DEEP TESTS BY TRINKAUS ENGINEERING, LLC
DATE: FEBRUARY 00, 2020
DT - 1
0 - 15" GRAVEL FILL MATERIAL
15 - 28" GREY BROWN COMPACT SAND AND SILT
28 - 64" BROWN COARSE SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE
DT - 2
0 - 6" TOPSOIL
6 - 21" RED BROWN SAND AND GRAVEL
21 - 60" GREY BROWN COMPACT SAND AND SILT
60 - 80" LIGHT BROWN SAND
NO MOTTLING, NO WATER, NO LEDGE
DT - 3
0 - 10" TOPSOIL
10 - 38" YELLOW BROWN FINE SANDY LOAM
38 - 60" GREY BROWN MEDIUM COMPACT SILTY SAND
60 - 75" LIGHT BROWN MEDIUM SAND
NO MOTTLING, NO WATER, NO LEDGE
DT - 4
0 - 10" TOPSOIL
10 - 26" YELLOW BROWN FINE SANDY LOAM
26 - 73" BROWN SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE
DT - 5
0 - 2" TOPSOIL
2 - 36" BRIGHT BROWN SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE
DT - 6
0 - 22" TOPSOIL/COMMON FILL
22 - 43" YELLOW BROWN FINE SANDY LOAM, SOME SILT
43 - 65" BROWN COARSE SAND
NO MOTTLING, WATER AT 50", NO LEDGE
DT - 7
0 - 22" TOPSOIL/COMMON FILL
22 - 40" YELLOW BROWN FINE SANDY LOAM, SOME SILT
40 - 65" BROWN COARSE SAND
NO MOTTLING, WATER AT 50", NO LEDGE
DT - 8
0 - 10" TOPSOIL
10 - 26" YELLOW BROWN FINE SAND AND SILT
26 - 65" BROWN COARSE SAND AND GRAVEL
NO MOTTLING, WATER AT 48", NO LEDGE

BENCH MARK - TOP OF WELL
ELEVATION EQUALS 300.0'
NOTE: WELL TO BE FILLED WITH SAND OR CONCRETE AND ABANDONED IN PLACE IN ACCORDANCE WITH HEALTH DEPARTMENT STANDARDS. WELL PIPE TO BE CUT OFF A MINIMUM OF 15" BELOW FINISH GRADE
CONTRACTOR TO RESET BENCH MARK PRIOR TO REMOVING WELL

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT
TRINKAUS ENGINEERING

EXISTING CONDITIONS MAP
SHEET 1 of 7
PROJECT #015-2019
SCALE: 1"= 30'
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

SITE LAYOUT PARKING PLAN
SHEET 2 of 7
PROJECT #015-2019
SCALE: 1"= 20'
DATE: 3/14/2020, Rev. 5/25/20

LOW IMPACT SUSTAINABLE DEVELOPMENT
TRINKAUS ENGINEERING

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

Detail of Underground Cultec System for
Roof Drains from Concession Building
Not to Scale

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT
TRINKAUS ENGINEERING

STORMWATER MANAGEMENT PLAN
SHEET 3 of 7
PROJECT #015-2019
SCALE: 1"= 20'
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

PROPOSED CURTAIN DRAIN JUST NORTH OF BASKETBALL COURT TO COLLECT RUNOFF & CONVEY TO BIORETENTION SYSTEM - SEE DETAIL

INVERT OF 4" PIPE = 315.0'

BIORETENTION #1
REMOVE EX. RAIN GARDEN AND REPLACE WITH NEW BIORETENTION SYSTEM SEE DETAIL & SPECIFICATIONS

TWO 4" OVERFLOW PIPES TOP OF PIPE = 315.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO CB "C" - SEE DETAIL

34 LF - 4" SOLID PVC PIPE (ASTM D3034, SDR. 35) FROM END OF CURTAIN DRAIN TO BIORETENTION SYSTEM - INSTALL 3' DIAMETER OF NATIVE FIELD STONES AT END OF PIPE TO DISSIPATE FLOWS - SEE DETAIL

NEW LIMIT OF GRAVEL PARKING AREA

12" FILTREXX SOXX - SEE DETAIL

SWALE #1
3' WIDE PARABOLIC SWALE
1' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM TENNIS COURTS TO BIORETENTION SYSTEM SEE DETAIL

Catch Basin "A" Rim = 317.26
Catch Basin "B" Rim = 316.63'
Catch Basin "C" Rim = 313.68'
Catch Basin "D" Rim = 312.61'

REMOVE CATCH BASINS "A" & "B" & PIPING TO CATCH BASIN "C"

REGRADE GRAVEL SURFACE AS SHOWN - REMOVE STONE DUST TO A DEPTH OF 4" - MIX STONE DUST WITH 3/4" CRUSHED STONE AND REPLACE IN PARKING AREA.

6" FILTREXX SOXX - SEE DETAIL

SWALE #3
3' WIDE PARABOLIC SWALE
1' DEPTH (CENTERLINE) - GRASS LINED SWALE TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

EXTENDED EARTH BERM - REGRADE AS NECESSARY TO MAKE BERM A UNIFORM 6" HEIGHT ABOVE EX. GRADE & HAVE A BOTTOM WIDTH OF 3' TO DIRECT OVERLAND RUNOFF TO EX. RAIN GARDEN - SEE DETAIL

SWALE #2
3' WIDE PARABOLIC SWALE
0.5' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

Low Point Elev. = 308.29'

BIORETENTION #2
BIORETENTION SYSTEM SEE DETAIL

ONE 4" OVERFLOW PIPES TOP OF PIPE = 304.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO EX.BIORETENTION SYSTEM SEE DETAIL

12" FILTREXX SOXX - SEE DETAIL

6" FILTREXX SOXX - SEE DETAIL

NOTE: CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES IN THE VICINITY OF THE STORMWATER SYSTEM & PIPES DELINEATED IN THE FIELD. CONTRACTOR TO EXCAVATE TEST PIT(S) WHERE A DRAINAGE PIPE CROSSING IS PROPOSED. AFTER DEPTH OF EXISTING UTILITY IS DETERMINED, CONTRACTOR SHALL NOTIFY TRINKAUS ENGINEERING, LLC WHO WILL ADVISE THE CONTRACTOR WHETHER TO GO ABOVE OR BELOW THE EXISTING UTILITY LINE.

