APPENDIX D: PART 4

Project WQMP

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____**Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Grate	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3″*	*Lowe's Premium Brown Mulch*	*4′*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Vault Activation Package

FILTERRA® VAULT ACTIVATION PACKAGE

CONTECH® ENGINEERED SOLUTIONS

The Filterra system will be (or has been) delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and a Final Site Assessment (assessment of unit condition, mulch replacement, debris removal, and pruning of vegetation) scheduled between 6 months and 1 year after Activation, upon request.

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation (provided by the purchaser)
- Placement of pretreatment mulch layer using mulch acceptable for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch acceptable for use in Filterra systems. The purchaser should request Activation from Contech after the site is stabilized, but prior to turning over the site to the owner. Please allow 1-2 weeks to schedule Activation.

The purchaser must ensure that the site is acceptable for Filterra Activation. A checklist (included as page 3 of this document must be completed and submitted to the Contech Activation Coordinator. The minimum 4 requirements for Filterra Activation are as follows:

1. The purchaser must have sourced vegetation meeting the requirements outlined in "Plant Selection for Filterra Systems" starting on page 4 of this document.

* *UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

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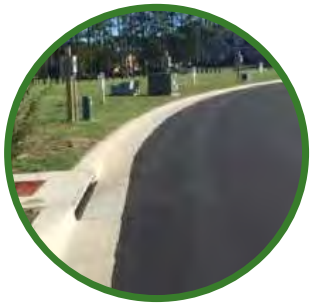
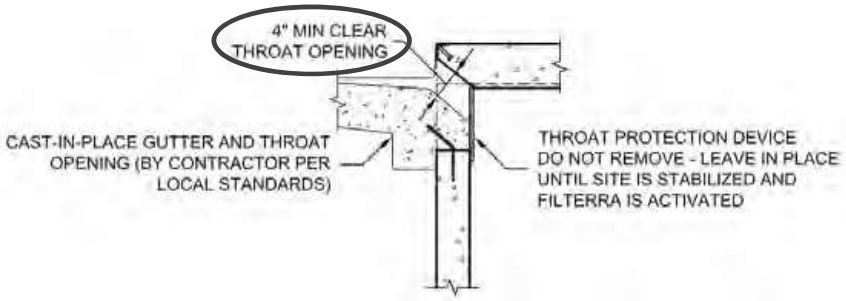
2. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.

3. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.



4. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" clear in order to ensure adequate capacity for inflow and debris.



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Filterra® Vault Activation Checklist

CONTECH® ENGINEERED SOLUTIONS

Project Name:_____ Company:_____

Site Contact Name: _____ Site Contact Phone/Email: _____

Site Owner/End User Name:_____ Site Owner/End User Phone/Email: _____

Preferred Activation Date: _____ (provide 2 weeks minimum from date this form is submitted)

Site Designation	Top Opening Type	Final Pavement Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height (where applicable)	Vegetation Sourced by Contractor
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided

Attach additional sheets as necessary.

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_____ _____

Signature Date

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Planting Selection for Filterra® Vault Systems

All Filterra systems require vegetation for proper long-term performance. As indicated in the Activation Package, the Contractor is responsible for sourcing the proper vegetation prior to Activation. Contech or a Contech representative will install the vegetation during the Activation process.

Contractors should identify the Top Opening style for each Filterra requiring Activation on the Activation Checklist. Contech offers three types, which are detailed on page 5 of this document:

- Vault with Tree Grate
- Vault with Full Grate
- Bioscape / Open Planter

Contractors must ensure the vegetation meets the following 4 requirements:

1. Select plant(s) as specified in the engineering plans and specifications AND that are listed on Contech's Configuration Specific Plant Lists**.
2. All plants MUST be container-grown in nursery containers no larger than 15 gallons. Crated and/or Ball/Burlap plants are NOT permitted.
3. For Vaults with Tree Grates, plant height must be 4' Minimum, from soil surface to top of plant.
4. Provide plant quantities per the following guidance:
   - Vault with Tree Grate – 1 per Tree Grate
   - Vault with Full Grate – 4-5 Small or Extra Small Grasses per Full Grate
   - Bioscape – Quantities should be selected based on plant palette options found starting on page 6 of this document.

If Contech or Contech's representative shows up for Activation and any of the 4 requirements above are not met, Activation cannot be performed and the Contractor will be billed a $1,500 Unprepared Site fee*.

Some additional vegetation recommendations for the best possible Activation and Installation are as follows:

- Select plant(s) with full root development but not to the point where root bound.
- For Filterra systems with a Tree Grate, select plants with taller trunks. Lower branches can be pruned away provided there are sufficient branches above the grate for tree or shrub development.
- For Filterra systems with a Tree Grate, plant(s) should have a single trunk at installation.
- Plant species shall not have a mature height greater than 30 feet.

** In some cases, Contech may consider alternate plant species as approved by the Product Manager. Please list the plant name in the space below and submit this sheet to your Contech Activation Coordinator. If the plant species is approved, either the Product Manager or the Activation Coordinator will sign the form and return to you for inclusion with your Activation Checklist.

