

CULTEC RECHARGER® 330XLHD PRODUCT SPECIFICATIONS

GENERAL
CULTEC RECHARGER® 330XLHD 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 BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE).
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® 330XLHD SHALL BE 30.5 INCHES (775 MM) TALL, 52 INCHES (1321 MM) WIDE AND 8.5 FEET (2.59 M) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER® 330XLHD SHALL BE 7 FEET (2.13 M).
7. MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 24 INCHES (600 MM).
8. THE CHAMBER WILL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV™ FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. THE NOMINAL DIMENSIONS OF EACH SIDE PORTAL WILL BE 10.5 INCHES (267 MM) HIGH BY 12 INCHES (305 MM) WIDE. MAXIMUM ALLOWABLE PIPE SIZE IN THE SIDE PORTAL IS 10 INCHES (250 MM).
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® 330XLHD CHAMBER WILL BE 7.459 FT³ / FT (0.693 M³ / M) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER® 330XLHD SHALL BE 52.213 FT³ / UNIT (1.478 M³ / UNIT) - WITHOUT STONE.
11. THE NOMINAL STORAGE VOLUME OF THE HVLV™ FC-24 FEED CONNECTOR WILL BE 0.913 FT³ / FT (0.085 M³ / M) - WITHOUT STONE.
12. THE RECHARGER® 330XLHD CHAMBER WILL HAVE FIFTY-SIX DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNITS CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
13. THE RECHARGER® 330XLHD CHAMBER SHALL HAVE 16 CORRUGATIONS.
14. 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.
15. THE RECHARGER® 330XLHD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
16. THE RECHARGER® 330XLHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 MM) HIGH X 34.5 INCHES (876 MM) WIDE.
17. THE RECHARGER® 330XLHD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 14 INCHES (356 MM) HIGH X 34.5 INCHES (876 MM) WIDE.
18. THE RECHARGER® 330XLHD 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.
19. 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® 330XLHD AND ACT AS CROSS FEED CONNECTIONS.
20. CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
21. HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
22. 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.
23. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
24. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.
25. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12" (3.65m)
26. THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

CULTEC HVLV™ FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS

GENERAL
CULTEC HVLV™ FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER MODEL 180HD, 280HD AND 330XLHD STORMWATER CHAMBERS.

