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ENERGY & ENVIRONMENTAL PROTECTION
OFFICE OF ENVIRONMENTAL REVIEW
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Date: April 16, 2015 **E-Mail:** david.fox@ct.gov

Subject: Downtown Crossing, New Haven

The Department of Energy and Environmental Protection (DEEP) has reviewed the Notice of Scoping for proposed funding for Phase II of the Downtown Crossing Project to convert Route 34 in New Haven from a limited access highway to an urban boulevard. The following commentary is submitted for your consideration.

The project area is in a portion of New Haven with partially combined storm and sanitary sewers. Historically, wet weather management to eliminate combined sewer overflows (CSO) in combined sewer areas has been achieved through a combination of increased treatment plant capacity, construction of storage tunnels and tanks, or separation of storm and sanitary flows into separate pipe networks, collectively referred to as grey infrastructure. It is now recognized that green infrastructure or low impact development (LID) practices can be a cost-effective and environmentally preferable stormwater management approach when used to support grey infrastructure. In many cases, implementation has relied upon pairing green infrastructure with cost-effective grey infrastructure and identifying opportunities to incorporate green infrastructure elements into other ongoing city projects.

The Department urges that green infrastructure or LID techniques be utilized to the greatest extent practicable in designing the proposed stormwater improvements and during subsequent private development of the coliseum site. Water quality and quantity benefits are maximized when multiple techniques are grouped together. Consequently, we typically recommend the utilization of one, or a combination of, the following measures:

- the use of pervious pavement or grid pavers (which are very compatible for parking lot and fire lane applications), or impervious pavement without curbs or with notched curbs to direct runoff to properly designed and installed infiltration areas,
- the use of vegetated swales, tree box filters, and/or infiltration islands to infiltrate and treat stormwater runoff (from building roofs, roads and parking lots),
- the minimization of access road widths and parking lot areas to the maximum extent possible to reduce the area of impervious surface,
- if soil conditions permit, the use of dry wells to manage runoff from the building roofs,
- the use of vegetated roofs (green roofs) to reduce the runoff from buildings,
- incorporation of proper physical barriers or operational procedures to prevent release of pollutants from special activity areas (e.g. loading docks, maintenance and service areas, dumpsters),

- the installation of rainwater harvesting systems to capture stormwater from building roofs for the purpose of reuse for irrigation, and
- providing for pollution prevention measures to reduce the introduction of pollutants to the environment.

The Department has compiled a listing of web resources with information about watershed management, green infrastructure and LID best management practices. It may be found on-line at: [LID Resources](#).

The effectiveness of various LID techniques that rely on infiltration depends on the soil types present at the site. According to the Natural Resources Conservation Service's Soil Web Survey, the soils at the property consist of urban land. These soils are unrated in their suitability for various stormwater management practices. However, infiltration practices may be suitable at this site. Soil mapping consists of a minimum 3 acres map unit and soils may vary substantially within each mapping unit. Test pits should be dug in areas planned for infiltration practices to verify soil suitability and/or limitations. Planning should insure that areas to be used for infiltration are not compacted during the construction process by vehicles or machinery. The siting of areas for infiltration must also consider any existing soil or groundwater contamination. Even if infiltration is limited at a site, it is still possible to implement LID practices such as green roofs on buildings or the use of cisterns to capture and reuse rainwater.

The Clean Water Fund Priority List for Fiscal Years 2014 and 2015 includes a Green Infrastructure funding reserve for community demonstration projects of green infrastructure technologies. Eligible projects must promote infiltration of stormwater into the ground in combined sewer overflow areas for CSO communities that are working toward compliance with their CSO Long Term Control Plans, which includes New Haven. The priority list allocates \$20M per fiscal year toward this funding reserve.

Stormwater discharges from construction sites where one or more acres are to be disturbed, regardless of project phasing, require a permit from the Permitting & Enforcement Division. The *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities* (DEEP-WPED-GP-015) will cover these discharges. For projects disturbing five or more acres, registration describing the site and the construction activity must be submitted to the Department prior to the initiation of construction. A stormwater pollution control plan, including measures such as erosion and sediment controls and post construction stormwater management, must be prepared. A goal of 80 percent removal of total suspended solids from the stormwater discharge shall be used in designing and installing post-construction stormwater management measures. The general permit also requires that post-construction control measures incorporate runoff reduction practices, such as LID techniques, to meet performance standards specified in the permit.