Requested Plant Species: _____ Approved: _____

Date: _____

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Filterra® Top Opening Examples

Filterra® Vault with Tree Grate

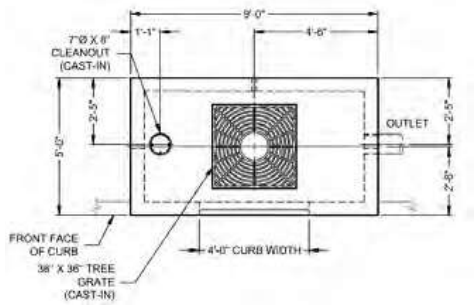

Figure 1a. Filterra with Tree Grate Drawing

Figure 1b. Filterra with Tree Grate Photo (not yet planted)

Filterra® Vault with Full Grate

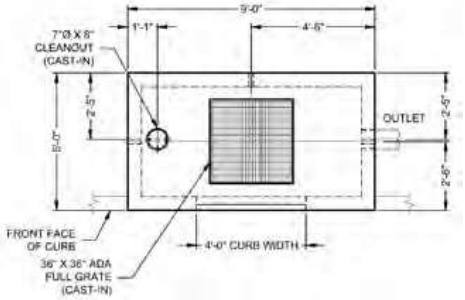

Figure 2a. Filterra with Full Grate Drawing

Figure 2b. Filterra with Full Grate Photo

Filterra® Bioscape Vault

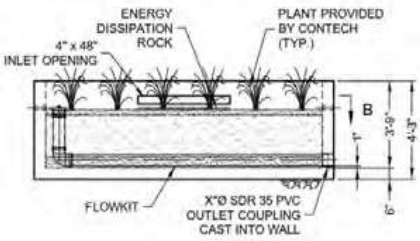

Figure 3a. Filterra Bioscape Vault Drawing

Figure 3b. Filterra Bioscape Vault Photo

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Filterra® Bioscape Vault Plant Palettes

KEY: (refer to plant lists for species sizing)

A. EXTRA SMALL GRASS
- Up to 2′ mature spread
- 1-2 gallon typical (1 gal. minimum)

B. SMALL GRASS/SHRUB
- 2′-4′ mature spread
- 1-7 gallon typical

C. MEDIUM SHRUB
- 4′-6′ mature spread
- 1-7 gallon typical

D. LARGE SHRUB OR EXTRA LARGE SHRUB OR TREE
- 6′ mature spread and greater, 30′ max. mature height
- Up to 15 gallon maximum

NOTE: *For larger vaults and in-ground Filterra Bioscape systems, palettes can be scaled (i.e. Qty 6 of the 22x8 Palette can be used for a 1056 sf Filterra Bioscape).*

MIX & MATCH SUBSTITUTION OPTIONS:

1 Large Shrub or Extra Large Shrub or Tree
- 2 Medium Shrubs
- 4 Small Grass/SHrubs
- 12 Extra Small Grasses

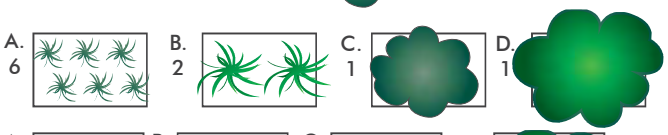
1 Medium Shrub
- 2 Small Grass/Shrubs
- 6 Extra Small Grasses

