

Conservation Commission

May 30, 2023

Mr. and Mrs. Malcolm Kemeny 20 Kettle Creek Road Weston, CT 06883

Subject: Notice of Violation – 20 Kettle Creek, Weston, CT 06883

Dear Mr. and Mrs. Kemeny:

It has come to our attention that grade changes were performed and a catch basin was installed on your property on or about May 20, 2023 without required permits. During our inspection today, we verified that more than 2,500 square feet and 25 cubic yards of material or more were used to fill a depression on the easterly side of your property. This location is within the upland review area of a stream and wetland flowing into Kettle Creek and the Saugatuck River. The catch basin appears to be collecting water from your property and transmitting it through a pipe under Little Brook Lane directly into the stream.

This notice of violation comes about because you are in violation of the Weston Zoning Code 348.1 Soil Disturbance Permit, Clean Fill Certification Code 348.2.3 and state of Connecticut Inland Wetlands and Watercourses Act for carrying out land disturbance without required a permits for the activities referenced above.

You are hereby ordered to make application for the required zoning permits and wetlands permits. Failure to do so may result further action by the Town of Weston.

You may contact Dr. Failla at (203) 222-2681 or 203-331-6035 or by email at conservationplanner@westonct.gov.

Sincerely,

Dr. Tom Failla, Conservation Planner

Cy James Pjura, Zoning Code Enforcement Officer Land Use Office Director c/o Ira Bloom, Town Attorney



Incorporated 1787

Conservation Commission

INLAND WETLANDS AND WATERCOURSES APPLICATION

This Application is for a five-year permit to conduct a regulated activity or activities pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Weston ("The Regulations")

| PROPERTY ADDRESS: 20 Kettle Creek Road, Weston, CT | PROPERTY ADDRESS: 20 Kettle Creek Road, Weston, CT 06883 | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| Assessor's Map # <u>30</u> Block # <u>3</u> | Lot # <u>12</u> | | | | | | | |
| PROJECT DESCRIPTION (general purpose) 20 Kettle Creek Road Side Parcel Site Improvement | | | | | | | | |
| | | | | | | | | |
| Total Acres 1.65 (Property Total) Total Acres of Wetlands | and Watercourses <u>0</u> | | | | | | | |
| Acreage of Wetlands and Watercourses Altered <u>0</u> | Upland Area Altered ~ 0.04 acres | | | | | | | |
| Acres Linear Feet of Stream Alteration <u>0</u> | Total Acres Proposed Open Space <u>0</u> | | | | | | | |
| OWNER(S) OF RECORD: (Please list all owners, attach | extra sheet if necessary) | | | | | | | |
| Name: Malcolm and Schuyler Kemeny | Phone: <u>(845) 661-4364</u> | | | | | | | |
| Address: 20 Kettle Creek Road, Weston, CT 06883 | | | | | | | | |
| Email: mckemeny@gmail.com | | | | | | | | |
| APPLICANT/AUTHORIZED AGENT: | | | | | | | | |
| Name: Please see above. | Phone: | | | | | | | |
| Address: | | | | | | | | |
| Email: | | | | | | | | |
| CONSULTANTS: (Please provide, if applicable) | | | | | | | | |
| Engineer: Stuart Somers Company LLC | Phone: <u>(203) 264-8511</u> | | | | | | | |
| Address: 1211 Main Street South, Southbury, CT 06488 | Email: info@stuartsomersco.com | | | | | | | |
| Soil Scientist: N/A | Phone: | | | | | | | |

| Address: Email: | | | | |
|--|--|--|--|--|
| Legal Counsel: N/A | Phone: | | | |
| Address: | Email: | | | |
| Surveyor: Stuart Somers Company LLC | Phone: <u>(203)</u> 264-8511 | | | |
| Address: 1211 Main Street South, Southbury, CT 06486 | 8 Email: info@stuartsomersco.com | | | |
| PROPERTY INFORMATION | | | | |
| Property Address: 20 Kettle Creek Road, Weston, C | CT 06883 | | | |
| Existing Conditions (Describe existing property of Creek Rd. driveway and private road Little Brook Ln. en leaves, rocks, stumps, and poison ivy. | and structures): Wooded land parcel between 20 Kettle ntrance, comprising small trees (all well < 12" DBH), brush, | | | |
| | proposed activity (attach sheet with additional | | | |
| | establish grass and plantings, and improve drainage on parcel, a portion of which falls within Upland Review Area. | | | |
| Is this property within a subdivision (circle): Ye Square feet of proposed impervious surfaces (r | s or (No) roads, b oildings, parking, etc.): | | | |
| Subject property to be affected by proposed of wetlands soils swamp floodplain marsh | activity contains: bog lake or pond stream or river other | | | |
| The proposed activity will involve the following area: | within wetlands, watercourse, and/or review | | | |
| □ Alteration □ Discharge to □ Removal of ⋈ Deponent Materials | truction | | | |
| Amount, type, and location of materials to be Common and screened fill (~ 130 yd3), topsoil (~ 50 yd fence along staked property line; plantings per attached | d3), and grass seed; yard drain; 4-ft. cedar post and rail | | | |
| Description, work sequence, and duration of o Site clean-up, regrading, and seeding (approx. 1 week days, complete); planting of trees and shrubs (2 days, | of labor, complete); installation of post and rail fence (2 | | | |
| Describe alternatives considered and why the Clearing and regrading requisite for seeding, planting, a designer's expertise, in careful consideration of site consideration. | and appropriate drainage. Landscape plan made with | | | |
| | tion and/or repair of an existing septic system(s) | | | |
| The Westport/Weston Health District Approval: | | | | |

ADJOINING MUNICIPALITIES AND NOTICE:

If any of the situations below apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency of the adjoining municipality, on the same day that he/she submits this application. Notification must be sent by Certified Mail with Return Receipt Requested.