The construction stormwater general permit dictates separate compliance procedures for Locally Approvable projects and Locally Exempt projects (as defined in the permit). Locally Exempt construction projects disturbing over 1 acre must submit a registration form and Stormwater Pollution Control Plan (SWPCP) to the Department. Locally Approvable construction projects with a total disturbed area of one to five acres are not required to register with the Department provided the development plan has been approved by a municipal land use

agency and adheres to local erosion and sediment control land use regulations and the *CT Guidelines for Soil Erosion and Sediment Control*. Locally Approvable construction projects with a total disturbed area of five or more acres must submit a registration form to the Department. This registration shall include a certification by a Qualified Professional who designed the project and a certification by a Qualified Professional or regional Conservation District who reviewed the SWPCP and deemed it consistent with the requirements of the general permit. The SWPCP for Locally Approvable projects is not required to be submitted to the Department unless requested. For further information, contact the division at 860-424-3018. A copy of the general permit as well as registration forms may be downloaded at: [Construction Stormwater GP](#).

A small portion of the project area is within the 100-year flood zone on the community's Flood Insurance Rate Map. The 100-year flood zone is confined to the area surrounding the Route 34 overpass at the railroad crossing just east of Union Avenue/State Street. The pedestrian improvements and bike lane are within the 100-year flood zone and must be certified by the sponsoring agency as being in compliance with flood and stormwater management standards specified in section 25-68d of the Connecticut General Statutes (CGS) and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA). These project activities may be covered by Statewide Flood Management Certification for Minor Activities (FM -200900981) issued to DECD on July 10, 2009.

The portion of the proposed project area east of the State Street is within Connecticut's coastal boundary as defined by section 22a-94 of the CGS and is subject to the provisions of the Connecticut Coastal Management Act (CCMA), sections 22a-90 through 22a-112. The site is not a waterfront property and does not possess sensitive coastal resources. Coastal management concerns which should be addressed in future phases of the project planning process are the potential mobilization of pollutants in contaminated soils and appropriate use of urban retrofit stormwater best management practices, wherever possible.

The project will support subsequent private mixed use development of the coliseum site that will include 785 parking spaces. In keeping with the Department's interest in furthering the use of alternate fuels for transportation purposes, we recommend that Level 2 electric vehicle charging stations be included at 3% of the parking spaces in the project design. Increasing the availability of public charging stations will facilitate the introduction of the electric vehicle technology into the state and serve to alleviate the present energy dependence on petroleum.

The Natural Diversity Data Base, maintained by DEEP, contains no records of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern in the project area. This information is not the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern as well as enhance existing data. Such new information is incorporated into the Data Base as it becomes available. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site.

The following standard comments include recommendations regarding urban redevelopment.

A site in an historical urbanized area may have existing or potential environmental problems that have not been detected or resulted in regulatory action by the Department. In order to confirm that the subject property has not been the site of improper disposal of waste or does not contain some other environmental liabilities, it is suggested that an environmental or engineering consultant be retained to conduct a site investigation and sampling/testing, as appropriate. The investigation should include an inquiry into the historic uses and fuel storage on the property to assess the likelihood of encountering solid or hazardous waste or soil contamination. In order to ascertain the environmental status of properties, it is typically recommended that a Phase I environmental site assessment (ESA) be performed at the site. If the Phase I ESA indicates site contamination is likely, a Phase II ESA should be performed to confirm or deny the presence of contamination. In order to achieve proper remediation, the extent of contamination should be clearly defined through a Phase III ESA, a cleanup plan developed, and measures implemented that will clean up the site in accordance with applicable criteria in the Connecticut Remediation Standard Regulations adopted pursuant to section 22a-133k of the Connecticut General Statutes. For further information, contact the Remediation Division at 860-424-3705. The Connecticut Remediation Standard Regulations are available on-line at: [Remediation Regulations](#).

Development plans in urban areas that entail soil excavation should include a protocol for sampling and analysis of potentially contaminated soil. Soil with contaminant levels that exceed the applicable criteria of the Remediation Standard Regulations, that is not hazardous waste, is considered to be special waste. The disposal of special wastes, as defined in section 22a-209-1 of the Regulations of Connecticut State Agencies (RCSA), requires written authorization from the Waste Engineering and Enforcement Division prior to delivery to any solid waste disposal facility in Connecticut. If clean fill is to be segregated from waste material, there must be strict adherence to the definition of clean fill, as provided in Section 22a-209-1 of the RCSA. A fact sheet regarding disposal of special wastes and the authorization application form may be obtained at: [Special Waste Fact Sheet](#).