NATIVE FIELD STONE PAD

8 PARKING SPACES FOR PASSENGER VEHICLES (9' X 20')

PVC PAVER SYSTEM WITH PEA GRAVEL INFILL ON GRAVEL BASE - SEE DETAIL
AREA OF PVC PAVERS = 1,210 SQ.FT.

HANDICAP PARKING SPACE AND ACCESS AISLE SHALL BE PAVED WITH BITUMINOUS CONCRETE

END OF BITUMINOUS CURBING

End of ex. berm

End of ex. berm at fence

30"/ x 30" Precast Yard Drain with 24" x 24' Grate
Rim = 297.0'
Inv. Out = 295.0'
25 lf - 6" PVC Pipe (ASTM D3034, Sdr. 35) at 2.0%

Bituminous Concrete Curbing
Taper top of furbing to sidewalk elevation at corner

Note: There shall be two (2) overflow pipes to finish grade for Cultec System

Underground Infiltration system consisting of 8 units of Cultec 100HD units - 6" of crushed stone under, between the units, outside the units
Only 2" of crushed stone on top of the units
Bottom of units to be set at 294.0'

4' WIDE BITUMINOUS CONCRETE PATH TO PROVIDE ADA ACCESS TO CONCESSION BUILDING ENTRANCE - SEE DETAIL
D - EX. SLAB = 297.8'
SLOPE OF HANDICAP WALKWAY
A TO B = 1.50%
B TO C = 2.20%
C TO D = 0.48%

NOTE: GUTTER DOWNSPOUTS SHALL BE DIRECTED TO NORTHWEST CORNER OF THE BUILDING AS SHOWN BY DIRECTIONAL ARROWS SO THAT RUNOFF CAN BE DIRECTED TO UNDERGROUND PUMP CHAMBER. THE 6" PIPES SHALL HAVE A MINIMUM OF 6" OF COVER AND A MINIMUM PIPE SLOPE OF 1.0% TO THE PUMP CHAMBER.

Invert of 6" PVC = 295.83'
Gutter Downspout - 4
Invert of 6" PVC = 294.50'
Invert of 6" PVC = 296.33'
Gutter Downspout - 3
Invert of 6" PVC = 297.0'
Gutter Downspout - 2
5" K-Style Gutter (215 lf) with 2" x 3" downspouts
6" FILTREXX SOXX - SEE DETAIL
Gutter Downspout - 1
6" Solid PVC pipe - Collection pipe from 4 downspouts
Invert of 6" PVC = 297.0'

Distance from Gutter Downspout #1 to drain line = 2.9'
Distance from Gutter Downspout # 2 to drain line = 2.6'
Distance from Gutter Downspout # 3 to drain line = 2.9'
Distance from Gutter Downspout #4 to drain line = 2.6'

NOTE: GRADE SWALE FROM SPOT ELEVATION OF 295.73' TO LIMIT OF DELINEATED INLAND WETLAND BOUNDARY

SECTION "E"
SECTION "F"
SECTION "G"
SECTION "H"

North

DEEP TESTS BY TRINKAUS ENGINEERING, LLC
DATE: FEBRUARY 00, 2020

DT - 1
0 - 15" GRAVEL FILL MATERIAL
15 - 28" GREY BROWN COMPACT SAND AND SILT
28 - 64" BROWN COARSE SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE

DT - 2
0 - 6" TOPSOIL
6 - 21" RED BROWN SAND AND GRAVEL
21 - 60" GREY BROWN COMPACT SAND AND SILT
60 - 80" LIGHT BROWN SAND
NO MOTTLING, NO WATER, NO LEDGE

DT - 3
0 - 10" TOPSOIL
10 - 38" YELLOW BROWN FINE SANDY LOAM
38 - 60" GREY BROWN MEDIUM COMPACT SILTY SAND
60 - 75" LIGHT BROWN MEDIUM SAND
NO MOTTLING, NO WATER, NO LEDGE

DT - 4
0 - 10" TOPSOIL
10 - 26" YELLOW BROWN FINE SANDY LOAM
26 - 73" BROWN SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE

DT - 5
0 - 2" TOPSOIL
2 - 36" BRIGHT BROWN SAND AND GRAVEL
NO MOTTLING, NO WATER, NO LEDGE

DT - 6
0 - 22" TOPSOIL/COMMON FILL
22 - 43" YELLOW BROWN FINE SANDY LOAM, SOME SILT
43 - 65" BROWN COARSE SAND
NO MOTTLING, WATER AT 50", NO LEDGE

DT - 7
0 - 22" TOPSOIL/COMMON FILL
22 - 40" YELLOW BROWN FINE SANDY LOAM, SOME SILT
40 - 65" BROWN COARSE SAND
NO MOTTLING, WATER AT 50", NO LEDGE

DT - 8
0 - 10" TOPSOIL
10 - 26" YELLOW BROWN FINE SAND AND SILT
26 - 65" BROWN COARSE SAND AND GRAVEL
NO MOTTLING, WATER AT 48", NO LEDGE

