

## **Private Detention Pond (PDB) BMPs for Operations & Maintenance**

The proposed Palmer Solar Project and Williams Creek Substation includes Private Detention Basins. In El Paso County, property owners are responsible for implementing stormwater best management practices (BMPs). The Drainage Criteria Manual, Volume 2, requires that the County take measures to protect the quality of stormwater from sediment and other contaminants, requires sub-dividers, developers, landowners, and owners of facilities located in the County's rights-of-way or easements to provide adequate permanent stormwater quality BMPs with new development or significant redevelopment. Accordingly, the development application with El Paso County addresses BMPs to ensure proper functioning of proposed site features and to limit any potential impacts on-site or to adjacent properties.

There is not a need for substantial stormwater features or drainage controls on site, as the proposed development will not generally change historic flow patterns and the project does not include substantial amounts of basin imperviousness (estimated at under 1% across the site).

In total, there are three proposed sediment basins (Extended Detention Basins) proposed on the site (see Preliminary Drainage Report). There are two of these features proposed on the west side (measuring approximately five feet and four feet deep respectively) and one on the east side (measuring approximately three feet deep). The Developer, Palmer Solar LLC, will be responsible for constructing, maintaining, operating, repairing, and decommissioning detention basins according to BMPs.

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater ends. Detention ponds are designed to release all captured runoff over time, and do not allow for permanent pooling of water. These basins are typically smaller than flood control detentions and use a smaller outlet to extend emptying times for more frequent runoff events, thereby facilitating pollutant removal. The EDBs for the Palmer Solar Project are dry by design and do not hold water on a regular basis. Occasionally, shallow pools form at the bottom of an EDB following major precipitation events.

The Applicant will coordinate with El Paso County prior to the construction of any detention basin and secure approval from the El Paso County Planning and Community Development Department (PCD) regarding final plans and specifications for the private detention basins; whether through the Site Plan Review or other formal process with the County. Construction timeframes will follow the construction schedule of the Palmer Solar Project, with a duration not expected to exceed one year from beginning of construction.

Following construction, each of the EDBs will be inspected to ensure that stormwater management complies with specifications put forward in the Site Plan Review and other applicable regulations (namely the El Paso County Drainage Criteria Manual).

Expected maintenance for the detention ponds is overall, low when considering other maintenance actions for the facility. Maintenance will be included in the general operations and maintenance actions for the Palmer Solar Project and Williams Creek Substation Project. Formal inspections will take place at a minimum, once a year. However, visual checks will likely take place many times throughout the year alongside other maintenance actions, such as site mowing. Inspections will follow inspection guidance and defined protocol. The City of Colorado Springs, for example, has made a maintenance and inspection form publicly available that may be used as a basis for the site's inspection protocol. Most of this work can be completed by a small crew, tools, and small equipment. BMPs for maintaining EDBs are outlined in Table 1.

Table 1 does not address rehabilitation. Rehabilitation, defined as large-scale maintenance and major improvements to address failures, would be addressed on as-needed basis. Given the lack of impervious surface on-site and the overall minor additions of EDBs, the likelihood of these actions is very low. Any work

outside normal maintenance and minor restoration will be coordinated with El Paso County and other relevant entities.

**Table 1:** Best Management Practices for Extended Detention Ponds

Maintenance Action	Maintenance Objective	Frequency of Action
Inspections	Inspect basins to ensure basins are functioning as intended (in compliance with El Paso County Drainage Manuals 1 & 2). Examine outlet for vegetation height, structural integrity, clogging, excessive sedimentation, pests, invasive species, embankment, and any damage. Inspections will follow County protocols and site checklist for topics below.	Routine - annual basis specifically for the drainage features. However, inspection will also take place alongside routine maintenance visits, particularly observing structural integrity and clogging.
Mowing and Vegetation Treatment	Mowing to control grass height and unwanted vegetation in the feature. Establish general continuity with grass height elsewhere on site. Ensure that no trees or shrubs will impair structural integrity. Detrius will be removed from basin during mowing as necessary to prevent clogging. A healthy vegetative cover will be targeted across the basin.	Routine - alongside site inspection
Debris and Litter Removal	Remove debris from the feature to minimize potential for clogging. Also helps with general aesthetics.	Routine. Particular attention will be made in advance of rainy months (April-May). Removal will also take place following significant rain or debris events. Sediment removal will take place when basin is dry.
Erosion and Sediment Control	Repair and revegetate eroded areas on slope of features.	On an ad-hoc basis as determined by inspection. Sediment removal is expected to take place a number of times during the life of the facility.

Structural  
Repair

Repair inlets, outlets, forebays, low flow channel liners, and other features when damage is discovered

On an ad-hoc basis as determined by inspection.

Nuisance  
Control

Address any problems posed by species establishment in and around features. Treat any invasive species by hand pulling or herbicide - consultant Weed Management Plan and County weed specialist.

On an ad-hoc basis as determined by inspection.