CHAMBER PARAMETERS

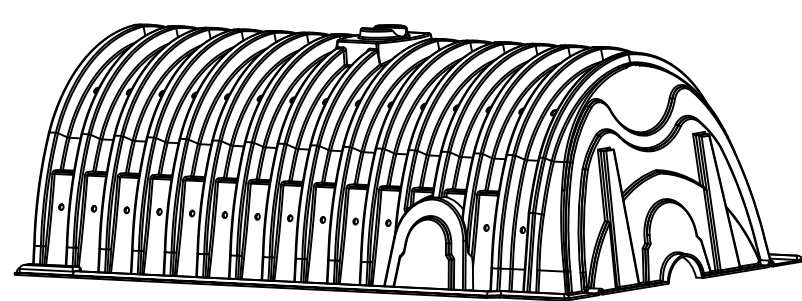
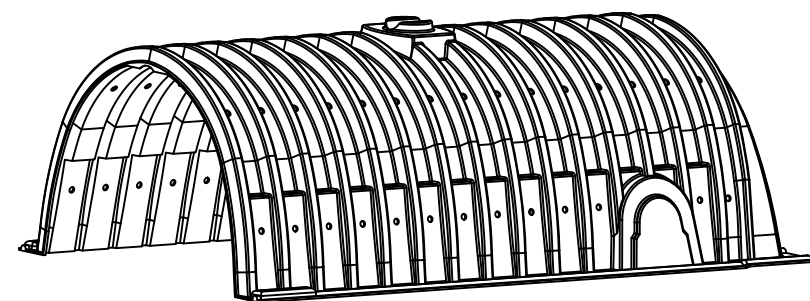
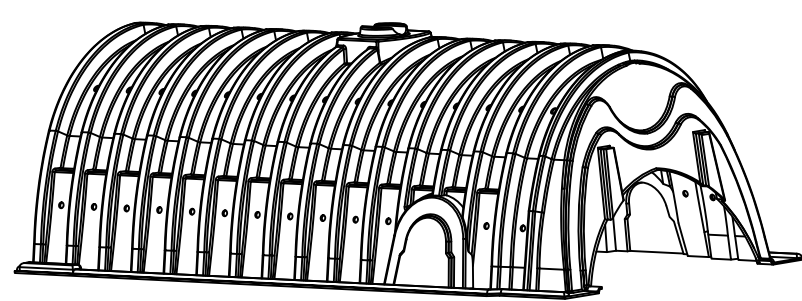
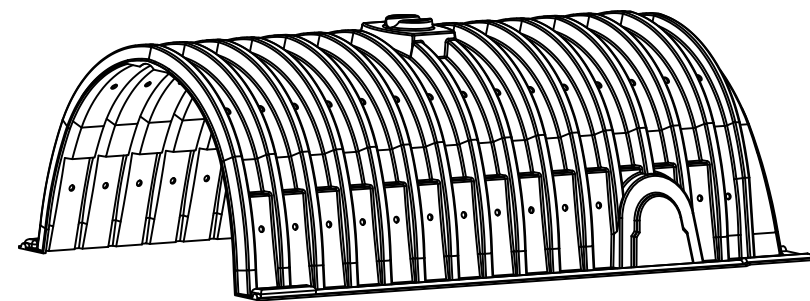
1. THE CHAMBERS WILL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE).
3. THE CHAMBER WILL BE ARCHED IN SHAPE.
4. THE CHAMBER WILL BE OPEN-BOTTOMED.
5. THE 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.
6. THE NOMINAL STORAGE VOLUME OF THE HVLV™ FC-24 FEED CONNECTOR WILL BE 0.913 FT³ / FT (0.085 M³ / M) - WITHOUT STONE.
7. THE HVLV™ FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 2 CORRUGATIONS.
8. 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 CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
9. THE CHAMBER WILL BE DESIGNED TO WITHSTAND AASHTO H-25 LOAD RATING WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.

CULTEC NO. 20L™ POLYETHYLENE LINER

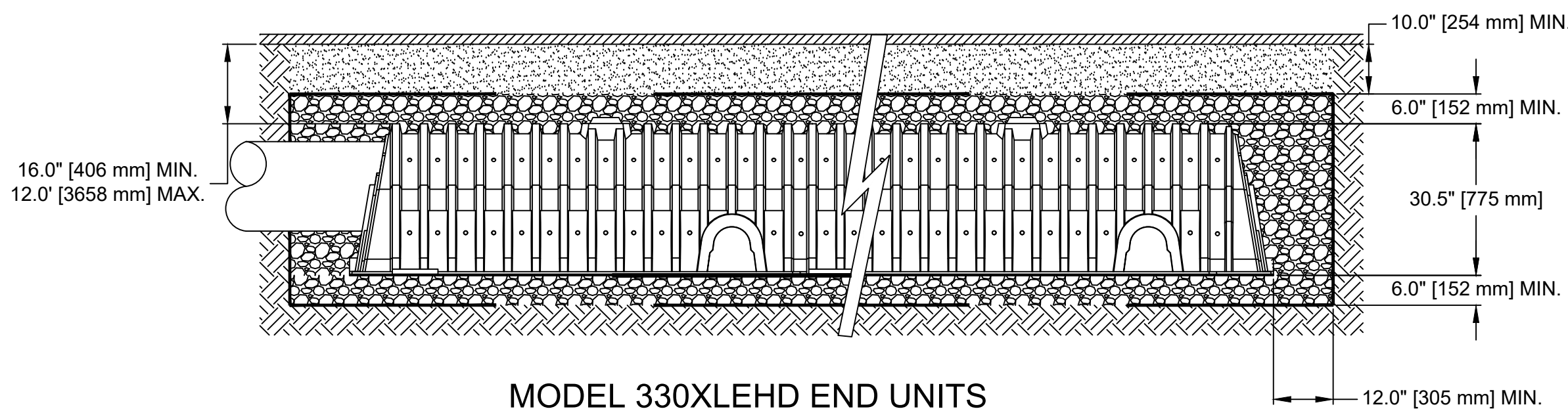
GENERAL
CULTEC NO.™ 20L POLYETHYLENE LINER IS DESIGNED AS AN IMPERVIOUS UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE.