The property is located within 500 feet of any town boundary line;

A significant portion of the traffic to the completed project will use streets within the adjoining municipality to enter or exit the site;

A portion of the water drainage from the project site will flow through and significantly impact the sewage system or drainage systems within the adjoining municipality; or Water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality

AQUARION WATER COMPANY

Pursuant to Section 8.4 of the Weston regulations, the Aquarion Water Company must be notified of any regulated activity proposed within its watersheds. Maps showing approximate watershed boundaries are available at the office of the Commission. If the project site lies within these boundaries, send notice, site plan, and grading and erosion control plan via certified mail, return receipt requested, within seven (7) days of submitting application to the Commission, to:

George S. Logan, Director – Environmental Management Aquarion Water Company 714 Black Rock Turnpike Easton, CT 06612

The Commissioner of the Connecticut Department of Public Health must also be notified in the same manner in a format prescribed by that commissioner.

The undersigned, as owner(s) of the property, hereby consents to necessary and proper inspections of the above mentioned property by Commissioners and agents of the Conservation Commission, Town of Weston, at reasonable times, both before and after a final decision has been issued by the Commission.

The undersigned hereby acknowledges to have read the "Application Requirements and Procedures" in completing this application.

The undersigned hereby certifies that the information provided in this application, including its supporting documentation is true and he/she is aware of the penalties provided in Section 22a-376 of the Connecticut General Statues for knowingly providing false or misleading information.

| MA VI | Teners | October 12, 2023 |
|--------------------------------|------------------|------------------|
| Signature of Owner(s) of Recor | d / | Date |
| Signature of Authorized Agent | | Date |
| | FOR OFFICE USE C | DNLY |
| Administrative Approval | Initials | Date |

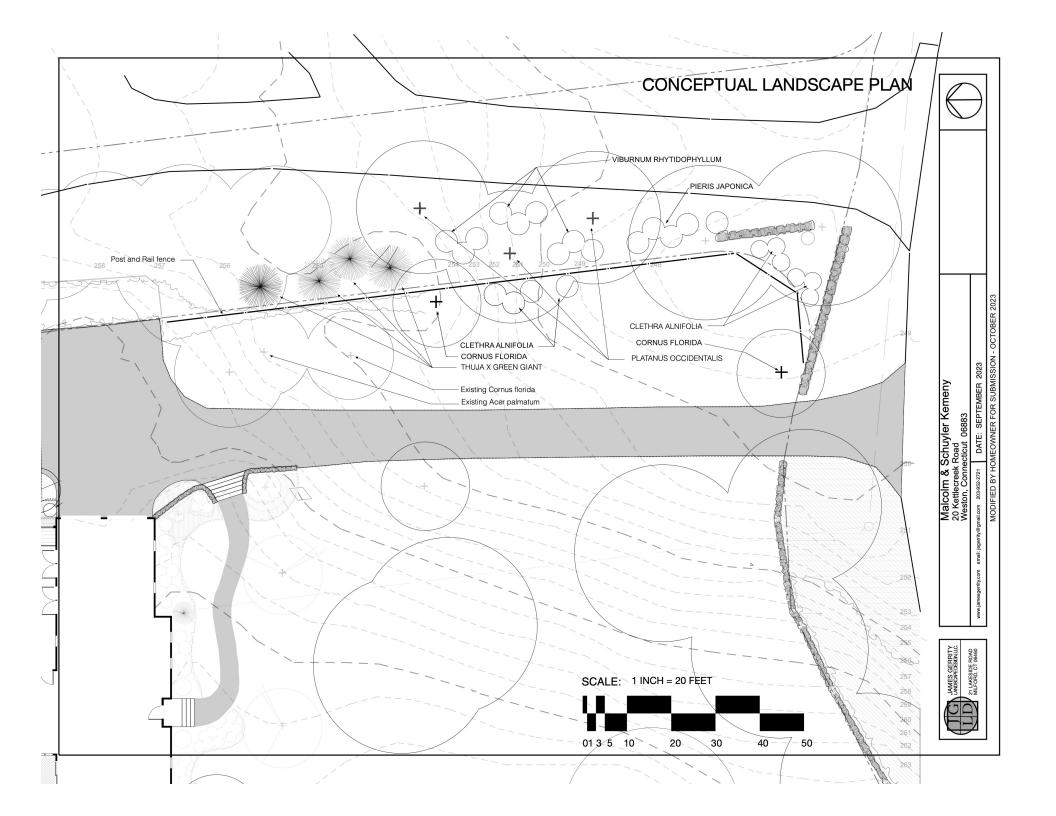
TOWN OF WESTON, CT INLAND WETLANDS AND WATERCOURSES APPLICATION 20 KETTLE CREEK ROAD