TABLE OF ELEVATIONS OF CROSS SECTIONS FOR BIOSWALES

SECTION LABEL	POINT A	POINT B	POINT C	POINT D	POINT E	POINT F
SECTION "A"	296.86'	296.69'	296.59'	295.59'	295.59'	296.59'
SECTION "B"	297.24'	297.07'	296.97'	295.97'	295.97'	296.97'
SECTION "C"	297.61'	297.44'	297.34'	296.34'	296.34'	297.34'
SECTION "D"	297.62'	297.45'	297.35'	296.35'	296.35'	297.35'
SECTION "E"	296.58'	296.41'	296.31'	295.31'	295.31'	296.31'
SECTION "F"	296.50'	296.33'	296.23'	295.23'	295.23'	296.23'
SECTION "G"	296.50'	296.33'	296.23'	295.23'	295.23'	296.23'
SECTION "H"	296.00'	295.83'	295.73'	294.73'	294.73'	295.73'

CROSS SECTION "A" - "A" SCALES: HORIZONTAL: 1" = 10' VERTICAL: 1" = 4'

CROSS SECTION "B" - "B" SCALES: HORIZONTAL: 1" = 10' VERTICAL: 1" = 4'

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT TRINKAUS ENGINEERING

STORMWATER MANAGEMENT PLAN
SHEET 4 of 7
PROJECT #015-2019
SCALE: 1"= 20'
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

BITUMINOUS CONCRETE CURBING

BENCH MARK - TOP OF WELL ELEVATION EQUALS 300.0'
NOTE: WELL TO BE FILLED WITH SAND OR CONCRETE AND ABANDONED IN PLACE IN ACCORDANCE WITH HEALTH DEPARTMENT STANDARDS. WELL PIPE TO BE CUT OFF A MINIMUM OF 15" BELOW FINISH GRADE
CONTRACTOR TO RESET BENCH MARK PRIOR TO REMOVING WELL

PROPOSED CONTOUR (typ)
PROPOSED SPOT ELEVATION (typ)

NOTE: GRADE SWALE FROM SPOT ELEVATION OF 295.59' TO EDGE OF LAKE AT UNIFORM SLOPE

6" FILTREXX SOXX TO BE INSTALLED IMMEDIATELY ABOVE STONE DIAPHRAM TO PROTECT BIOSWALE AREA FROM THE REGRADING OF THE PARKING. THE SOXX MAY BE MOVED AND RESET DAILY AS NEEDED DURING THE PARKING LOT GRADING PERIOD.

4" Concrete curb - See Detail
Top of curb to be set at spot elevations shown - Top of PVC paver at curb shall be set flush with top of curb

12" FILTREXX SOXX - SEE DETAIL

BIOSWALE #4
2' WIDE GRASS FILTER STRIP
4' WIDE BIOSWALE, 1' DEPTH, 3:1 SIDE SLOPES

NO CURBING ALONG BIOSWALE

HIGH POINT OF BIOSWALE PITCH TO NORTH

BITUMINOUS CONCRETE CURBING

ROW OF ARBORVITAES TO REMAIN

End of Bituminous Curbing

EXISTING EDGE OF GRAVEL PARKING AREA

HIGH POINT OF BIOSWALE PITCH TO SOUTH

12 PARKING SPACES FOR PASSENGER VEHICLES (9' X 20')

NO CURBING ALONG BIOSWALE

GRADE TO DRAIN SWALE TO DIRECT RUNOFF FROM LAWN AREA TOWARD AREA OF PVC PAVER SYSTEM
AREA OF PVC PAVERS = 2,110 SQ.FT.

12" FILTREXX SOXX - SEE DETAIL

BITUMINOUS CONCRETE CURBING

6" FILTREXX SOXX TO BE INSTALLED IMMEDIATELY ABOVE STONE DIAPHRAM TO PROTECT BIOSWALE AREA FROM THE REGRADING OF THE PARKING. THE SOXX MAY BE MOVED AND RESET DAILY AS NEEDED DURING THE PARKING LOT GRADING PERIOD.

End of Bituminous Curbing

INVERT OF 4" PIPE = 316.5'

End of Bituminous Curbing

8 PARKING SPACES FOR PASSENGER VEHICLES (9' X 20')

PROPOSED CURTAIN DRAIN JUST NORTH OF BASKETBALL COURT TO COLLECT RUNOFF & CONVEY TO BIORETENTION SYSTEM - SEE DETAIL

6" FILTREXX SOXX - SEE DETAIL

SWALE #3
3' WIDE PARABOLIC SWALE 1' DEPTH (CENTERLINE) - GRASS LINED SWALE TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

EXTENDED EARTH BERM - REGRADE AS NECESSARY TO MAKE BERM A UNIFORM 6" HEIGHT ABOVE EX. GRADE & HAVE A BOTTOM WIDTH OF 3' TO DIRECT OVERLAND RUNOFF TO EX. RAIN GARDEN - SEE DETAIL

HANDICAP PARKING SPACE AND ACCESS AISLE SHALL BE PAVED WITH BITUMINOUS CONCRETE

INVERT OF 4" PIPE = 315.0'

BIORETENTION #1
REMOVE EX. RAIN GARDEN AND REPLACE WITH NEW BIORETENTION SYSTEM SEE DETAIL & SPECIFICATIONS

TWO 4" OVERFLOW PIPES TOP OF PIPE = 315.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO CB "C" - SEE DETAIL

34 LF - 4" SOLID PVC PIPE (ASTM D3034, SDR. 35) FROM END OF CURTAIN DRAIN TO BIORETENTION SYSTEM - INSTALL 3' DIAMETER OF NATIVE FIELD STONES AT END OF PIPE TO DISSIPATE FLOWS - SEE DETAIL

SWALE #1
3' WIDE PARABOLIC SWALE 1' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM TENNIS COURTS TO BIORETENTION SYSTEM SEE DETAIL

NEW LIMIT OF GRAVEL PARKING AREA

12" FILTREXX SOXX - SEE DETAIL

SWALE #2
3' WIDE PARABOLIC SWALE 0.5' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

Low Point
Elev. = 308.29'