LINER PARAMETERS

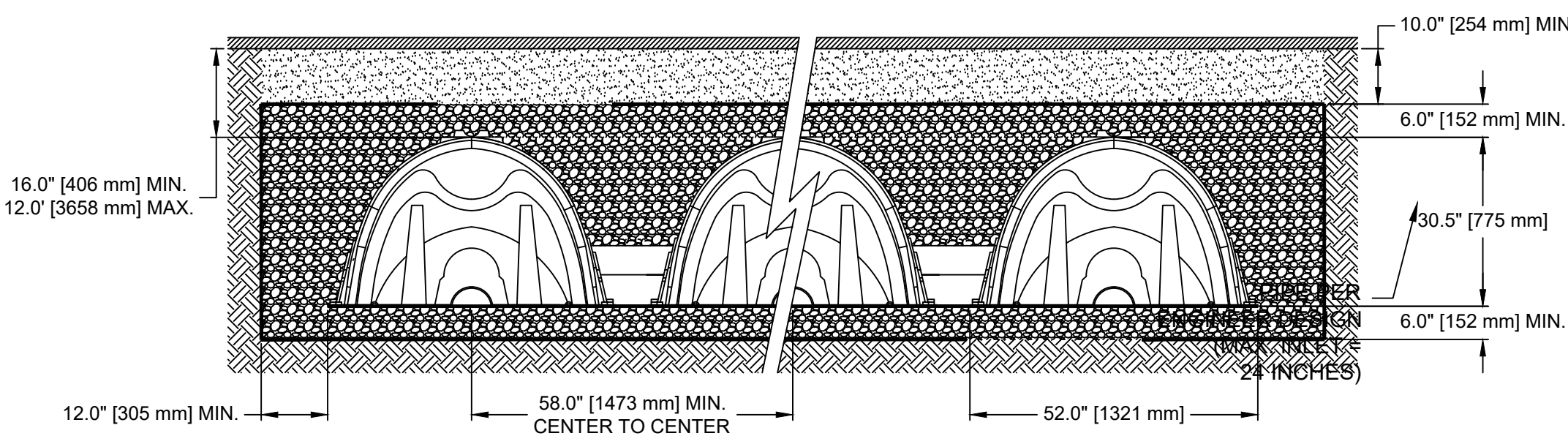
1. THE LINER WILL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE LINER WILL BE BLACK IN APPEARANCE.
3. THE LINER WILL HAVE A NOMINAL THICKNESS OF 20 MIL (0.51 MM).
4. THE LINER WILL HAVE A WEIGHT OF 93 LBS/MSF (453 G/M²).
5. THE LINER WILL HAVE A TENSILE STRENGTH @ BREAK 1" (2.54 CM) OF 75 LBS (334 N) PER ASTM D6693 TESTING METHOD.
6. THE LINER WILL HAVE AN ELONGATION AT BREAK OF 800% PER ASTM D6693 TESTING METHOD.
7. THE LINER WILL HAVE A TEAR RESISTANCE OF 11 LBF (49 N) PER ASTM D1004 TESTING METHOD.
8. THE LINER WILL HAVE A HYDROSTATIC RESISTANCE OF 100 PSI (689 KPA) PER ASTM D751 TESTING METHOD
9. THE LINER WILL HAVE A PUNCTURE RESISTANCE OF 30 LBF (133 N) PER ASTM D4833 TESTING METHOD.
10. THE LINER WILL HAVE A VOLATILE LOSS OF <1% PER ASTM D1203 TESTING METHOD.
11. THE LINER WILL HAVE A DIMENSIONAL STABILITY OF <2% PER ASTM D1204 TESTING METHOD.
12. THE LINER WILL HAVE A MAXIMUM USE TEMPERATURE OF 1800 F (820 C).
13. THE LINER WILL HAVE A MINIMUM USE TEMPERATURE OF -700 F (-570 C).
14. THE LINER WILL HAVE A PERM RATING OF 0.041 U.S. PERMS (0.027 METRIC PERMS) PER ASTM E96 METHOD A.
15. THE LINER WILL CONSIST OF A BLENDED LINEAR POLYETHYLENE.
16. THE LINER WILL NOT CONTAIN PLASTICIZERS.