1 Small Grass/Shrub
- 3 Extra Small Grasses

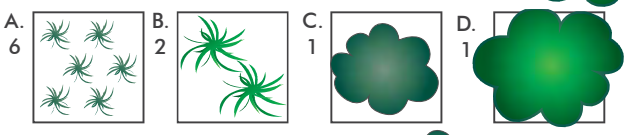
4x4 Media Bay

4x6/6x4 Media Bay

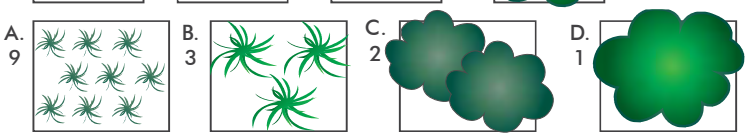
4x8/8x4 & 4.5x7.83/7.83x4.5 Media Bay



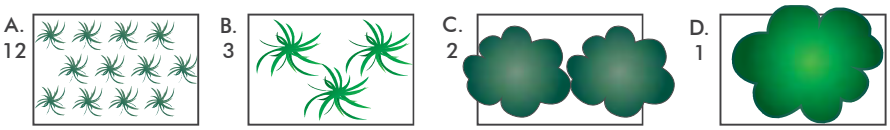
6x6 Media Bay



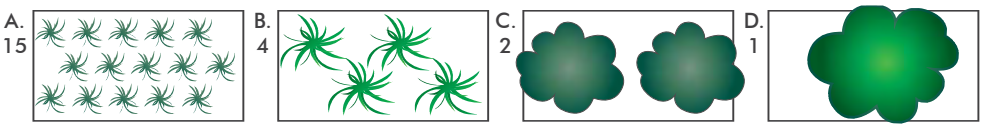
6x8/8x6 Media Bay



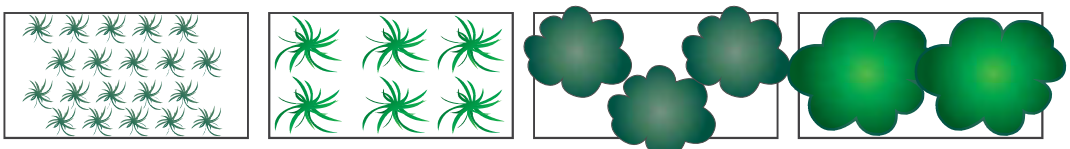
6x10/10x6 & 8x8 Media Bay



6x12/12x6 Media Bay



7x13/13x7/12x8 & 14x8 Media Bay



A. 20 B. 6 C. 3 D. 2

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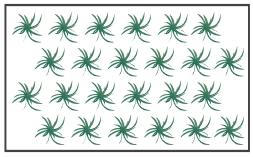
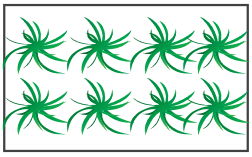
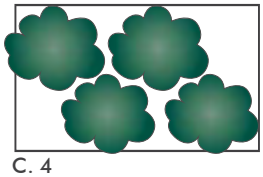
16x8 & 15x9
Media Bay



A. 24



B. 8



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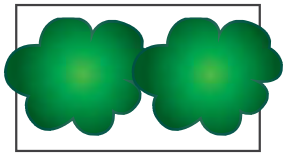
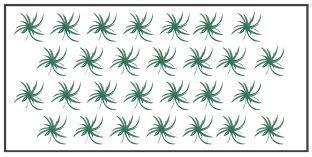


D. 2

18x8 Media Bay



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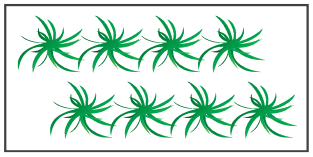

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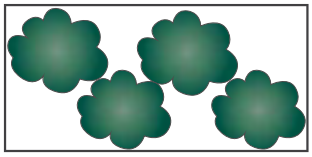

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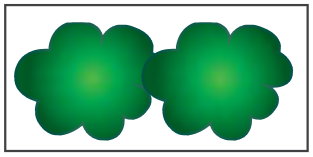
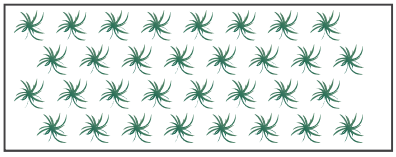


D. 2

20x8 Media Bay



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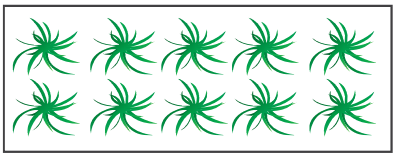

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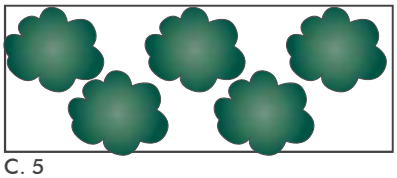

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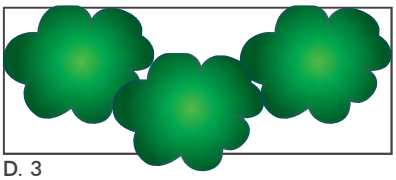
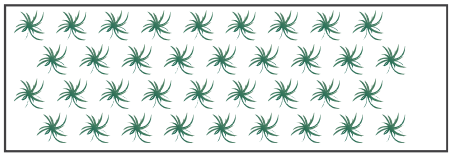
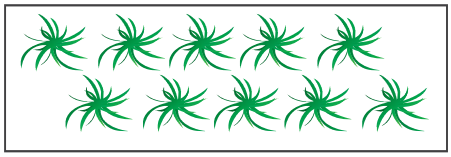


D. 3

22x8 Media Bay



A. 36



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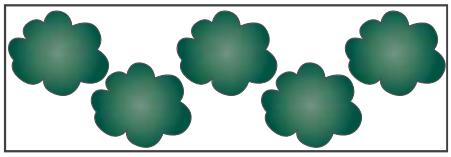

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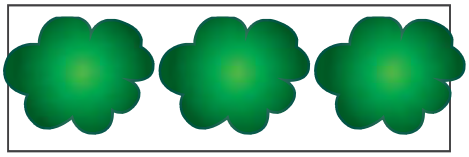

D. 3

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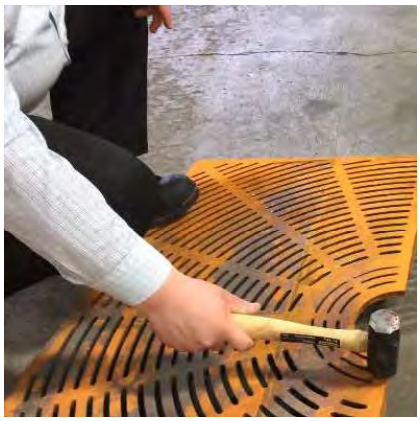
Appendix 2 – Filterra® Tree Grate Opening Expansion Procedure

The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

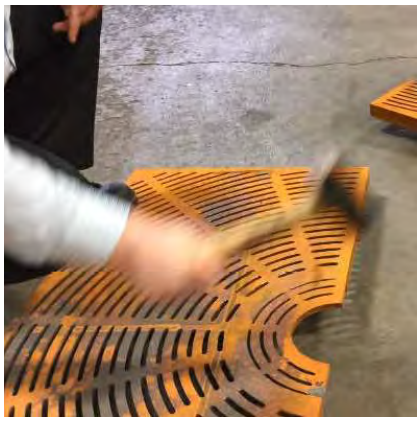
The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:



1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.

