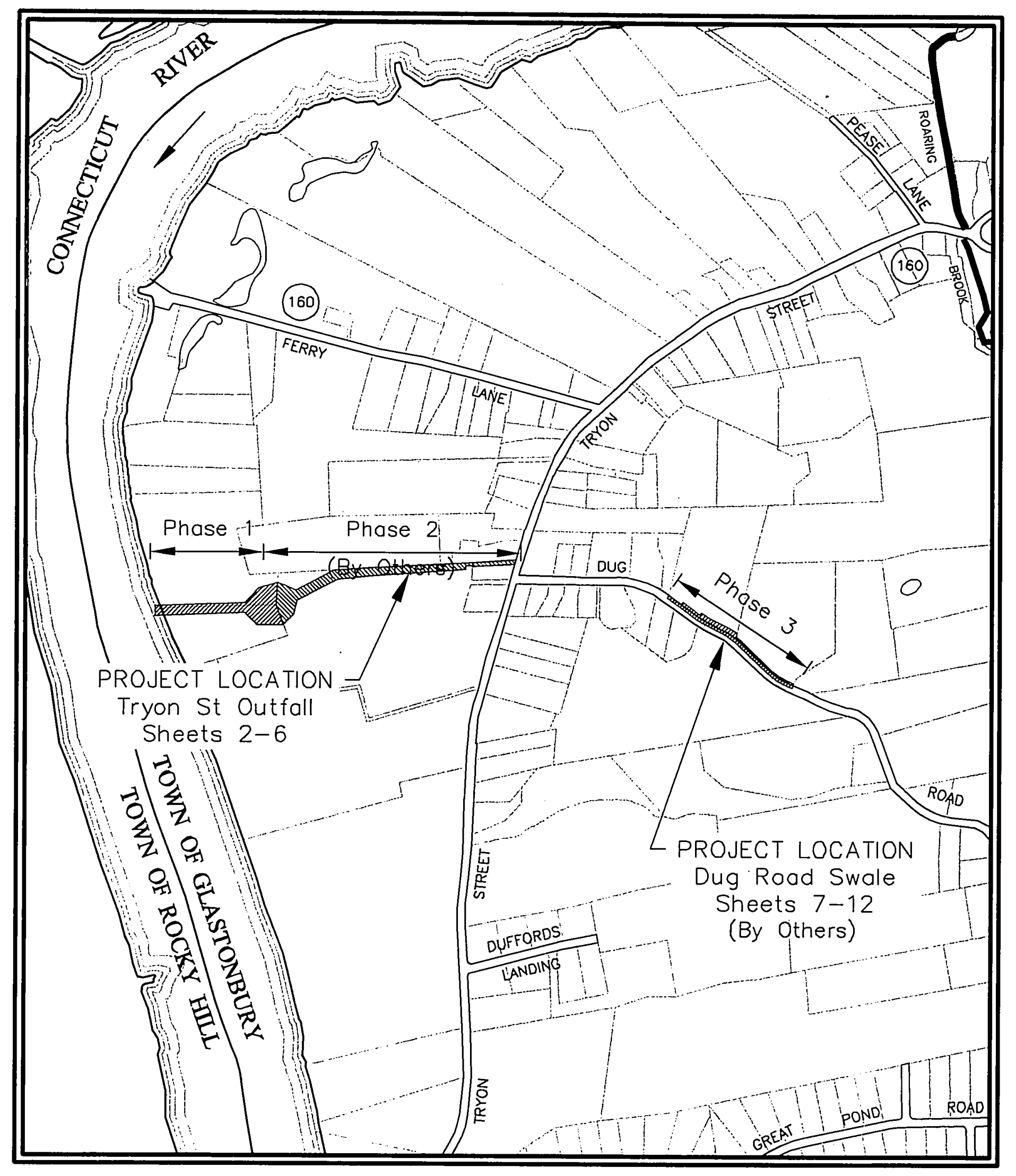
FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013

TOWN OF GLASTONBURY
ENGINEERING DEPARTMENT
PROPOSED STORM DRAINAGE IMPROVEMENTS
PW-9278
located at
TRYON STREET & DUG ROAD
GLASTONBURY, CONNECTICUT

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. No.
1	TITLE SHEET	4
2	PROPOSED STORM DRAINAGE IMPROVEMENTS PLAN & PROFILE – PHASE 1 TRYON STREET OUTFALL	2
3	PROPOSED STORM DRAINAGE IMPROVEMENTS PLAN & PROFILE – PHASE 2 TRYON STREET OUTFALL	3
4	EROSION & SEDIMENTATION CONTROL NOTES PHASE 1 & 2 TRYON STREET OUTFALL	3
5,6	CONSTRUCTION DETAILS PHASE 1 & 2 TRYON STREET OUTFALL	3
7,8	PROPOSED STORM DRAINAGE IMPROVEMENTS PLAN & PROFILE – PHASE 3 DUG ROAD SWALE	3
9-11	PROPOSED STORM DRAINAGE IMPROVEMENTS CROSS SECTIONS – PHASE 3 DUG ROAD SWALE	2
12	DETAILS AND SPECIFICATIONS	3

NOT IN CONTRACT



LOCATION MAP
SCALE: 1"=1000'

DECEMBER 2013

ISSUED FOR PHASE 1 CONSTRUCTION

RICHARD J. JOHNSON
TOWN MANAGER

DANIEL A. PENNINGTON
TOWN ENGINEER/MANAGER OF PHYSICAL SERVICES

MEMORANDUM

To: Town Plan & Zoning Commission

From: John Rook, AICP, Planner

Date: October 28, 2013

Re: Recommendations to the Town Plan and Zoning Commission concerning a Section 4.11 (Flood Zone) Special Permit – proposed Storm Drainage System from Dug Road and Tyron Street to the Connecticut River with new outfall (across properties of #302, 306 and assessor's lot W-20 Tryon Street) – Stephen Braun, Assistant Town Engineer

During its Regular Meeting of October 24, 2013, the Conservation Commission recommended to the Town Plan and Zoning Commission approval of a Section 4.11 (flood zone) Special Permit for the proposed Storm Drainage System from Dug Road and Tyron Street to the Connecticut River. The attached motion was approved by the Commission.

JR:gfm

cc: Stephen Braun
Peter R. Carey, Building Official

APPROVED RECOMMENDATION TO
THE TOWN PLAN & ZONING COMMISSION

MOVED, that the Conservation Commission recommends to the Town Plan and Zoning Commission approval of a Section 4.11 (Flood Zone) Special Permit for the Town of Glastonbury's proposed storm drainage improvements along sections of Dug Road and leading westerly across Tryon Street and over land to the Connecticut River, in accordance with plans on file in the Office of Community Development, and in compliance with the following conditions:

1. The plans for this project shall be revised to the satisfaction of the Environmental Planner to indicate: the locations and design details for water stops or anti-seepage collars within the backfilled trench between the river and upgradient wetlands; a specified seed mix containing native wetland plants, along with seeding rates and seedbed preparation and planting information; and the submitted maintenance plan for stormwater facilities.
2. Installation of soil erosion and sedimentation control and stabilization measures shall be the Permittee's responsibility. Once installed these measures shall then be inspected by the Environmental Planner prior to land disturbance activities. Afterwards it then shall be the Permittee's responsibility to inspect these control measures during, and immediately following, substantial storm events and maintain and/or replace the control measures, when needed, on a regular basis until the site is vegetatively stabilized. Hay bales shall be replaced every 60 days. The Environmental Planner is hereby authorized to require additional soil erosion and sediment controls and stabilization measures to address situations that arise on the site.
3. In the event of a forecasted flood of the Connecticut River or a forecasted heavy rain within the Dug Road watershed, contingency measures shall be undertaken, under consultation with the Environmental Planner, in order to cease prescribed construction operations and to temporarily stabilize critical areas.
4. Upon completion of the project, certification from the Town Engineer shall be required confirming that the stormwater management system was constructed in conformance with the approved design, and that no available flood storage was lost within the 100-year Flood Zone. Such certification shall be provided to the Office of Community Development.

****

Town of Glastonbury
2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

TOWN PLAN AND
ZONING COMMISSION

SECTION 4.11 FLOOD ZONE SPECIAL PERMIT

APPLICANT/
OWNER: RICHARD J JOHNSON
TOWN OF GLASTONBURY
2155 MAIN STREET
POST OFFICE BOX 6523
GLASTONBURY, CT 06033

RE: INTERSECTION OF TRYON
STREET & DUG ROAD

MOVED, that the Town Plan and Zoning Commission approve the application of the Town of Glastonbury for a Section 4.11 Special Permit (Flood Zone) for a new drainage system – intersection of Tryon Street & Dug Road extending to a new outlet at rear of 306 Tryon Street – Rural Residence Zone & Flood Zone, in accordance with the following plans:

"TITLE SHEET FOR STORM DRAINAGE IMPROVEMENTS PHASE 1, 2 & 3 LOCATED AT TRYON STREET & DUG ROAD GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: C.F.S. 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 1 OF 12 OLISP SUBMISSION – REVISIONS 10/30/2012 DEEP IWRD/COMMENTS – REVISIONS 1/4/2013 ADD SED. STRUCTURE AT DUG RD. & FILTER BERM AT OUTFALL #1 & DETAILS FOR NEW STRUCTURES 9/30/2013"

"PLAN & PROFILE DEPICTING PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 1 LOCATED BEHIND 306 TRYON STREET GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: C.F.S. 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 2 OF 12 ADJUSTED FLARED END G3 LOCATION/GRADING 10/30/2012"

" PLAN & PROFILE DEPICTING PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 2 LOCATED AT 302 & 306 TRYON STREET GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: C.F.S. 8/15/2012 CHECKED BY: S.M.B . 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 3 OF 12 ADDED TEST PIT LOCATION/DATA 1/4/2013 ADD SED. STRUCTURE AT DUG RD & FILTER BERM AT OUTFALL #1 9/30/2013"

EROSION CONTROL NOTES FOR PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 1 & 2 LOCATED AT 302 & 306 TRYON STREET GLASTONBURY, CONNECTICUT SCALE: AS SHOWN DRAWN BY: C.F.S. 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 4 OF 12 ADD GRADING/ PLANTING PLAN 10/30/2012 ADD EROSION CONTROL MAT DETAIL 1/4/2013"

"CONSTRUCTION DETAILS FOR PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 1 & 2 LOCATED AT 302 & 306 TRYON STREET GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: C.F.S. 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 5 OF 12 MOD. SCOUR HOLE ADD SED. STRUCT. JUNCTION CHAMBER 1/4/2013"

"CONSTRUCTION DETAILS FOR PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 1 & 2 LOCATED AT 302 & 306 TRYON STREET GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: C.F.S. 11/26/2012 CHECKED BY: S.M.B. 11/26/2012 APPROVED BY: D.A.P. 11/26/2012 SHEET NO. 6 OF 12 ADDED INFILTRATOR DETAILS "SHEET 6" 1/4/2013 ADD SED. & DIVERSION STRUCTURE DETAILS 9/30/2013"

"PLAN & PROFILE DEPICTING PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 3 LOCATED ON DUG ROAD GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: S. TROY 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 7 OF 12 REV. SHEET NUMBER 1-4-2013"

"PLAN & PROFILE DEPICTING PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 3 LOCATED ON DUG ROAD GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: S. TROY 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 8 OF 12 REV. SHEET NUMBER, TP-DATA, BASIN DETAILS 1-4-2013 ADD DRIVEWAY CULVERT FOR LOT N7 9-30-2013"

"CONSTRUCTION DETAILS DEPICTING PROPOSED STORM DRAINAGE IMPROVEMENTS PHASE 3 LOCATED ON DUG ROAD GLASTONBURY, CONNECTICUT TOWN OF GLASTONBURY ENGINEERING SCALE: AS SHOWN DRAWN BY: S. TROY 8/15/2012 CHECKED BY: S.M.B. 8/15/2012 APPROVED BY: D.A.P. 8/15/2012 SHEET NO. 12 OF 12 REV. SHEET NUMBER, ADD DRYWELL, SPILLWAY DETAILS 1-4-2013 ADDED OUTLET STRUCTURE D-1 FOR DRIVEWAY CULVERT 9-30-2013"

and in compliance with the following:

1. Compliance with conditions as recommended by the Conservation Commission during its meeting of October 24, 2013.

APPROVED: TOWN PLAN AND ZONING COMMISSION
NOVEMBER 19, 2013

SHARON H. PURTILL, CHAIRMAN

TOWN OF GLASTONBURY — *PROJECT/APPLICANT*
RURAL RESIDENCE & FLOOD ZONE — *ZONE*
#302, #306 & LOT W-20 TRYON STREET — *PROJECT ADDRESS*
SECTION 4.11 FLOOD ZONE — *SPECIAL PERMIT SECTION*
TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D
DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.

No. 20101

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

ALL UTILITY INFORMATION AND DATA SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS ARE COMPLIED FROM MAPS AND DATA FURNISHED BY OTHERS, ANY SUCH INFORMATION SHOULD NOT BE CONSTRUED AS ACCURATE OR COMPLETE AND THE CONTRACTOR SHALL VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION.

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PW-9278

DRAWING ISSUE STATUS

NO.	DESCRIPTION	DATE
4.	ISSUED FOR CONSTRUCTION	12/10/2013
3.	ADD SED. STRUCTURE AT DUG RD & FILTER BERM AT OUTFALL #1 & DETAILS FOR NEW STRUCTURES	9/30/2013
2.	DEEP IWRD/COMMENTS – REVISIONS	1/4/2013
1.	OLISP SUBMISSION – REVISIONS	10/30/2012

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	8/15/2012
CHECKED BY: S.M.B.	8/15/2012
APPROVED BY: D.A.P.	8/15/2012
ST. FILE:	

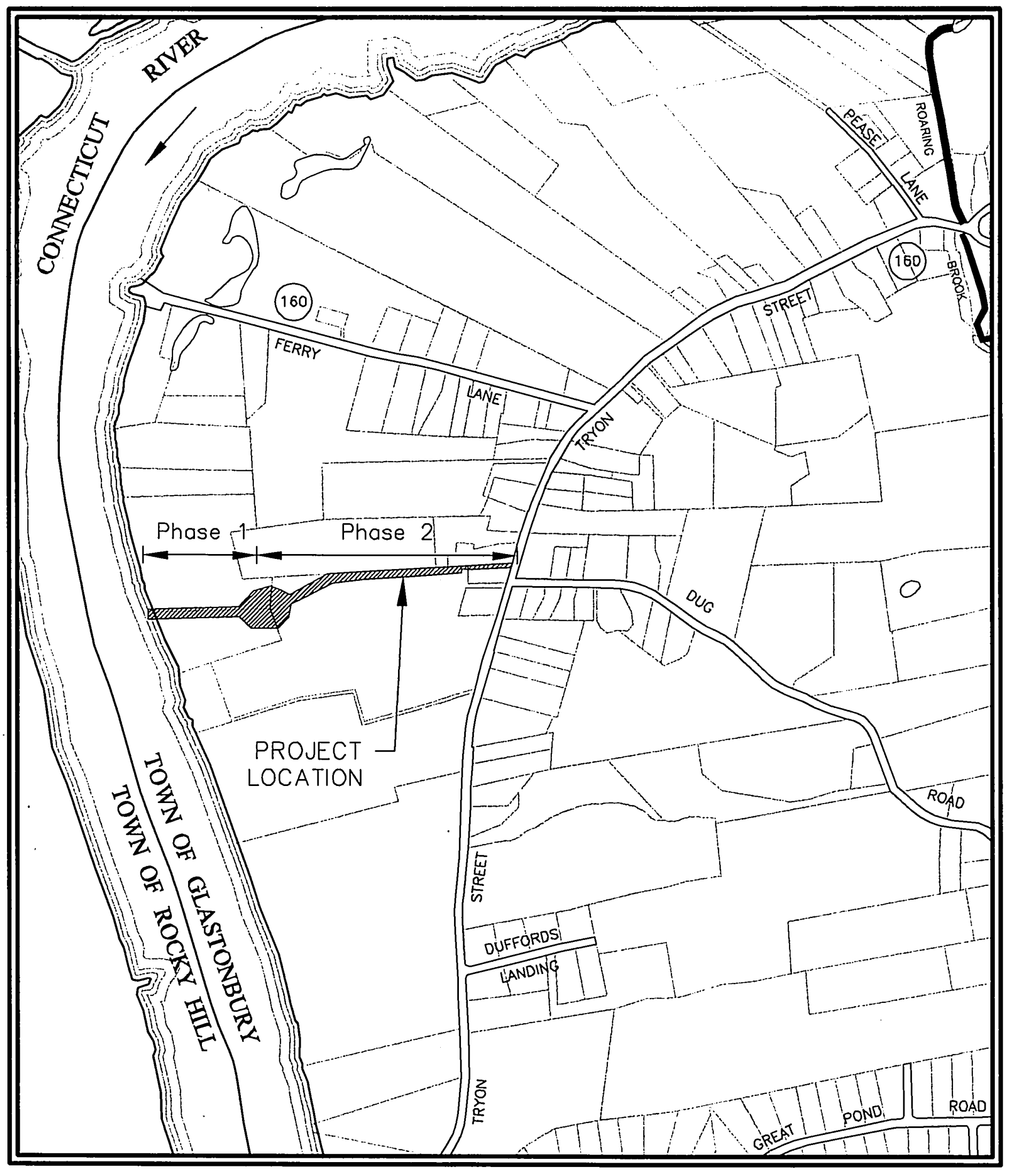
DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

TITLE SHEET
FOR
STORM DRAINAGE IMPROVEMENTS
PHASE 1, 2 & 3
located at
TRYON STREET & DUG ROAD
GLASTONBURY, CONNECTICUT

SHEET NO.
1
OF 12

FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013

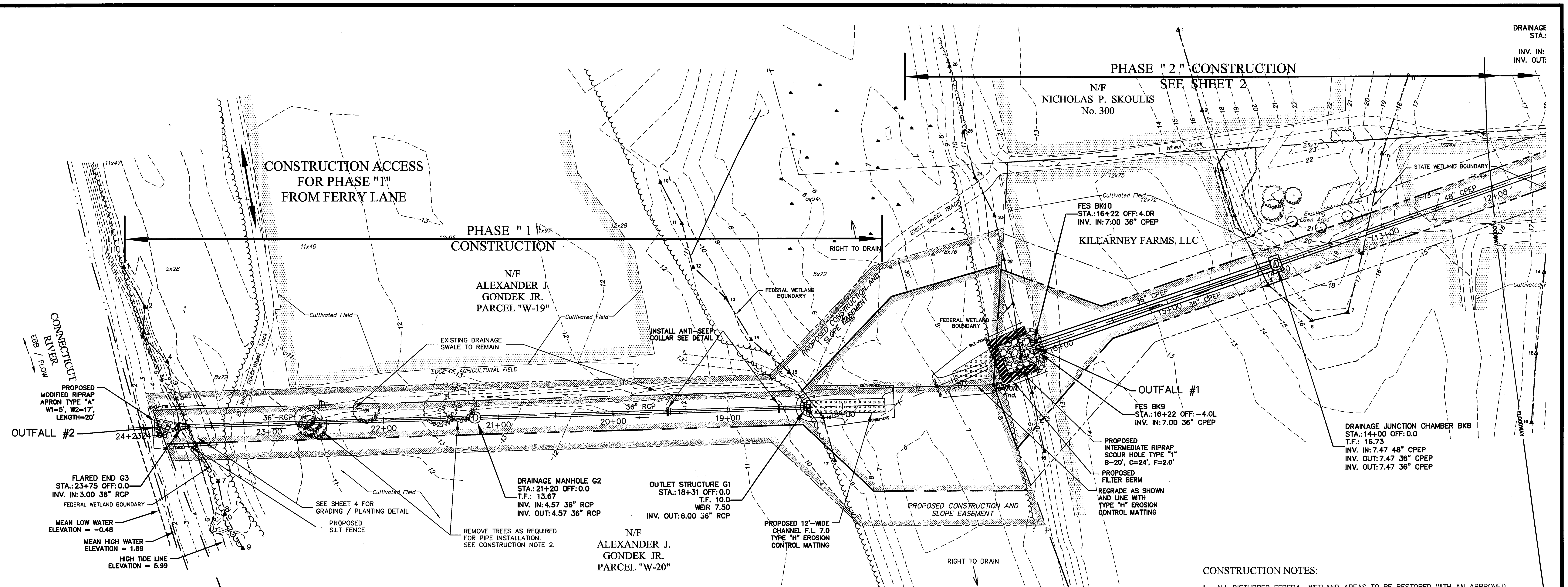


LOCATION MAP

SCALE: 1" = 1000'

Elevations Based on NAVD 1988	
High Tide Line	5.99
Mean High Water	1.69
Mean Low Water	−0.48
Mean Lower Low Water	−0.59

ELEVATIONS FOR HTL, MHW AND MLW WERE OBTAINED FROM THE RIVERFRONT PARK PHASE 2 PROJECT THAT WAS APPROVED AUGUST 21, 2012.



PLAN
SCALE: 1" = 50'

CONSTRUCTION NOTES:

1. ALL DISTURBED FEDERAL WETLAND AREAS TO BE RESTORED WITH AN APPROVED WETLAND SEED MIX.
2. LIMITS OF CLEARING SHALL BE FLAGGED IN THE FIELD BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER. IN PHASE 1 AREA CONTRACTOR SHALL DISPOSE OF BRUSH, AND STOCKPILE FIREWOOD FOR USE BY PROPERTY OWNER.
3. ALL PRECAST CONCRETE STRUCTURES SHALL BE SET ON A 6" THICK BASE OF 3/4" CRUSHED STONE, WHICH SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE STRUCTURE.

SURVEY NOTES:

LOCATION OF FEATURES AND CONTOUR DATA DEPICTED HEREON WHERE ACQUIRED THROUGH FIELD SURVEY CONDUCTED FROM 1992 TO 2010 SUPPLEMENTED THROUGH OCT. 2012.

THERE IS NO BOUNDARY/DETERMINATION OPINION.

NOT ALL IMPROVEMENTS ARE DEPICTED HEREON.

HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 – (NAD83).

ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 – (NAVD88).

WETLAND DATA DEPICTED HEREON WAS FLAGGED ON 8/15/2011 BY R. RICHARD SNARSKI REGISTERED SOIL SCIENTIST AND FIELD SURVEY CONDUCTED 8/19/2011.

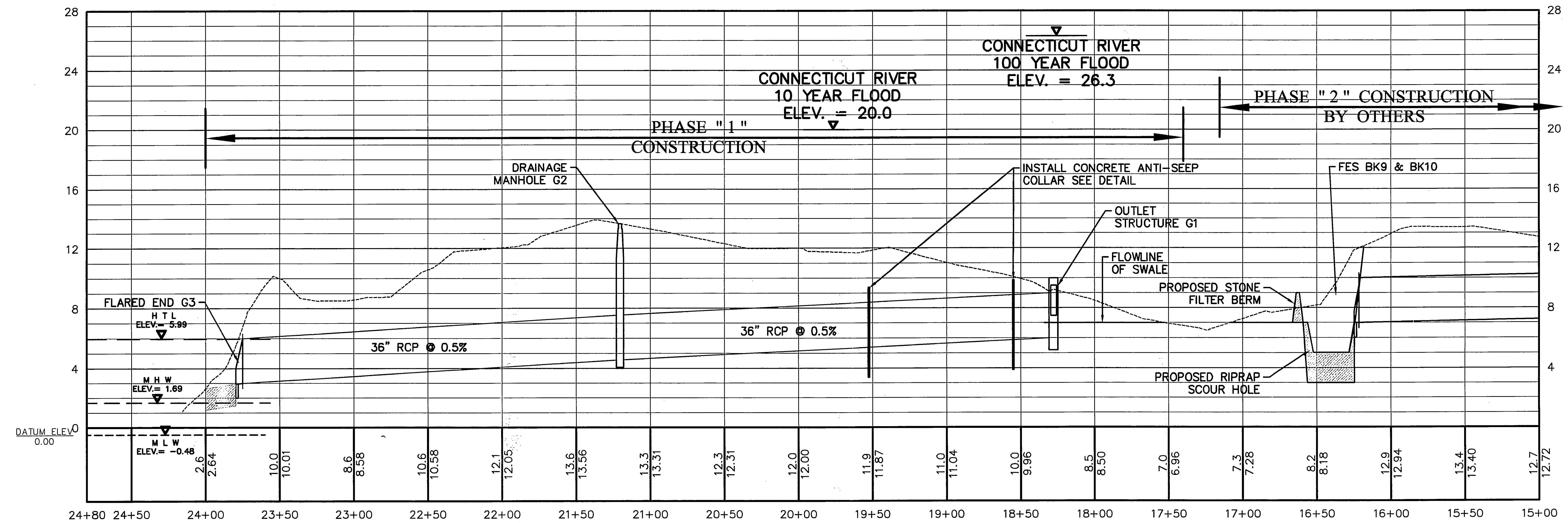
THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

REPRODUCTIONS OF THIS PLAN ARE INVALID IF THEY DO NOT BEAR THE IMPRESSION SEAL OF THE UNDERSIGNED LAND SURVEYOR AND/OR PROFESSIONAL ENGINEER.

REFERENCE FOR FLOOD WAY AND FLOOD ZONES IS MADE TO FLOOD INSURANCE RATE MAP ENTITLED: "NATIONAL FLOOD INSURANCE PROGRAM PANEL 0536F FIRM FLOOD INSURANCE RATE MAP HARTFORD COUNTY, CONNECTICUT (ALL JURISDICTIONS) PANEL 536 OF 675 MAP NUMBER 09003C0536F U.S. DEPARTMENT OF HOMELAND SECURITY EFFECTIVE DATE: SEPTEMBER 26, 2008 FEDERAL EMERGENCY MANAGEMENT AGENCY"

Wetlands delineated per requirements of CT Tidal Wetlands and Inland Wetlands Acts.

Richard Snarski   Date
Soil Scientist



PROFILE
SCALE: 1" = 50' HORZ.
SCALE: 1" = 5' VERT.

TOWN OF GLASTONBURY — PROJECT/APPLICANT
RURAL RESIDENCE & FLOOD ZONE — ZONE
#302, #306 & LOT W-20 TRYON STREET — PROJECT ADDRESS
SECTION 4.11 FLOOD ZONE — SPECIAL PERMIT SECTION
TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D
DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

IF SCALING FROM THIS PLAN, VERIFY SCALE WITH THE GRAPHIC SCALE PROVIDED ABOVE.

PW-9278

DANIEL A. PENNINGTON No. 20101

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

DRAWING ISSUE STATUS		
2.	ISSUED FOR CONSTRUCTION	12/10/2013
1.	ADJUSTED FLARED END G3 LOCATION/GRADING	10/30/2012
NO.	DESCRIPTION	DATE

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GRID NORTH

PLAN & PROFILE
DEPICTING PROPOSED
STORM DRAINAGE IMPROVEMENTS
PHASE 1
located Behind
306 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
2
OF 12

FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013

NOTE:

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Wetlands delineated per requirements of CT Tidal Wetlands and Inland Wetlands Acts.

Richard Snarski Date
Soil Scientist

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PERC TEST
Perc 1 6.5' Depth
Rate = 0.17 Min./Inch.

Test Pits Logs

Investigated on December 12, 2011 south of proposed Drainage Line Sta. 4+80 to Sta. 9+80 as shown on plans

TP–E

0 – 14"	brown fine sandy loam topsoil
14 – 75"	uniform reddish brown very fine sandy loam (plant roots evident throughout)
75 – 90"	reddish brown coarse sand & gravel with traces of silt
90 – 120"	grayish white fine sand (No groundwater observed)
(Bottom)	

TP–M

0 – 18"	brown fine sandy loam topsoil
18 – 31"	reddish brown find sand
31 – 120"	uniform reddish brown medium to coarse sand & gravel with traces of silt
120– 144"	reddish brown coarse sand with some gravel observed from backhoe's bucket
(Bottom)	(Unwise to directly observe soil profile in pit) (No groundwater observed)

TP–W

0 – 15"	brown fine sandy loam topsoil8 – 33"red–brown silt loam
15 – 30"	reddish brown fine sand
30 – 162"	reddish brown coarse sand & gravel layering with varying amounts of gravel
(Bottom)	(& its size range) and silt composition in layers (Unwise to directly observe soil profile beyond 48") (No groundwater observed)

TOWN OF GLASTONBURY — *PROJECT/APPLICANT*
RURAL RESIDENCE & FLOOD ZONE — *ZONE*
#302, #306 & LOT W–20 TRYON STREET — *PROJECT ADDRESS*
SECTION 4.11 FLOOD ZONE — *SPECIAL PERMIT SECTION*
TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D
DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.

PROFILE
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SCALE: 1" = 5' VERT.

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DANIEL A. PENNINGTON P.E. Reg. No. 20101

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PW-9278

DRAWING ISSUE STATUS		
3.	ISSUED FOR CONSTRUCTION	12/10/2013
2.	ADD SED. STRUCTURE AT DUG RD & FILTER BERM AT OUTFALL #1	9/30/2013
1.	ADDED TEST PIT LOCATION/DATA	1/4/2013
NO.	DESCRIPTION	DATE

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	8/15/2012
CHECKED BY: S.M.B.	8/15/2012
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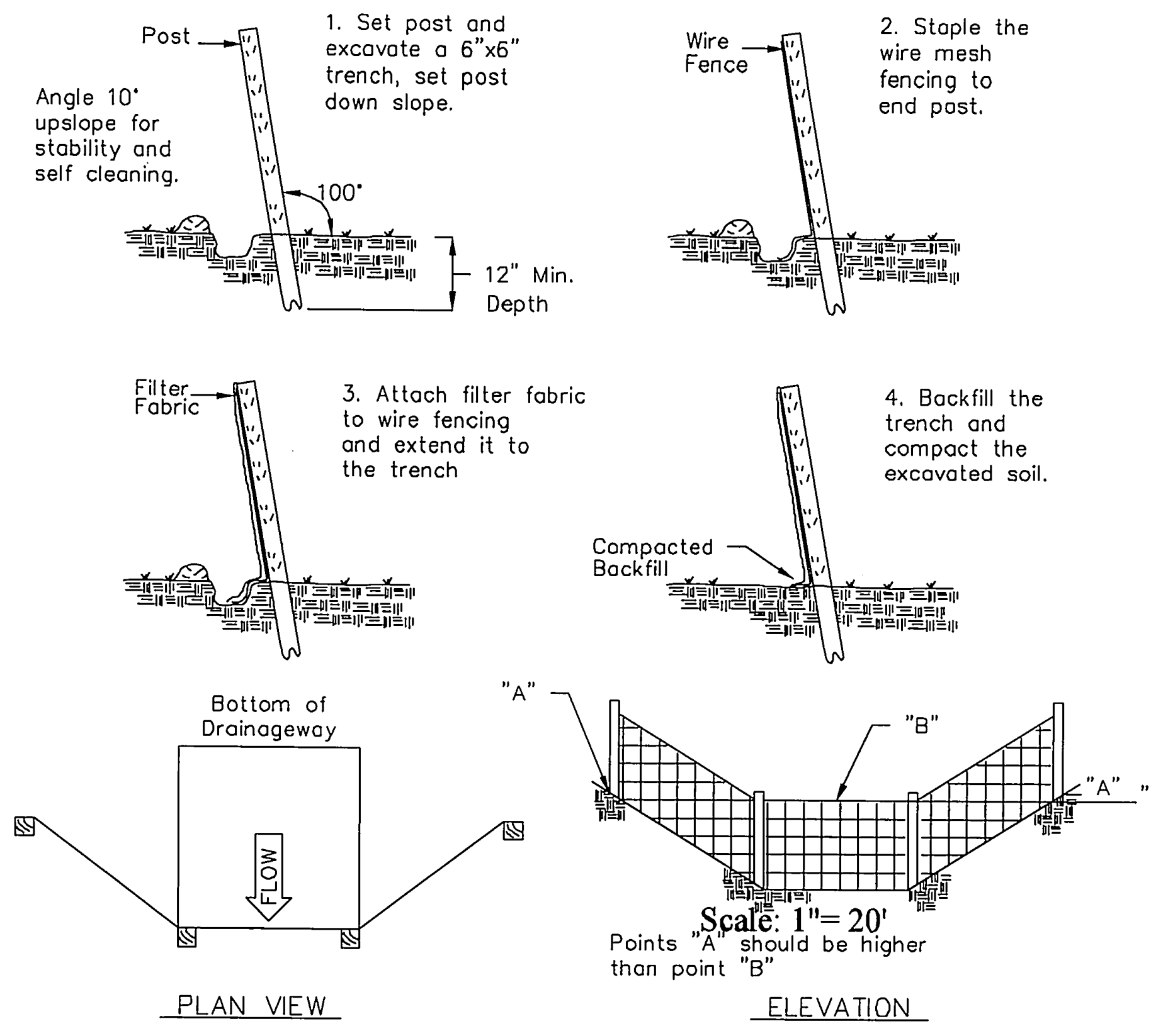
GRID NORTH

PLAN & PROFILE
DEPICTING PROPOSED
STORM DRAINAGE IMPROVEMENTS
PHASE 2
located at
302 & 306 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
3
OF 12

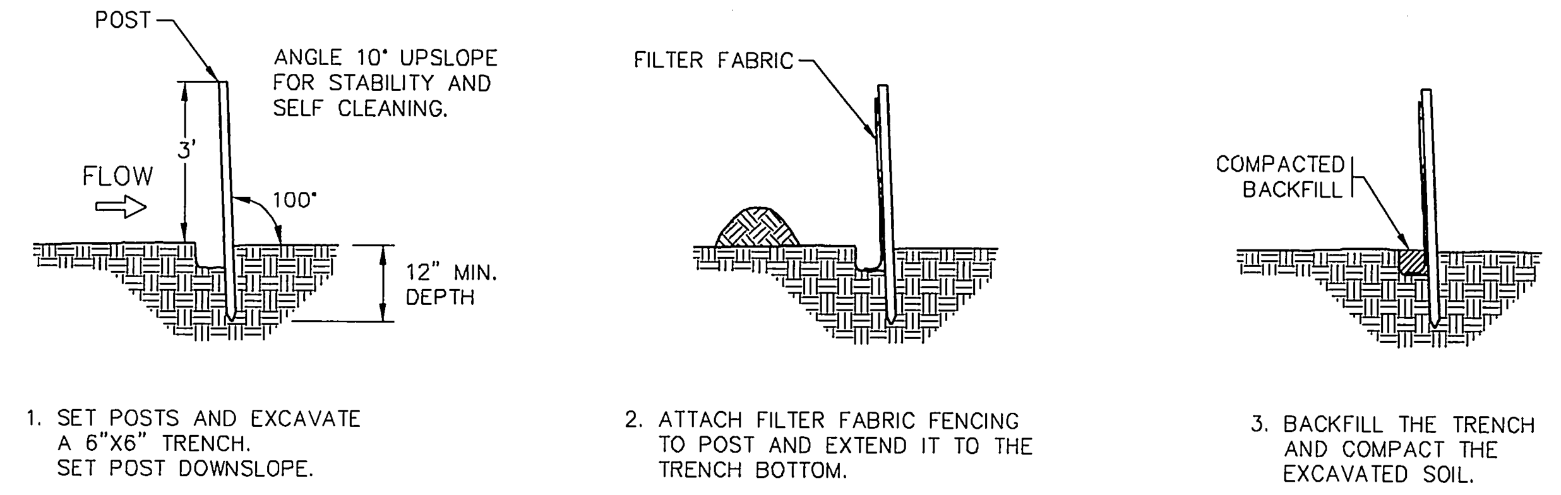
FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013



Source: U.S. Department of Agriculture, Soil Conservation Service, Storrs, Connecticut

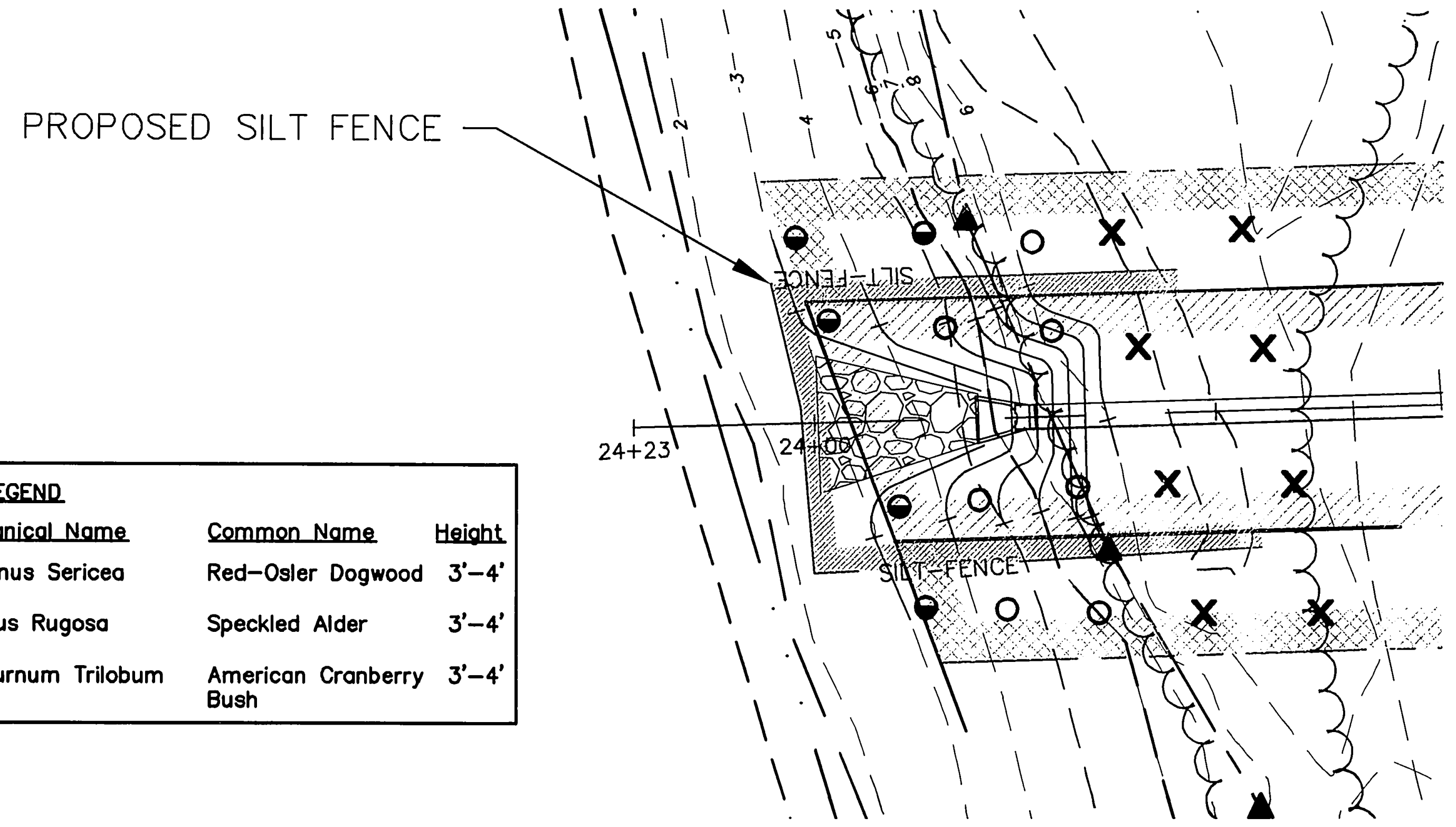
PLACEMENT AND CONSTRUCTION OF A SYNTHETIC FILTER BARRIER

fig 7-9 SILTFENC DWG



PLACEMENT & CONSTRUCTION OF SYNTHETIC FILTER BARRIER

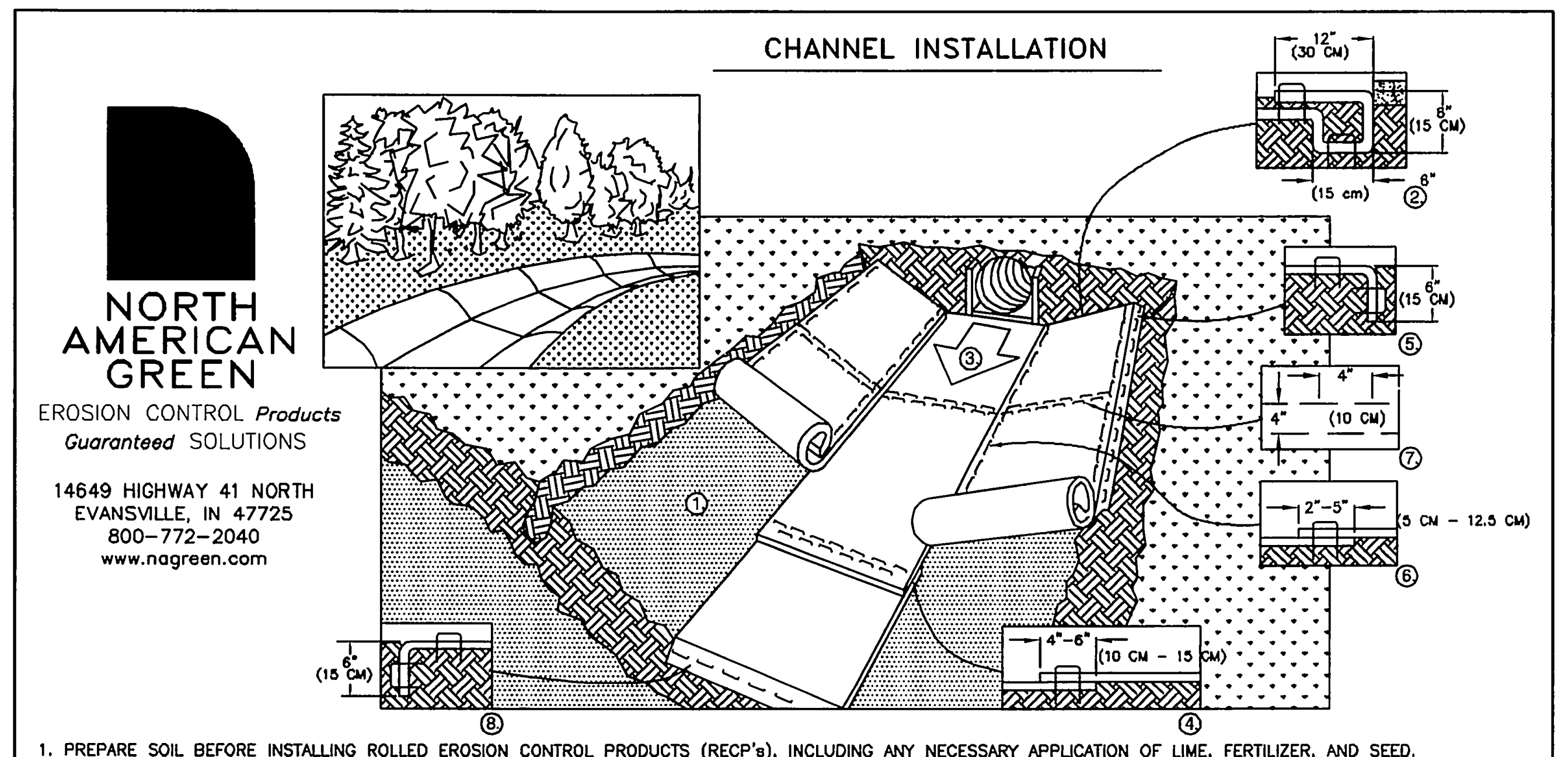
NOT TO SCALE



PLANTING LEGEND

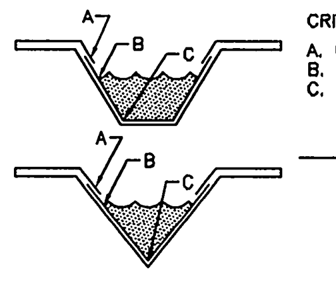
Symbol	Botanical Name	Common Name	Height
●	Cornus Sericea	Red-Osler Dogwood	3'–4'
○	Alnus Rugosa	Speckled Alder	3'–4'
×	Viburnum Trilobum	American Cranberry Bush	3'–4'

PROPOSED GRADING / PLANTING PLAN



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

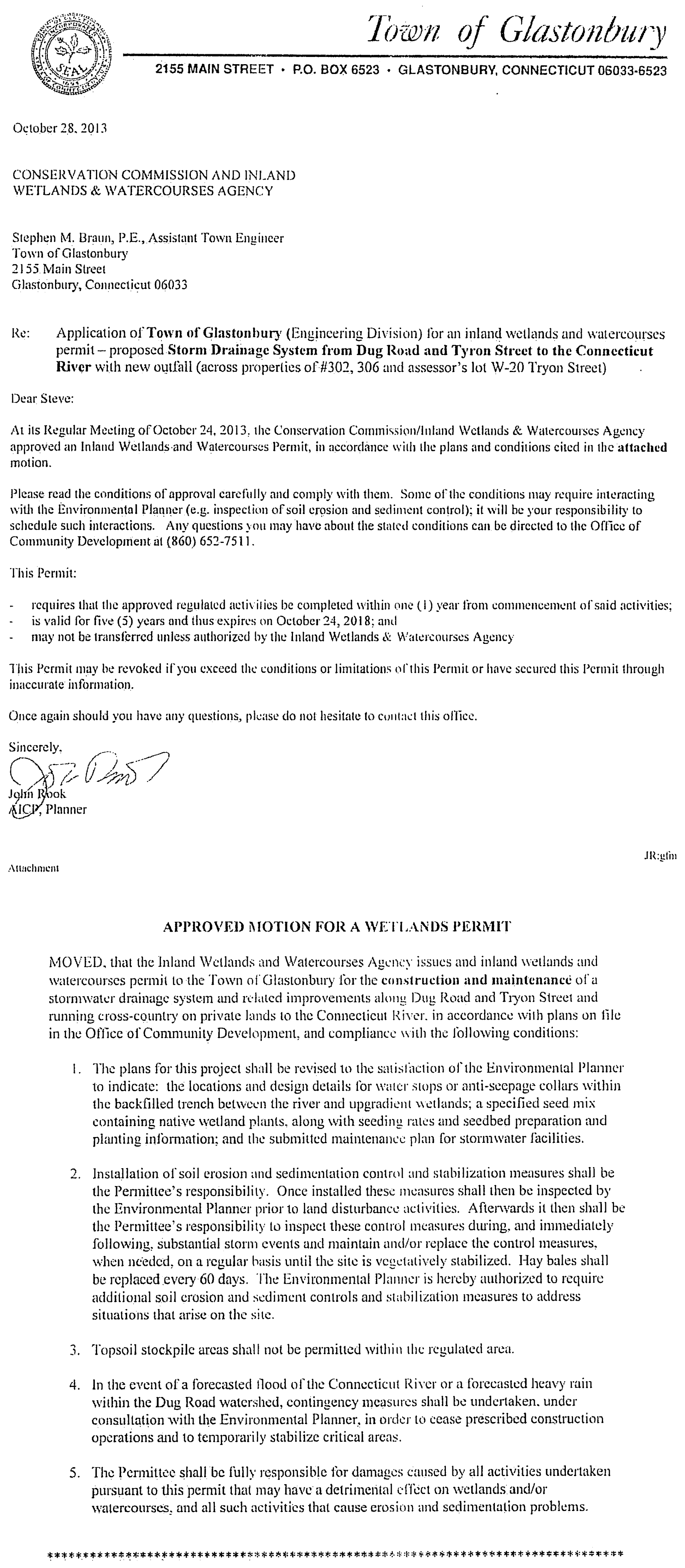
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

TYPE 'H' EROSION CONTROL MAT INSTALLATION DETAIL

REV. 01/05

MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED.
ALL REVISIONS MUST BE PERFORMED ON CADD FILE:
H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St – Dug Rd Drainage-2013-DUG-REV2.dwg



Town of Glastonbury
2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

October 28, 2013

CONSERVATION COMMISSION AND INLAND
WETLANDS & WATERCOURSES AGENCY

Stephen M. Braun, P.E., Assistant Town Engineer
Town of Glastonbury
2155 Main Street
Glastonbury, Connecticut 06033

Re: Application of **Town of Glastonbury** (Engineering Division) for an inland wetlands and watercourses permit – proposed **Storm Drainage System from Dug Road and Tyron Street to the Connecticut River** with new outfall (across properties of #302, 306 and assessor's lot W-20 Tryon Street)

Dear Steve:

At its Regular Meeting of October 24, 2013, the Conservation Commission/Inland Wetlands & Watercourses Agency approved an Inland Wetlands and Watercourses Permit, in accordance with the plans and conditions cited in the **attached** motion.

Please read the conditions of approval carefully and comply with them. Some of the conditions may require interacting with the Environmental Planner (e.g. inspection of soil erosion and sediment control); it will be your responsibility to schedule such interactions. Any questions you may have about the stated conditions can be directed to the Office of Community Development at (860) 652-7511.

This Permit:

- requires that the approved regulated activities be completed within one (1) year from commencement of said activities;
- is valid for five (5) years and thus expires on October 24, 2018; and
- may not be transferred unless authorized by the Inland Wetlands & Watercourses Agency

This Permit may be revoked if you exceed the conditions or limitations of this Permit or have secured this Permit through inaccurate information.

Once again should you have any questions, please do not hesitate to contact this office.

Sincerely,

John Rook
AICP, Planner

JR:gfm

Attachment

APPROVED MOTION FOR A WETLANDS PERMIT

MOVED, that the Inland Wetlands and Watercourses Agency issues and inland wetlands and watercourses permit to the Town of Glastonbury for the **construction and maintenance** of a stormwater drainage system and related improvements along Dug Road and Tryon Street and running cross-country on private lands to the Connecticut River, in accordance with plans on file in the Office of Community Development, and compliance with the following conditions:

1. The plans for this project shall be revised to the satisfaction of the Environmental Planner to indicate: the locations and design details for water stops or anti-seepage collars within the backfilled trench between the river and upgradient wetlands; a specified seed mix containing native wetland plants, along with seeding rates and seedbed preparation and planting information; and the submitted maintenance plan for stormwater facilities.
2. Installation of soil erosion and sedimentation control and stabilization measures shall be the Permittee's responsibility. Once installed these measures shall then be inspected by the Environmental Planner prior to land disturbance activities. Afterwards it then shall be the Permittee's responsibility to inspect these control measures during, and immediately following, substantial storm events and maintain and/or replace the control measures, when needed, on a regular basis until the site is vegetatively stabilized. Hay bales shall be replaced every 60 days. The Environmental Planner is hereby authorized to require additional soil erosion and sediment controls and stabilization measures to address situations that arise on the site.
3. Topsoil stockpile areas shall not be permitted within the regulated area.
4. In the event of a forecasted flood of the Connecticut River or a forecasted heavy rain within the Dug Road watershed, contingency measures shall be undertaken, under consultation with the Environmental Planner, in order to cease prescribed construction operations and to temporarily stabilize critical areas.
5. The Permittee shall be fully responsible for damages caused by all activities undertaken pursuant to this permit that may have a detrimental effect on wetlands and/or watercourses, and all such activities that cause erosion and sedimentation problems.

****

PROJECT NARRATIVE:

THE PROPOSED PROJECT INCLUDES THE CONSTRUCTION OF CATCH BASINS AT THE INTERSECTION OF TRYON STREET AND DUG ROAD AND THE INSTALLATION OF A 1,650 FOOT-LONG, 48-INCH DIAMETER STORM DRAINAGE DISCHARGE PIPE ALONG THE NORTH SIDE OF THE PROPERTIES LOCATED AT #302 AND #306 TRYON STREET TO A DISCHARGE AT THE LOW-LYING WETLAND AREA AT THE WESTERN LIMIT OF THE #306 PARCEL (OUTFALL #1). A SECOND 550 FOOT-LONG, 36-INCH DIAMETER STORM DRAINAGE PIPE WILL EXTEND FROM THE WEST SIDE OF THE LOW-LYING WETLAND ACROSS LOT W-20 TRYON STREET TO A NEW DISCHARGE AT THE CONNECTICUT RIVER (OUTFALL #2). THIS PIPE WILL SERVE AS AN OVERFLOW FOR THE WETLAND TO MINIMIZE INUNDATION OF ADJACENT AGRICULTURAL FIELDS BY STORMWATER FROM DUG ROAD DURING PERIODS WHEN THE RIVER IS NOT AT FLOOD STAGE. ALSO INCLUDED IN THE PROJECT ARE IMPROVEMENTS TO A DRAINAGE CHANNEL ALONG THE NORTH SIDE OF DUG ROAD TO PROVIDE FOR INFILTRATION AND A STABLE CHANNEL LINING.

CONSTRUCTION SEQUENCE:

THIS PROJECT WILL BE CONSTRUCTED IN THREE PHASES. PHASE 1 WILL CONSIST OF CONSTRUCTION OF THE 550 FOOT-LONG 36-INCH DIAMETER STORM PIPE FROM OUTFALL #2 (CT RIVER) TO THE LOW-LYING WETLAND AREA. THIS PHASE OF CONSTRUCTION WILL BE ACCESSED FROM FERRY LANE OVER EXISTING FARM ROADS. PHASE 2 WILL INCLUDE CONSTRUCTION OF THE 1,650 FOOT-LONG 48-INCH DIAMETER STORM DRAIN FROM OUTFALL #1 TO DUG ROAD. THIS PHASE WILL BE ACCESSED FROM TRYON STREET USING A COMBINATION OF EXISTING DRIVEWAYS AND FARM ROADS. PHASE 3 WILL INCLUDE ALL DRAINAGE CHANNEL IMPROVEMENTS ALONG THE NORTH SIDE OF DUG ROAD. THE EROSION AND SEDIMENTATION CONTROL PLAN FOR PHASE 3 WORK IS NOT INCLUDED IN THIS SECTION, BUT RATHER IS DESCRIBED ON SHEET 8 OF THE PLAN SET.

FLOOD ZONE CONSIDERATIONS:

ALL OF PHASE 1 AND A PORTION OF PHASE 2 ARE WITHIN THE CONNECTICUT RIVER FLOOD ZONE. AS SUCH, ALL CONSTRUCTION WITHIN THIS AREA WILL NEED TO TAKE PLACE AFTER THE NORMAL SPRING FLOODS HAVE RECEDED AND WITH CLOSE MONITORING OF THE CONNECTICUT RIVER FLOW CONDITIONS AND WEATHER FORECASTS TO PROTECT THE WORK AREA FROM FLOODING. ONLY THAT PORTION OF THE WORK THAT CAN BE COMPLETED AND RESTORED THAT DAY OR PRIOR TO THE NEXT FORECASTED SEVERE WEATHER EVENT SHALL BE INITIATED.

DUE TO THE ELEVATIONS OF THE PIPELINE AT OUTFALL #2, THIS OUTFALL AND A PORTION OF THE DRAINAGE SYSTEM UPSTREAM OF THE OUTFALL IS BELOW THE HIGH TIDE LINE OF THE CONNECTICUT RIVER. THIS WILL REQUIRE THAT WORK AT THE OUTFALL BE PROPERLY SEQUENCED AND STAGED TO OCCUR DURING LOW TIDE AND LOW WATER FLOWS IN THE RIVER. IF CONSTRUCTION OF OUTFALL #2 PROCEEDS AT THE BEGINNING OF PHASE 1, THE OUTFALL PIPE SHALL BE SECURELY PLUGGED TO PREVENT RISING TIDE WATER FROM ENTERING THE REMAINDER OF THE PIPELINE DURING CONSTRUCTION. IF CONDITIONS DO NOT ALLOW FOR CONSTRUCTION OF THE OUTFALL WHEN CONSTRUCTION IS INITIATED, CONSTRUCTION MAY BEGIN WITHIN 30 FEET UPSTREAM OF THE OUTFALL AND PROCEED IN SUCH A MANNER SO AS TO PRESERVE A SOIL BARRIER BETWEEN THE PIPELINE AND THE CONNECTICUT RIVER TO PREVENT INUNDATION OF THE WORK AREA.

PROJECT SPECIFIC SEDIMENTATION AND EROSION CONTROL PLAN

CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

1. DEWATERING: OPEN TRENCH EXCAVATIONS WILL NEED TO BE DEWATERED AS NECESSARY FOR PROPER INSTALLATION OF THE PROPOSED PIPES. IN THESE AREAS, ALL WATER REMOVED FROM THE TRENCH SHALL BE ADEQUATELY TREATED PRIOR TO DISCHARGE USING MEASURES DESCRIBED IN SECTION 5-13 OF THE 2002 CT GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THIS MAY INCLUDE A STONE SUMP AND STANDPIPE FOR PUMP INTAKE PROTECTION, AND A DIRT BAG OR PUMPING SETTLING BASIN FOR TREATMENT OF THE PUMPED WATER PRIOR TO DISCHARGE.
2. STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED WITHIN WETLAND REGULATED AREAS OR THE CONNECTICUT RIVER FLOOD ZONE TO THE EXTENT PRACTICAL. WHEN IT IS NECESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE FLOOD ZONE, THESE MATERIALS SHALL BE ADEQUATELY PROTECTED, AND A PLAN SHALL BE IN PLACE TO REMOVE THE MATERIAL BEFORE THE NEXT SEVERE WEATHER EVENT. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER. ANY SUCH STOCKPILES SHALL BE RINGED WITH A SEDIMENTATION CONTROL SYSTEM.
3. DISTURBED AREAS: LIMITS OF DISTURBANCE SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLAN. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH THE FINAL SURFACE TREATMENT AS SOON AS POSSIBLE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. DISTURBED AREAS WITH STEEP OR LONG SLOPES AND OTHER AREAS WITH SIGNIFICANT POTENTIAL FOR CAUSING SEDIMENTATION SHALL BE PROTECTED WITH TEMPORARY STRAW MULCH, WOOD CHIPS, EROSION CONTROL MATTING, OR OTHER SUITABLE MATERIALS PRIOR TO SIGNIFICANT FORECASTED RAIN STORM EVENTS TO REDUCE EROSION POTENTIAL.
4. TRAVEL AREAS: A STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS REQUIRED TO PREVENT SOIL FROM BEING TRACKED OUT OF THE CONSTRUCTION SITE AND INTO THE ROAD. THIS CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS OF THE PROJECT HAVE BEEN RESTORED.
5. SEVERE WEATHER CONTINGENCY PLAN: IN ADVANCE OF A SEVERE WEATHER EVENT, ALL EROSION CONTROLS DESCRIBED ABOVE AND ELSEWHERE ON THE PLANS SHALL BE INSPECTED AND ADJUSTED AS NECESSARY. THE 100 YEAR FLOOD ELEVATION FOR THE CONNECTICUT RIVER IN THIS AREA IS 26.3 . CONTRACTOR SHALL MONITOR WEATHER FORECASTS AND CONNECTICUT RIVER FLOOD WARNINGS AND ADJUST OPERATIONS ACCORDINGLY. ALL EQUIPMENT AND STOCKPILED MATERIALS SHALL BE REMOVED FROM THE FLOOD ZONE PRIOR TO AN ANTICIPATED FLOOD EVENT AS PROJECTED FLOOD ELEVATIONS REQUIRE. WORK AREAS SHALL BE STABILIZED AS REQUIRED TO PROVIDE A STABLE OVERFLOW PATH FOR FLOOD WATER THROUGH OR AROUND THE WORK AREA.

RESPONSIBLE PARTIES:

THE CONTRACTOR FOR PHASE 1 OR THE DEPARTMENT OF PHYSICAL SERVICES FOR PHASE 2 & 3 SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

GENERAL SEDIMENTATION AND EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE DEPARTMENT OF PHYSICAL SERVICES SHALL LIMIT, INSOFAR AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INSOFAR AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

1. ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
2. ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING AND GRUBBING.
3. ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
4. NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.
5. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
6. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLAN(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY INDISTURBED.
7. ANY CONTROL MEASURES RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
8. ALL NEW AND EXISTING CATCH BASINS LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM IN GRASSED AREAS OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
9. SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL REGULATIONS.
10. THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIROMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.

PROPOSED MAINTENANCE PLAN FOR STORMWATER FACILITIES:

THE TOWN OF GLASTONBURY HIGHWAY DEPARTMENT WILL BE RESPONSIBLE FOR MAINTENANCE OF THE PROPOSED STORM DRAINAGE SYSTEM, INCLUDING PIPING, CATCH BASINS, INFILTRATION CHAMBERS, OFFLINE PARTICLE SEPARATOR, INFILTRATION SWALE AND BASIN, AND ALL OTHER COMPONENTS OF THE DRAINAGE SYSTEM. THE TOWN CURRENTLY MAINTAINS SIMILAR FACILITIES THROUGHOUT TOWN USING A COMBINATION OF TOWN FORCES AND CONTRACTUAL SERVICES, AND ADEQUATE FUNDING IS PROVIDED IN THE ANNUAL OPERATING BUDGET FOR THE HIGHWAY DEPARTMENT TO ADDRESS THE MAINTENANCE REQUIRED FOR THE PROPOSED IMPROVEMENTS.

THE MAINTENANCE PLAN FOR THE PROPOSED DRAINAGE SYSTEM IS AS FOLLOWS:

GENERAL: THE PROPOSED DRAINAGE SYSTEM TO BE INSTALLED AS PART OF THIS PROJECT WILL REQUIRE ROUTINE MAINTENANCE IN ORDER TO MAINTAIN PROPER FUNCTION OF WATER QUALITY IMPROVEMENT FEATURES. THESE FEATURES INCLUDE THE CATCH BASIN SUMPS, THE OFF-LINE PARTICLE SEPARATOR, THE UNDERGROUND INFILTRATION SYSTEM, THE INFILTRATION SWALE, AND INFILTRATION BASIN.

ROAD SWEEPING (TRYON STREET AND DUG ROAD)
SWEEPING IS PERFORMED ON A ANNUAL BASIS IN THE SPRING AS PART OF THE TOWN'S ANNUAL STREET MAINTENANCE. ADDITIONAL SWEEPING WILL BE PERFORMED ON AN AS NEEDED BASIS TO ADDRESS SEDIMENT ON THE ROADWAY.

CATCH BASINS AND OFF-LINE PARTICLE SEPARATORS (TRYON STREET)
WITHIN THE FIRST YEAR AFTER CONSTRUCTION, CATCH BASIN SUMPS AND SEDIMENTATION CHAMBERS WILL BE INSPECTED QUARTERLY TO EVALUATE THE RATE OF SEDIMENT BUILD UP. THESE WILL BE CLEANED OUT AS NEEDED DURING THIS TIME PERIOD. AFTER THE FIRST YEAR, INSPECTIONS WILL BE PERFORMED SEMI-ANNUALLY, AND THESE STRUCTURES WILL BE CLEANED AT THE FREQUENCY DICTATED BY THE RATE OF SEDIMENT BUILD UP.

UNDERGROUND INFILTRATION SYSTEM (TRYON STREET)
THE UNDERGROUND INFILTRATION CHAMBERS WILL BE INSPECTED ON A QUARTERLY BASIS DURING THE FIRST YEAR AFTER CONSTRUCTION IS COMPLETED, AND ON A SEMI-ANNUAL BASIS THEREAFTER TO EVALUATE THE LEVEL OF SEDIMENT BUILD UP IN THE SYSTEM. ACCESS PORTS WILL BE PROVIDED ALONG THE LENGTH OF THE CHAMBER WHICH WILL BE USED TO MEASURE AND MONITOR SEDIMENT BUILD UP USING A STADIA ROD. WHEN SEDIMENT REACHES 3-INCHES IN DEPTH, THE CHAMBERS WILL BE CLEANED OUT USING A JETVAC.

INFILTRATION BASIN AND CHANNEL (DUG ROAD)
THE INFILTRATION BASIN AND CHANNEL ALONG DUG ROAD WILL BE INSPECTED ON A SEMI-ANNUAL BASIS FOR SIGNS OF SEDIMENTATION OR EROSION. SEDIMENT WILL BE REMOVED AND DISPOSED OF AS NEEDED TO MAINTAIN THE INFILTRATION CAPACITY INTO THE CHANNEL BOTTOM. THE DRYWELLS WILL BE INSPECTED AND SEDIMENT REMOVED AS NEEDED. STONE CHECK DAMS ARE INTENDED TO REMAIN AS PART OF THE PERMANENT CHANNEL. SEDIMENT WILL BE REMOVED FROM BEHIND THE CHECK DAMS OR THESE DAMS WILL BE REPLACED AS THE RATE OF SEDIMENT BUILT UP REQUIRES IN ORDER TO MAINTAIN THE FUNCTION.

No. 20101

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

TOWN OF GLASTONBURY — *PROJECT/APPLICANT*
RURAL RESIDENCE & FLOOD ZONE — *ZONE*
#302, #306 & LOT W-20 TRYON STREET — *PROJECT ADDRESS*
SECTION 4.11 FLOOD ZONE — *SPECIAL PERMIT SECTION*
TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D
DIRECTOR OF GOMMUNITY DEVELOPMENT
FILE NO.

PW-9278

NO.	DESCRIPTION	DATE
	DRAWING ISSUE STATUS	
3.	ISSUED FOR CONSTRUCTION	12/10/2013
2.	ADD EROSION CONTROL MAT DETAIL	1/4/2013
1.	ADD GRADING / PLANTING PLAN	10/30/2012

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	8/15/2012
CHECKED BY: S.M.B.	8/15/2012
APPROVED BY: D.A.P.	8/15/2012
ST. FILE:	

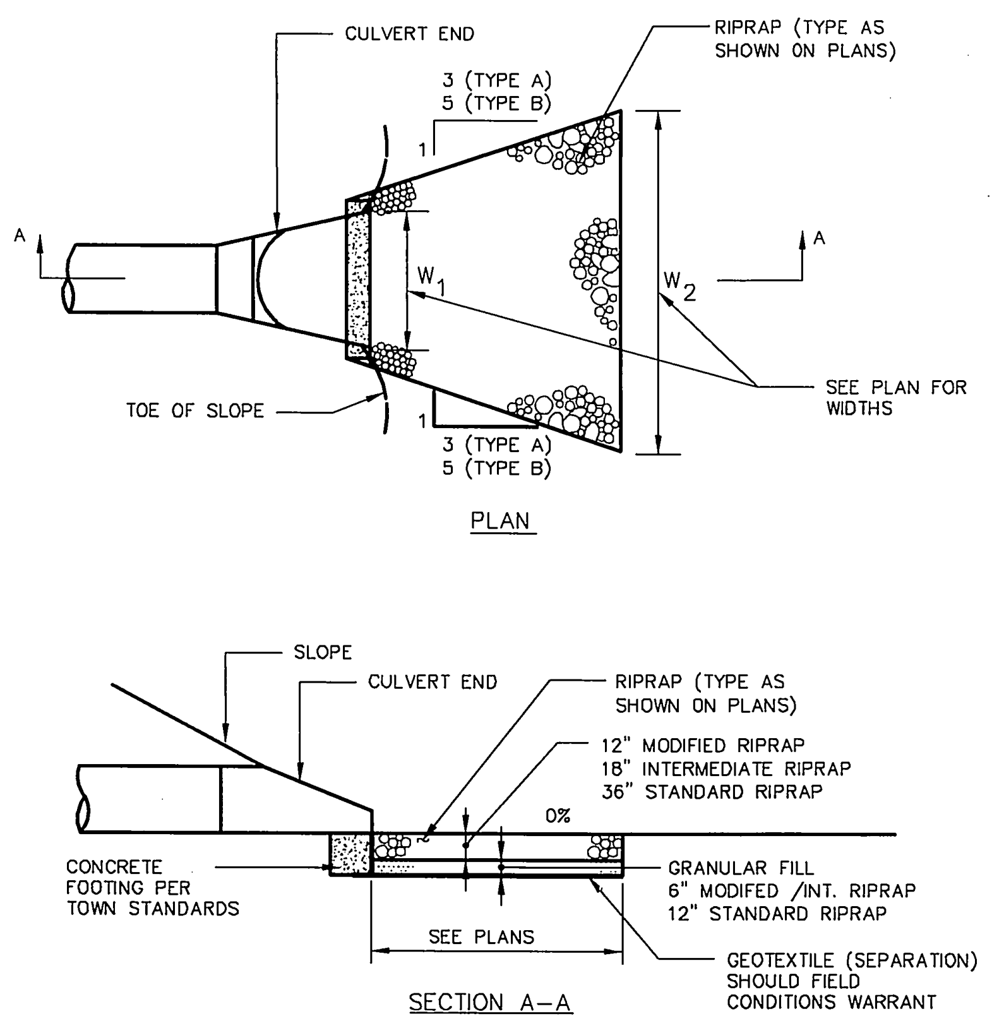
DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

EROSION CONTROL NOTES
FOR PROPOSED
STORM DRAINAGE IMPROVEMENTS
PHASE 1 & 2
located at
302 & 306 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
4
OF 12

FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013



RIPRAP SPECIFICATION

OUTLET VELOCITY	RIPRAP TYPE
0–8 FPS	MODIFIED
8–10 FPS	INTERMEDIATE
10–14 FPS	STANDARD

NOTES:

1. DETAIL TO BE USED FOR OUTFALLS WHERE NO WELL DEFINED CHANNEL EXISTS.
2. APRON DIMENSIONS TO BE COMPUTED PER SECTION 11.13 OF CONNDOT DRAINAGE MANUAL.
3. TYPE B SHALL BE USED FOR LOCATIONS WHERE TAILWATER > ½ PIPE DIAMETER.

SCALE : NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	RIPRAP APRON TYPE A AND TYPE B
APPROVED BY: DAP	
LAST REVISED: 3/4/2008	PLATE NO. 25

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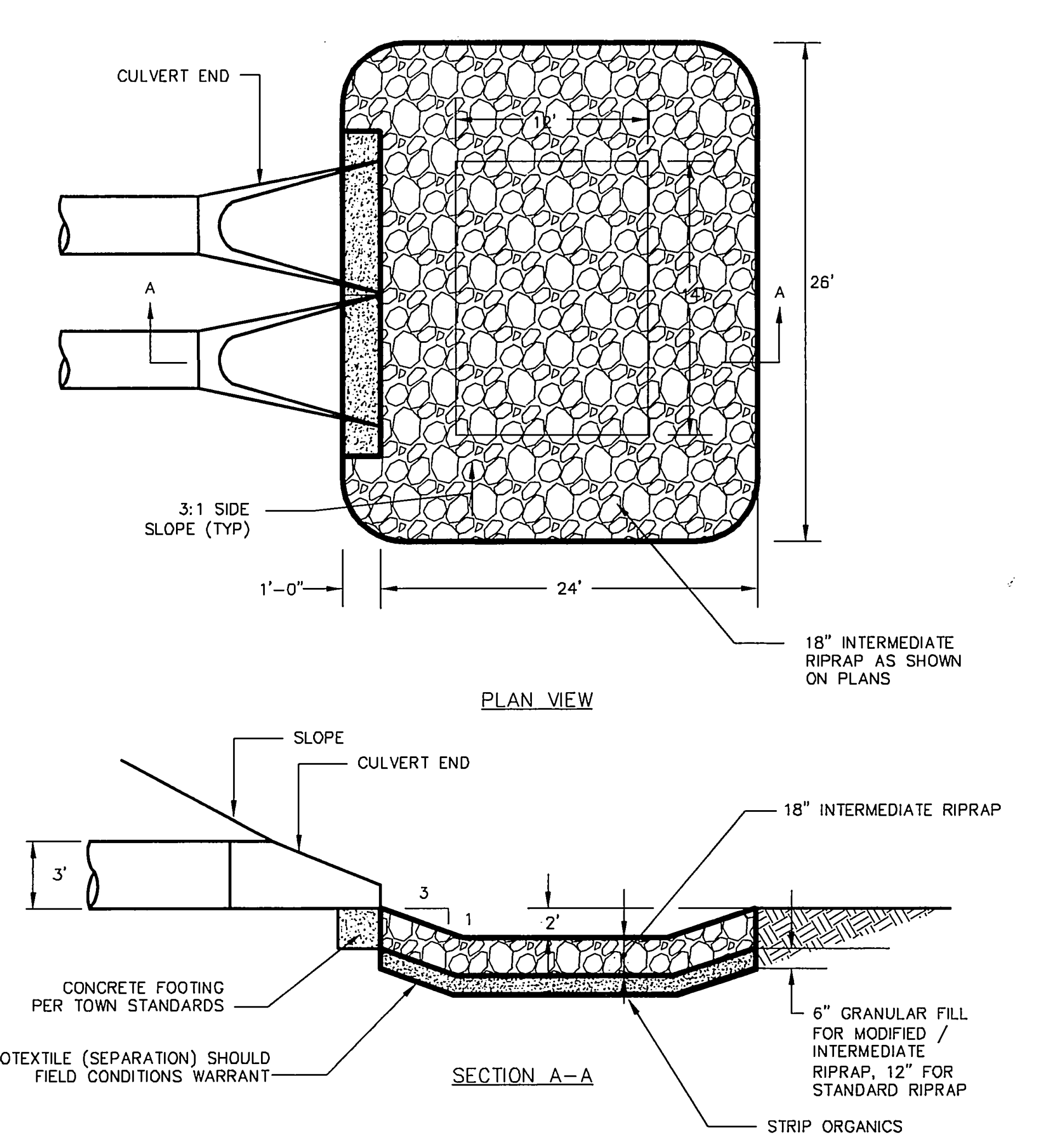
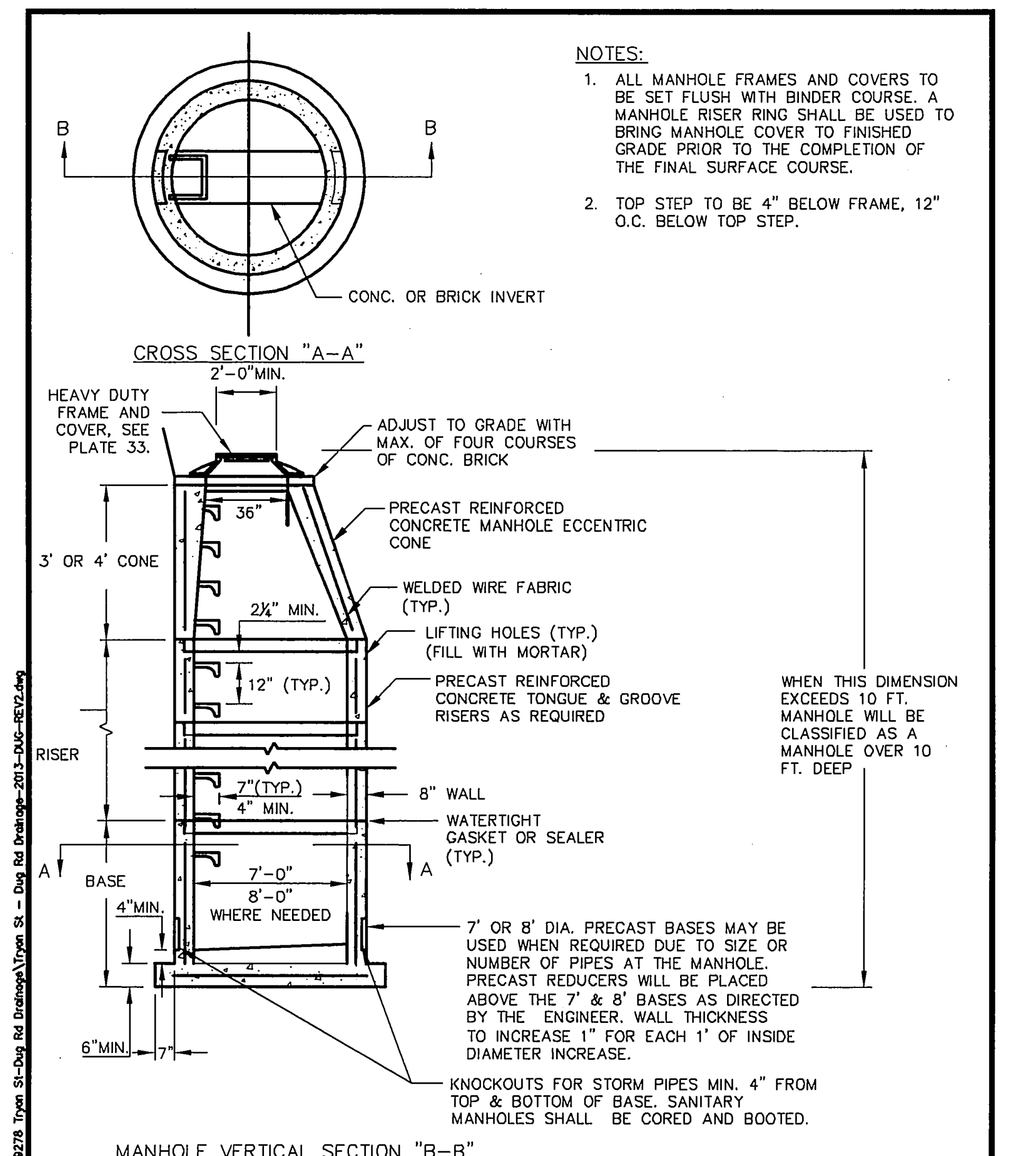


PREFORMED SCOUR HOLE



NOTES:

1. ALL MANHOLE FRAMES AND COVERS TO BE SET FLUSH WITH BINDER COURSE. A MANHOLE RISER RING SHALL BE USED TO BRING MANHOLE COVER TO FINISHED GRADE PRIOR TO THE COMPLETION OF THE FINAL SURFACE COURSE.
2. TOP STEP TO BE 4" BELOW FRAME, 12" O.C. BELOW TOP STEP.

SCALE : NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	PRECAST CONCRETE MANHOLE (STORM & SANITARY)
APPROVED BY: DAP	
LAST REVISED: 9/2/2008	PLATE NO. 31

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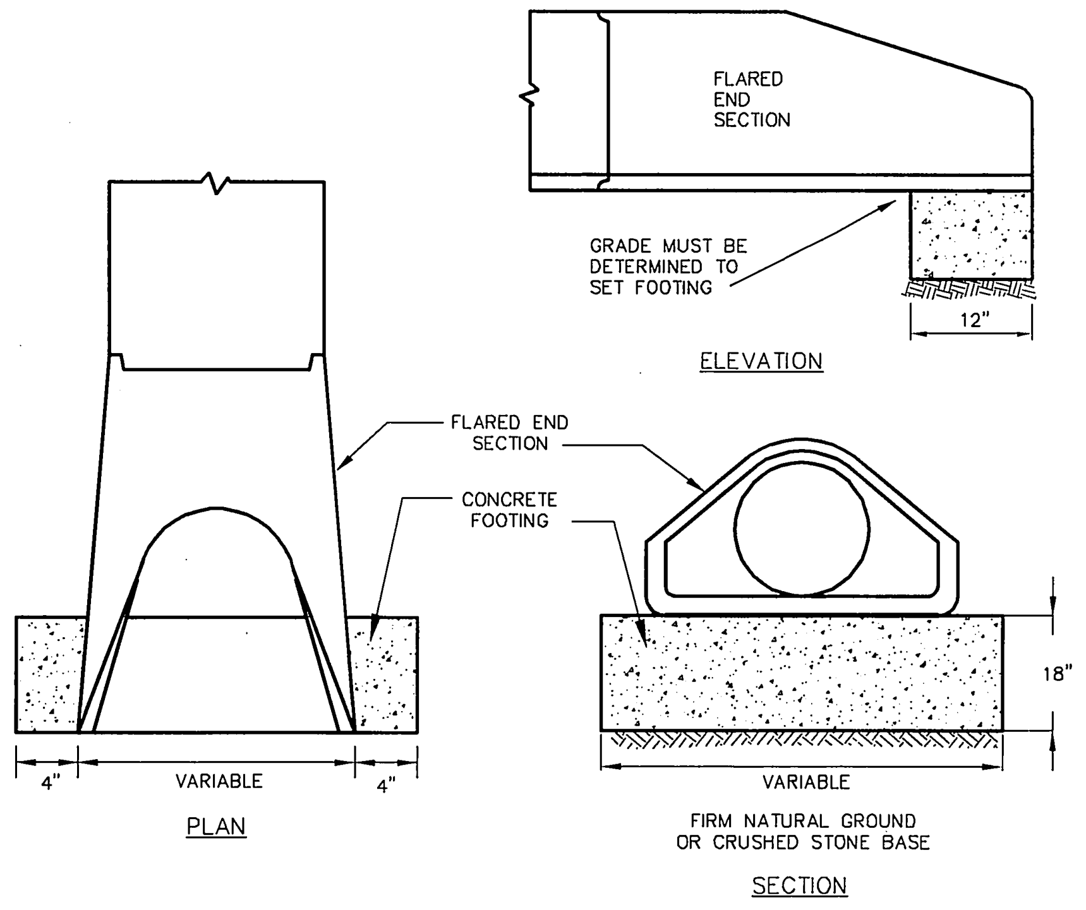
NOTES:

1. FOOTING BASE MAY BE CONSTRUCTED OF POURED IN PLACE CONCRETE OR PRECAST C.B. BLOCKS SET LEVEL WITH FULL MORTARED JOINTS.
2. THE FOOTING SHALL BE USED ON BOTH INLET AND OUTLET SECTIONS, THE PRIME FUNCTION IS TO PREVENT EROSION AND SETTLEMENT.

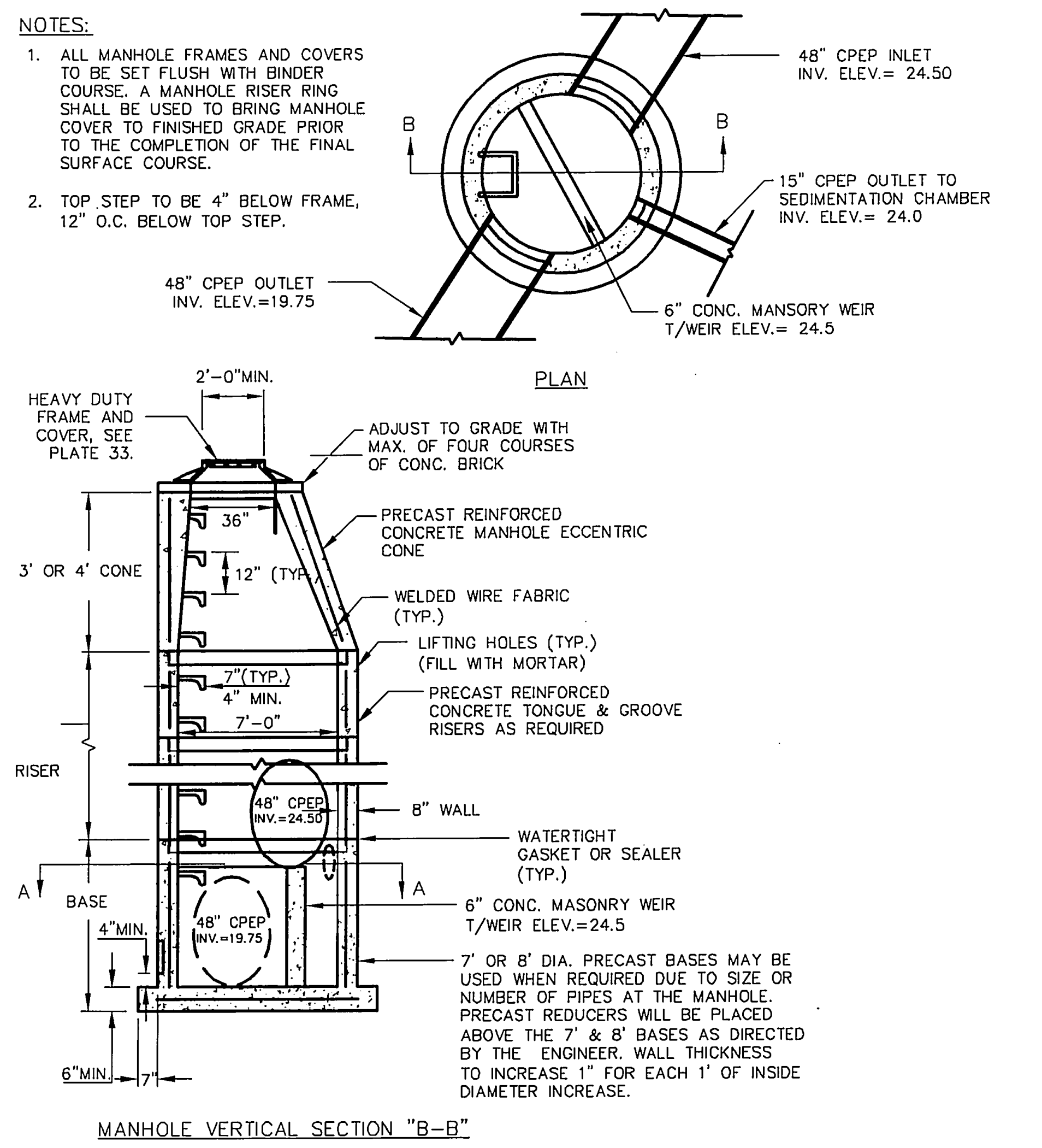


SCALE : NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	CONCRETE FOOTING FOR FLARED END SECTION
APPROVED BY: DAP	
LAST REVISED: 4/29/2008	PLATE NO. 24

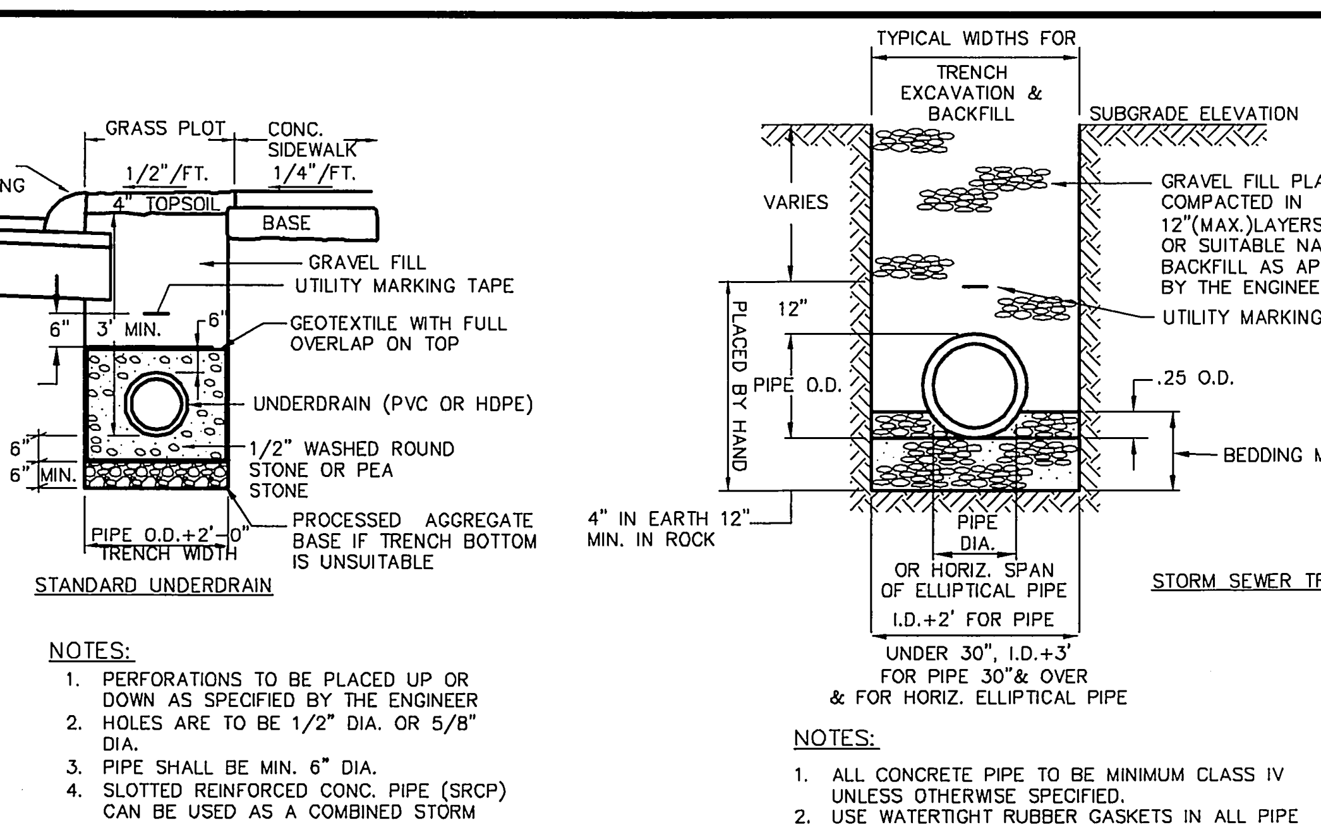
H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St – Dug Rd Drainage-2013-DUG-REV2.dwg

NOTES:

1. ALL MANHOLE FRAMES AND COVERS TO BE SET FLUSH WITH BINDER COURSE. A MANHOLE RISER RING SHALL BE USED TO BRING MANHOLE COVER TO FINISHED GRADE PRIOR TO THE COMPLETION OF THE FINAL SURFACE COURSE.
2. TOP STEP TO BE 4" BELOW FRAME, 12" O.C. BELOW TOP STEP.