MODEL 330XLHD INTERMEDIATE UNITS ARE USED AS MIDDLE SECTIONS TO EXTEND THE LENGTH OF A LINE.



MODEL 330XLEHD END UNITS ARE USED TO END THE LENGTH OF A LINE.



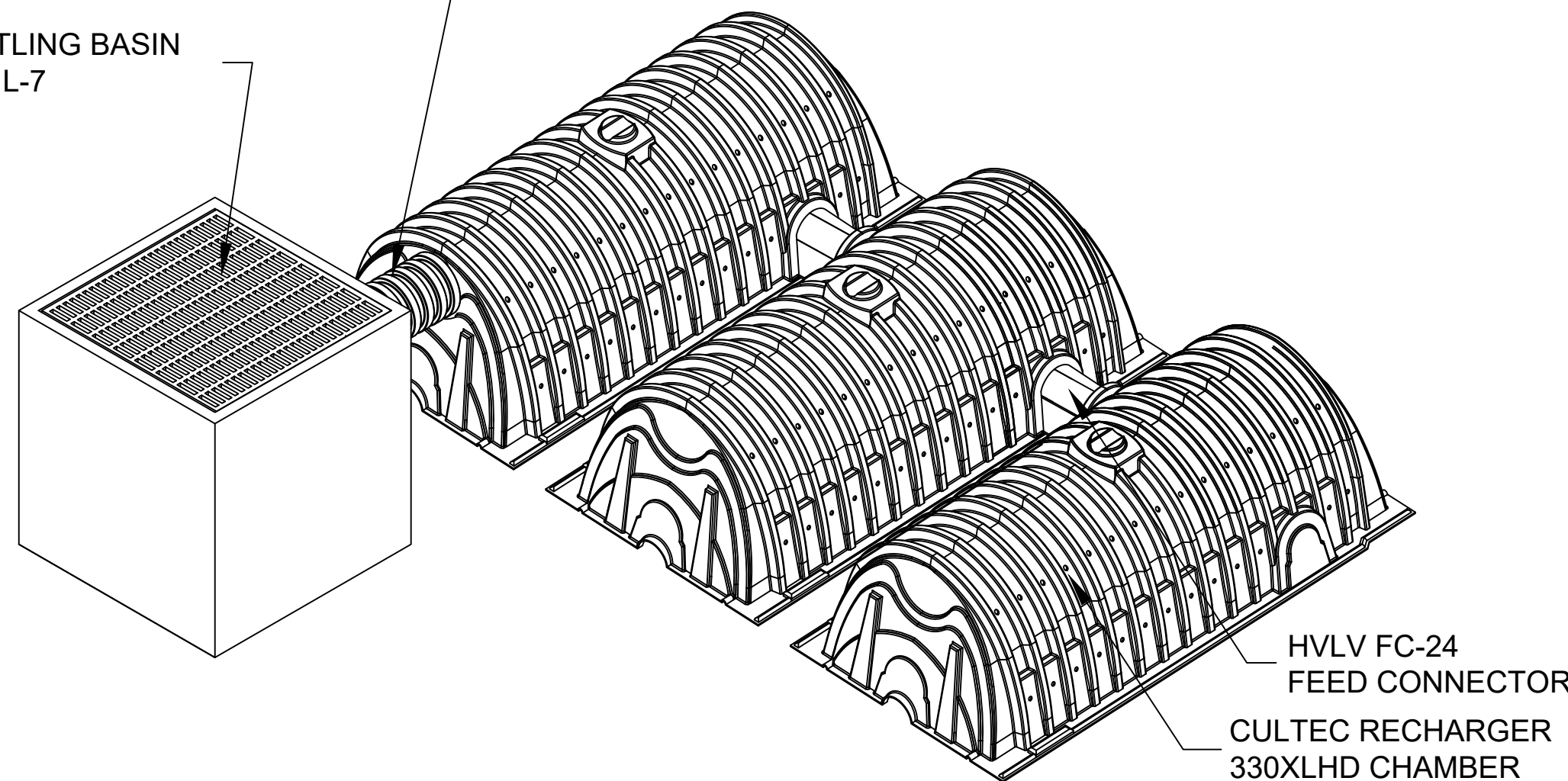
GENERAL NOTES

RECHARGER 330XLHD BY CULTEC, INC. OF BROOKFIELD, CT.
STORAGE PROVIDED = 11.32 CF/FT PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12" (3.65m)
THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

ALL RECHARGER 330XLHD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
ALL RECHARGER 330XLHD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

PIPE PER ENGINEER DESIGN
MAX. INLET = 24 INCHES

SETTLING BASIN
SEE L-7



HVLV FC-24
FEED CONNECTOR
CULTEC RECHARGER
330XLHD CHAMBER

FOR SOIL TESTING RESULTS, SEE COVER PLAN

Cultec 330 XLHD recharger calculation:

Bufalini Property
197 Clinton Avenue
Dobbs Ferry, New York

Unit width 52 "
Unit spacing 57 "
installed length in ft = 7
height = 30.5 "

Perc Rate taken 11/2/2022
Perc hole diameter 8 inches

Side area of drop in perc hole = 0.174 s.f.

Stabilized perc rate 1 inch in 2 minutes
Volume of drop = 0.0291 c.f.

Soil Rate = vol/area/minute = 0.0069 c.f./s.f./min
10,000 c.f./s.f./day

Assume 25% clogging factor 7,500 c.f./s.f./day **USE THIS PERC RATE**

From Cultec Spec Sheet, Storage capacity / L.F. = 11.16 c.f./l.f.

