DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON, FORT STEWART/HUNTER ARMY AIRFIELD
DIRECTORATE OF PUBLIC WORKS
1587 VETERANS PARKWAY, BUILDING 1101
FORT STEWART, GEORGIA 31314-5602

AMIM-SHP (200-1g)

JUL 0 3 2024

Memorandum for Contractors

Subject: The Directorate of Public Works (DPW) Policy Letter #10 – Green Infrastructure / Low Impact Development (GI/LID)

1. **References**.

a. Federal Clean Water Act (CWA), as amended (33 U.S.C.1251 et seq.), and CWA Stormwater Regulations 40 CFR 122.26.

b. Executive Orders 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, 08 December 2021.

c. Policy Memo 19 JAN 10, Office of the Under Secretary of Defense, DoD Implementation of Stormwater Requirements under Section 438 of the Energy Independence and Security Act.

d. Georgia Water Quality Control Act, as amended, O.C.G.A. §12-5-20 et seq., and the Rules for Water Quality Control, Chapter 391-3-6, promulgated pursuant thereto, as amended.

e. Erosion & Sedimentation Control Act, as amended, O.C.G.A. §12-7-1 et seq., and the Rules for Erosion & Sedimentation, Chapter 391-3-7, promulgated pursuant thereto, as amended.

2. **Purpose**. This policy replaces the former Policy Letter #10 and reestablishes the Directorate of Public Works policy concerning erosion and sedimentation controls, standards, and specifications for Green Infrastructure / Low Impact Development (GI/LID) structures and stormwater controls for flooding.

3. **Applicability**. This policy applies to all contractors and government employees at Fort Stewart and Hunter Army Airfield (FSGA/HAAF).

4. **Responsibilities**. The following are the minimum standards for contractors to use to ensure the uniformity of the use of dry detention basins and other GI/LID structures throughout the installations. FSGA/HAAF must comply with the State of Georgia's National Pollutant Discharge Elimination System (NPDES) permitting, reference the DPW Policy Letter #11, FSGA/HAAF Construction Site Runoff Control, and FSGA/HAAF Post-Construction New-Redevelopment requirements. These and other Stormwater Management

documents can be found at:
http://home.army.mil/stewart/about/Garrison/DPW/environmental/prevention-and-compliance/water.

a. Traditional centralized stormwater management connects impervious surfaces to efficiently route stormwater to regional or site-specific ponding structures to mitigate peak flow. Although, these structures may be successful in reducing peak flow rates immediately downstream of the facilities they serve, they may be ineffective at addressing the water quality of surface runoff and reducing downstream flooding.

b. Therefore, overall stormwater designs must focus on maintaining or restoring the hydrologic performance of the watershed by use of GI/LID structures. GI/LID structures focus on the treatment of stormwater runoff at the source facility prior to entering the collective stormwater system. GI/LID stormwater control practices utilize Best Management Practices (BMPs), such as Bioretention Areas, Dry Detention Basins, Bioswales, Permeable Paver Systems, Porous Concrete/Asphalt, Sand Filter Beds, Vegetative Filter Strips, and other infiltration structures to increase groundwater recharge, improve surface water quality, protect stream channels and/or reduce downstream flooding.

Bioretention Areas:

A Bioretention Area is a shallow stormwater basin that utilizes native well-draining soils and vegetation to capture and treat runoff. Bioretention Areas are one of the most effective GI/LID practices to improve the quality of and reduce stormwater runoff. Bioretention Areas are typically used in conjunction with other GI/LID BMPs to provide channel and flood protection.

a. The use of underdrains is permitted, but doing so will result in a lower runoff reduction credit.

b. Bioretention Areas shall have a contributing drainage area no greater than 5 acres.

c. Inlet protection should be designed to reduce the velocity of stormwater entering the structure.

d. Outlet structures should be designed to ensure larger storm events can bypass the structure without causing damage. Outlet structures can include riser boxes and/or emergency spillway channels.

e. Proper landscaping is critical to a Bioretention Area's functionality. Vegetation should be selected to match the environment and utilize native plants.