James Gerrity, Landscape Designer

James Gerrity is a graduate of the Landscape Architecture and Regional Planning program at the University of Massachusetts Amherst. He has over thirty years of landscape design and construction experience and a wealth of knowledge of plant materials appropriate and available for every situation. Most recently, he spent twenty years as the Landscape Designer at Oliver Nurseries in Fairfield, CT, before opening his independent design firm, James Gerrity Landscape Design, in 2014. With JGLD, James designs and implements all aspects of diverse landscape projects, working with private homes and organizations across Fairfield County.

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James Gerrity Landscape Design LLC 21 Lakeside Road, Milford, CT 06460 jegerrity@gmail.com (203) 952-2721 www.jamesgerrity.com



September 20, 2023

Attn: Dr. Tom Failla, Conservation Planner Town Hall Annex 24 School Road Weston, CT 06883

Re: Inland Wetlands and Watercourses Application

To Whom It May Concern:

As co-owners of Little Brook Lane in Weston, Connecticut, we authorize Malcolm and Schuyler Kemeny to request a conservation permit for the Little Brook property bordering 20 Kettle Creek Road.

Sincerely,

John Sesko

1 Little Brook Lane

Stuart Goldfarb

12 Little Brook Lane

Co-signed—

Malcolm Kemeny 20 Kettle Creek Road Christine Sesko
1 Little Brook Lane

Lisa Goldfarb

12 Little Brook Lane

Schuyler Kemeny

20 Kettle Creek Road



1211 Main Street South • Southbury, CT 06488 203-264-8511 • 203-264-8508 fax

October 9, 2023

Weston Conservation Commission Town of Weston Weston, CT 06883

Re: For completed work performed in the front yard for an existing house and drainage improvements. #20 Kettle Creek Road, Weston Connecticut.

Dear Commissioners:

This letter is for the grading and drainage recently performed in the front yard of the parcel within the 100' setback wetlands for an existing house. I visited the site on September 1st and performed a field inspection of the drainage and grading. The area of construction by then was established with a grass lawn and the front roof drains went to a new yard drain that were attached to an existing 12" culvert that outlets into a brook. A low point in the front yard was filled in which partially detained the front side of the house. The back roof area and the garage area flows to rear of the property as shown on the site plan. I performed a detention study and report and it is determined that to detain the front portion of the house roof only 14' of 20" high underground Plastic Units are required for up to a 25 year storm. To perform this work additional disturbance in the front yard would be required. The current system appears to be working properly so in my professional opinion the additional disturbance for the small roof area would have a minimum benefit to the wetlands and the downstream brook.

In summary the drainage and grading have been installed and in my professional opinion because of the small roof area no further work is required because of the minimum benefits and the existing drainage is sufficient as installed.

If you any questions on the above please contact our office.

Sincerely,

John J. Mack, PE

Stuart Somers Co. LLC

Cc: Malcom Kemeny, Owner



exist. ground area of house front



Ex area of Exist. house front roof

Cultec 180's











Drainage Diagram for 2241-20 Kettle Creek Rd. Weston
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Prepared by Stuart Somers Co. LLC HydroCAD® 9.00 s/n 03276 © 2009 HydroCAD Software Solutions LLC

Printed 10/4/2023 Page 2

Area Listing (all nodes)

| Area | CN | Description |
|---------|----|--------------------------------------|
| (sq-ft) | | (subcatchment-numbers) |
| 630 | 73 | Woods, Fair, HSG C (1) |
| 630 | 98 | imperv. house or driveway pave. (1A) |
| 1,260 | | TOTAL AREA |

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Soil Listing (all nodes)

| Area (sq-ft) | Soil Goup | Subcatchment Numbers |
|-----------------|--------------|-------------------------|
| 0 | HSG A | |
| 0 | HSG B | |
| 630 | HSG C | 1 |
| 0 | HSG D | |
| 630 | Other | 1A |
| 1,260 | | TOTAL AREA |

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Pipe Listing (all nodes)

| Line# | Node | In-Invert | Out-Invert | Length | Slope | n | Diam/Width | Height |
|-------|--------|-----------|------------|--------|---------|-------|------------|----------|
| | Number | (feet) | (feet) | (feet) | (ft/ft) | | (inches) | (inches) |
| 1 | 1B | 551.25 | 550.50 | 10.0 | 0.0750 | 0.010 | 4.0 | 0.0 |

Type III 24-hr 25-Year Rainfall=5.70" Printed 10/4/2023

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Time span=0.00-30.00 hrs, dt=0.04 hrs, 751 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: exist. ground area of house Runoff Area=630 sf 0.00% Impervious Runoff Depth=2.84"

Tc=5.0 min CN=73 Runoff=0.05 cfs 149 cf

Subcatchment 1A: Ex area of Exist. house Runoff Area=630 sf 100.00% Impervious Runoff Depth=5.46" Tc=5.0 min CN=98 Runoff=0.08 cfs 287 cf