3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.

Notes

Notes

Notes

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Bioretention Systems

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ENGINEERED SOLUTIONS

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www.ContechES.com

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NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

PDF 1/23

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on WQMP Drawings**	**3** **Permanent Controls—List in WQMP Table and Narrative**	**4** **Operational BMPs—Include in WQMP Table and Narrative**
❑ **K.** Vehicle/Equipment Repair and Maintenance	❑ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ❑ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ❑ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	❑ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ❑ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ❑ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ❑ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ❑ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ❑ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

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❑ **L.** Fuel Dispensing Areas	❑ Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ❑ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.		❑ The property owner shall dry sweep the fueling area routinely. ❑ See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

[6] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

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❑ **M.** Loading Docks	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer. ❑ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

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❑ **N.** Fire Sprinkler Test Water		❑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	❑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources ❑ Boiler drain lines ❑ Condensate drain lines ❑ Rooftop equipment ❑ Drainage sumps ❑ Roofing, gutters, and trim. ❑ Other sources		❑ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ❑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ❑ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ❑ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ❑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. Include controls for other sources as specified by local reviewer.	

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☒ **P.** Plazas, sidewalks, and parking lots.			☒ Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

WHEN RECORDED MAIL TO:

City Surveyor
City of Riverside
City Hall, 3900 Main Street
Riverside, CA 92522

Planning Case: **TBD**

For Recorder's Office Use Only

COVENANT AND AGREEMENT
ESTABLISHING NOTIFICATION PROCESS AND RESPONSIBILITY FOR
WATER QUALITY MANAGEMENT PLAN IMPLEMENTATION AND MAINTENANCE

THIS COVENANT AND AGREEMENT FOR WATER QUALITY MANAGEMENT PLAN IMPLEMENTATION AND MAINTENANCE is made and entered into this_____day of _____, 2023, by _____ ("Declarant"), with reference to the following facts:

A. Declarant is the fee owner of the real property (the "Property") situated in the City of Riverside, County of Riverside, State of California, and legally described in Exhibit "A", which is attached hereto and incorporated within by reference.

B. Declarant has applied to the City of Riverside ("City") for the construction of GP-2022-02467 located at 4618 Jones Avenue and 4663 Hedrick Avenue in Riverside

C. As a condition of approval and prior to the map recordation and/or issuance of any permits, the City is requiring Declarant to execute and record an agreement stating that the future property owners shall be informed of the requirements to implement and maintain the Best Management Practices ("BMPs") as described in the approved project specific Water Quality Management Plan.

D. Declarant intends by this document to comply with the conditions imposed by the City and to impose upon the Property mutually beneficial restrictions, conditions, covenants and agreements for the benefit of Property.

NOW, THEREFORE, for the purposes of complying with the conditions imposed by the City of Riverside for the approval of Planning Case **TBD**, Declarant hereby declares that the Property is and hereafter shall be held, conveyed, transferred, mortgaged, encumbered, leased, rented, used, occupied, sold and improved subject to the following declarations, limitations, covenants, conditions, restrictions and easements, all of which are imposed as equitable servitudes pursuant to a general plan for the development of the Property for the purpose of enhancing and protecting the value and attractiveness of the Property, and

each Parcel thereof, in accordance with the plan for the improvement of the Property, and to comply with certain conditions imposed by the City for the approval of **TBD** and shall be binding and inure to the benefit of each successor and assignee in interest of each such party. Any conveyance, transfer, sale, assignment, lease or sublease made by Declarant of a Parcel of the Property shall be and hereby is deemed to incorporate by reference all the provisions of the Covenant and Agreement including, but not limited to, all the covenants, conditions, restrictions, limitations, grants of easement, rights, rights-of-way, and equitable servitude contained herein.

1. This Covenant and Agreement hereby establishes a notification process for future individual property owners to ensure they are subject to and adhere to the Water Quality Management Plan implementation measures and that it shall be the responsibility of the Declarant, its heirs, successors and assigns to implement and maintain all Best Management Practices (BMPs) in good working order.

2. Declarant shall use its best efforts to diligently implement and maintain all BMPs in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Declarant, its heirs, successors, and assigns, in the removal and extraction of any material(s) from the BMPs and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested from time to time by the City, Declarant, its heirs, successors, and assigns shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Declarant, or its heirs, successors or assigns, fails to undertake the maintenance contemplated by this Covenant and Agreement within twenty-one (21) days of being given written notice by the City, or fails to complete any maintenance contemplated by this Covenant and Agreement with reasonable diligence, the City is hereby authorized to cause any maintenance necessary to be completed and charge the entire cost and expense to the Declarant or Declarant's successors or assigns, including administrative costs, reasonable attorney's fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full. As an additional remedy, the Public Works Director may withdraw any previous urban runoff-related approval with respect to the Property on which BMPs have been installed and/or implemented until such time as Declarant, its heirs, successors, or assigns, repays to City its reasonable costs incurred in accordance with this paragraph.

4. Any person who now or hereafter owns or acquires any right, title or interest in or to any parcel of the Property shall be deemed to have consented and agreed to every covenant, condition, restriction and easement contained herein.