Dry Detention Basins:

A Dry Detention Basin is a surface storage basin that is designed to provide water quality treatment and temporary control to reduce downstream impacts. Dry Detention Basins are typically used in conjunction with other GI/LID BMPs to provide runoff reduction, additional water quality treatment, and channel protection.

a. The depth of a Dry Detention Basin shall not exceed 10 feet.

b. Dry Detention Basins should have enough elevation drop from the inlet point(s) to the outlet structure to ensure flow through the structure.

c. A low flow / pilot channel is recommended to convey stormwater withing the structure.

d. Inflow channels should be stabilized with flared aprons, or the equivalent.

e. Outlet structures can consist of a weir, orifice, outlet pipe, or combination outlet. Riprap or plunge pools / pads are to be utilized to prevent scouring and erosion.

f. Dry Detention Basins should also utilize emergency spillways to allow safe overflow during flood flows.

g. Vegetation that can survive during wet and dry weather should be selected for Dry Detention Basins.

Bioswales:

Bioswales (also referred to as Enhanced Swales, Dry/Wet Swales, or Water Quality Swales) are vegetated channels that are designed to capture and treat stormwater runoff within constructed cells. Bioswales can contribute to the runoff reduction rate and water quality. Bioswales are typically used in conjunction with other GI/LID BMPs to provide channel and flood protection.

a. The use of underdrains is permitted, but doing so will result in a lower runoff reduction credit.

b. Inlet points are required to have riprap or other energy dissipators.

c. Outlet structures are required to utilize outlet protection to prevent scouring and erosion. When an underdrain is utilized, it should discharge into the underground stormwater collection system or to a stable outfall.

d. Biowales are required to provide an emergency spillway to allow safe overflow.

Permeable Paver Systems:

Permeable Paver Systems are pavement surfaces with constructed void units filled with a permeable material (I.E. gravel, sand, grass) that are designed to capture, treat, and infiltrate stormwater runoff. The Permeable Paver System is installed over a gravel base that supports the structure as well as promote stormwater infiltration practices. Permeable Paver Systems can provide improved water quality, groundwater recharge, and a reduction in in stormwater volume. Permeable Paver Systems are typically used in conjunction with other GI/LID BMPs to provide channel and flood protection.

a. The use of underdrains is permitted, but doing so will result in a lower runoff reduction credit.

b. It is recommended to install only in low traffic areas.

c. A minimum of 40% of the surface area should be open void space to properly infiltrate and treat runoff.

d. An emergency spillway is required to allow for safe overflow.

Porous Concrete/Asphalt:

Porous Concrete/Asphalt is a mixture of coarse aggregate, cement/asphalt, and water overlaying a stone aggregate reservoir that is designed to capture and infiltrate stormwater runoff. Porous Concrete/Asphalt can provide some improved water quality and a reduction in runoff. Porous Concrete/Asphalt is typically used in conjunction with other GI/LID BMPs to provide channel and flood protection.

a. The use of underdrains is permitted, but doing so will result in a lower runoff reduction credit.

b. It is recommended to install only in low traffic areas.

c. Approximately 18% of the porous layer and 40% of the reservoir layer should be a void space to properly infiltrate and treat runoff.

Sand Filter Beds

Sand Filter Beds (also referred to as filtration basins) are multi-chambered structures designed to improve water quality by passing stormwater runoff through a filter bed of sand. Sand Filter Beds are typically used in conjunction with other GI/LID BMPs to provide runoff reduction, channel protection, and flood protection.

a. Underdrains are typically utilized to convey the treated stormwater.

b. The maximum contributing drainage area is 10 acres.

c. Inlet points are required to have energy dissipators.

d. An emergency spillway is required to allow for safe overflow.

Vegetative Filter Strip:

Vegetative Filter Strips are uniformly graded, and densely vegetated grassed areas designed to treat and reduce runoff. Vegetative Filter Strips are typically used in conjunction with other GI/LID BMPs to provide channel and flood protection.

a. Maintaining a sheet flow throughout is typically utilized to be effective.

b. The maximum contributing drainage area is 5 acres.

c. Inlet points are recommended to have energy dissipators.

d. An emergency spillway is recommended to allow for safe overflow.

5. **Exceptions.** Request for exceptions to this policy will be reviewed on a case-by-case basis and must be authorized by the Directorate of Public Works.

6. **Proponent.** The DPW is proponent for this policy. The point of contact is DPW Environmental Division at commercial (571) 801-0241.

James L. Heidle
Director, Public Works