

BOLTON PLANNING & ZONING COMMISSION
Regular Meeting
7:30 p.m., Wednesday, October 12, 2022
Virtual
Minutes & Motions

Members Present: Chairman Tom Manning, Arlene Fiano, Jeffrey Scala, Thomas Robbins, and Alternates Tom Crockett, Rodney Fournier, Kawan Gordon (joined at 8:01 p.m.)

Members Excused: Vice Chairman James Cropley, Jeremy Flick, Brittany Clark

Staff Present: Patrice Carson, AICP, Consulting Director of Community Development, Michael D'Amato, Interim Zoning Enforcement Officer (joined at 8:52 p.m.), and Yvonne Filip, Recording Secretary

Others Present: Gregg Fedus, Nathaniel Fleming, Walter Craven, Asif Choudhry

1. Call to Order: T. Manning called the meeting to order at 7: 32 p.m. T. Manning seated T. Crockett for J. Cropley and R. Fournier for J. Flick.

2. Approval of Minutes: September 14, 2022, Regular Meeting Minutes

T. Crockett moved to approve the minutes of the September 14, 2022, Regular Meeting. **T. Manning seconded.** Vote: 5-0-1 (Scala). Motion passed.

3. Residents' Forum: No one present wished to speak on a non-agenda item.

4. Staff Reports

T. Robbins moved to move this item to the end of the meeting. **T. Crockett seconded.** Vote: 6-0-0. Motion passed.

P. Carson reported:

- She is not sure what is going on with the B&B application as no revised plans or information to address Staff comments have been received. She suggested the applicant withdraw the application without prejudice. However, the applicant wants to continue as long as he can.
- 271 Hop River Road application – tonight is the first time that staff has seen revised plans. Comments were sent to the applicant last Thursday, October 6.
- Calls about building structures. Only one of those was about an accessory dwelling unit.

T. Crockett: Has anyone called inquiring about affordable housing? P. Carson: No.

M. D'Amato reported:

- Moving forward with finalizing the details of 1225 Boston Turnpike.
- Working and followed up with Howard Road. We have received comments from the Town Engineer. We are moving in the right direction now.
- Working to get 299 Hop River Road a use permit.

- Looking at finishing up with Dollar General; there are some bonded items that are not complete, such as drainage, lighting, and landscaping.
- An issue has been identified with the online permitting system for taking in applications. The issue is that multiple instances of permits for the same address are being created. We are trying to identify what the issue is to fix it and get the applications materials in one place.

5. Public Hearings (begin at 7:30 p.m.)

a. CONTINUATION: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, (A Villa Louisa), Asim Etern (#PL-22-7)

J. Scala recused himself from this hearing. P. Carson stated the applicant sent an email granting an extension until the November 9, 2022 meeting. Plans were not ready. That will run out all of the timeframes with this extension.

R. Fournier moved to continue this hearing until the November 9, 2022 meeting at 7:30 p.m. via Zoom. **T. Crockett seconded.** Vote: 5-0-0. Motion passed. The hearing is continued.

b. Modification of Special Permit Application for Gas Station/Convenience Store, 271 Hop River Road, Nathaniel Fleming (#PL-22-8)

P. Carson read the public hearing notice into the record. T. Manning would like the applicant to present the new plans but PZC cannot act on the application this evening without staff review.

Gregg Fedus, Fedus Engineering, representing the applicant shared the plans showing the project starting with a clean slate by putting up a new building. This allows the dispensers to be moved back from Hop River Road and provides better traffic circulation. The plan has been approved by Inland Wetlands which includes a connection to the Hop River Trail. This third revision of the site plan addresses some of the comments from Town staff. The curb cuts have been narrowed based on CT DOT comments. Parking will be in the front and on the west side of the building. There will be a drive-thru and bypass lane and additional room for fire and truck movement. There will be a filter strip draining into the detention basin. The proposed well location has received state approval. The septic system will be on the eastern side of the site. The plan meets all of the zoning requirements. The lot coverage is very low as is impervious coverage. Parking requirements maximum required is 25 spaces; there are 23 and that does not include the spaces at the pumps. There is one van accessible space. The majority of the junkyard has been cleaned up. There will be lighting at the entrance and the exit to the site. The lighting will shed a bit of light off the property but from a safety standpoint it is best to light up the driveways. CT DOT did not have a problem with them. The lights could be moved but it may not be the most practical thing to do. There is no proposed change, other than inserts to the existing free-standing sign close to the property line; there is no increase of square footage, no proposed light, and no increase in the height of the sign. We are working through understanding the regulations that do not allow any canopy signage while the existing one does have CITGO on it and it will remain as a CITGO station. A landscaping plan is included. Sight lines were shown with the actual speed rather than the posted speed limit. There are four charging locations shown. The trail to the back did include the approved stream crossing per Inland Wetlands Agent; this will be a wood timber pedestrian walk bridge.

Walter Craven, designer of the structural and architectural renderings shared the plans of the 4,998 sq. ft, type 5 building. Mechanicals will be at the back of the building. There will be no dining areas inside or outside.

K. Gordon: Does the drainage off the roof go below ground and away from the building? G. Fedus: The building drains into the 4 bay area of the detention basin underground. T. Robbins: Will there be any signs for the drive-thru? G. Fedus: There will be directional signs and painting on the pavement for the drive-thru. There will be a separate application for the sign package. P. Carson: Are there any comments from PZC regarding the architectural view of the building? T. Manning: This is good quality architecture for this type of building and based on what he sees it is within the town's design guidelines.

P. Carson: The ADA space comment is based on being as close as possible to the doorway. Where will the EV spaces be? G. Fedus: Showed two stations in order for each to charge two vehicles at a time. P. Carson: The PZC may allow the light spillage into the highway for safety as long as it is not blinding for someone trying to turn in; she will check on a waiver. The proposed sign light has been removed. Has the public water system been approved? G. Fedus: We think it has been approved but we do not have the paperwork yet. Asif Choudhry: It has been approved. J. Scala: There is something in the packet about the public water system.

A. Choudhry: Is a waiver possible on the bond for the site improvements? G. Fedus: There are two bonds required – one for the E&S controls and one for the site improvements. The regulations say the PZC may require these. They would appreciate the PZC's thoughts to grant a waiver or a reduction in the amount. P. Carson: Any application that has been taken in a completion bond was required. G. Fedus: Will work with Staff to get an appropriate number. Audience of Citizens: There were no citizens who wanted to comment.

T. Manning moved to continue the public hearing to the next PZC meeting on Wednesday, November 9, 2022, via Zoom, beginning at 7:30pm. **R. Fournier seconded**. Vote 6-0-0. Motion passed.

T. Manning seated K. Gordon for B. Clark at 8:36 p.m. The PZC moved to New Business next.

6. Old Business

a. Discussion/Possible Decision: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, (A Villa Louisa), Asim Etem (#PL-22-7)

The public hearing was continued so no action was taken on this item.

b. Discussion/Possible Decision: Modification of Special Permit Application for Gas Station/Convenience Store, 271 Hop River Road, Nathaniel Fleming (#PL-22-8)

The public hearing was continued so no action was taken on this item.

c. Discussion: Regulations Regarding the Cultivation, Sale, and Distribution of Adult Use Cannabis Bolton PZC (#PL-22-6)

P. Carson stated that staff has not heard comments from any commissioners. T. Manning felt this will be a good discussion for the next meeting and thinks zoning maps will be helpful.

d. Other: There was none.

7. New Business

a. Discussion/Decision: Request for Extension of Time to File Plans with Town Clerk under Zoning Regulations Section 16B.5.b.: Special Permit Application for Veterinary Hospital/Veterinary Emergency Care, 233 Boston Turnpike & 12 Williams Road (Bolton Vet), Veterinarians of Eastern Connecticut LLC (#PL-22-3)

P. Carson stated the applicant has asked for another 90-day extension to February 2023.

R. Fournier moved to grant a 90-day extension of time from November 7, 2022 to February 5, 2023 to file plans with the Town Clerk's office as allowed by and in accordance with Section 16B.5.b. Endorsement and Filing of the Bolton Zoning Regulations for all approvals granted under Permit #PL-22-3 for Veterinarians Of Eastern Connecticut LLC, which application and plans were approved by the Planning and Zoning Commission on May 11, 2022. **T. Robbins seconded.** T. Manning asked if it was known what the issues are? P. Carson said she believes the issue is still with hiring additional vets and ordering of materials. Vote 7-0-0. Motion passed.

b. Discussion/Decision: Schedule of 2023 Regular Meeting Dates

T. Crockett moved to approve the 2023 Planning and Zoning Commission Regular Meeting dates schedule as presented and file it with the Town Clerk's Office as required by statute. **R. Fournier seconded.** Vote 7-0-0. Motion passed.

c. Other: There was none.

8. Correspondence

P. Carson: The Town Clerk received a letter of resignation from Brittany Clark. She has moved out of town. According to Charter, within 90 days the PZC has the authority to appoint a person to serve until November 2023. Alternate members of the same party are given first choice as a courtesy. B. Clark was a Republican. If the PZC does not appoint someone within those 90 days, the BOS can then appoint someone. This will be on the next agenda.

T. Manning attended the regional planning meeting in September. Five towns got money for various improvements. This was a very informative discussion.

9. Adjournment

T. Crockett moved to adjourn the meeting at 9:01 p.m. **J. Scala seconded.**

Respectfully Submitted,

Yvonne B. Filip

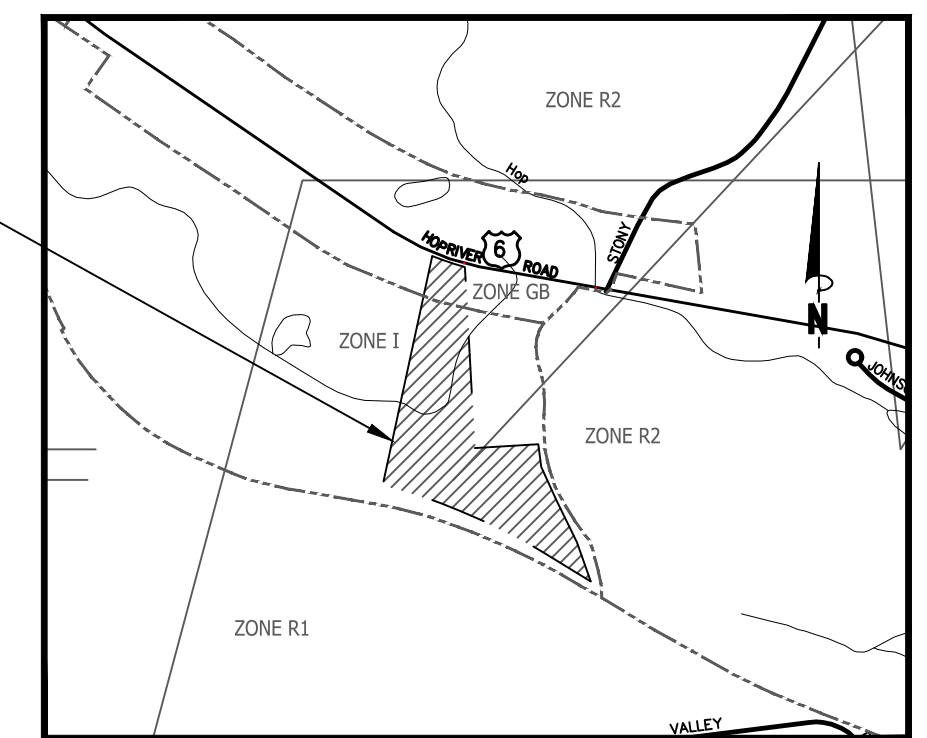
Yvonne B. Filip, Planning & Zoning Commission Recording Secretary

Please see minutes of subsequent meetings for approval of these minutes and any corrections hereto.

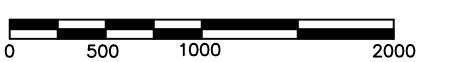
IMS PETROLEUM, LLC

AN EXISTING AUTO REPAIR SHOP TO BE REMOVED AND REPLACED WITH A CONVENIENCE STORE. EXISTING DEBRIS AREAS ON SITE TO BE CLEANED AND REMOVED. DEBRIS AREAS DEPICTED ON SITE PLAN ARE NOT LIMITED TO CLEAN UP AREAS.

SHEET LIST TABLE	
1 OF 11	COVER SHEET
2 OF 11	EXISTING & DEMOLITION PLAN
3 OF 11	SITE PLAN
4 OF 11	GRADING & UTILITY PLAN
5 OF 11	LANDSCAPING & LIGHTING PLAN
6 OF 11	DETAIL SHEET
7 OF 11	DETAIL SHEET
8 OF 11	DETAIL SHEET
9 OF 11	SIGHT LINES
10 OF 11	DETAIL SHEET
11 OF 11	DETAIL SHEET



Scale: 1"=1000'



EXISTING

SYMBOL	DESCRIPTION
	MONUMENT
	EX. IP / REBAR
	DRILL HOLE
	UTILITY POLE W/ LIGHT
	STONEWALL
	FENCE LINE
	WATER VALVE
	OVERHEAD WIRES
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	INDEX CONTOUR LINE
	CONTOUR
	WETLANDS BOUNDARY/FLAG
	MEAN LOW WATER LINE
	MEAN HIGH WATER LINE
	HIGH TIDE LINE
	COUNTY JURISDICTIONAL LINE
	ZONE LINE
	EASEMENT LINE
	BUILDING SETBACK LINE
	EXISTING WATER LINE
	EXISTING SEWER LINE
	NOW OR FORMERLY
	CATCH BASIN
	TYPICAL
	SPOT ELEVATION
	DRILL HOLE
	POINT OF BEGINNING
	TEST PIT
	PERCOLATION TEST
	UTILITY POLE
	DRAINAGE MANHOLE
	SEWER MANHOLE
	HYDRANT
	WATER SHUTOFF

PROPOSED


 IRON PIN TO BE SET

OWNER: IMS PETROLEUM, LLC
PARCEL ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MAILING ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MBL 8/106
DEED: VOLUME 185 PAGE 947
AREA: 639,104.1± SF = 14.6± AC
FLOOD ZONE: ZONE X PER FIRM MAP # 09011C0228G
EFFECTIVE DATE: 6/1/1981

[illegible]

S PETROLEUM, LLC
August 11, 2022

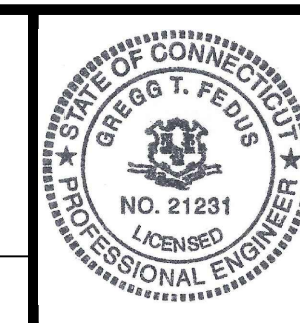
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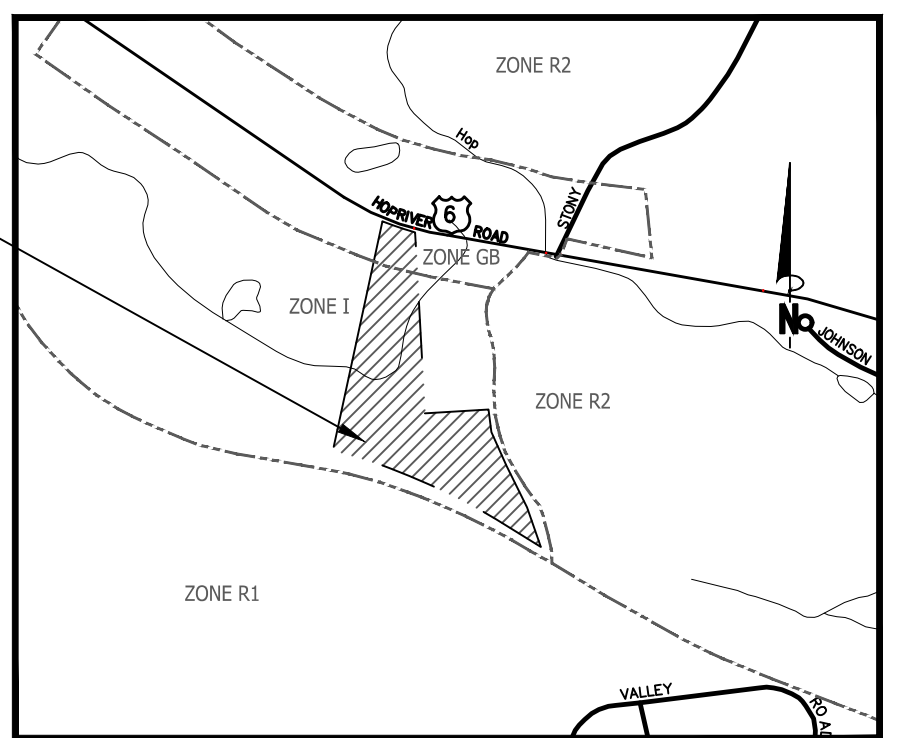
A horizontal graphic scale bar with alternating black and white segments. It is marked with the numbers 0, 30, 60, and 120, representing feet.

SHEET NO. 1 OF 11	JOB NO. 21-000985	DRAWN BY: CAC
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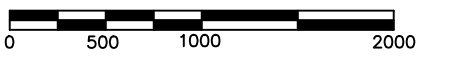
Sh

Gregg T. Fedus P.E.
CT. License No. 21231





Location Map



Legend

EXISTING

SYMBOL	DESCRIPTION
	MONUMENT
	EX. IP. / REBAR
	DRILL HOLE
	UTILITY POLE W/ LIGHT
	STONEWALL
	FENCE LINE
	WATER VALVE
	OVERHEAD WIRES
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	INDEX CONTOUR
	CONTOUR
	WETLANDS BOUNDARY/FLAG
	MEAN LOW WATER LINE
	MEAN HIGH WATER LINE
	HIGH TIDE LINE
	COUNTY JURISDICTIONAL LINE
	ZONE LINE
	EASEMENT LINE
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	SPOT ELEVATION
	DRILL HOLE
	POINT OF BEGINNING
	TEST PIT
	PERCOLATION TEST
	UTILITY POLE
	DRAINAGE MANHOLE
	SEWER MANHOLE
	HYDRANT
	WATER SHUTOFF

PROPOSED

ON PIN TO BE SET

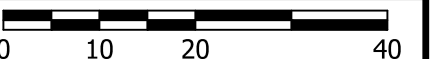
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Existing Conditions/Demolition Plan

of
271 Hop River Road
Bolton, Connecticut

IMS PETROLEUM, LLC
August 11, 2022

DRAWING SCALE: 1"=20'

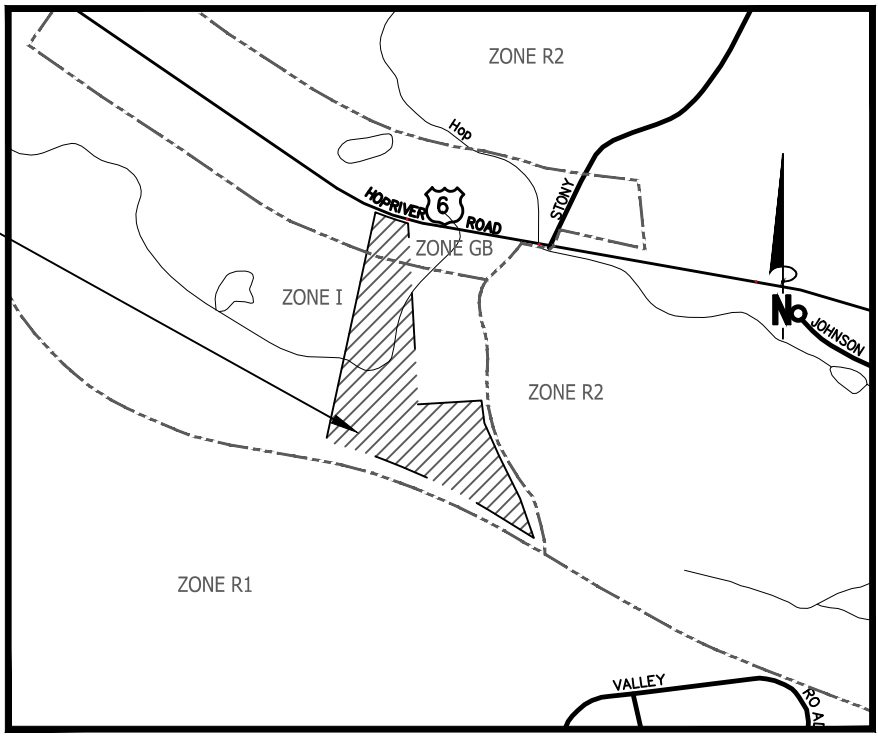


SHEET NO. 2 OF 11	JOB NO. 21-000985	DRAWN BY: CAC
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Subject Parcel Information

OWNER: IMS PETROLEUM, LLC
PARCEL ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MAILING ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MBL 8/106
DEED: VOLUME 185 PAGE 947
AREA: 639,104.1± SF = 14.6± AC
FLOOD ZONE: ZONE X PER FIRM MAP # 09011C0228G
EFFECTIVE DATE: 6/1/1981

TEST PIT: 200	
0'-72" FILL	
72"-90" ORIGINAL TOP SOIL	
90"-126" GRAY SANDY GRAVEL	
MOTTLES:	NO
GROUNDWATER:	120"
LEDGE:	NO
ROOTS:	NO
RESTRICTIVE:	120"



Location Map

Scale: 1"=1000'

0 500 1000 2000

Legend

EXISTING

SYMBOL	DESCRIPTION
□	MONUMENT
○	EX. TP / REBAR
●	DRILL HOLE
—○—	UTILITY POLE W/ LIGHT
—○—	STONEWALL
—X—X—	FENCE LINE
—○—	WATER VALVE
—○—	OVERHEAD WIRES
—	PROPERTY LINE
---	ADJACENT PROPERTY LINE
---	INDEX CONTOUR
---	CONTOUR
---	WETLANDS BOUNDARY/FLAG
---	MEAN LOW WATER LINE
---	MEAN HIGH WATER LINE
---	HIGH TIDE LINE
---	COUNTY JURISDICTIONAL LINE
---	ZONE LINE
---	EASEMENT LINE
---	BUILDING SETBACK LINE
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	NOW OR FORMERLY CATCH BASIN
(TYP.)	TYPICAL
x5.8	SPOT ELEVATION
DH	DRILL HOLE
(POB)	POINT OF BEGINNING
TP#1	TEST PIT
P1	PERCOLATION TEST
○	UTILITY POLE
○	DRAINAGE MANHOLE
○	SEWER MANHOLE
○	HYDRANT
○	WATER SHUTOFF
○	IRON PIN TO BE SET

FEDUS ENGINEERING, LLC.				
PERCOLATION TEST TABLE - P1				
PROJECT	271 Hop River Road, Bolton	08/14/21		
Depth	42" with Shelf at 27" - Measurements from Shelf			
Pre-soak	2 hours			
ELAPSED TIME (MINUTES)	READING (INCHES)	DROP (INCHES)	PERCOLATION RATE MINUTES/INCH	
0	5			
5	8	3		1.67
10	10	2		2.50
15	11	1		5.00
20	12			5.00
25	12 1/2	1/2		10.00
30	13	1/2		10.00

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MAILING ADDRESS:	271 HOP RIVER ROAD, BOLTON, CT 06043
MBL:	8/106
DEED:	VOLUME 185 PAGE 947
AREA:	639,104.14 ± SF = 14.64 AC
FLOOD ZONE:	ZONE X PER FIRM MAP # 09011C0228G
	EFFECTIVE DATE: 6/1/1981

Grading & Utility Plan

of
271 Hop River Road
Bolton, Connecticut

Prepared For:

IMS PETROLEUM, LLC
August 11, 2022

DRAWING SCALE: 1"=20'



SHEET NO. 4 OF 11 JOB NO. 21-000985 DRAWN BY: CAC

DEEP TEST PIT DATA / SOIL DESCRIPTIONS

PERFORMED BY: FEDUS ENGINEERING, LLC - GREGG FEDUS, P.E.
WITNESSED BY: EASTERN HIGHLANDS HEALTH DISTRICT
DATE: 8-12-21 (Test Pits 182) 7-21-22 (100-102)

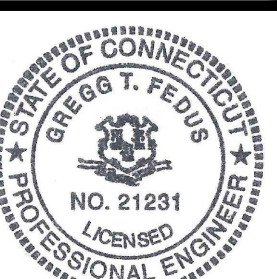
TEST PIT: 1	TEST PIT: 2
0'-33" TOPSOIL FILL	0'-30" TOPSOIL FILL
33'-54" BROWN SANDY LOAM	30'-39" ORGANIC TOPSOIL
57'-66" RED BROWN SAND, WITH GRAVEL	39'-53" RED-BROWN SANDY LOAM
66'-95" BROWN SILTY SAND	53'-96" GRAVEL/BROWN SILTY LOAM
MOTTLES: 66"	MOTTLES: 53"
GROUNDWATER: 95"	GROUNDWATER: NO
LEDGE: NO	LEDGE: NO
ROOTS: NO	ROOTS: NO
RESTRICTIVE: 66"	RESTRICTIVE: NO

217 HOP RIVER ROAD - SEPTIC DESIGN DATA RETAIL STORE DESIGN

4,960 SF RETAIL STORE = 4,960 SF x 0.1 GPD/SF = 496 GPD
DESIGN FLOW USED = 1,655 GPD
496 GPD * 3.34 (SAFETY FACTOR) = 1655.2 GPD
PERCOLATION TEST - USE LESS THAN 10.1 MIN/INCH
TABLE 7 PROBLEMATIC SEWAGE
REQUIRED ELA = DESIGN FLOW/APPLICATION RATE
1,655.2 GPD / 0.80 RATE = 2081.5 SF
LEACHING TRENCH GST 6224 = 18.1 SF/LF
MINIMUM REQUIRED TRENCH = (2,081.5 SF)/(18.1 SF/LF) = 115 LF
TRENCH PROVIDED = 115 LF
EFFECTIVE LEACHING PROVIDED = 115 LF X 18.1 SF/LF = 2,081.5 SF
MLSS = HF x FF x PF RS = 36"
HF = 28.0 HYDRAULIC GRADIENT = (471.19'-467.61')/72' = 4.97%
PF = 4.0
PF = 1.0
MLSS = 28 x 4.0 x 1.0 = 112 LF
PROVIDED 86 LF + 40 LF = 115 LF. NEEDED 112 LF OKAY WITH 2 SIDE LATERAL FLOW.

NO.	DATE	REVISIONS
1	9/14/2022	HEALTH DISTRICT COMMENTS
2	10/11/2022	TOWN COMMENTS
3	10/12/2022	GENERAL COMMENTS
4	10/17/2022	GRADING ADJUSTED
5	11/02/2022	TOWN COMMENTS

Gregg T. Fedus P.E.
CT. License No. 21231



99 HOP RIVER RD
N/F
99 HOP RIVER RD, LLC
M/B/L: 8/107
V163/625
MAILING ADDRESS
407 1/2 LAUREL DR
FREINDSWOOD DR, TX 77546
(NO DESIGN CONFLICTS)

PROPOSED 7 LF
4" PVC SCH. 40
ASTM D 2665/1765
PROPOSED
D-BOX
INV. IN = 470.50'
INV. OUT = 470.40'

PROPOSED 2000 GALLON H-20
SEPTIC TANK
INV. IN = 470.85'
INV. OUT = 470.60'

PROPOSED 10 LF
4" PVC SCH. 40
ASTM D 2665/1765
SLOPE = 2.2%

PROPOSED 77 LF 15" HDPE
S = 0.7%

PROPOSED
CATCH BASIN TYPE - CL
TF = 471.27'
INV. IN = 466.95'
INV. OUT = 466.70"

255 HOP RIVER RD.
N/F
255 HOP RIVER RD, LLC
M/B/L: 8/105
V180/774
MAILING ADDRESS
255 HOP RIVER RD
BOLTON, CT 06043
(NO DESIGN CONFLICTS)

DEEP TEST PIT DATA / SOIL DESCRIPTIONS

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WITNESSED BY: EASTERN HIGHLANDS HEALTH DISTRICT
DATE: 8-12-21 (Test Pits 182) 7-21-22 (100-102)

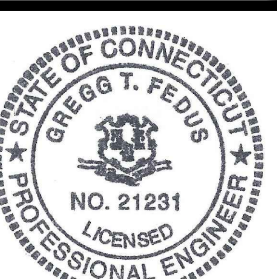
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Gregg T. Fedus P.E.
CT. License No. 21231



SHEET NO. 4 OF 11 JOB NO. 21-000985 DRAWN BY: CAC

99 HOP RIVER RD
N/F
99 HOP RIVER RD, LLC
M/B/L: 8/107
V163/625
MAILING ADDRESS
407 1/2 LAUREL DR
FREINDSWOOD DR, TX 77546
(NO DESIGN CONFLICTS)

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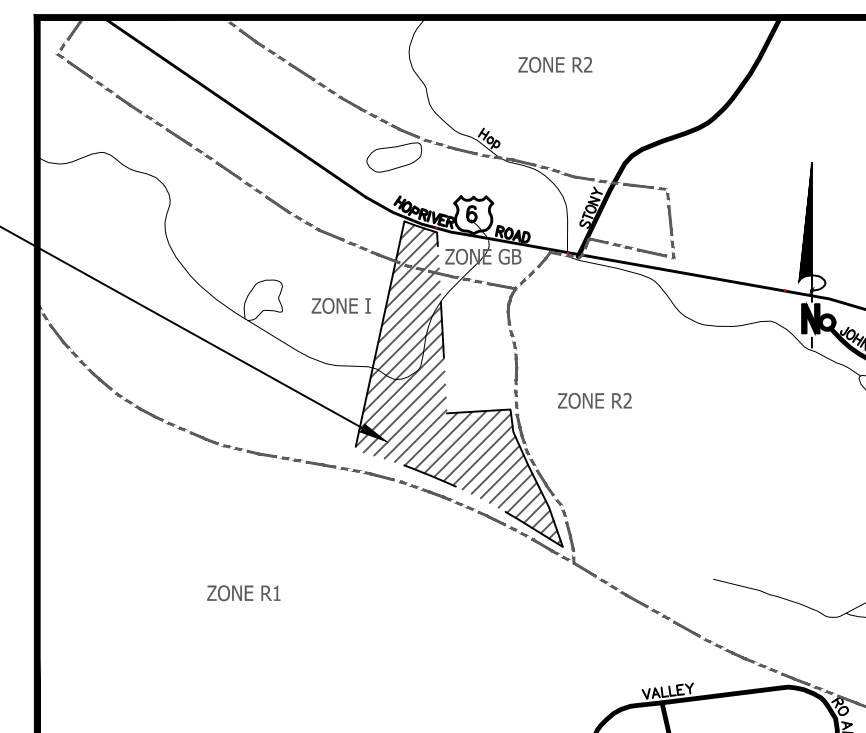
PROPOSED 10 LF
4" PVC SCH. 40
ASTM D 2665/1765
SLOPE = 2.2%

PROPOSED 77 LF 15" HDPE
S = 0.7%


PROPOSED
CATCH BASIN TYPE - CL
TF = 471.27'
INV. IN = 466.95'
INV. OUT = 466.70"

255 HOP RIVER RD.
N/F
255 HOP RIVER RD, LLC
M/B/L: 8/105
V180/774
MAILING ADDRESS
255 HOP RIVER RD
BOLTON, CT 06043
(NO DESIGN CONFLICTS)

99 HOP RIVER RD
N/F
99 HOP RIVER RD, LLC
M/8/L: 8/107
VI63/625
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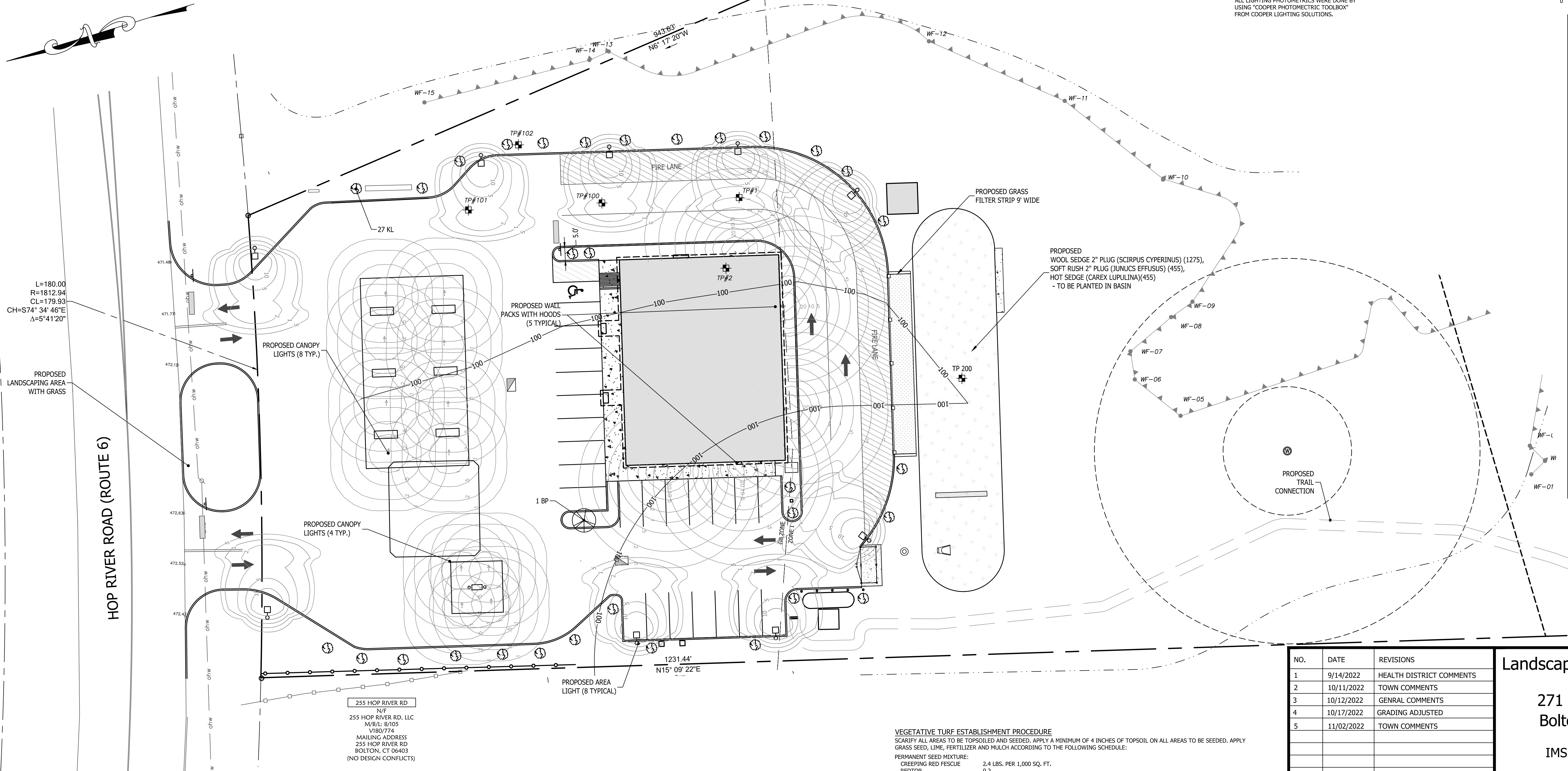



Scale: 1"=1000'



A horizontal scale bar with alternating black and white segments. It is marked with the numbers 0, 500, 1000, and 2000 at regular intervals.

NOTE:
ALL LIGHTING PHOTOMETRICS WERE DONE BY
USING "COOPER PHOTOMETRIC TOOLBOX"
FROM COOPER LIGHTING SOLUTIONS.



of
271 Hop River Road
Bolton, Connecticut
Prepared For:
IMS PETROLEUM, LLC
August 11, 2022

DRAWING SCALE: 1"=20'

A horizontal graphic scale bar with alternating black and white segments. It is marked with the numbers 0, 10, 20, and 40, representing feet. The total length of the bar is 40 feet.

SHEET NO. 5 OF 11	JOB NO. 21-000985	DRAWN BY: CAC
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OWNER: IMS PETROLEUM, LLC
PARCEL ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MAILING ADDRESS: 271 HOP RIVER ROAD, BOLTON, CT 06043
MBL 8/106
DEED: VOLUME 185 PAGE 947
AREA: 639,104.1± SF = 14.6± AC
FLOOD ZONE: ZONE X PER FIRM MAP # 09011C0228G
EFFECTIVE DATE: 6/1/1981

VEGETATIVE TURF ESTABLISHMENT PROCEDURE

SCARIFY ALL AREAS TO BE TOPSOILED AND SEEDED. APPLY A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL AREAS TO BE SEEDDED. SEED GRASS, SEED LIME, FERTILIZER AND MULCH ACCORDING TO THE FOLLOWING SCHEDULE:

PERMANENT SEED MIXTURE:

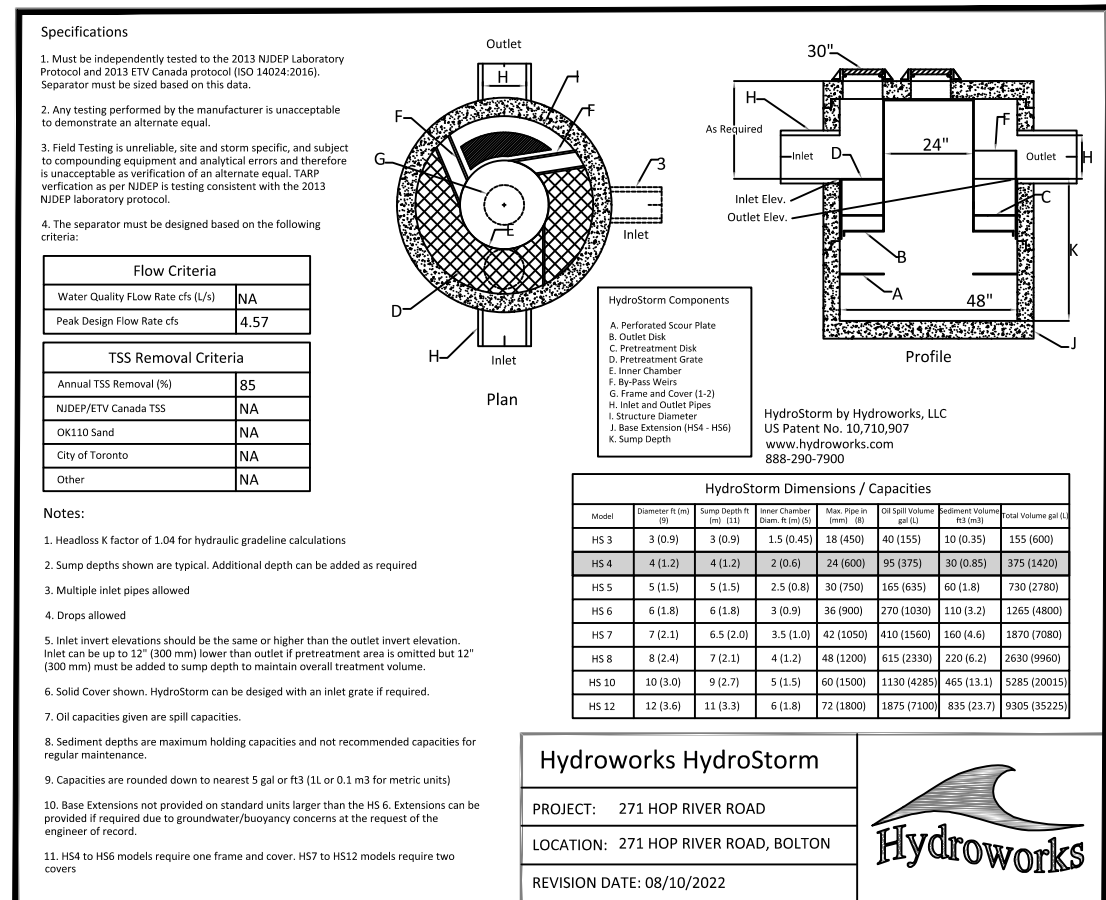
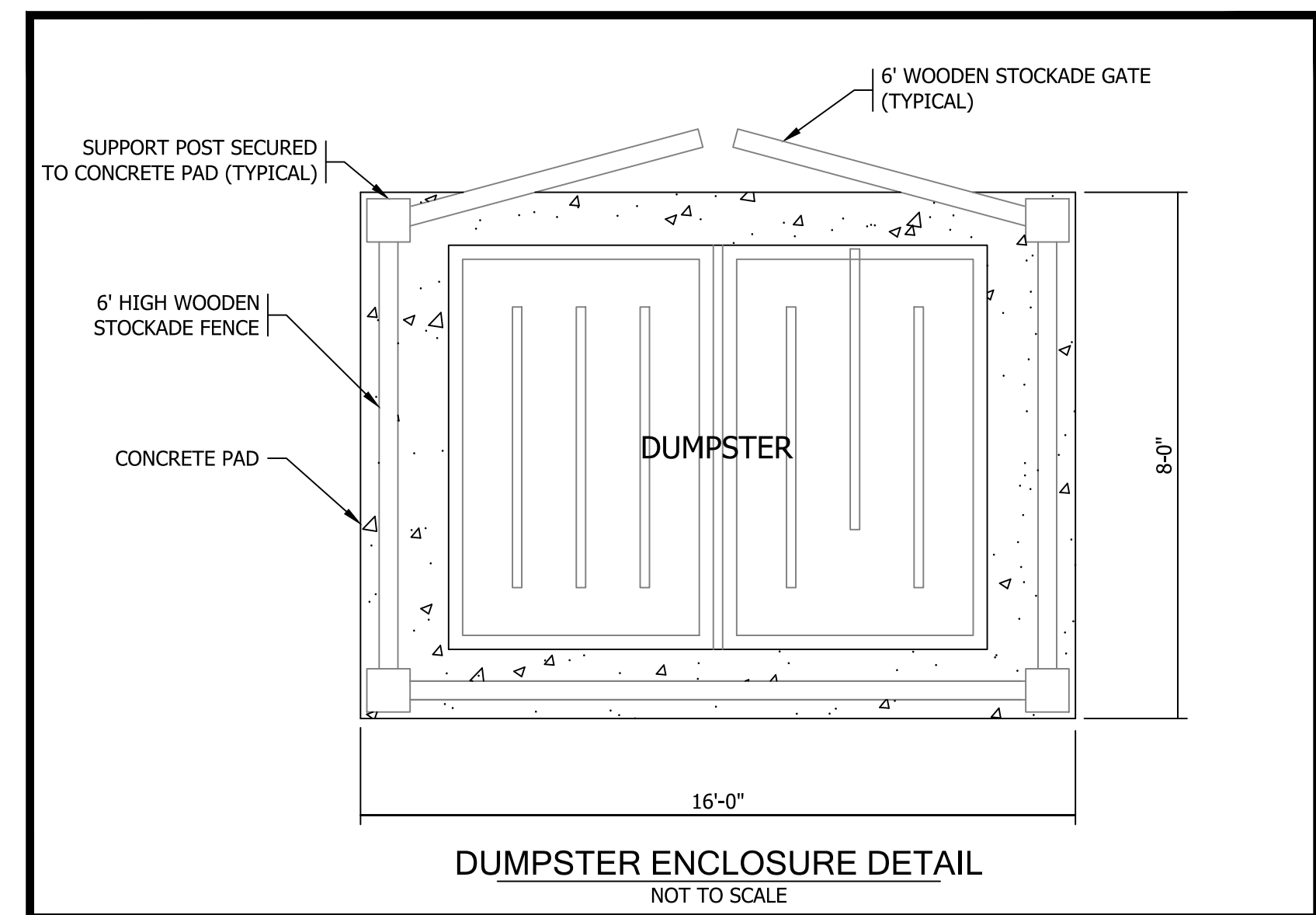
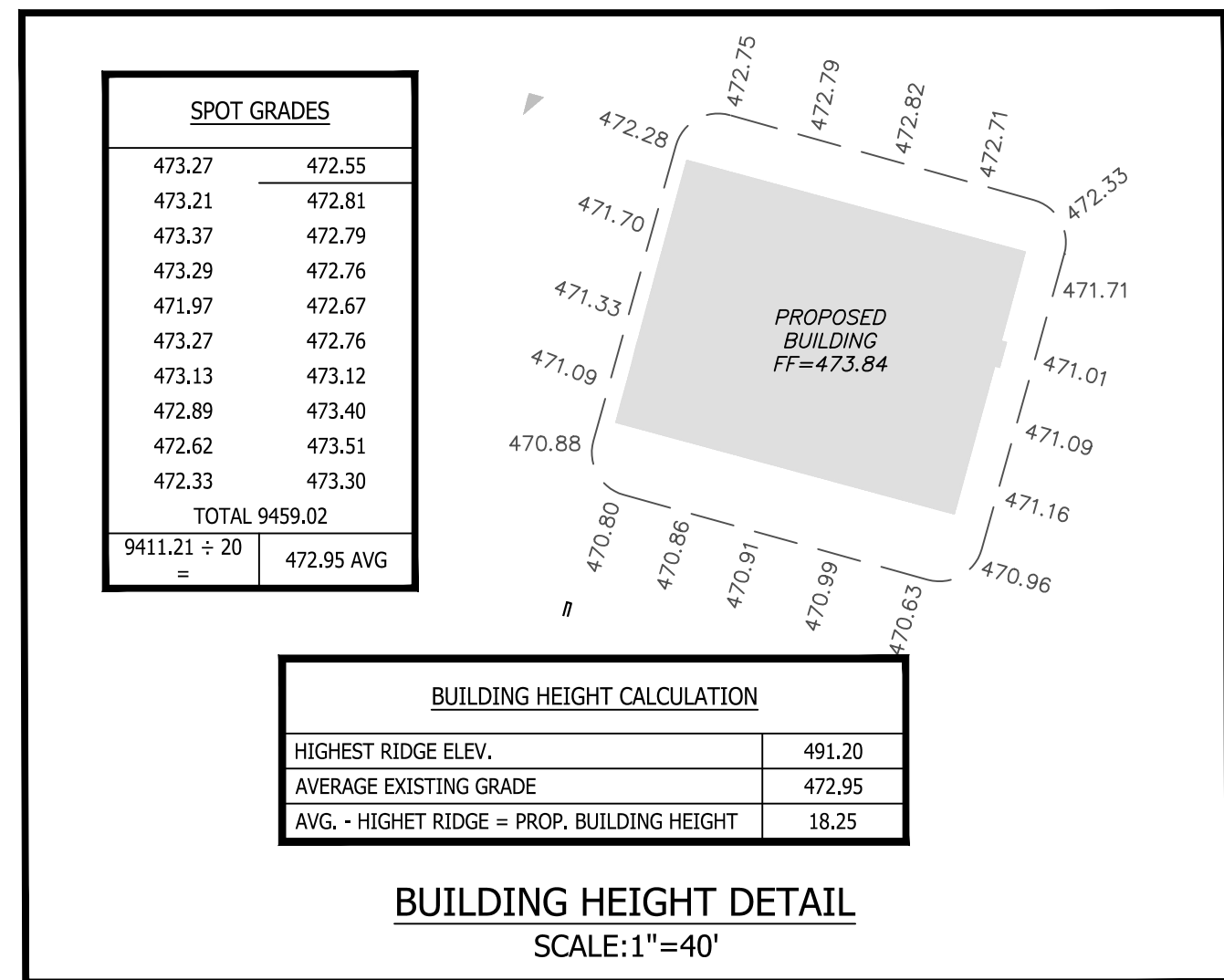
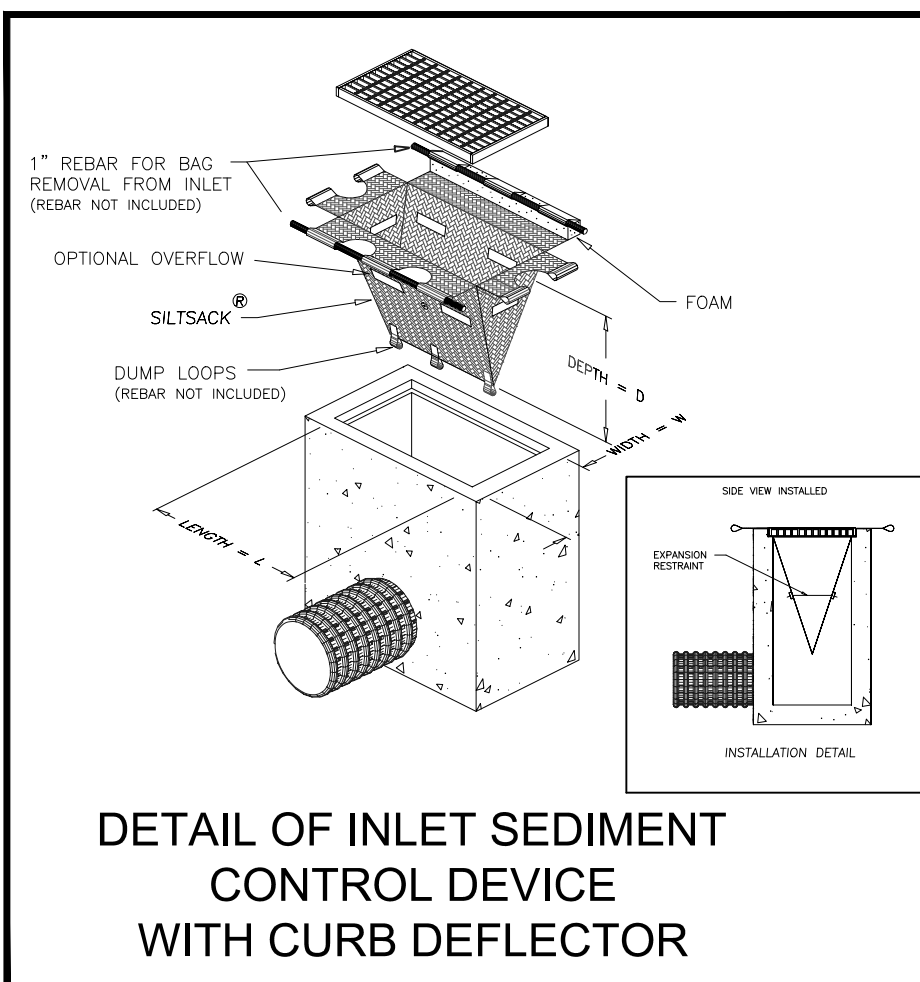
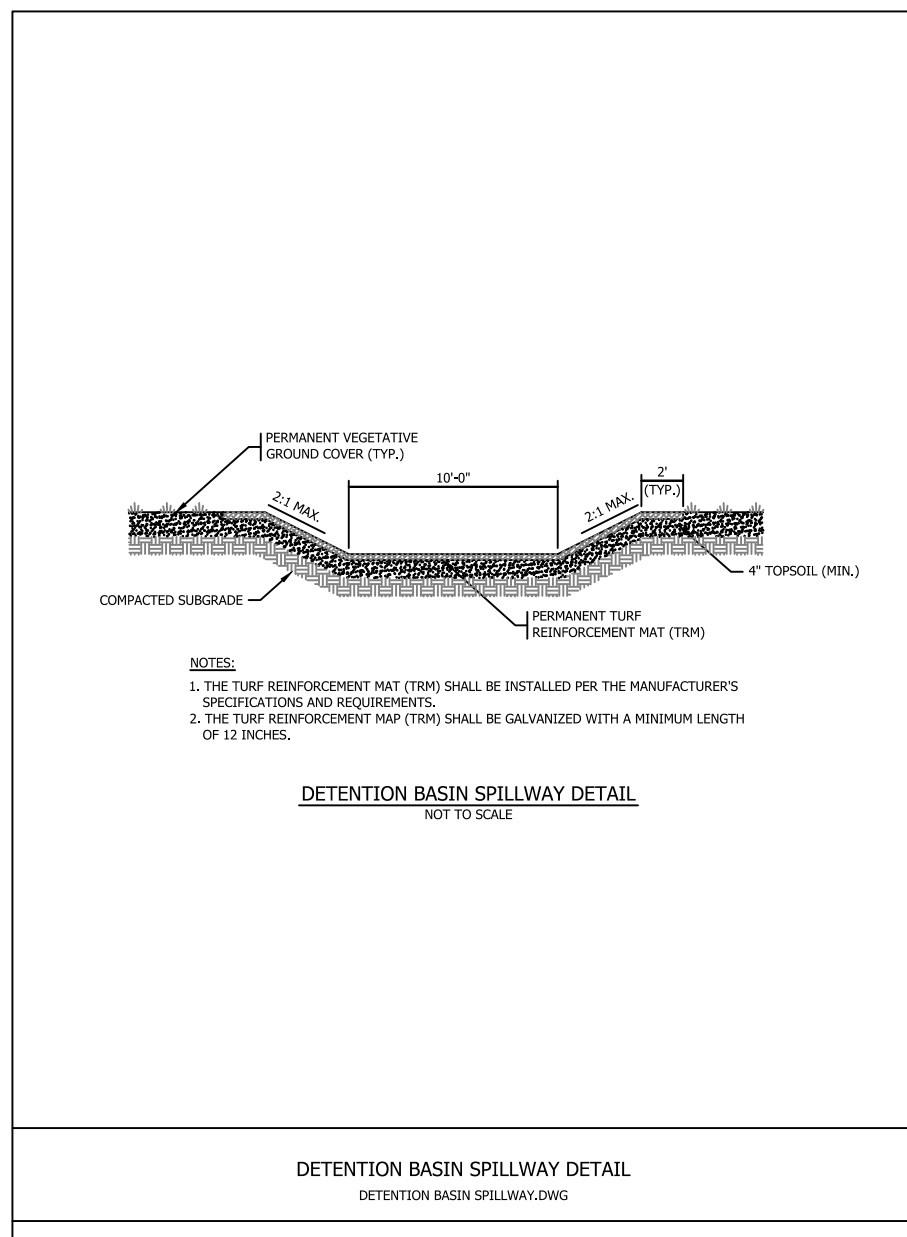
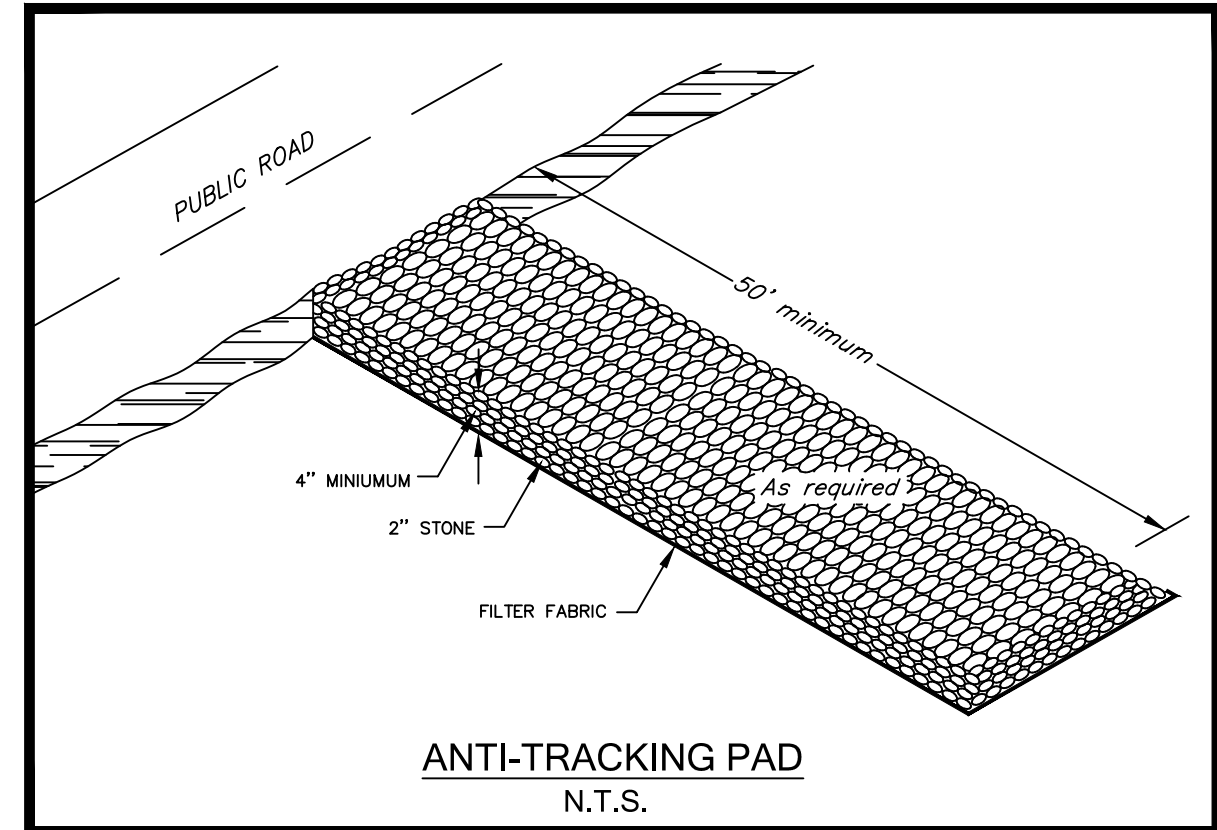
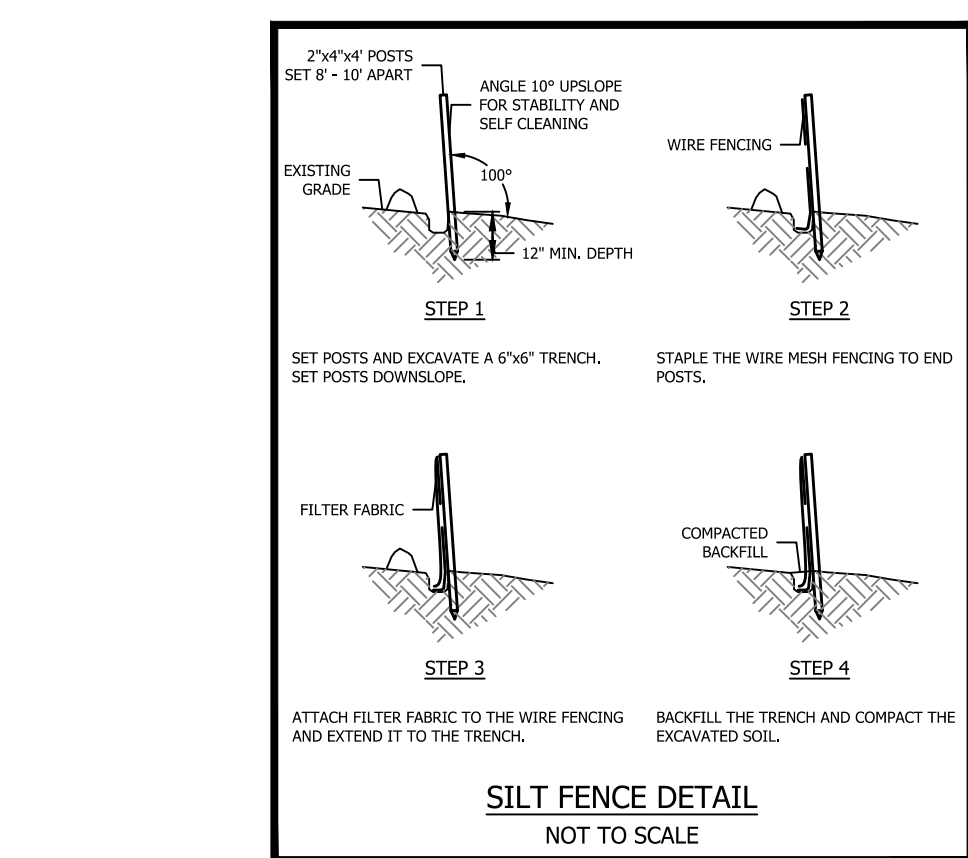
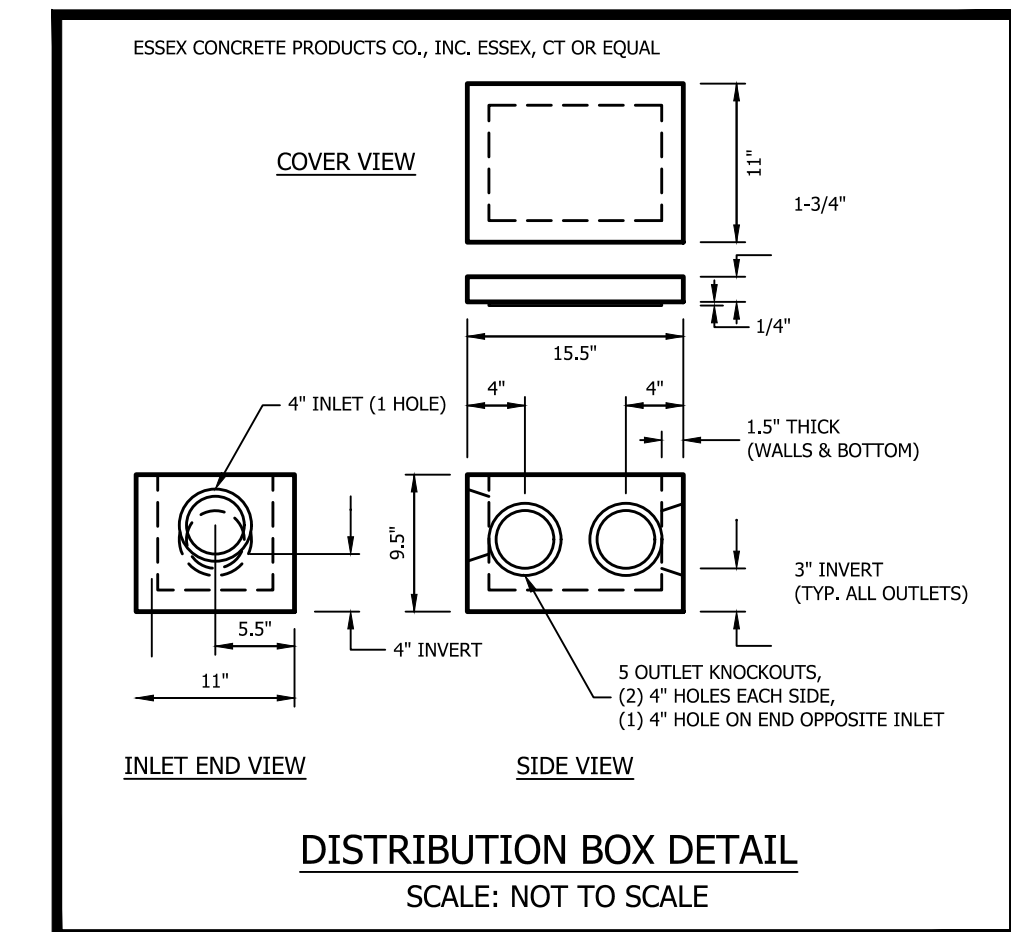
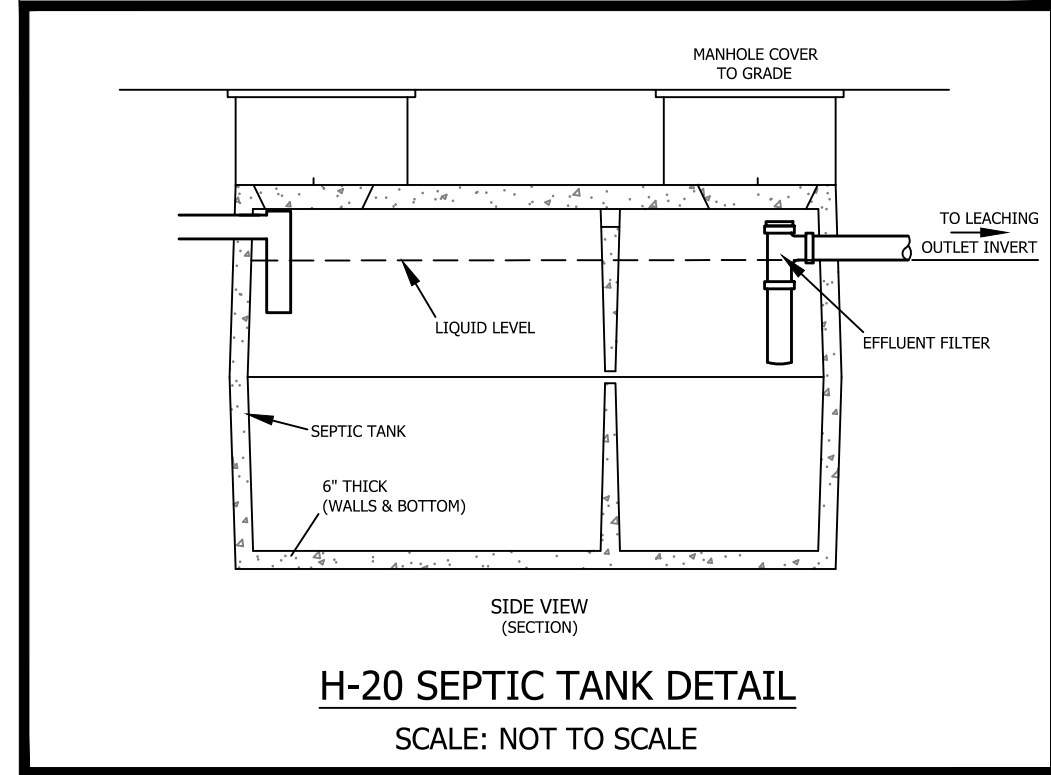
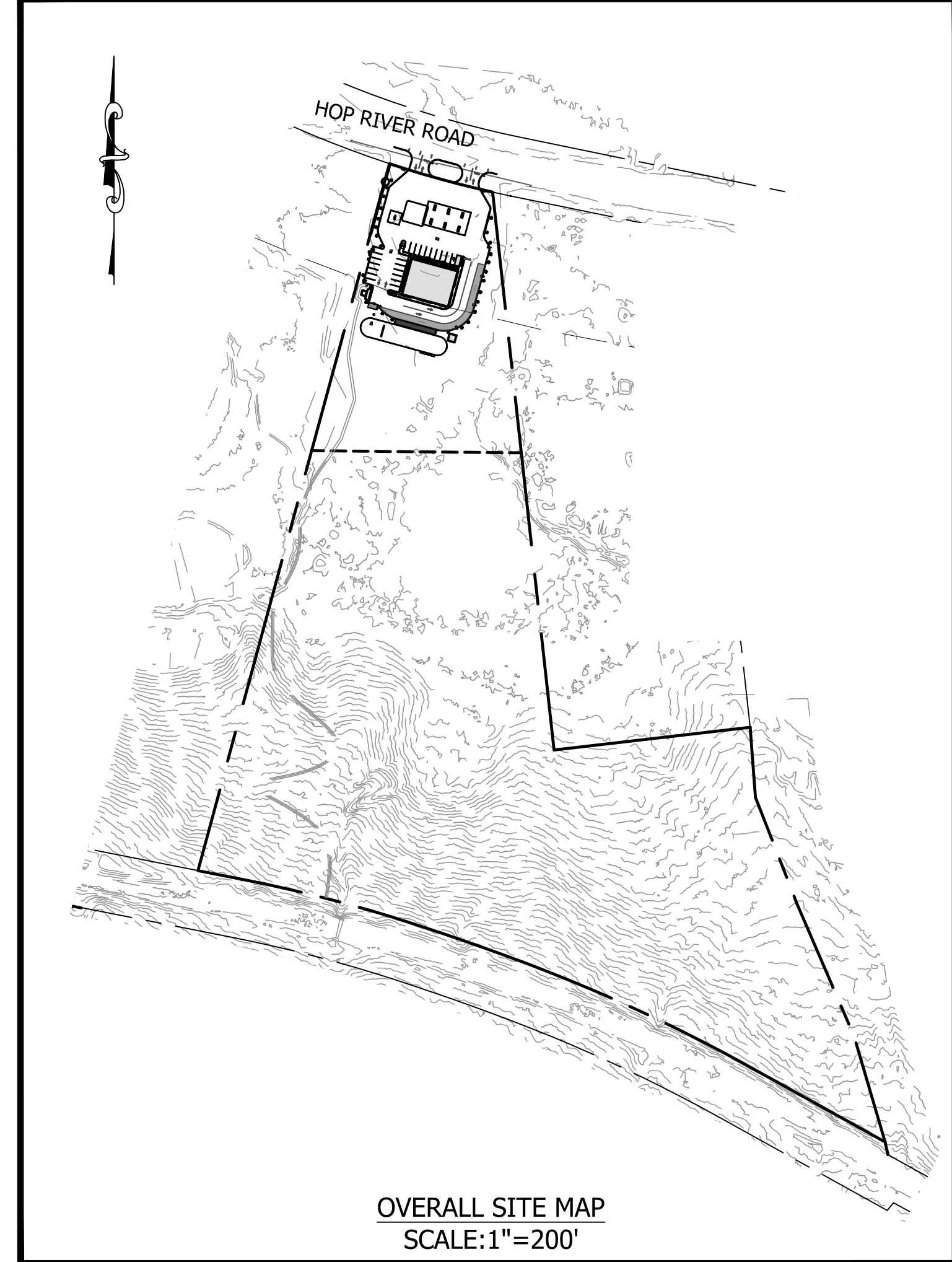
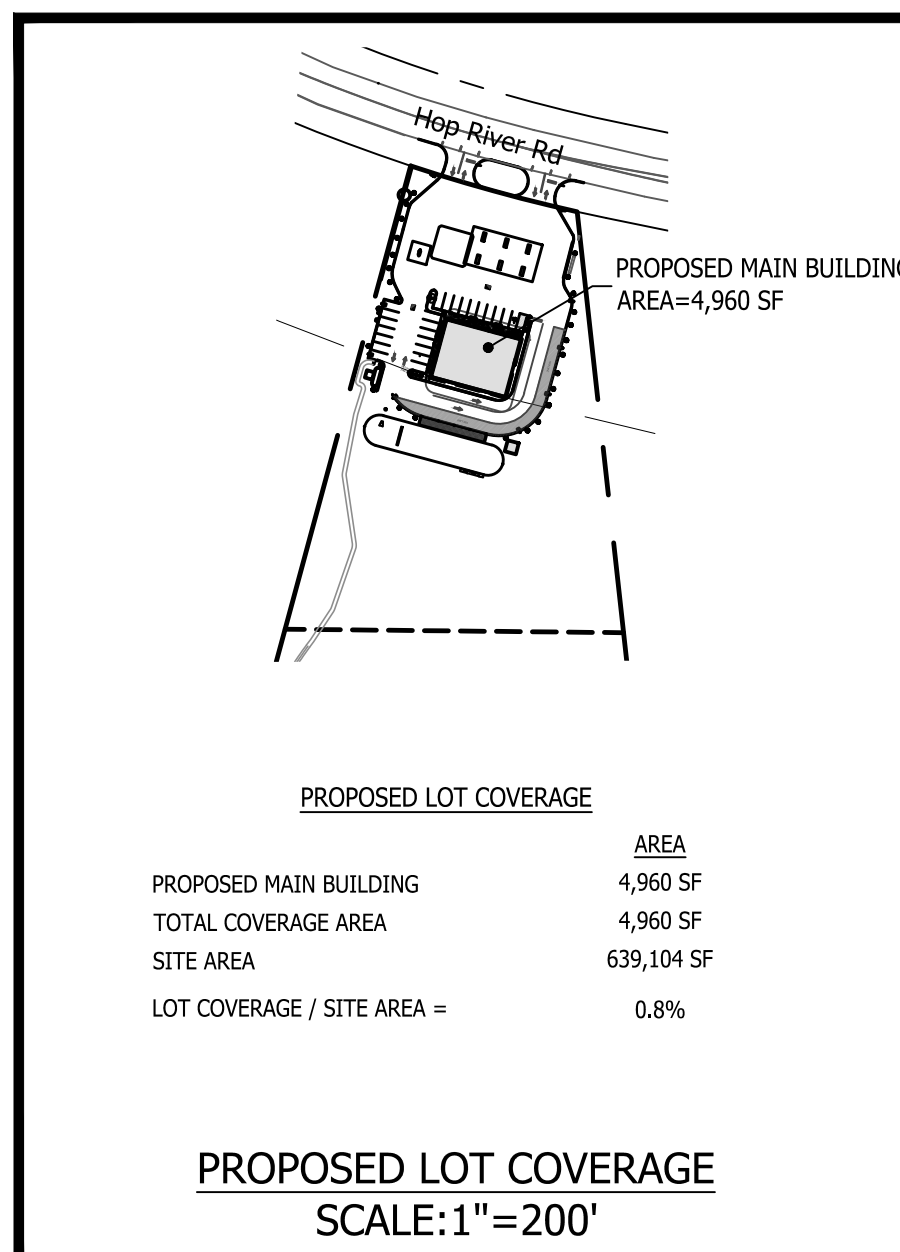
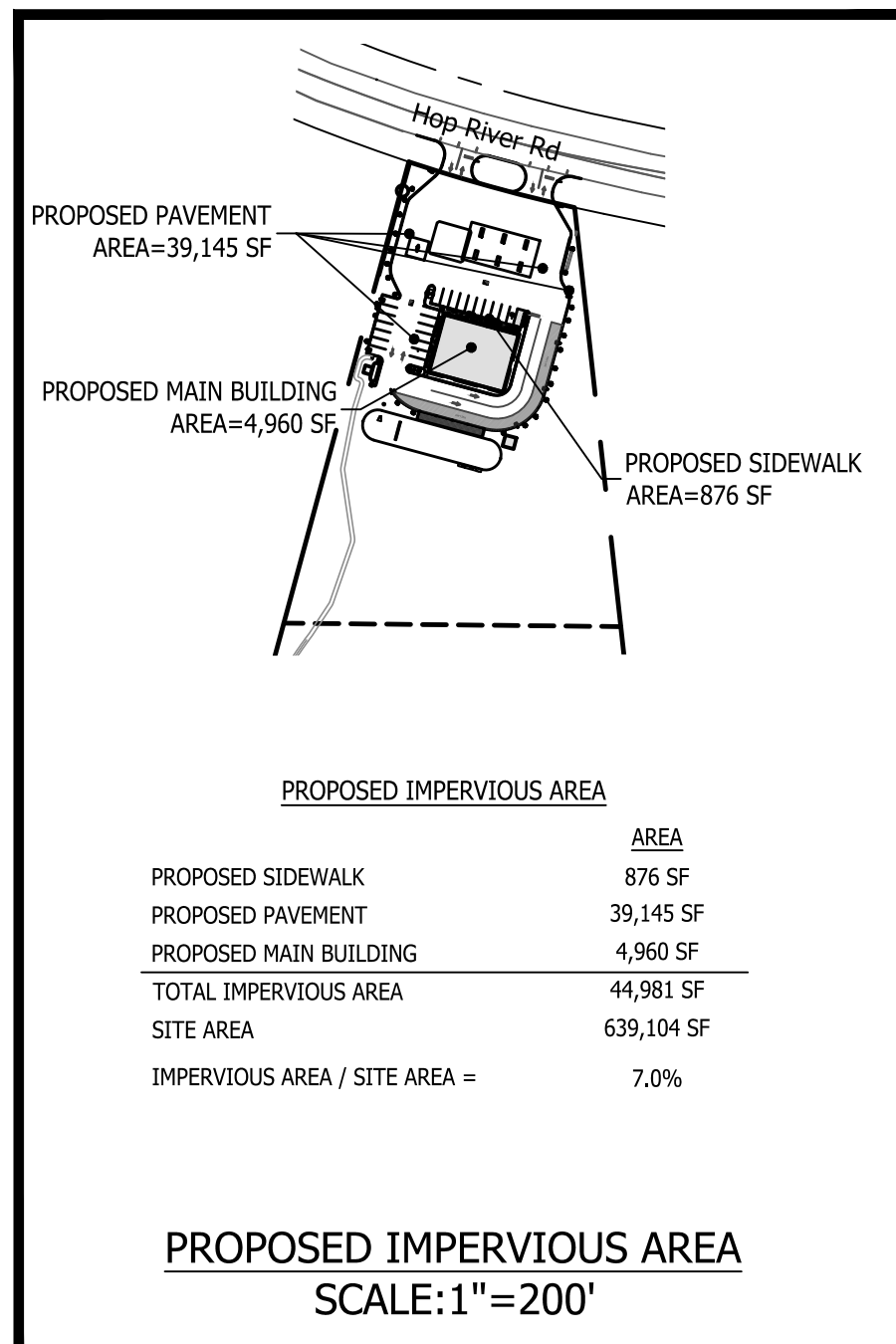
CREeping RED FESCUE	2.4 LBS. PER 1,000 SQ. FT.
REDTOP	0.2
TALL FESCUE	2.4
TOTAL	5.0

FERTILIZER:
10-10-10 APPLY AT 7.5 LBS. PER 1,000 SQ. FT.


LIMESTONE:
APPLY AT 150 LBS. PER 1,000 SQ. FT.

MULCHING:
SPREAD HAY OR STRAW OVER ALL AREAS AFTER SEEDING. USE 1 1/2 TO 2 BALES PER 1,000 SQ. FT.
TARGET FOR 100% COVERAGE. ANCHOR BY USING NETTING OR TRACKING AS NECESSARY.

SEEDING DATES:
SEEDING DATES IN CONNECTICUT ARE NORMALLY APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH OCTOBER 1. SEED GERMINATION NORMALLY CANNOT BE EXPECTED FROM NOVEMBER THROUGH FEBRUARY. IF ADEQUATE SEED GERMINATION IS NOT POSSIBLE DUE TO TIME OF YEAR CONSTRAINTS, MULCHING SHALL BE ADEQUATELY PROVIDED TO PROTECT THE SEED FROM WIND AND SURFACE EROSION UNTIL THE WEATHER IMPROVES AND THE SEEDING BECOMES WELL ESTABLISHED.



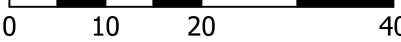
NO.	DATE	REVISIONS
1	9/14/2022	HEALTH DISTRICT COMMENTS
2	10/11/2022	TOWN COMMENTS
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4	10/17/2022	GRADING ADJUSTED
5	11/02/2022	TOWN COMMENTS



Gregg T. Fedus P.E.
CT. License No. 21231

Detail Sheet
of
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Bolton, Connecticut
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IMS PETROLEUM, LLC
August 11, 2022

DRAWING SCALE: 1"=20'


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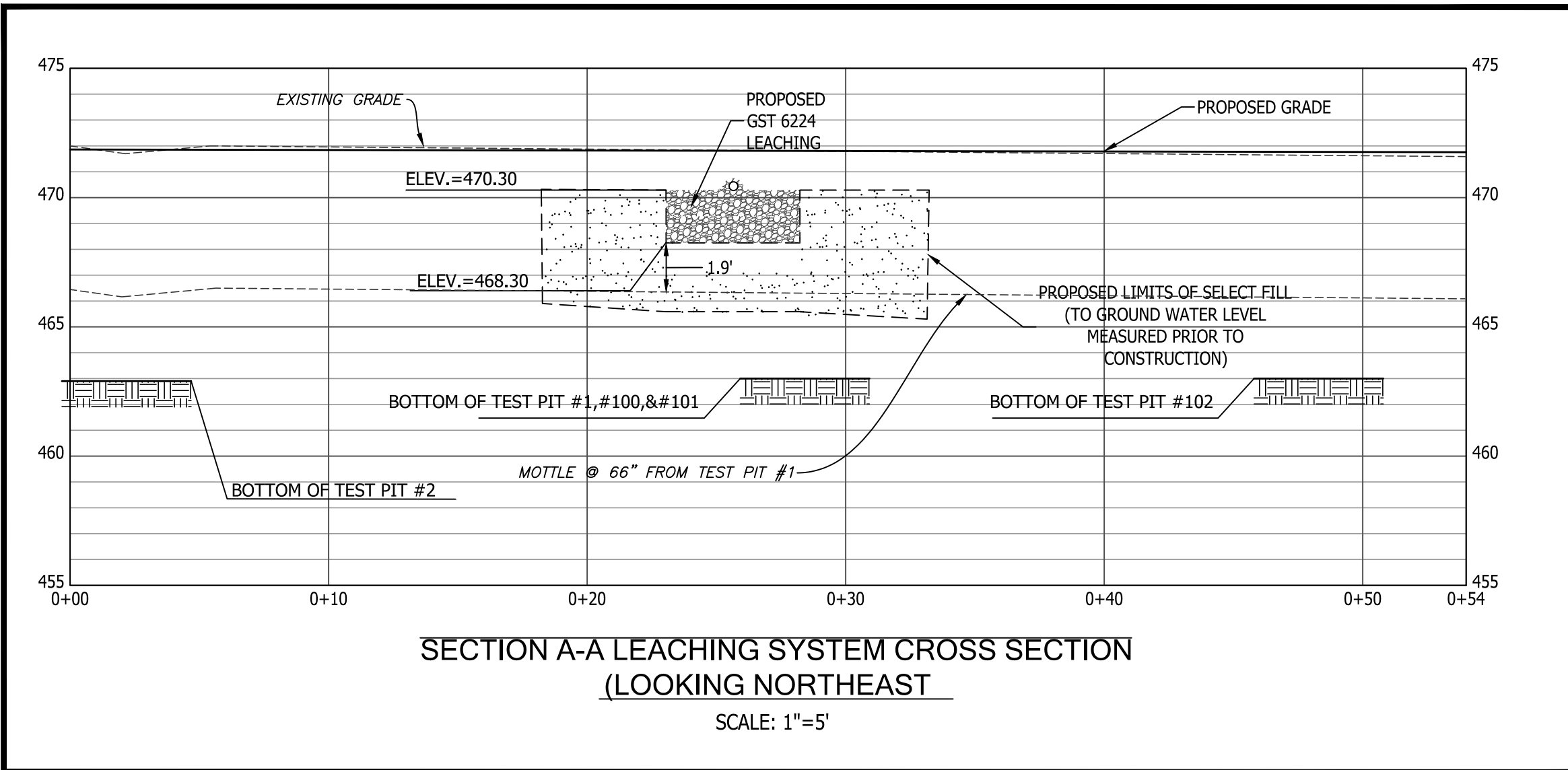
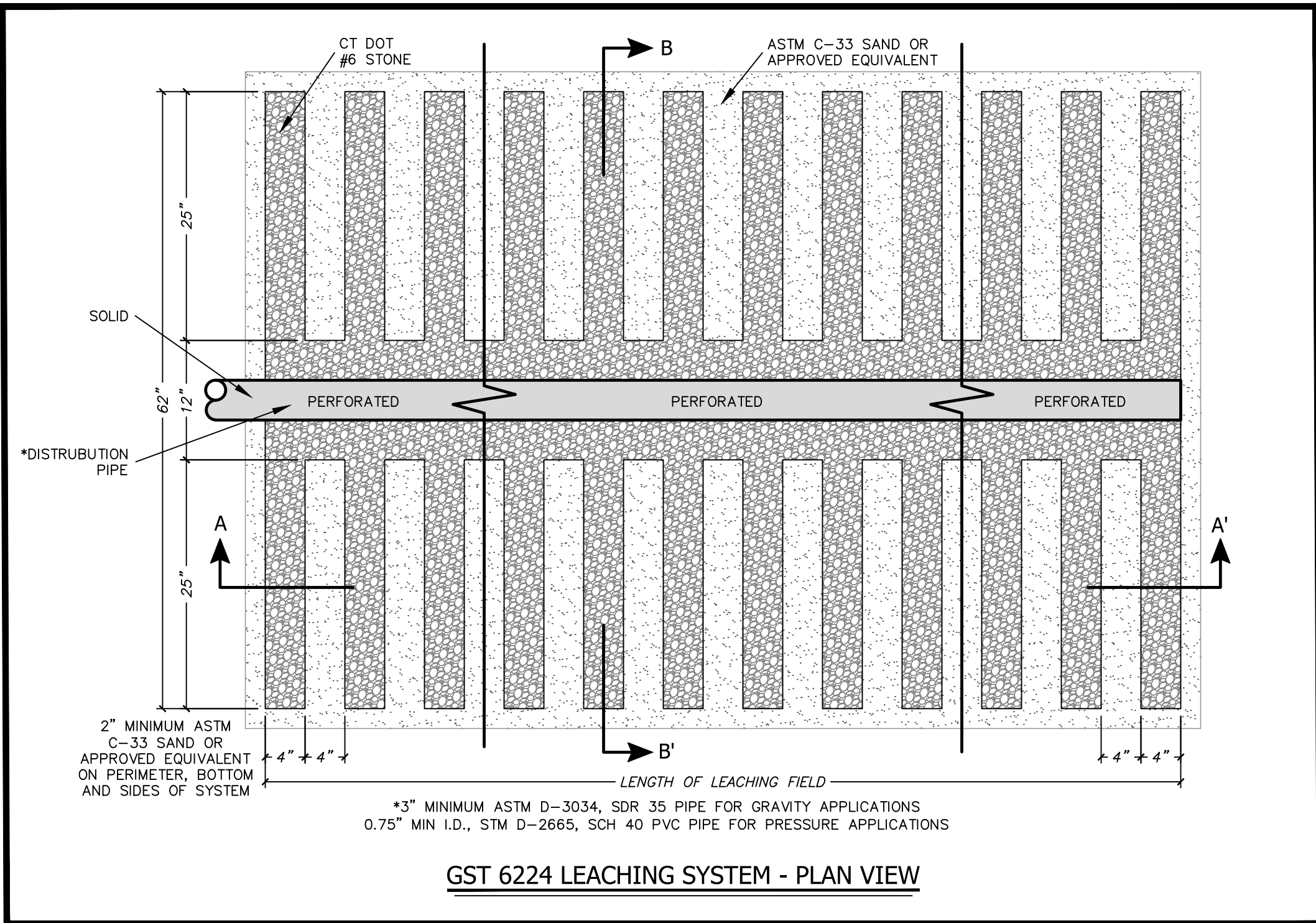
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FEDUS ENGINEERING, LLC

CIVIL ENGINEERS

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Office: (860) 536-7390 Fax: (860) 536-1644

SHEET NO. 6 OF 11	JOB NO. 21-000985	DRAWN BY: CAC
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NOTES - SEPTIC SYSTEM

- PROPOSED CONSTRUCTION TO CONFORM TO THE LATEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE.
- ELEVATIONS BASED ON INFORMATION GATHERED BY LICENSED SURVEYOR.
- ENGINEER AND SANITARIAN WILL BE CONTACTED IF SOIL CONDITIONS OTHER THAN THOSE SHOWN ON PLAN ARE ENCOUNTERED AND WORK WILL BE HALTED PENDING REVIEW OF THOSE CONDITIONS.
- ELEVATIONS SHOWN REFER TO THE INVERT (FLOW LINE) OF THE PROPOSED LEACHING SYSTEM UNLESS NOTED OTHERWISE.
- SEPTIC TANK CONSTRUCTION JOINTS SHALL BE SEALED WITH ASPHALT CEMENT. ALL PIPE CONNECTIONS TO THE SEPTIC TANK AND DISTRIBUTION BOXES SHALL BE SEALED WITH A POLYETHYLENE GASKET ("POLYLOK" OR APPROVED EQUAL).
- SEPTIC TANK Baffles SHALL CONFORM TO TECHNICAL STANDARDS OF THE PUBLIC HEALTH CODE.
- SEPTIC TANKS SHALL HAVE AN APPROVED NON-BYPASS EFFLUENT FILTER AT THE OUTLET.
- SEPTIC TANK SHALL BE TWO COMPARTMENT TANK WITH HEAVY DUTY STEEL HANDLES FOR MANHOLE ACCESS COVERS AND GAS Baffles INSTALLED AT OUTLET PIPING. TANKS TO BE WATER TIGHT.
- ALL PIPES DOWNSTREAM OF THE SEPTIC TANK SHALL BE 4" DIAMETER SCH 40 ASTM D1785 OR D2665. ALL PIPES UPSTREAM OF THE SEPTIC TANK SHALL BE 4" DIAMETER SCH 40 ASTM D1785 OR D2665.
- NO DEVIATIONS FROM THE APPROVED DESIGN PLAN SHALL BE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND SANITARIAN.
- EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO FIELD MODIFICATION AS REQUIRED BY THE DESIGN ENGINEER OR TOWN OFFICIALS TO INCREASE EROSION AND SEDIMENT CONTROL MEASURES.
- ALL FILTER FABRIC SHALL BE 1.5 OZ./YD. (ASTM D-5261), PERMEABILITY OF .10 SEC. (ASTM D-4491) AND A TRAPEZOID TEAR OF 15 LBS. (ASTM D-4533) OR EQUAL.
- ALL DISTURBED AREAS SHALL BE TOPSOILED AND TURF ESTABLISHED.
- BASED ON AVAILABLE RECORDS AT THE TOWN OF EAST HADDAM HEALTH DEPARTMENT, NO SEPARATING DISTANCE CONFLICTS ARE PRESENT WITH WELLS, SEPTIC SYSTEMS AND HOUSES ON ADJACENT LOTS.
- BUILDINGS HAVE NO GARBAGE GRINDERS, OR LARGE TUBS OVER 100 GALLONS.
- NO FOOTING DRAINS SHALL BE INSTALLED WITHIN 25' OF PROPOSED SEPTIC SYSTEM.
- LICENSED SURVEYOR TO STAKE SYSTEM, LICENSED SEPTIC INSTALLER TO DO SITE PREPARATION WORK. BENCH MARK TO BE SET IN FIELD.
- NO WORK (OTHER THAN TREE CLEARING) SHALL COMMENCE IN THE SYSTEM AREA UNTIL A SEPTIC PERMIT HAS BEEN TAKEN OUT BY THE LICENSED INSTALLER.
- STRIP INSPECTIONS SHALL BE DONE BY BOTH THE ENGINEER AND SANITARIAN.
- TEN FOOT SEPARATION FROM WATER LINE TO SYSTEM TO BE VERIFIED IN FIELD.
- SYSTEM AREA SHOULD BE RE-STRIPPED AND REFILLED PRIOR TO START OF CONSTRUCTION TO PREVENT HEAVY EQUIPMENT COMPACTION FROM DRIVEWAY.

INSTALLATION NOTES

- LAYOUT SYSTEM.
- PREPARE SITE AND REMOVE ANY TREES WITH A DRIP LINE FALLING WITHIN 10 FEET OF THE LEACHING SYSTEM.
- EXCAVATE TRENCH TO A DEPTH THAT IS AT LEAST 2" BELOW THE BASE ELEVATION OF THE GST TO ACCOMMODATE A MINIMUM OF 2" OF SAND. TRENCH WIDTH SHOULD BE A MINIMUM OF 45" FOR THE GST 37 SERIES AND 70" FOR GST 62 SERIES.
- RAKE/SCARIFY SIDEWALLS AND BOTTOM OF TRENCH TO ADDRESS ANY SMEARING OF FINES, AND THEN DO NOT WALK IN TRENCH BOTTOM.
- PLACE A MINIMUM OF 2" OF ASTM C-33 SAND OR APPROVED EQUIVALENT (SAND) IN THE BOTTOM OF THE EXCAVATION TO SERVE AS BASE FOR GST, RAKE AND LEVEL AND UNIFORMLY COMPACT. IF A 2" LIFT OF SAND IS PRESENT SIMPLY WALKING ON IT SHOULD PROVIDE SUFFICIENT COMPACTION.
- SET THE GST FORMS IN CENTER OF TRENCH.
- PLACE COVERS OVER ENTIRE CENTER STONE CHANNEL AND ALTERNATING STONE FINGER COMPARTMENTS.
- PLACE SAND INTO VOID SPACE BETWEEN TRENCH SIDEWALL AND GST FORM, ALSO FILL THE SAND FINGER VOIDS IN THE FORMS AND UNIFORMLY COMPACT.
- REMOVE ALL COVERS FROM OVER ENTIRE CENTER STONE CHANNEL AND STONE FINGER COMPARTMENTS.
- PLACE CLEAN CT DOT #6 (3/4") STONE INTO THE INTERIOR OF THE GST FORM.
- PULL FIRST GST FORM AND "LEAP FROG" FORM AHEAD OF THE LAST GST FORM.
- REPEAT SEQUENCE UNTIL DESIRED TRENCH LENGTH IS INSTALLED.
- ENSURE THAT SAND AND BACKFILL MATERIALS ARE COMPACTED TO PREVENT SETTLEMENT.
- INSTALL APPROVED DISTRIBUTION PIPING ON TOP OF THE 12" CENTRAL STONE CHANNEL.
- PLACE STONE AROUND THE DISTRIBUTION PIPE.
- PUT APPROVED FILTER FABRIC OVER THE SYSTEM.
- BACKFILL SYSTEM TO ENSURE THAT UNIFORM COVER AND COMPACTION EXISTS OVER THE TOP OF THE SYSTEM (A MINIMUM OF 6" OF COVER IS REQUIRED). WHEN GST IS INSTALLED BELOW AREAS SUBJECT TO H-20 LOADING, SEE NOTE BELOW.
- FINISH GRADE OVER THE SYSTEM SHOULD ENSURE THAT STORM WATER SHEET FLOW IS DIVERTED AWAY FROM THE LEACHING SYSTEM, TANK(S) AND PUMP TANK(S) IF PRESENT.
- SEED AND MOW DISTURBED AREA. THE USE OF WOOD CHIPS AS COVER MATERIAL IS NOT RECOMMENDED.
- MAINTAIN THE AREA TO PREVENT TREE ROOTS FROM IMPACTING THE SYSTEM.
- PROPERLY SERVICE THE SEPTIC TANK EVERY 3-5 YEARS; OR AS ADVISED BY THE REGULATORY AGENCY OR YOUR SERVICE PROVIDER.

SELECT FILL SPECIFICATIONS:

SELECT FILL PLACED WITHIN AND ADJACENT TO LEACHING SYSTEM AREAS SHALL BE A CLEAN MATERIAL COMPRISED OF SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER. SELECT FILL EXCEEDING 6 PERCENT PASSING THE #200 SIEVE BASED ON A WET SIEVE TEST CANNOT BE APPROVED BY THE DESIGN ENGINEER.

- THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THE THREE (3) INCH SIEVE.
- UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED (GRAVEL PORTION) ON THE #4 SIEVE.
- THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED.
- THE REMAINING SAMPLE SHALL MEET THE FOLLOWING GRADATION CRITERIA:

SIEVE SIZE	PERCENT PASSING WET SIEVE	PERCENT PASSING DRY SIEVE
#4	100	100
#10	70 - 100	70 - 100
#40	10 - 50*	10 - 75
#100	0 - 20	0 - 5
#200	0 - 5	0 - 2.5