PRECAST
CONCRETE STORM
MANHOLE BK4
(W/ WEIR)



NOTES:

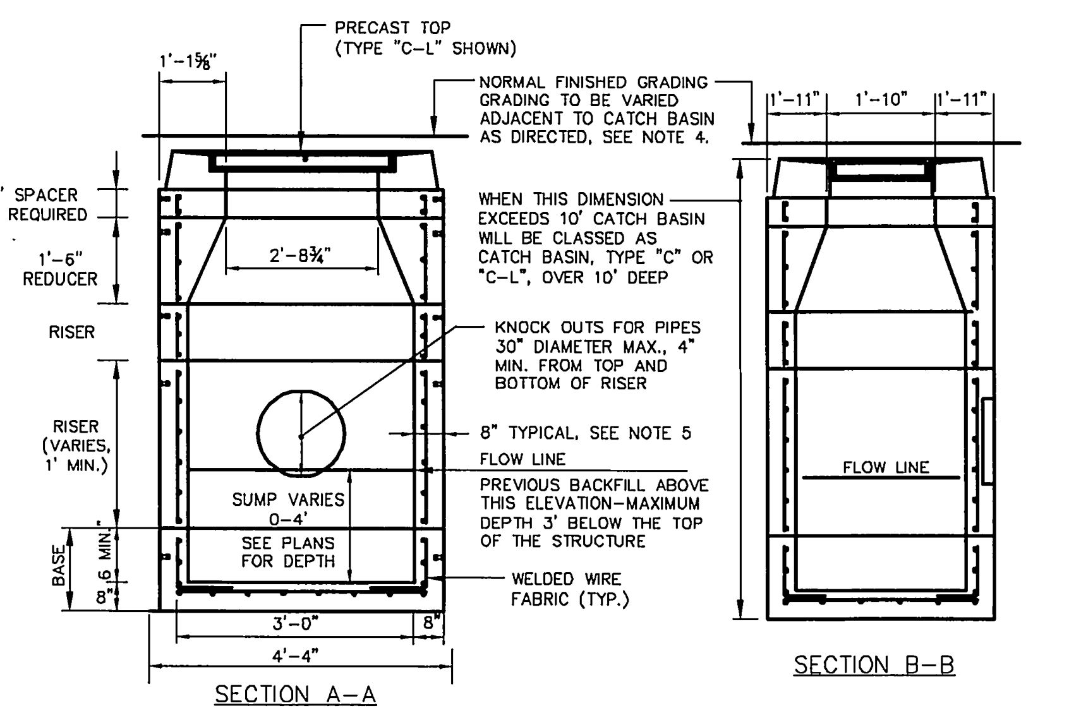
1. PERFORATIONS TO BE PLACED UP OR DOWN AS SPECIFIED BY THE ENGINEER
2. HOLES ARE TO BE 1/2" DIA. OR 5/8" DIA.
3. PIPE SHALL BE MIN. 6" DIA.
4. SLOTTED REINFORCED CONC. PIPE (SRCP) CAN BE USED AS A COMBINED STORM AND UNDERDRAIN SYSTEM.
5. ALL UNDERDRAIN TO BE OUTLETTED DIRECTLY INTO A CATCH BASIN.THE TOP OF THE UNDERDRAIN PIPE IS TO MATCH THE TOP OF THE OUTLET PIPE.
6. INCLUDE CLEANOUTS AT SPACING NOT TO EXCEED 150 FEET.

NOTES:

1. ALL CONCRETE PIPE TO BE MINIMUM CLASS IV UNLESS OTHERWISE SPECIFIED.
2. USE WATERTIGHT RUBBER GASKETS IN ALL PIPE JOINTS.
3. PIPE BEDDING MATERIALS SHALL BE SAND OR SANDY SOIL, ALL OF WHICH PASSES 3/8" SIEVE AND <10% PASSING NO. 200 SIEVE.
4. WHEN GROUND WATER IS ENCOUNTERED, 3/4" STONE SHALL BE SUBSTITUTED FOR PIPE BEDDING, AND BACKFILLED TO 12" ABOVE THE TOP OF PIPE.

SCALE : NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	TRENCH FOR STORM DRAIN AND UNDER DRAIN
APPROVED BY: DAP	
LAST REVISED: 4/29/2008	PLATE NO. 20

H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St – Dug Rd Drainage-2013-DUG-REV2.dwg



NOTES

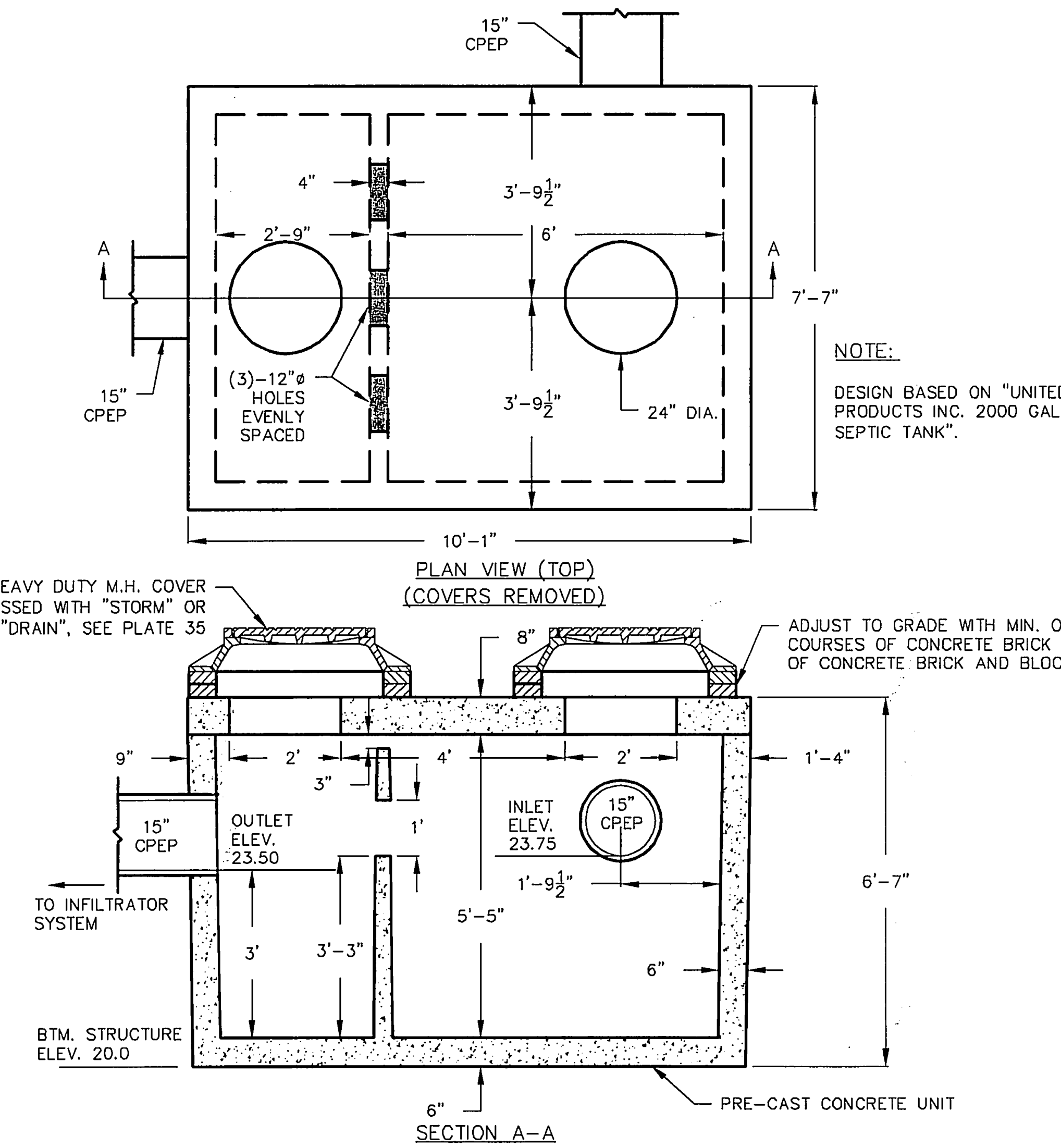
1. PRECAST CATCH BASIN TOPS MUST BE PROPERLY ALIGNED AS SHOWN AND SHALL CONFORM TO CONNDOT STANDARD DETAIL SHEETS 507-I AND 507J. CAPE COD CATCH BASIN TOPS SHALL HAVE AN OPEN THROAT.
2. ALL FRAMES AND GRATES SHALL BE GALVANIZED. FOR DETAILS OF FRAMES AND GRATES, SEE CONNDOT STANDARD DETAIL SHEET 507-K.
3. DOUBLE GRATE CATCH BASINS SHALL CONFORM TO CONNDOT STANDARD DETAIL SHEETS 507-D AND 507-E.
4. WHEN TYPE 'C' CATCH BASINS ARE CONSTRUCTED IN PAVEMENT, THE NORMAL GUTTER OF THE ROADWAY SHALL BE VARIED TO PROVIDE AN ADDITIONAL 2-INCH DEPRESSED GUTTER AT THE CATCH BASIN.
5. WALL THICKNESS TO BE 12 INCHES WHEN HEIGHT OF STRUCTURE EXCEEEDS 10 FEET FROM TOP OF FRAME TO BOTTOM OF BASE.
6. CATCH BASINS LEFT ABOVE THE FINISHED GUTTER GRADE FOR THE WINTER MUST BE PROPERLY SHIMMED FOR PLOWING AS SHOWN IN PLATE 4.
7. MORTAR MIX SHALL NOT CONTAIN LIME.
8. ENDS OF PIPE SHALL BE SAWCUT FLUSH WITH INSIDE WALLS.
9. IF CONCRETE MASONRY UNITS ARE USED THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL BE MET:
   - MAXIMUM CORBEL SHALL NOT EXCEED 2 INCHES;
   - WHERE NECESSARY, BLOCKS MAY BE CUT OR CONCRETE BRICK USED (NO RED BRICK PERMITTED);
   - CORNERS SHALL BE SQUARE, COURSES LEVEL, AND JOINTS PROPERLY STAGGERED;
   - VOIDS IN EXTERIOR WALLS SHALL BE GROUTED, AND CORBELS SHALL BE WEDGED.

SCALE : NONE	TOWN OF GLASTONBURY DEPARTMENT OF PHYSICAL SERVICES ENGINEERING DIVISION
DRAWN BY: SR	
CHECKED BY: SMB	CATCH BASIN
APPROVED BY: DAP	
LAST REVISED: 9/2/2008	PLATE NO. 21

H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St – Dug Rd Drainage-2013-DUG-REV2.dwg

NOTES:

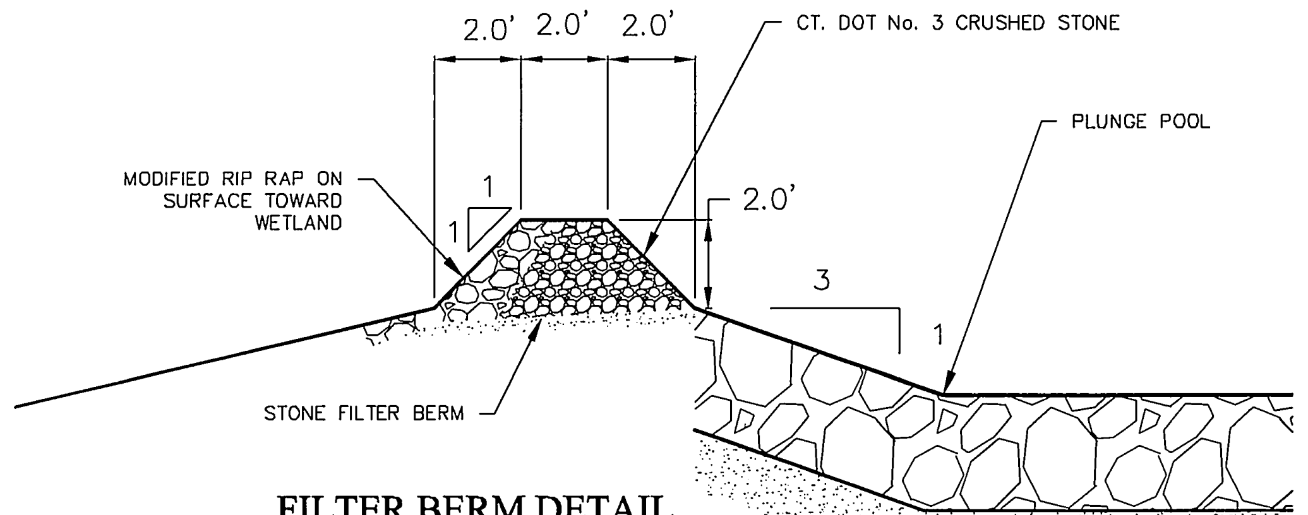
1. BAFFLE CONSTRUCTION TO BE CAST MATERIAL WITH THROUGH HOLES ABOVE FLOW LINE.
2. ADJUST M.H. FRAME TO SUIT REQUIRED FIELD HEIGHT.
3. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR ACCEPTABLE EQUIVALENT
4. DESIGN LOADING – ASHTO HS20.
5. STEEL REINFORCEMENT – ASTM A-615-75, GRADE 60, MIN 2" MIN. COVER.
6. CONCRETE MINIMUM STRENGTH – 5,000 P.S.I. @ 28 DAYS.
7. ROOF AND SIDEWALL OPENINGS AS SPECIFIED.



NOTE:

DESIGN BASED ON "UNITED CONCRETE PRODUCTS INC. 2000 GALLON HS-20 SEPTIC TANK".

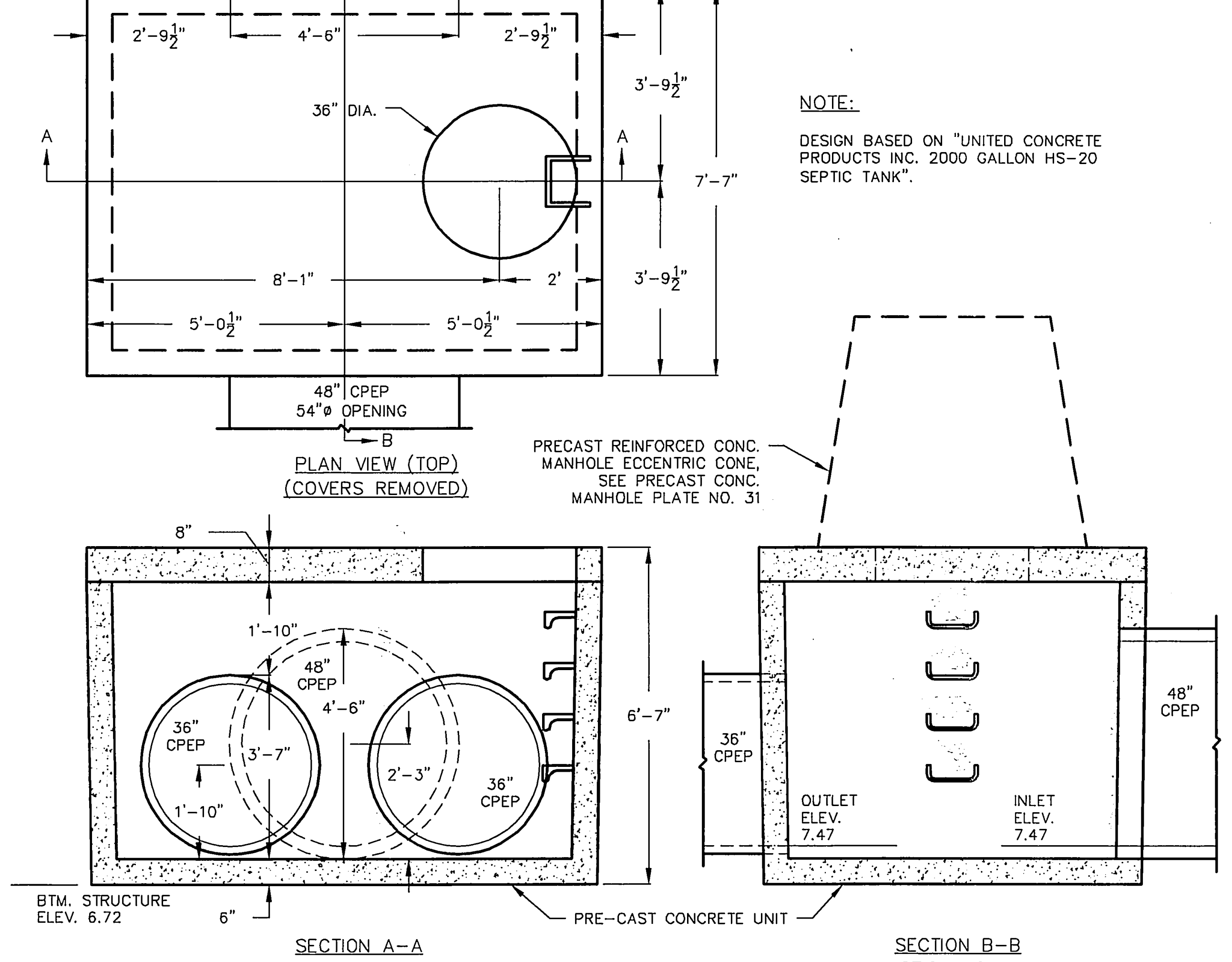
PRECAST
SEDIMENTATION STRUCTURE
STA. 4+75



FILTER BERM DETAIL
NOT TO SCALE

NOTES:

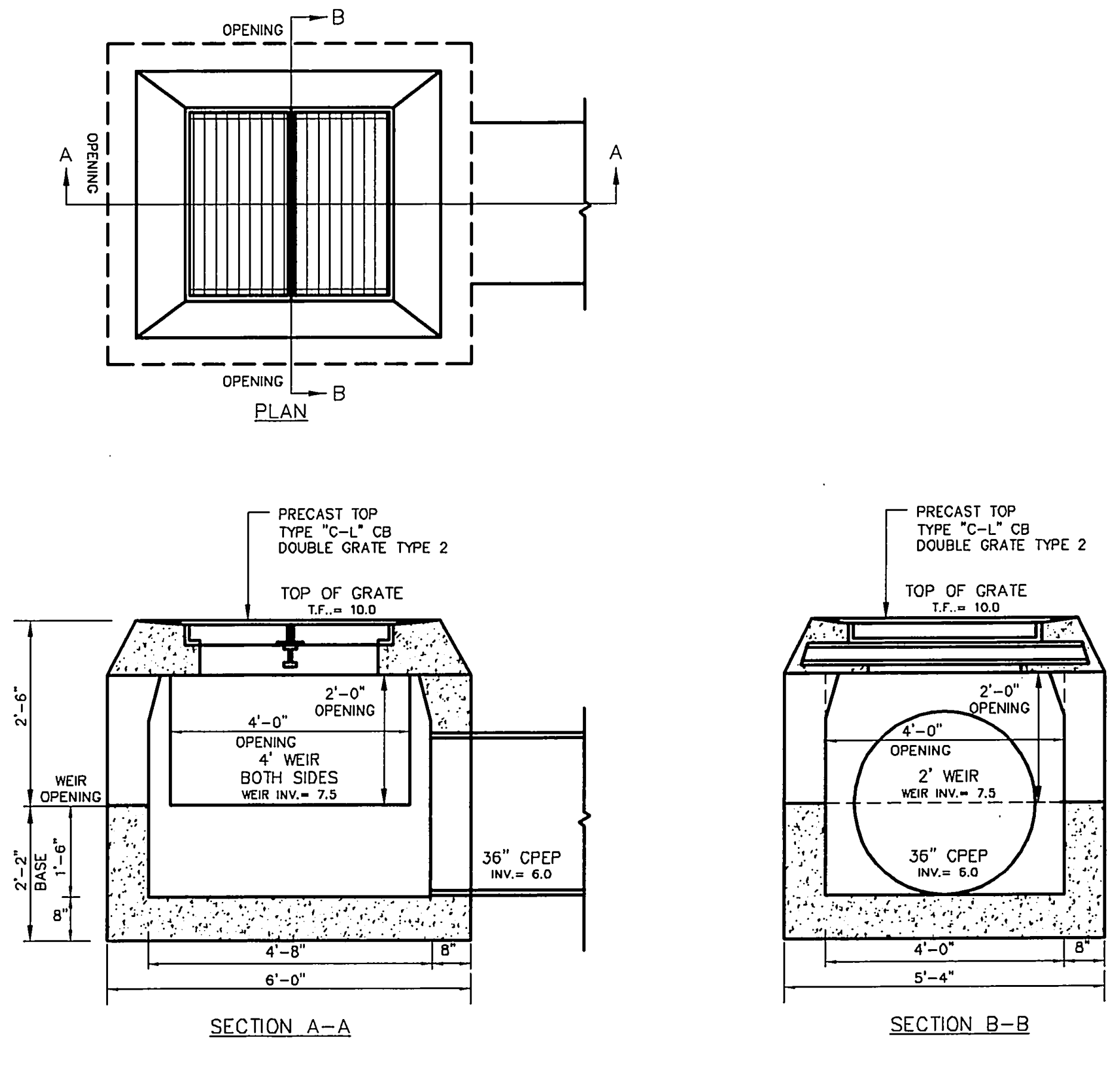
1. USE PRECAST REINFORCED CONCRETE MANHOLE ECCENTRIC CONE AS ENTRANCE RISER.
2. ADJUST M.H. FRAME TO SUIT REQUIRED FIELD HEIGHT.
3. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR ACCEPTABLE EQUIVALENT
4. DESIGN LOADING – ASHTO HS20.
5. STEEL REINFORCEMENT – ASTM A-615-75, GRADE 60, MIN 2" MIN. COVER.
6. CONCRETE MINIMUM STRENGTH – 5,000 P.S.I. @ 28 DAYS.
7. ROOF AND SIDEWALL OPENINGS AS SPECIFIED.
8. TOP STEP TO BE 6" BELOW FRAME, 12" O.C. BELOW TOP STEP.



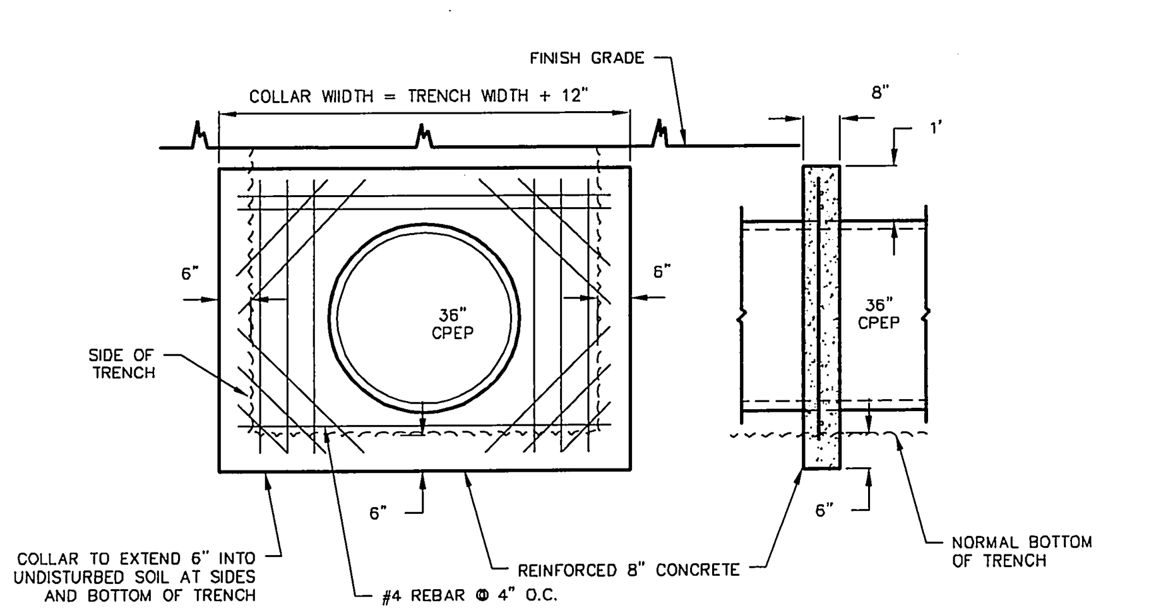
NOTE:

DESIGN BASED ON "UNITED CONCRETE PRODUCTS INC. 2000 GALLON HS-20 SEPTIC TANK".

PRECAST
JUNCTION CHAMBER BK8



OUTLET STRUCTURE - G-1
TYPE C-L CB
DOUBLE GRATE TYPE 1



CONCRETE
ANTI-SEEP COLLAR

DANIEL A. PENNINGTON
No. 20101
LICENSED PROFESSIONAL ENGINEER

Certified to be substantially correct

DANIEL A. PENNINGTON P.E. Reg. No. 20101

TOWN OF GLASTONBURY — PROJECT/APPLICANT
RURAL RESIDENCE & FLOOD ZONE — ZONE
#302, #306 & LOT W-20 TRYON STREET — PROJECT ADDRESS
SECTION 4.11 FLOOD ZONE — SPECIAL PERMIT SECTION
TPZ CHAIRPERSON
DATE SPECIAL PERMIT APP'D
DIRECTOR OF COMMUNITY DEVELOPMENT
FILE NO.

MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED.
ALL REVISIONS MUST BE PERFORMED ON CADD FILE:
H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St – Dug Rd Drainage-2013-DUG-REV2.dwg

PW-9278

DRAWING ISSUE STATUS

NO.	DESCRIPTION	DATE
2.	ISSUED FOR CONSTRUCTION	12/10/2013
1.	MOD. SCOUR HOLE ADD SED. STRUCT., JUNCTION CHAMBER	1/4/2013

	DATE:
SCALE: AS SHOWN	
DRAWN BY: C.F.S.	8/15/2012
CHECKED BY: S.M.B.	8/15/2012
APPROVED BY: D.A.P.	8/15/2012
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

CONSTRUCTION DETAILS
FOR PROPOSED
STORM DRAINAGE IMPROVEMENTS
PHASE 1 & 2
located at
302 & 306 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
5
OF 12

FILE: H:\DWG\Streets\Tryon St\PW-9278 Tryon St-Dug Rd Drainage\Tryon St - Dug Rd Drainage-2013-DUG-REV2.dwg USER: Charles Steinhilper DATE: 12/16/2013

MC-3500 STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL CONFIRM TO THE REQUIREMENTS OF ASTM F 2418, "STANDARD SPECIFICATIONS FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS.
6. CHAMBERS SHALL CONFIRM TO THE REQUIREMENTS OF ASTM F 2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS.
7. ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET.
   b. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL CROSS SECTION IS BASED.
8. THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST CONSTRUCTION GUIDE.

ADS ADVANCED DRAINAGE SYSTEMS, INC.

THE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

StormTech
Subsurface Stormwater Management
70 INWOOD ROAD, SUITE 3 | ROCKY HILL, CT 06067
PHONE: 888-892-2694 | FAX: 866-328-8401
WWW.STORMTECH.COM

STORMWATER CHAMBER SPECIFICATIONS
SCALE: NTS
DATE: 3/29/10
DRAWN BY: KLJ
CHECKED:

STORMTECH GENERAL NOTES

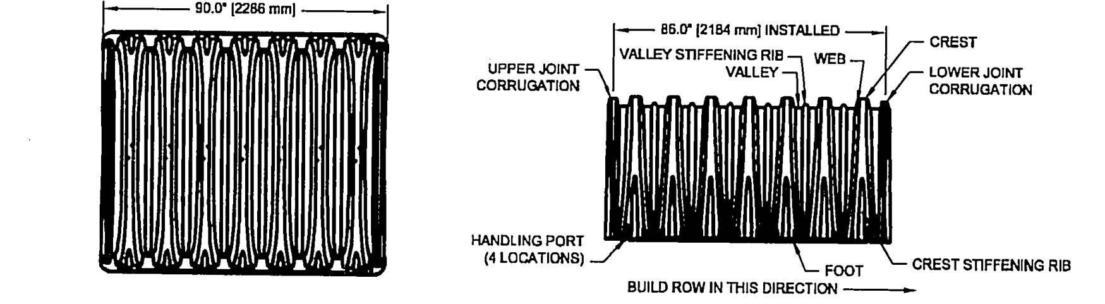
1. STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST MC-3500 INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. STORMTECH OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICE DEPARTMENT OR LOCAL STORMTECH REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL **860-529-8188** TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT **WWW.STORMTECH.COM** TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 24" [610 mm] NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 6.5' [1.98 m] INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 30" [762 mm], MAXIMUM COVER IS 6.5' [1.98 m].
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH THE BEARING CAPACITY OF THE CHAMBER FOUNDATION MATERIALS TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 CONSTRUCTION GUIDE.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH MC-3500 CONSTRUCTION GUIDE FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE ON THE STORMTECH WEBSITE: **WWW.STORMTECH.COM.** THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. **STORMTECH PRODUCT WARRANTY IS LIMITED.** CONTACT STORMTECH FOR WARRANTY INFORMATION.

ADS ADVANCED DRAINAGE SYSTEMS, INC.

THE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

StormTech
Subsurface Stormwater Management
70 INWOOD ROAD, SUITE 3 | ROCKY HILL, CT 06067
PHONE: 888-892-2694 | FAX: 866-328-8101
WWW.STORMTECH.COM

STORMTECH GENERAL NOTES
SCALE: NTS
DATE: 3/29/10
DRAWN BY: KLJ
CHECKED:

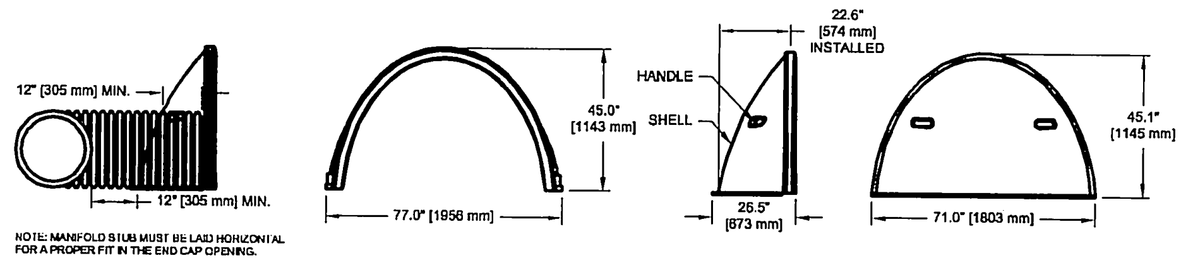


NOMINAL MC-3500 CHAMBER SPECIFICATIONS

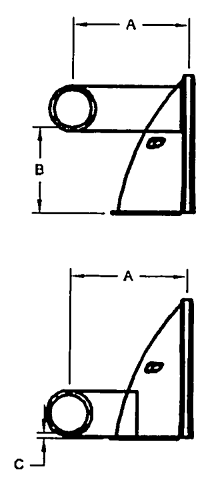
SIZE (L x W x H)	90" x 77" x 45" [2286 mm x 1956 mm x 1143 mm]
CHAMBER STORAGE	109.9 ft³ [3.11 m³]
MINIMUM INSTALLED STORAGE	178.9 ft³ [5.06 m³]
WEIGHT	134 lbs. [60.8 kg]

NOMINAL MC-3500 END CAP SPECIFICATIONS

SIZE (L x W x H)	26.5" x 71" x 45.1"[673 mm x 1803 mm x 1145 mm]
ENDCAP STORAGE	15.6 ft³ [0.44 m³]
MINIMUM INSTALLED STORAGE	46.9 ft³ [1.33 m³]
WEIGHT	43 lbs. [19.5 kg]



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN THE END CAP OPENING.



PART NUMBERS ENDING WITH "B" ARE FOR STUBS AT BOTTOM OF END CAP.
PART NUMBERS ENDING WITH "T" ARE FOR STUBS AT TOP OF END CAP.

PART#	STUB	B	C
MC3500TEPE12T	12" [300 mm]	26.36" (670 mm)	N/A
MC3500TEPE12B	12" [300 mm]	N/A	1.35" [34 mm]
MC3500TEPE15T	15" [375 mm]	23.39" [594 mm]	N/A
MC3500TEPE15B	15" [375 mm]	N/A	1.50" [38 mm]
MC3500TEPE18T	18" [450 mm]	20.03" [509 mm]	N/A
MC3500TEPE18B	18" [450 mm]	N/A	1.77" [45 mm]
MC3500TEPE24T	24" [600 mm]	14.48" [368 mm]	N/A
MC3500TEPE24B	24" [600 mm]	N/A	2.06" [52 mm]

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12" - 24" SIZE ON SIZE AND 15" THROUGH 48" ECCENTRIC MANIFOLDS.

ADS ADVANCED DRAINAGE SYSTEMS, INC.

THE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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PHONE: 888-892-2694 | FAX: 866-328-8401
WWW.STORMTECH.COM

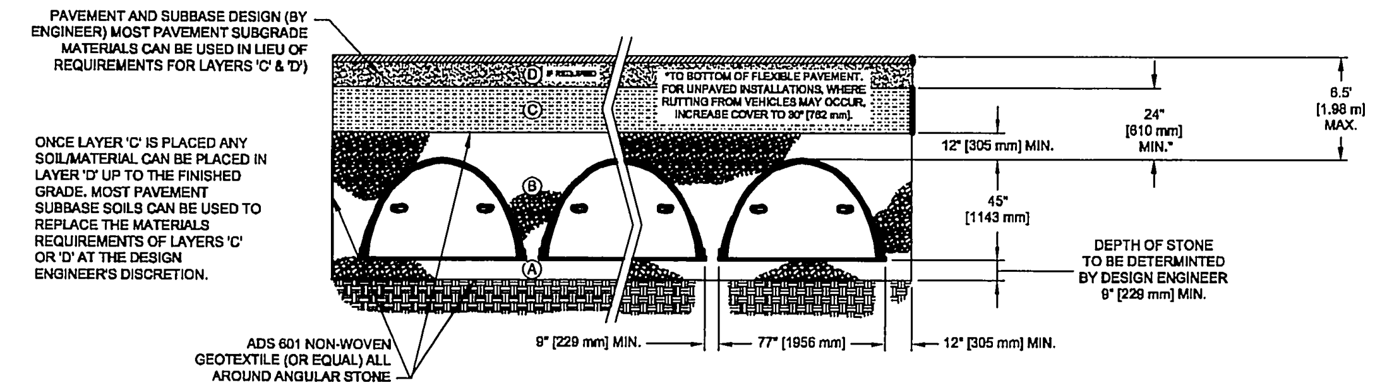
MC-3500 TECHNICAL SPECIFICATIONS
SCALE: NTS
DATE: 04/25/12
DRAWN BY: JLM
CHECKED:

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION[1]	COMPACTION/DENSITY REQUIREMENT
Ⓓ FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
Ⓒ FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" [610 mm] ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 24" [610 mm] OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" [305 mm] MAX LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY.
Ⓑ EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	3, 4	NO COMPACTION REQUIRED.
Ⓐ FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY [2].

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" [229 mm] (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



ADS ADVANCED DRAINAGE SYSTEMS, INC.