5. In addition, each of the provisions hereof shall operate as covenants running with the land for the benefit of the Property and each Parcel thereof and shall inure to the benefit of all owners of the Parcels thereof, their successors and assigns in interest, and shall apply to and bind each successive owner of each Parcel, their successors and assigns in interest.

6. The terms of this Covenant and Agreement may be enforced by the City, its successors or assigns, and by any owner, lessee or tenant of the Parcels of the Property.

Should the City or any owner, lessee or tenant bring an action to enforce any of the terms of this Covenant and Agreement, the prevailing party shall be entitled to costs of suit including reasonable attorneys' fees.

7. Subject to the prior written approval of the City by its Public Works Director, any provision contained herein may be terminated, modified or amended as to all of the Property or any portion thereof. No such termination, modification or amendment shall be effective until there shall have been executed, acknowledged, and recorded in the Office of the Recorder of Riverside County, California, an appropriate instrument evidencing the same including the consent thereto by the City.

IN WITNESS WHEREOF, Declarant has caused this Covenant and Agreement to be executed as of the day and year first written above.

_____
Name:
Title:

APPROVED AS TO FORM:

_____
Name:
Deputy City Attorney

APPROVED AS TO CONTENT

_____
Name: Gilbert M. Hernandez
Public Works Department:

EXHIBIT A
(Legal Description)

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of_____)

On_____, before me,_____, a

notary public, personally appeared_____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ **(SEAL)**
Signature

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of_____)

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WITNESS my hand and official seal.

_____ **(SEAL)**
Signature

Operations and Maintenance Responsibility for Post Construction BMP

All BMP included as part of the project WQMP are required to be maintained through regular scheduled operation and maintenance (refer to Section 8, Post Construction BMP Requirements, in the TGD for WQMP). Fully complete Form 5-1 summarizing all BMP included in the WQMP. Attach additional forms as needed. The WQMP shall also include a detailed Operation and Maintenance Plan for all BMP and may require a Maintenance Agreement (consult the jurisdiction's LIP). If a Maintenance Agreement is required, it must also be attached to the WQMP.

Form 5-1 BMP Operation and Maintenance (use additional forms as necessary)			
BMP	Reponsible Party(s)	Operation/ Maintenance Activities Required	Minimum Frequency of Activities
Non-Structural Source Control BMPs			
N1: Education for Property Owners, Tenants and Occupants	Owner/Lessee	Have educational and BMP materials (attachments) available to distribute/review to tenants, employees, and contractors. Employees and contractors must be trained on and aware of this WQMP	Information to be given to owner/rep upon sale and annually thereafter.
N2: Activity Restrictions	Owner/Lessee	Restrictions are to be presented to employees, contractors, and tenants for activities that contribute to stormwater pollution. Employees and contractors shall be trained to monitor for evidence of performed restricted activities.	Continuous
N3: SC-41 Common Area Landscape Management	Owner/Lessee	Maintenance trimming; mowing; weeding; removal of litter; fertilizing; water conservation; replacement of dead, diseased, or dying plants; properly dispose of waste; minimize pesticide and fertilizer use and apply in accordance with governing regulations.	Bi-Weekly
N4: BMP Maintenance	Owner/Lessee	Identification of responsibility for implementation of each non-structural BMP and scheduled cleaning of all BMP structural facilities.	As required
N11: SC-41 Common Area Litter Control	Owner/Lessee	Closing lids of waste receptacles. Keep trash receptacle area clean. Empty containers before	Weekly sweeping and trash pick-up.

		they are full. Picking up litter and debris from site.	Daily inspection of trash receptacles.
N14: SC-44 Common Area Catch Basin Inspection	Owner/Lessee	Remove waste and debris. Repair any damages.	Once every three months, once within 5 days of October 1st, and after every rainstorm event.
N15:SC-43 Sweeping of street and parking structure	Owner/Lessee	Sweep parking lot and properly dispose of trash and material.	Every two weeks, and once within 5 days of October 1st.
Structural Source Control BMPs			
S1: SD-13 Provide storm drain system stenciling and signage	Owner/Lessee	All catch basins where applicable in paved areas, will be marked or stenciled with "Only Rain Down the Storm Drain". This will be done in a location that can be clearly seen by all and will be routinely inspected and relabeled, as necessary. Thereafter, the owner/ lessee shall routinely inspect and re-label the catch basins, as necessary	Catch basin labels will be inspected once annually and relabeled as necessary to maintain legibility.
S3: SD-32 Trash Storage Areas	Owner/Lessee	Closing lids of waste receptacles. Keep trash receptacle area clean. Empty containers before they are full. Picking up litter and debris from site.	Weekly sweeping and trash pick-up. Daily inspection of trash receptacles.
S4: SD-12 Efficient Irrigation Systems	Owner/Lessee	Minimize timing and application methods for watering project landscaping in common areas to limit amount of non-storm water discharge. Inspect irrigation system with landscaping maintenance to ensure timers, shut off valves and other automatic irrigation devices are functioning adequately. Inspect system for broken parts and replace as needed to prevent leaks. BMP shall be implemented by the owner/ lessee, through the landscape maintenance contractor.	Monthly with landscaping maintenance activities.
S5 Finish grade of landscaped areas at a minimum of 1-2"	Owner/Lessee	Maintain vegetation height to ensure area has ponding capacity. Inspect area for standing	Monthly with landscaping maintenance

below top of curb, sidewalk or pavement		water, saturated soil or other nuisance conditions. Repair as needed.	activities and after irrigation or storm events
Treatment BMPs			
ADS-Flexstorm FTC Insert	Owner/Lessee	Empty filter bag, remove compacted silt, wring PCP style bags to recover retained oils, dispose of oil contaminated products and recovered oils in accordance with EPA guidelines, inspect bags & replace if needed.	Following rain events greater than ½", filter inspections minimum 3 times per year, industrial inspections 4 times per year.
Biotreatment BMP Filterra	Owner/Lessee	See attached maintenance manuals in Appendix 10: Educational Materials.	As required

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

FlexStorm Pure™
Inlet Filters

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

Applications

- Car washes
- Commercial
- Loading ramps
- Industrial
- Gas stations
- Parking lots
- Dock drains
- Maintenance

Features

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Works below grade with bypass to drain area if bag is full
- Installed and maintained by one worker, without additional equipment

Benefits

- Stainless steel frame provides extended service life
- Easily replaceable filter bags
- Meets stringent removal requirements:
  - All bags rated >80% removal efficiency of street sweep-size particles
  - Optional FXP/PCP bags can be used for hydrocarbon removal when required

FlexStorm Pure Inlet Filters Specification

Material and Performance

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard woven polypropylene "FX" filters bags are rated for 200 gpm/sqft with a removal efficiency of 82% when filtering a USDA Sandy Loam sediment load. The post-construction PCP filter bags are rated for 137 gpm/sqft and have been third-party tested at 99% TSS removal.

Installation

1. Remove the grate from the inlet.
2. Clean debris from the ledges of the inlet.
3. Place the inlet filter onto the load bearing ledges of the structure.
4. Replace the grate and confirm it is not elevated more than ⅛" (3 mm).

Frequency of Inspections

1. Inspection should occur following rain events greater than ½" (13 mm).
2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

Maintenance Guidelines

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
2. Remove compacted silt from sediment bag and flush with medium spray.
3. "PCP" style bags should be pressed or wrung to recover retained oils.
4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
6. Inspect and replace bag if torn or punctured.

Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.
2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
3. Ensure bag is secure and there is no slack around perimeter.

ADS "Terms and Conditions of Sale" are available on the ADS website, www.adspipe.com.
ADS™, FlexStorm Pure™ and the Green Stripe are registered trademarks of Advanced Drainage Systems, Inc.
© 2022 Advanced Drainage Systems, Inc. #10892 05/22 MH

adspipe.com
800-821-6710

Filterra® Maintenance Steps

1. Inspection of Filterra and surrounding area

2. Removal of tree grate and erosion control stones

3. Removal of debris, trash and mulch

4. Mulch replacement

5. Clean area around Filterra

6. Complete paperwork and record plant height and width

Contech has created a network of Certified Maintenance Providers (CCMP's) to provide maintenance on Filterra systems. To find a CCMP in your area please visit www.conteches.com/maintenance

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FILTERRA® VAULT ACTIVATION PACKAGE

CONTECH® ENGINEERED SOLUTIONS

The Filterra system will be (or has been) delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and a Final Site Assessment (assessment of unit condition, mulch replacement, debris removal, and pruning of vegetation) scheduled between 6 months and 1 year after Activation, upon request.

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation (provided by the purchaser)
- Placement of pretreatment mulch layer using mulch acceptable for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch acceptable for use in Filterra systems. The purchaser should request Activation from Contech after the site is stabilized, but prior to turning over the site to the owner. Please allow 1-2 weeks to schedule Activation.

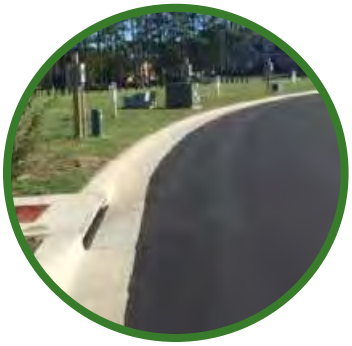
The purchaser must ensure that the site is acceptable for Filterra Activation. A checklist (included as page 3 of this document must be completed and submitted to the Contech Activation Coordinator. The minimum 4 requirements for Filterra Activation are as follows:

1. The purchaser must have sourced vegetation meeting the requirements outlined in "Plant Selection for Filterra Systems" starting on page 4 of this document.

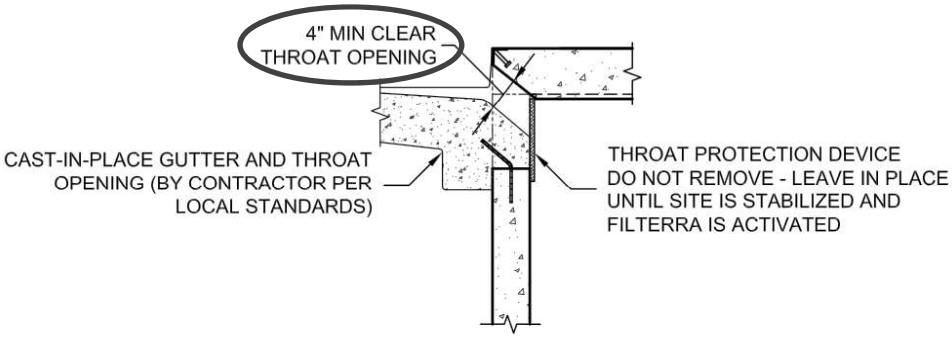
* *UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

2. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.

3. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.



4. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" clear in order to ensure adequate capacity for inflow and debris.



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Filterra® Vault Activation Checklist

CONTECH® ENGINEERED SOLUTIONS

Project Name:_____ Company: _____

Site Contact Name: _____ Site Contact Phone/Email: _____

Site Owner/End User Name:_____ Site Owner/End User Phone/Email: _____

Preferred Activation Date: _____ (provide 2 weeks minimum from date this form is submitted)

Site Designation	Top Opening Type	Final Pavement Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height (where applicable)	Vegetation Sourced by Contractor
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4′ Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4′ Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4′ Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4′ Tall Min. (Tree grate units only) ____ Qty provided

Attach additional sheets as necessary.

NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.

_____ _____

Signature Date

* *UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

Planting Selection for Filterra® Vault Systems

All Filterra systems require vegetation for proper long-term performance. As indicated in the Activation Package, the Contractor is responsible for sourcing the proper vegetation prior to Activation. Contech or a Contech representative will install the vegetation during the Activation process.

Contractors should identify the Top Opening style for each Filterra requiring Activation on the Activation Checklist. Contech offers three types, which are detailed on page 5 of this document:

- Vault with Tree Grate
- Vault with Full Grate
- Bioscape / Open Planter

Contractors must ensure the vegetation meets the following 4 requirements:

1. Select plant(s) as specified in the engineering plans and specifications AND that are listed on Contech's Configuration Specific Plant Lists**.
2. All plants MUST be container-grown in nursery containers no larger than 15 gallons. Crated and/or Ball/Burlap plants are NOT permitted.
3. For Vaults with Tree Grates, plant height must be 4' Minimum, from soil surface to top of plant.
4. Provide plant quantities per the following guidance:
   - Vault with Tree Grate – 1 per Tree Grate
   - Vault with Full Grate – 4-5 Small or Extra Small Grasses per Full Grate
   - Bioscape – Quantities should be selected based on plant palette options found starting on page 6 of this document.

If Contech or Contech's representative shows up for Activation and any of the 4 requirements above are not met, Activation cannot be performed and the Contractor will be billed a $1,500 Unprepared Site fee*.

Some additional vegetation recommendations for the best possible Activation and Installation are as follows:

- Select plant(s) with full root development but not to the point where root bound.
- For Filterra systems with a Tree Grate, select plants with taller trunks. Lower branches can be pruned away provided there are sufficient branches above the grate for tree or shrub development.
- For Filterra systems with a Tree Grate, plant(s) should have a single trunk at installation.
- Plant species shall not have a mature height greater than 30 feet.

** In some cases, Contech may consider alternate plant species as approved by the Product Manager. Please list the plant name in the space below and submit this sheet to your Contech Activation Coordinator. If the plant species is approved, either the Product Manager or the Activation Coordinator will sign the form and return to you for inclusion with your Activation Checklist.

Requested Plant Species: _____ Approved: _____

Date: _____

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Filterra® Top Opening Examples

Filterra® Vault with Tree Grate

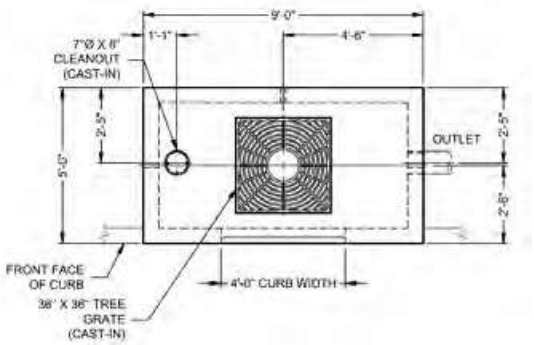

Figure 1a. Filterra with Tree Grate Drawing

Figure 1b. Filterra with Tree Grate Photo (not yet planted)

Filterra® Vault with Full Grate

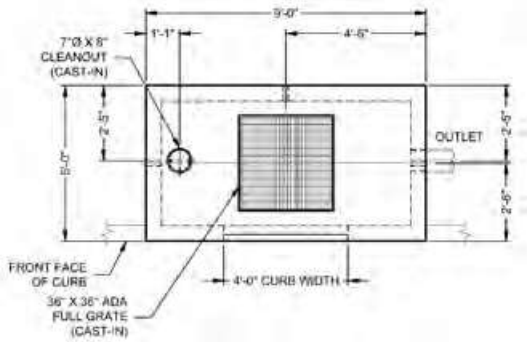

Figure 2a. Filterra with Full Grate Drawing

Figure 2b. Filterra with Full Grate Photo

Filterra® Bioscape Vault

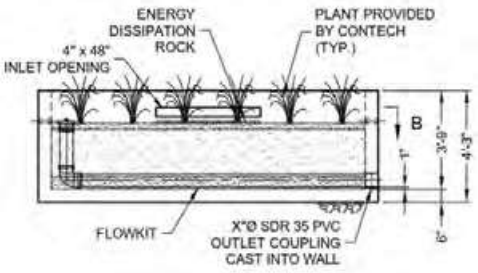

Figure 3a. Filterra Bioscape Vault Drawing

Figure 3b. Filterra Bioscape Vault Photo

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Filterra® Bioscape Vault Plant Palettes