Layout: 1 unit with 2' stone around unit
Bottom area for layout shown = L (ft) x W (ft)
Length x Width of stone= 11 8.33 91.8 s.f.
Bottom absorption in 24 hours = Bott area x perc rate 687 c.f.

From Plans, area of new impervious =
Proposed = 1,274 s.f.
Existing = s.f.
Net Change = 1,274 s.f.

Rainfall required = 100 year storm 8.91 in.
Proposed Cn = 98 Er = 8.67 in.
Existing is "A" soil, good condition, CN=39 Er = 1.56 in.
Net increase in Er = 7.11 in.

Increase in runoff = 755 c.f.
Less bottom absorption 687 c.f.
Net increase in runoff = 68 c.f.

Pool Drawdown Requirement - 6" drawdown
Pool area = 684 s.f. Vol = 342 c.f.
Less bottom absorption 687 c.f.
(345) c.f.

USE 68 c.f.

Length of recharger required = net increase / cultec capacity = 6.1 ft.
Effective Length of each unit = 7.00 l.f.
Number of Units required = Length req'd/ Eff. Length = 0.87 **REQ'D 1 units**



Anthony S. Pissarri, P.E., P.C.
3 Rosalind Drive
Cortlandt Manor, New York 10567



NY- # 001758
CT- # lar.0001151

REVISIONS

DRAWING:
Details

DRAWN BY:
Robert D. Schweitzer

SCALE:
As Specified

SUBMITTAL:
Town Approval

DATE:
1/15/23

PREMISES

197 Clinton Avenue
Dobbs Ferry, NY

PROPERTY OWNER

Bufalini Residence
197 Clinton Avenue
Dobbs Ferry, NY

XXX

XXX

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