Pond 1B: Cultec 180's

Peak Elev=551.40' Storage=51 cf Inflow=0.08 cfs 287 cf

Discarded=0.01 cfs 262 cf Primary=0.04 cfs 25 cf Outflow=0.05 cfs 287 cf

Total Runoff Area = 1,260 sf Runoff Volume = 436 cf Average Runoff Depth = 4.15" 50.00% Pervious = 630 sf 50.00% Impervious = 630 sf

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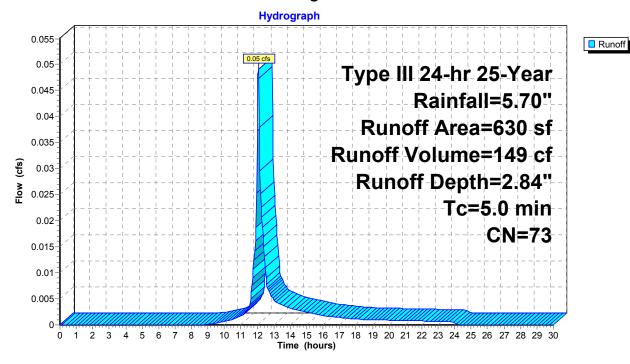
Summary for Subcatchment 1: exist. ground area of house front

Runoff = 0.05 cfs @ 12.06 hrs, Volume= 149 cf, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.04 hrs Type III 24-hr 25-Year Rainfall=5.70"

| Α | rea (sf) | CN | Description | | |
|-------------|------------------|------------------|-------------|-------------------|---------------|
| | 630 | 73 | Woods, Fai | r, HSG C | |
| | 630 | | 100.00% Pe | ervious Are | ea |
| Tc (min) | Length (feet) | Slope (ft/ft) | , | Capacity (cfs) | Description |
| 5.0 | | | | | Direct Entry, |

Subcatchment 1: exist. ground area of house front



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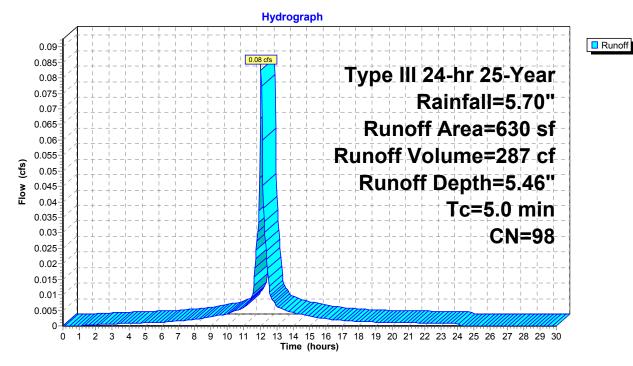
Summary for Subcatchment 1A: Ex area of Exist. house front roof

Runoff = 0.08 cfs @ 12.05 hrs, Volume= 287 cf, Depth= 5.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.04 hrs Type III 24-hr 25-Year Rainfall=5.70"

| | Α | rea (sf) | CN I | Description | | |
|---|-------|----------|-------------------------|-------------|-------------|---------------|
| * | | 630 | 98 i | mperv. hou | se or drive | eway pave. |
| _ | | 630 | 100.00% Impervious Area | | | |
| | Tc | | Slope | • | Capacity | Description |
| | (min) | (feet) | (ft/ft) | (ft/sec) | (cfs) | |
| | 5.0 | | | | | Direct Entry, |

Subcatchment 1A: Ex area of Exist. house front roof



Type III 24-hr 25-Year Rainfall=5.70"

Prepared by Stuart Somers Co. LLC

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Summary for Pond 1B: Cultec 180's

Inflow Area = 630 sf,100.00% Impervious, Inflow Depth = 5.46" for 25-Year event
Inflow = 0.08 cfs @ 12.05 hrs, Volume= 287 cf
Outflow = 0.05 cfs @ 12.17 hrs, Volume= 287 cf, Atten= 37%, Lag= 7.1 min
Discarded = 0.01 cfs @ 11.64 hrs, Volume= 262 cf
Primary = 0.04 cfs @ 12.17 hrs, Volume= 25 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.04 hrs Peak Elev= 551.40' @ 12.17 hrs Surf.Area= 58 sf Storage= 51 cf

Plug-Flow detention time= 15.9 min calculated for 286 cf (100% of inflow) Center-of-Mass det. time= 15.9 min (759.6 - 743.8)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|---------|---------------|---|
| #1A | 550.00' | 27 cf | 5.00'W x 11.66'L x 1.71'H Field A |
| | | | 100 cf Overall - 33 cf Embedded = 66 cf x 40.0% Voids |
| #2A | 550.00' | 33 cf | Cultec HVLV 180 x 2 Inside #1 |
| | | | Effective Size= 33.6"W x 20.0"H => 3.44 sf x 4.83'L = 16.6 cf |
| | | | Overall Size= 36.0"W x 20.5"H x 5.83'L with 1.00' Overlap |
| | | 60 cf | Total Available Storage |

Storage Group A created with Chamber Wizard

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|---------|---|
| #1 | Primary | 551.25' | 4.0" Round Culvert |
| | , | | L= 10.0' CPP, projecting, no headwall, Ke= 0.900 |
| | | | Outlet Invert= 550.50' S= 0.0750 '/' Cc= 0.900 n= 0.010 |
| #2 | Discarded | 550.00' | 10.000 in/hr Exfiltration over Surface area |

Discarded OutFlow Max=0.01 cfs @ 11.64 hrs HW=550.02' (Free Discharge) **2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.04 cfs @ 12.17 hrs HW=551.39' (Free Discharge)
—1=Culvert (Inlet Controls 0.04 cfs @ 1.01 fps)

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Pond 1B: Cultec 180's - Chamber Wizard Field A

Chamber Model = Cultec HVLV 180

Effective Size= 33.6"W x 20.0"H => 3.44 sf x 4.83'L = 16.6 cf Overall Size= 36.0"W x 20.5"H x 5.83'L with 1.00' Overlap

36.0" Wide + 0.0" Spacing = 36.0" C-C

2 Chambers/Row x 4.83' Long = 9.66' + 12.0" End Stone x 2 = 11.66' Base Length 1 Rows x 36.0" Wide + 12.0" Side Stone x 2 = 5.00' Base Width 20.5" Chamber Height = 1.71' Field Height

2 Chambers x 16.6 cf = 33.2 cf Chamber Storage

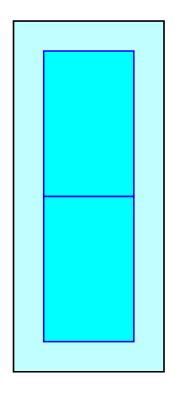
99.6 cf Field - 33.2 cf Chambers = 66.4 cf Stone x 40.0% Voids = 26.5 cf Stone Storage

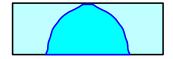
Stone + Chamber Storage = 59.8 cf = 0.001 af

2 Chambers

3.7 cy Field

2.5 cy Stone

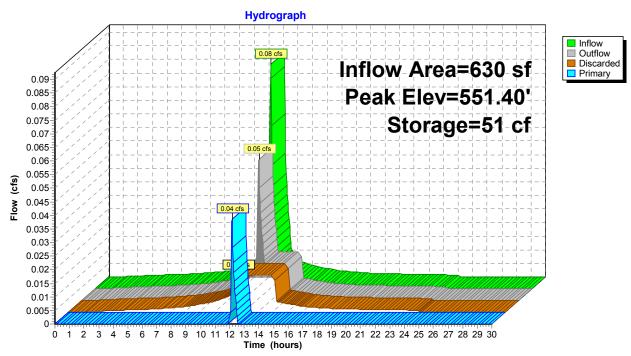




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Pond 1B: Cultec 180's





CULTEC Recharger® 180HD Stormwater Chamber

The Recharger® 180HD is a 20.5" (521 mm) tall, mid-size chamber and is typically used for installations with depth restrictions or when a larger infiltrative area is required. The Recharger® 180HD has the side portal internal manifold feature. HVLV® FC-24 Feed Connectors are inserted into the side portals to create the internal manifold.

| Size (L x W x H) 7.33' x 36" x 20.5" 2.23 m x 914 mm x 521 mm Installed Length 6.33' 1.93 m Length Adjustment per Run 1' 0.30 m Chamber Storage 3.45 ft³/ft 0.32 m³/m 21.81 ft³/unit 0.62 m³/unit Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. 10" HDPE, 12" PVC in Side Portal 250 mm HDPE, 300 mm PVC Compatible Feed Connector HVLV FC-24 Feed Connector | | |
|--|-------------------------------|-----------------------------|
| Installed Length 6.33' 1.93 m Length Adjustment per Run 1' 0.30 m Chamber Storage 3.45 ft³/ft 0.32 m³/m 21.81 ft²/unit 0.62 m³/unit Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft²/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC Max. Allowable O.D. in Side Portal 200 mm HDPE, 300 mm PVC | Size (L x W x H) | 7.33' x 36" x 20.5" |
| 1.93 m 1 | | 2.23 m x 914 mm x 521 mm |
| Length Adjustment per Run 1' 0.30 m Chamber Storage 3.45 ft³/ft 0.32 m³/m 21.81 ft³/unit 0.62 m³/unit Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | Installed Length | 6.33' |
| Chamber Storage Chamber Storage 3.45 ft³/ft 0.32 m³/m 21.81 ft³/unit 0.62 m³/unit Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal | | 1.93 m |
| Chamber Storage 3.45 ft³/ft 0.32 m³/m 21.81 ft³/unit 0.62 m³/unit Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal | Length Adjustment per Run | 1' |
| 0.32 m³/m 21.81 ft³/unit 0.62 m³/unit | | 0.30 m |
| 21.81 ft³/unit 0.62 m³/unit | Chamber Storage | 3.45 ft³/ft |
| Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit | | 0.32 m³/m |
| Min. Installed Storage 5.59 ft³/ft 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | | 21.81 ft ³ /unit |
| 0.52 m³/m 35.37 ft³/unit 1.00 m³/unit Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | | 0.62 m³/unit |
| 35.37 ft³/unit 1.00 m³/unit | Min. Installed Storage | 5.59 ft³/ft |
| 1.00 m³/unit | | 0.52 m³/m |
| Min. Area Required 20.57 ft² 1.91 m² Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | | 35.37 ft ³ /unit |
| 1.91 m² | | 1.00 m³/unit |
| Chamber Weight 45.0 lbs 20.41 kg Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 45.0 lbs 20.41 kg 40 chambers/skid 1,905 lbs/skid 10 skids/48' flatbed 15 skids/48' flatbed 15 skids/48' flatbed 15 skids/48' flatbed 16 skids/48' flatbed 10 system 12' 3.66 m 10" HDPE, PVC 250 mm HDPE, 300 mm PVC | Min. Area Required | 20.57 ft ² |
| 20.41 kg 20.41 kg 20.41 kg 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed 15 multiple 12 multiple 12 multiple 12 multiple 12 multiple 12 multiple 12 multiple 15 multiple 15 multiple 15 multiple 15 multiple 12 multiple 10 multiple 12 multi | | 1.91 m² |
| Shipping 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 40 chambers/skid 1,905 lbs/skid 16 skids/48' flatbed 1.5" HDPE 12" PVC 250 mm HDPE, 300 mm PVC | Chamber Weight | 45.0 lbs |
| 1,905 lbs/skid 16 skids/48' flatbed Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | | 20.41 kg |
| Min. Center to Center Spacing Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 16 skids/48' flatbed 1.2' 2.20 mm HDPE, PVC | Shipping | 40 chambers/skid |
| Min. Center to Center Spacing 3.25' 0.99 m Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 250 mm HDPE, 300 mm PVC | | 1,905 lbs/skid |
| Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 0.99 m 10" HDPE, PVC 250 mm HDPE, 300 mm PVC | | 16 skids/48' flatbed |
| Max. Allowable Cover 12' 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. 10" HDPE, 12" PVC in Side Portal 250 mm HDPE, 300 mm PVC | Min. Center to Center Spacing | 3.25' |
| 3.66 m Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. 10" HDPE, 12" PVC 10 Side Portal 250 mm HDPE, 300 mm PVC | | 0.99 m |
| Max. Inlet Opening in Endwall 15" HDPE, PVC 375 mm HDPE, PVC Max. Allowable O.D. in Side Portal 10" HDPE, 12" PVC 250 mm HDPE, 300 mm PVC | Max. Allowable Cover | 12' |
| Max. Allowable O.D. 10" HDPE, 12" PVC in Side Portal 250 mm HDPE, 300 mm PVC | | 3.66 m |
| Max. Allowable O.D. 10" HDPE, 12" PVC in Side Portal 250 mm HDPE, 300 mm PVC | Max. Inlet Opening in Endwall | 15" HDPE, PVC |
| in Side Portal 250 mm HDPE, 300 mm PVC | | 375 mm HDPE, PVC |
| 250 mm HDPE, 300 mm PVC | | 10" HDPE, 12" PVC |
| Compatible Feed Connector HVLV FC-24 Feed Connector | in Side Portal | 250 mm HDPE, 300 mm PVC |
| | Compatible Feed Connector | HVLV FC-24 Feed Connector |

Calculations are based on installed chamber length.

All above values are nominal.

Min. installed storage includes 6" (152 mm) stone base, 6" (152 mm) stone above crown of chamber and typical stone surround at 39"(991 mm) center-to-center spacing.

| • • | | | | |
|-------------------------------|-----------------------|-----------------------|-----------------------|--|
| | Stone | Foundation | Depth | |
| | 6" | 12" | 18" | |
| | 152 mm | 305 mm | 457 mm | |
| Chamber and Stone Storage Per | 35.37 ft ³ | 39.49 ft ³ | 43.60 ft ³ | |
| Chamber | 1.00 m³ | 1.12 m³ | 1.23 m³ | |
| Min. Effective Depth | 2.71' | 3.21' | 3.71' | |
| | 0.83 m | 0.98 m | 1.13 m | |
| Stone Required Per Chamber | 1.26 yd³ | 1.64 yd³ | 2.02 yd³ | |
| | 0.96 m ³ | 1.25 m³ | 1.54 m³ | |

Calculations are based on installed chamber length. Includes 6" (305 mm) stone above crown of chamber and typical stone surround at 39"(991 mm) center-to-center spacing and stone foundation as listed in table. Stone void calculated at 40%.



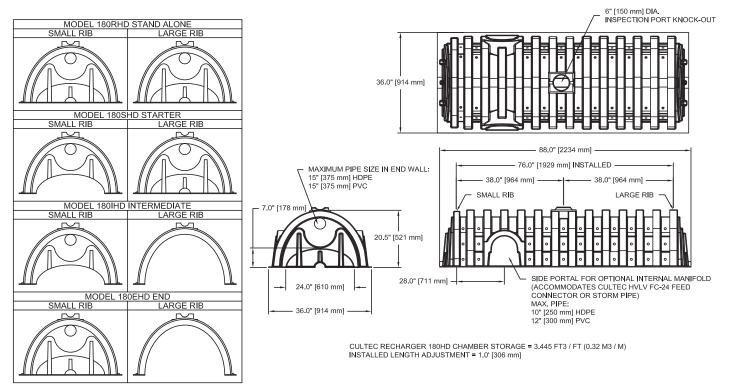
Recharger® 180HD Bare Chamber Storage Volumes