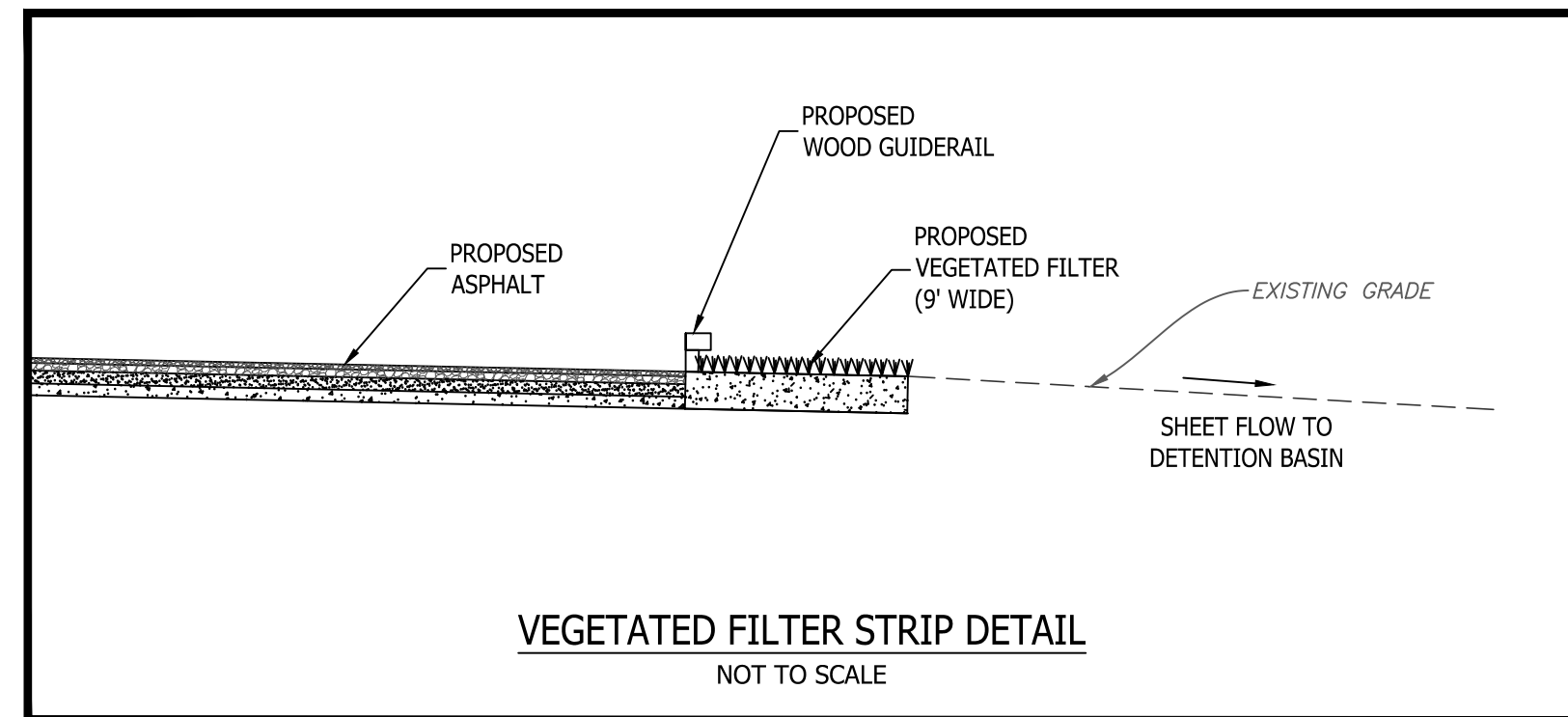
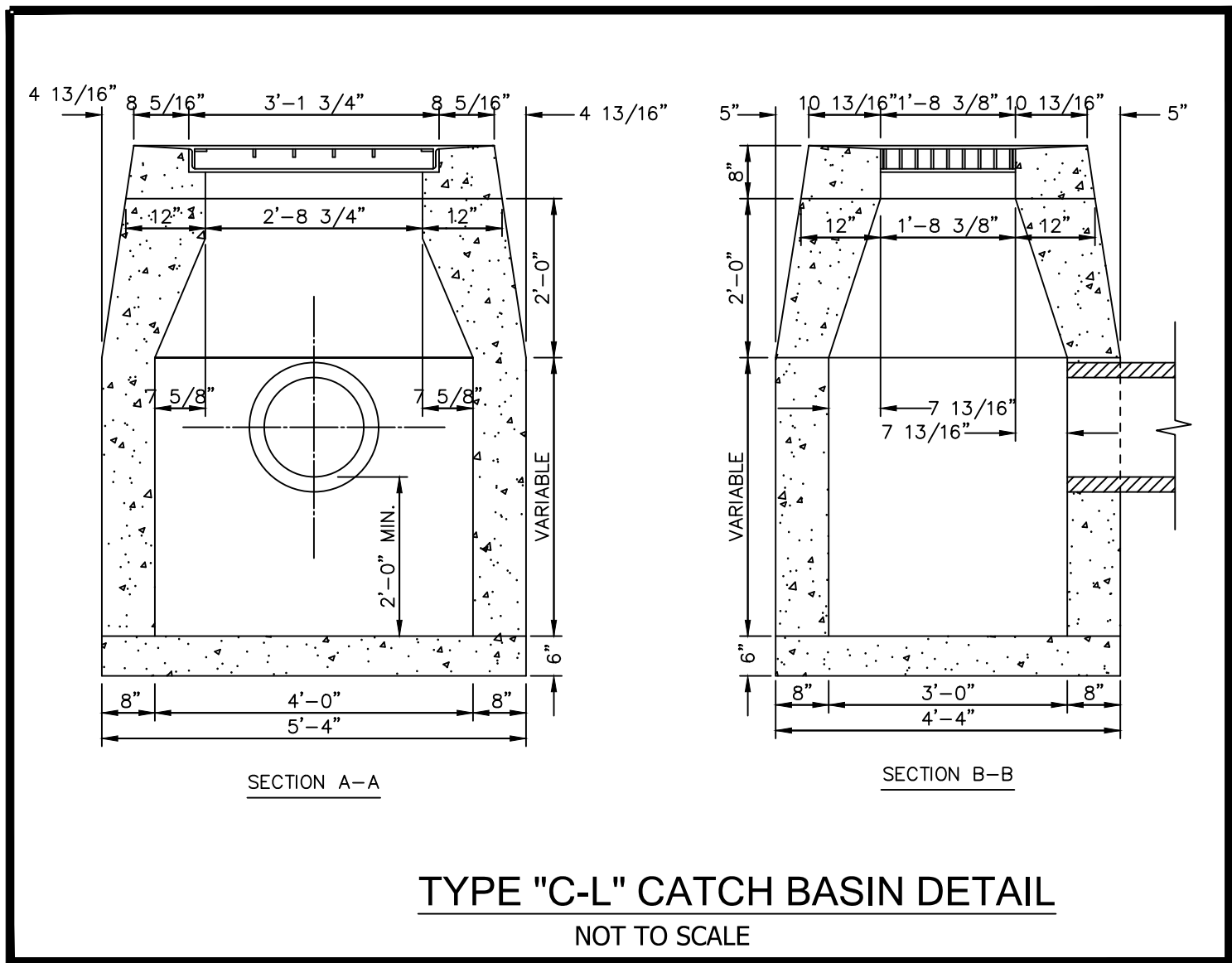
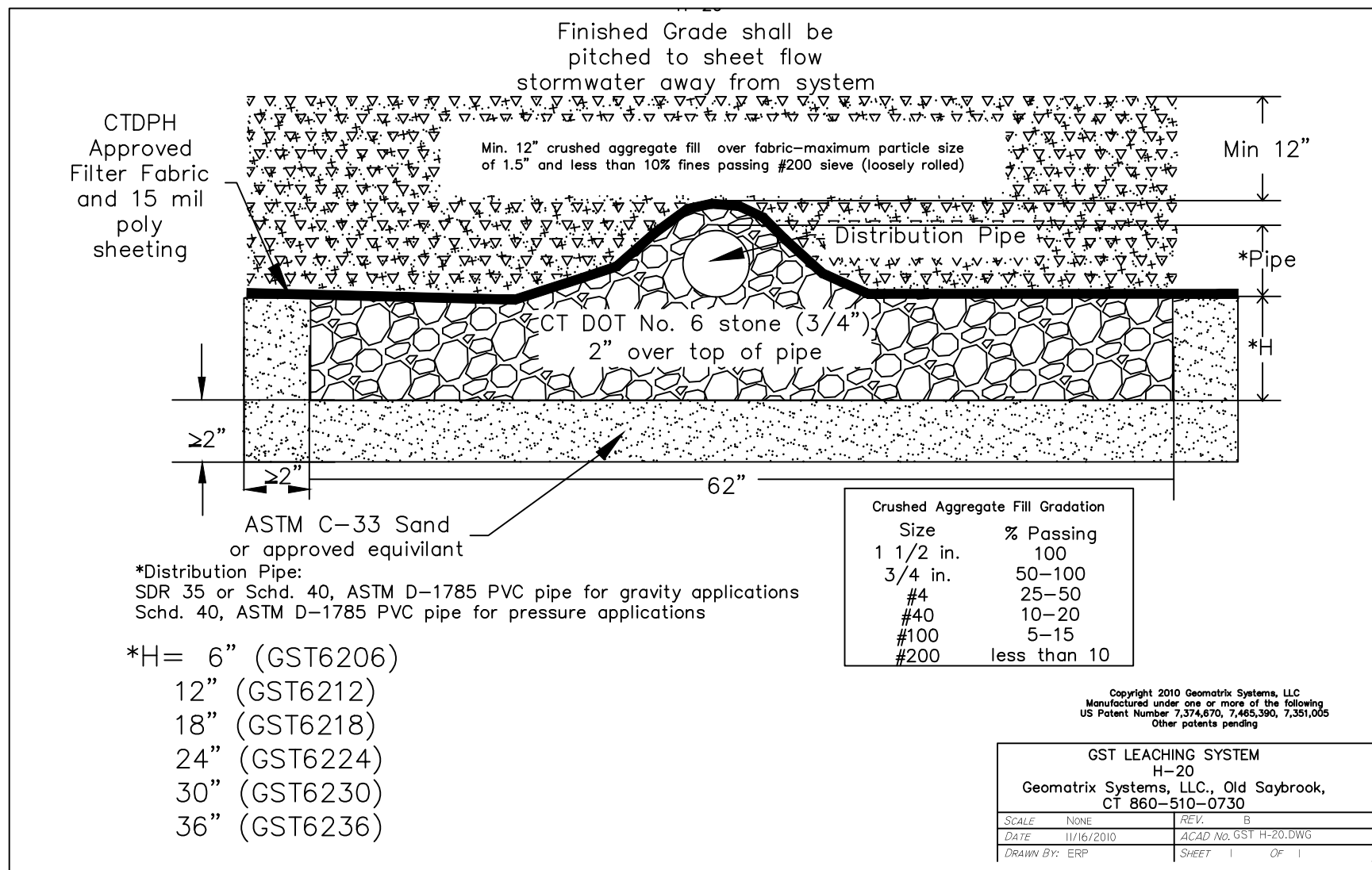
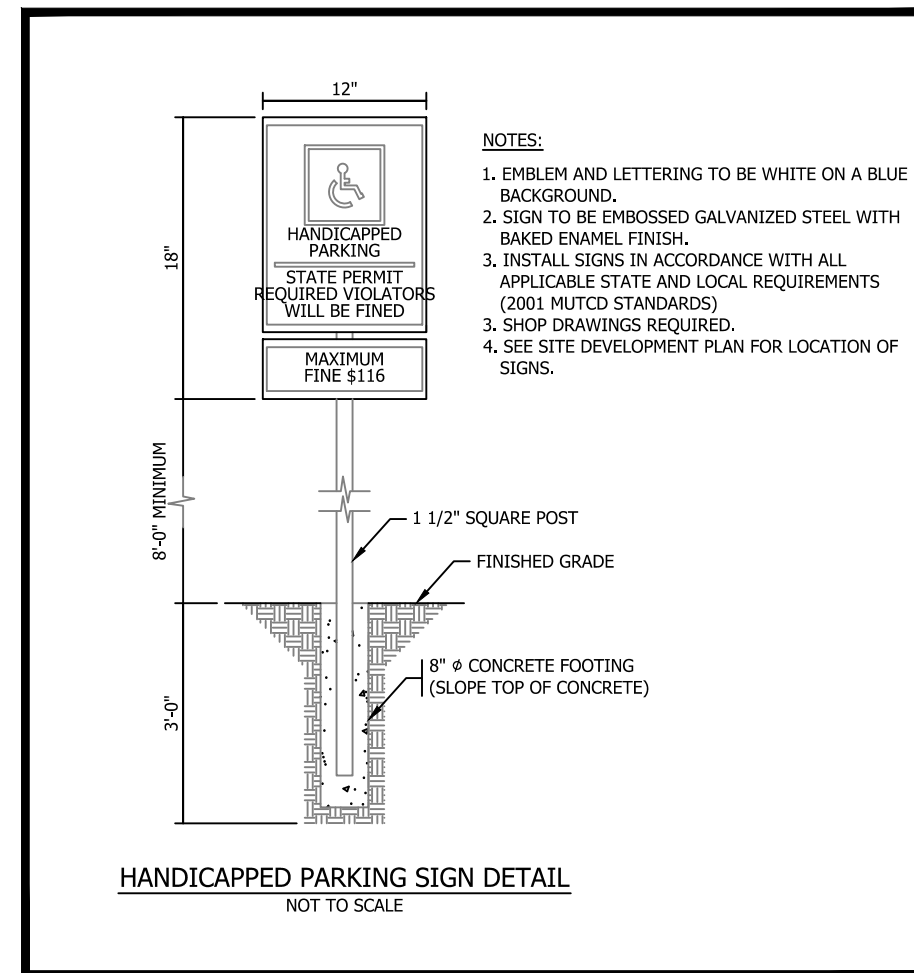
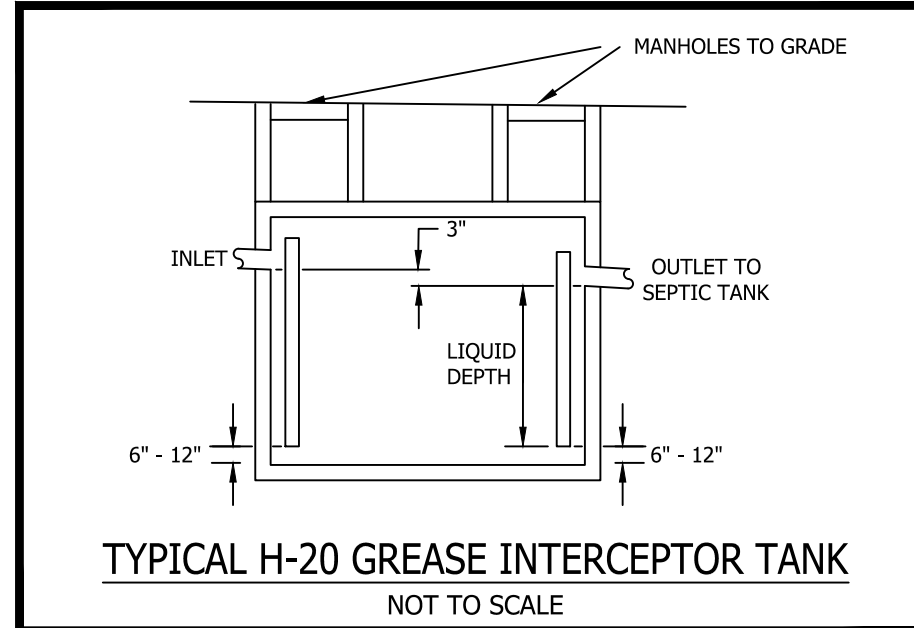
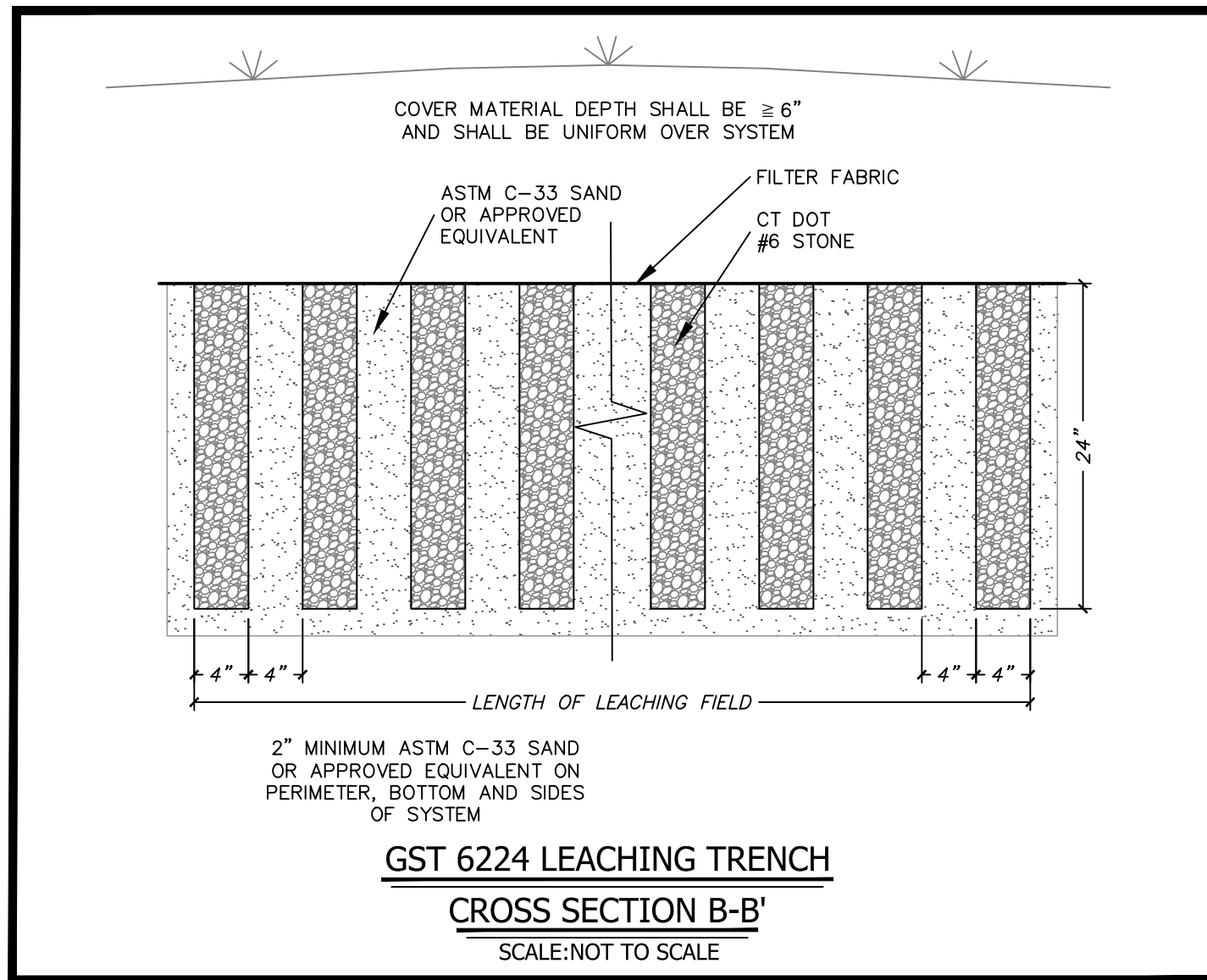
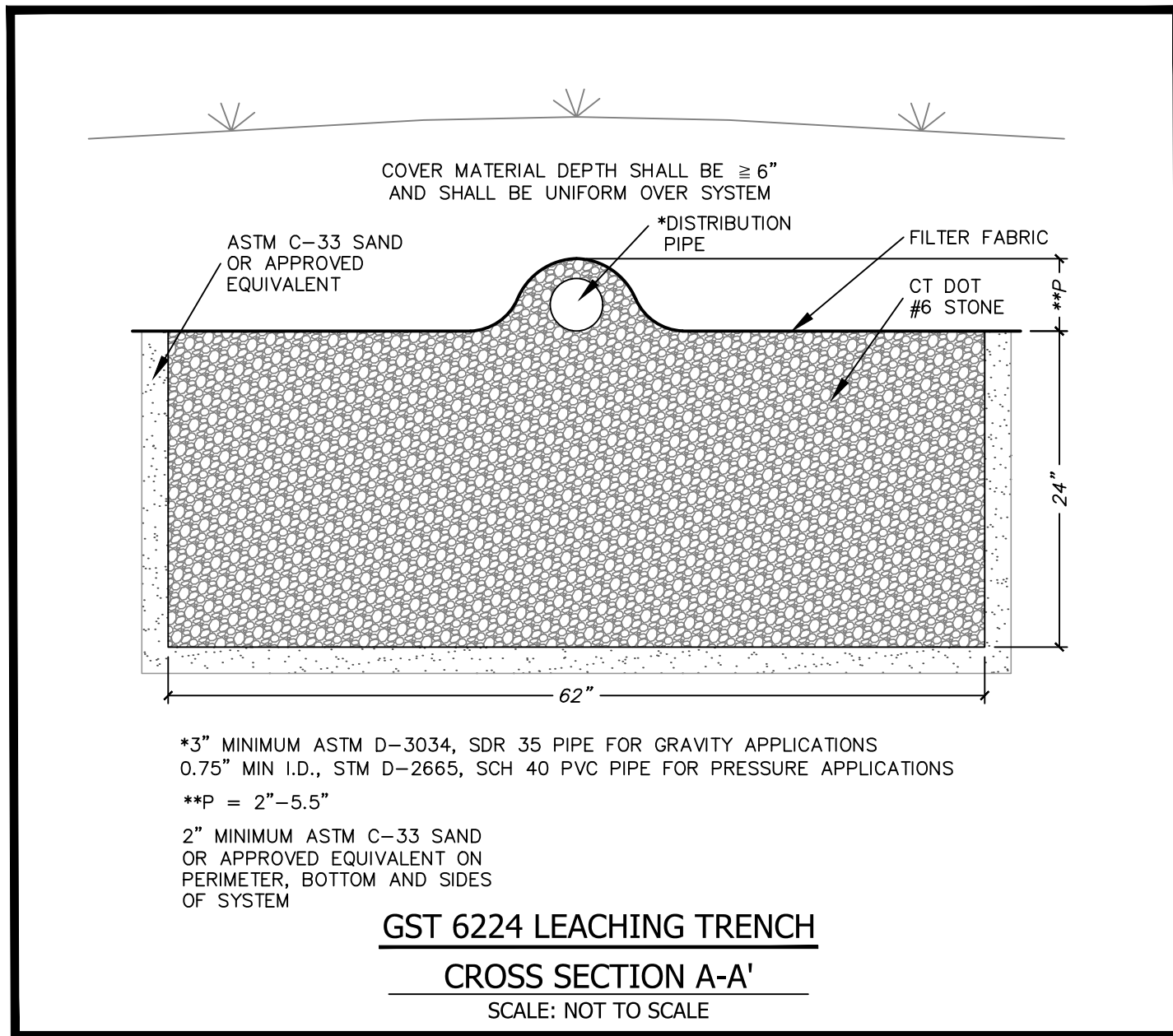
* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75 IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10 AND THE #200 SIEVE DOES NOT EXCEED 5.

SELECT FILL THAT DOES NOT MEET THE DRY SIEVE GRADATION CRITERIA BUT MEETS THE WET SIEVE GRADATION CRITERIA IS ACCEPTABLE. SIEVE TESTING OF SELECT FILL IS REQUIRED FOR LARGE (2,000 GPD OR GREATER) SYSTEMS WHENEVER THE LEACHING SYSTEM IS LOCATED TOTALLY IN SELECT FILL. THE LOCAL DIRECTOR OF HEALTH MAY REQUIRE SIEVE TESTING OF SELECT FILL ON SMALL SDDS IN ACCORDANCE WITH PHC SECTION 19-13-B103E (D) (6).

THE LICENSED INSTALLER IS RESPONSIBLE FOR PREPARING THE LEACHING AREA WITH NECESSARY SELECT FILL. TOPSOIL IN THE LEACHING SYSTEM AREA SHALL BE REMOVED AND THE SUBSOIL SCARIFIED PRIOR TO SELECT FILL PLACEMENT, UNLESS OTHERWISE DIRECTED BY THE DESIGN ENGINEER. THE INSTALLER SHALL TAKE THE NECESSARY STEPS TO PROTECT THE UNDERLYING RECEIVING SOIL FROM OVER COMPACTION/DAMAGE. THE INSTALLER IS RESPONSIBLE FOR PROPERLY COMPACTING SELECT FILL TO FACILITATE CONSTRUCTION AND TO PREVENT SETTLING. SELECT FILL SHALL EXTEND A MINIMUM OF 5 FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE LEACHING SYSTEM.

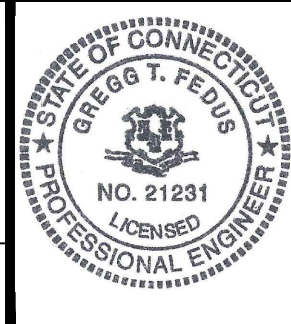
THE COMMISSIONER OF PUBLIC HEALTH SHALL APPROVE MANUFACTURED FILL. ROCK OR OTHER PRODUCT USED TO PRODUCE MANUFACTURED FILL SHALL HAVE A LOSS OF ABRASION OF NOT MORE THAN 50 PERCENT USING AGASTO METHOD T-96, AND WHEN TESTED FOR SOUNDNESS USING AGASTO METHOD T-104 NOT HAVE A LOSS OF MORE THAN 15 PERCENT AT THE END OF 5 CYCLES. SUPPLIERS OF MANUFACTURED FILL SHALL MAKE APPLICATION FOR APPROVAL TO THE COMMISSIONER OF PUBLIC HEALTH. DOCUMENTATION SHALL BE SUBMITTED ON THE MANUFACTURED FILL OPERATION AND PRODUCTION PROCESS. FILL SPECIFICATIONS (GRADATION, PERMEABILITY, ETC.) AND A NARRATIVE OF THE QUALITY CONTROL/QUALITY ASSURANCE PROGRAM SHALL ALSO BE INCLUDED FOR ALL ACTIVE PRODUCTION SITES. APPROVED MANUFACTURED FILL PRODUCERS SHALL PROVIDE ANNUAL PRODUCT REGISTRATIONS TO THE COMMISSIONER OF PUBLIC HEALTH BY JULY 1ST OF EACH YEAR.

"SELECT FILL" SHOULD BE PLACED ON THE EDGE OF THE SITE AND SPREAD OVER THE PREPARED AREA WITH A BULLDOZER. NO TRUCKS SHOULD RUN OVER THE FILL UNTIL 12 INCHES OF FILL HAS BEEN PLACED. THE REMAINDER OF THE FILL SHOULD BE PLACED IN LAYERS 8 TO 12 INCHES DEEP AND COMPACTED BY NORMAL BULLDOZING OR OTHER CONSTRUCTION EQUIPMENT. FILLING AND COMPACTION SHOULD BE DISCONTINUED DURING RAIN STORMS AND FOR 24 HOURS THEREAFTER. ALL FILL SHOULD BE PLACED AND COMPACTED BEFORE ANY OF THE LEACHING SYSTEM IS INSTALLED.



NO.	DATE	REVISIONS
1	9/14/2022	HEALTH DISTRICT COMMENTS
2	10/11/2022	TOWN COMMENTS
3	10/12/2022	GENERAL COMMENTS
4	10/17/2022	GRADING ADJUSTED
5	11/02/2022	TOWN COMMENTS

Gregg T. Fedus P.E.
CT. License No. 21231



Detail Sheet

of
271 Hop River Road
Bolton, Connecticut

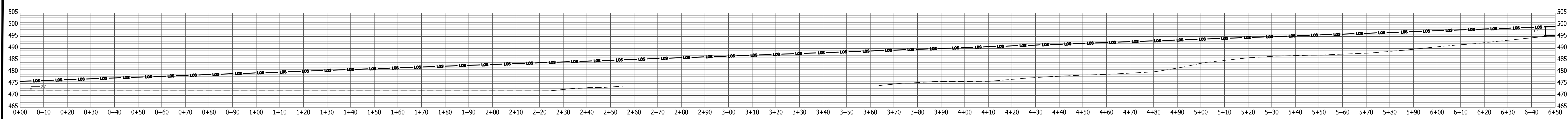
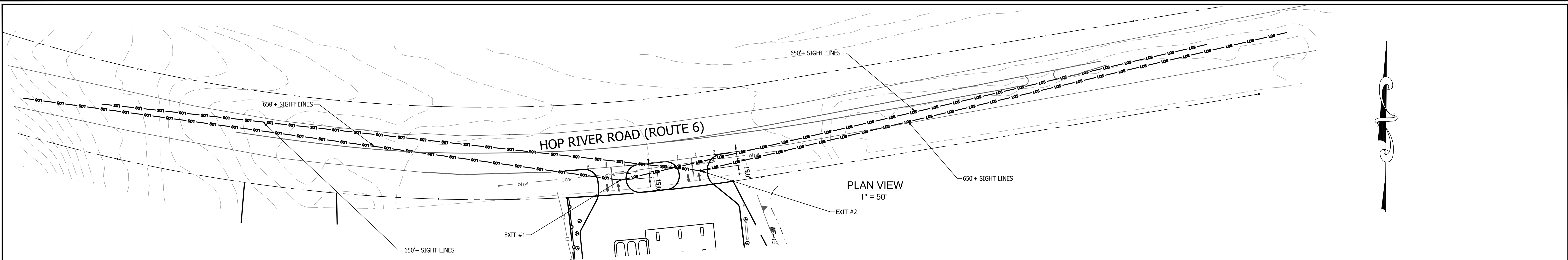
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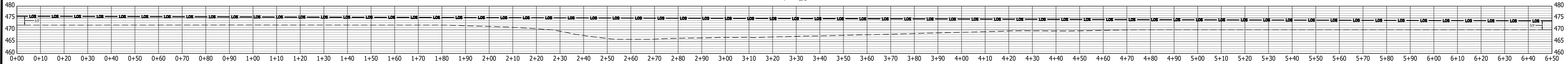
FEDUS ENGINEERING, LLC
CIVIL ENGINEERS

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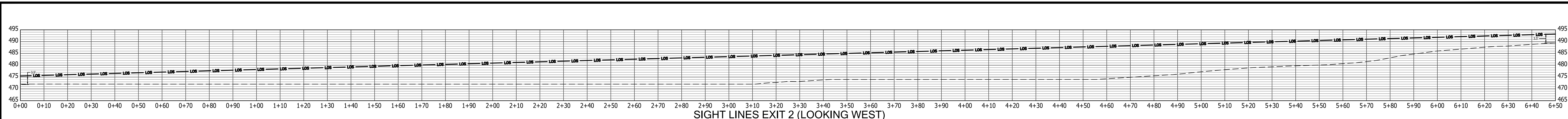
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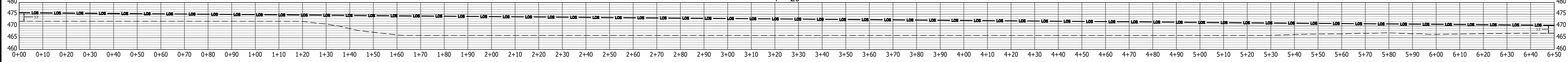
SIGHT LINES EXIT 1 (LOOKING WEST)
1" = 20'



SIGHT LINES EXIT 1(LOOKING EAST)
1" = 20'



SIGHT LINES EXIT 2 (LOOKING WEST)
1" = 20'



SIGHT LINES EXIT 2(LOOKING EAST)
1" = 20'

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Sight Line Plan
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Prepared For:
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August 11, 2022

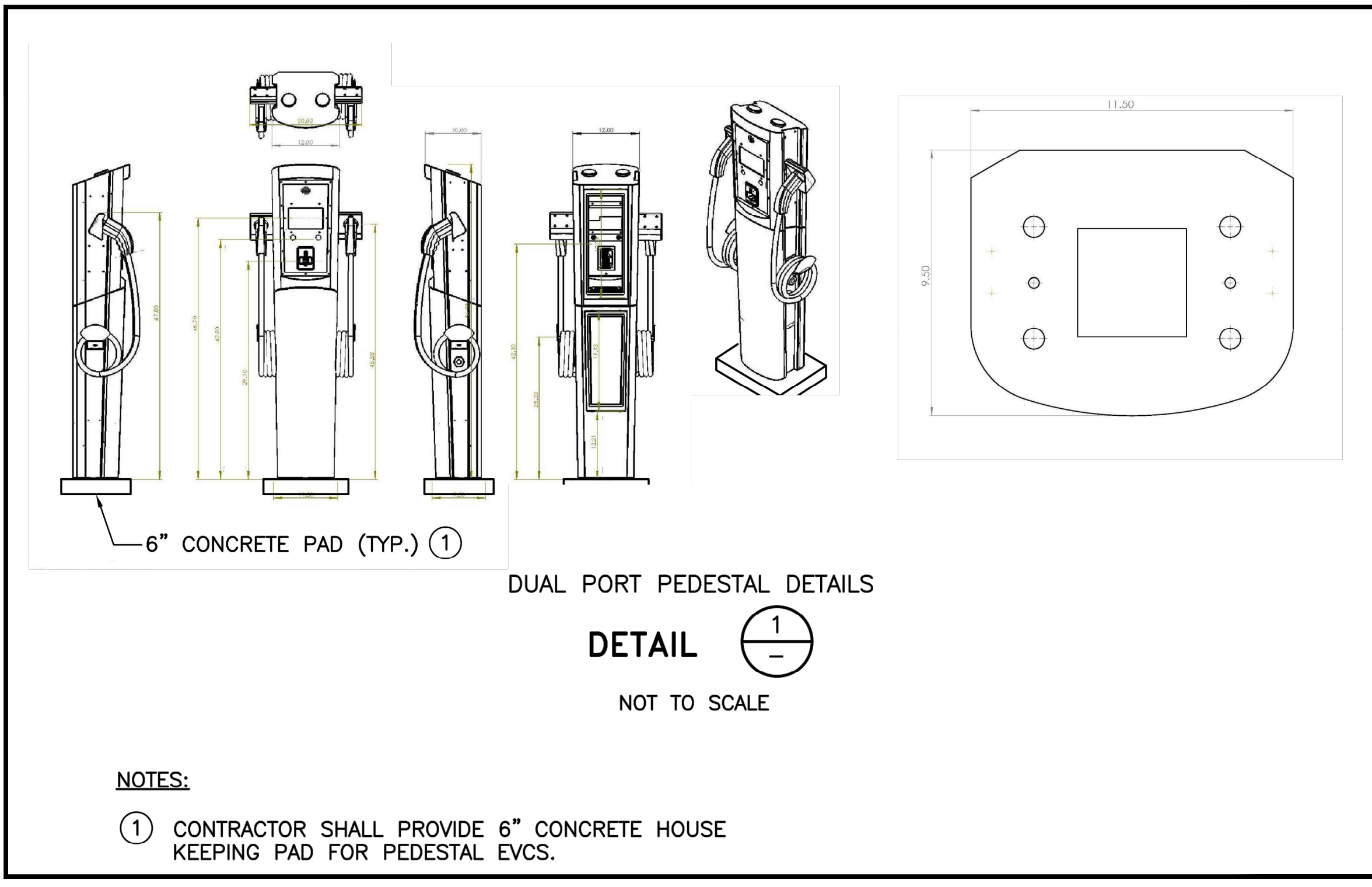
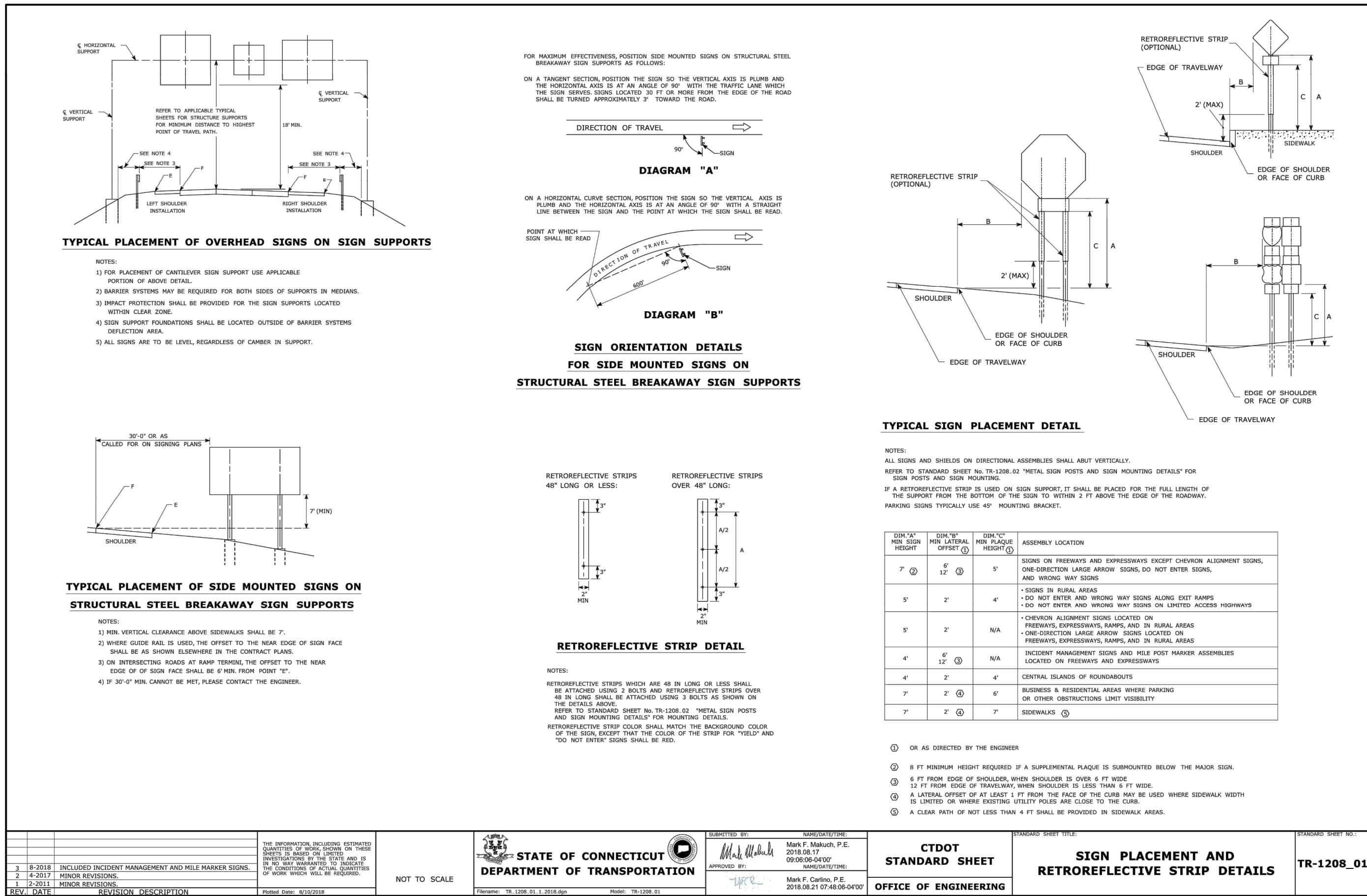
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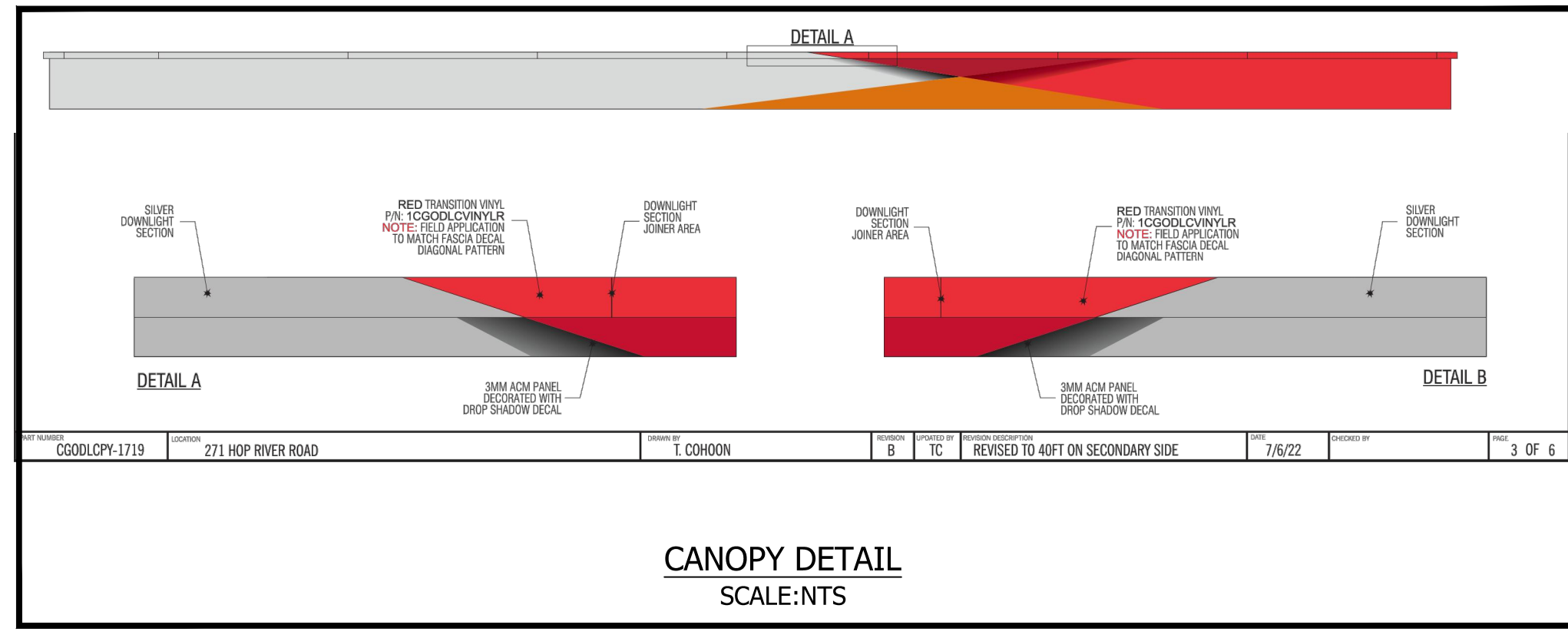
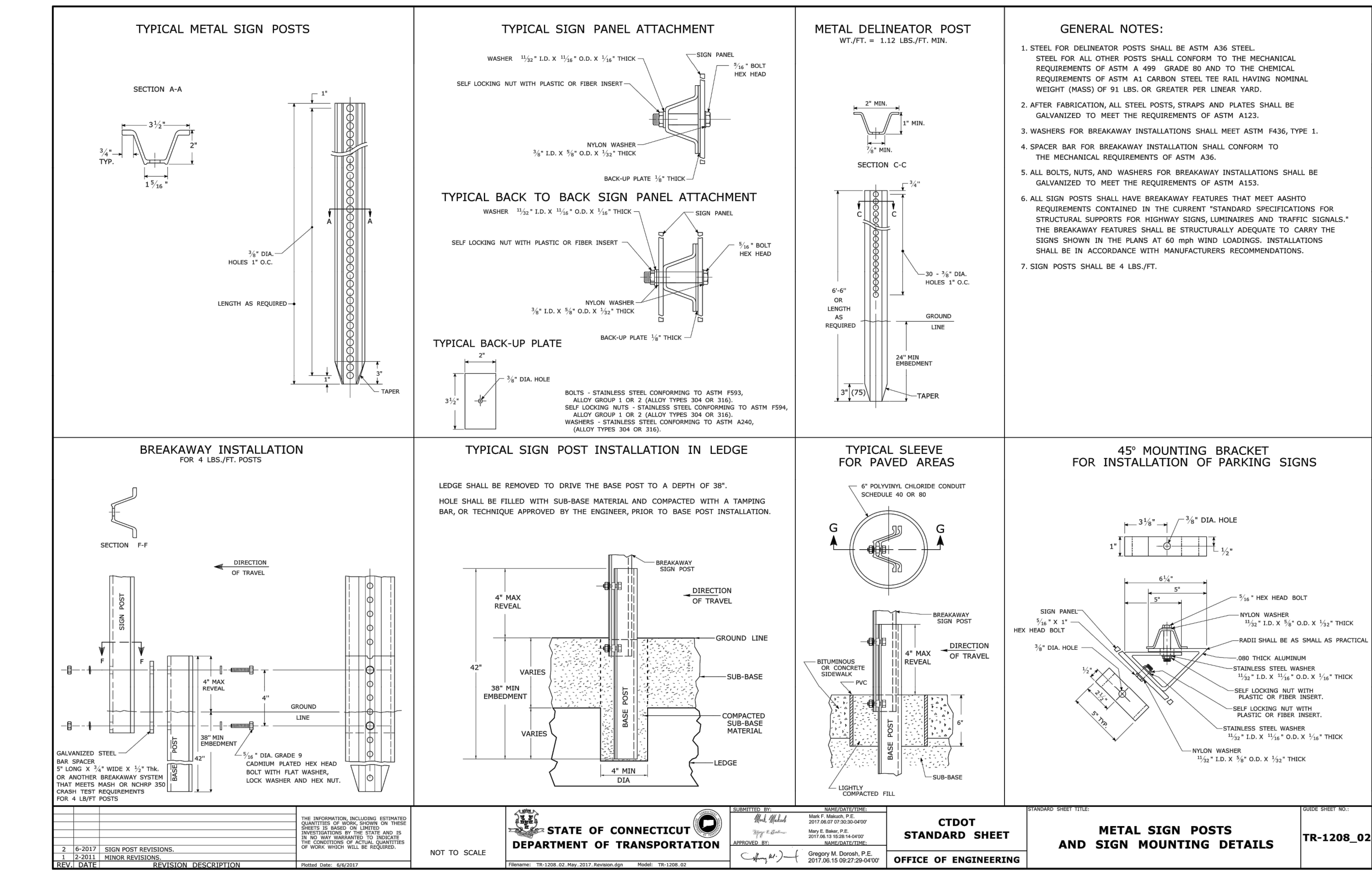


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SHEET NO. 9 OF 11 JOB NO. 21-000985 DRAWN BY: CAC



3	2-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.	NOT TO SCALE	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET OFFICE OF ENGINEERING	SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS	TR-1208-01
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0	10 20 40

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Gregg T. Fedus P.E.	
CT. License No. 21231	

STATE OF CONNECTICUT PROFESSIONAL ENGINEER NO. 21231	
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70 Essex Street, Unit 2C, Mystic, CT 06355 ■ Phone: 860-536-7390

September 12, 2022

Town of Bolton
Planning and Zoning Submission

Re: Drainage Study
271 Hop River Road, Bolton, CT

We offer the following summary of our stormwater analysis:

ANALYSIS POINT 1

	2 year	10 year	25 year	50 year	100 year
Existing (Rate) (Analysis Point 1)	0.44 CFS	0.67 CFS	0.82 CFS	0.92 CFS	1.04 CFS
Proposed (Rate) (Analysis Point 1)	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS
Existing (Volume) (Analysis Point 1)	0.023 af	0.036 af	0.045 af	0.051 af	0.057 af
Proposed (Volume) (Analysis Point 1)	0.000 af	0.000 af	0.000 af	0.000 af	0.000 af

ANALYSIS POINT 2

	2 year	10 year	25 year	50 year	100 year
Existing (Rate) (Analysis Point 2)	1.19 CFS	2.12 CFS	2.71 CFS	3.14 CFS	3.61 CFS
Proposed (Rate) (Analysis Point 2)	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS
Existing (Volume) (Analysis Point 2)	0.054 af	0.100 af	0.129 af	0.151 af	0.176 af
Proposed (Volume) (Analysis Point 2)	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS	0.00 CFS

ANALYSIS POINT 3

	2 year	10 year	25 year	50 year	100 year
Existing (Rate) (Analysis Point 2)	3.07 CFS	6.21 CFS	8.25 CFS	9.78 CFS	11.46 CFS
Proposed (Rate) (Analysis Point 2)	0.00 CFS	3.00 CFS	6.74 CFS	9.17 CFS	11.36 CFS
Existing (Volume) (Analysis Point 2)	0.308 af	0.613 af	0.817 af	0.971 af	1.142 af
Proposed (Volume) (Analysis Point 2)	0.000 af	0.333 af	0.572 af	0.752 af	0.953 af

Water Quality Volume – Volume of runoff generated by one inch of rainfall on the site

$$WQV = (1")(R)(A)/12$$

$$R = 0.05 + 0.009 * I = 0.05 + 0.009(33.4) = 0.351, \quad I = \text{Impervious Coverage} = 33.4\%,$$

$$A = 2.83 \text{ Acres}$$

$$WQV = 1"(0.351)(2.83)/12 = 0.0828 \text{ acre-ft.} \quad *(43,560 \text{ SF/1Acre}) = 3606 \text{ Cubic Feet}$$

The underground infiltration and the hydro-dynamic separator will ensure the TSS removal of 80% plus. The hydro-dynamic separator is sized to handle the majority of the parking and site prior to discharging to the forebay of the detention basin.

Conclusions:

The post development flows and volumes are lower than pre-development conditions in all storms
There will be no adverse impact to the down-gradient wetlands.

If you have any questions or require anything further please let us know at your earliest convenience.

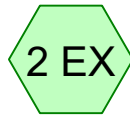
Sincerely,

Gregg Fedus

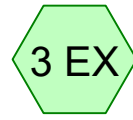
Gregg Fedus, P.E.



AREA 1



AREA 2



AREA 3



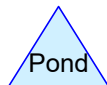
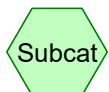
Area 3



Stormwater Basin



Total Area 3



Routing Diagram for Existing and Proposed Areas 2022 09-12 Planning and Zoning - Engineering Comments

Prepared by Microsoft, Printed 10/17/2022
HydroCAD® 10.00-20 s/n 05120 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1 EX: AREA 1

Runoff = 0.44 cfs @ 12.12 hrs, Volume= 0.023 af, Depth= 3.23"

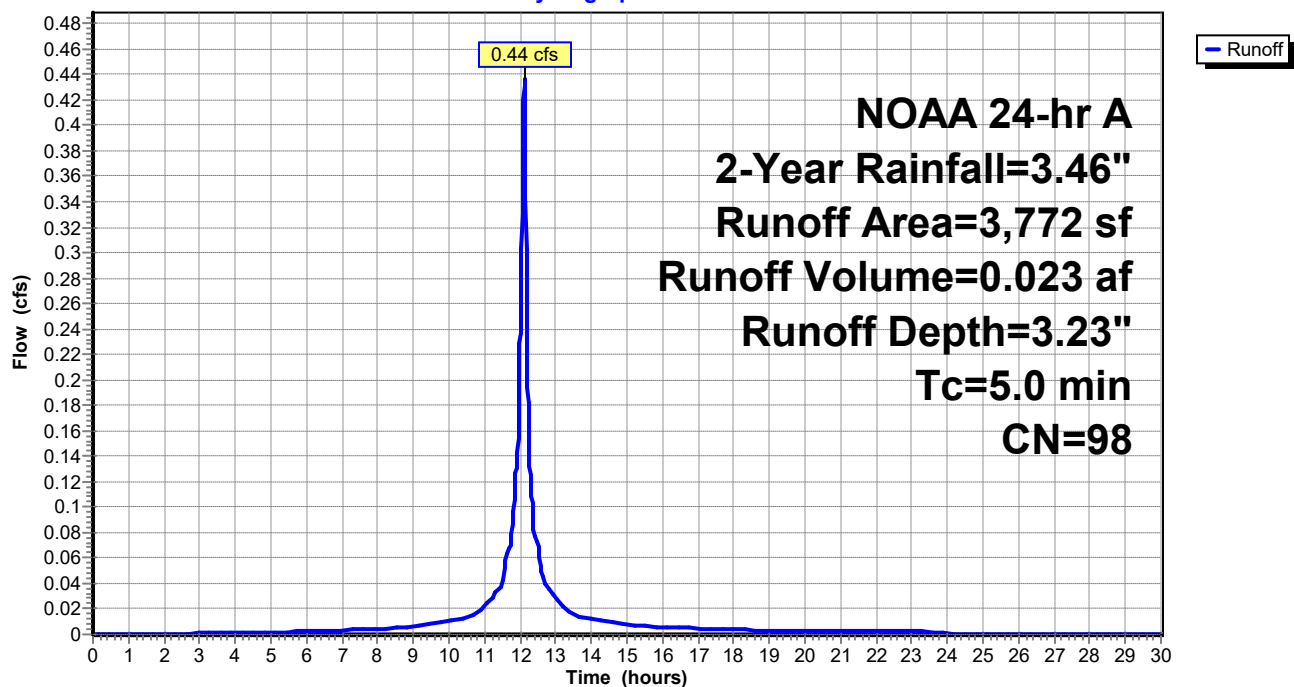
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 2-Year Rainfall=3.46"

Area (sf)	CN	Description
3,772	98	Paved parking, HSG C
3,772		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 EX: AREA 1

Hydrograph



Summary for Subcatchment 2 EX: AREA 2

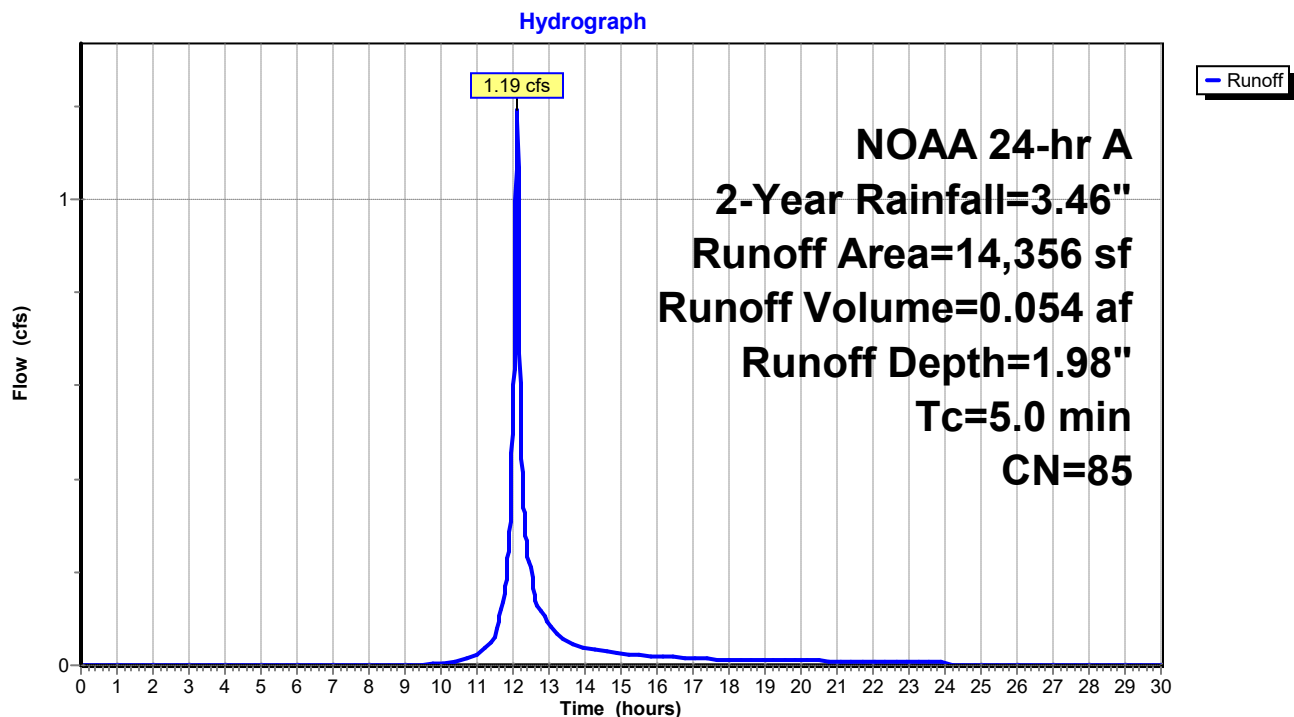
Runoff = 1.19 cfs @ 12.12 hrs, Volume= 0.054 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 2-Year Rainfall=3.46"

Area (sf)	CN	Description
8,549	77	Woods, Poor, HSG C
2,974	98	Roofs, HSG C
2,833	98	Paved parking, HSG C
14,356	85	Weighted Average
8,549		59.55% Pervious Area
5,807		40.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 EX: AREA 2



Summary for Subcatchment 3 EX: AREA 3

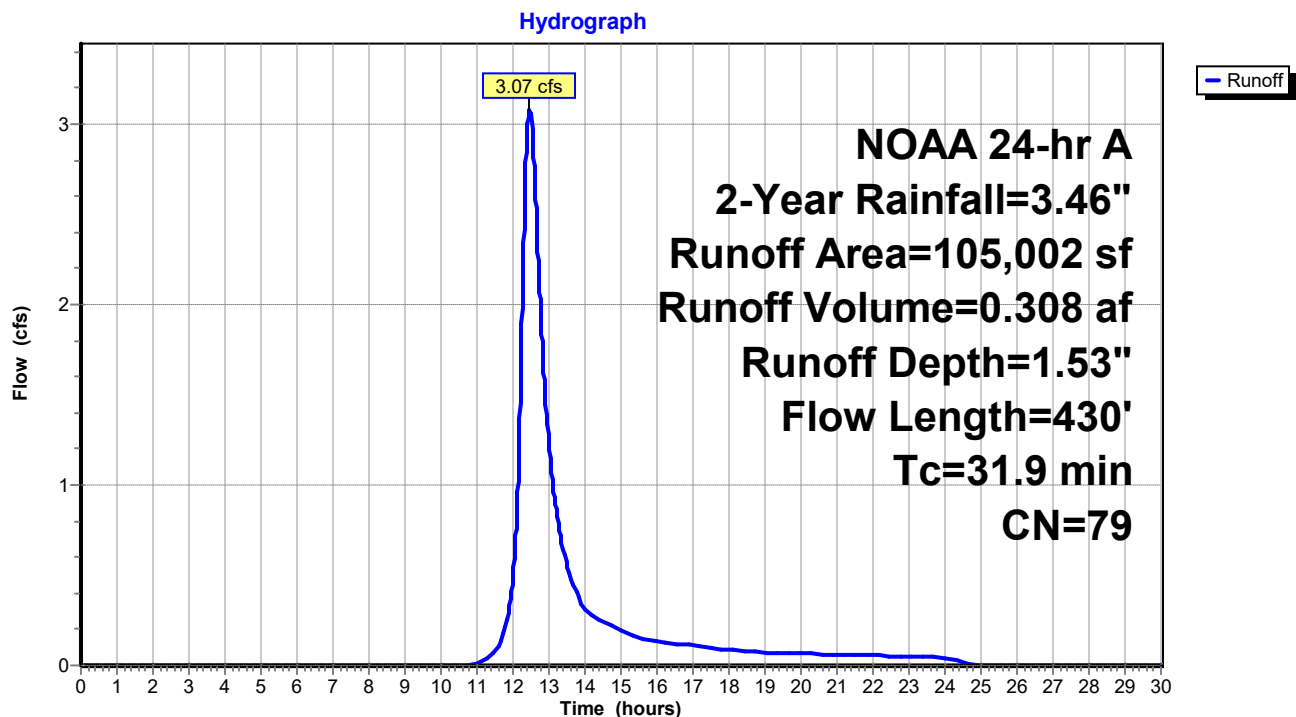
Runoff = 3.07 cfs @ 12.45 hrs, Volume= 0.308 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 2-Year Rainfall=3.46"

Area (sf)	CN	Description
95,684	77	Woods, Poor, HSG C
4,200	98	Roofs, HSG C
5,118	98	Paved parking, HSG C
105,002	79	Weighted Average
95,684		91.13% Pervious Area
9,318		8.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.0200	0.08		Sheet Flow, Sheet Flow from Building
					Woods: Light underbrush n= 0.400 P2= 3.39"
11.0	330	0.0100	0.50		Shallow Concentrated Flow, Balance of flow to Stream
					Woodland Kv= 5.0 fps
31.9	430	Total			

Subcatchment 3 EX: AREA 3



Summary for Subcatchment 3 P: Area 3

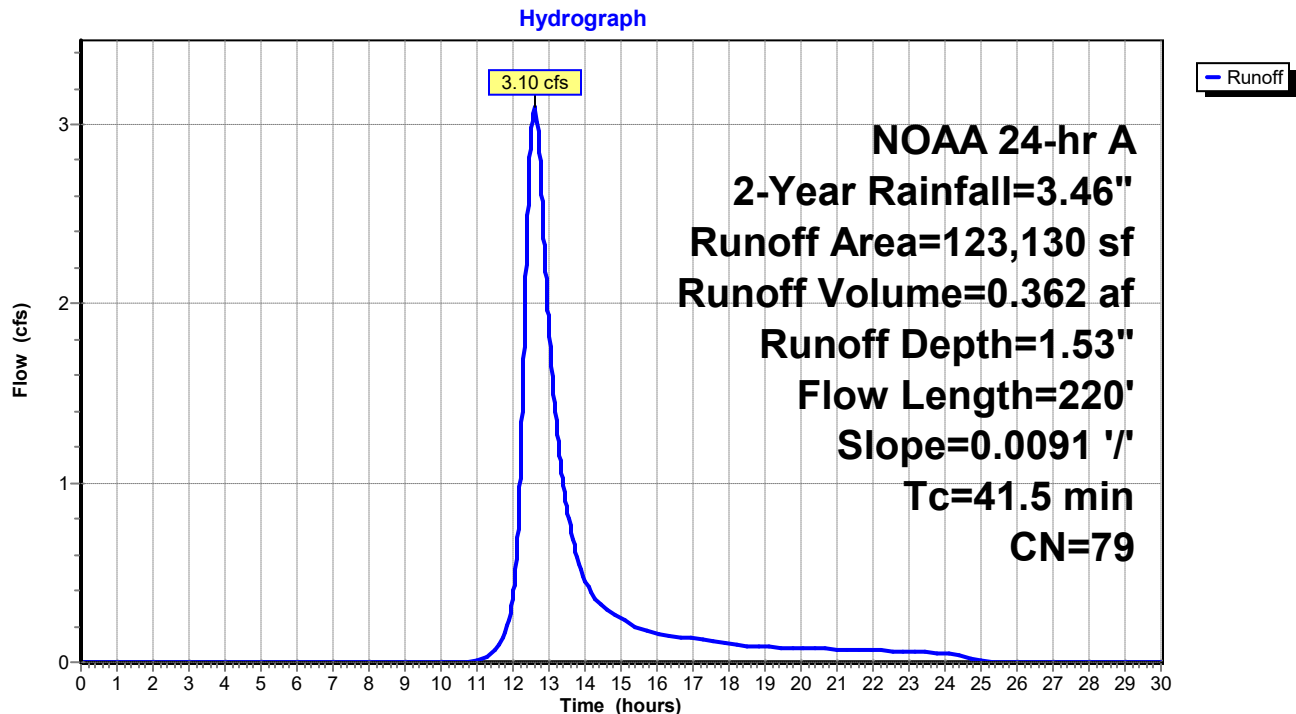
Runoff = 3.10 cfs @ 12.59 hrs, Volume= 0.362 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 2-Year Rainfall=3.46"

Area (sf)	CN	Description
82,012	70	Woods, Good, HSG C
35,630	98	Paved parking, HSG C
5,488	98	Roofs, HSG C
123,130	79	Weighted Average
82,012		66.61% Pervious Area
41,118		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	50	0.0091	0.05		Sheet Flow, Sheet Flow across Lawn Grass: Bermuda n= 0.410 P2= 3.39"
16.4	50	0.0091	0.05		Sheet Flow, Balance of Sheet Flow across woods Woods: Light underbrush n= 0.400 P2= 3.39"
8.4	120	0.0091	0.24		Shallow Concentrated Flow, Balance to Wetlands Forest w/Heavy Litter Kv= 2.5 fps
41.5	220	Total			

Subcatchment 3 P: Area 3

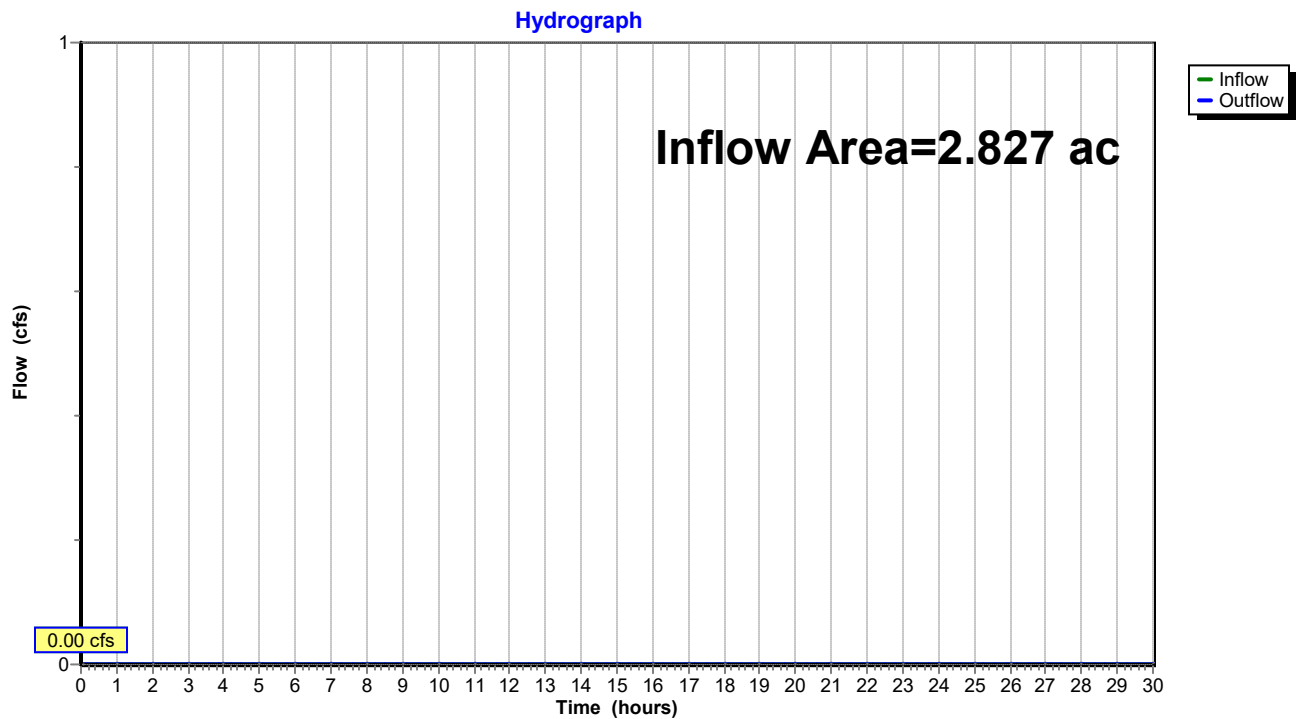


Summary for Reach Total 3: Total Area 3

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach Total 3: Total Area 3



Summary for Pond 1-1 RG: Stormwater Basin

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 1.53" for 2-Year event
 Inflow = 3.10 cfs @ 12.59 hrs, Volume= 0.362 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 470.29' @ 26.39 hrs Surf.Area= 5,012 sf Storage= 15,750 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	466.00'	19,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

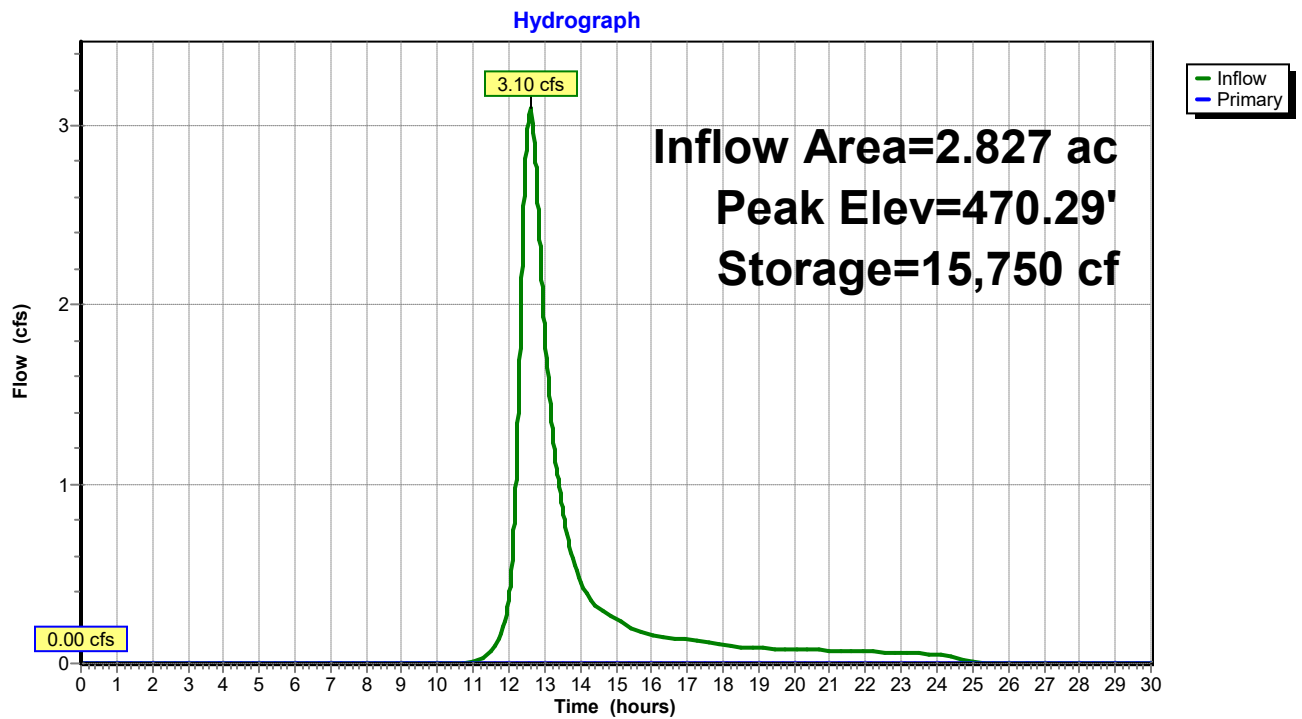
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
466.00	2,657	0	0
467.00	3,110	2,884	2,884
468.00	3,577	3,344	6,227
469.00	4,058	3,818	10,045
470.00	4,552	4,305	14,350
471.00	6,123	5,338	19,687

Device	Routing	Invert	Outlet Devices
#1	Primary	470.50'	40.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=466.00' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1-1 RG: Stormwater Basin



Summary for Subcatchment 1 EX: AREA 1

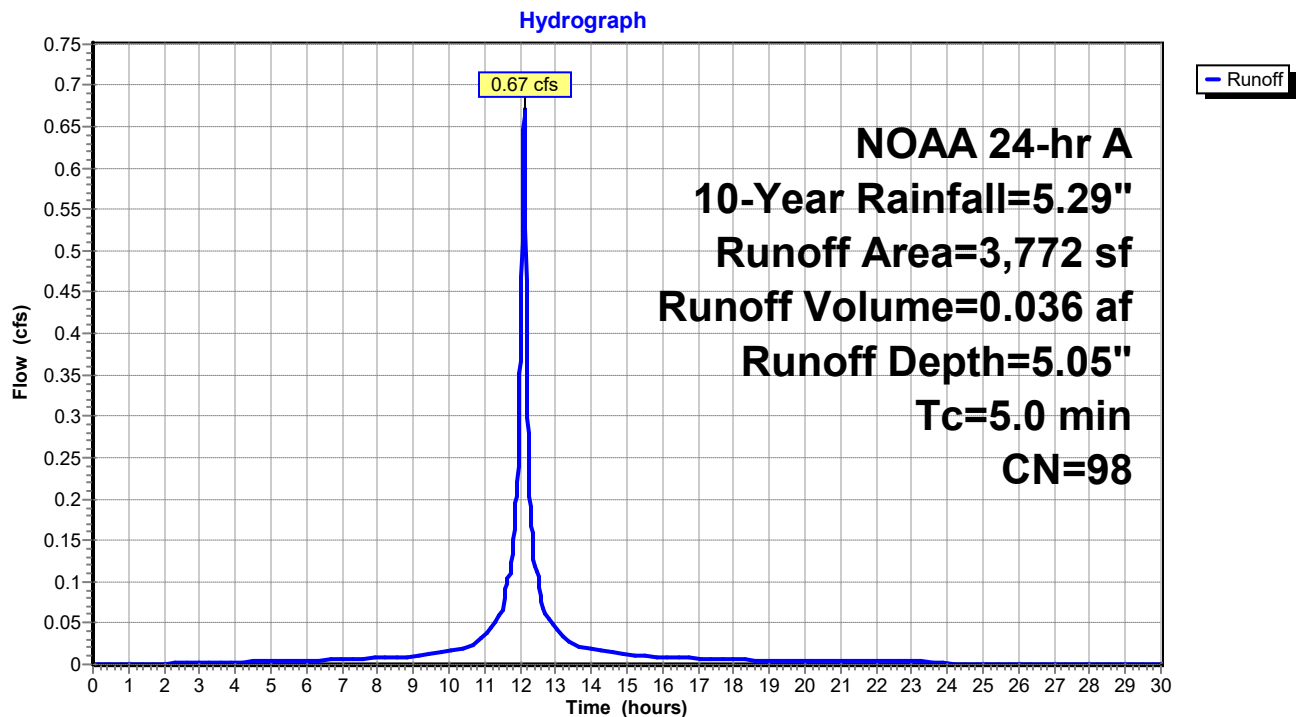
Runoff = 0.67 cfs @ 12.12 hrs, Volume= 0.036 af, Depth= 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 10-Year Rainfall=5.29"

Area (sf)	CN	Description
3,772	98	Paved parking, HSG C
3,772		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 EX: AREA 1



Summary for Subcatchment 2 EX: AREA 2

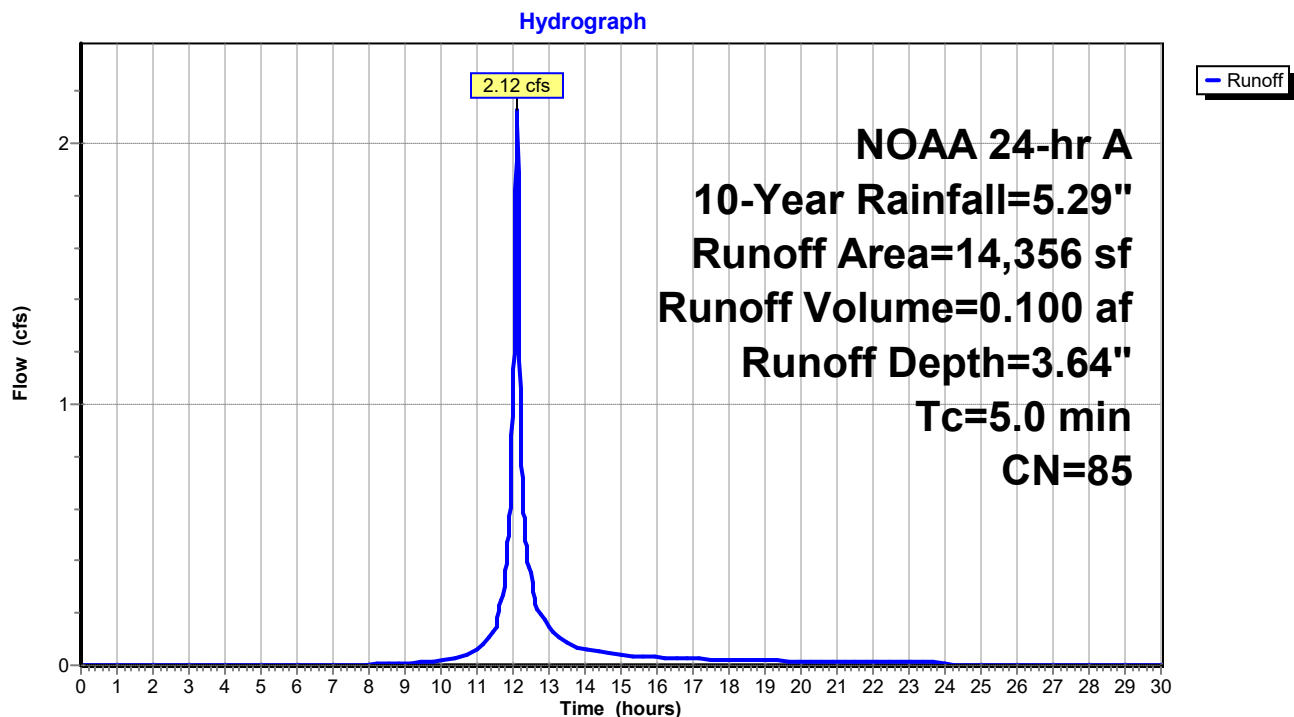
Runoff = 2.12 cfs @ 12.12 hrs, Volume= 0.100 af, Depth= 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 10-Year Rainfall=5.29"

Area (sf)	CN	Description
8,549	77	Woods, Poor, HSG C
2,974	98	Roofs, HSG C
2,833	98	Paved parking, HSG C
14,356	85	Weighted Average
8,549		59.55% Pervious Area
5,807		40.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 EX: AREA 2



Summary for Subcatchment 3 EX: AREA 3

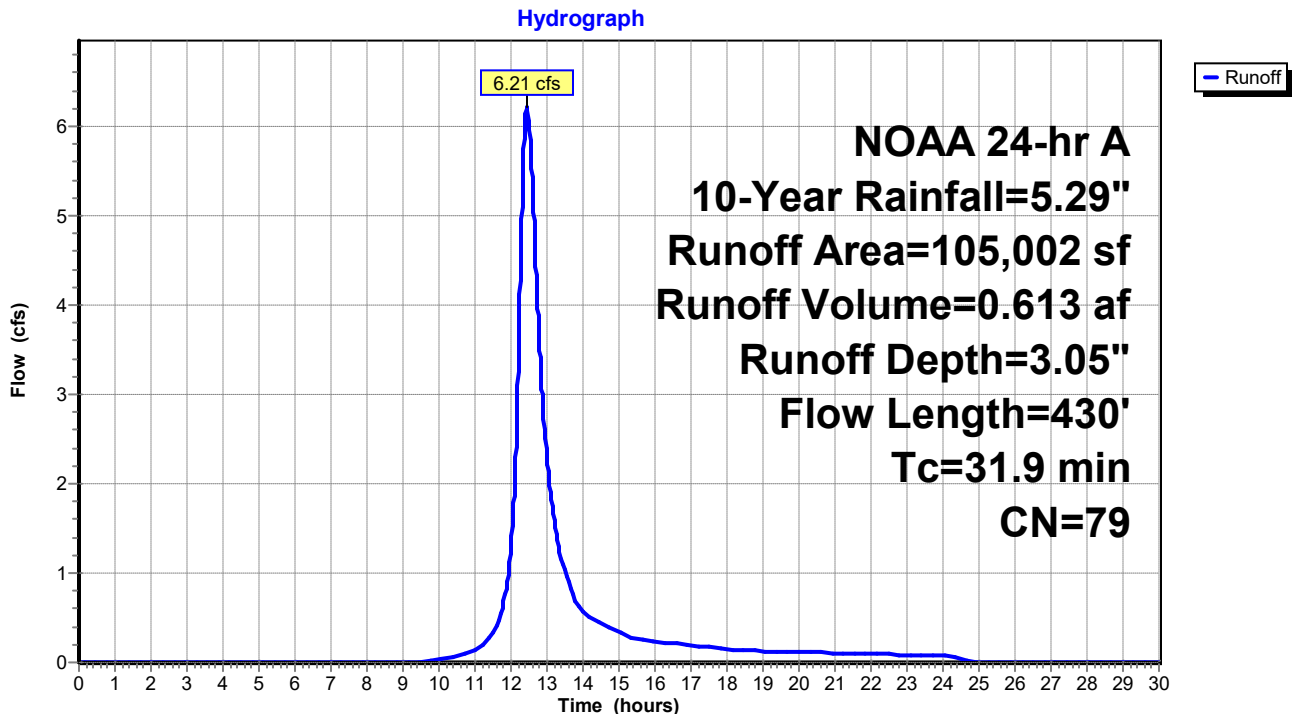
Runoff = 6.21 cfs @ 12.44 hrs, Volume= 0.613 af, Depth= 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 10-Year Rainfall=5.29"

Area (sf)	CN	Description
95,684	77	Woods, Poor, HSG C
4,200	98	Roofs, HSG C
5,118	98	Paved parking, HSG C
105,002	79	Weighted Average
95,684		91.13% Pervious Area
9,318		8.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.0200	0.08		Sheet Flow, Sheet Flow from Building
					Woods: Light underbrush n= 0.400 P2= 3.39"
11.0	330	0.0100	0.50		Shallow Concentrated Flow, Balance of flow to Stream
					Woodland Kv= 5.0 fps
31.9	430	Total			

Subcatchment 3 EX: AREA 3



Summary for Subcatchment 3 P: Area 3

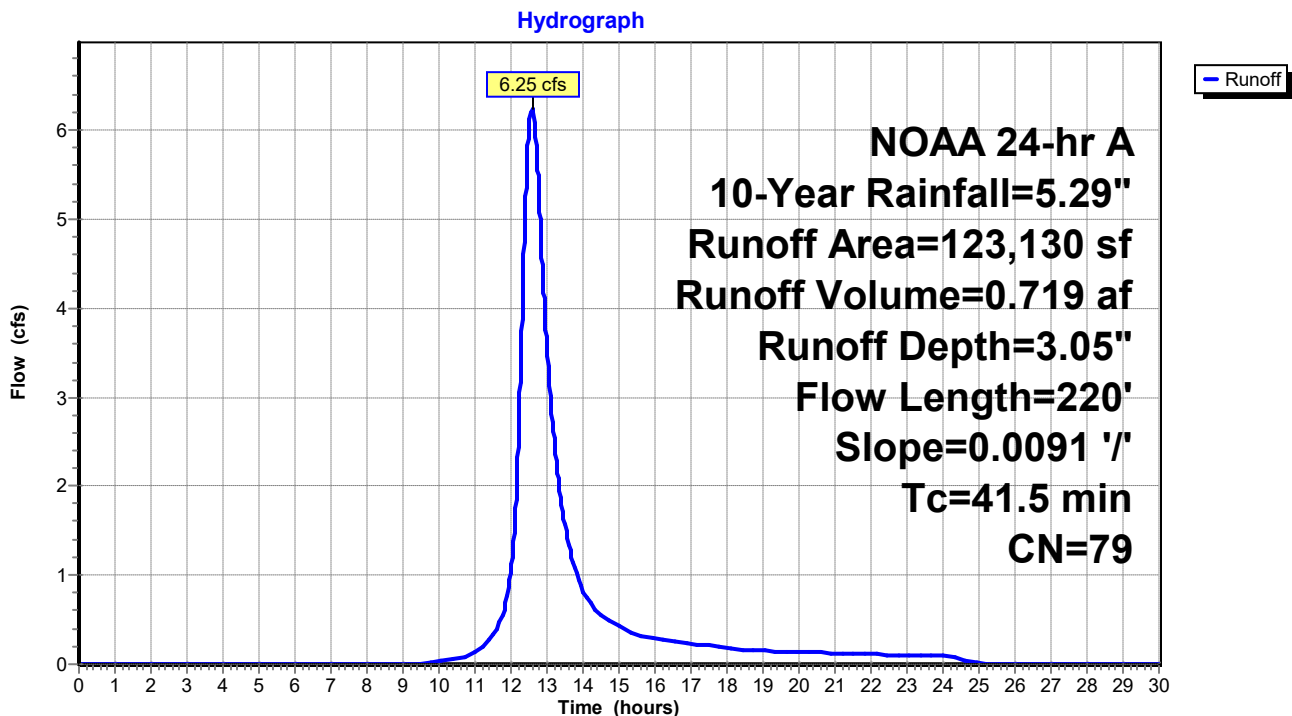
Runoff = 6.25 cfs @ 12.59 hrs, Volume= 0.719 af, Depth= 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 10-Year Rainfall=5.29"

Area (sf)	CN	Description
82,012	70	Woods, Good, HSG C
35,630	98	Paved parking, HSG C
5,488	98	Roofs, HSG C
123,130	79	Weighted Average
82,012		66.61% Pervious Area
41,118		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	50	0.0091	0.05		Sheet Flow, Sheet Flow across Lawn Grass: Bermuda n= 0.410 P2= 3.39"
16.4	50	0.0091	0.05		Sheet Flow, Balance of Sheet Flow across woods Woods: Light underbrush n= 0.400 P2= 3.39"
8.4	120	0.0091	0.24		Shallow Concentrated Flow, Balance to Wetlands Forest w/Heavy Litter Kv= 2.5 fps
41.5	220	Total			

Subcatchment 3 P: Area 3

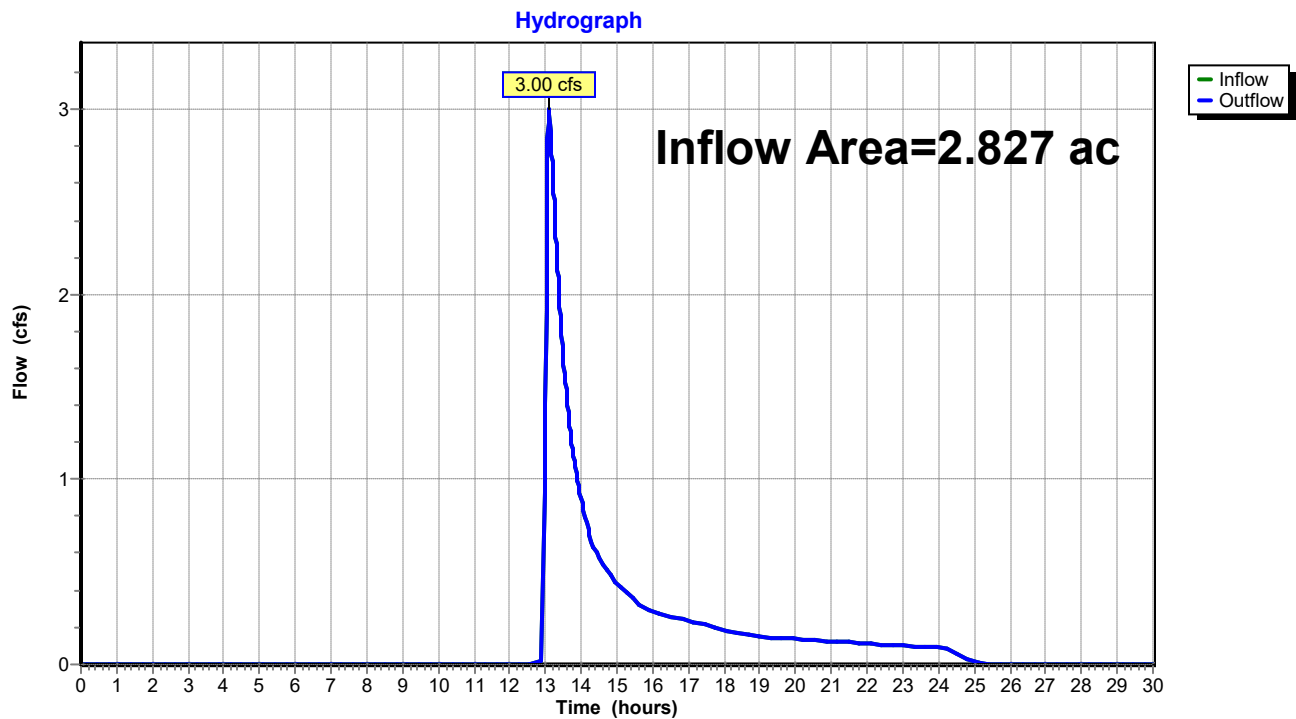


Summary for Reach Total 3: Total Area 3

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 1.41" for 10-Year event
Inflow = 3.00 cfs @ 13.10 hrs, Volume= 0.333 af
Outflow = 3.00 cfs @ 13.10 hrs, Volume= 0.333 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach Total 3: Total Area 3



Summary for Pond 1-1 RG: Stormwater Basin

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 3.05" for 10-Year event
 Inflow = 6.25 cfs @ 12.59 hrs, Volume= 0.719 af
 Outflow = 3.00 cfs @ 13.10 hrs, Volume= 0.333 af, Atten= 52%, Lag= 30.7 min
 Primary = 3.00 cfs @ 13.10 hrs, Volume= 0.333 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 470.59' @ 13.10 hrs Surf.Area= 5,486 sf Storage= 17,335 cf

Plug-Flow detention time= 198.7 min calculated for 0.333 af (46% of inflow)
 Center-of-Mass det. time= 106.2 min (941.8 - 835.6)

Volume	Invert	Avail.Storage	Storage Description
#1	466.00'	19,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

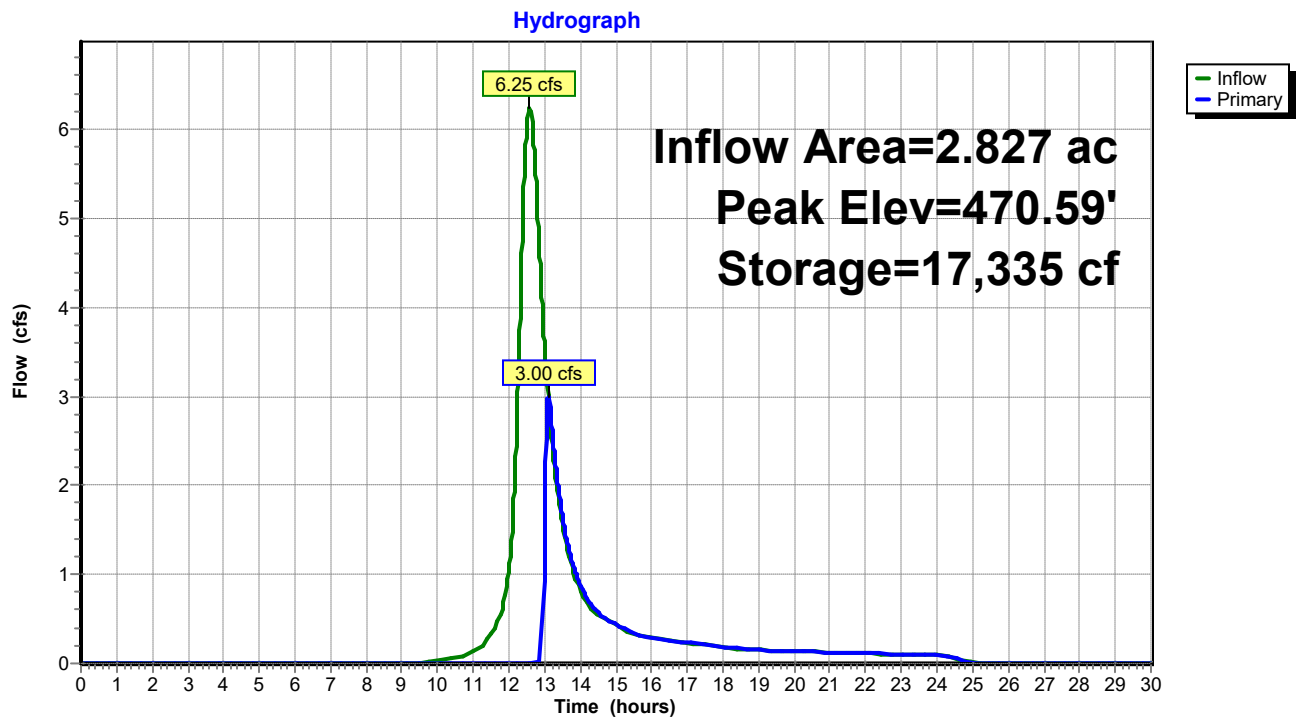
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
466.00	2,657	0	0
467.00	3,110	2,884	2,884
468.00	3,577	3,344	6,227
469.00	4,058	3,818	10,045
470.00	4,552	4,305	14,350
471.00	6,123	5,338	19,687

Device	Routing	Invert	Outlet Devices
#1	Primary	470.50'	40.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.97 cfs @ 13.10 hrs HW=470.59' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 2.97 cfs @ 0.78 fps)

Pond 1-1 RG: Stormwater Basin



Summary for Subcatchment 1 EX: AREA 1

Runoff = 0.82 cfs @ 12.12 hrs, Volume= 0.045 af, Depth= 6.19"

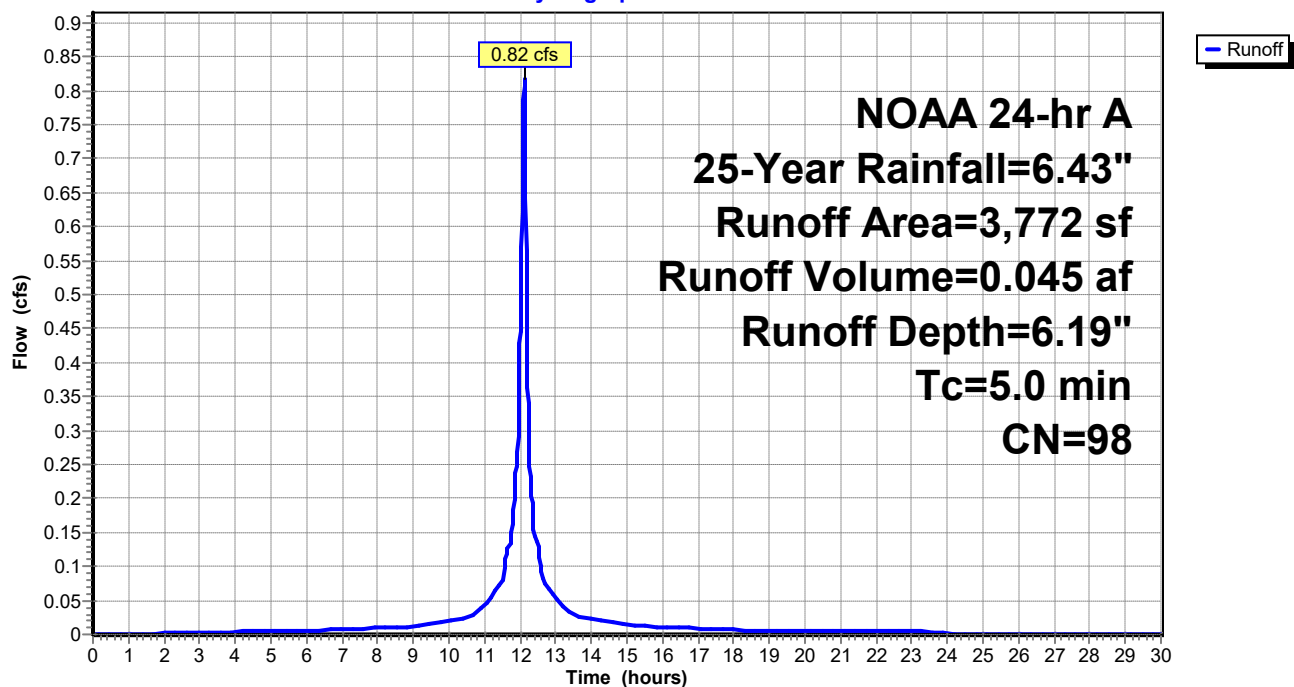
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 25-Year Rainfall=6.43"

Area (sf)	CN	Description
3,772	98	Paved parking, HSG C
3,772		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 EX: AREA 1

Hydrograph



Summary for Subcatchment 2 EX: AREA 2

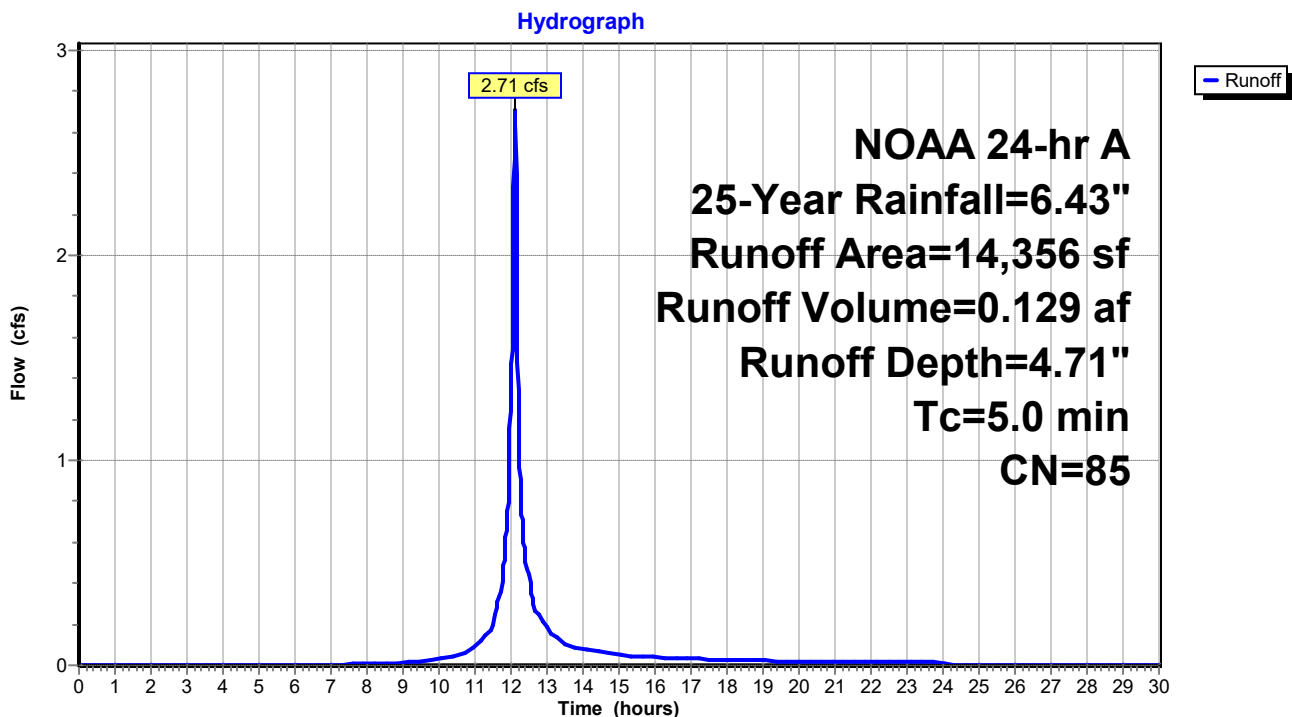
Runoff = 2.71 cfs @ 12.12 hrs, Volume= 0.129 af, Depth= 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 25-Year Rainfall=6.43"

Area (sf)	CN	Description
8,549	77	Woods, Poor, HSG C
2,974	98	Roofs, HSG C
2,833	98	Paved parking, HSG C
14,356	85	Weighted Average
8,549		59.55% Pervious Area
5,807		40.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 EX: AREA 2



Summary for Subcatchment 3 EX: AREA 3

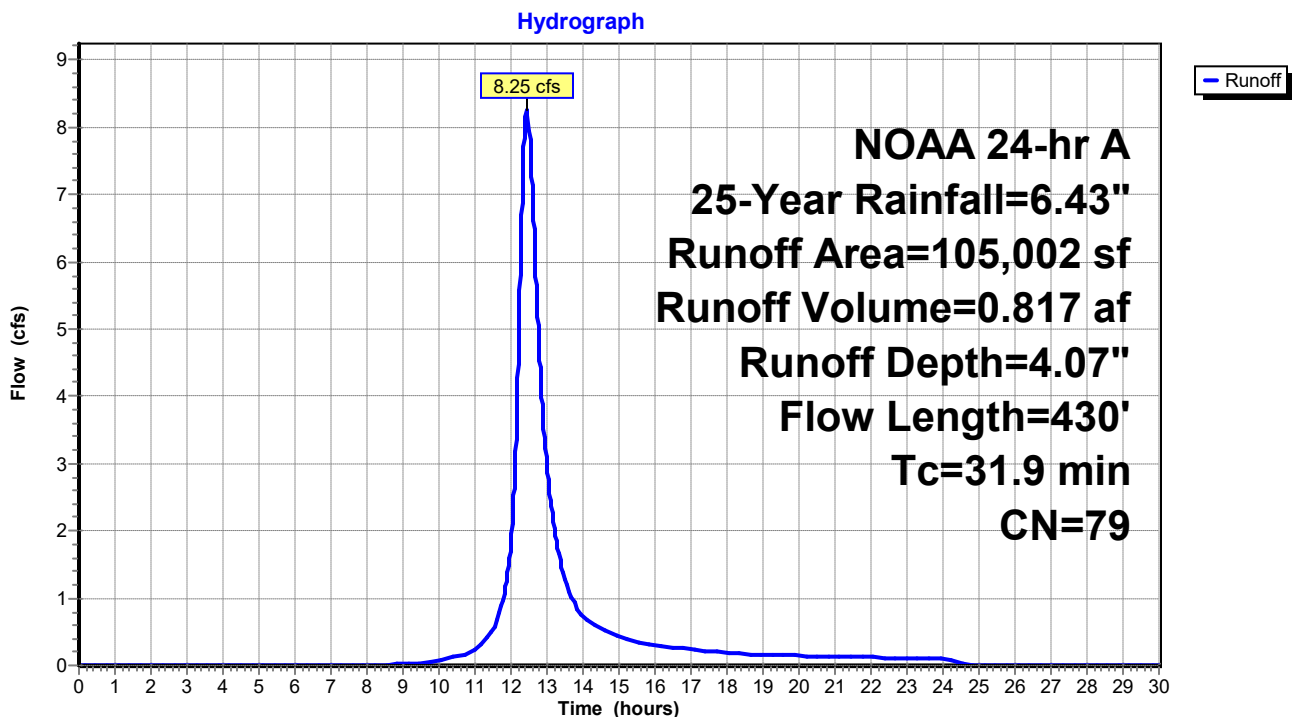
Runoff = 8.25 cfs @ 12.44 hrs, Volume= 0.817 af, Depth= 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 25-Year Rainfall=6.43"

Area (sf)	CN	Description
95,684	77	Woods, Poor, HSG C
4,200	98	Roofs, HSG C
5,118	98	Paved parking, HSG C
105,002	79	Weighted Average
95,684		91.13% Pervious Area
9,318		8.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.0200	0.08		Sheet Flow, Sheet Flow from Building
					Woods: Light underbrush n= 0.400 P2= 3.39"
11.0	330	0.0100	0.50		Shallow Concentrated Flow, Balance of flow to Stream
					Woodland Kv= 5.0 fps
31.9	430	Total			

Subcatchment 3 EX: AREA 3



Summary for Subcatchment 3 P: Area 3

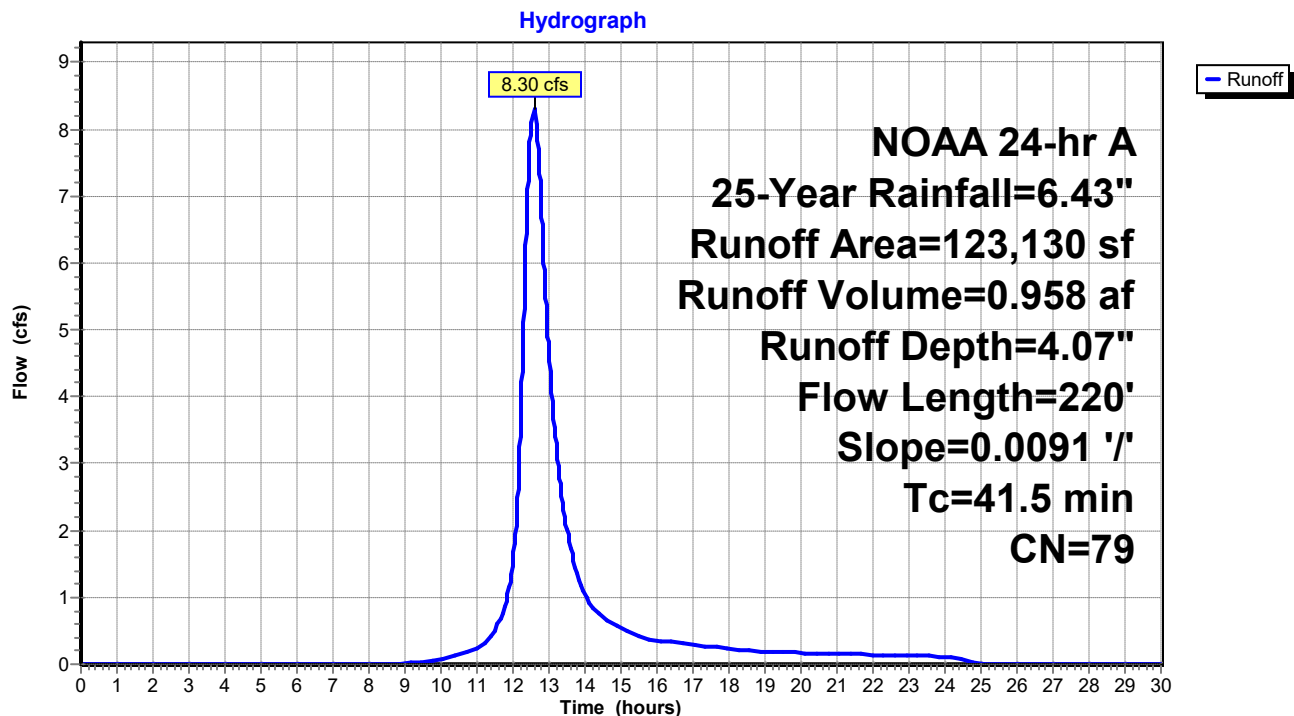
Runoff = 8.30 cfs @ 12.59 hrs, Volume= 0.958 af, Depth= 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 25-Year Rainfall=6.43"

Area (sf)	CN	Description
82,012	70	Woods, Good, HSG C
35,630	98	Paved parking, HSG C
5,488	98	Roofs, HSG C
123,130	79	Weighted Average
82,012		66.61% Pervious Area
41,118		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	50	0.0091	0.05		Sheet Flow, Sheet Flow across Lawn Grass: Bermuda n= 0.410 P2= 3.39"
16.4	50	0.0091	0.05		Sheet Flow, Balance of Sheet Flow across woods Woods: Light underbrush n= 0.400 P2= 3.39"
8.4	120	0.0091	0.24		Shallow Concentrated Flow, Balance to Wetlands Forest w/Heavy Litter Kv= 2.5 fps
41.5	220	Total			

Subcatchment 3 P: Area 3

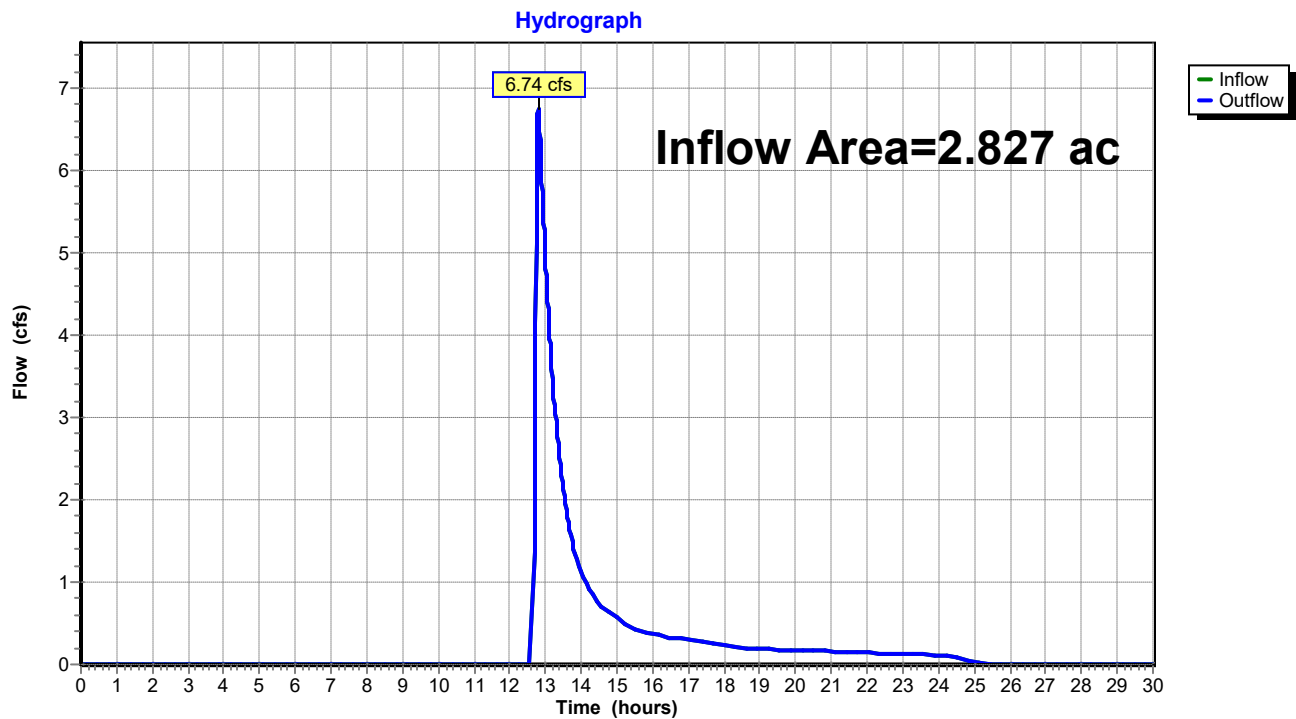


Summary for Reach Total 3: Total Area 3

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 2.43" for 25-Year event
Inflow = 6.74 cfs @ 12.80 hrs, Volume= 0.572 af
Outflow = 6.74 cfs @ 12.80 hrs, Volume= 0.572 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach Total 3: Total Area 3



Summary for Pond 1-1 RG: Stormwater Basin

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 4.07" for 25-Year event
 Inflow = 8.30 cfs @ 12.59 hrs, Volume= 0.958 af
 Outflow = 6.74 cfs @ 12.80 hrs, Volume= 0.572 af, Atten= 19%, Lag= 12.6 min
 Primary = 6.74 cfs @ 12.80 hrs, Volume= 0.572 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 470.66' @ 12.80 hrs Surf.Area= 5,594 sf Storage= 17,714 cf

Plug-Flow detention time= 150.1 min calculated for 0.571 af (60% of inflow)
 Center-of-Mass det. time= 67.5 min (897.1 - 829.7)

Volume	Invert	Avail.Storage	Storage Description
#1	466.00'	19,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

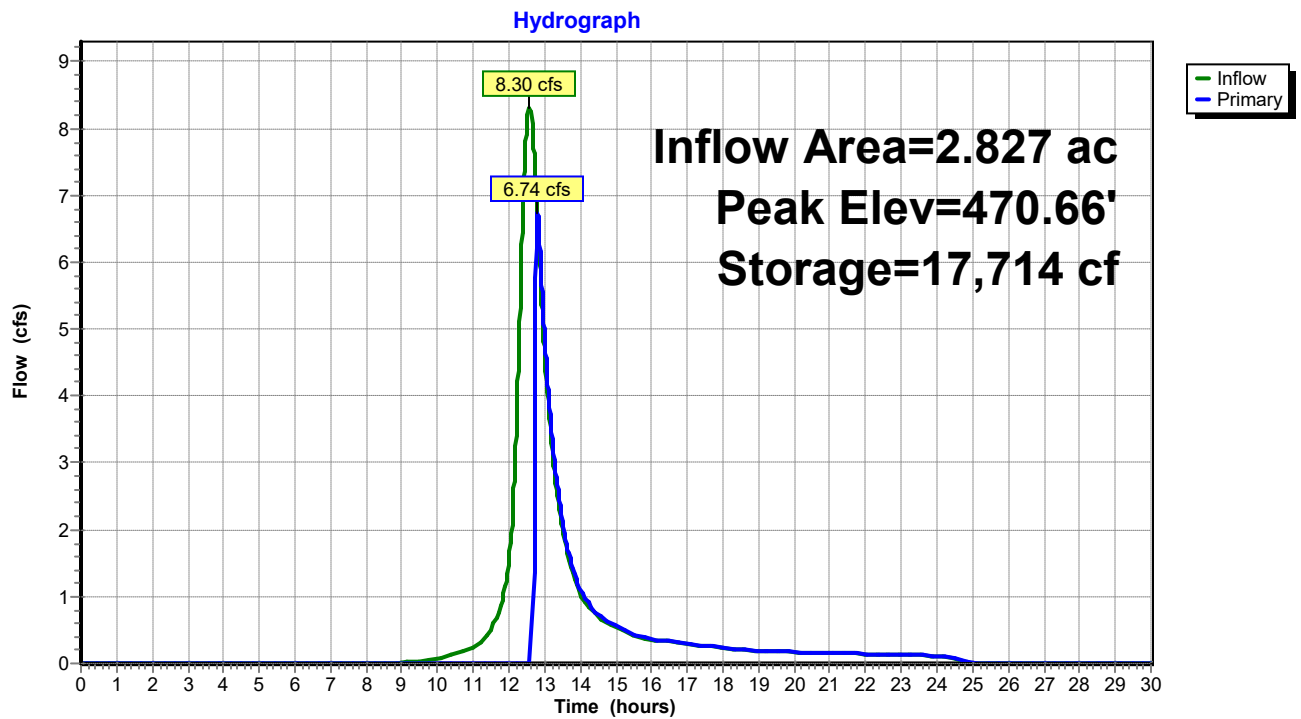
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
466.00	2,657	0	0
467.00	3,110	2,884	2,884
468.00	3,577	3,344	6,227
469.00	4,058	3,818	10,045
470.00	4,552	4,305	14,350
471.00	6,123	5,338	19,687

