intended to accommodate primarily residential development, therefore stormwater design and BMP selection may require careful integration with site planning and lotting and coordination with topography.

Neighborhood-scale rate and volume mitigation BMPs located at the edges of neighborhoods or in adjacent open space may preserve residential urban design character.

Parks and other open spaces should be graded to provide storage and infiltration.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities.

Design of new streets or street retrofits with Simsbury Center - 4 frontage should meet Stormwater Article requirements maximizing incorporation of LID BMPS including permeable pavement on-street parking spaces, permeable walks, tree box filters, bioretention bump-outs, and swales.

Simsbury Center - 5

High Infiltration Capability

These areas support widespread implementation of block, street, and site scale decentralized infiltration BMPs to maximize water quality treatment and volume recharge, thus reducing land consumption required for larger, centralized structural BMPs. Simsbury Center -5 Frontage is intended to accommodate residential development, therefore stormwater design and BMP selection may require careful integration with site planning and lotting and coordination with topography.

Simsbury Center - 5 development should prioritize the neighborhood-scale strategies in the Site Planning and Design Criteria Checklist. Neighborhood-scale rate and volume mitigation BMPs located at the edges of neighborhoods or in adjacent open space may preserve residential urban design character.

Parks and other open spaces should be graded to provide storage and infiltration.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities.

Design of new streets or street retrofits with Simsbury Center - 4 frontage should meet requirements maximizing incorporation of LID BMPS including permeable pavement on-street parking spaces, permeable walks, tree box filters, bioretention bump-outs, and swales.

Simsbury Center - CIV

High Infiltration Capability

Civic site design varies according to specific building use and parking requirements, however sites generally support implementation of block, street, and site scale decentralized infiltration BMPs to maximize water quality treatment and volume recharge, thus reducing land consumption required for larger, centralized structural BMPs. Civic sites may accommodate additional innovative stormwater design and BMP selection, and potentially may support neighborhood-scale rate and volume mitigation BMPs.

Parks and other open spaces should be graded to provide storage and infiltration.

Localized areas with low infiltration capacity soils and/or high water table can still support water quality treatment with “flow-through” BMPs with underdrains, such as green roofs, flow-through planters, and tree box filters, to filter and slow runoff velocities.

Other Zones

High Infiltration Capability

These areas support strategic implementation of decentralized LID BMPs to maximize water quality treatment and volume recharge. Generally, streets and sites not loctaed in designated compact, walkable zones have design flexibility to maximize use of vegetated LID BMPs and can accommodate increased volume recharge requirements.

BMP selection and design should be carefully calibrated to the existing neighborhood context, and neighborhood/site design should prioritize protection of existing mature vegetation where appropriate.

Low Infiltration Capability

These areas face greater stormwater volume mitigation challenges. Decentralized “flow-through” water quality treatment BMPs with underdrains, such as green roofs, flow-through planters, and tree well filters are generally appropriate to filter and slow runoff velocities in areas of low infiltration capability and high water table. Properly designed infiltration BMPs such as infiltration trenches, permeable pavement stone reservoirs, and other subsurface systems may provide peak rate and volume mitigation even in areas of HSG C and D soils.

Grading of parks and other open spaces for storage may not be appropriate in areas with low infiltration capacity as public use may be compromised by soggy vegetated areas between larger rain events.

Open Space

Potential Stormwater Receiving Zone

Potential Stormwater Receiving Zones are conceptually identified based on their high infiltration capabilities and location near the edges of compact, walkable zones or in adjacent open spaces. Depending on development intensity along with soil and topographical constraints, these areas may serve as cost-effective locations for centralized peak rate and volume mitigation at the edges of districts to enable compact development in the centers. Appropriate buffers to sensitive natural resource areas shall be maintained, and centralized stormwater mitigation shall be as far from sensitive water courses as is practicable.

Active Open Space

Active open spaces accommodate public use. Active open spaces may be designed in whole or in part to provide mitigation of peak rate and stormwater volume as part of a stormwater master plan.

Preserve

Preserve areas protect existing natural resources from development.