NONSTRUCTURAL STORMWATER MANAGEMENT STRATEGIES

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WHY IS STORMWATER A SERIOUS THREAT

ACCORDING TO A NOVEMBER 2010 REPORT BY THE NEW HAMPSHIRE STORMWATER STUDY COMMISSION, "THROUGH ITS WORK, THE COMMISSION FOUND THAT STORMWATER IS RECOGNIZED AS ONE OF THE LEADING CAUSES OF WATER POLLUTION IN THE UNITED STATES." **STATES CANNOT MEET THEIR REQUIREMENTS UNDER THE CLEAN WATER ACT UNLESS AGGRESSIVE MEASURE ARE TAKEN TO ADDRESS STORMWATER. THE REPORT FURTHER ADDS, "WHILE THE MONETARY COST OF MANAGING STORMWATER IS HIGH, THE POTENTIAL COST OF INACTION IS EVEN HIGHER. WITHOUT NEW PROGRAMS, NEW REVENUE SOURCES, AND A SIGNIFICANT SHIFT OF THINKING, THE STATE WILL LIKELY EXPERIENCE EVEN MORE EXTENSIVE FLOODING AND DEGRADATION OF WATER RESOURCES."**

- NEW HAMPSHIRE HOUSE BILL 1295 CHAPTER 71 LAWS OF 2008 STORMWATER STUDY COMMISSION FINAL REPORT NOVEMBER 2010.

THE 9 NONSTRUCTURAL STORMWATER MANAGEMENT STRATEGIES

1. PROTECT AREAS THAT PROVIDE WATER QUALITY BENEFITS OR AREAS PARTICULARLY SUSCEPTIBLE TO EROSION;
2. MINIMIZE IMPERVIOUS SURFACES AND BREAK UP OR DISCONNECT THE FLOW OF RUNOFF OVER IMPERVIOUS SURFACES;
3. MAXIMIZE THE PROTECTION OF NATURAL DRAINAGE FEATURES AND VEGETATION;
4. MINIMIZE THE DECREASE IN THE "TIME OF CONCENTRATION" FROM PRE-CONSTRUCTION TO POST-CONSTRUCTION. "TIME OF CONCENTRATION" IS DEFINED AS THE TIME IT TAKES FOR RUNOFF TO TRAVEL FROM THE HYDRAULICALLY MOST DISTANT POINT OF THE DRAINAGE AREA TO THE POINT OF INTEREST WITHIN A WATERSHED;
5. MINIMIZE LAND DISTURBANCE INCLUDING CLEARING AND GRADING;
6. MINIMIZE SOIL COMPACTION;
7. PROVIDE LOW-MAINTENANCE LANDSCAPING THAT ENCOURAGES THE RETENTION AND PLANTING OF NATIVE VEGETATION AND MINIMIZES THE USE OF LAWNS, FERTILIZERS AND PESTICIDES;
8. PROVIDE VEGETATED OPEN-CHANNEL CONVEYANCE SYSTEMS DISCHARGING INTO AND THROUGH STABLE VEGETATED AREAS; AND

NONSTRUCTURAL STRATEGIES CONTINUED

9. PROVIDE OTHER SOURCE CONTROLS TO PREVENT OR MINIMIZE THE RELEASE OF THOSE POLLUTANTS INTO STORMWATER RUNOFF. THESE SOURCE CONTROLS INCLUDE, BUT ARE NOT LIMITED TO:

- I. SITE DESIGN FEATURES THAT HELP TO PREVENT ACCUMULATION OF TRASH AND DEBRIS IN DRAINAGE SYSTEMS;
- II. SITE DESIGN FEATURES THAT HELP TO PREVENT DISCHARGE OF TRASH AND DEBRIS FROM DRAINAGE SYSTEMS;
- III. SITE DESIGN FEATURES THAT HELP TO PREVENT AND/OR CONTAIN SPILLS OR OTHER HARMFUL ACCUMULATIONS OF POLLUTANTS AT INDUSTRIAL OR COMMERCIAL DEVELOPMENTS; AND
- IV. WHEN ESTABLISHING VEGETATION AFTER LAND DISTURBANCE, APPLYING FERTILIZER IN ACCORDANCE WITH THE REQUIREMENTS ESTABLISHED UNDER THE SOIL EROSION AND SEDIMENT CONTROL ACT, N.J.S.A. 4:24-39 ET SEQ., AND IMPLEMENTING RULES.

PROBLEMS WITH MOVING STRATEGIES TO MUNICIPAL PLAN SECTION

- LEAVES MUNICIPALITIES WITH A QUESTION OF HOW TO ENFORCE AND CREATES UNNECESSARY CONFUSION
- DEVELOPERS CAN CLEAR EVERYTHING IN SIGHT AND PUT IN GREEN INFRASTRUCTURE UNLESS TOWNS HAVE SPECIFIC ORDINANCES PROHIBITING THESE ACTIONS
- WILL NOT HELP ADVANCE BETTER WATER QUALITY PROTECTIONS

SOLUTION

- LEAVE LANGUAGE IN WITH SOME MINOR MODIFICATIONS TO MATCH GREEN INFRASTRUCTURE RULE
- SET OUT TO CREATE CLEAR LANGUAGE ON REQUIREMENTS FOR EACH STRATEGY.
- FOR EXAMPLE
  - STRATEGY #2 – MINIMIZE IMPERVIOUS SURFACE – SET IMPERVIOUS SURFACE LIMITS BY MANAGEMENT AREA/LOCATIONS
  - STRATEGY #7 – LOW MAINTENANCE LANDSCAPING – REQUIRE TOWNS TO ADOPT ORDINANCES FOR LIMITING TREE REMOVAL, PLANTING NATIVES; REQUIRE STATE SOIL CONSERVATION STANDARD TO ADOPT SEED MIXES SPECIFIC TO REGIONS WITH NATIVE REQUIREMENTS

DISCUSSION

1. PROTECT AREAS THAT PROVIDE WATER QUALITY BENEFITS OR AREAS PARTICULARLY SUSCEPTIBLE TO EROSION;
2. MINIMIZE IMPERVIOUS SURFACES AND BREAK UP OR DISCONNECT THE FLOW OF RUNOFF OVER IMPERVIOUS SURFACES;
3. MAXIMIZE THE PROTECTION OF NATURAL DRAINAGE FEATURES AND VEGETATION;
4. MINIMIZE THE DECREASE IN THE "TIME OF CONCENTRATION" FROM PRE-CONSTRUCTION TO POST-CONSTRUCTION. "TIME OF CONCENTRATION" IS DEFINED AS THE TIME IT TAKES FOR RUNOFF TO TRAVEL FROM THE HYDRAULICALLY MOST DISTANT POINT OF THE DRAINAGE AREA TO THE POINT OF INTEREST WITHIN A WATERSHED;
5. MINIMIZE LAND DISTURBANCE INCLUDING CLEARING AND GRADING;
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7. PROVIDE LOW-MAINTENANCE LANDSCAPING THAT ENCOURAGES THE RETENTION AND PLANTING OF NATIVE VEGETATION AND MINIMIZES THE USE OF LAWNS, FERTILIZERS AND PESTICIDES;
8. PROVIDE VEGETATED OPEN-CHANNEL CONVEYANCE SYSTEMS DISCHARGING INTO AND THROUGH STABLE VEGETATED AREAS; AND
9. PROVIDE OTHER SOURCE CONTROLS TO PREVENT OR MINIMIZE THE RELEASE OF THOSE POLLUTANTS INTO STORMWATER RUNOFF. THESE SOURCE CONTROLS INCLUDE, BUT ARE NOT LIMITED TO: