MEMORANDUM FOR PUBLIC BUILDINGS SERVICE
REGIONAL COMMISSIONERS
ASSISTANT COMMISSIONERS
DESIGN AND CONSTRUCTION DIRECTORS
REGIONAL CHIEF ARCHITECTS

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SUBJECT: Compliance with Section 438 (Stormwater) Requirements of the Energy Independence and Security Act of 2007

We are issuing this guidance memo to assist your project teams in complying with the legal requirements of Section 438 (stormwater management) of the Energy Independence and Security Act of 2007 (EISA). Although the law has been in place for more than a decade, recent experience on both prospectus-level new construction and major and minor R&A projects suggests that there is still confusion about the purpose of the law, when its requirements apply to a project, and how design teams are to implement it.

It is the intent of this memo to help ensure that PBS projects not only meet the law but that they do so in the most efficient and effective ways possible, to limit both upfront project and long-term facility management costs.

The following guidance is technically authoritative to all PBS projects that award design after the date of this memo and it shall be incorporated into the next iteration of the P100.

Purpose of EISA section 438.
Section 438 stormwater management requirements are meant to limit the offsite impacts of stormwater runoff. Impacts of concern include water pollution, environmental damage, and impacts on local infrastructure, as well as property loss and risk to public safety from flooding. Although GSA projects are encouraged to manage stormwater in ways that also reduce potable water usage, section 438's purpose is to prevent non-point source stormwater runoff impacts. So, while potential reuse of captured stormwater may be part of an overall design strategy, a project's inability to harvest stormwater for use would not reduce the amount of stormwater the project must manage on site.

Applicability of EISA 438 Requirements.
All GSA projects are required to comply with EISA Section 438 guidance if more than 5,000 SF of land is being redesigned, reconfigured, or reconstituted in any manner that diverges from the area's present day use and composition. Maintenance activities, such as pavement resurfacing, parking restriping or similar activities that are being carried out to ensure that facilities are in good working condition, are excluded from complying with this standard. This distinction is important to note in order to prevent what would otherwise be a limited project scope from being needlessly expanded.

For new construction projects, the project extents shall include all building footprints, pavements, site features, and landscape areas being developed and contained within the project's limit of work. The 95th percentile precipitation event falling on the total site surface area included within the limit of work, as referenced by a minimum twenty year site precipitation history via the nearest rain gauge, will constitute the design volume of stormwater that must be managed on site.

For renovation projects, the project extents shall be limited to landscape areas and pavements within the project's limit of work, and that through responsive design can manage a similar design storm as is noted above. Existing building footprints can be excluded from this calculation unless the scope of work includes the redesign or renovation of the roof or expansion of the footprint. If the roof includes a redesign or renovation, then the area total of the roof scope shall be contained within the project scope. It is this total scope area that requires design storm management. Special consideration may be granted in the case of historic structures.

Demonstrating Compliance During Design.
EISA 438 requires that Federal projects maintain or restore the "pre-development hydrology" on site. This means the stormwater runoff characteristics of the site in its natural state, prior to human development; it does not pertain to the current state of the site (e.g., a parking lot).

EPA technical guidance provides for two paths to demonstrate compliance:

> Under Option 1, design teams must demonstrate that the project will retain, not detain, the full 95th percentile storm on site. Option 1 is the simplest and most direct way to demonstrate compliance and is the recommended path for project teams to follow.
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> Under Option 2, design teams may choose to conduct site-specific hydrologic analysis to determine the pre-development (natural state) characteristics of the site and develop a design to match that performance. This method requires study outside the typical scope of project budgets and would be suitable only in very limited circumstances (e.g. project site on shallow bedrock).

As a result, by this memo we are advising project teams that they should meet EISA 438 requirements by designing to retain the 95 percentile storm volume (Option 1). Should the

design team feel that Option 2 is the more appropriate path, they must provide their detailed rationale with the preliminary concept package for Design-Bid-Build projects or the Official Offereror's Package if delivering a project using a Design-Build approach. ODC review and approval of the approach requires written confirmation.

Further Guidance on Stormwater Calculations.
The 95 percentile "design storm" volume shall be calculated during initial conceptual design activities and should be considered a component of the "architectural program" of the conceptual design phase for the site. It is critical that this be done during the conceptual stage so a responsive and efficient spatial design can be developed throughout the design process that factors in stormwater considerations, when the most cost and resource effective design strategies are available.

In calculating the stormwater volumes to be retained on site, design teams must follow EPA guidance and use a minimum 20-year storm history, using proximate NOAA rain gauges. This is readily available from NOAA sources at no cost to the consultant team. All projects are to manage storm volumes using retention methods, not detention methods, to the maximum extent feasible.

Per the law, cost is not a factor in determining feasibility of complying with this legal standard, and we have found that design teams are most able to develop cost-effective solutions on our projects when they address the EISA requirements from the beginning.

At a minimum, calculations provided during the conceptual design will include the following data:

1. Total area of the site in square feet.
2. The 95th percentile design storm precipitation event as represented in inches.
3. The volume total in gallons that requires on-site retention.
4. The spatial approach to processing, storing and infiltrating, the required volume on site.
5. The design size, number, and type of design features required to perform this function.

For more information or guidance on EISA 438, including project-specific assistance, please contact Christain Gabriel (christian.gabriel@gsa.gov) or Lance Davis (lance.davis@gsa.gov) in the Office of the Chief Architect.

Lastly, for guidance on facilities already in operation, including stormwater permitting guidance and best management practices, please contact the Office of Facilities Management.