BIORETENTION #2
BIORETENTION SYSTEM SEE DETAIL

ONE 4" OVERFLOW PIPES TOP OF PIPE = 304.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO EX. BIORETENTION SYSTEM SEE DETAIL

END OF BITUMINOUS CURBING

12" FILTREXX SOXX - SEE DETAIL

6" FILTREXX SOXX - SEE DETAIL

End of ex. berm

Bituminous Concrete Curbing
Taper top of curbing to sidewalk elevation at corner

NOTE: GRADE SWALE FROM SPOT ELEVATION OF 295.73' TO LIMIT OF DELINEATED INLAND WETLAND BOUNDARY

12" FILTREXX SOXX - SEE DETAIL

Catch Basin "A"
Rim = 317.26

Catch Basin "B"
Rim = 316.63'

Catch Basin "C"
Rim = 313.68'

Catch Basin "D"
Rim = 312.61'

REMOVE CATCH BASINS "A" & "B" & PIPING TO CATCH BASIN "C"

REGRADE GRAVEL SURFACE AS SHOWN - REMOVE STONE DUST TO A DEPTH OF 4" - MIX STONE DUST WITH 3/4" CRUSHED STONE AND REPLACE IN PARKING AREA

Note: There shall be two (2) overflow pipes to finish grade for Cultec System

Underground Infiltration system consisting of 8 units of Cultec 100HD units - 6" of crushed stone under, between the units, outside the units. Only 3" of crushed stone on top of the units Bottom of units to be set at 294.0'

30" x 30" Precast Yard Drain with 24" x 24" Grate
Rim = 297.0'
Inv. Out = 295.0'
25 lf - 6" PVC Pipe (ASTM D3034, Sdr. 35) at 2.0%

26 lf - 6" PVC Pipe (ASTM D3034, Sdr. 35) at 5.1%

End of ex. berm at fence

Invert of 6" PVC = 295.83'

Invert of 6" PVC = 294.50'

4' WIDE BITUMINOUS CONCRETE PATH TO PROVIDE ADA ACCESS TO CONCESSION BUILDING ENTRANCE - SEE DETAIL
D - EX. SLAB = 297.8'
SLOPE OF HANDICAP WALKWAY
A TO B = 1.50%
B TO C = 2.20%
C TO D = 0.48%

NOTE: CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES IN THE VICINITY OF THE STORMWATER SYSTEM & PIPES DELINEATED IN THE FIELD. CONTRACTOR TO EXCAVATE TEST PIT(S) WHERE A DRAINAGE PIPE CROSSING IS PROPOSED. AFTER DEPTH OF EXISTING UTILITY IS DETERMINED, CONTRACTOR SHALL NOTIFY TRINKAUS ENGINEERING, LLC WHO WILL ADVISE THE CONTRACTOR WHETHER TO GO ABOVE OR BELOW THE EXISTING UTILITY LINE.

NOTE: GUTTER DOWNSPOUTS SHALL BE DIRECTED TO NORTHWEST CORNER OF THE BUILDING AS SHOWN BY DIRECTIONAL ARROWS SO THAT RUNOFF CAN BE DIRECTED TO UNDERGROUND PUMP CHAMBER. THE 6" PIPES SHALL HAVE A MINIMUM OF 6" OF COVER AND A MINIMUM PIPE SLOPE OF 1.0% TO THE PUMP CHAMBER.

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT
TRINKAUS ENGINEERING

EROSION CONTROL PLAN
SHEET 5 of 7
PROJECT #015-2019
SCALE: 1"= 20'
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

PROPOSED CURTAIN DRAIN JUST NORTH OF BASKETBALL COURT TO COLLECT RUNOFF & CONVEY TO BIORETENTION SYSTEM - SEE DETAIL

INVERT OF 4" PIPE = 315.0'

BIORETENTION #1
REMOVE EX. RAIN GARDEN AND REPLACE WITH NEW BIORETENTION SYSTEM SEE DETAIL & SPECIFICATIONS

TWO 4" OVERFLOW PIPES TOP OF PIPE = 315.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO CB "C" - SEE DETAIL

34 LF - 4" SOLID PVC PIPE (ASTM D3034, SDR. 35) FROM END OF CURTAIN DRAIN TO BIORETENTION SYSTEM - INSTALL 3' DIAMETER OF NATIVE FIELD STONES AT END OF PIPE TO DISSIPATE FLOWS - SEE DETAIL

NEW LIMIT OF GRAVEL PARKING AREA

12" FILTREXX SOXX - SEE DETAIL

SWALE #1
3' WIDE PARABOLIC SWALE
1' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM TENNIS COURTS TO BIORETENTION SYSTEM SEE DETAIL

DT - 2

DT - 3

DT - 4

Catch Basin "A" Rim = 317.26

Catch Basin "B" Rim = 316.63'

Catch Basin "C" Rim = 313.68'

Catch Basin "D" Rim = 312.61'

REMOVE CATCH BASINS "A" & "B" & PIPING TO CATCH BASIN "C"

REGRADE GRAVEL SURFACE AS SHOWN - REMOVE STONE DUST TO A DEPTH OF 4" - MIX STONE DUST WITH 3/4" CRUSHED STONE AND REPLACE IN PARKING AREA.