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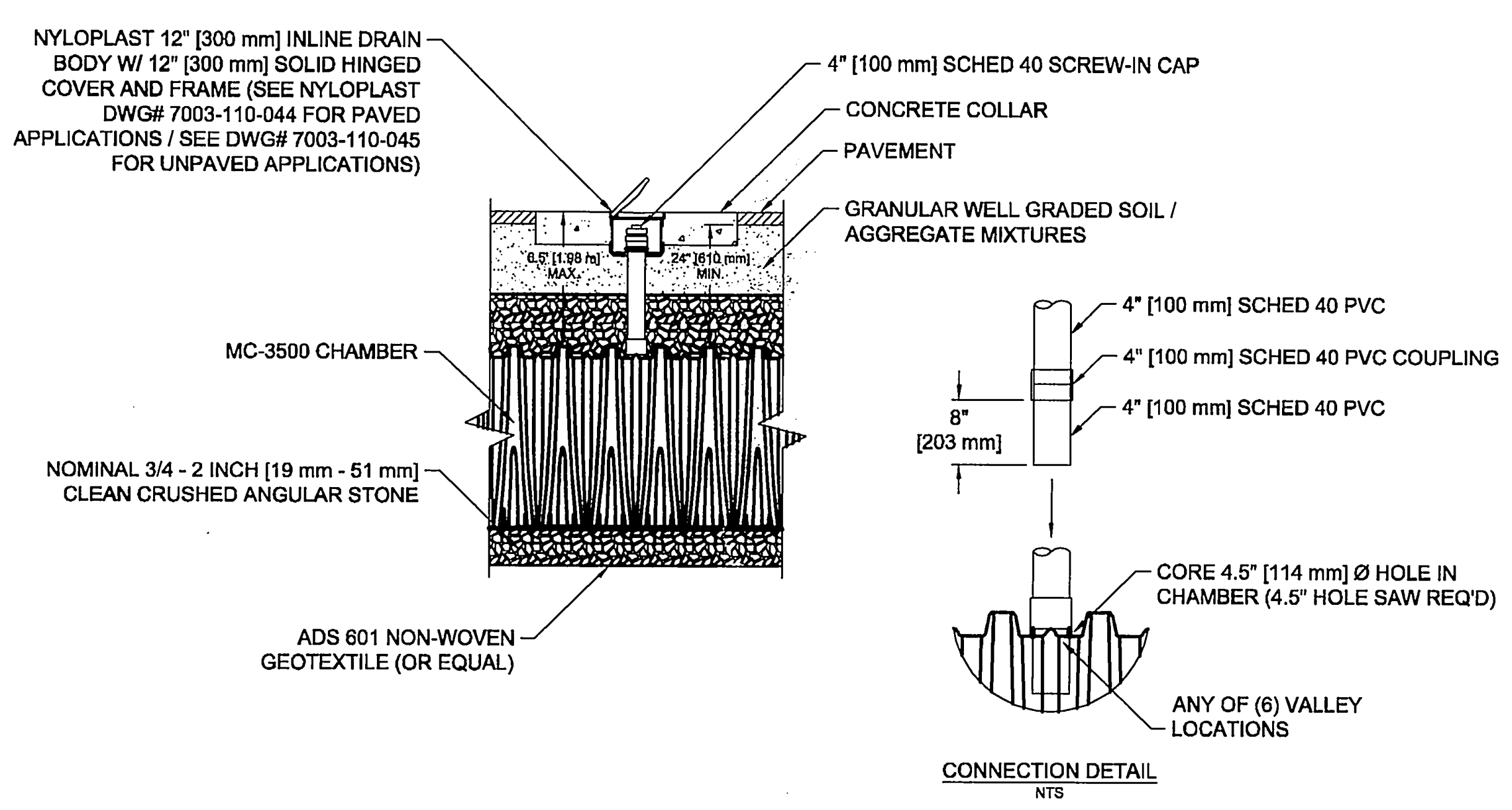
PHONE: 888-892-2694 | FAX: 866-328-8401
WWW.STORMTECH.COM

STORMTECH MC-3500 ACCEPTABLE FILL
SCALE: NTS
DATE: 09/22/10
DRAWN BY: KLJ
CHECKED:

NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY OF (6) CHAMBER CORRUGATION VALLEYS
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.



CONNECTION DETAIL
NTS

ADS ADVANCED DRAINAGE SYSTEMS, INC.

THE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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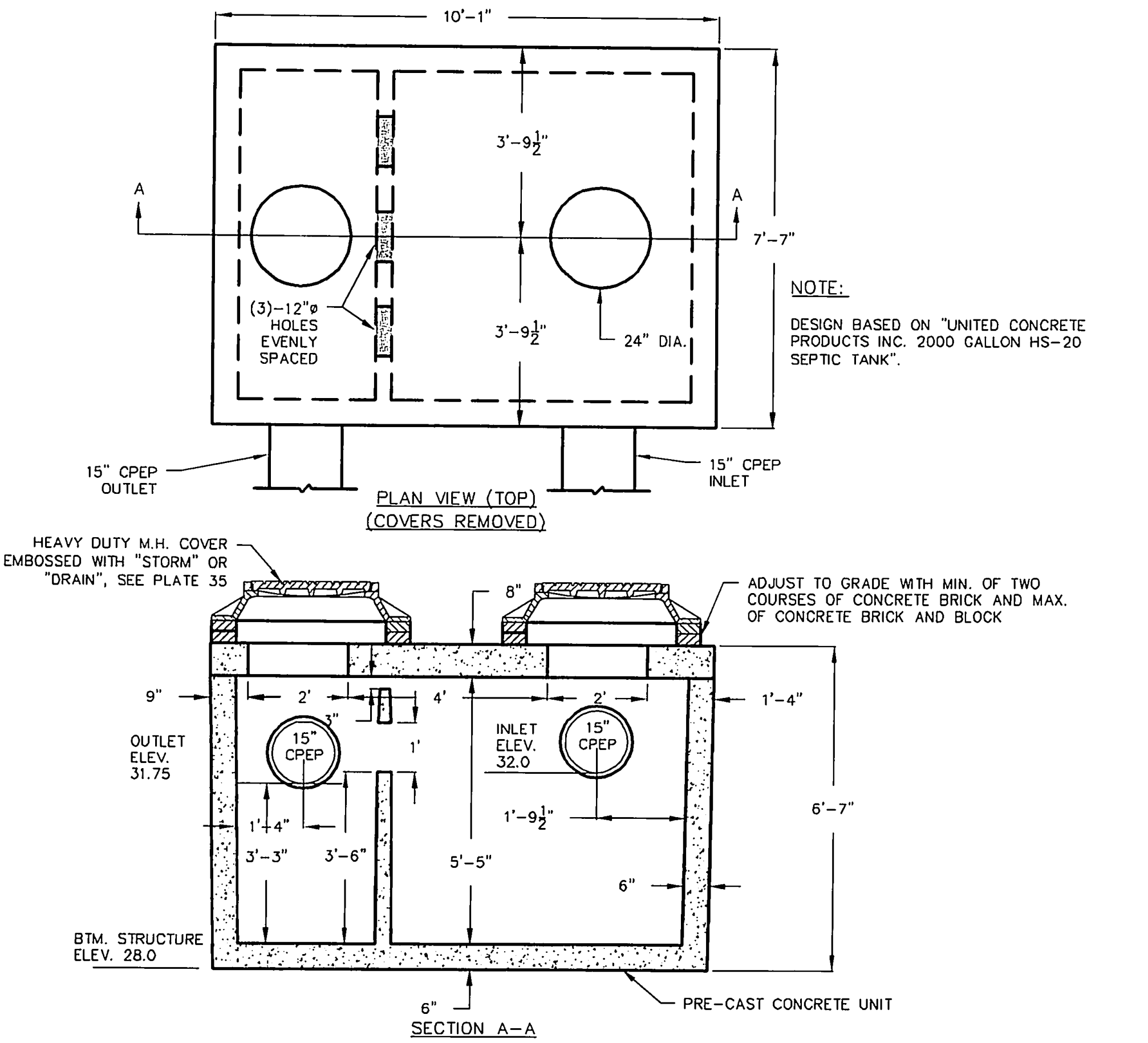
PHONE: 888-892-2694 | FAX: 866-328-8401
WWW.STORMTECH.COM

MC-3500 INSPECTION PORT DETAIL
SCALE: NTS
DATE: 6/15/11
DRAWN BY: KLJ
CHECKED:

NOTES:

1. BAFFLE CONSTRUCTION TO BE CAST MATERIAL WITH THROUGH HOLES ABOVE FLOW LINE.
2. ADJUST M.H. FRAME TO SUIT REQUIRED FIELD HEIGHT.
3. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR ACCEPTABLE EQUIVALENT
4. DESIGN LOADING – ASHTO HS20.
5. STEEL REINFORCEMENT – ASTM A-615-75, GRADE 60, MIN 2" MIN. COVER.
6. CONCRETE MINIMUM STRENGTH – 5,000 P.S.I. @ 28 DAYS.
7. ROOF AND SIDEWALL OPENINGS AS SPECIFIED.



NOTE:
DESIGN BASED ON "UNITED CONCRETE PRODUCTS INC. 2000 GALLON HS-20 SEPTIC TANK".

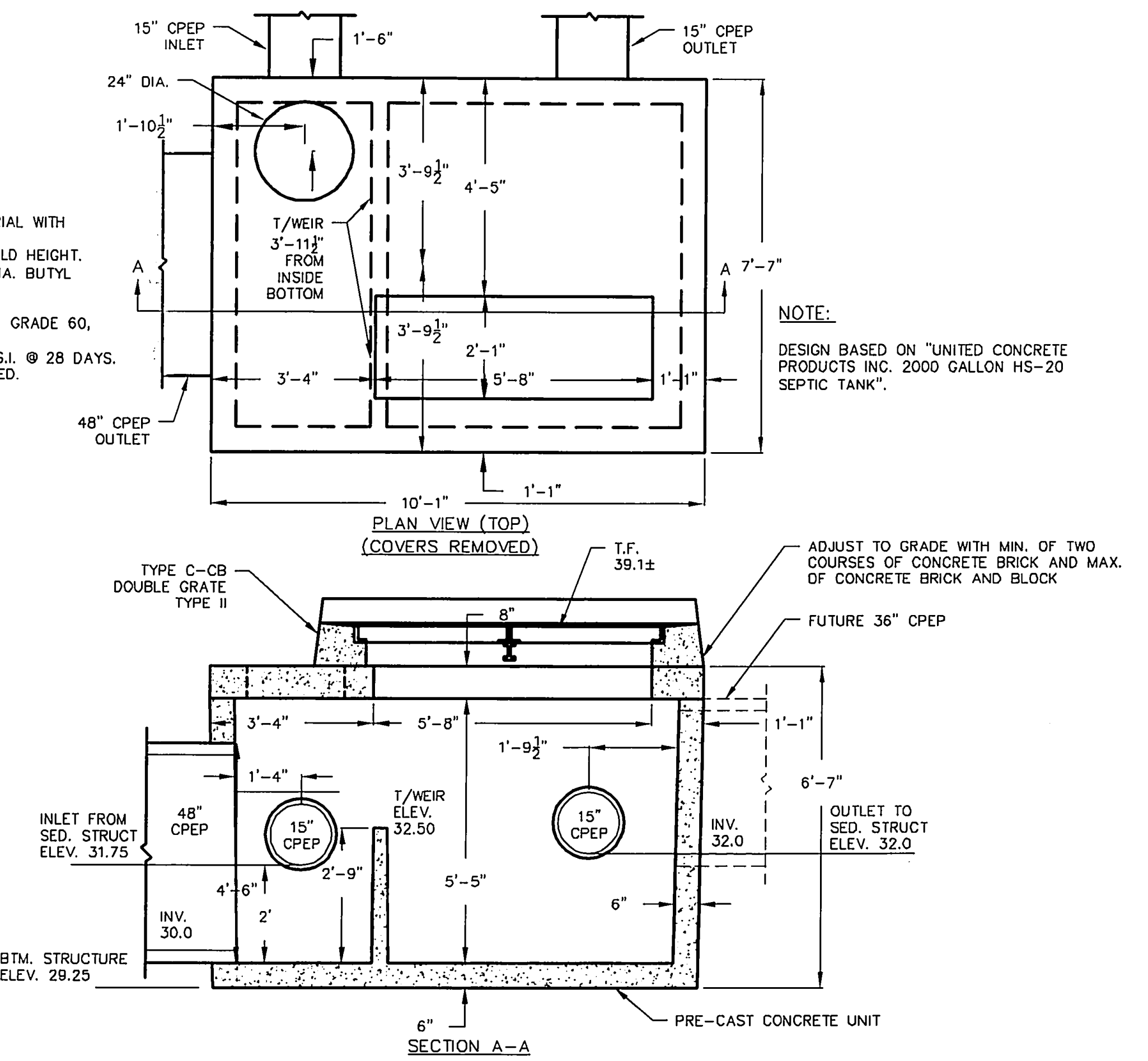
PLAN VIEW (TOP)
(COVERS REMOVED)

SECTION A–A
SEDIMENTATION STRUCTURE

PRECAST OFF-LINE SEDIMENTATION STRUCTURE STA. 0+0

NOTES:

1. BAFFLE CONSTRUCTION TO BE CAST MATERIAL WITH THROUGH HOLES ABOVE FLOW LINE.
2. ADJUST M.H. FRAME TO SUIT REQUIRED FIELD HEIGHT.
3. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR ACCEPTABLE EQUIVALENT
4. DESIGN LOADING – ASHTO HS20.
5. STEEL REINFORCEMENT – ASTM A-615-75, GRADE 60, MIN 2" MIN. COVER.
6. CONCRETE MINIMUM STRENGTH – 5,000 P.S.I. @ 28 DAYS.
7. ROOF AND SIDEWALL OPENINGS AS SPECIFIED.



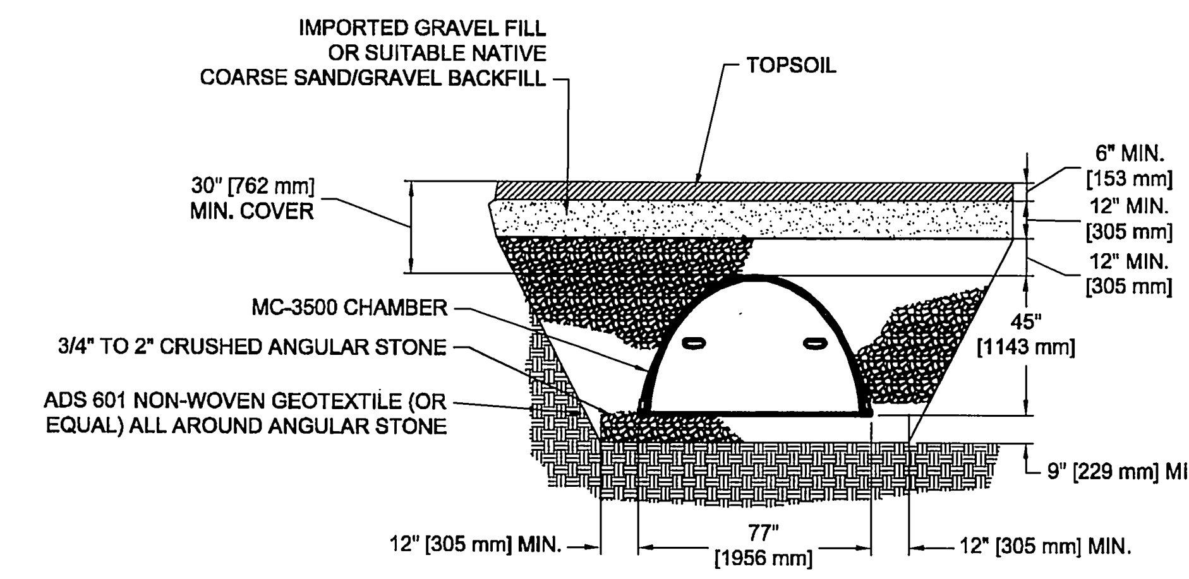
NOTE:
DESIGN BASED ON "UNITED CONCRETE PRODUCTS INC. 2000 GALLON HS-20 SEPTIC TANK".

PLAN VIEW (TOP)
(COVERS REMOVED)

SECTION A–A
SEDIMENTATION STRUCTURE

PRECAST DIVERSION STRUCTURE BK1 W/ DBL. GRATE C-CB TYPE II

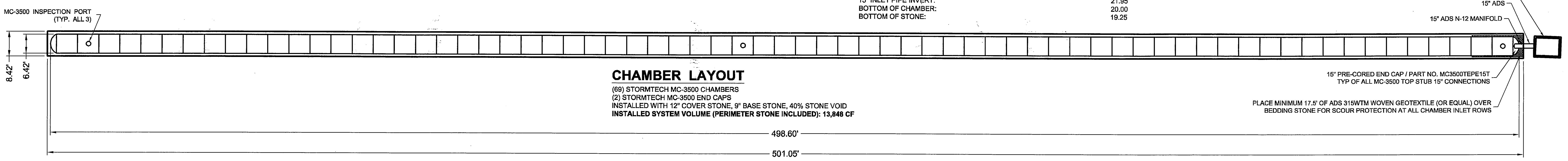
PERIMETER STONE MUST ALWAYS BE BROUGHT UP EVENLY WITH BACKFILL OF BED. PERIMETER STONE MUST EXTEND HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH STRAIGHT OR SLOPED SIDEWALLS.



TYPICAL CHAMBER TRENCH DETAIL

PROPOSED ELEVATIONS

MAX. ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	30.25
MIN. ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	26.25
MIN. ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT/UNPAVED):	25.75
MIN. ALLOWABLE GRADE (TOP OF REINFORCED CONCRETE PAVEMENT):	25.75
TOP OF STONE:	24.75
TOP OF CHAMBER:	23.75
15" INLET PIPE INVERT:	21.95
BOTTOM OF CHAMBER:	20.00
BOTTOM OF STONE:	19.25



CHAMBER LAYOUT

(69) STORMTECH MC-3500 CHAMBERS
(2) STORMTECH MC-3500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED): 13,848 CF

CHAMBER LAYOUT DETAIL

SCALE: 1" = 20'

Certified to be substantially correct

DANIEL A. PENNINGTON 20191

DANIEL A. PENNINGTON P.E. Reg. No. 20101

MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED.
ALL REVISIONS MUST BE PERFORMED ON CADD FILE:
H:\DWG\Streets\Tryon St\PW-9278 Tryon St–Dug Rd Drainage\Tryon St – Dug Rd Drainage–2013–DUG–REV2.dwg

TOWN OF GLASTONBURY	*RURAL RESIDENCE & FLOOD ZONE*
PROJECT/APPLICANT	*ZONE*

#302, #306 & LOT W–20 TRYON STREET
PROJECT ADDRESS

SECTION 4.11 FLOOD ZONE	
SPECIAL PERMIT SECTION	*TPZ CHAIRPERSON*
DATE SPECIAL PERMIT APP'D	*DIRECTOR OF COMMUNITY DEVELOPMENT*

FILE NO.

PW-9278

DRAWING ISSUE STATUS		
3.	ISSUED FOR CONSTRUCTION	12/10/2013
2.	ADD SED. & DIVERSION STRUCTURE DETAILS	9/30/2013
1.	ADDED INFILTRATOR DETAILS "SHEET 6"	1/4/2013
NO.	DESCRIPTION	DATE

TOWN OF GLASTONBURY CAD ENGINEERING

SCALE: AS SHOWN	DATE:
DRAWN BY: C.F.S.	11/26/2012
CHECKED BY: S.M.B.	11/26/2012
APPROVED BY: D.A.P.	11/26/2012
ST. FILE:	

DO NOT SCALE THIS DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE.

GRID NORTH

CONSTRUCTION DETAILS
FOR PROPOSED
STORM DRAINAGE IMPROVEMENTS
PHASE 1 & 2
located at
302 & 306 TRYON STREET
GLASTONBURY, CONNECTICUT

SHEET NO.
6
OF 12