



STATE OF CONNECTICUT

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

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To: Robert Dollak - Environmental Program Manager
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Date: August 19, 2016 **E-Mail:** david.fox@ct.gov

Subject: East Haven Rifle Range Maintenance Building

The Department of Energy & Environmental Protection (DEEP) has received the Notice of Scoping for the proposed construction of a maintenance building at the East Haven Rifle Range Facility. The following comments are submitted for your consideration.

As noted in the project description, the new range maintenance building is within the mapped 100-year floodplain boundary of the Farm River. However, based on a topographical field survey, the building site is above the 100-year flood elevation. A Letter of Map Amendment has not been filed with FEMA.

However, because it is an activity as defined by 25-68b(1) of the Connecticut General Statutes (CGS), the project will require flood management certification pursuant to section 25-68d of the CGS regardless of its location in relation to the flood zone. Based on aerial photography, a significant portion of the site for the new building and associated pavement is presently grassed. "Activity" includes any proposed state action that impacts natural or man-made storm drainage facilities that are located on property that the commissioner determines to be controlled by the state. The project would meet this definition since new impervious surface is proposed. Due to existing flooding problems downstream from this site, the project must be designed so as to not increase peak flows. For further information, contact the Inland Water Resources Division at 860-424-3706. A fact sheet regarding floodplain management and the certification form can be downloaded at: [Flood Management](#).

The Department strongly supports the use of low impact development (LID) practices such as water quality swales and rain gardens for infiltration of stormwater on site. Key strategies for effective LID include: managing stormwater close to where precipitation falls; infiltrating, filtering, and storing as much stormwater as feasible; managing stormwater at multiple locations throughout the landscape; conserving and restoring natural vegetation and soils; preserving open space and minimizing land disturbance; designing the site to minimize impervious surfaces; and providing for maintenance and education. 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 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 site is underlain by Penwood loamy sand, rated somewhat suitable for infiltration. 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.

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 *Low Impact Development Appendix* to the *Connecticut Stormwater Quality Manual* also includes a section on urban retrofits and redevelopment. It is available on-line at: [LID Appendix](#). A *Low Impact Development Appendix* to the *Connecticut Guidelines for Soil Erosion and Sediment Control* has also been prepared to provide specific guidance on low impact development techniques. It is available on-line at: [LID Appendix](#).

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 Connecticut General Statutes, 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.

Thank you for the opportunity to review this project. If there are any questions concerning these comments, please contact me.

cc: Robert Hannon, DEEP/OPPD
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