Proposed surface elevation

Existing surface elevation

"A"

"B"

6" FILTREXX SOXX - SEE DETAIL

SWALE #3
3' WIDE PARABOLIC SWALE
1' DEPTH (CENTERLINE) - GRASS LINED SWALE TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

EXTENDED EARTH BERM - REGRADE AS NECESSARY TO MAKE BERM A UNIFORM 6" HEIGHT ABOVE EX. GRADE & HAVE A BOTTOM WIDTH OF 3' TO DIRECT OVERLAND RUNOFF TO EX. RAIN GARDEN - SEE DETAIL

SWALE #2
3' WIDE PARABOLIC SWALE
0.5' DEPTH (CENTERLINE) - LINED WITH MODIFIED RIPRAP TO DIRECT RUNOFF FROM PARKING AREA TO BIORETENTION SYSTEM SEE DETAIL

Low Point Elev. = 308.29'

BIORETENTION #2
BIORETENTION SYSTEM SEE DETAIL

ONE 4" OVERFLOW PIPES TOP OF PIPE = 304.50' - CONNECT WITH 4" SOLID PVC PIPE (ASTM D3034, SDR.35) & CONNECT TO EX.BIORETENTION SYSTEM SEE DETAIL

12" FILTREXX SOXX - SEE DETAIL

6" FILTREXX SOXX - SEE DETAIL

NOTE: CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES IN THE VICINITY OF THE STORMWATER SYSTEM & PIPES DELINEATED IN THE FIELD. CONTRACTOR TO EXCAVATE TEST PIT(S) WHERE A DRAINAGE PIPE CROSSING IS PROPOSED. AFTER DEPTH OF EXISTING UTILITY IS DETERMINED, CONTRACTOR SHALL NOTIFY TRINKAUS ENGINEERING, LLC WHO WILL ADVISE THE CONTRACTOR WHETHER TO GO ABOVE OR BELOW THE EXISTING UTILITY LINE.

NATIVE FIELD STONE PAD

8 PARKING SPACES FOR PASSENGER VEHICLES (9' X 20')

PVC PAVER SYSTEM WITH PEA GRAVEL INFILL ON GRAVEL BASE - SEE DETAIL
AREA OF PVC PAVERS = 1,210 SQ.FT.

HANDICAP PARKING SPACE AND ACCESS AISLE SHALL BE PAVED WITH BITUMINOUS CONCRETE

END OF BITUMINOUS CURBING

End of ex. berm

End of ex. berm at fence

18" W.Oak

15" B. Birch

22" A. Beech

40" B. Oak

10" Hickory

46" B. Oak

32" B. Oak

30" W. Oak

22" B. Oak

Pole

A - 297.08

B - 298.00

30"x 30" Precast Yard Drain with 24" x 24" Grate
Rim = 297.0'
Inv. Out = 295.0'
25 lf - 6" PVC Pipe (ASTM D3034, Sdr. 35) at 2.0%

26 lf - 6" PVC Pipe (ASTM D3034, Sdr. 35) at 2.0%

Invert of 6" PVC = 295.83'

Gutter Downspout - 4

Invert of 6" PVC = 297.0'

Gutter Downspout - 2

Gutter Downspout - 1

Invert of 6" PVC = 297.0'

Bituminous Concrete Curbing
Taper top of furbing to sidewalk elevation at corner

Note: There shall be two (2) overflow pipes to finish grade for Cultec System

Underground Infiltration system consisting of 8 units of Cultec 100HD units - 6" of crushed stone under, between the units, outside the units
Only 2" of crushed stone on top of the units
Bottom of units to be set at 294.0'

Invert of 6" PVC = 294.50'

4' WIDE BITUMINOUS CONCRETE PATH TO PROVIDE ADA ACCESS TO CONCESSION BUILDING ENTRANCE - SEE DETAIL
D - EX. SLAB = 297.8'
SLOPE OF HANDICAP WALKWAY
A TO B = 1.50%
B TO C = 2.20%
C TO D = 0.48%

NOTE: GUTTER DOWNSPOUTS SHALL BE DIRECTED TO NORTHWEST CORNER OF THE BUILDING AS SHOWN BY DIRECTIONAL ARROWS SO THAT RUNOFF CAN BE DIRECTED TO UNDERGROUND PUMP CHAMBER. THE 6" PIPES SHALL HAVE A MINIMUM OF 6' OF COVER AND A MINIMUM PIPE SLOPE OF 1.0% TO THE PUMP CHAMBER.

Invert of 6" PVC = 296.33'

Gutter Downspout - 3

5" K-Style Gutter (215 lf) with 2" x 3" downspouts

6" FILTREXX SOXX - SEE DETAIL

6" Solid PVC pipe - Collection pipe from 4 downspouts

Invert of 6" PVC = 297.0'

Distance from Gutter Downspout #1 to drain line = 2.9'
Distance from Gutter Downspout #2 to drain line = 2.6'
Distance from Gutter Downspout #3 to drain line = 2.9'
Distance from Gutter Downspout #4 to drain line = 2.6'

"C"

"D"

"E"

"F"

"G"

"H"

NOTE: GRADE SWALE FROM SPOT ELEVATION OF 295.73' TO LIMIT OF DELINEATED INLAND WETLAND BOUNDARY

12" FILTREXX SOXX - SEE DETAIL

North

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT TRINKAUS ENGINEERING

EROSION CONTROL PLAN
SHEET 6 of 7
PROJECT #015-2019
SCALE: 1"= 20'
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut

CONSTRUCTION SEQUENCE FOR LOW BIOSWALE IN PARKING AREA

1. The Filtrexx Soxx shall be installed both upgradient and downgradient of the proposed Bioswale as shown on the plan. The Filtrexx Soxx shall be installed in accordance with the manufacturer's specifications and the detail shown on these plans.
2. The Bioswale sections and filter strip shall be graded per the information found on this plan. The area of the Filter Strip and the side slopes of the Bioswale shall be over-excavated by 4" for the placement of top-soil in these areas. The bottom of the Bioswale shall be over-excavated by 12" for the placement of the Bioretention Soil Media specified on this plan.
3. Prior to the placement of the Bioretention Soil Media and then the topsoil, the bottom and side walls of the excavation shall be scarified by using a metal garden rake to remove any smeared soil from these surfaces. Any soil loosened by this procedure shall be removed from the area of excavation.
4. The Soil Media for the Bioswale shall be installed after it has been pre-mixed by the contractor. It shall be lightly compacted by using the bucket of a mini-excavator.
5. Topsoil shall be placed on the side slopes of the Bioswale and in the grass filter strip. It shall also be lightly compacted using the bucket of a mini-excavator.
6. The Bioswale shall be seeded using one of the seed mixtures specified on this plan. The Town of East Hampton shall specify which soil mix they want to use. After the placement of the seed mix, a layer of shredded straw mulch shall be placed over the Bioswale and Filter Strip and then the area shall be watered as needed to ensure germination of the seed mixture.
7. The Filtrexx Soxx shall remain in place until vegetative cover has been established. The upper Filtrexx Soxx shall be moved slightly downhill to the upper limit of the Filter Strip to facilitate the grading of the parking area.