| Elevation | | Incremental Storage Volume | | | | Cumulative Storage | |
|-----------|-----|-------------------------------|-------|--------|-------|-----------------------|--------|
| in. | mm | ft³/ft | m³/m | ft³ | m³ | ft³ | m³ |
| 20.5 | 521 | 0.000 | 0.000 | 0.000 | 0.000 | 21.818 | 0.618 |
| 20 | 508 | 0.233 | 0.022 | 1.476 | 0.042 | 21.818 | 0.618 |
| 19 | 483 | 0.222 | 0.021 | 1.406 | 0.040 | 20.343 | 0.576 |
| 18 | 457 | 0.222 | 0.021 | 1.406 | 0.040 | 18.937 | 0.536 |
| 17 | 432 | 0.221 | 0.021 | 1.400 | 0.040 | 17.531 | 0.496 |
| 16 | 406 | 0.220 | 0.020 | 1.393 | 0.039 | 16.131 | 0.457 |
| 15 | 381 | 0.216 | 0.020 | 1.368 | 0.039 | 14.738 | 0.417 |
| 14 | 356 | 0.209 | 0.019 | 1.324 | 0.037 | 13.370 | 0.379 |
| 13 | 330 | 0.206 | 0.019 | 1.305 | 0.037 | 12.046 | 0.341 |
| 12 | 305 | 0.202 | 0.019 | 1.279 | 0.036 | 10.741 | 0.304 |
| 11 | 279 | 0.198 | 0.018 | 1.254 | 0.036 | 9.462 | 0.268 |
| 10 | 254 | 0.193 | 0.018 | 1.222 | 0.035 | 8.208 | 0.232 |
| 9 | 229 | 0.181 | 0.017 | 1.146 | 0.032 | 6.986 | 0.198 |
| 8 | 203 | 0.171 | 0.016 | 1.083 | 0.031 | 5.839 | 0.165 |
| 7 | 178 | 0.161 | 0.015 | 1.020 | 0.029 | 4.756 | 0.135 |
| 6 | 152 | 0.150 | 0.014 | 0.950 | 0.027 | 3.3737 | 0.106 |
| 5 | 127 | 0.135 | 0.013 | 0.855 | 0.024 | 2.787 | 0.079 |
| 4 | 102 | 0.117 | 0.011 | 0.741 | 0.021 | 1.932 | 0.055 |
| 3 | 76 | 0.090 | 0.008 | 0.570 | 0.016 | 1.191 | 0.034 |
| 2 | 51 | 0.060 | 0.006 | 0.380 | 0.011 | 0.621 | 0.0318 |
| 1 | 25 | 0.038 | 0.004 | 0.241 | 0.007 | 0.241 | 0.007 |
| Total | | 3.445 | 0.320 | 21.818 | 0.618 | 21.818 | 0.618 |

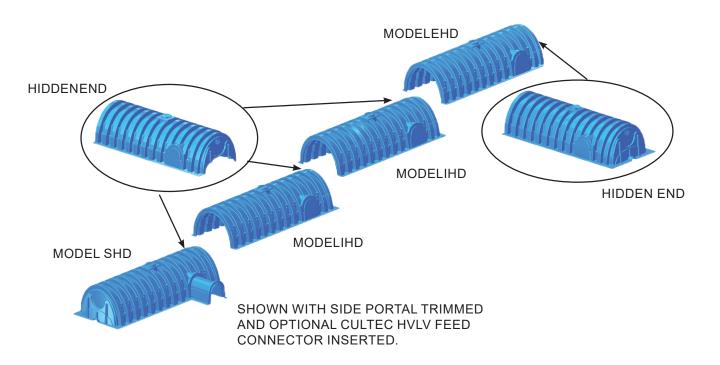
Calculations are based on installed chamber length.