KEY: (refer to plant lists for species sizing)

A. EXTRA SMALL GRASS
- Up to 2′ mature spread
- 1-2 gallon typical (1 gal. minimum)

B. SMALL GRASS/SHRUB
- 2′-4′ mature spread
- 1-7 gallon typical

C. MEDIUM SHRUB
- 4′-6′ mature spread
- 1-7 gallon typical

D. LARGE SHRUB OR EXTRA LARGE SHRUB OR TREE
- 6′ mature spread and greater, 30′ max. mature height
- Up to 15 gallon maximum

NOTE: *For larger vaults and in-ground Filterra Bioscape systems, palettes can be scaled (i.e. Qty 6 of the 22x8 Palette can be used for a 1056 sf Filterra Bioscape).*

MIX & MATCH SUBSTITUTION OPTIONS:

1 Large Shrub or Extra Large Shrub or Tree
- 2 Medium Shrubs
- 4 Small Grass/SHrubs
- 12 Extra Small Grasses

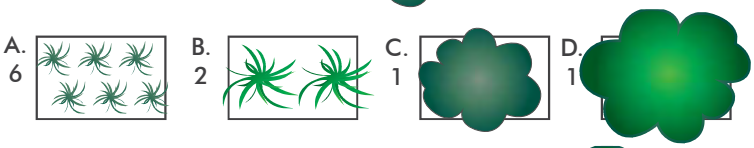
1 Medium Shrub
- 2 Small Grass/Shrubs
- 6 Extra Small Grasses

1 Small Grass/Shrub
- 3 Extra Small Grasses

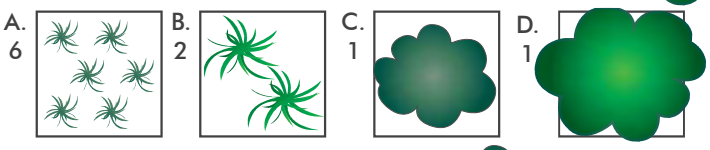
4x4 Media Bay

4x6/6x4 Media Bay

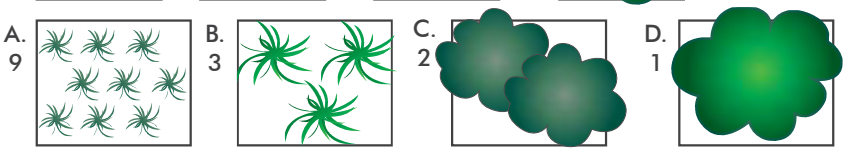
4x8/8x4 & 4.5x7.83/7.83x4.5 Media Bay



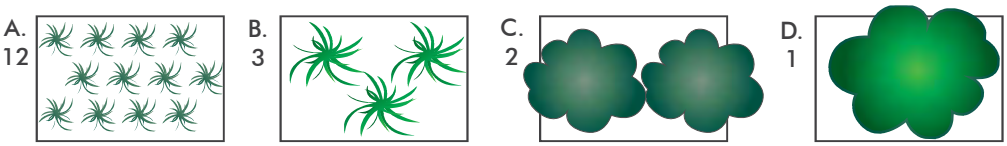
6x6 Media Bay



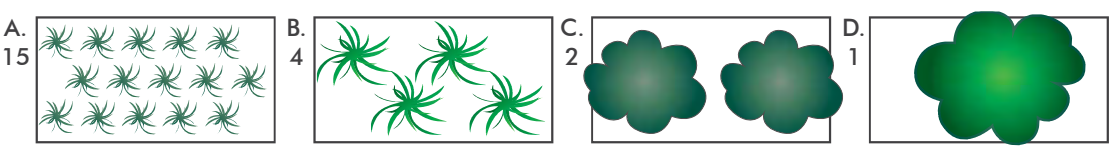
6x8/8x6 Media Bay



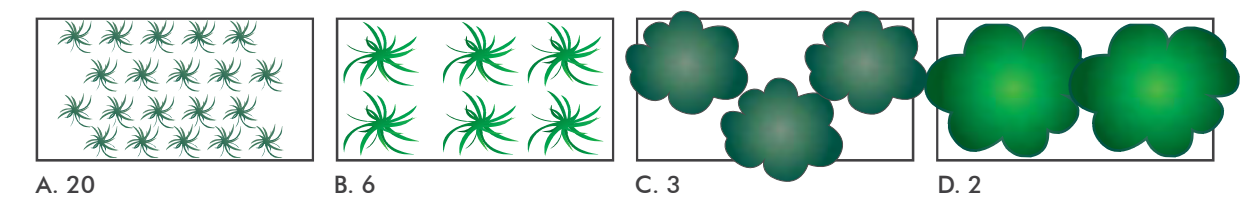
6x10/10x6 & 8x8 Media Bay



6x12/12x6 Media Bay



7x13/13x7/12x8 & 14x8 Media Bay



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