CONSTRUCTION SEQUENCE FOR PARKING AREA (standard asphalt and PVC permeable pavers)

1. The entire parking lot including those area to be bituminous concrete and PVC paver shall be graded to the required subgrade elevation.
2. Gravel for the subbase of the area of the bituminous concrete shall be brought to the site and placed per the plan. The gravel subbase shall be compacted to 95% Proctor Density for the material.
3. The bituminous concrete base course shall be placed, and compacted by mechanical means.
4. Prior to the placement of the finish course of the PVC paver systems shall be installed as stated below.

CONSTRUCTION SEQUENCE FOR PVC pavers

1. The bottom and sidewalls of the excavation for the PVC pavers shall be scarified by a mini-excavator and/or metal garden rake. The loose materials shall be removed and placed outside the area of the excavation. This material can be used to improve the existing berm as shown on the plan.
2. The gravel layers shall be placed for the PVC pavers from outside the limit of the excavation. The gravel shall be spread by the bucket of the excavator and leveled by hand. After the gravel has been spread, a walk behind mechanical tamper shall be used to lightly compact the base gravel layer prior to the placement of the upper layer of gravel.
3. The upper layer of gravel shall be placed in the same manner as the bottom layer of gravel. Again, the material shall be lightly compacted.
4. The PVC paver units shall be placed and the ground stakes shall be installed to hold the paver grids in place. The contractor shall follow the Installation Guide for this type of system found on the website link provided on this page.
5. After the paver units have been placed, they shall be filled with clean pea gravel. Striping for parking spaces shall be painted on the pavers and gravel. Each stripe shall be 4" in width for the entire length of the parking space.

CONSTRUCTION SEQUENCE FOR BIORETENTION SYSTEM #1 AND ASSOCIATED DRAINS AND SWALES

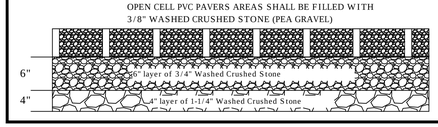
1. Plants in the existing rain garden shall be removed intact and temporarily placed near the existing shed for reuse.
2. The area of the new Bioretention system shall be excavated to the required subgrade as shown on detail for this system.
3. It is imperative that the bottom of the excavation is intercepting the native layer of soil and gravel encountered in DT - 1. Once the excavation has been done, the bottom and sidewalls of the excavation shall be scarified by the teeth on a mini-excavator or metal garden rake. Loose material shall be removed from this area and can be used for grading elsewhere on the site.
4. The PVC overflow pipes shall be installed per the plan and detail. The overflow pipe shall be connected to the existing catch basin as shown.
5. After the installation of the PVC pipes, the soil media for the Bioretention system shall be placed by an excavator located outside the Bioretention cell. The material shall be raked level. It shall be seed with either one of the seed mixtures shown on this plan. After seeding, the area shall be covered with shredded straw mulch and watered as necessary for germination of the seeds.
6. The curtain drain to be constructed at the north end of the Basketball courts shall be installed in accordance with the approved plans. It shall be connected to the Bioretention system as shown and the outlet protection at the end of the pipe shall also be installed.
7. A small section of 12" Filtrexx Soxx shall be installed at the bottom of the proposed riprap swale at the Bioretention system.
8. The parabolic riprap swale from the corner of the tennis court to the Bioretention shall be installed in accordance with the plan and detail. The Filtrexx Soxx shall remain in place until the vegetation has become established in the system. The plants removed from the old rain garden shall be replanted on either berm or the regraded slope on the high side of the Bioretention system.

CONSTRUCTION SEQUENCE FOR BIORETENTION SYSTEM #2 AND ASSOCIATED DRAINS AND SWALES

1. Install 12" Filtrexx Soxx below Bioretention System #2 and 6" Filtrexx Soxx at edge of pavement in corner of parking area and at low point on left hand side of driveway.
2. Excavate Bioretention system using excavator from outside the limits of the Bioretention system to the required subgrade elevation.
3. After the required subgrade has been reached, the bottom and side walls of the excavation shall be scarified using the excavator or metal garden rake. The loose material shall be removed from the area of the Bioretention system.
4. The Soil Media shall be placed and rake level to the maximum extent practical. The soil shall seeded with one of the seed mixtures specified on the plan. The Town of East Hampton shall determine the seed mixture to be used. After seeding, it shall be covered with shredded straw mulch.
4. The grass swale from the end of the Bioretention system to the low point on the edge of the driveway and in accord with the detail on the plan. The grass swale shall be seeded with a perennial rye grass. The seed shall be covered with a shredded straw mulch.
5. The riprap swale from the corner of the parking area shall be constructed per the detail shown on the plan. The 6" Filtrexx Soxx shall remain in place at the edge of the parking area until vegetation has been established in the Bioretention System.

Note: Boundary survey data taken from mapping by CLA. Field topographic information by RKW Land Surveying.

NOTE: REFERENCE IS MADE TO SITE PLAN PREPARED BY ANCHOR ENGINEERING FOR MORE INFORMATION ON PARKING LAYOUT AND SPECIFICATIONS FOR PAVED PARKING AREA, BITUMINOUS CURBING AND LANDSCAPING.