Device	Routing	Invert	Outlet Devices
#1	Primary	470.50'	40.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.69 cfs @ 12.80 hrs HW=470.66' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 6.69 cfs @ 1.03 fps)

Pond 1-1 RG: Stormwater Basin



Summary for Subcatchment 1 EX: AREA 1

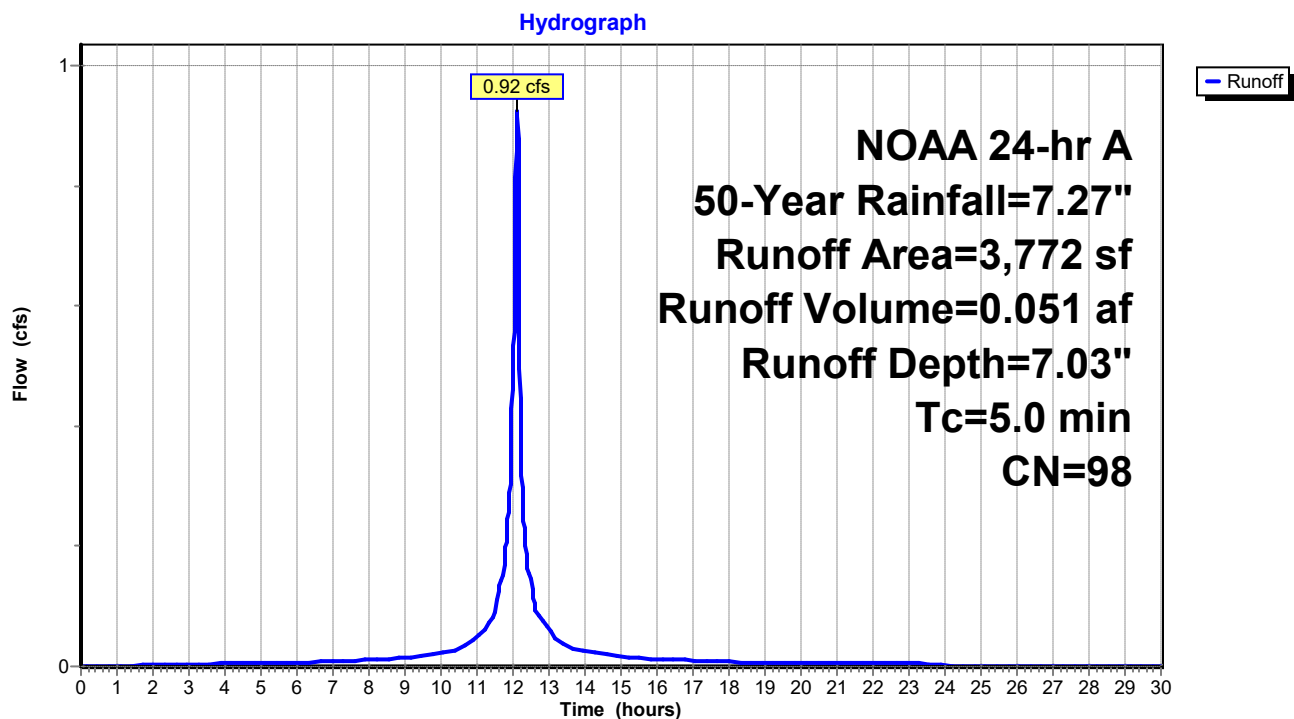
Runoff = 0.92 cfs @ 12.12 hrs, Volume= 0.051 af, Depth= 7.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 50-Year Rainfall=7.27"

Area (sf)	CN	Description
3,772	98	Paved parking, HSG C
3,772		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 EX: AREA 1



Summary for Subcatchment 2 EX: AREA 2

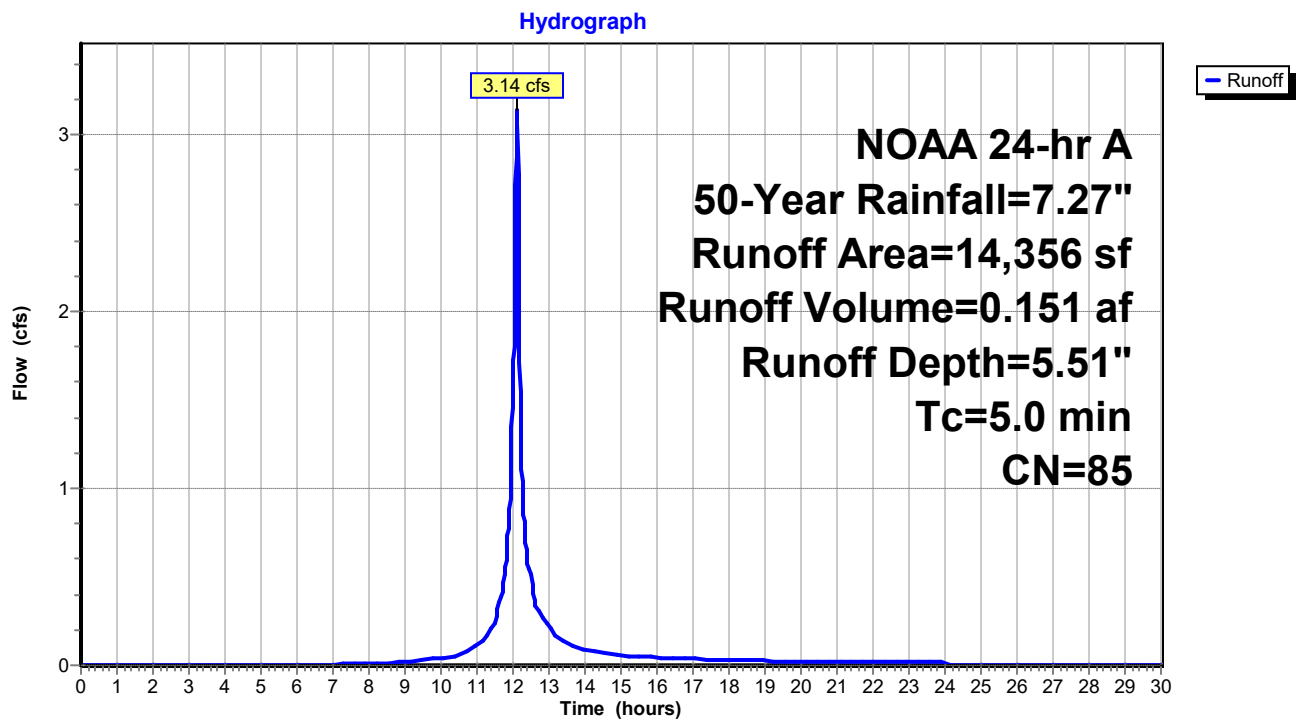
Runoff = 3.14 cfs @ 12.12 hrs, Volume= 0.151 af, Depth= 5.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 50-Year Rainfall=7.27"

Area (sf)	CN	Description
8,549	77	Woods, Poor, HSG C
2,974	98	Roofs, HSG C
2,833	98	Paved parking, HSG C
14,356	85	Weighted Average
8,549		59.55% Pervious Area
5,807		40.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 EX: AREA 2



Summary for Subcatchment 3 EX: AREA 3

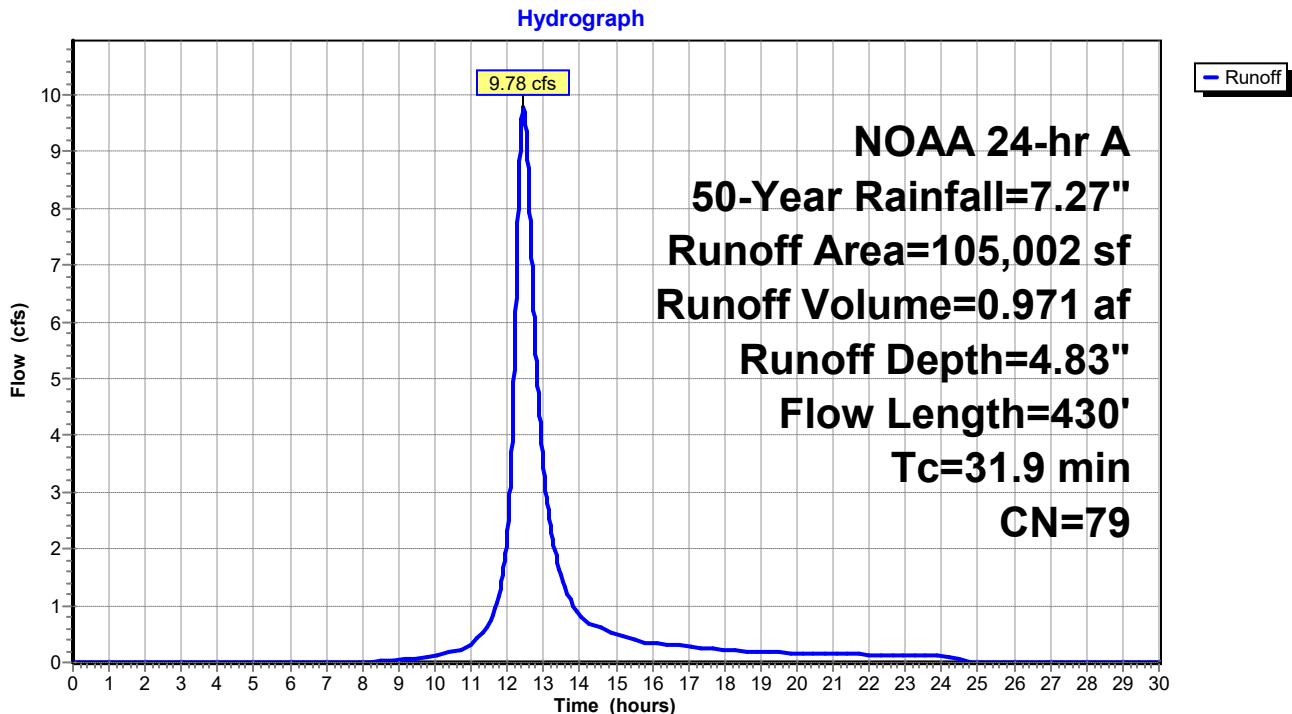
Runoff = 9.78 cfs @ 12.44 hrs, Volume= 0.971 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 50-Year Rainfall=7.27"

Area (sf)	CN	Description
95,684	77	Woods, Poor, HSG C
4,200	98	Roofs, HSG C
5,118	98	Paved parking, HSG C
105,002	79	Weighted Average
95,684		91.13% Pervious Area
9,318		8.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.0200	0.08		Sheet Flow, Sheet Flow from Building
					Woods: Light underbrush n= 0.400 P2= 3.39"
11.0	330	0.0100	0.50		Shallow Concentrated Flow, Balance of flow to Stream
					Woodland Kv= 5.0 fps
31.9	430	Total			

Subcatchment 3 EX: AREA 3



Summary for Subcatchment 3 P: Area 3

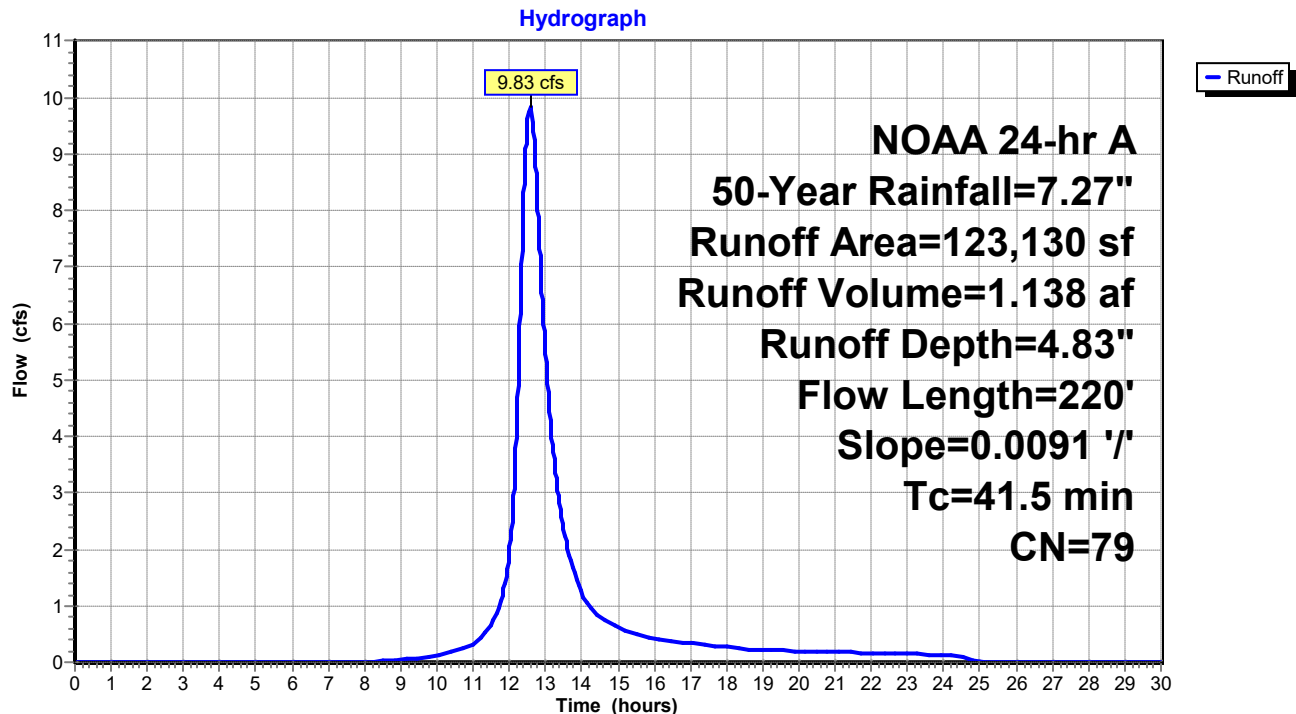
Runoff = 9.83 cfs @ 12.58 hrs, Volume= 1.138 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 50-Year Rainfall=7.27"

Area (sf)	CN	Description
82,012	70	Woods, Good, HSG C
35,630	98	Paved parking, HSG C
5,488	98	Roofs, HSG C
123,130	79	Weighted Average
82,012		66.61% Pervious Area
41,118		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	50	0.0091	0.05		Sheet Flow, Sheet Flow across Lawn Grass: Bermuda n= 0.410 P2= 3.39"
16.4	50	0.0091	0.05		Sheet Flow, Balance of Sheet Flow across woods Woods: Light underbrush n= 0.400 P2= 3.39"
8.4	120	0.0091	0.24		Shallow Concentrated Flow, Balance to Wetlands Forest w/Heavy Litter Kv= 2.5 fps
41.5	220	Total			

Subcatchment 3 P: Area 3

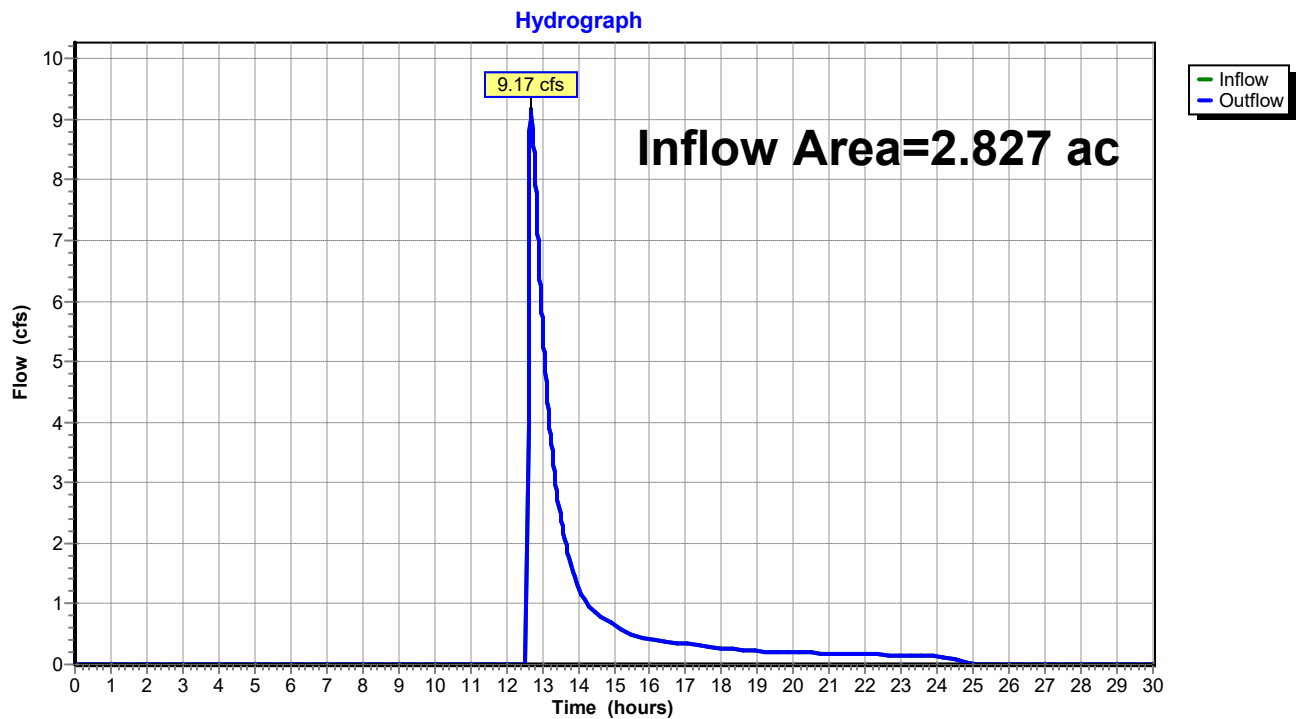


Summary for Reach Total 3: Total Area 3

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 3.19" for 50-Year event
Inflow = 9.17 cfs @ 12.69 hrs, Volume= 0.752 af
Outflow = 9.17 cfs @ 12.69 hrs, Volume= 0.752 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach Total 3: Total Area 3



Summary for Pond 1-1 RG: Stormwater Basin

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 4.83" for 50-Year event
 Inflow = 9.83 cfs @ 12.58 hrs, Volume= 1.138 af
 Outflow = 9.17 cfs @ 12.69 hrs, Volume= 0.752 af, Atten= 7%, Lag= 6.6 min
 Primary = 9.17 cfs @ 12.69 hrs, Volume= 0.752 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 470.70' @ 12.69 hrs Surf.Area= 5,653 sf Storage= 17,927 cf

Plug-Flow detention time= 131.7 min calculated for 0.752 af (66% of inflow)
 Center-of-Mass det. time= 54.2 min (880.4 - 826.1)

Volume	Invert	Avail.Storage	Storage Description
#1	466.00'	19,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

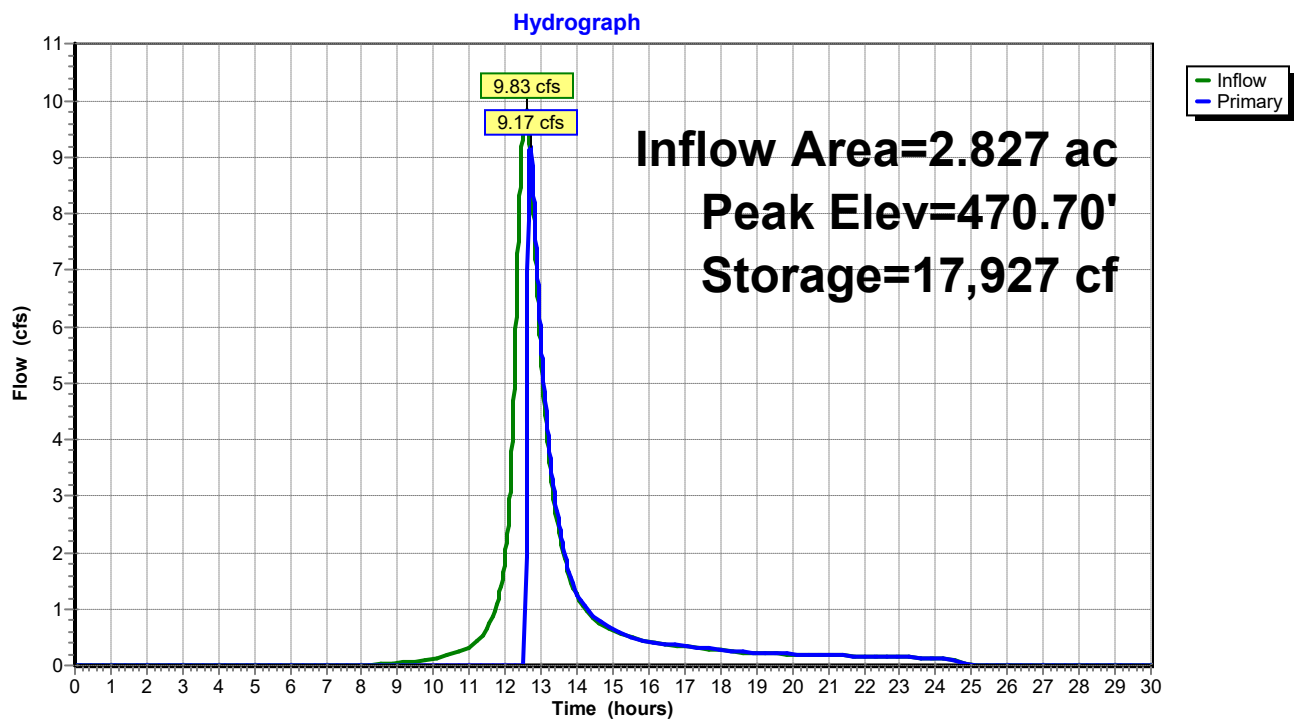
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
466.00	2,657	0	0
467.00	3,110	2,884	2,884
468.00	3,577	3,344	6,227
469.00	4,058	3,818	10,045
470.00	4,552	4,305	14,350
471.00	6,123	5,338	19,687

Device	Routing	Invert	Outlet Devices
#1	Primary	470.50'	40.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.16 cfs @ 12.69 hrs HW=470.70' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 9.16 cfs @ 1.14 fps)

Pond 1-1 RG: Stormwater Basin



Summary for Subcatchment 1 EX: AREA 1

Runoff = 1.04 cfs @ 12.12 hrs, Volume= 0.057 af, Depth= 7.95"

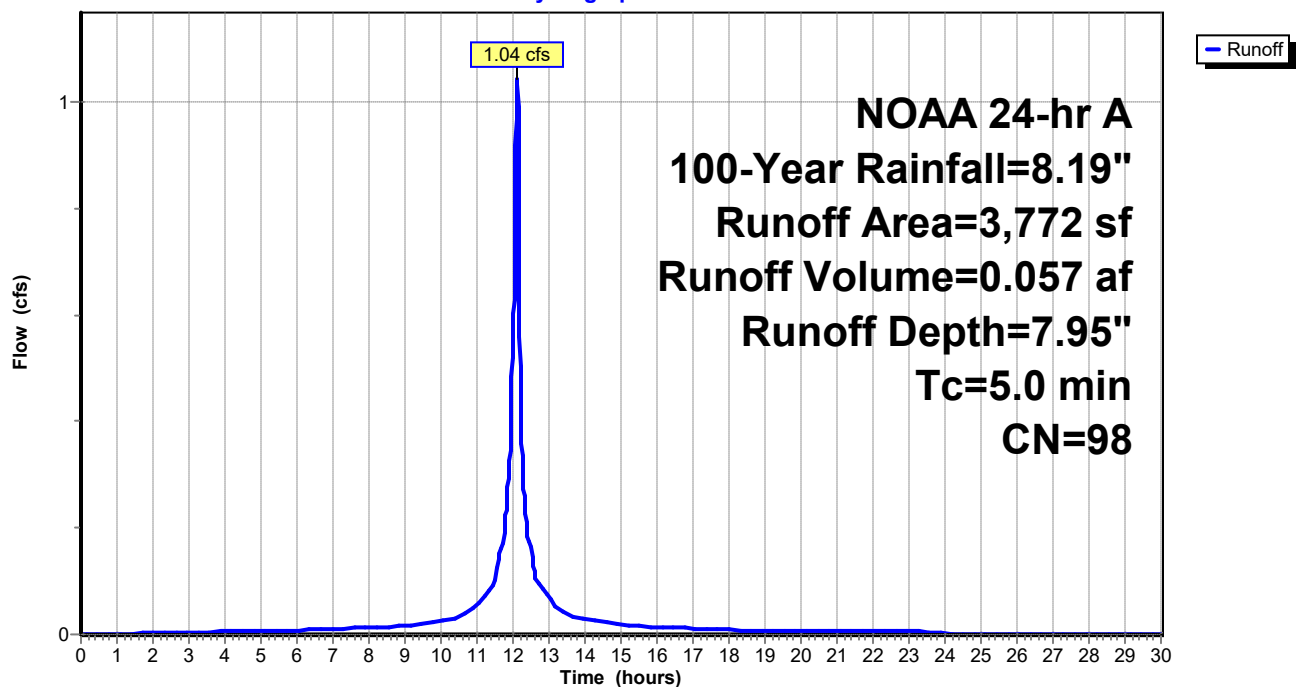
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 100-Year Rainfall=8.19"

Area (sf)	CN	Description
3,772	98	Paved parking, HSG C
3,772		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 1 EX: AREA 1

Hydrograph



Summary for Subcatchment 2 EX: AREA 2

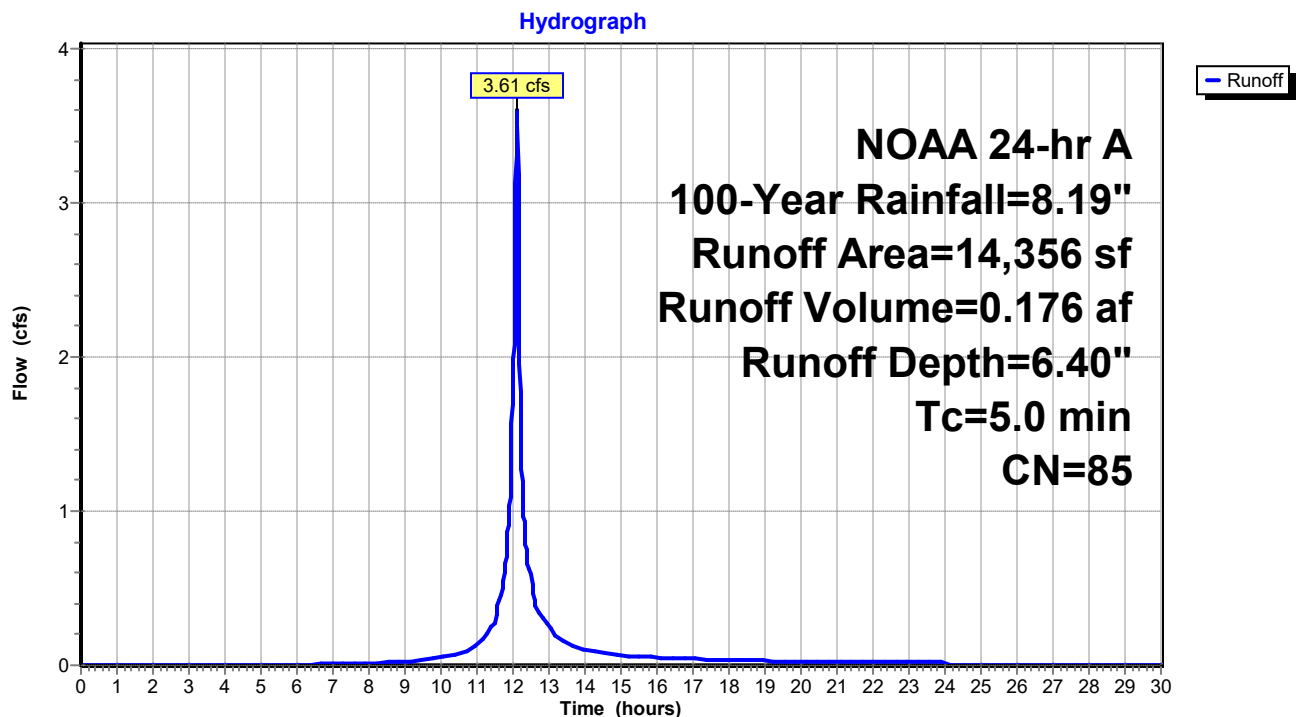
Runoff = 3.61 cfs @ 12.12 hrs, Volume= 0.176 af, Depth= 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 100-Year Rainfall=8.19"

Area (sf)	CN	Description
8,549	77	Woods, Poor, HSG C
2,974	98	Roofs, HSG C
2,833	98	Paved parking, HSG C
14,356	85	Weighted Average
8,549		59.55% Pervious Area
5,807		40.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2 EX: AREA 2



Summary for Subcatchment 3 EX: AREA 3

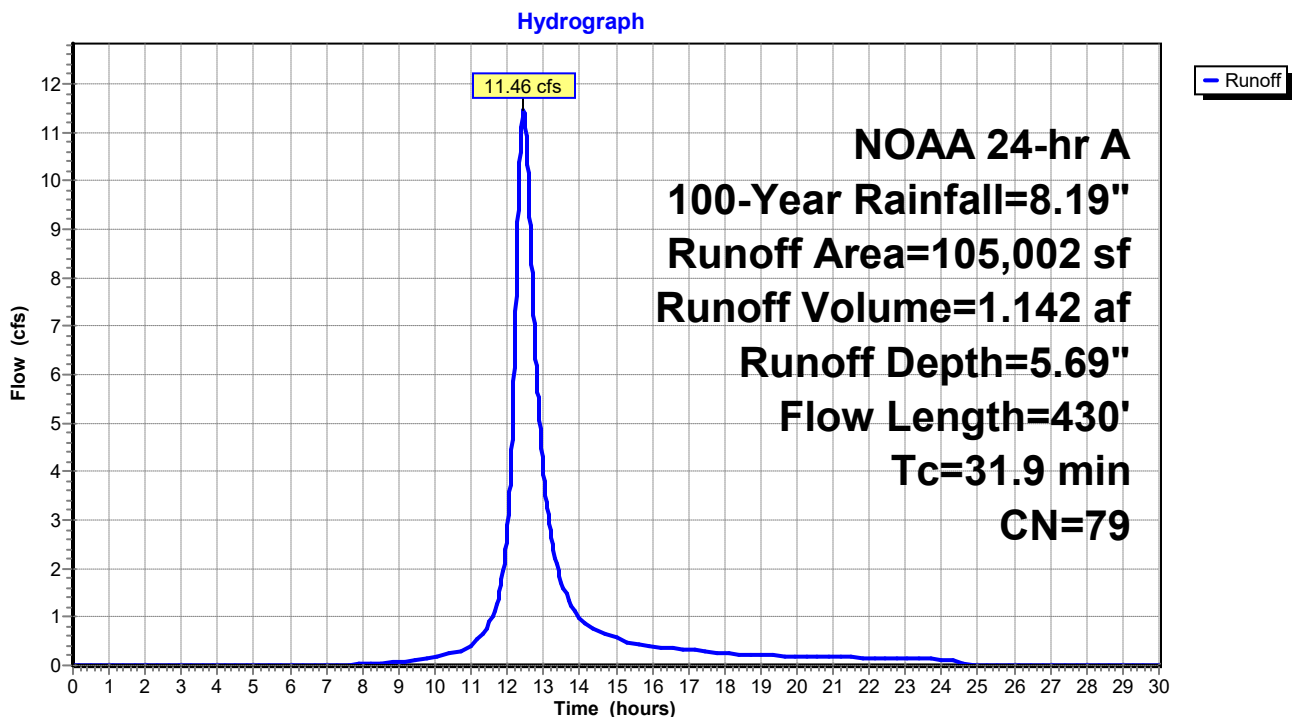
Runoff = 11.46 cfs @ 12.44 hrs, Volume= 1.142 af, Depth= 5.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 100-Year Rainfall=8.19"

Area (sf)	CN	Description
95,684	77	Woods, Poor, HSG C
4,200	98	Roofs, HSG C
5,118	98	Paved parking, HSG C
105,002	79	Weighted Average
95,684		91.13% Pervious Area
9,318		8.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	100	0.0200	0.08		Sheet Flow, Sheet Flow from Building
					Woods: Light underbrush n= 0.400 P2= 3.39"
11.0	330	0.0100	0.50		Shallow Concentrated Flow, Balance of flow to Stream
					Woodland Kv= 5.0 fps
31.9	430	Total			

Subcatchment 3 EX: AREA 3



Summary for Subcatchment 3 P: Area 3

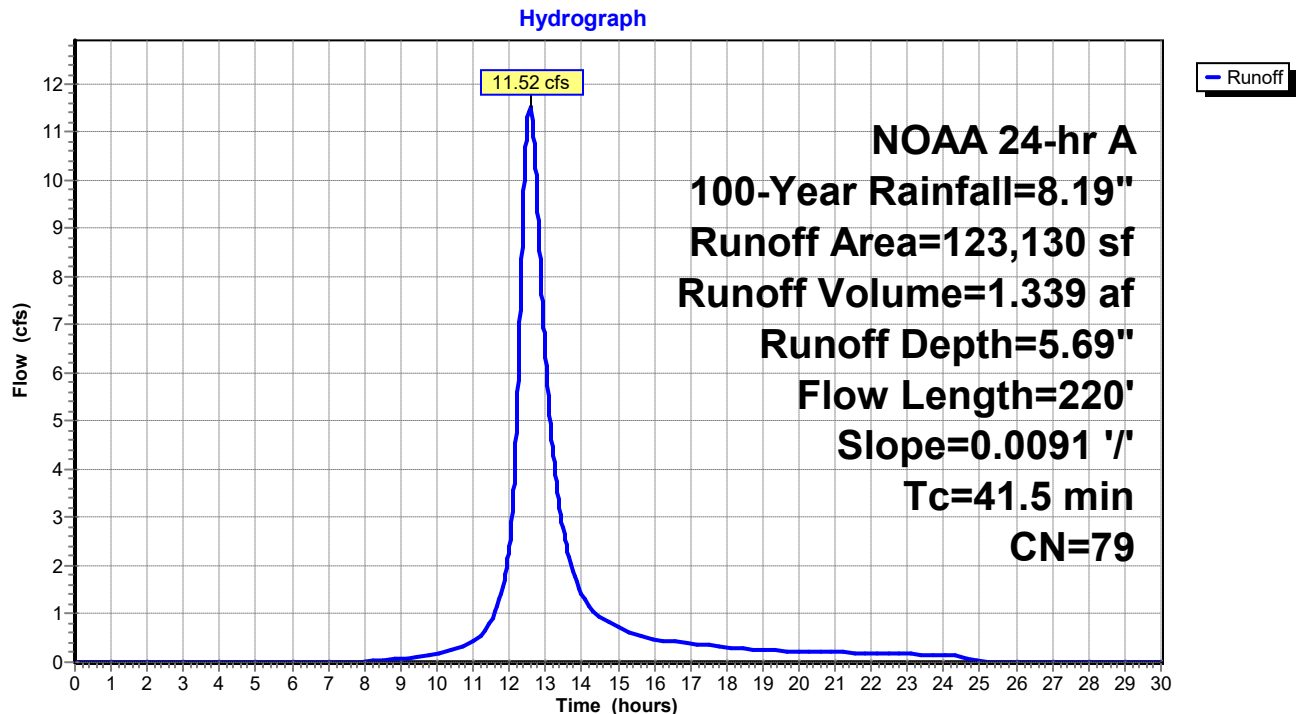
Runoff = 11.52 cfs @ 12.58 hrs, Volume= 1.339 af, Depth= 5.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 NOAA 24-hr A 100-Year Rainfall=8.19"

Area (sf)	CN	Description
82,012	70	Woods, Good, HSG C
35,630	98	Paved parking, HSG C
5,488	98	Roofs, HSG C
123,130	79	Weighted Average
82,012		66.61% Pervious Area
41,118		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	50	0.0091	0.05		Sheet Flow, Sheet Flow across Lawn Grass: Bermuda n= 0.410 P2= 3.39"
16.4	50	0.0091	0.05		Sheet Flow, Balance of Sheet Flow across woods Woods: Light underbrush n= 0.400 P2= 3.39"
8.4	120	0.0091	0.24		Shallow Concentrated Flow, Balance to Wetlands Forest w/Heavy Litter Kv= 2.5 fps
41.5	220	Total			

Subcatchment 3 P: Area 3

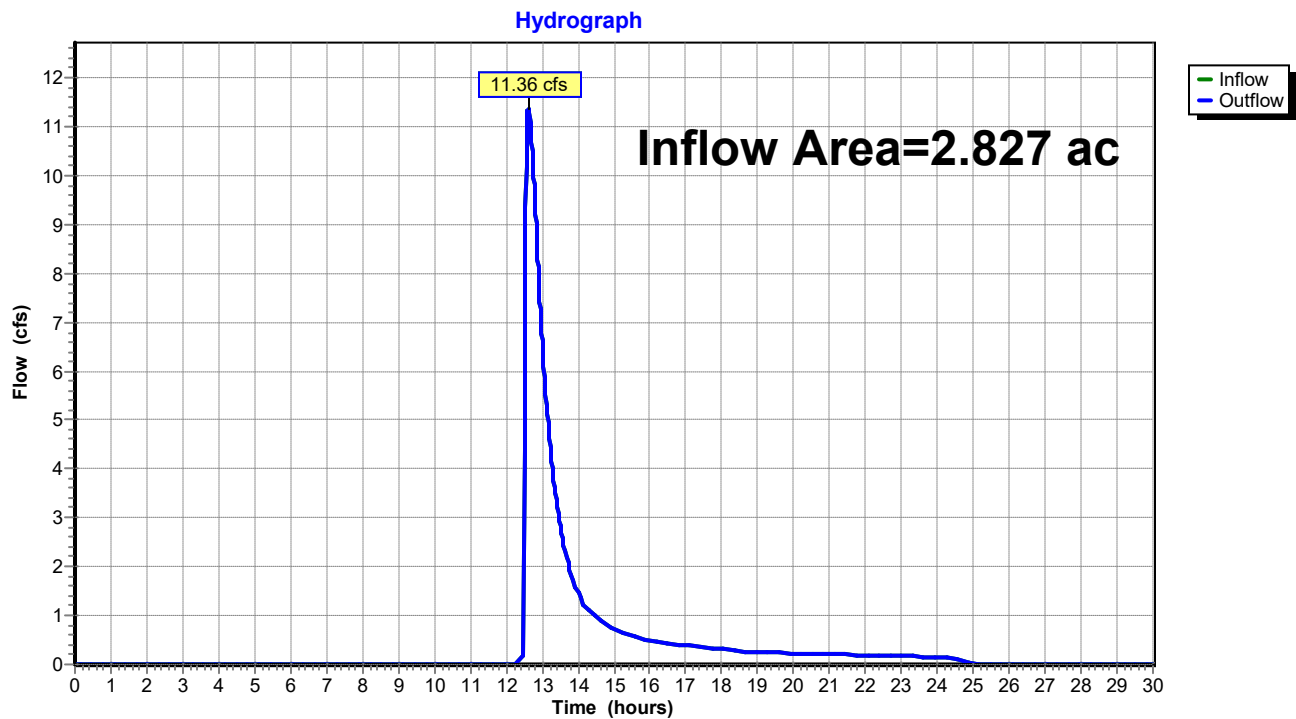


Summary for Reach Total 3: Total Area 3

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 4.05" for 100-Year event
Inflow = 11.36 cfs @ 12.62 hrs, Volume= 0.953 af
Outflow = 11.36 cfs @ 12.62 hrs, Volume= 0.953 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach Total 3: Total Area 3



Summary for Pond 1-1 RG: Stormwater Basin

Inflow Area = 2.827 ac, 33.39% Impervious, Inflow Depth = 5.69" for 100-Year event
 Inflow = 11.52 cfs @ 12.58 hrs, Volume= 1.339 af
 Outflow = 11.36 cfs @ 12.62 hrs, Volume= 0.953 af, Atten= 1%, Lag= 2.2 min
 Primary = 11.36 cfs @ 12.62 hrs, Volume= 0.953 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 470.73' @ 12.62 hrs Surf.Area= 5,700 sf Storage= 18,095 cf

Plug-Flow detention time= 118.1 min calculated for 0.953 af (71% of inflow)
 Center-of-Mass det. time= 45.6 min (868.4 - 822.8)

Volume	Invert	Avail.Storage	Storage Description
#1	466.00'	19,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

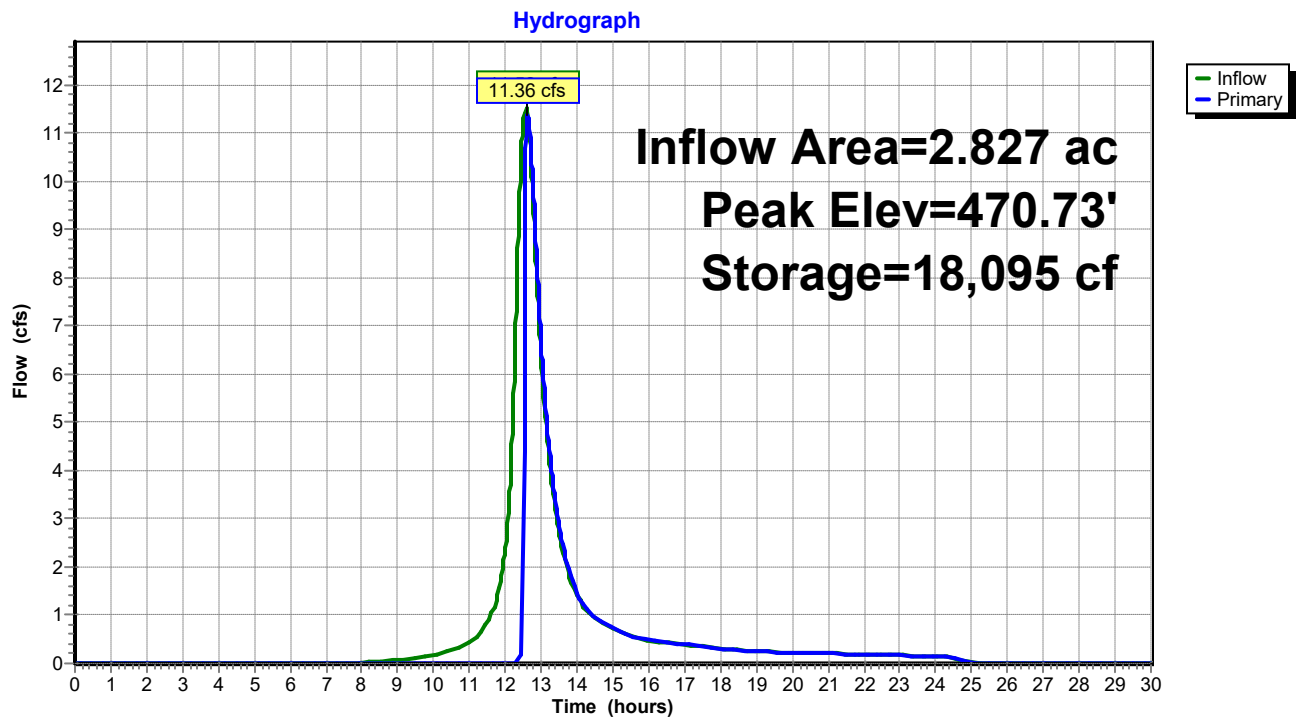
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
466.00	2,657	0	0
467.00	3,110	2,884	2,884
468.00	3,577	3,344	6,227
469.00	4,058	3,818	10,045
470.00	4,552	4,305	14,350
471.00	6,123	5,338	19,687

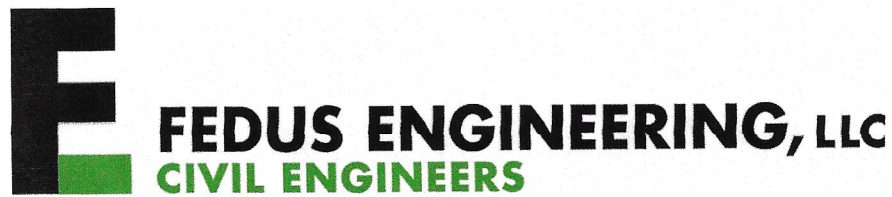
Device	Routing	Invert	Outlet Devices
#1	Primary	470.50'	40.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.30 cfs @ 12.62 hrs HW=470.73' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 11.30 cfs @ 1.23 fps)

Pond 1-1 RG: Stormwater Basin





70 Essex Street, Unit 2C, Mystic, CT 06355 ■ Phone: 860-536-7390

October 17, 2022

Planning and Zoning
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Re: Planning & Zoning Commission – 271 Hop River Road

Dear Ms. Carson,

In response to the letter dated October 6, 2022, regarding the subject property, we have developed the following point-by-point response:

Staff Analysis 10/6/2022

1. The applicant shall submit to the town of Bolton copies of any referrals or applications made to the CTDOT. – **Noted.**
2. Section 16A.3.x. – Buildings and Structures: Architectural and Design Requirements & Section 16B.4.1. – Architectural Character, Historic Preservation, Site Design. The Commission needs to determine if the design of the proposed building renovation is adequate to meet these standards. Building architectural plans and elevations need to be submitted. – **Addressed during the meeting (10/12/2022).**
3. The applicant needs to provide an affidavit/proof for the posting of a sign. – **Provided.**
4. Addressing additional comments outlined in Staff Reports attached with this report. – **Noted.**

5. It appears there is no longer pervious pavement proposed. – **Correct. There will be no pervious pavement on the site.**
6. Is there any protection for cars driving onto the grass strip in the rear of the property? The previous application proposed a wood guardrail/fence which is still preferable. – **Wooden guardrail added.**
7. The two pole lights at the entrance/exits of the site and the “Proposed Sign Light” on the east property line appear to cast light to the adjacent property. Beyond the regulations prohibiting this, staff questions if there is perhaps a better location for these lights, so they are not located essentially on the property line. The “proposed sign light” is not allowed. – **Addressed during the meeting (10/12/2022).**
8. The plans show a “proposed sign light” but based on the survey, it appears they are asking for a new sign in a new location, which is not part of this plan review. – **No proposed sign light. Using the existing sign.**
9. All intended signage, including directional signage, and the location of that signage is not part of this application and shall be part of a separate application once the PZC makes a decision on the Special Permit. – **Noted.**
10. The lighting plan shows two wall pack fixtures – one with a hood which is allowed, and one without a hood which is not allowed and should be removed from the lighting detail. – **Addressed.**
11. Prior to installation of the connection to the rail trail, the applicant shall consult with the Bolton Inland Wetlands Agent about the stream crossing proposed. – **Noted.**
12. Staff questions the location of the ADA parking space and if it meets code. – **Addressed during the meeting (10/12/2022).**

Nathan L. Jacobson & Associates Comments 10/5/2022

1. A planting plan should be provided for the proposed stormwater basin. – **Added to Landscaping sheet.**

2. While subsurface testing has been performed elsewhere on site, we would recommend that a pit be excavated within the limit of the proposed stormwater basin. – **Proposed test pit added in proposed detention basin.**
3. The proposed 100-year water surface elevation for the proposed basin is elevation 470.73 (A discrepancy of minus 100' is noted in the elevations contained within the Drainage Study Report, this discrepancy should be corrected). The south edge of the pavement is at elevation 471.00. This places the 100-year water surface within 0.27 feet of the paved surface. The basin should maintain one foot of freeboard between the proposed 100-year water surface elevation and the top of the stormwater embankment. – **Addressed. Please see the grading sheet.**
4. We would recommend that guiderail be placed between the paved parking surface and the stormwater basin to prevent vehicles from entering the basin. The guide rail should be placed in such a way as to still allow for maintenance access to the basin. – **Addressed.**

Jim Rupert Comments 2/4/2022

1. Ingress and egress from the site do not appear to pose any issues for the fire apparatus. – **Noted.**
2. On both the east and west sides just in from the entrance the paved area widens out. It is our request that both of these areas be striped out as fire lanes and have signage that they are fire lanes and parking is prohibited. – **Fire Lanes added.**
3. While we are not requiring it we would suggest that the propane tank and dumpsters not be located in proximity to one another. – **Noted.**
4. We concur with Joe Dillon that there should be a barrier between the driveway and the detention basin. – **Added.**
5. The isodiagram in the plan set will have to be reviewed for compliance with the Building Code. – **Noted.**
6. You had questioned the location of the accessible parking with regard to code compliance. Code requires that it be as close to the entrance as possible. While the space may not be directly in front of the door it may be in the current location due to elevation changes between the parking and finished floor that require a ramp and an accessible route to the ramp. As such the proposed location may in fact be the most suitable but it is

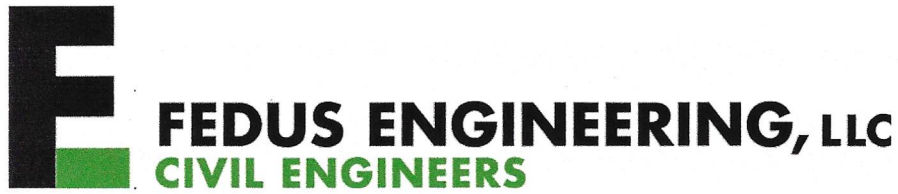
a good question to ask the designer. – **We believe the current location of the accessible parking spot is in the best spot given the current layout of the building and elevations.**

If you have any questions or require anything further please let us know at your earliest convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Nathaniel Fleming', with a stylized, flowing script.

Nathaniel Fleming



70 Essex Street, Unit 2C, Mystic, CT 06355 ■ Phone: 860-536-7390

October 24, 2022

Planning and Zoning Committee
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Re: 271 Hop River Road, Application for Gas Station/Convenience Store

Dear Members of the Committee:

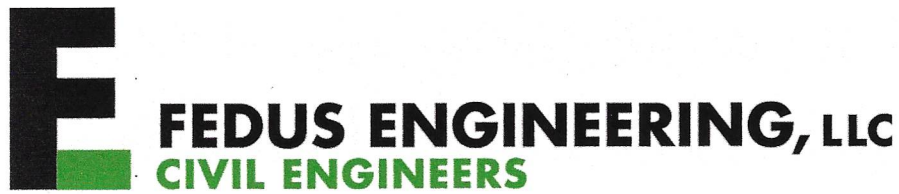
We respectfully ask you to consider a waiver for section 16A.4.I, also referred to as the site improvement bond. Our client cleaned the site up in good faith during the application process. Our client is dedicated to making 271 Hop River Road a successful project for the community.

Thank you for your time and consideration on the matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Nathaniel Fleming', written over a horizontal line.

Nathaniel Fleming



70 Essex Street, Unit 2C, Mystic, CT 06355 ■ Phone: 860-536-7390

October 24, 2022

Planning and Zoning Committee
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Re: 271 Hop River Road, Application for Gas Station/Convenience Store

Dear Members of the Committee:

We respectfully ask you to consider a site improvement bond of \$100,000.00 for section 16A.4.I. Our client has cleaned the site up in good faith during the application process. Our client is dedicated to making 271 Hop River Road a successful project for the community.

Thank you for your time and consideration on the matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Nathaniel Fleming', is written over the word 'Sincerely,'.