Three View Drawing

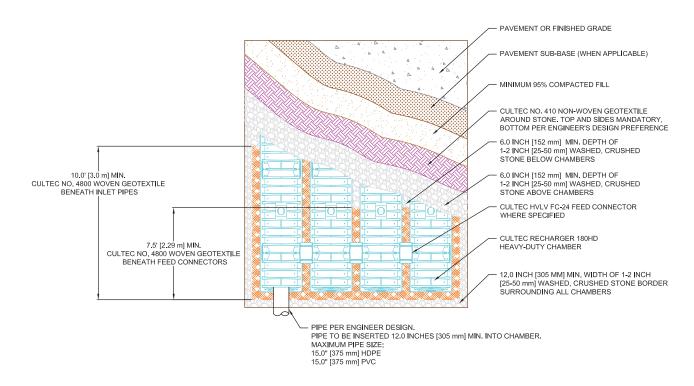


Typical Interlock Installation

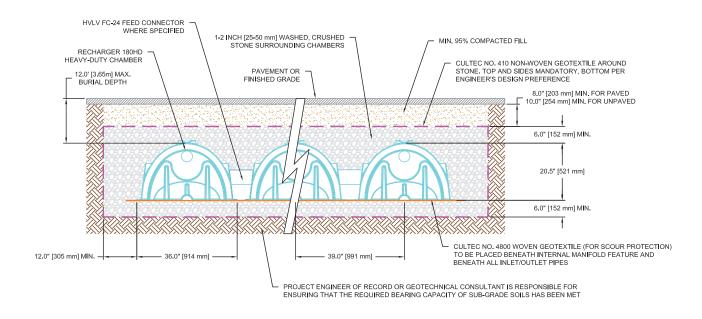




Plan View Drawing



Typical Cross Section for Traffic Application



CULTEC

CULTEC Recharger® 180HD Stormwater Chamber

CULTEC Recharger® 180HD Specifications

GENERAL

CULTEC Recharger® 180HD chambers are designed for underground stormwater management. The chambers may be used for retention, recharging, detention or controlling the flow of on-site stormwater runoff.

CHAMBER PARAMETERS

- 1. The chambers will be manufactured in the U.S.A. by CULTEC, Inc. of Brookfield, CT (cultec.com, 203-775-4416).
- 2. The chamber shall be vacuum thermoformed of polyethylene with a black interior and blue exterior.
- 3. The chamber will be arched in shape.
- 4. The chamber will be open-bottomed.
- 5. The chamber will be joined using an interlocking overlapping rib method. Connections must be fully shouldered overlapping ribs, having no separate couplings or separate end walls.
- 6. The nominal chamber dimensions of the CULTEC Recharger® 180HD shall be 20.5 inches (521 mm) tall, 36 inches (914 mm) wide and 7.33 feet (2.23 m) long. The installed length of a joined Recharger® 180HD shall be 6.33 feet (1.93 m).
- 7. Maximum inlet opening on the chamber endwall is 15 inches (375 mm) HDPE.
- 8. The chamber will have two side portals to accept CULTEC HVLV® FC-24 Feed Connectors to create an internal manifold. Maximum allowable O.D. in the side portal is 10 inches (250 mm) HDPE and 12 inches (300 mm) PVC.
- 9. The nominal chamber dimensions of the CULTEC HVLV® FC-24 Feed Connector shall be 12 inches (305 mm) tall, 16 inches (406 mm) wide and 24.2 inches (614 mm) long.
- 10. The nominal storage volume of the Recharger® 180HD chamber will be 3.445 ft³ / ft (0.32 m³ / m) without stone. The nominal storage volume of a single Recharger 180RHD Stand Alone unit shall be 25.25 ft³ (0.72 m³) without stone. The nominal storage volume of a joined Recharger® 180IHD Intermediate unit shall be 21.81 ft³ (0.62 m³) without stone. The nominal storage volume of the length adjustment amount per run shall be 3.445 ft³ (0.32 m³) without stone. The nominal storage volume of the HVLV® FC-24 Feed Connector will be 0.913 ft³ / ft (0.085 m³ / m) without stone.
- 11. The Recharger® 180HD chamber will have seventy-eight discharge holes bored into the sidewalls of the unit's core to promote lateral conveyance of water.
- 12. The Recharger® 180HD chamber shall have 14 corrugations.
- 13. The endwall of the chamber, when present, will be an integral part of the continuously formed unit. Separate end plates cannot be used with this unit.
- 14. The Recharger® 180RHD Stand Alone/Starter unit must be formed as a whole chamber having two fully formed integral endwalls and having no separate end plates or separate end walls.
- 15. The Recharger® 180SHD Starter unit must be formed as a whole chamber having one fully formed integral end wall and one partially formed integral end wall with a lower transfer opening of 7 inches (178 mm) high x 24 inches (610 mm) wide
- 16. The Recharger® 180IHD Intermediate unit must be formed as a whole chamber having one fully open end wall and one partially formed integral end wall with a lower transfer opening of 7 inches (178 mm) high x 24 inches (610 mm) wide.
- 17. The Recharger® 180EHD End unit must be formed as a whole chamber having one fully formed integral endwall and one fully open end wall and having no separate end plates or end walls.
- 18. The HVLV® FC-24 Feed Connector must be formed as a whole chamber having two open end walls and having no separate end plates or separate end walls. The unit will fit into the side portals of the Recharger® 180HD and act as cross feed connections.
- 19. Chambers must have horizontal stiffening flex reduction steps between the ribs.
- 20. The chamber will have a raised integral cap at the top of the arch in the center of each unit to be used as an optional inspection port or clean-out.
- 21. The units may be trimmed to custom lengths by cutting back to any corrugation on the large rib end.
- 22. The chamber shall be manufactured in an ISO 9001:2015 certified facility.
- 23. Maximum allowable cover over the top of the chamber shall be 12' (3.66 m).
- 24. The chamber shall be designed and manufactured to meet the material and structural requirements of IAPMO PS 63-2019, including resistance to AASHTO H-10 highway live loads, when installed in accordance with CULTEC's installation instructions.
- 25. The chamber will be designed to withstand traffic loads when installed according to CULTEC's recommended installation instructions.

TOWN OF WESTON, CT INLAND WETLANDS AND WATERCOURSES APPLICATION 20 KETTLE CREEK ROAD

May 2023





October 2023