MAINTENANCE REQUIREMENTS FOR PAVING STONE SYSTEM:

Maintenance for Paving stone systems are very simple when gravel is used as the filler between the paving stones.

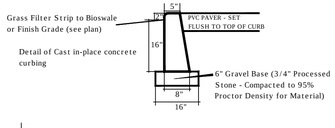
1. No sand is to be applied during winter season. Pellet decing salts shall be used to prevent black ice, if needed.
2. Snow blow blade shall be set to be 1/2" above top of pavers to prevent damage. Remaining snow will melt and infiltrate into gravel
3. Inspect paver surface twice a year. Remove any leaves, sticks or organic matter as needed.
4. Twice a year, use a leaf blower (hand held or wheeled) and lightly blow any loose sediments, and organic material off the paver surface.
5. If the stone gets clogged by sediment where infiltration is not possible, then a sweeper/vacuum system needs to be used to remove the sediment and some of the stone in the clogged area. Any removed stone by vacuuming shall be replaced with identical material. Depth of removal pea gravel should not exceed 1/2".

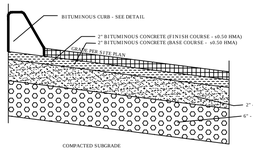
INITIAL MAINTENANCE REQUIREMENTS FOR BIOSWALE & GRASS SWALES:

1. Water the seed mixture in the swales as needed to ensure the establishment of the vegetation.
2. Remove organic debris and leaves from the swales twice a year (late spring and late fall). Removed material shall be disposed of in a proper manner away from the lake area.

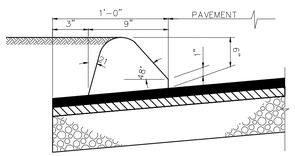
LONG TERM MAINTENANCE REQUIREMENTS FOR BIOSWALES & GRASS SWALES:

1. System shall be inspected twice a year and non-native plants and weeds shall be removed as needed,
2. The perennial vegetation shall be cut back in Late October and the cut vegetation removed from the swale system and disposed off in a proper manner,
3. Accumulated leaves shall be removed from the swale system in the fall and spring as needed,
4. If there is visible accumulation of sediment on the surface of the soil media which is deeper than 1", then the accumulated sediment shall be removed by hand using a rake and shovel and disposed of away from the Bioswale. The surface of the Bioswale media shall be lightly raked to loosen the soil surface and restore the infiltrative surface by using a metal lawn rake so as not to disturb the healthy vegetation.





CROSS SECTION OF STANDARD BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE



SECTION

CURB NOTES:

1. SURFACE ON WHICH CURBING IS PLACED SHALL BE CLEAN AND AN APPROVED TACK COAT SHALL BE APPLIED JUST PRIOR TO PLACING CURB.
2. CURBING SHALL BE MACHINE EXTRUDED.

BITUMINOUS CONCRETE CURB (BCLC)

NOT TO SCALE

SEED MIXTURES FOR BIORETENTION CELL

NEW ENGLAND CONSERVATION/WILDLIFE SEED MIXTURE BY NEW ENGLAND WETLAND PLANTS (www.newp.com):

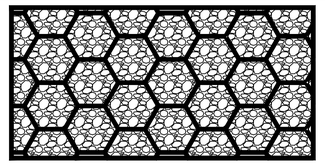
VIRGINIA WILD RYE
LITTLE BLUESTEM
BIG BLUESTEM
RED FESCUE
SWITCH GRASS
PARTRIDGE PEA
INDIAN GRASS
SHOWY TICK TREFOIL
BUTTERFLY MILKWEED
BEGGAR TICKS
PURPLE JOE PYE WEED
BLACK EYED SUSAN
HEATH (OR HAIRY) ASTER
EARLY GOLDENROD

1 POUND PER 1,750 SQUARE FEET (APPLICATION RATE)

NEW ENGLAND SHOWY WILDFLOWER SEED MIXTURE BY NEW ENGLAND WETLAND PLANTS:

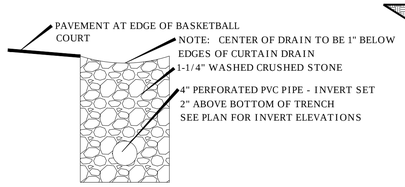
LITTLE BLUESTREM
PARTRIDGE PEA
INDIAN GRASS
RED FESCUE
CANADA WILD RYE
RIVERBANK WILD RYE
OX EYE SUNFLOWER
LANCE LEAVED COREOPSIS
BLACK EYED SUSAN
SPIKED GRAYFEATHER/MARSH BLAZING STAR
COMMON MILKWEED
NEW YORK IRONWEED
NEW ENGLAND ASTER
PURPLE JOE PYE WEED
BUTTERFLY MILKWEED
EARLY GOLDENROD
BONESET

1 POUND PER 1,900 SQUARE FEET (APPLICATION RATE)

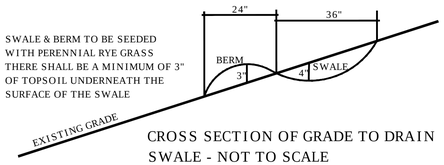


PVC OPEN CELL PAVER SYSTEM
NOT TO SCALE

(www.typargeosynthetics.com/products/porous-paving/bodpave-85-porous-pavers.html)



DETAIL OF CURTAIN DRAIN
NOT TO SCALE



CROSS SECTION OF GRADE TO DRAIN SWALE - NOT TO SCALE

INITIAL MAINTENANCE REQUIREMENTS FOR BIORETENTION:

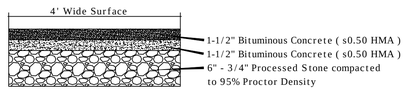
1. The bioretention system must be installed and fully vegetated prior to the introduction of stormwater,
2. The plants shall be watered as needed after seeding to fully establish themselves,
3. System shall be inspected twice a year and non-native plants and weeds shall be removed as needed,