Nathaniel Fleming

271 Hop River Rd
Bolton, Connecticut

Public Improvements - Estimate for Bonding

NO.	ITEM DESCRIPTION	QTY.	UNIT	UNIT COST	EXTENDED COST	% WORK COMPLETED	% WORK REMAINING	REMAINING COST
1	Clearing & Grubbing	1	LS	\$1,000.00	\$1,000.00	0%	100%	\$1,000.00
2	Earth Excavation	0	PER CY	\$5.00	\$0.00	0%	100%	\$0.00
3	Rock Excavation	0	PER CY	\$50.00	\$0.00	0%	100%	\$0.00
4	Channel Excavation - Earth	0	PER CY	\$25.00	\$0.00	0%	100%	\$0.00
5	Channel Excavation - Rock	0	PER CY	\$50.00	\$0.00	0%	100%	\$0.00
6	Unsuitable Material Excavation	0	PER CY	\$30.00	\$0.00	0%	100%	\$0.00
7	Cut Bituminous Pavement	100	PER LF	\$10.00	\$1,000.00	0%	100%	\$1,000.00
8	Trench Excavation 0-4' Deep	0	PER CY	\$8.00	\$0.00	0%	100%	\$0.00
9	Rock in Trench Excavation - 0-4' Deep	0	PER CY	\$50.00	\$0.00	0%	100%	\$0.00
10	Trench Excavation 0-10' Deep	0	PER CY	\$16.00	\$0.00	0%	100%	\$0.00
11	Rock in Trench Excavation - 0-10' Deep	0	PER CY	\$50.00	\$0.00	0%	100%	\$0.00
12	Borrow	0	PER CY	\$20.00	\$0.00	0%	100%	\$0.00
13	Formation of Subgrade	0	PER SY	\$6.00	\$0.00	0%	100%	\$0.00
14	Septic System	1	LS	\$25,000.00	\$25,000.00	0%	100%	\$25,000.00
15	Retention/Detention Basin	1	LS	\$30,000.00	\$30,000.00	0%	100%	\$30,000.00
16	Bank Run Gravel Subbase	0	PER CY	\$35.00	\$0.00	0%	100%	\$0.00
17	Processed Gravel Base	0	PER CY	\$40.00	\$0.00	0%	100%	\$0.00
18	General Fill	0	PER CY	\$50.00	\$0.00	0%	100%	\$0.00
19	Bituminous Concrete Class I	263	Ton	\$120.00	\$31,560.00	0%	100%	\$31,560.00
20	Bituminous Concrete Class II	198	Ton	\$120.00	\$23,760.00	0%	100%	\$23,760.00
21	Tack Coat Material	10	Gallon	\$100.00	\$1,000.00	0%	100%	\$1,000.00
22	Type "C" Catch Basin	0	EACH	\$2,500.00	\$0.00	0%	100%	\$0.00
23	Type "C" Catch Basin Over 10'	0	EACH	\$2,500.00	\$0.00	0%	100%	\$0.00
24	Type "C" Catch Basin Double	0	EACH	\$3,500.00	\$0.00	0%	100%	\$0.00
25	Type "C-L" Catch Basin	2	EACH	\$2,500.00	\$5,000.00	0%	100%	\$5,000.00
26	Type "C-L" Catch Basin Over 10'	0	EACH	\$3,500.00	\$0.00	0%	100%	\$0.00
27	Type "C-L" Catch Basin Double	0	EACH	\$3,500.00	\$0.00	0%	100%	\$0.00
28	Manhole	1	EACH	\$2,500.00	\$2,500.00	0%	100%	\$2,500.00
29	Manhole Over 10' Deep	0	EACH	\$4,500.00	\$0.00	0%	100%	\$0.00
30	Lawn Drain	1	EACH	\$750.00	\$750.00	0%	100%	\$750.00
31	15" Storm Drain Pipe	193	PER LF	\$35.00	\$6,755.00	0%	100%	\$6,755.00
32	18" Storm Drain Pipe	0	PER LF	\$45.00	\$0.00	0%	100%	\$0.00
33	24" Storm Drain Pipe	0	PER LF	\$55.00	\$0.00	0%	100%	\$0.00
34	30" Storm Drain Pipe	0	PER LF	\$65.00	\$0.00	0%	100%	\$0.00
35	15" Culvert End	0	EACH	\$500.00	\$0.00	0%	100%	\$0.00
36	18" Culvert End	0	EACH	\$600.00	\$0.00	0%	100%	\$0.00
37	24" Culvert End	0	EACH	\$35.00	\$0.00	0%	100%	\$0.00
38	30" Culvert End	0	EACH	\$35.00	\$0.00	0%	100%	\$0.00
39	Modified Riprap	0	PER CY	\$75.00	\$0.00	0%	100%	\$0.00
40	Intermediate Riprap	0	PER CY	\$95.00	\$0.00	0%	100%	\$0.00
41	Standard Riprap	0	PER CY	\$105.00	\$0.00	0%	100%	\$0.00
42	6" Pavement Underdrain	0	PER LF	\$25.00	\$0.00	0%	100%	\$0.00
43	Concrete Headwall	2	EACH	\$1,000.00	\$2,000.00	0%	100%	\$2,000.00
44	Paved Channel/Ditch	0	PER SY	\$25.00	\$0.00	0%	100%	\$0.00
45	6" Bituminous Concrete Curb	200	PER LF	\$5.00	\$1,000.00	0%	100%	\$1,000.00
46	Timber Rail	90	PER LF	\$50.00	\$4,500.00	0%	100%	\$4,500.00
47	Concrete Sidewalk	152	PER SF	\$10.00	\$1,520.00	0%	100%	\$1,520.00
48	Bollards	5	EACH	\$250.00	\$1,250.00	0%	100%	\$1,250.00
49	Object Marker	0	EACH	\$50.00	\$0.00	0%	100%	\$0.00
50	Water for Dust Control	5,000	Gallon	\$0.25	\$1,250.00	0%	100%	\$1,250.00
51	Calcium Chloride for Dust Control	10	Ton	\$150.00	\$1,500.00	0%	100%	\$1,500.00
52	Sweeping for Dust Control	40	HOURL	\$50.00	\$2,000.00	0%	100%	\$2,000.00
53	Furnishing and Placing Topsoil	3,500	PER SY	\$3.00	\$10,500.00	0%	100%	\$10,500.00

54	Liming	0	PER SY	\$0.50	\$0.00	0%	100%	\$0.00
55	Grass Filter Strip	200	PER SY	\$15.00	\$3,000.00	0%	100%	\$3,000.00
56	Turf Establishment	3,500	PER SY	\$2.00	\$7,000.00	0%	100%	\$7,000.00
57	Landscaping	1	LS	\$3,000.00	\$3,000.00	0%	100%	\$3,000.00
58	Maintenance and Protection of Traffic	1	LS	\$1,000.00	\$1,000.00	0%	100%	\$1,000.00
59	Construction Staking	1	LS	\$3,500.00	\$3,500.00	0%	100%	\$3,500.00
60	Stop Sign and Post	2	EACH	\$400.00	\$800.00	0%	100%	\$800.00
61	Road Sign and Post	1	EACH	\$400.00	\$400.00	0%	100%	\$400.00
62	Speed Limit Sign and Post	0	EACH	\$400.00	\$0.00	0%	100%	\$0.00
63	4" Line Striping - White or Yellow	833	PER LF	\$2.00	\$1,666.00	0%	100%	\$1,666.00
64	Monuments and Pins	0	EACH	\$120.00	\$0.00	0%	100%	\$0.00
65	As-Built Plans	1	LS	\$2,500.00	\$2,500.00	0%	100%	\$2,500.00
66	Underground Utilities	200	PER LF	\$25.00	\$5,000.00	0%	100%	\$5,000.00
67	1/4" Gauge Chain & Bolt for CB	0	EACH	\$150.00	\$0.00	0%	100%	\$0.00
68	Clean Sediment from Catch Basin	2	EACH	\$200.00	\$400.00	0%	100%	\$400.00

TOTAL BOND REQUIRED
\$182,111.00

	Subtotal	\$182,111.00
20%	Contingency	\$36,422
	Total	\$218,533



70 Essex Street, Unit 2C, Mystic, CT 06355 ■ Phone: 860-536-7390

November 7, 2022

Planning and Zoning Committee
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Re: 271 Hop River Road, Application for Gas Station/Convenience Store

Dear Members of the Committee:

We respectfully ask you to consider a site improvement bond reduction plan set and agreed upon by the town engineer.

Thank you for your time and consideration on the matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Nathaniel Fleming', written over the word 'Sincerely,'.

Nathaniel Fleming



Town of Bolton

222 BOLTON CENTER ROAD • BOLTON, CT 06043

Date: October 6, 2022 – **REVISED November 1, 2022**

To: Planning & Zoning Commission

From: Patrice L. Carson, AICP, Consulting Director of Community Development

Subject: **Nathaniel Fleming's Modification of a Special Permit Application at 271 Hop River Road for Gas Station/Convenience Store**

INFORMATION

Application No.: VP#PL-22-8

Application Date: August 17, 2022

Wetlands Permit Effective: July 26, 2022

Receipt Date: September 14, 2022

Wetlands Permit Expires: July 25, 2024

Public Notification: Published in *Hartford Courant* September 30, 2022 & October 7, 2022

Public Hearing Date(s): October 12, 2022

Applicant(s): Nathaniel Fleming

Owner(s): IMS Petroleum, LLC

Applicant Nathaniel Fleming, Fedus Engineering, of 70 Essex Street, Mystic, CT, is seeking a modification of a Special Permit approval to remove an existing auto repair shop and replace it with a convenience store and gas fueling operation, cleaning and removing existing debris on the front portion of a 14.6 acre lot at 271 Hop River Road. The application proposes a new septic system, new underground fuel tanks and existing fuel tanks to be removed, parking areas and driveway, and two canopies over fuel pumps, as well as a new building. The current driveway access/egress will not change.

Located on the south side of Hop River Road (Route 6) just west of Stony Road, the property sits in two zones: the front 300 feet is zoned GB and the remainder of the property (in the rear) is zoned I. The surrounding properties are also zoned in the same fashion. Non-residential uses and vacant land surround the property. The property also abuts the very well-used multi-use Hop River Trail to the rear. A fueling station has already existed on this property. On May 11, 2022 the PZC granted a Special Permit to renovate the building and site and the applicant has now decided to demolish the existing building and change the parking areas. The path that connects to the Hop River Trail, which the PZC approved in the previous application, is still included in this application.

There are wetlands on the property. The Inland Wetlands Agency has reviewed a permit for the project and has issued its decision and permit approval. This included any stream crossing necessary to connect to the Hop River Trail.

The use and proposal is a logical reuse of the site in an area zoned for this type of use. The removal of debris and junk that was stored on the property has helped to clean up the site both visually and environmentally and completion of that clean-up should be a condition of any approval. It appears that all buildings, pumps, underground storage tanks and outdoor spaces will be updated and new. Proposed parking and dumpster location/treatment appears adequate and in accordance with the Zoning Regulations. The plan does not seem to show an EV charging station which is now required under a new law which recently took effect on October 1, 2022. Although the applicant applied for a Special Permit prior to October 1, the law is a requirement of the Building Permit application which will be made after October 1, 2022.

Please see below for individual staff comments. As the plans are revised, there may be additional staff comments that the applicant will need to address.

REPORTS RECEIVED

- Site Plan Checklist – completed
- 08/02/22 review email from Barbara Kelly, Inland Wetlands Agent with approval
- 09/15/22 Public Health Code review/approval from Thad Kind, EHHD with map
- 10/05/22 review letter from Joseph Dillon, PE with 4 issues to address - 1 issue to address
- 10/06/22 review email from Jim Rupert & Bruce Dixon, Fire Chief with 6 comments – addressed
- 10/28/22 review email from ZEO – 2 issues to address

ADDITIONAL INFORMATION RECEIVED

- Site Development Plan & Details 08/11/2022 (10 sheets)
- A-2 and Class D Survey of Site 04/26/2021 (2 pages)
- Landscaping Plan
- Lighting Plan
- Sign Plan
- Drive-thru Cueing Plan
- Turning Template Diagram
- Architectural Floor Plans & Elevations 06/17/2022
- Drainage Plan and Report
- Traffic Report 09/22/2022
- Warranty Deed
- Abutter List & Certificate of Mailing for Notification
- E&S Bond Estimate – needs to be adjusted for 20% contingency
- Engineering & Legal Review Fee of \$2,000

ADDITIONAL CONSIDERATION OF INFORMATION TO RECEIVE

- Site Development Bond Estimate
- Any requested waivers allowable under the Zoning Regulations

STAFF ANALYSIS

The use fits the zone of the property and is a good reuse of the site. There are reports and information

still needed for the staff to recommend a decision on this application.

- The applicant shall submit to the town of Bolton copies of any referrals or applications made to the CTDOT. – see state approval letter below
- Section 16A.3.x. – Buildings and Structures: Architectural and Design Requirements & Section 16B.4.l. – Architectural Character, Historic Preservation, Site Design. The Commission needs to determine if the design of the proposed building renovation is adequate to meet these standards. Building architectural plans and elevations need to be submitted. – PZC reviewed, no changes requested
- The applicant needs to provide an affidavit/proof for the posting of a sign. – submitted
- Addressing additional comments outlined in Staff Reports attached with this report.
- It appears there is no longer pervious pavement proposed. – confirmed
- Is there any protection for cars driving onto the grass strip in the rear of the property? The previous application proposed a wood guardrail/fence which is still preferable. – addressed
- The two pole lights at the entrance/exits of the site and the “Proposed Sign Light” on the east property line appear to cast light to the adjacent property. Beyond the regulations prohibiting this, staff questions if there is perhaps a better location for these lights, so they are not located essentially on the property line. The “proposed sign light” is not allowed. – addressed
- The plans show a “proposed sign light” but based on the survey, it appears they are asking for a new sign in a new location, which is not part of this plan review. – this had been removed
- All intended signage, including directional signage, and the location of that signage is not part of this application and shall be part of a separate application once the PZC makes a decision on the Special Permit. – separate permit for all signage will be required
- The lighting plan shows two wall pack fixtures – one with a hood which is allowed, and one without a hood which is not allowed and should be removed from the lighting detail. – addressed
- Prior to installation of the connection to the rail trail, the applicant shall consult with the Bolton Inland Wetlands Agent about the stream crossing proposed.
- Staff questions the location of the ADA parking space and if it meets code. – applicant has explained this. May change during Building Permit review but ADA space will be provided.

STAFF RECOMMENDATION

The staff has determined that:

- the application is complete
 - the use is compatible with other uses in the neighborhood, and is in keeping with the zone in which it is located
 - Staff will review revisions made to address the comments, to determine if staff can recommend approval.
-

From: Zoning Official, Interim <zeo@boltonct.org>

Sent: Friday, October 28, 2022 3:37 PM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: REMINDER: 271 Hop River Rd, Bolton - Revised Plans and Information to Address Staff Comments

A few thoughts:

- Will there be a menu board/speaker for the drive thru? If so, where?
- There should be bollards or other type of protection against the A/G tank I would assume, none is shown.
- The free-standing sign changes as shown are not approved as part of this application.

Thanks,

Mike

From: Joseph M. Dillon, P.E. <jdillon@nlja.com>

Sent: Friday, October 28, 2022 11:53 AM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: REMINDER: 271 Hop River Rd, Bolton - Revised Plans and Information to Address Staff Comments

Patrice,

The submitted information has addressed my comments, with one exception. The information for test pit in the stormwater basin needs to be placed on the drawing.

Regards,
Joe

From: Bruce Dixon <boltonchief34@gmail.com>

Sent: Friday, October 28, 2022 1:20 PM

To: Carson, Patrice <pcarson@boltonct.org>

Cc: Rupert, Jim <jrupert@boltonct.org>

Subject: Re: REMINDER: 271 Hop River Rd, Bolton - Revised Plans and Information to Address Staff Comments

Hello Patrice,

I am satisfied with this paperwork at this time.

If there are any changes in the future or the Fire Marshal's office has any concerns, I reserve the right to further review.

Best regards,

Bruce A. Dixon
Fire Chief
Bolton Fire Department
168 Bolton Center Road
Bolton, CT 06043
860-649-3910 Office



From: Pelletier, Richard G <Richard.Pelletier@ct.gov>
Sent: Tuesday, November 1, 2022 9:09 AM
To: nfleming@fedusengineering.com
Subject: Bolton 271 River Rd.

Good Morning Nathaniel,
The approval letter from the State of Connecticut Dept of Transportation is ready to go, but I still need the Town Approval. Have you received anything from them?

[Click here for current permit publications.](#)

Rick Pelletier

Trans. Service Agent II
District 1 Office
1107 Cromwell Ave.
Rocky Hill, CT 06067
Phone: (860) 258-4521
Cell: (860) 709-2795
e-mail: Richard.Pelletier@ct.gov



From: Thad D. King <KingTD@ehhd.org>

Sent: Monday, October 03, 2022 2:03 PM

To: Carson, Patrice <pcarson@boltonct.org>

Cc: Palazzini, Danielle <dpalazzini@boltonct.org>

Subject: RE: REMINDER: Staff Review Requested: Special Permit Application for Convenience Store & Gas Station, 271 Hop River Road, Nathaniel Fleming (VP#PL-22-8)

As far as the site plan is concerned, the septic system plan has been approved, attached, and well site approval looks to be forthcoming, see attached email.

The water quality tests are part of the CTDPH Phase 1B which will be conducted after the well has been constructed. A permit to construct the well is issued once the well site approval is received from CTDPH and application is made to EHHD.

The store will also require a Food Service Establishment permit. A plan review application can be made online at;

<https://easternhighlandshealthdistrict.viewpointcloud.com/categories/1083/record-types/6462>

Thad King MPH REHS CP-FS
Eastern Highlands Health District
4 South Eagleville Rd
Mansfield CT 06268
860 429 3325 W
860 208 9940 C



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9/15/22, 1:57 PM



Eastern Highlands Health District

4 South Eagleville Road Phone: (860) 429-3325 Fax (860) 429-3321

Septic Plan Review Approval

September 15, 2022

Nathaniel Fleming
70 ESSEX STREET
MYSTIC CT 06355

RE: Septic Plan Review, Surveyor or Engineered

Address: 271 HOP RIVER RD Bolton
Reference #: SPR-22-170

Dear Nathaniel Fleming:

Your Application for the above referenced project has been reviewed for compliance with the Connecticut Public Health Code and Technical Standards. The plan is approved with the following conditions:

Per plan revised sheets 4 and 6 dated 9-14-22 and as indicated otherwise in plan dated 8-11-22.

Please note that this plan approval is not an approval to construct the sewage disposal system. If not already done, a completed application and fee for the Permit to Construct the Sewage Disposal System must be submitted to the Health District for review and approval. The permit will be approved when all above noted conditions of approval have been met.

If you have any questions, please contact me.

Sincerely,

Thad King, MPH, REHS RS

860-429-3325 (Mansfield)
860-649-8066 x6108 (Bolton)
kingtd@ehhd.org

Preventing Illness & Promoting Wellness for Communities In Eastern Connecticut
Andover * Ashford * Bolton * Chaplin * Columbia * Coventry * Mansfield * Scotland * Tolland * Willington



October 5, 2022

Ms. Patrice Carson, AICP
 Director of Community Development
 Town Office Building
 222 Bolton Center Road
 Bolton, CT 06043

Re: IMS Petroleum, LLC
 271 Hop River Road
 Site Plan Review
 NLJA #0968-0051

Dear Ms. Carson:

As requested, we have reviewed the following information received for the subject project at our office through September 13, 2022:

- Item 1: Set of ten (10) drawings titled "Planning and Zoning Submission 271 Hop River Road, Proposed Convenience Store, 271 Hop River Road, Bolton, Connecticut, Applicant: IMS Petroleum, LLC", scales as noted, dated August 11, 2022, prepared by Fedus Engineering, LLC.
- Item 2: Report entitled Drainage Study, 271 Hop River Road, Bolton, CT", dated September 12, 2022, prepared by Fedus Engineering, LLC.
- Item 3: Set of two (2) drawings titled "Property Survey Map Depicting Existing Conditions of 271 Hop River Road, Bolton, Connecticut", dated April 26, 2021, prepared by Fedus Engineering, LLC.
- Item 4: Hydroworks Sizing Summary – 271 Hop River Road, Bolton, dated 08-08-2022.

We have the following comments:

1. A planting plan should be provided for the proposed stormwater basin.
2. While subsurface testing has been performed elsewhere on site, we would recommend that a pit be excavated within the limit of the proposed stormwater basin.
3. The proposed 100-year water surface elevation for the proposed basin is elevation 470.73 (A discrepancy of minus 100' in noted in the elevations contained within the Drainage Study Report, this discrepancy should be corrected). The south edge of the pavement is at elevation 471.00. This places the 100-year water surface within 0.27 feet of the paved surface. The basin should maintain one foot of freeboard between the proposed 100-year water surface elevation and the top of the stormwater embankment.

Nathan L. Jacobson & Associates, Inc.
 Nathan L. Jacobson & Associates, P.C. (NY)
 86 Main Street P.O. Box 337 Chester, Connecticut 06412-0337
 Tel 860.526.9591 Fax 860.526.5416
 Consulting Civil and Environmental Engineers Since 1972



Jacobson

Ms. Patrice Carson, AICP
Director of Community Development
Re: IMS Petroleum, LLC
271 Hop River Road
Site Plan Review
NLJ #0968-0051

October 5, 2022

Page 2 of 2

4. We would recommend that guiderail be placed between the paved parking surface and the stormwater basin to prevent vehicles from entering the basin. The guide rail should be placed in such a way as to still allow for maintenance access to the basin.

Should you have any questions, please feel free to contact our office.

Very truly yours,

NATHAN L. JACOBSON & ASSOCIATES, INC.

Joseph M. Dillon, P.E.

JMD:jmd

cc: James Rupert
Barbara Kelly
File

From: Rupert, Jim <jrupert@boltonct.org>
Sent: Thursday, October 06, 2022 1:26 PM
To: Carson, Patrice <pcarson@boltonct.org>
Cc: boltonchief34@gmail.com
Subject: 271 hop river

Patrice,

Chief Dixon and I reviewed the site plan for the proposed project at 271 Hop River Road. Our comments are as follows.

- 01) Ingress and egress from the site do not appear to pose any issues for the fire apparatus.
- 02) On both the east and west sides just in from the entrance the paved area widens out. It is our request that both of these area be striped out as fire lanes and have signage that they are fire lanes and parking is prohibited.
- 03) While we are not requiring it we would suggest that the propane tank and dumpsters not be located in proximity to one another.
- 04) We concur with Joe Dillon that there should be a barrier between the driveway and the detention basin.
- 05) The isodiagram in the plan set will have to be reviewed for compliance with the Building Code.
- 06) You had questioned the location of the accessible parking with regard to code compliance. Code requires that it be as close to the entrance as possible. While the space may not be directly in front of the door it may be in the current location due to elevation changes between the parking and finished floor that require a ramp and an accessible route to the ramp. As such the proposed location may in fact be the most suitable but it is a good question to ask the designer.

Respectfully submitted,

Jim Rupert

From: Kelly, Barbara <bkelly@boltonct.org>
Sent: Tuesday, August 02, 2022 2:48 PM
To: Carson, Patrice <pcarson@boltonct.org>
Subject: RE: 271 Hop River Road - Modification for Wetland

Hi Patrice,

The completed Inland Wetlands Permit for 271 Hop River Road is attached. It is also attached to the Inland Wetlands Application on the ViewPoint system.

Please let me know if you have any questions.
BK

Barbara Kelly, Agent
Inland Wetlands Commission
Town of Bolton
860.649.8066, x6113



Town of Bolton

222 BOLTON CENTER ROAD • BOLTON, CT 06043

INLAND WETLANDS COMMISSION OF THE TOWN OF BOLTON INLAND WETLANDS PERMIT # 2022-5 (IW-22-5)

Name and Address of Applicant:

Nathaniel Fleming – Fedus Engineering, LLC
70 Essex Street
Mystic, CT 06355

Property to which this permit applies:

271 Hop River Road
Bolton, CT 06043

This authorization refers to an application to conduct a regulated activity in or within 100 feet of inland wetlands and/or watercourses in the Town of Bolton.

The permitted activities **within the wetlands and the upland review area** are:

- **Removal of the existing auto repair shop;**
- **Construction of a convenience store & fueling station;**
- **Installation of a new well and septic system;**
- **Construction/installation of associated parking, stormwater system, utilities, and access trail.**
- **Removal of debris and any associated contamination; and**
- **Grading, including excavation and filling, associated with the construction noted above.**

The Bolton Inland Wetlands Commission, as the Inland Wetlands and Watercourses Agency of the Town of Bolton, following investigation, and after reviewing the full record, has considered the application with due regard for the criteria found in the Inland Wetland Regulations of the Town of Bolton. The agency believes that the proposed activity, subject to the specified conditions, conforms with the purpose of Town regulations and does not violate any of its provisions or regulations governing wetlands and/or watercourses. Therefore, this authorization will constitute the permit required pursuant to Section 11.1 of the Inland Wetland Regulations of the Town of Bolton.

This permit is issued with the following specific conditions and/or modifications and with the attached general conditions:

1. **Work shall be done in accordance with the plan titled “Inland Wetland Submission, 271 Hop River Road, Proposed Convenience Store” revised 7/12/2022, and designed by Fedus Engineering, LLC.**
2. **A stormwater system maintenance plan & schedule, covering catch basins, hydro-dynamic separator, and detention basin, shall be added to the plan.**

3. **The final sizing of the hydro-dynamic separator shall be shown on the plan and this information sent to the Inland Wetlands Agent.**
4. **Soil erosion and sediment control measures shall be added to the well drilling site and added to the plan.**
5. **Soil erosion and sediment control measures shall be installed, adjusted, or maintained in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.**

This permit is subject to, and in no way derogates, any present or future property right or any other rights or powers of the Town of Bolton. This permit conveys no property rights in real estate or materials or any exclusive privileges.

No permission, either express or implied, is given for any regulated activities other than those authorized in this permit.

The applicant will notify the Agency 3 days before the permitted activity begins.

The applicant will notify the Agency within 7 days of the completion date that the permitted activity has been finished.

Effective date of permit: **7/26/22**

Expiration date of permit: **7/25/24**


Bolton Inland Wetlands Commission

ALL INLAND WETLAND PERMITS ARE SUBJECT TO THE FOLLOWING GENERAL CONDITIONS:

1. No person shall conduct a regulated activity in a regulated area without first obtaining a permit from the Agency. (Section 7.1)
2. Permits shall be valid for a time specified by the Agency. (Section 11.6)
3. All permits shall be in writing, including any special conditions of the permit. One copy shall be maintained in the agency files and one copy furnished to the Applicant.
4. This permit shall not be construed as relieving the permittee of the obligation to obey all applicable federal, state, and local laws or to obtain any other applicable federal, state, and local permits.
5. The agency or its designated agent may enter at all reasonable times upon any private or public property to inspect for and investigate any possible violations of the Inland Wetlands Regulations of the Town of Bolton. (Sections 14.1 and 14.2)

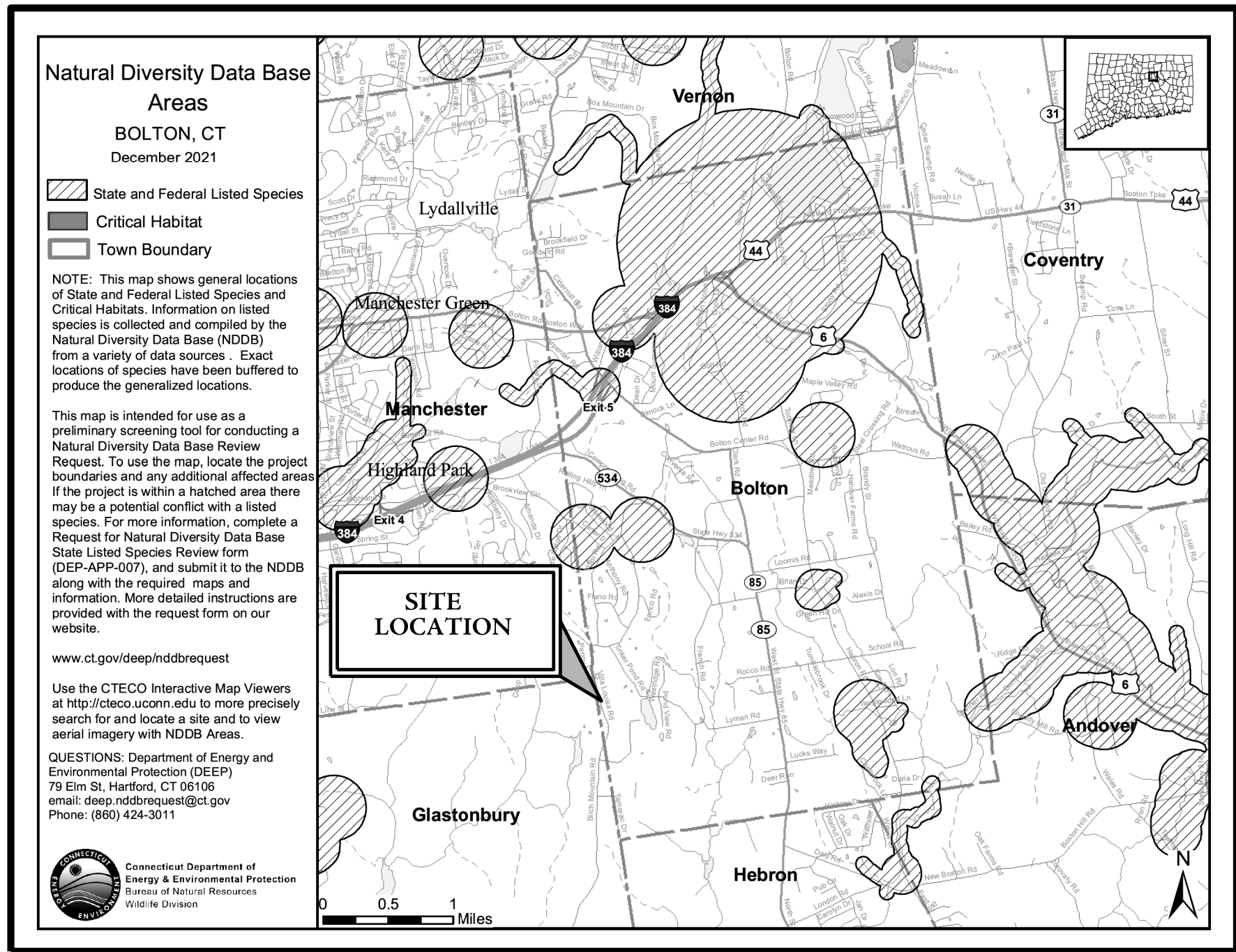
Original to: Applicant
Copy to: Inland Wetlands Commission files

SITE DEVELOPMENT PLAN

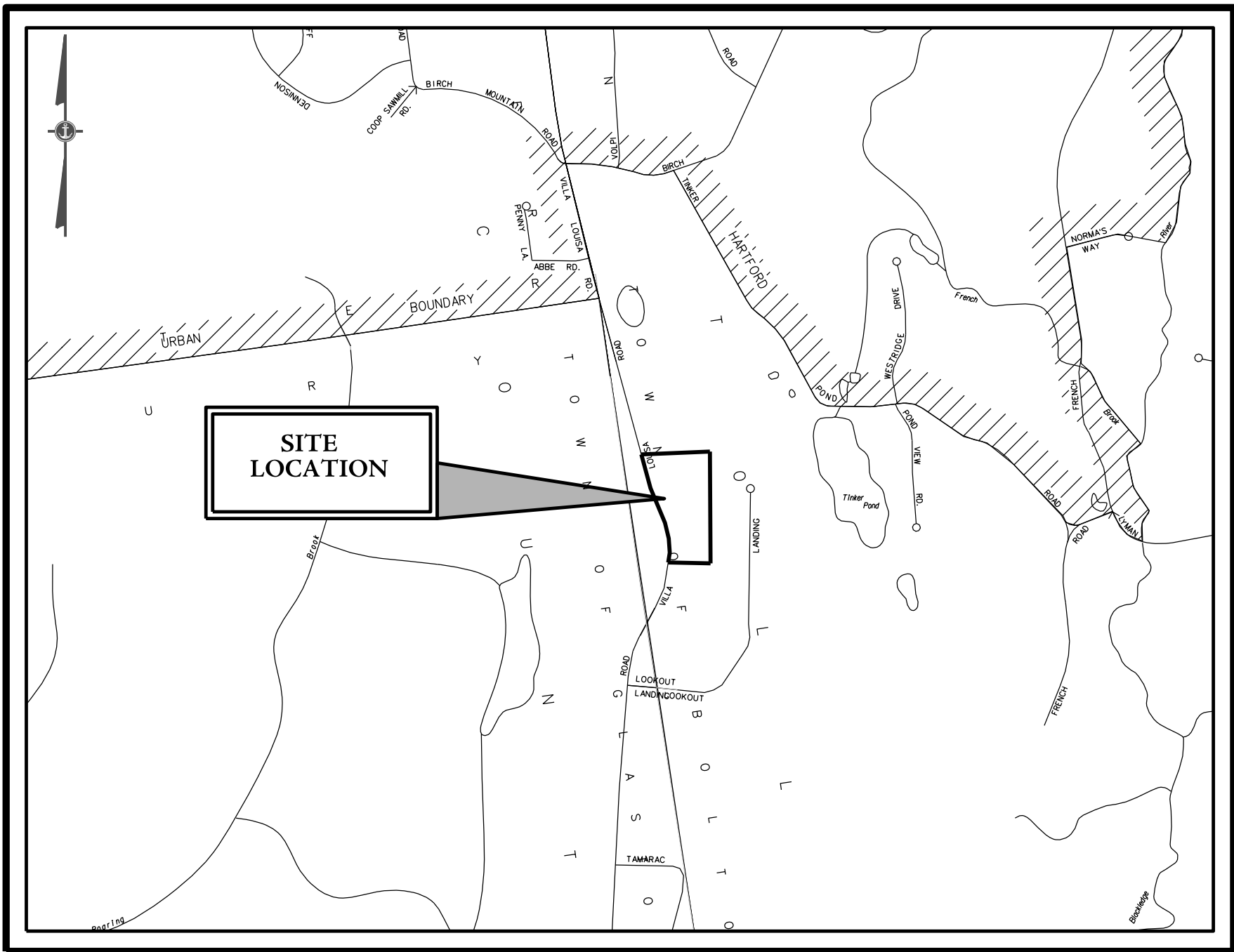
PREPARED FOR:

60 VILLA LOUISA ROAD, LLC
60 VILLA LOUISA ROAD - BOLTON, CT

DATE: JANUARY 31, 2022
REVISIONS: OCTOBER 24, 2022



NATURAL DIVERSITY DATA BASE AREAS
BOLTON
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

APPLICANT / OWNER:

60 VILLA LOUISA ROAD, LLC
60 VILLA LOUISA ROAD
BOLTON, CT 06043

PREPARED BY:

Barton & Loguidice

41 Sequin Drive
Glastonbury, CT 06033
Phone: (860) 633-8770
Fax: (860) 633-5971
www.bandlct.com

Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

LIST OF SHEETS

EXISTING CONDITIONS PLAN	1
OVERALL SITE LAYOUT	2
SITE DESIGN & GRADING PLAN	3
CONSTRUCTION DETAILS	4

- 1) BEARINGS, COORDINATES AND ELEVATIONS SHOWN ARE BASED UPON HORIZONTAL DATUM NAD 83 AND VERTICAL DATUM NAVD 1988 OBTAINED VIA RTK GPS THROUGH THE SUPERIOR VRS NETWORK.
- 2) FIELD SURVEY WAS CONDUCTED BY ANCHOR ENGINEERING SERVICES, INC. IN MAY 2018.
- 3) TOPOGRAPHY SHOWN HEREON IS BASED UPON AERIAL MAPPING PROVIDED BY EASTERN TOPOGRAPHICS, COMPILATION DATE JUNE 4, 2018. GROUND CONTROL WAS ESTABLISHED BY ANCHOR ENGINEERING SERVICES, INC.
- 3) UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD DRAWINGS SUPPLIED BY THE STATE OF MINNESOTA, UTILITIES COMPANIES OR GOVERNMENT AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, ANY FEATURES OR UTILITIES NOT SHOWN ON THIS PLAN OR WHICH ARE UNKNOWN TO ANCHOR ENGINEERING SERVICES, INC., THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND NOTED BY THE APPLICANT PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455

- 1) *PROPERTY OF MARY FACCHETTI, VILLA LOUISA ROAD, BOLTON, CONNECTICUT. SCALE: 1"=50'. DATE: APRIL 1968. BY: DOUGLAS PRIOR L.S.#6095.*
- 2) *PROPOSED ZONE CHANGE MAPPING, GENERAL LOCATION MAP, PREPARED FOR MIKE COVELLO, PROPERTY LOCATION NO. 78 VILLA LOUISA ROAD, BOLTON, CONNECTICUT. SCALE: 1"=40'. DATE: MARCH 13, 2002. BY: JOEL M. FULLER, L.S. #14197.*



Mr. Kevin Grindle, ASLA, PLA
Barton & Loguidice Company
41 Sequin Drive, Suite 3
Glastonbury, CT 06033

Dear Mr. Grindle:

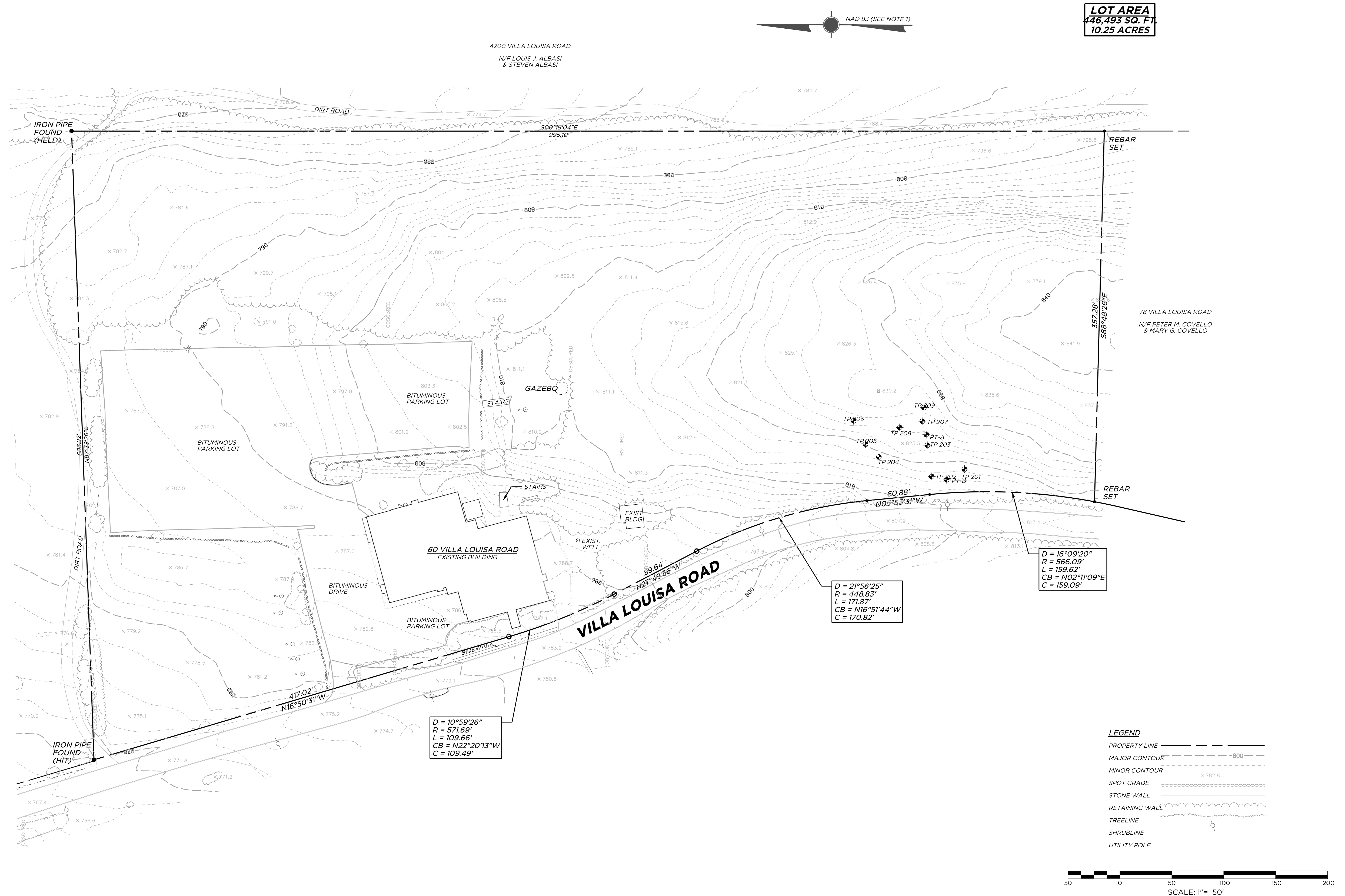
There are no wetlands or watercourses on the property.

If you have any questions, feel free to contact me.

Respectively Submitted,

RRS/srh

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THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT AGENCIES "MINIMUM STANDARDS FOR SURVEY AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS A BOUNDARY SURVEY EXISTING CONDITIONS PLAN. BOUNDARY DETERMINATION CATEGORY RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2. TOPOGRAPHIC ACCURACY T-3.

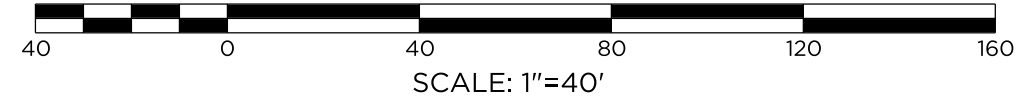
TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY
CORRECT AS NOTED HEREON.


MAREK L. KEMENT, CT. P.E., L.S. #21694

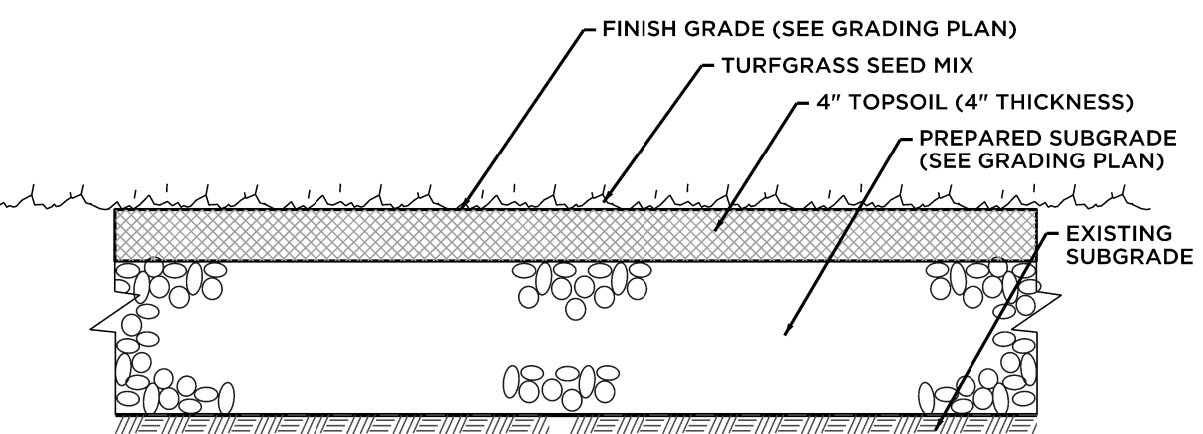
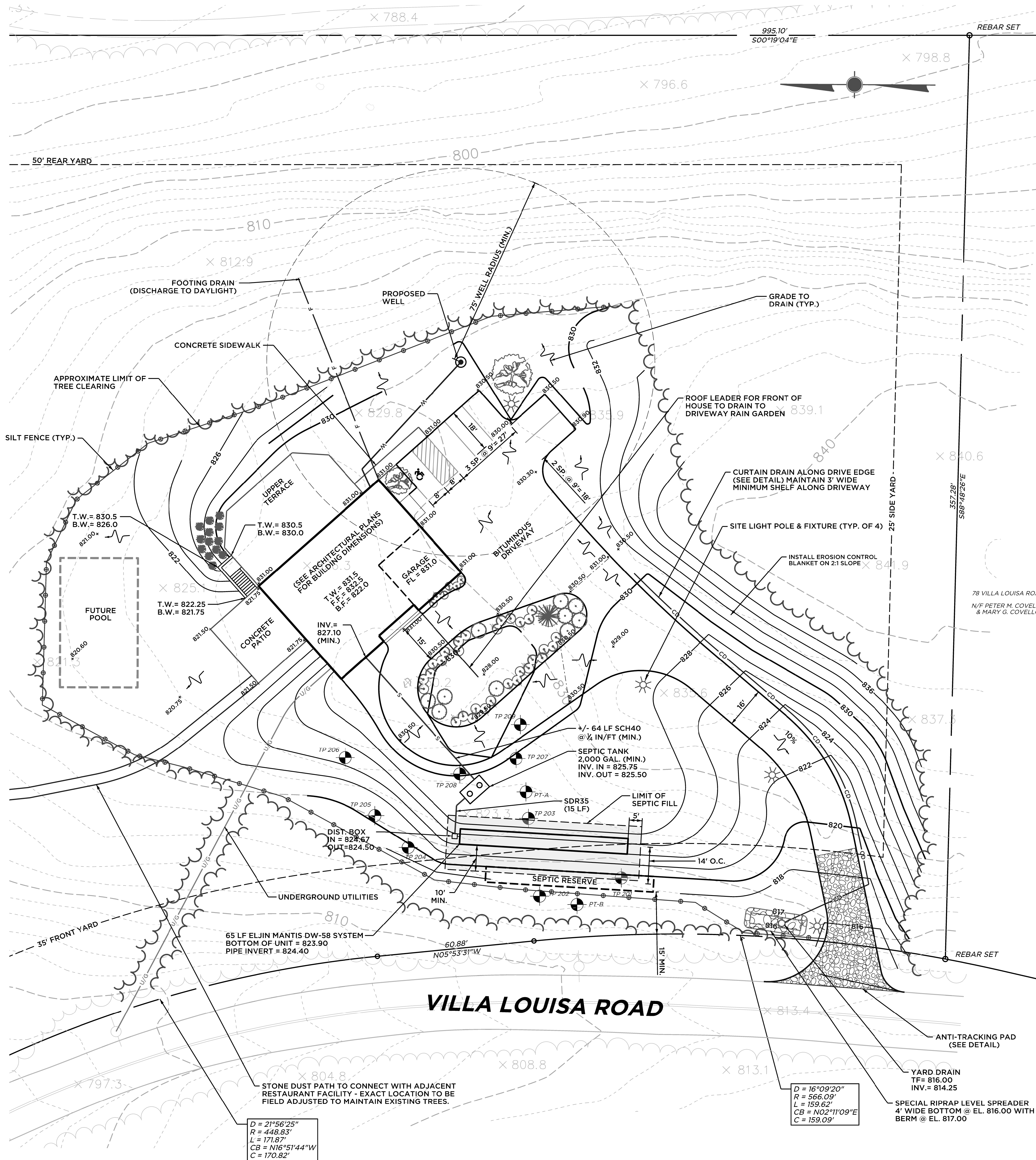
ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS IT BEARS
THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION APPEARS ABOVE.
NO OTHER CERTIFICATION OR WARRANTY IS EXPRESSED OR IMPLIED.