The Waste Engineering & Enforcement Division has issued a *General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer)* (DEP-SW-GP-001). It establishes a uniform set of environmentally protective management measures for stockpiling soils when they are generated during construction or utility installation projects where contaminated soils are typically managed (held temporarily during characterization procedures to determine a final disposition). Temporary storage of less than 1000 cubic yards of contaminated soils (which are not hazardous waste) at the excavation site does not require registration, provided that activities are conducted in accordance with the applicable conditions of the general permit. Registration is required for on-site storage of more than 1000 cubic yards for more than 45 days or transfer of more than 10 cubic yards off-site. A fact sheet describing the general permit, a copy of the general permit and registration forms are available on-line at: [Soil Management GP](#).

The disposal of demolition waste should be handled in accordance with applicable solid waste statutes and regulations. Demolition debris may be contaminated with asbestos, lead-based paint or chemical residues and require special disposal. Clean fill is defined in section 22a-209-1 of the Regulations of Connecticut State Agencies (RCSA) and includes only natural soil, rock, brick, ceramics, concrete and asphalt paving fragments. Clean fill can be used on site or at appropriate off-site locations. Clean fill does not include uncured asphalt, demolition waste containing other than brick or rubble, contaminated demolition wastes (e.g. contaminated with oil or lead paint), tree stumps, or any kind of contaminated soils. Landclearing debris and waste other than clean fill resulting from demolition activities is considered bulky waste, also defined in section 22a-209-1 of the RCSA. Bulky waste is classified as special waste and must be disposed of at a permitted landfill or other solid waste processing facility pursuant to section 22a-208c of the Connecticut General Statutes and section 22a-209-2 of the RCSA. Additional information concerning disposal of demolition debris is available on-line at: [Demolition Debris](#).

Construction and demolition debris should be segregated on-site and reused or recycled to the greatest extent possible. Waste management plans for construction, renovation or demolition projects are encouraged to help meet the State's reuse and recycling goals. The *State Solid Waste Management Plan* outlines a goal of 58% recovery rate for municipal solid waste by the year 2024. Part of this effort includes increasing the amount of construction and demolition materials recovered for reuse and recycling in Connecticut. It is recommended that contracts be awarded only to those companies who present a sufficiently detailed construction/demolition waste management plan for reuse/recycling. Additional information concerning construction and demolition material management and waste management plans can be found on-line at: [C&D Material Management](#) and [C&D Waste Management Plans](#).

The following standard comments regarding mitigation of air quality impacts during construction should be observed during future planning and implementation of the project.

For large construction projects, the Department typically encourages the use of newer off-road construction equipment that meets the latest EPA or California Air Resources Board (CARB) standards. If that newer equipment cannot be used, equipment with the best available controls on diesel emissions including retrofitting with diesel oxidation catalysts or particulate filters in addition to the use of ultra-low sulfur fuel would be the second choice that can be effective in reducing exhaust emissions. The use of newer equipment that meets EPA standards would obviate the need for retrofits.

The Department also encourages the use of newer on-road vehicles that meet either the latest EPA or California Air Resources Board (CARB) standards for construction projects. These on-road vehicles include dump trucks, fuel delivery trucks and other vehicles typically found at construction sites. On-road vehicles older than the 2007-model year typically should be retrofitted with diesel oxidation catalysts or diesel particulate filters for projects. Again, the use of newer vehicles that meet EPA standards would eliminate the need for retrofits.

Additionally, Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies (RCSA) limits the idling of mobile sources to 3 minutes. This regulation applies to most vehicles such as trucks and other diesel engine-powered vehicles commonly used on construction sites. Adhering to the regulation will reduce unnecessary idling at truck staging zones, delivery or truck dumping areas and further reduce on-road and construction equipment emissions. Use of posted signs indicating the three-minute idling limit is recommended. It should be noted that only DEEP can enforce Section 22a-174-18(b)(3)(C) of the RCSA. Therefore, it is recommended that the project sponsor include language similar to the anti-idling regulations in the contract specifications for construction in order to allow them to enforce idling restrictions at the project site without the involvement of the Department.

Thank you for the opportunity to review this proposal. If you have any questions concerning these comments, please contact me.

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