LONG TERM MAINTENANCE REQUIREMENTS FOR BIORETENTION:

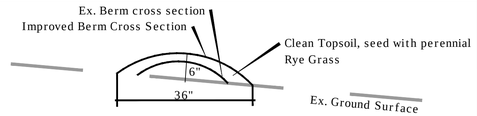
1. System shall be inspected twice a year and non-native plants and weeds shall be removed as needed,
2. The perennial vegetation shall be cut back in Late October and the cut vegetation removed from the bioretention system and disposed off in a proper manner,
3. Accumulated leaves shall be removed from the bioretention system in the fall and spring as needed,
4. If there is visible accumulation of sediment on the surface of the soil media which is deeper than 1 cm, then the accumulated sediment shall be removed by hand using a rake and shovel and disposed of away from the Bioretention facility. The surface of the Bioretention media shall be lightly raked to loosen the soil surface and restore the infiltrative surface.

MAINTENANCE REQUIREMENTS FOR BIORETENTION:

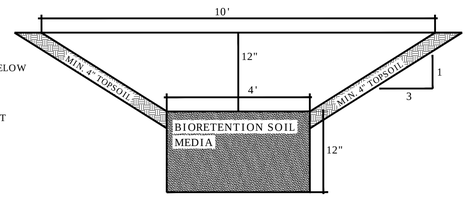
NOTE: BIORETENTION SYSTEMS ARE INFILTRATIVE STORMWATER MANAGEMENT SYSTEMS, WHOSE FUNCTIONALITY REQUIRES THAT THE SOIL SURFACE INTERFACE REMAINS PERMEABLE AND NOT CLOGGED BY A BUILD UP OF SEDIMENT OR ORGANIC DEBRIS ON THE SURFACE WHICH CAN REDUCE OR PREVENT THE INFILTRATION OF RAINFALL RUNOFF. TO MAINTAIN THE FUNCTIONALITY OF A BIORETENTION SYSTEM, THE FOLLOWING MAINTENANCE PROTOCOL IS DEFINED TO ENSURE THE LONG-TERM FUNCTIONALITY OF THE BIORETENTION SYSTEM.



SIDEWALK DETAIL
NOT TO SCALE

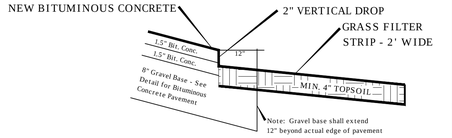


Detail of Improved Berm
Not to Scale

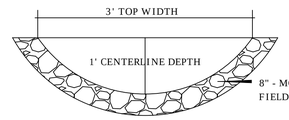


CROSS SECTION OF BIOSWALE
NOT TO SCALE

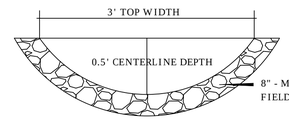
COMPOSITION OF SOIL MEDIA FOR BIORETENTION SYSTEM:
WASHED CONCRETE COARSE SAND (85% by volume)
WELL DECOMPOSED LEAF COMPOST (11% by volume)
SANDY TOPSOIL OR LOAM (4% by volume)**
** TOPSOIL OR LOAM SHALL HAVE LESS THAN 2.0% CLAY CONTENT



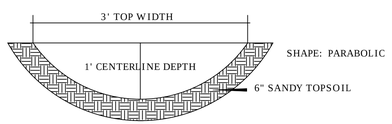
SECTION OF PAVEMENT EDGE TO GRASS FILTER STRIP
NOT TO SCALE



CROSS SECTION OF SWALE #1
NOT TO SCALE

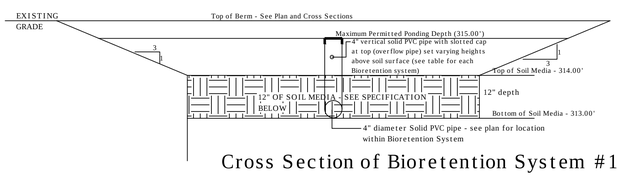


CROSS SECTION OF SWALE #2
NOT TO SCALE

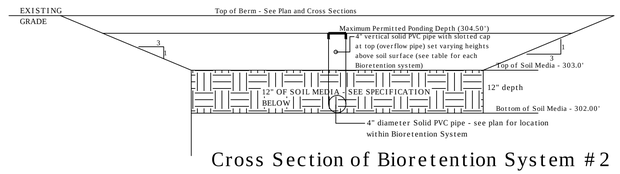


CROSS SECTION OF SWALE #3
NOT TO SCALE

COMPOSITION OF SOIL MEDIA FOR BIORETENTION SYSTEM:
WASHED CONCRETE COARSE SAND (85% by volume)
WELL DECOMPOSED LEAF COMPOST (11% by volume)
SANDY TOPSOIL OR LOAM (4% by volume)**
** TOPSOIL OR LOAM SHALL HAVE LESS THAN 2.0% CLAY CONTENT



Cross Section of Bioretention System #1
Not to scale



Cross Section of Bioretention System #2
Not to scale

TRINKAUS ENGINEERING, LLC
CIVIL ENGINEERS
114 HUNTERS RIDGE ROAD
SOUTHBURY, CONNECTICUT 06488
203-264-4558 (phone & fax)
Email: strinkaus@earthlink.net
Website: http://www.trinkausengineering.com

LOW IMPACT SUSTAINABLE DEVELOPMENT TRINKAUS ENGINEERING

CONSTRUCTION DETAIL SHEET
SHEET 7 of 7
PROJECT # 015-2019
SCALES AS NOTED
DATE: 3/14/2020, Rev. 5/25/20

PREPARED FOR
TOWN OF EAST HAMPTON
SEARS PARK
East Hampton - Connecticut