A:\2001\02\Design\PLOT_Villa Louisa.dgn Villa Louisa

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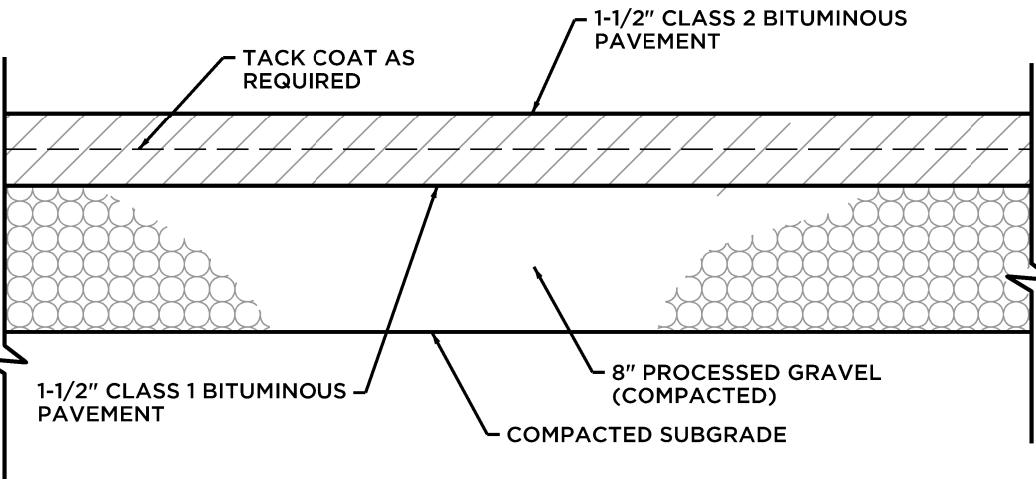


		41 Sequin Drive Glastonbury, CT 06033 Phone: (860) 633-8770 Fax: (860) 633-5971 www.bandclct.com	
Civil Engineering		Environmental Consulting	
Land Surveying		Construction Management	
PROJ. ENGINEER	MJP	<div style="font-size: 24px; font-weight: bold; margin-bottom: 10px;">OVERALL SITE LAYOUT</div> <div style="font-size: 18px; font-weight: bold; margin-bottom: 10px;">PREPARED FOR</div> <div style="font-size: 24px; font-weight: bold; margin-bottom: 10px;">60 VILLA LOUISA ROAD LLC</div> <div style="font-size: 18px; font-weight: bold; margin-bottom: 10px;">60 VILLA LOUISA ROAD</div> <div style="font-size: 18px; font-weight: bold; margin-bottom: 10px;">BOLTON, CT</div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> PROJECT 4390-002 </div> <div style="text-align: center;"> DATE 1/31/2022 </div> <div style="text-align: center;"> SHEET NO. 2 </div> <div style="text-align: center;"> OF 4 </div> </div>	
PROJ. MANAGER	KRG		
OFFICE REVIEW	KRG		
REVISIONS			
10/24/22			
SCALE:	1"=40'		



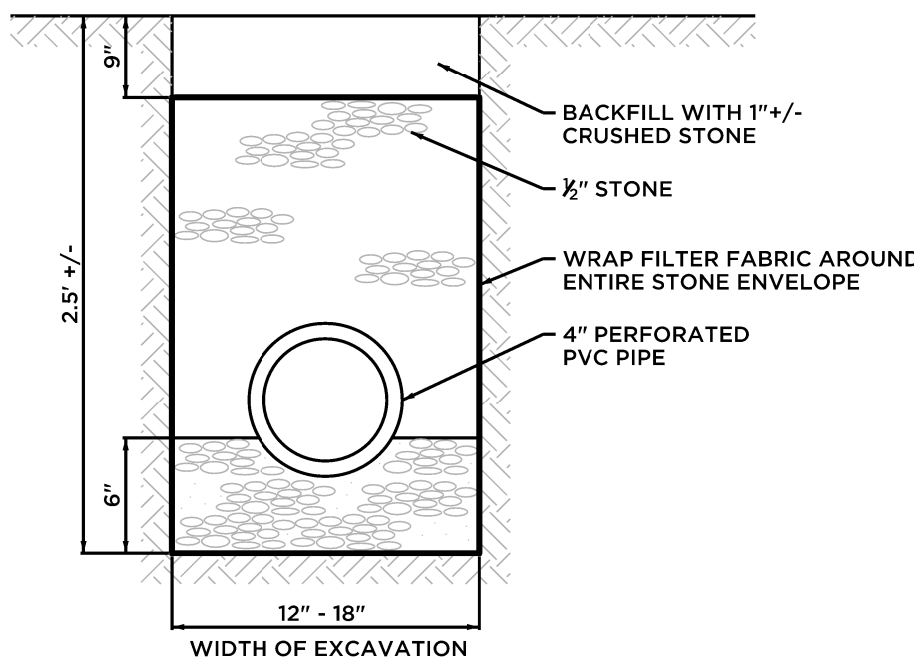
TURF ESTABLISHMENT

NOT TO SCALE



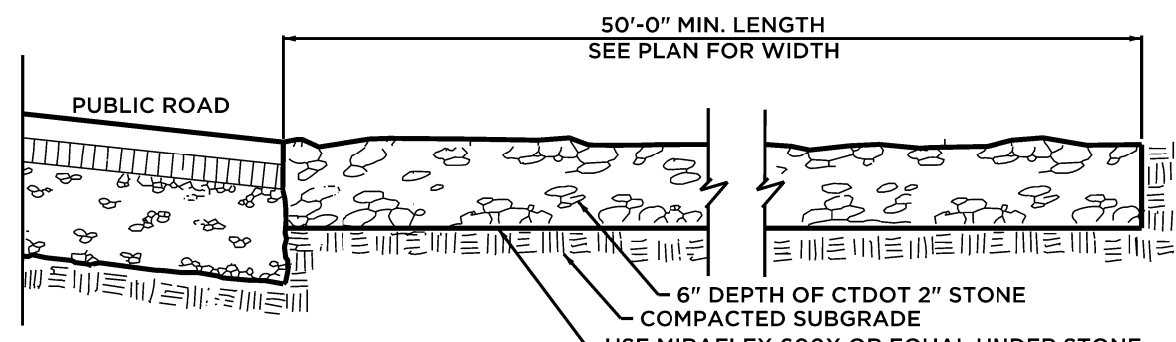
BITUMINOUS PAVEMENT

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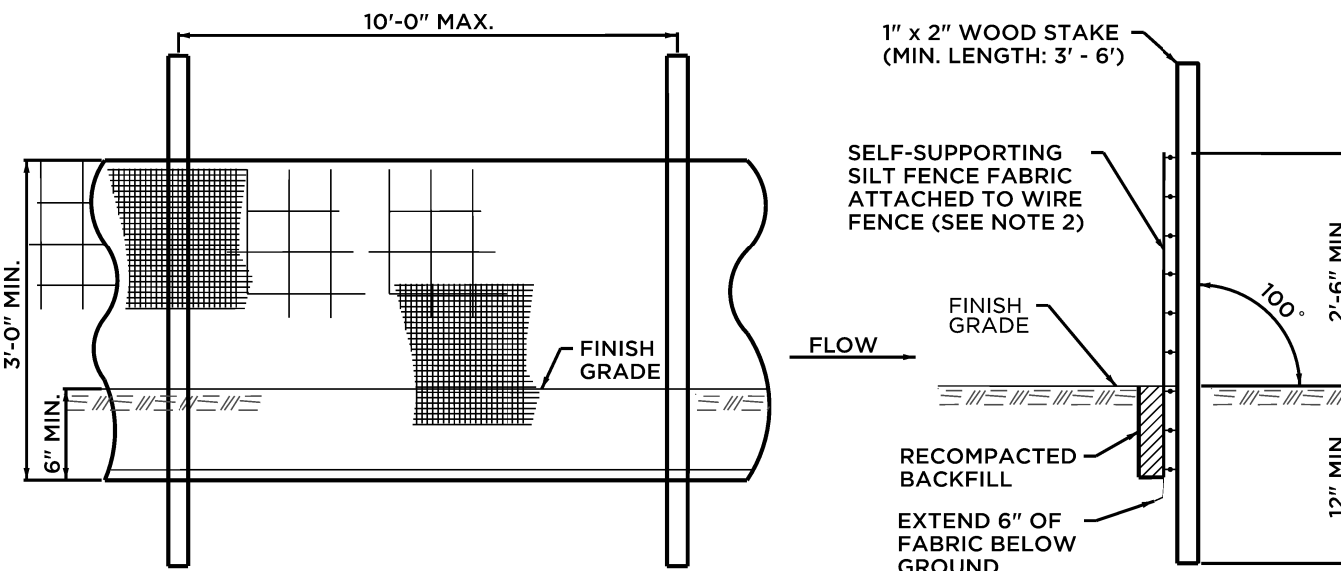
CURTAIN DRAIN DETAIL

NOT TO SCALE



ANTI-TRACKING PAD DETAIL

NOT TO SCALE



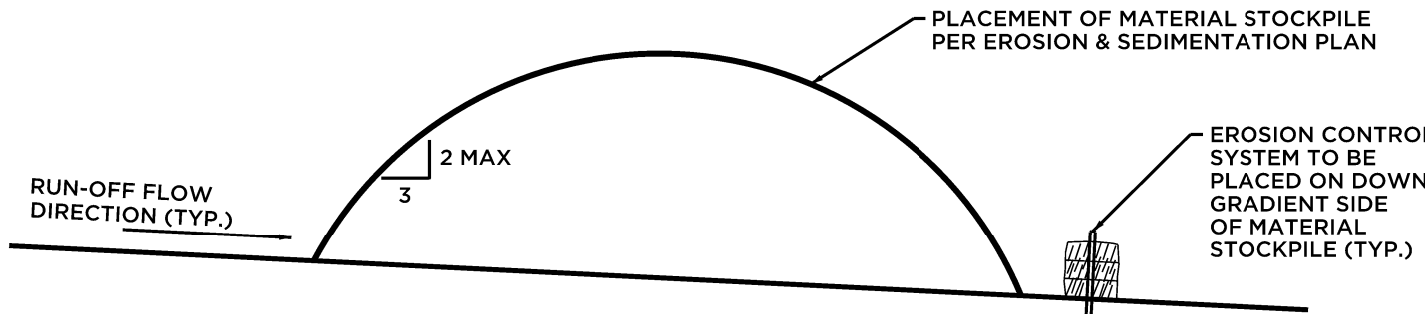
ELEVATION

SECTION

- NOTES:
1. INSTALL SILT FENCE & WOOD STAKES AS RECOMMENDED BY MANUFACTURER.
 2. SILT FENCE SUBJECT TO HEAVY LOADS SHALL BE REINFORCED WITH F&M FENCING & STEEL POSTS (0.5 # STEEL/L.F.). THE MINIMUM POST LENGTH SHALL BE 5'-0".
 3. SILT FENCE FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN PROPYLENE, NYLON, POLYESTER OR POLYETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

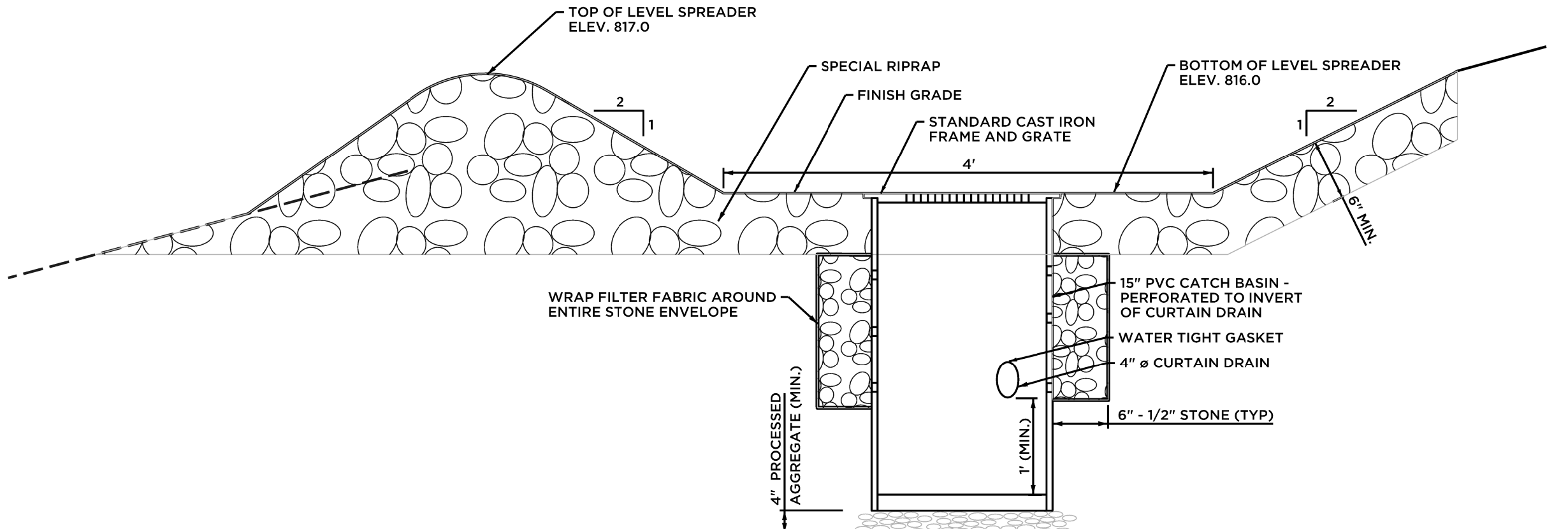
SILT FENCE

NOT TO SCALE



SOIL STOCKPILE DETAIL

NOT TO SCALE

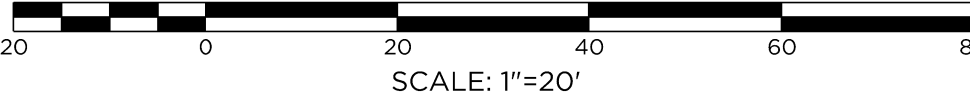


LEVEL SPREADER/YARD DRAIN DETAIL

NOT TO SCALE

NOTES

1. NO WETLAND SOILS ARE PRESENT WITHIN THE SUBJECT AREA.
2. ALL AREAS OUTSIDE OF PAVED AREAS, WALKS AND BUILDINGS WILL BE RESTORED WITH TOPSOIL AND A PERENNIAL GRASS SEED MIX TO ESTABLISH LAWN AREA. LANDSCAPED AREAS ARE SHOWN ON THE PLAN. EXACT TYPES AND SIZES OF PLANTINGS TO BE INSTALLED IN THESE AREAS WILL BE SELECTED BY THE OWNER AND THE LANDSCAPE CONTRACTOR AT THE TIME OF INSTALLATION.
3. PROPOSED POST TOP MOUNTED LIGHTS ARE SHOWN ALONG THE DRIVEWAY AND PARKING. THE POST TOP FIXTURES SHALL PROVIDE A WARM LED DOWN-LIGHT TO PREVENT GLARE AND OFF-SITE TRESPASS. OTHER POSSIBLE LIGHT SOURCES SHALL BE BUILDING MOUNTED DECORATIVE AND/OR SECURITY LIGHTING AS REQUIRED BY THE BUILDING CODE.



Barton & Loguidice

Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

PROJ. ENGINEER: MJP
PROJ. MANAGER: KRG
OFFICE REVIEW: KRG

REVISIONS
10/24/22

SCALE: 1"=20'

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SITE DEVELOPMENT PLAN
PREPARED FOR
60 VILLA LOUISA ROAD LLC
60 VILLA LOUISA ROAD, BOLTON, CT

PROJECT: 4390-002
DATE: 1/31/2022
SHEET NO. **3** OF **4**

GENERAL NOTES

- PARCEL DETAILS:
 - PARCEL ID: MAP/BLOCK/LOT 19-12
 - LOT AREA: 446,493 SQUARE FEET (OR) 10.25 ACRES.
- ZONING:
 - THE ZONING DISTRICT OF THIS PARCEL IS NEIGHBORHOOD BUSINESS (NB).
 - USE OF LAND: BANQUET FACILITY/RESIDENTIAL/BED & BREAKFAST
 - USE OF LAND AND STRUCTURES SHALL COMPLY WITH THE APPLICABLE STANDARDS OF THE TOWN'S ZONING REGULATIONS. SEE ZONING COMPLIANCE TABLE, FOR THE MINIMUM LOT AND BULK REQUIREMENTS ASSOCIATED WITH THIS ZONE.
- UTILITIES/CBYD:
 - UNDERGROUND UTILITIES, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPINGS SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENT AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO ANCHOR ENGINEERING SERVICES, INC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES.
 - THE CONTRACTOR SHALL CALL "CALL BEFORE YOU DIG" 1-800-922-4455 (OR) #811 AND HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO CONSTRUCTION.
 - ALL UTILITY SERVICES ARE TO BE UNDERGROUND, UNLESS OTHERWISE SHOWN ON THIS PLAN. THE EXACT LOCATION AND SIZE OF ELECTRIC, TELEPHONE, CABLE TELEVISION, GAS, OR OTHER ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY COMPANIES.
- REGULATIONS/PERMITTING:
 - THE CONTRACTOR AND/OR DEVELOPER SHALL CONFORM TO ALL REQUIREMENTS OF THE ZONING REGULATIONS, BUILDING CODE, AND OF ALL AGENCIES OF THE TOWN AND STATE OF CONNECTICUT.
 - ALL MATERIALS AND METHODS OF CONSTRUCTION WITHIN THE TOWN OR STATE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST PUBLIC IMPROVEMENT STANDARDS.
 - THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWN AND/OR STATE PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- FOUNDATION/ARCHITECTURE:

SEE ARCHITECTURAL BUILDING PLANS FOR ACCURATE BUILDING DIMENSIONS AND DETAILS. PROPOSED BUILDING ELEVATIONS AND FOUNDATION LOCATION SUBJECT TO CHANGE AS FIELD CONDITIONS WARRANT. ALL DIMENSIONS AND BUILDING ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
- GRADING/ELEVATIONS:
 - PROPOSED CONTOURS ARE SHOWN IN AREAS OF PROPOSED CONSTRUCTION AND FINISH GRADING SHALL BE ACCOMPLISHED AS INDICATED BY THE PROPOSED CONTOURS.
 - ALL ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER. DRAINAGE SWALES SHALL BE CONSTRUCTED AS INDICATED TO DIVERT SURFACE WATER RUNOFF AWAY FROM ANY STRUCTURE AND SEPTIC SYSTEM.
- SEDIMENT & EROSION CONTROL:

SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS SHALL BE IMPLEMENTED AND MAINTAINED UNTIL EROSION CONTROL MEASURES ARE ESTABLISHED. ALL EROSION & CONTROL MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL AND SEDIMENT CONTROL" AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL. ANY ADDITIONAL SEDIMENT & EROSION CONTROL MEASURES DEEMED NECESSARY BY THE TOWN STAFF OR THE DESIGN ENGINEER SHALL BE INSTALLED BY THE SITE CONTRACTOR. ALL EROSION CONTROLS ARE TO BE INSPECTED BEFORE, DURING, AND AFTER EVERY STORM EVENT AND REPAIRED OR REPLACED AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING OF NEARBY STREETS, AS ORDERED BY THE TOWN OR STATE, OF ANY DEBRIS ASSOCIATED WITH THIS SITE'S CONSTRUCTION ACTIVITIES.
- WATER SUPPLY:
 - THE PROPOSED STRUCTURE IS TO BE CONNECTED TO A PRIVATE DOMESTIC WATER WELL. LOCATION AS SHOWN, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
 - MINIMUM SEPARATING DISTANCE TO THE POTABLE WATER SUPPLY WELL OF 75 FEET FROM ANY PART OF ANY SUBSURFACE SEWAGE DISPOSAL SYSTEM (ON SITE OR OFF); AND 25 FEET FROM A FOUNDATION DRAIN SHALL BE MAINTAINED.
 - INSTALLATION OF THE PRIVATE DOMESTIC WATER WELL AND CONSTRUCTION MATERIALS USED SHALL COMPLY WITH THE LATEST REVISIONS OF THE CONNECTICUT PUBLIC HEALTH CODE.
- WASTEWATER DISPOSAL SYSTEM:
 - THE PROPOSED STRUCTURE IS TO BE CONNECTED TO AN ON-SITE SUBSURFACE SEWAGE DISPOSAL SYSTEM.
 - INSTALLATION OF AND MATERIALS USED FOR THE CONSTRUCTION OF THE SUBSURFACE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL COMPLY WITH ALL RESPECTS WITH THE LATEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE. SEE SEPTIC SYSTEM NOTES FOR ADDITIONAL INFORMATION REGARDING DESIGN AND INSTALLATION.
- GUTTERS/ROOF DRAINS:

GUTTERS AND ROOF DRAINS SHALL BE TIED INTO THE TOWN STORM DRAINAGE SYSTEM WHERE FEASIBLE. WHERE REQUIRED, ROOF LEADERS ARE TO DISCHARGE TO SPLASH PADS AT GRADE AND BE DIRECTED AWAY FROM THE FOUNDATION.
- FOOTING PERIMETER DRAINS:

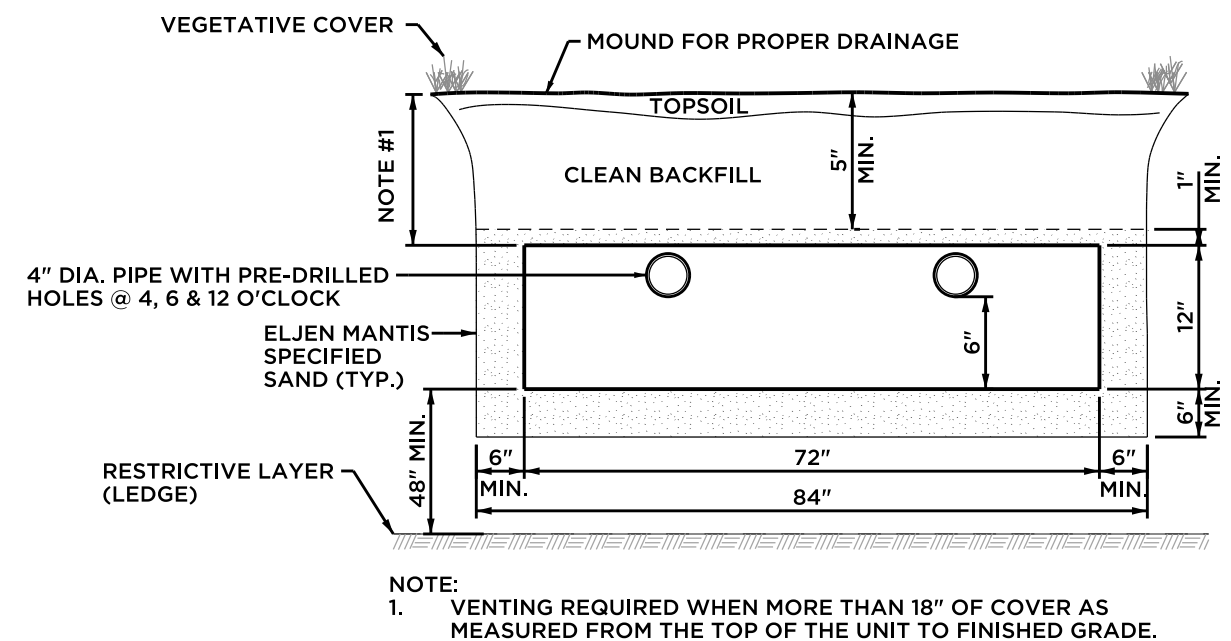
DUE TO SOIL CONDITIONS AND BASEMENT ELEVATIONS, A FOOTING PERIMETER DRAIN IS RECOMMENDED. THE FOOTING DRAIN SHALL BE CONSTRUCTED OF TIGHT PIPE AND INSTALLED NO LESS THAN 25 FT UPGRADE/OUT OR 50 FEET DOWN GRADIENT OF ANY SUBSURFACE DISPOSAL SYSTEM. THE FOOTING DRAIN SHALL DISCHARGE TO DAYLIGHT OR CONNECT TO THE TOWN'S STORM DRAINAGE SYSTEM WHENEVER POSSIBLE. DESIGN OR LOCATION DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO INSTALLATION.
- RETAINING WALL:

ANY RETAINING WALL OR DECORATIVE LANDSCAPING WALL EXCEEDING FOUR (4) FEET IN HEIGHT SHALL REQUIRE A BUILDING PERMIT. PRIOR TO CONSTRUCTION, THE WALL DESIGN AND STRUCTURAL CALCULATIONS IN COMPLIANCE WITH THE REQUIREMENTS OF THE BUILDING CODE SHALL BE SUBMITTED FOR APPROVAL.
- DISTURBED AREAS/SEEDING:

ALL AREAS, EXCEPT SIDEWALKS AND DRIVEWAYS, DISTURBED DURING CONSTRUCTION MUST BE RESTORED WITH 4" MINIMUM OF TOPSOIL AND STABILIZED WITH VEGETATION AS SOON AS POSSIBLE AFTER THE FOUNDATION IS COMPLETED TO PREVENT EROSION. ALL AREAS ARE TO BE RAKED, SEEDED, AND FERTILIZED. LAWN AND ANY OTHER LANDSCAPING MUST BE PLACED PRIOR TO A REQUEST FOR A CERTIFICATE OF OCCUPANCY. RECOMMENDED SEEDING DATES ARE FROM MARCH 15 TO JUNE 15 AND FROM SEPTEMBER 15 TO OCTOBER 15.
- LOT CORNERS/PINNING:

WHEN A CERTIFICATE OF OCCUPANCY IS REQUESTED, ALL LOT (AND EASEMENT) CORNERS MUST BE FLAGGED FOR FIELD IDENTIFICATION. ANY LOT CORNER MISSING OR DAMAGED MUST BE RE-ESTABLISHED BY A LICENSED CONNECTICUT LAND SURVEYOR.
- RECORD DRAWINGS/AS-BUILT:

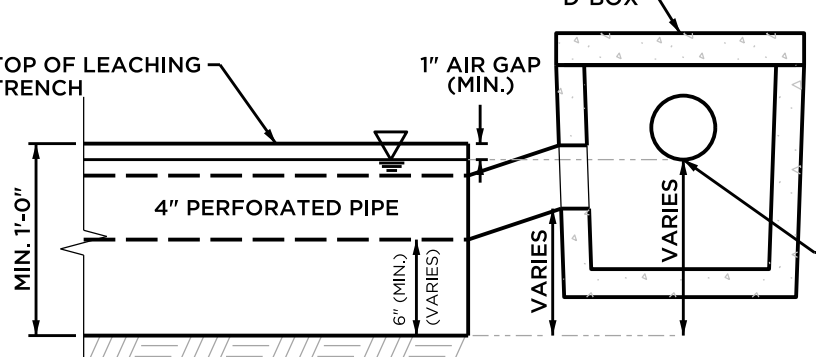
WHEN A CERTIFICATE OF OCCUPANCY IS REQUESTED, RECORD DRAWINGS OF THE ENTIRE SITE SHALL BE SUBMITTED TO THE TOWN UPON COMPLETION OF THE WORK AND SHALL BE IN THE FORM ACCEPTABLE TO THE TOWN. THE CONTRACTOR/DEVELOPER/OWNER SHALL BE RESPONSIBLE FOR PROCURING ALL INFORMATION NECESSARY TO GENERATE SAID DRAWINGS.



**MANTIS DW-58 (LOW PROFILE)
SAND FILL CROSS SECTION**

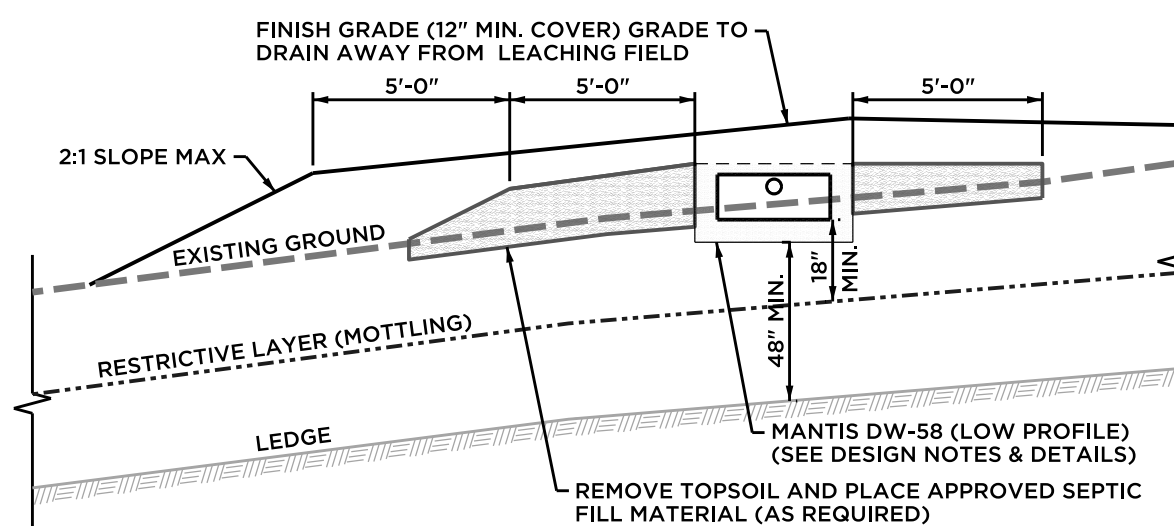
NOT TO SCALE

NOTE: FOR D-BOX INVERTS
SEE SCHEDULE OF
INVERTS TABLE.



D-BOX CONNECTION DETAIL

NOT TO SCALE



LEACHING SYSTEM CROSS-SECTION (TYP.)

NOT TO SCALE

SEPTIC SYSTEM DESIGN

DESIGN PARAMETERS			
NUMBER OF BEDROOMS:	6	EFFECTIVE LEACHING AREA (ELA) REQ:	742.5 SF
PERCOLATION RATE (MIN/INCH):	4 MIN./IN	GARBAGE DISPOSAL PROPOSED:	NO
SEPTIC TANK SIZE REQUIRED (MIN):	2,000 GAL.	LARGE CAPACITY TUB (>100 GALS):	NO
MINIMUM LEACHING SYSTEM SPREAD (MLSS)			
RESTRICTIVE LAYER: (TEST PIT #201)	39 INCHES	HYDRAULIC GRADIENT/SLOPE:	> 15%
HYDRAULIC FACTOR (HF):	16	MLSS (REQUIRED):	= (HF) x (FF) x (PF)
FLOW FACTOR (FF):	2.25		= (16) x (2.25) x (1.0)
PERCOLATION FACTOR (PF):	1.0		= 36 LINEAR FEET
LEACH FIELD DESIGN			
LEACHING SYSTEM USED:	MANTIS DW-58 (LOW-PRO)	CENTER-TO-CENTER SPACING:	14 LINEAR FEET
PRODUCT DIMENSIONS:	72\"/>	CONFIGURATION (AS SHOWN):	1 ROWS AT 65 LF
EFFECTIVE LEACHING RATIO:	11.6 SF/LF	NUMBER OF UNITS:	13 UNITS TOTAL
ELA (PROVIDED) = (1) x (65 LF) x (11.6 SF)=	754 SF	MLSS (PROVIDED) =	65 LINEAR FEET

SEPTIC SYSTEM NOTES

- GENERAL PROVISIONS:
 - INSTALLATION OF AND MATERIALS USED FOR THE CONSTRUCTION OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL COMPLY WITH ALL ITS COMPONENTS SHALL COMPLY WITH THE LATEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE, AS AMENDED.
 - PRIOR TO THE START OF CONSTRUCTION, THE SSDS IS TO BE STAKED BY A LICENSED LAND SURVEY-OR AND A BENCHMARK MUST BE SET WITHIN 40 FEET OF THE SEPTIC SYSTEM LEACHING AREA.
 - A ONE HUNDRED PERCENT (100%) SEPTIC RESERVE AREA HAS BEEN PROVIDED, AS SHOWN.
 - IF THE CONTRACTOR FINDS CONDITIONS DIFFERENT THAN THOSE NOTED ON THE PLANS OR IF CONDITIONS ARE ADVERSE TO CONSTRUCTION, THEN THE CONTRACTOR MUST STOP WORK IMMEDIATELY AND NOTIFY THE DESIGN ENGINEER.
 - THE SEPTIC SYSTEM SHOULD NOT BE CONSTRUCTED DURING WET WEATHER CONDITIONS OR IF THE SUBSOIL IS SATURATED. CARE MUST BE TAKEN TO PROTECT LEACHING SYSTEM FROM ANY ACTIVITY THAT MAY RESULT IN SEDIMENTATION OR COMPACTION OF THE SOILS.
- SEWER PIPE:
 - THE SEWER PIPE FROM THE HOUSE TO THE SEPTIC TANK SHALL BE 4" DIAMETER PVC SCHEDULE 40 ASTM D 1785 PRESSURE WATER PIPE OR APPROVED EQUAL. THE MINIMUM SLOPE SHALL BE 1/4 INCH PER FOOT.
 - PIPING AFTER THE SEPTIC TANK TO THE DISTRIBUTION BOX (D-BOX) SHALL BE A 4" DIAMETER PVC SDR-35 ASTM 3034 PIPE OR APPROVED EQUAL.
 - ALL CHANGES OF PIPE DIRECTION SHALL BE MADE WITH PROPER FITTINGS. PIPE LEADING INTO AND OUT OF THE SEPTIC TANK AND D-BOXES SHALL BE PROPERLY SECURED INTO PLACE AFTER THE PIPE INSTALLATION IS COMPLETE. INSTALLED PIPING SHALL BE PROTECTED DURING CONSTRUCTION AND FINAL GRADING TO AVOID CRUSHING OR DISPLACING.
- SEPTIC TANK AND DISTRIBUTION BOXES:
 - THE SEPTIC TANK AND D-BOXES SHALL BE PRECAST CONCRETE OR APPROVED EQUAL AND SHALL BE STANDARD PRODUCTS OF A SUPPLIER REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH UNITS.
 - THE SEPTIC TANK SHALL BE SET LEVEL ON A FIRM BED OF NATIVE SOIL OR SAND FILL AND ALL D-BOXES SHALL BE SET LEVEL IN A FULLY EXCAVATED TRENCH AFTER BACKFILLING WITH STONE.
 - SEPTIC TANK ACCESS PORTS LOCATED MORE THAN 12 INCHES (12") BELOW GRADE SHALL REQUIRE RISERS ON ALL ACCESS PORTS.
- LEACHING SYSTEM INSTALLATION:

THE AREA WHERE THE PROPOSED LEACHING SYSTEM IS TO BE INSTALLED SHALL BE PROPERLY PREPARED PRIOR TO PERFORMING ANY ACTUAL INSTALLATION OF THE SUBSURFACE DISPOSAL SYSTEM. THE AREA FOR THE PROPOSED LEACHING SYSTEM SHALL MEAN THE ENTIRE AREA WITHIN THE PERIMETER 15 FEET OUTSIDE THE ENDS AND SIDES OF THE PRIMARY LEACHING SYSTEM SHOWN.
- SELECT FILL (IF APPLICABLE):
 - WHERE PLAN INDICATES THAT FILLING SHALL OCCUR, ALL VEGETATION SHALL BE REMOVED AND TOPSOIL CAREFULLY STRIPPED AND STOCKPILED FOR LATER REPLACEMENT OVER THE FILL AREA.
 - THE AREA TO BE FILLED SHALL BE ROUGHENED BY HAND OR MACHINE, IN A DIRECTION PARALLEL TO THE PROPOSED LEACHING TRENCHES, TO ALLOW PROPER UNIFORMITY WITH THE PROPOSED FILL. AFTER PREPARATION, THIS AREA SHALL BE PROTECTED FROM TRAFFIC.
 - THE FILL MATERIAL SHALL CONFORM TO THE FILL SPECIFICATIONS OUTLINED IN SECTION VIII.A OF THE LATEST REVISION TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS. ALL FILL SHALL BE ACCEPTABLE TO THE HEALTH DISTRICT.
- SPECIAL RECOMMENDATIONS:
 - LOW FLOW SANITARY FIXTURES AND FLOW RESTRICTIVE SHOWER HEADS ARE RECOMMENDED FOR INSTALLATION IN PROPOSED HOUSE.
 - GARBAGE GRINDERS ARE NOT RECOMMENDED FOR USE WITH SUBSURFACE DISPOSAL SYSTEMS. IF A GARBAGE DISPOSAL IS TO BE INSTALLED, THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 GALLONS.
 - IF A LARGE CAPACITY (100 GALLON OR GREATER) TUB IS INSTALLED THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 TO GALLONS. SEE THE CONNECTICUT PUBLIC HEALTH CODE FOR CAPACITY INCREASE REQUIREMENTS.
- INSPECTION/AS-BUILT:
 - AFTER CONSTRUCTION AND PRIOR TO COVERING, THE SEPTIC SYSTEM INSTALLER SHALL NOTIFY THE HEALTH DISTRICT THAT THE SITE IS READY FOR INSPECTION. THE HEALTH DISTRICT SHALL INSPECT ALL COMPONENTS OF THE SEPTIC SYSTEM FOR COMPLIANCE WITH THE STATE OF CONNECTICUT PUBLIC HEALTH CODE AND APPROVED PLANS PRIOR TO COVERING.
 - A RECORD PLAN (AS-BUILT) OF THE SEWAGE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL BE PREPARED BY THE INSTALLER AND BE SUBMITTED TO THE HEALTH DISTRICT.

PERCENT PASSING		
SIEVE SIZE	(WET SIEVE)	(DRY SIEVE)
#4	100	100
#10	70 - 100	70 - 100
#40	10 - 50*	10 - 75
#100	0 - 20	0 - 5
#200	0 - 5	0 - 2.5

*PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%

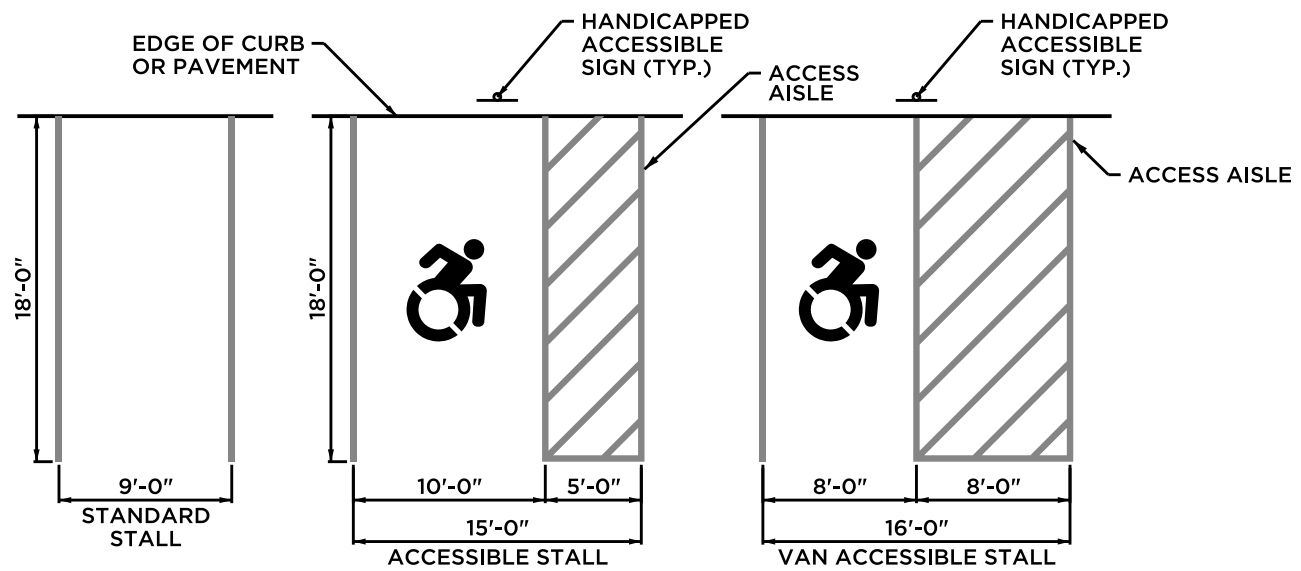
SOIL TEST OBSERVATION RESULTS

SOIL TESTING PERFORMED BY: WITNESSED BY HEALTH DISTRICT: EXCAVATION PERFORMED BY:				BARTON & LOGUIDICE, LLC (MAREK KEMENT, PE/LS) ON APRIL 30, 2018 EASTERN HIGHLANDS HEALTH DISTRICT (HOLLY HOOD, RS). KEMENT & SON CONSTRUCTION, INC.			
TEST PIT: TP-201		TEST PIT: TP-202		TEST PIT: TP-203		TEST PIT: TP-204	
DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION
0 - 5 5 - 26 26 - 39	TOPSOIL ORANGE BROWN RED BROWN SAND TILL	0 - 4 4 - 20 20 - 29	TOPSOIL ORANGE BROWN RED BROWN SAND TILL	0 - 5 5 - 24 24 - 41	TOPSOIL ORANGE BROWN RED BROWN SAND TILL		
GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 26" LEDGE OBSERVED AT: 39" RESTRICTIVE LAYER AT: 39"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 20" LEDGE OBSERVED AT: 29" RESTRICTIVE LAYER AT: 29"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 24" LEDGE OBSERVED AT: 41" RESTRICTIVE LAYER AT: 41"		STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A	
TEST PIT: TP-205		TEST PIT: TP-206		TEST PIT: TP-207		TEST PIT: TP-208	
DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION
	UNSUITABLE SOIL		UNSUITABLE SOIL		UNSUITABLE SOIL		UNSUITABLE SOIL
GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 16" LEDGE OBSERVED AT: 16" RESTRICTIVE LAYER AT: 16"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 12" LEDGE OBSERVED AT: 12" RESTRICTIVE LAYER AT: 12"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 24" LEDGE OBSERVED AT: 40" RESTRICTIVE LAYER AT: 40"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 18" LEDGE OBSERVED AT: 28" RESTRICTIVE LAYER AT: 28"	
STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A		STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A		STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A		STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A	
TEST PIT: TP-209		TEST PIT: TP-210		TEST PIT: TP-211		TEST PIT: TP-212	
DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION	DEPTH (INCHES)	SOIL DESCRIPTION
0 - 5 5 - 24 24 - 40	TOPSOIL ORANGE BROWN RED BROWN SAND TILL (FIRM)		UNSUITABLE SOIL	0 - 2 2 - 6 6 - 18 18 - 28	LEAF LITTER TOPSOIL ORANGE BROWN SILTY VERY FINE SANDY LOAM LOAMY SAND TILL GRAY		
GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 24" LEDGE OBSERVED AT: 40" RESTRICTIVE LAYER AT: 40"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 12" LEDGE OBSERVED AT: 12" RESTRICTIVE LAYER AT: 12"		GROUNDWATER OBSERVED AT: N/A SEEPAGE OBSERVED AT: N/A MOTTILING OBSERVED AT: N/A ROOTS OBSERVED AT: 18" LEDGE OBSERVED AT: 28" RESTRICTIVE LAYER AT: 28"		STANDPIPE INSTALLED: NO TOP OF PIPE ELEVATION: N/A	

PERC TEST RESULTS

PERC TEST PERFORMED ON 5/30/2018
BY BARTON & LOGUIDICE
(HOLES WERE PRE-PAVED PRIOR TO TESTING)

PERC TEST - A DEPTH @ 20"	PERC TEST - B DEPTH @ 19"
RATE = 4 MIN/INCH	RATE = 4 MIN/INCH



PARKING STALL DETAILS

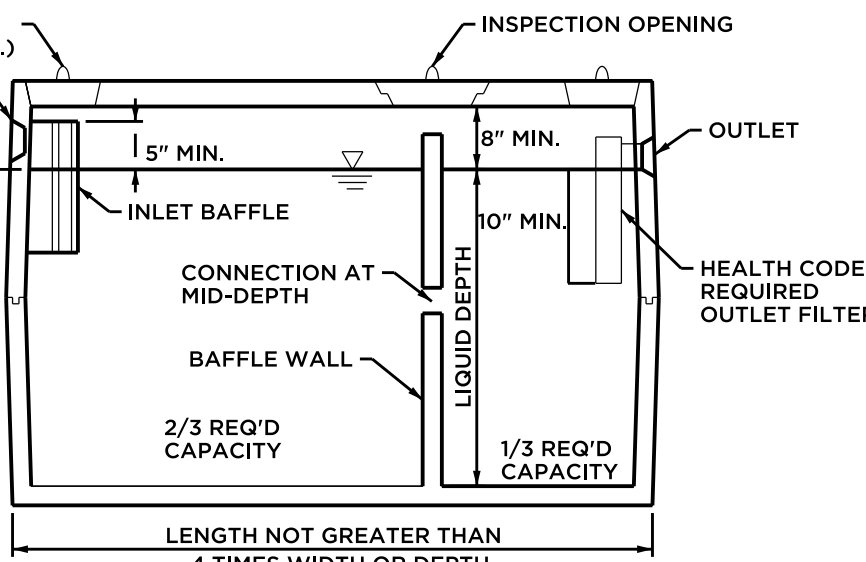
NOT TO SCALE

GENERAL NOTES:

- ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE.
- ACCESS AISLES (CROSS HATCH) SERVING CAR PARKING SPACES SHALL BE 60 INCHES (1525 mm) MINIMUM IN WIDTH. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96 INCHES (2440 mm) MINIMUM IN WIDTH. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. IF A CAR AND A VAN SPACE SHARE A COMMON ACCESS AISLE, THAT AISLE SHALL BE 96 INCHES MINIMUM IN WIDTH.
- PARKING SPACES MAY HAVE ACCESS AISLES PLACED ON EITHER SIDE OF THE CAR OR VAN PARKING SPACE. VAN PARKING SPACES THAT ARE ANGLED SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.
- ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS IN ACCORDANCE WITH DETAILS.

NOTES

- SEPTIC TANK SHALL BE PRECAST CONCRETE WITH 2,000 GALLON CAPACITY AND SHALL MEET THE MINIMUM REQUIREMENTS OF THE CONNECTICUT PUBLIC HEALTH CODE.
- IF A GARBAGE DISPOSAL IS PROPOSED, 250 GALLONS SHALL BE ADDED TO THE REQUIRED CAPACITY OF THE SEPTIC TANK.



SEPTIC TANK CROSS SECTION

NOT TO SCALE

EROSION & SEDIMENTATION CONTROL PLAN:

- ALL EROSION AND CONTROL MEASURES WILL BE INSTALLED AT THE PROJECT SITE PRIOR TO CONSTRUCTION WHEREVER POSSIBLE.
- AN ANTI-TRACKING APRON WILL BE INSTALLED AT THE ENTRANCE TO THE CONSTRUCTION SITE IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENTS OFF THE CONSTRUCTION SITE BY TRUCK AND CONSTRUCTION EQUIPMENT TRAFFIC.
- AN EROSION CONTROL SYSTEM SHALL BE INSTALLED AROUND ALL ON-SITE STOCKPILES OF SOIL.
- DUST CONTROL MEASURES SHALL BE APPLIED THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
- DUST CONTROL MEASURES WILL BE APPLIED DURING THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED, AS REQUIRED BY FIELD CONDITIONS.
- TEMPORARY SEDIMENT TRAPS WILL BE INSTALLED AS NECESSARY DURING CONSTRUCTION ACTIVITIES. ALL TEMPORARY STORMWATER DISCHARGE WILL BE DIRECTED TO THESE TRAPS.

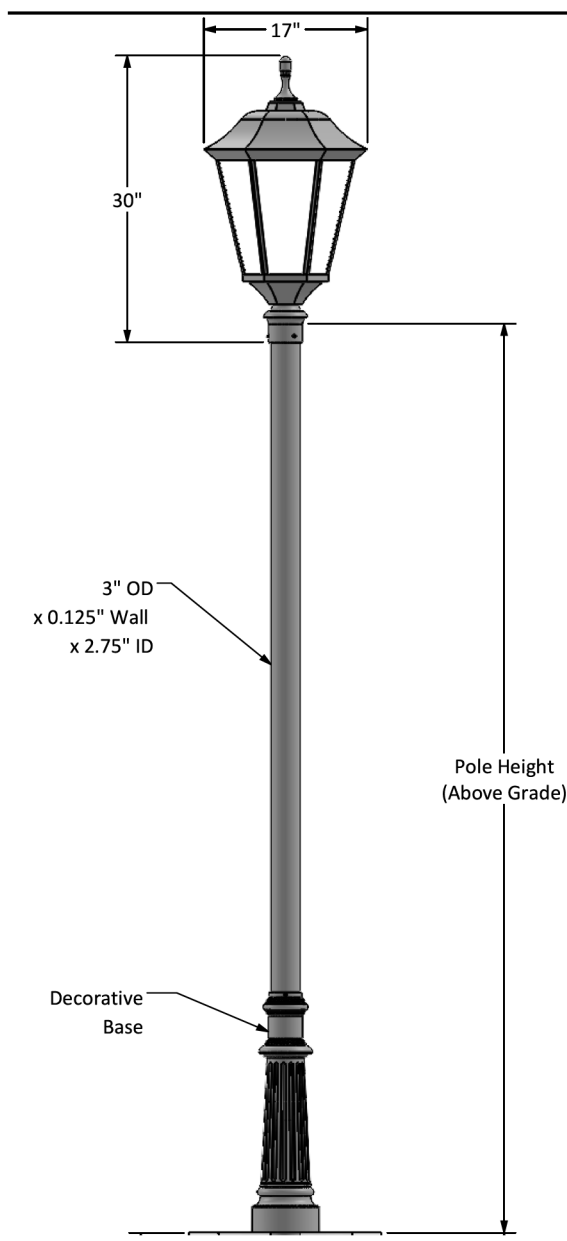
EROSION & SEDIMENTATION CONTROL NOTES:

- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE TOWN PRIOR TO CONSTRUCTION.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", DATED 2002, AS AMENDED AND THE TOWN REGULATIONS.
- ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED OR REPLACED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD AS NECESSARY OR AS REQUIRED BY THE ENGINEER OR TOWN.
- ALL ON-SITE EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSPECTED WITHIN 24-HOURS AFTER A RAIN EVENT OF AT LEAST A HALF-INCH, AND MAINTAINED, REPLACED OR INCREASED AS REQUIRED BY SPECIFIC FIELD CONDITIONS.
- SEDIMENT REMOVED FROM ANY CONTROL STRUCTURES SHALL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN.
- ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY OR REQUIRED BY THE ENGINEER OR TOWN.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ALL EROSION AND SEDIMENTATION CONTROL DEVICES AS SHOWN ON THESE PLANS OR AS ORDERED BY THE ENGINEER.
- ALL DISTURBED AREAS ARE TO BE RAKED, SEEDED AND FERTILIZED PER "TURF ESTABLISHMENT" SPECIFICATION IN CTDOT 818, AT THE COMPLETION OF PROJECT.
- AREAS OUTSIDE OF PAVED AREAS, WALKS, AND BUILDINGS ARE TO RECEIVE A MINIMUM 4" OF TOPSOIL.
- THE FOLLOWING DATES FOR SEEDING SHALL BE USED:

SPRING: APRIL 15 TO JUNE 15
FALL: AUGUST 15 TO SEPTEMBER 15
- THE FOLLOWING GRASS SEED MIXTURES SHALL BE APPLIED AT A RATE NO LESS THAN 100 LBS. PER ACRE:

SPECIES	PROPORTION BY WEIGHT (POUNDS)	MINIMUM PURITY (PERCENT)	MINIMUM GERMINATION (PERCENT)
VELVET BENTGRASS, (AGROSTIS CANAD.)	25	96	85
RED FESCUE (FESTUCA RUBRA L. SSP. RUBRA)	35	97	80
PARTRIDGE PEA (CHAMAECRISTA FASCICULATA)	10	95	90
INDIAN GRASS (SORGHASTRUM NUTANS)	15	95	90
CANADA WILDRYE (ELYMUS CANADENSIS)	5	95	90
KENTUCKY BLUE GRASS (POA PRATENSIS)	10	95	90

- TEMPORARY GRASS SEEDING, IF NECESSARY, SHALL BE PERENNIAL RYE GRASS (LOLIUM PERENNE) APPLIED AT A RATE OF 100 LBS. PER ACRE.



LIGHT DETAIL

NOT TO SCALE

LED Power (Watt)	Lumens	Lumens Per Watt	Voltage (Volt)
27	3,900	144	120-277
36	5,400	150	120-277
45	6,800	151	120-277
80	10,800	135	120-277
100	13,500	135	120-277

NOTES

- POLE HEIGHT TO BE A MAXIMUM OF 10 FEET.
- POLE SHALL BE MOUNTED PER MANUFACTURER'S RECOMMENDATION.
- PROPOSED LIGHT POWER TO BE DETERMINED BY PHOTOMETRIC DETAIL TO BE SUBMITTED PRIOR TO ISSUANCE OF BUILDING PERMIT.

Barton & Loguidice			
Civil Engineering • Environmental Consulting • Land Surveying • Construction Management			
PROJ. ENGINEER	MJP	CONSTRUCTION NOTES	
PROJ. MANAGER	KRG		
OFFICE REVIEW	KRG		
REVISIONS		PREPARED FOR	
10/24/22		60 VILLA LOUISA ROAD LLC	
		60 VILLA LOUISA ROAD	
		PROJECT	BOLTON, CT
		DATE	
		SHEET NO.	4 OF 4
SCALE: NOT TO SCALE		4390-002	1/31/2022

PROPOSED TREATMENT STRUCTURE SIZING**Compute Water Quality Volume - AREA TO RAIN GARDEN**

$$WQV = \frac{(1" \times R \times A)}{12}$$

WQV = Water Quality Volume (acre-feet)

R = Volumetric Runoff Coefficient, $0.050 + 0.009(I)$

I = Percent Impervious Cover, Impervious Area / Total Area

DA = Drainage Area (Acres)

IA = Impervious Area (Acres)

DA = **0.120** acresIA = **0.080** acres**Determine Percent Impervious Cover (I)**I = **67%****Calculate Volumetric Runoff Coefficient (R)**R = **0.65****Calculate Water Quality Volume**WQV = **0.007** acre-feet = **283 cubic feet** Available rain garden volume is 540 CF up to elevation 529.5.

The proposed rain garden will provide an excess of volume to treat flow from the turnaround drive and front roof of the house.

PROPOSED STORMWATER ANALYSIS**Compute 25 YR Peak Flow to Villa Louisa Road from the site.****EXISTING CONDITIONS**

AREA = 1.6 ACRES
 C = 0.25 (Woods)
 TC = 38 MINUTES (see attached)
 I25 = 3.05 IN/HR

Q25 = CIA

Q25 = $1.6 \times 0.25 \times 3.05 =$ **1.22 CFS****PROPOSED CONDITIONS**

AREA = 1.4 ACRES
 C = 0.316
 0.75 ac. -woods (0.25)
 0.30 ac. -grass (0.3)
 0.10 ac. - impervious (0.9)
 TC = 32 MINUTES (see attached)
 I25 = 3.3 IN/HR

Q25 = CIA

Q25 = $1.4 \times 0.316 \times 3.3 =$ **1.46 CFS**

THE AREA DRAINING TO VILLA LOUISA ROAD IN THE PROPOSED CONDITIONS HAS BEEN REDUCED BY 0.20 ACRES BUT THERE IS A MINOR INCREASE IN THE 25 YR PEAK FLOW DUE TO CLEARING OF WOODS AND INSTALLATION OF LAWN AND A PAVED DRIVEWAY. INFILTRATION OPPORTUNITIES ARE PROPOSED ON THE EAST SIDE OF THE DRIVEWAY TO COLLECT STORMWATER IN A CURTAIN DRAIN AND DISCHARGE TO A STONE LEVEL SPREADER PRIOR TO OVERFLOW TO THE ROADWAY VEGETATED SHELF. THE CURTAIN DRAIN IS PROPOSED 1.75 FEET BELOW THE BOTTOM OF THE LEVEL SPREADER AND CONNECTS TO A YARD DRAIN WITH A GRATE AT GRADE. ONCE THE YARD DRAIN FILLS, IT WILL FLOW OUT OF THE GRATE AND INTO THE LEVEL SPREADER. THE WEST SIDE OF THE DRIVEWAY IS ALSO DIRECTED TO FLOW INTO THE LEVEL SPREADER TO ALLOW INFILTRATION AND SLOWING DOWN OF THE FLOW. ONCE THE WATER ELEVATION IN THE STONE LEVEL SPREADER REACHES ONE FOOT, FLOW WILL DRAIN INTO THE ROADWAY VEGETATED SHELF AS IN EXISTING CONDITIONS. THE PROPOSED INCREASE IN FLOW IS MINOR AND IS CONSISTANT WITH A RESIDENTIAL HOME LOT AND WILL NOT ADVERSELY IMPACT DRAINAGE CONDITIONS IN THE ROAD.

