**Treatment BMPs
Checklist T-1, Part 8**

Prepared by: Date: District-Co-Route:

PM: Project ID/EA: RWQCB:

***Media Filters***

Caltrans has approved two types of Media Filters: Austin Sand Filter and Delaware Filter. An Austin Sand filter is typically designed for a larger contributing drainage area, while a Delaware Filter is typically designed for a smaller contributing drainage area. The Austin Sand Filter is constructed with an open top and may have a concrete or earthen invert, while the Delaware is always constructed as a vault.

***Feasibility – Austin Sand Filter***

1. Is the volume of the Austin Sand Filter equal to the WQV, or portion thereof, using a 24-hour drawdown? 1 [ ]  Yes [ ]  No
2. Is there sufficient hydraulic head to operate the device (minimum 2 ft between the inflow and outflow chambers)? [ ]  Yes [ ]  No
3. If device has an earthen bottom, is the invert ≥ 5 ft above seasonally high groundwater? [ ]  Yes [ ]  No
4. If a vault is used for either chamber, is the level of the concrete base of the vault above seasonally high groundwater or is a special design provided? [ ]  Yes [ ]  No

If No to any question above, then an Austin Sand Filter is not feasible.

1. Does adequate area exist within the RW to place an Austin Sand Filter? [ ]  Yes [ ]  No

If Yes, continue to Design Elements sections. If No, continue to Question 6.

1. If adequate area does not exist within RW, can suitable, additional RW be acquired to site the device and how much RW would be needed to treat WQV, or portion thereof? \_\_\_\_\_\_\_\_\_ acres [ ]  Yes [ ]  No

If Yes, continue to the Design Elements section.

If No, continue to Question 7.

1. If adequate area cannot be obtained, document in Section 6 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. [ ]  Complete

If an Austin Sand Filter meets these feasibility requirements, continue to the Design Elements – Austin Sand Filter below.

1 Longer drawdown times being considered. Refer to the Austin Media Filter Design Guidance.

***Feasibility- Delaware Filter***

1. Is the volume of the Delaware Filter equal to the WQV, or portion thereof, using a 40 to 48-hour drawdown? 1 [ ]  Yes [ ]  No
2. Is there sufficient hydraulic head to operate the device (minimum 2 ft between the inflow and outflow chambers)? [ ]  Yes [ ]  No
3. Would a permanent pool of water be allowed by the local vector control agency? Confirm that check valves and vector proof lid as shown on standard detail sheets will be allowed and used. [ ]  Yes [ ]  No
4. Does the project discharge to a water body that has been placed on the 303(d) or has had a TMDL adopted for bacteria, mercury, sulfides, or low dissolved oxygen? [ ]  Yes [ ]  No

If Yes, contact the District/Regional NPDES Coordinator to determine if standing water in this Treatment BMP would be a risk to downstream water quality. If standing water is a potential issue, consider use of another Treatment BMP.

If No to any question, then a Delaware Filter is not feasible

1. Does adequate area exist within the RW to place a Delaware Filter? [ ]  Yes [ ]  No

If Yes, continue to Design Elements section. If No, continue to Question 6.

1. If adequate area does not exist within RW, can suitable, additional RW be acquired to site the device and how much RW would be needed to treat WQV, or portion thereof? \_\_\_\_\_\_\_\_\_ acres [ ]  Yes [ ]  No

If Yes, continue to the Design Elements section. If No, continue to Question 7.

1. If adequate area cannot be obtained, document in Section 6 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. [ ]  Complete

1 Longer drawdown times being considered. Refer to the Delaware Media Filter Design Guidance.

***Design Elements – Austin Sand Filter***

**\* Required Design Element –** A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 6 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**\*\* Recommended Design Element –** A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Is the drawdown time of the device 24 hours? (Longer drawdown times being considered, refer to the Austin Media Filter Design Guidance)\* [ ]  Yes [ ]  No
2. Is access for maintenance vehicles provided to the Austin Sand Filter? \* [ ]  Yes [ ]  No
3. Is a bypass/overflow provided for storms > WQV? \* [ ]  Yes [ ]  No
4. Is the flow path length to width ratio for the sedimentation chamber of the “full” Austin Sand Filter ≥ 2:1? \*\* [ ]  Yes [ ]  No
5. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? \*\* [ ]  Yes [ ]  No
6. Can the Austin Sand Filter be placed using an earthen configuration? \*\* [ ]  Yes [ ]  No

If No, go to Question 10.

1. Is the Austin Sand Filter invert separated from the seasonally high groundwater table by ≥ 5 ft)? \* (If AVSF, see Table B-8 3rd bullet in Application/Siting column.) [ ]  Yes [ ]  No

If No, design with an impermeable liner.

1. Are side slopes of the earthen chamber 3:1 (h:v) or flatter? \* [ ]  Yes [ ]  No
2. Can vegetation be established at the invert and on the side slopes for erosion control and to minimize re-suspension? If No, include rock or similar protective system. Note: Austin Sand Filters may be lined, in which case no vegetation would be required for lined areas.\* [ ]  Yes [ ]  No
3. Is maximum depth of sedimentation chamber ≤ 13 ft below ground surface? \* If greater than 13 feet, a special design is required. [ ]  Yes [ ]  No
4. Can the Austin Sand Filter be placed in an offline configuration? \*\* [ ]  Yes [ ]  No

If No, go to Question 12.

1. Is the flow line elevation of the overflow pipe set at the same elevation as the top of gabion wall elevation? \*\* [ ]  Yes [ ]  No

Typically, the flow line should match the top of gabion wall elevation. However, the pipe may require adjustment to fit site condition requirements such as grading and pipe cover conflicts and utility conflicts. Additional overflow designs may be considered (see the Partial Sedimentation Austin Vault Sand Filter Design Guidance).

1. Does the CDA for the device have trash treatment requirements?\*\* [ ]  Yes [ ]  No

If Yes, design and certify as Multi Benefit Trash Treatment (*See Caltrans Multi Benefit Treatment BMP Trash Full Capture Requirements Design Guidance*).

***Design Elements – Delaware Filter***

**\* Required Design Element –** A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 6 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**\*\* Recommended Design Element –** A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Is the drawdown time of the device between 40 and 48 hours, typically 40-hrs? (Longer drawdown times being considered, refer to the Delaware Media Filter Design Guidance) \* [ ]  Yes [ ]  No
2. Is access for maintenance vehicles provided to the Delaware Filter? \* [ ]  Yes [ ]  No
3. Is a bypass/overflow provided for storms > WQV? \* [ ]  Yes [ ]  No
4. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? \*\* [ ]  Yes [ ]  No
5. Is maximum depth of sedimentation chamber ≤ 13 ft below ground surface? \* [ ]  Yes [ ]  No
6. Does the CDA for the device have trash treatment requirements?\*\* [ ]  Yes [ ]  No

If Yes, design and certify as Multi Benefit Trash Treatment *(See Caltrans Multi Benefit Treatment BMP Trash Full Capture Requirements Design Guidance*).