TIME OF CONCENTRATION - EXISTING**TIME OF CONCENTRATION (T_c) OR TRAVEL TIME (T_t)****Sheet Flow**

- 1.- Surface Description
- 2.- Manning's Roughness Coeff. "n"
- 3.- Flow Length, L (total L ≤ 300ft)
- 4.- Two-year 24-hr. rainfall, P₂
- 5.- Land Slope, S

$$6.- \quad T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}} \quad \text{hr}$$

Segment ID

	0.4	0.4
ft	100	50
inch	3.17	3.17
ft/ft	0.01	0.07
hr	0.47	0.13

$$= 0.60$$

Shallow Concentrated Flow

- 7.- Surface Description (paved or Unpaved)
- 8.- Flow Length, L
- 9.- Watercourse Slope, S
- 10.- Average Velocity, V *
- 11.- $T_t = \frac{L}{3600V}$

Segment ID

	Unpaved	
ft	480	
ft/ft	0.097	
ft/s	5.03	
hr	0.03	

$$= 0.03$$

Channel Flow

- 12.- Cross Sectional Area, a
- 13.- Wetted Perimeter, P_w
- 14.- Hydraulic Radius $r = a/P_w$
- 15.- Channel Slope, S
- 16.- Manning's Roughness Coeff. "n"
- 17.- $V = \frac{1.49r^{2/3} S^{0.5}}{n}$
- 18.- Flow Length, L
- 19.- $T_t = \frac{L}{3600V}$

Segment ID

ft ²		
ft		
ft		
ft/ft		
ft/s		
ft		
hr		

$$= 0.00$$

20.- Watershed Or Subarea T_c or T_t (add T_t from steps 6,11,and 19) hrs. **0.63**

= min **38**

* Average Velocity:

Unpaved $V = 16.1345(S)^{0.5}$ ft/s

Paved $V = 20.3284(S)^{0.5}$ ft/s

TIME OF CONCENTRATION - PROPOSED**TIME OF CONCENTRATION (T_c) OR TRAVEL TIME (T_t)****Sheet Flow**

- 1.- Surface Description
- 2.- Manning's Roughness Coeff. "n"
- 3.- Flow Length, L (total L ≤ 300ft)
- 4.- Two-year 24-hr. rainfall, P₂
- 5.- Land Slope, S

$$6.- \quad T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}} \quad \text{hr}$$

Segment ID

	0.4	0.3
ft	100	40
inch	3.17	3.17
ft/ft	0.01	0.24
hr	0.47	0.05
=		0.52

Shallow Concentrated Flow

- 7.- Surface Description (paved or Unpaved)
- 8.- Flow Length, L
- 9.- Watercourse Slope, S
- 10.- Average Velocity, V *

$$11.- \quad T_t = \frac{L}{3600V}$$

Segment ID

	Unpaved	
ft	190	
ft/ft	0.079	
ft/s	4.53	
hr	0.01	
=		0.01

Channel Flow

- 12.- Cross Sectional Area, a
- 13.- Wetted Perimeter, P_w
- 14.- Hydraulic Radius $r = a/P_w$
- 15.- Channel Slope, S
- 16.- Manning's Roughness Coeff. "n"

$$17.- \quad V = \frac{1.49 r^{2/3} S^{0.5}}{n}$$

- 18.- Flow Length, L

$$19.- \quad T_t = \frac{L}{3600V}$$

Segment ID

ft ²		
ft		
ft		
ft/ft		
ft/s		
ft		
hr		
=		0.00

20.- Watershed Or Subarea T_c or T_t (add T_t from steps 6,11,and 19) hrs. **0.53**

= min **32**

* Average Velocity:

Unpaved $V = 16.1345(S)^{0.5}$ ft/s

Paved $V = 20.3284(S)^{0.5}$ ft/s

WATERSHED BOUNDARY OF
AREA TO VILLA LOUISA ROAD

PROPOSED AREA REMOVED = 0.2 ACRES

EXISTING TC TRAVEL PATH

PROPOSED TC TRAVEL PATH

EXISTING AREA = 1.6 ACRES
PROPOSED AREA = 1.4 ACRES

VILLA LOUISA ROAD

40 0 40 80
SCALE: 1"= 40'

**Barton
& Loguidice**

41 Sequin Drive
Glastonbury, CT 06033
Phone: (860) 633-8770
Fax: (860) 633-5971
www.bandlct.com

Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

PROJ. ENGINEER DPL
PROJ. MANAGER KRG
OFFICE REVIEW KRG

REVISIONS

SCALE: 1"= 40'

WATERSHED PLAN
PREPARED FOR

60 VILLA LOUISA ROAD LLC
60 VILLA LOUISA ROAD BOLTON, CT

PROJECT 1390-001	DATE 10/24/22	SHEET NO. 1 OF 1
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INFORMATION

Application No.: VP#PL-22-7

Application Date: July 5, 2022

Wetlands Permit Effective: N/A

Receipt Date: July 13, 2022

Wetlands Permit Expires: N/A

Public Notification: Published in *Journal Inquirer*: July 29, 2022 & August 5, 2022

Public Hearing Date(s): August 10, 2022, September 14, 2022, October 12, 2022

Applicant(s): Asim Etem

Owner(s): Asim Etem

COMMENT RESPONSE SUMMARY

Patrice L. Carson, AICP, Consulting Director of Community Development

1. Will any additional permanent structures be built? It does not appear that there will be any additional permanent structures built on the property outside of a swimming pool.
RESPONSE: *One 4,000 square foot house with a terrace and concrete patio are the only proposed structures at this time. A possible location for a swimming pool is also shown for a future installation.*
2. Any additional paving or lighting? A parking area for 3 cars and 1 handicapped space is shown in addition to the 2-car garage. The parking table appears incorrect calculating for 2 guest rooms but the narrative says 6 guest rooms (presumably it is 5 guest rooms and 1 room for the owner). The 2-car garage satisfies the owner's room but it would appear 2 more parking spaces would need to be added if the number of guest rooms is 5. There is no new lighting shown but lighting as well as landscaping will be needed.
RESPONSE: *The parking has been revised to include 6 parking spaces (including 1 handicapped space) for 5 guest rooms. The 6th bedroom is included for the owner as "single-family residence" with a requirement of 2 spaces. The garage will accommodate these 2 spaces. The plans have been revised to include proposed lighting and landscaping. Notes have also been added to sheet 3 regarding the proposed landscaping and lighting.*
3. Proof of Certified Mailing to abutters needs to be presented.
RESPONSE: *The applicant will provide Town Staff with proof of Certified Mailing.*
4. The letter from New England Environmental Services or a note with the soil scientist's signature documenting the absence of wetlands on the site should be added to the plans.
RESPONSE: *The Soils Scientist's letter has been added to sheet 1.*
5. Based on the density and maturity of the existing trees and the clearing that will be needed for the driveway and septic system, the building will be very visible from the road. A landscaping plan or a request for waiver should be submitted.
RESPONSE: *Areas of proposed landscaping have been added to the plans. Since this project is residential in nature, the applicant is looking forward to working with his landscape contractor to select plant materials that offer a variety of texture and color*

to the entrance of his B&B. Therefore, exact types and sizes of plantings to be installed within the identified areas will be selected by the owner and landscape contractor at the time of installation.

6. A lighting plan needs to be submitted using cut off fixtures:
 - a. Minimal lighting for the parking area to the house.
 - b. The driveway entrance should have lighting taking care to not blind drivers, especially heading in the Glastonbury direction being on a curve both horizontally and vertically.
 - c. Minimal lighting on the path from the restaurant to the house should be shown especially since this seems like it might be used at night.

RESPONSE: Post mounted driveway lights have been added along the proposed driveway and parking areas. These post top fixtures shall provide a warm spectrum LED down-light to prevent glare and off-site light trespass. These lights have not yet been selected by the applicant/owner but will be selected to be residential in scale in order to provide a safe & welcoming entrance to the bed & breakfast. Other possible light sources shall be building mounted decorative and/or security lighting as required by the Building Code. Photometric light levels will be provided to Town staff at the time of building permit application, once these fixtures have been selected.

7. Site line coming out of the driveway needs to be shown.

RESPONSE: Villa Louisa Road is posted for 25 mph in the area of the proposed work. The required intersection sight distance for passenger vehicles with a 30 mph design speed is 335 feet. The available sight distance at the proposed driveway was measured to be greater than 335 feet to the north and greater than 450 feet to the south.

8. PE and LS stamps are required on all drawings and any calculations submitted.

RESPONSE: The plans include the necessary professional stamps and signatures.

9. If the applicant intends to have a sign, it will require a separate zoning permit from the Zoning Enforcement Officer. Staff thinks a sign is a good idea and would like to see it match the building architecture.

RESPONSE: The owner intends to install a sign and will submit detail with the separate zoning permit application.

Thad D. King, MPH REHS CP-FS, Eastern Highlands Health District

1. Water – The location is already a public water supply. The new building is proposed with a separate well. A potential issue with CTDPH is establishing a separate water supply system. I recommend they submit the public water supply screening form to CTDPH to make a determination on whether a separate system can be established or interconnection with the existing water system is required.

RESPONSE: The applicant will be completing and submitting a public water supply screening form to CTDPH regarding the proposed additional well on the property.

2. Wastewater – the septic design requires review and they should make application at <https://easternhighlandshealthdistrict.viewpointcloud.com/categories/1088/record-types/6443>

RESPONSE: The applicant will submit the application to EHHD for review of the proposed septic system.

3. Food Service – with 6 proposed bedrooms the total building load is likely under 16 but it must be owner occupied to be exempted from the Public Health Code food service establishment definition. If not exempt a food service plan review application is required, apply at, <https://easternhighlandshealthdistrict.viewpointcloud.com/categories/1083/record-types/6462> . Food service as a Bed and Breakfast is limited to breakfast. They need to identify what food service will be provided, and if a separate commercial kitchen will be provided.

RESPONSE: The home will be owner occupied. Only breakfast will be provided at the new home and a separate commercial kitchen is not proposed.

Bruce A. Dixon, Fire Chief, Bolton Fire Department

As this building is currently used with a very large public presence and currently has an occupied apartment on the second floor, I would believe that the parking and egress to this building is sufficient for a Bed and Breakfast suite. If construction to enlarge the building is requested, I would like to see a plan, maybe that is in the Viewpoint that I cannot open.

I would also yield to the Fire Marshal for his comments and concerns with the living space and requirements for that type of occupancy.

RESPONSE: No revisions are proposed to the existing development on this site. A new house to the south of the existing facility is proposed with a separate driveway entrance.

Jim Rupert, Fire Marshal

We should be certain that the slope of the driveway does not exceed the maximum allowable per Bolton Zoning regs. Additionally I have concerns regarding the turn radius at the bottom of the driveway as well as the angle of departure for fire truck access. The plans should demonstrate adequate parking and I am concerned that with the limited parking shown on the plan there will be constant vehicle parking in loop at the front of the structure and with the width at 15' it would not provide emergency access. We have not performed any review of the building plans and silence on that front does not imply any approvals with them.

RESPONSE: Additional parking has been added to the plans to provide sufficient room for

vehicles without parking within the turnaround area. The driveway entrance has been revised to provide additional room for turning vehicles leaving the site and heading northbound.

Joseph M. Dillon, P.E., Nathan L Jacobson & Associates

1. The submission should include a detailed drainage report the includes pre and post development analysis along with water quality measures.

RESPONSE: A detailed drainage report including pre/post development calcs and proposed water quality measures has been prepared and is being submitted for your review.

2. While the Site Development Plan includes a detail for Silt Fence, no silt fence is shown on the plan.

RESPONSE: Silt fence has been added to the plans.

3. The test pits excavated near the proposed SSDS system indicate that rock was encountered between 11" and 41" below existing grade. The proposed grading for the driveway shows cuts of over 10 feet. There is a probability that rock and possibly groundwater may be encountered.

RESPONSE: It is anticipated that rock removal will be required. A curtain drain is proposed along the south side of the new driveway to pick up any groundwater that may be encountered. The trench will have stone installed to the surface so that it can also collect surface water before this water enters the driveway.

4. We would recommend that a cut-off swale be placed along the cut slope along the south shoulder of the access drive. The runoff from the swale should be diverted away from Villa Louisa Road to the greatest extent possible.

RESPONSE: The total area draining to this edge of the driveway is less than 0.25 acres, a flat shelf is proposed along this edge of the drive rather than a swale. The proposed curtain drain will divert any groundwater and surface water collected to a level spreader on the north side of the driveway. It will connect to a yard drain with a grate at grade. Water will fill the drain and overflow from the grate into the level spreader.

5. In accordance with Section 16A.3.j. of the Bolton regulations, an Outdoor Lighting Plan should be prepared.

RESPONSE: Post mounted driveway lights have been added along the proposed driveway and parking areas. These post top fixtures shall provide a warm spectrum LED down-light to prevent glare and off-site light trespass. These lights have not yet been selected by the applicant/owner but will be selected to be residential in scale in order to provide a safe & welcoming entrance to the bed & breakfast. Other possible light sources shall be building mounted decorative and/or security lighting as required by the Building Code. Photometric light levels will be provided to Town staff at the time of building permit application, once these fixtures have been selected.

6. In accordance with Section 16A.3.q. of the Bolton regulations, a Landscaping Plan should be prepared.

RESPONSE: Areas of proposed landscaping have been added to the plans. Since this project is residential in nature, the applicant is looking forward to working with his landscape contractor to select plant materials that offer a variety of texture and color to the entrance of his B&B. Therefore, exact types and sizes of plantings to be installed within the identified areas will be selected by the owner and landscape contractor at the time of installation.



Town of Bolton

222 BOLTON CENTER ROAD • BOLTON, CT 06043

Date: August 1, 2022 – **REVISED November 1, 2022**

To: Planning & Zoning Commission

From: Patrice L. Carson, AICP, Consulting Director of Community Development

Subject: **Asim Etem's Special Permit Application at 60 Villa Louisa Road for Bed & Breakfast**

INFORMATION

Application No.: VP#PL-22-7

Application Date: July 5, 2022

Wetlands Permit Effective: N/A

Receipt Date: July 13, 2022

Wetlands Permit Expires: N/A

Public Notification: Published in *Journal Inquirer*: July 29, 2022 & August 5, 2022

Public Hearing Date(s): August 10, 2022, September 14, 2022, October 12, 2022, **November 9, 2022**

Applicant(s): Asim Etem

Owner(s): Asim Etem

New comments are in red. There are several items that still need addressing. The public hearing cannot be extended as all extensions have been exhausted, so the PZC will need to close the public hearing and decide if they have enough information to render a decision. If they do not, the applicant should consider requesting withdrawal without prejudice to preserve his application fee.

This is an application for a Special Permit for a Bed & Breakfast on the property that currently is occupied by A Villa Louisa Restaurant and Banquet Facility. The owner and applicant, Asim Etem, intends to build a freestanding 4,000 square foot house with six (6) bedrooms including a handicap accessible bedroom with bathroom, a walkout basement, 2-car garage and possible swimming pool, with parking for up to six cars. The property is located in the Neighborhood Business Zone (NB) and Bed and Breakfast up to 6 rooms is allowed by Special Permit – Section 8B.2.b.12. The current use would be much more impactful to the surrounding properties than the addition of a Bed and Breakfast. From a Planning perspective, it would appear to be a good use to locate near the Banquet facility to provide short-term overnight stay options for a wedding or other event taking place at A Villa Louisa.

Questions and information needed:

1. *Will any additional permanent structures be built?* It does not appear that there will be any additional permanent structures built on the property outside of a swimming pool. - **addressed**
2. *Any additional paving or lighting?* A parking area for 3 cars and 1 handicapped space is shown in addition to the 2-car garage. The parking table appears incorrect calculating for 2

guest rooms but the narrative says 6 guest rooms (presumably it is 5 guest rooms and 1 room for the owner). The 2-car garage satisfies the owner's room but it would appear 2 more parking spaces would need to be added if the number of guest rooms is 5. There is no new lighting shown but lighting as well as landscaping will be needed. - parking has been addressed. Landscaping and lighting are shown. The Commission may want to add a condition that a lighting isodiagram will be submitted once the lighting is installed to prove the lighting meets the Zoning Regulations.

3. Proof of Certified Mailing to abutters needs to be presented. - certified mail receipts were submitted
4. The letter from New England Environmental Services or a note with the soil scientist's signature documenting the absence of wetlands on the site should be added to the plans. - addressed
5. Based on the density and maturity of the existing trees and the clearing that will be needed for the driveway and septic system, the building will be very visible from the road. A landscaping plan or a request for waiver should be submitted. - Commission will need to discuss this and make a decision.
6. A lighting plan needs to be submitted using cut off fixtures: - see #2 above
 - a. Minimal lighting for the parking area to the house.
 - b. The driveway entrance should have lighting taking care to not blind drivers, especially heading in the Glastonbury direction being on a curve both horizontally and vertically.
 - c. Minimal lighting on the path from the restaurant to the house should be shown especially since this seems like it might be used at night.
7. Site line coming out of the driveway needs to be shown. - see DPW comments below - needs to be addressed
8. PE and LS stamps are required on all drawings and any calculations submitted. - none of the plan sets submitted to town hall or uploaded to ViewPoint have stamps - needs to be addressed
9. If the applicant intends to have a sign, it will require a separate zoning permit from the Zoning Enforcement Officer. Staff thinks a sign is a good idea and would like to see it match the building architecture.

Please see the Staff Review comments below which all need to be addressed before the Commission can render a decision on this application.

REPORTS RECEIVED

- Project Narrative
- 07/22/22 review email from Barbara Kelly, Inland Wetlands Agent with concerns - ADDRESSED
- 07/28/22 review email from Thad King, EHHD Public Health with 3 issues to address - new email with issues that need to be addressed
- 07/29/22 review email from Bruce Dixon, Fire Chief, with comments to address
- 07/29/22 review email from James Rupert, with comments to address - new email with issues that need to be addressed
- 07/29/22 review email from Joseph Dillon, PE with 6 issues to address - new email with 1 issue that need to be addressed
- 07/28/22 review email from Lance Dimock, DPW, with comments - new email with 1 issue that need to be addressed

ADDITIONAL INFORMATION RECEIVED

- Abutters List
- Site Development Plan & Details
- Architectural Floor Plans & Elevations
- Engineering & Legal Review Fee of \$2,000

ADDITIONAL INFORMATION NEEDED

- Warranty Deed
- E&S Cost Control Bond Estimate
- Site Improvements Bond Estimate
- Site Plan Checklist needs to be completed
- Detailed Drainage Report outlined in the Town Engineer's review
- Landscaping Plan & Details
- Lighting Detail (fixtures & cut sheets) and Isometric map/lighting plan

From: Rupert, Jim <jrupert@boltonct.org>

Sent: Wednesday, October 26, 2022 4:20 PM

To: Carson, Patrice <pcarson@boltonct.org>; jdillon@nlja.com; Thad King (KingTD@ehhd.org) <KingTD@ehhd.org>; Kelly, Barbara <bkelly@boltonct.org>; Covill, Cameron <ccovill@boltonct.org>; Call, William <wcall@boltonct.org>; Bruce Dixon <boltonchief34@gmail.com>; Zoning Official, Interim <zeo@boltonct.org>; Dimock, Lance <ldimock@boltonct.org>

Subject: RE: Staff Review Requested: REVISED PLANS for Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Patrice,

The plans certainly have more detail than the last set which give a clearer picture of the proposed development. With the additional detail comes some additional questions. Is a dumpster planned for the site? Where would it be placed. Not knowing where the entrance to the building is it is difficult to determine if the driveway slope meets the requirements under the building code for an accessible path between the accessible parking and entrance. The engineers should be certain that is appropriate and code compliant. I believe Bolton Zoning Regulations require the isometric diagram to be part of the submittal paperwork for the application. Since it is not present I am unable to provide any comments as to compliance with minimum illuminance levels with regard to the building code. I believe the previously cited concerns have been addressed.

Jim Rupert

From: Joseph M. Dillon, P.E. <jdillon@nlja.com>

Sent: Tuesday, November 01, 2022 9:43 AM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: Staff Review Requested: REVISED PLANS for Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Patrice,

The only outstanding issue that I have is that a swale should be placed adjacent to the proposed driveway. The revised plans show a curtain drain. The curtain drain will not be sufficient to capture surface runoff. Additionally, the driveway should be graded to direct surface runoff toward the swale to try to direct as much water as possible away from the Town road.

I did have a telephone conversation with Denise Lord regarding the issue. She was going to revise the plans to show a swale.

Regards,
Joe

From: Dimock, Lance <ldimock@boltonct.org>
Sent: Thursday, November 03, 2022 3:21 PM
To: Carson, Patrice <pcarson@boltonct.org>; Joseph M. Dillon, P.E. <jdillon@nlja.com>
Subject: RE: Staff Review Requested: REVISED PLANS for Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Joe and I just looked at Villa Louisa Rd- The north facing sight line does not appear to be correct 1) vehicle reference is too far back in the driveway and possibly the bank on the opposite side of the road needs to be lowered.
Lance

From: Thad D. King <KingTD@ehhd.org>
Sent: Tuesday, November 01, 2022 3:29 PM
To: 'asimetem@gmail.com' <asimetem@gmail.com>
Cc: Carson, Patrice <pcarson@boltonct.org>
Subject: 60 Villa Louisa Rd Bolton

Please see attached.

A potential alternative to new water and wastewater systems is to connect the new building sewer to the existing building sewer and add leaching area onto the existing leaching field, and to bring a water connection from the existing building to the new building.

Thad King MPH REHS CP-FS
Eastern Highlands Health District
4 South Eagleville Rd
Mansfield CT 06268
860 429 3325 W
860 208 9940 C



4 South Eagleville Road Phone: (860) 429-3325 Fax: (860) 429-3321 Web: www.EEHD.org

Revisions Required

November 1, 2022

Asim Etem
60 Villa Louisa Rd
Bolton CT 06043

RE: Septic Plan Review, Surveyor or Engineered for 60 VILLA LOUISA RD. Reference #SPR-22-274

Dear Asim Etem:

The above referenced Project has been reviewed for compliance with the Connecticut Public Health Code and Technical Standards.

Additional Information is Required:

The plan date 10-24-22 was reviewed with the following comments;

1. Sheet 4 item 8 indicates a private water supply. The property is currently regulated as a public water supply by CTDPH. The proposed use is as a Bed and Breakfast. It is indeterminate if the proposed use will be considered a private or public supply pending the requested CTDPH review.
2. The well permit for a private supply will likely require an exception under Section 19-13-B51m(b) from CTDPH.
3. Site development notes should indicate that the new well construction may proceed only after any site blasting to remove ledge has been completed.
4. The design flow is listed as 6 Br, however the Parking Table lists 3 Br dwelling and 2 Br B&B. ELA is listed as a 6 BR at 742.5 SQ FT.

A 3 Br dwelling is 495 SQ FT + (2 Br B&B - 300 GAL/1.5 Gal/SQ FT) 200 SQ FT = 695 SQ FT, or
495 SQ FT + (3 Br B&B - 450 Gal/1.5 Gal/SQ FT) 300 SQ FT = 795 SQ FT.
5. The soil conditions are unsuitable for SSDS by definition, with ledge less than 48 inches from the ground surface. The area can be made suitable by placement of suitable material, in this case select sand meeting the plan sieve requirement, per an approved design, and as allowed by Planning and Zoning.
6. The proposed reserve area is less than 25 FT from the downslope property line.
7. The leaching System Cross Section indicates the leaching row is into the existing ground. With ledge at 40 inches the bottom is required to be at least 8 inches above existing ground. Please revise.

8. Exempt from CT Food Code 19-13-b42 is "a bed-and-breakfast operation that prepares and offers food to the guests if such operation is owner occupied and has the total building occupant load of not more than 16 persons including the owner and occupants, and has no provisions for cooking or warming food in the guest rooms, and breakfast is the only meal offered, and placards are posted at the registration area which read "this establishment is exempt from section 19-13-B42 of the regulations of the public health code ", otherwise a commercial kitchen is required with an external grease receptor for the SSDS.

If you have any questions, please contact me.
Sincerely,



Thad King, MPH, REHS RS

~~860-429-3325(Mansfield)~~

Preventing Illness & Promoting Wellness for Communities In Eastern Connecticut

860-649-8066 x6108 (Andover * Ashford * Bolton * Chaplin * Columbia * Coventry * Mansfield * Scotland * Tolland *
WillingtonBolton)
kingtd@ehhd.org

From: Kelly, Barbara

Sent: Friday, July 22, 2022 1:04 PM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: Staff Review Requested: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Hi Patrice,

Did they have a soil scientist determine that there are no wetlands on the site? If so, do they have a letter documenting the finding?

Take care,
BK

From: Thad D. King [mailto:KingTD@ehhd.org]

Sent: Thursday, July 28, 2022 6:18 PM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: Staff Review Requested: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

1. Water – The location is already a public water supply. The new building is proposed with a separate well. A potential issue with CTDPH is establishing a separate water supply system. I recommend they submit the public water supply screening form to CTDPH to make a determination on whether a separate system can be established or interconnection with the existing water system is required.
2. Wastewater – the septic design requires review and they should make application at <https://easternhighlandshealthdistrict.viewpointcloud.com/categories/1088/record-types/6443>
3. Food Service – with 6 proposed bedrooms the total building load is likely under 16 but it must be owner occupied to be exempted from the Public Health Code food service establishment definition. If not exempt a food service plan review application is required, apply at, <https://easternhighlandshealthdistrict.viewpointcloud.com/categories/1083/record-types/6462> . Food service as a Bed and Breakfast is limited to breakfast. They need to identify what food service will be provided, and if a separate commercial kitchen will be provided.

Thad King MPH REHS CP-FS
Eastern Highlands Health District
4 South Eagleville Rd
Mansfield CT 06268
860 429 3325 W
860 208 9940 C



From: Bruce Dixon [mailto:boltonchief34@gmail.com]
Sent: Friday, July 29, 2022 7:17 AM
To: Carson, Patrice <pcarson@boltonct.org>; Rupert, Jim <jrupert@boltonct.org>
Subject: Re: Staff Review Requested: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Hello Patrice,

I have tried several times to open this plan review and I cannot get it to respond to my computer.

As this building is currently used with a very large public presence and currently has an occupied apartment on the second floor, I would believe that the parking and egress to this building is sufficient for a Bed and Breakfast suite. If construction to enlarge the building is requested, I would like to see a plan, maybe that is in the Viewpoint that I cannot open.

I would also yield to the Fire Marshal for his comments and concerns with the living space and requirements for that type of occupancy.

Best regards,

Bruce A. Dixon
Fire Chief
Bolton Fire Department
168 Bolton Center Road
Bolton, CT 06043
860-649-3910 Office



From: Rupert, Jim
Sent: Friday, July 29, 2022 2:51 PM
Subject: RE: 60 Villa Louisa Review Comments

Patrice,

We should be certain that the slope of the driveway does not exceed the maximum allowable per Bolton Zoning regs. Additionally I have concerns regarding the turn radius at the bottom of the driveway as well as the angle of departure for fire truck access. The plans should demonstrate adequate parking and I am concerned that with the limited parking shown on the plan there will be constant vehicle parking in loop at the front of the structure and with the width at 15' it would not provide emergency access. We have not performed any review of the building plans and silence on that front does not imply any approvals with them.

Jim

From: Joseph M. Dillon, P.E. [<mailto:jdillon@nlja.com>]
Sent: Friday, July 29, 2022 2:18 PM
Subject: 60 Villa Louisa Review Comments

Patrice,

We have reviewed the following:

- Set of five (5) drawings titled "Site Development Plan prepared for 60 Villa Louisa Road, LLC, 60 Villa Louisa Road – Bolton, CT", dated January 31, 2022, Prepared by Barton & Loguidice.
- 1. The submission should include a detailed drainage report the includes pre and post development analysis along with water quality measures
- 2. While the Site Development Plan includes a detail for Silt Fence, no silt fence is shown on the plan.
- 3. The test pits excavated near the proposed SSDS system indicate that rock was encountered between 11" and 41" below existing grade. The proposed grading for the driveway shows cuts of over 10 feet. There is a probability that rock and possibly groundwater may be encountered.

4. We would recommend that a cut-off swale be placed along the cut slope along the south shoulder of the access drive. The runoff from the swale should be diverted away from Villa Louisa Road to the greatest extent possible.
5. In accordance with Section 16A.3.j. of the Bolton regulations, an Outdoor Lighting Plan should be prepared.
6. In accordance with Section 16A.3.q. of the Bolton regulations, a Landscaping Plan should be prepared.

Should you have any questions, please feel free to contact me.

Regards,
Joe

Joseph M. Dillon, P.E.



Nathan L. Jacobson & Associates
Consulting Civil and Environmental Engineers

Celebrating our 50th Anniversary 1972-2022

86 Main Street, P.O. Box 337, Chester, Connecticut 06412-0337

860.526.9591 • jdillon@nlja.com • www.nlja.com

From: Dimock, Lance

Sent: Thursday, July 28, 2022 1:53 PM

To: Carson, Patrice <pcarson@boltonct.org>

Subject: RE: Staff Review Requested: Special Permit Application for Bed & Breakfast, 60 Villa Louisa Road, Asim Etem (VP#PL-22-7)

Patrice- If there are no road or driveway changes, I really have no reason to comment.
Lance



City of Middletown Department of Land Use

245 deKoven Drive
Middletown, CT 06457
(860)638-4590
www.MiddletownCT.gov

MEMORANDUM

TO: Ashley Flynn-Natale, CCTC, City & Town Clerk

FROM: Marek Kozikowski, AICP, Director *Marek Kozikowski*

DATE: August 19, 2021

RE: **Approved Zoning Text Amendments
Z2021-7
Sections 16, 40, 44, & 61: Cannabis Micro-Cultivation and Cannabis Retail**

At a meeting held on August 11, 2021, the Planning and Zoning Commission approved the following zoning text amendments to the Middletown Zoning Code:

Bold Text: Added

xx: Section Number TBD

16.0 DEFINITIONS

16.06.xx **CANNABIS MICRO-CULTIVATION**

An establishment for cultivation, growing and propagation of the cannabis plant, containing not less than two thousand (2,000) square feet and not more than ten thousand (10,000) square feet of grow space, prior to any expansion authorized by the Commissioner of Consumer Protection up to twenty-five thousand (25,000) square feet, operated by a micro-cultivator, as defined in the Responsible and Equitable Regulation of Adult-Use Cannabis Act, as amended.

16.06.xx **CANNABIS RETAIL**

An establishment selling cannabis to consumers and research programs operated by a retailer, as defined in the Responsible and Equitable Regulation of Adult-Use Cannabis Act, as amended.

40.04 QUANTITY OF PARKING SPACES

40.04.xx **CANNABIS MICRO-CULTIVATION**

One (1) parking space for each three hundred (300) sq. ft. of gross building area per floor dedicated to retail sales on the premises and five hundred (500) sq. ft. of gross building area dedicated for grow space, warehousing, common space or other support space per floor.

40.04.xx CANNABIS RETAIL
One (1) parking space for each three hundred (300) sq. ft. of gross building area per floor.

44.08 STANDARDS FOR SPECIAL EXCEPTION

44.08.xx CANNABIS MICRO-CULTIVATION

1. Pursuant to the terms of the Responsible and Equitable Regulation of Adult-Use Cannabis Act, as amended, a special exception shall not be granted for a Cannabis Micro-Cultivator that would result in an amount that (1) until June 30, 2024, exceeds the density cap of one Cannabis Micro-Cultivator for every twenty-five thousand residents, and (2) on and after July 1, 2024, exceeds any density cap determined by the Commissioner of Consumer Protection.
2. A vegetative or fencing screening buffer shall be provided between the establishment and any abutting residential use.
3. A traffic management plan shall be provided that demonstrates adequate safety measures for vehicular and pedestrian traffic in response to the site conditions and conditions along adjacent streets.
4. Consumption either orally, topically or by inhalation of any cannabis products outdoors on the premises is prohibited.
5. Any deliveries of cannabis products leaving the establishment and sold directly to the consumer shall occur between the hours of 8:00am and 10:00 pm daily.

44.08.xx CANNABIS RETAIL

1. Pursuant to the terms of the Responsible and Equitable Regulation of Adult-Use Cannabis Act, as amended, a special exception shall not be granted for a Cannabis Retail Establishment that would result in an amount that (1) until June 30, 2024, exceeds the density cap of one Cannabis Retail Establishment for every twenty-five thousand residents, and (2) on and after July 1, 2024, exceeds any density cap determined by the Commissioner of Consumer Protection.
2. The establishment shall be located along a state highway.
3. The site plans shall provide a landscaped or fencing screening buffer from any abutting residential use.
4. A traffic management plan shall be provided that demonstrates adequate safety measures for vehicular and pedestrian traffic in response to the site conditions and conditions along adjacent streets.
5. Consumption either orally, topically or by inhalation of any cannabis products outdoors on the premises is prohibited.

6. Any deliveries of cannabis products leaving the establishment and sold directly to the consumer shall occur between the hours of 8:00am and 10:00 pm daily.

61.02 SPECIAL EXCEPTION USES
61.02.xx Cannabis Micro-Cultivation (44.08.xx)
 ZONES: I-1 I-2 I-4 TD IT IRA

61.02.xx Cannabis Retail (44.08.xx)
 ZONES: B-2 NPC

- A. Elevations, drawn to scale, of the proposed structure
 - B. Photos of the adjacent property, including any structures visible from the street; and
 - C. Photos of existing homes across the street from the subject property
- 6.14.9 No approval of a Special Permit shall result in the creation of an interior lot.

Section 6.15 RESERVED - Footnote!

Section 6.16 Adult-use Cannabis Cultivation and Sale and Medical Marijuana Dispensary and Production (Effective 9/5/2018)

6.16.1. Purpose. The purpose of this section is to regulate the location and operation of medical marijuana dispensary facilities, ~~medical and production~~ marijuana production facilities, and adult-use cannabis retail and cultivation. The intent of these regulations is to minimize any adverse impacts of such facilities, and to protect and preserve Newington's neighborhoods, commercial districts, property values and quality of life.

6.16.2 Definitions. For use in this section of the Regulations:

- A. "Cannabis" means marijuana, as defined in section 21a-240 of the general statutes;
- B. "Cannabis product" means cannabis that is in the form of a cannabis concentrate or a product that contains cannabis, which may be combined with other ingredients, and is intended for use or consumption.
- C. "Consumer" means an individual who is twenty-one years of age or older.
- D. "Cultivation" has the same meaning as provided in section 21a-408 of the general statutes;
- E. "Cultivator" means a person that is licensed to engage in the cultivation, growing and propagation of the cannabis plant at an establishment with not less than fifteen thousand square feet of grow space;
- F. "Dispensary facility" means a place of business where medical marijuana may be dispensed or sold at retail to qualifying patients and primary caregivers and for which the Connecticut Department of Consumer Protection has issued a dispensary facility permit under CGS Sec. 21a-408 et seq. as they may be amended and Sections 21a-408-1 to 21a-408-70, inclusive, of the Regulations of Connecticut State Agencies as they may be amended;
- G. "Hybrid retailer" means a person that is licensed to purchase cannabis and sell cannabis and medical marijuana products;
- H. "Micro-cultivator" means a person licensed to engage in the cultivation, growing and propagation of the cannabis plant at an establishment containing not less than two thousand square feet and not more than ten thousand square feet of grow space, prior to any expansion authorized by the commissioner;
- I. "Production facility" means a secure, indoor facility where the production of medical marijuana occurs and is operated by a person to whom the Connecticut Department of Consumer Protection has issued a production facility permit under CGS Sec. 21a-408 et seq. as amended and Sections 21a-408-1 to 21a-408-70, inclusive, of the Regulations of Connecticut State Agencies as they may be amended.

J. "Retailer" means a person, excluding a dispensary facility and hybrid retailer, that is licensed to purchase cannabis from producers, cultivators, micro-cultivators, product manufacturers and food and beverage manufacturers and to sell cannabis to consumers and research programs;

6-16-26.16.3 Applicability:

- A. Medical marijuana dispensary facilities and production facilities shall be governed by CGS Sec. 21a-408 et seq. as amended and Sections 21a-408-1 to 21a-408-70, inclusive, of the Regulations of Connecticut State Agencies as they may be amended and permitted only in the following zone, subject to special permit approval in accordance with Section 5.2 of these Regulations, site plan approval in accordance with Section 5.3 of these Regulations, and the requirements of this section.
- B. Cannabis retail and hybrid-retail facilities shall be governed by The Responsible and Equitable Regulation of Adult-Use Cannabis Act ("RERACA"), the Public Act 21-1 / Senate Bill 1201 as amended inclusive of the : Regulations of Connecticut State Agencies as they may be amended and permitted only in the following zone, subject to special permit approval in accordance with Section 5.2 of these Regulations, site plan approval in accordance with Section 5.3 of these Regulations, and the requirements of this section.
- C. Adult-use cannabis cultivator and micro-cultivator facilities shall be governed by the RERACA, the Public Act 21-1/ Senate Bill 1201 as amended inclusive of the Regulations of Connecticut State Agencies as they may be amended and permitted only in the following zone, subject to special permit approval in accordance with Section 5.2 of these Regulations, site plan approval in accordance with Section 5.3 of these Regulations, and the requirements of this section.
- A.
1. I Industrial Zone for Medical Marijuana Dispensary facilities and/or Production facilities;
- ~~1-2.~~ I Industrial Zone for Adult -Use Cannabis Cultivator and Micro-cultivator facilities;
and
- ~~2-3.~~ B-BT zone for Adult-Use Cannabis Retailer, Hybrid-retailer and Medical Marijuana Dispensary facilities only.

6-16-36.16.4 Separation Requirements. Uses identified in this section shall be subject to the following separation restrictions:

- A. No medical marijuana production, or adult-use cannabis cultivator or micro-cultivator facility shall be allowed within 100 feet of a church, temple or other place used primarily for religious worship, public building, private recreation area, or a school, playground, park or child day care facility;
- B. No medical marijuana production, or adult-use cannabis cultivator or micro-cultivator facility shall be allowed on a site that is less than 100 feet from any property that is zoned for single-family residential use as a permitted use;
- C. No medical marijuana dispensary, or production, or adult use cannabis retailer, hybrid-retailer facility or production cultivator or micro-cultivator facility shall be allowed within the same building, structure or portion thereof that is used for residential purposes, or that contains another medical marijuana dispensary, production facility, facility or adult use cannabis retail, hybrid retail, or production facility cultivator or micro-cultivator facility;
- ~~C-E.~~ No adult-use cannabis retail or hybrid-retail shall be located less than 500 feet from another adult-use cannabis retail or hybrid-retail. Distance shall be measured from the radius of the front door to front door of each establishment.
- D. All distances contained in this section, other than those specified in the subsection "E" above shall be measured by taking the nearest straight line between the respective lot boundaries of each site.

6-16-46.16.5 Minimum Floor Area Requirements:

- A. No medical marijuana production facility shall be allowed in a building with less than 25,000 square feet of gross floor area.

6-16-56.16.6 Sign and exterior display requirements:

- A. Exterior signage shall be restricted to a single sign no larger than 16" x 18" containing the legal name of the entity and the street address of the facility. Section 6.2.3b shall not apply.

6-16-66.16.7 Off-Street Parking requirements:

- A. Required off-street parking shall be in compliance with Section 6.1 of these regulations.

6-16-76.16.8 Security Requirements:

- A. All medical marijuana dispensary facilities and production facilities shall have an adequate security system to prevent and detect diversion, theft or loss of marijuana utilizing commercial grade equipment meeting at least the minimum requirements of Sec. 21a-408-62 of the State of Connecticut Regulations;
- B. The hours of operation for medical marijuana dispensary facilities shall be limited to between 7:00 a.m. and 7:00 p.m., all days of the week;
- C. There shall be no limitation on the hours of operation for medical marijuana production facilities, all days of the week.

6-16-86.16.9 Conditional Approval:

- A. Special Permits shall be approved with the condition that the applicant obtains the appropriate ~~Dispensary or Production Facility~~ license issued by the State of Connecticut Department of Consumer Protection (or other State agency as regulatory changes occur);
- B. The conditional approval shall become finalized upon the receipt by the Town Planner of a copy of the Department of Consumer Protection-issued license;
- C. The conditional approval shall expire if the applicant fails to provide the Town Planner with a copy of the Department of Consumer Protection-issued license within six months of the date of the TPZ's conditional approval;
 - 1. A six month extension of such conditional approval shall be granted to the applicant upon written notification to the Town Planner that an application for a Department of Consumer Protection license has been filed, indicating the expected decision date of the Department of Consumer Protection license.
- D. No entity shall operate without a valid, current license.

6-16-96.16.10

Connecticut

Department of Consumer Protection Approval:

- A. The applicant shall provide the Town Planner with a copy of the appropriate ~~Dispensary or Production Facility~~ license issued by the State of Connecticut Department of Consumer Protection, and any subsequent renewed license.

SECTION 7: ADMINISTRATION

Section 7.1 Enforcement

7.1.1 Zoning Enforcement Officer

The Town Manager shall appoint a Zoning Enforcement Officer, and may appoint one or more Deputy Zoning Enforcement Officer(s) who shall have the responsibility and authority to enforce the provisions of these regulations. Such Officer may cause any building, land or use to be inspected and may order in writing any person to correct or abate any condition violating these



TOWN OF WETHERSFIELD
DEPT. OF PLANNING AND ECONOMIC DEVELOPMENT
505 SILAS DEANE HIGHWAY
WETHERSFIELD, CONNECTICUT 06109
(860) 721-2837 FAX (860) 721-2843

TO: Wethersfield Town Council
FROM: Denise Bradley – Assistant Planner
RE: Zoning Regulation Amendment – Application #2098-21-Z –
Cannabis Establishments - Temporary Moratorium
DATE: January 12, 2022

On November 16, 2021, the Wethersfield Planning and Zoning Commission voted to approve an application for a temporary moratorium on cannabis establishments for a period of six (6) months expiring May 31, 2022.

During this temporary moratorium, the Planning and Zoning Commission shall not accept or consider any application to permit a Cannabis Establishment as defined by Connecticut Public Act 21-1 or a medical marijuana dispensary facility as defined by Sections 2.3. and 5.11. of the Wethersfield Zoning Regulations.

The Commission would like a study of this issue to determine the appropriateness and need as it relates to these types of businesses in the community. Research should include a review of the market conditions, a review of how other communities regulate these types of facilities, compatibility with the POCD and a review of the appropriate zoning districts/sites for the uses.

The Connecticut General Assembly has passed legislation and the Governor has signed SB 1201 that legalizes the adult use of cannabis in the State of Connecticut. Said Senate Bill No. 1201, June Special Session, Public Act No. 21-1 (the “Act”) contains provisions allowing municipalities to prohibit or place reasonable restrictions on cannabis establishments. In addition, the State has approved additional statutes under the Palliative Use of Marijuana – legislation passed in 2012 authorizing the use of medical marijuana.

The reason for this temporary and limited term moratorium is to allow the Planning and Zoning Commission time to further review, research and study Public Act No.21-1 “An Act Concerning Responsible and Equitable Regulation of Adult-Use Cannabis” and the associated regulation of Cannabis Establishments, and to draft and adopt regulations regarding the various cannabis related land uses within the Town of Wethersfield.

It is my understanding that if the Town chooses not to regulate Cannabis establishments in a specific way that they would be treated as any similar use such as retail and would be permitted in any zone that permits retail.

Existing Zoning Regulations for Medical Marijuana

At the present time the Wethersfield Zoning Regulations permit Medical Marijuana Dispensaries per Article 5, Section 5.2.D,7 Permitted Principal Uses - Dispensary facility subject to the provisions of Section 5.11. permitted as a Conditional Use Special Permit in the Town Center/TC zone.

This land use requires the issuance of a Special Use Permit from the Planning and Zoning Commission prior to approval.

The reason for this temporary and limited term moratorium is to allow the Planning and Zoning Commission time to further review, research and study Public Act No.21-1 "An Act Concerning Responsible and Equitable Regulation of Adult-Use Cannabis" and the associated regulation of Cannabis Establishments, and to draft and adopt regulations regarding the various cannabis related land uses within the Town of Wethersfield.



Town of
North Stonington
Connecticut

LAND USE DEPARTMENT

Nathan Reichert – Planning, Development and Zoning Official

Below are the Cannabis Use Regulations as adopted by the North Stonington Planning and Zoning Commission effective July 14th 2022.

602.6 MISC. FACILITIES	C	HC	VC	ED	RC	I
Cannabis Cultivator Facility* (§ 1003)	-	SPP	-	SPP	SPP	SPP
Cannabis Retail Facility* (§ 1003)	-	SPP	-	SPP	SPP	SPP

* = *Specific use regulations exist in sections indicated.*

1003 CANNABIS USES

1003.1 Intent and Purpose

Public Act No. 21-1, An Act Concerning Responsible and Equitable Regulation Adult Use Cannabis ("The Act") became effective July 1, 2021. The Planning and Zoning Commission has determined that the uses defined and enabled in "The Act" affect the health, safety and welfare of North Stonington's citizens, and the following restrictions and standards for the implementation of uses enabled by "The Act" are here to adopted.

1003.2 Special Permit Requirements

- A. A special permit pursuant to Chapter 13 Permits by Commission - 1303 Special Permit Application, approved by the Planning and Zoning Commission shall be required for all cannabis uses.
- B. Primary cannabis uses may include a cannabis cultivator facility and/or a cannabis retail facility.
- C. Accessory cannabis uses may include a cannabis manufacturer facility, cultivator, micro-cultivator, food and beverage manufacturer, product manufacturer, product packager, delivery service, transporter, retailer, or hybrid retailer and shall only be permitted as accessory to a primary use special permit.
- D. Permitted uses may not exceed the population ratio density cap quantity limitations required by state law or by section 3.14.G.1 of these regulations.
- E. A security plan for a cannabis facility shall be a part of the application. The Commission may, at the expense of the applicant, engage a security consultant to review the plan and make recommendations to the Commission.
- F. The Fire Department and Fire Marshall shall review and approve the site and operations plan to ensure compliance with fire code and firefighting feasibility of the proposed facility.
- G. The site and facility shall be served by a drinking water supply source approved by the Health District and/or the State Department of Public Health, as necessary.
- H. The growing, manufacture and/or retail sales of cannabis shall not create the emission of dust, odor, fumes, smoke, wastes, noise, vibrations, traffic, illegal discharge of wastewater to the ground or cause adverse environmental impacts to the surrounding properties.
 1. An environmental impact review/study shall be included as a part of the special permit application.
 2. The impact review / study shall include:
 - i. The facility's odor mitigation plan.



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- ii. If a septic system is being used for the facility, then a plan to keep separate manufacturing waste and wastewater treatment is required. The applicant shall secure an approved septic permit that is compliant with the state public health code and technical standards and the Department of Energy and Environmental Protection's regulations, depending on the projected wastewater and sanitary water flows from the facility. Industrial and manufacturing wastewater, other than sanitary waste discharges, will need to be evaluated to determine whether an industrial discharge permit is required by the Department of Energy and Environmental Protection to pre-treat potential wastewater discharges.
- iii. All chemicals used in the growing, production, manufacture, and/or extraction process shall be disclosed, including Safety Data Sheets, for all chemicals used at the facility.
- iv. A detailed plan for the proper storage and potential containment of all hazardous wastes, substances and materials shall be included as a part of the application.
- I. A Traffic control and impact study shall be included with any application for retail facilities.
- J. A special permit shall be renewed annually and is subject to an annual inspection by the 1st Selectman or his/her appointee, the Resident Trooper, the Fire Chief, the Fire Marshall, Building Inspector, Health District Official and Zoning Official to ensure compliance with all special permit requirements, public health, fire and safety regulations. The Zoning Official may administratively renew the special permit.
 - 1. Prior to the refusal to annually renew a special permit, the facility subject to said renewal shall be given notice and a hearing before the Planning and Zoning Commission.
- K. Town of North Stonington Law Enforcement is granted consent to access a cannabis facility's required surveillance systems as a condition of a special permit.
- L. Annually, or upon a state license's issuance or renewal, all State issued licenses required for the operation of a cannabis facility shall be filed with the Land Use Office of the Town.

1003.3 Setback Requirements

- A. Any cannabis use must be a minimum of 500' from an elementary or secondary school ground, a house of worship, recreation center or facility, childcare center, playground, public park, library, charitable institution, hospital, veteran's home or military establishment.
- B. Once a cannabis use is permitted and established, an elementary or secondary school ground, a house of worship, recreation center or facility, childcare center, playground, public park, library, charitable institution, hospital, veteran's home or military establishment may not be established within 500' of a permitted cannabis use.
- C. Any cannabis use must have a 200' setback from a residential home or apartment, except for a caretaker apartment permitted in conjunction with a cannabis facility.
- D. All sales, growing, production and storage of cannabis shall be conducted indoors.
- E. Cannabis products may not be consumed on the grounds of a permitted retail, manufacturer, or cultivator facility.
- F. Any proposed retail use shall be subject to the requirements of a cannabis retailer and hybrid retailer.



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1003.4 Hours of Operation

- A. The hours of operation for a cannabis retail facility shall be:
 - 1. 8:00 A.M. to 10:00 P.M. on Monday through Saturday.
 - 2. 10:00 A.M. to 6:00 P.M. on Sunday.
 - 3. The facility shall remain closed for retail sales, delivery or production on Thanksgiving, Christmas, and New Year's Day.
- B. Zoning Districts
 - 1. Zoning Districts of permissible use are pursuant to use chart 602.7.
 - 2. Cannabis facilities shall be strictly prohibited within the R-40, R-60, R-80, C, VC, VPO, and SUO zoning and overlay districts.

1003.5 Special Permit Limit

- A. The Town of North Stonington, being less than 25,000 in population, shall not issue a final special permit for more than one (1) cannabis retailer license and one (1) micro-cultivator or cultivator license prior to June 30th 2024.
- B. After July 1st 2024 the Town of North Stonington shall not issue a final special permit for a cannabis retailer license or micro-cultivator or cultivator license which exceeds the population ratio density cap as defined by the Commissioner of Consumer Protection as posted on the Department of Consumer Protection's Internet web site.

1003.6 Delivery Service

- A. A licensed delivery service or transporter domiciled within North Stonington shall obtain a special permit as an accessory use to an approved primary use special permit.
- B. A licensed delivery service may deliver products to recreational cannabis consumers and may deliver medical marijuana to qualifying patients.
- C. A licensed transporter may transport cannabis products between cannabis establishments, laboratories, and research programs.

1003.7 Signage

- A. Signage shall comply with all aspects of section §312 Signs of the North Stonington Zoning Regulations and must be compliant with all aspects of state law.
- B. Signage shall be located:
 - 1. On the cannabis establishment's premises, regardless of whether such cannabis establishment leases or owns such premises; or
 - 2. On any commercial property occupied by multiple tenants including such cannabis establishment.
 - 3. Five hundred (500) feet from an elementary or secondary school ground, house of worship, recreation center or facility, childcare center, playground, public park, library, charitable institution, hospital, veteran's home or military establishment.
- C. Signs permitted in conjunction with a cannabis retail or cultivator facility shall be limited to the following standards:
 - 1. Freestanding Sign: No more than 1, no greater than 48 square feet and no taller than 10 feet.
 - 2. All additional signs: Total of all additional signs 48 square feet, with 8' (eight foot) clearance over pedestrian walkway and a 13' (thirteen foot) clearance over a roadway / ally.
 - 3. "Sandwich Board" or "A-frame" signs are not permitted.



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1003.8 Notification of the State

If zoning regulations are amended in regard to cannabis establishments, the zoning official must notify the Secretary of the Connecticut Office of Policy and Management no more than 14 days from the adoption of the changes (Sec. 148 (b)). The zoning official must also notify the Connecticut Department of Consumer Protection.

1003.9 Repeal and Effective Date

The existing 3.14 Cannabis Uses section of the Zoning Regulations is hereby repealed and replaced by this text amendment which shall take effect immediately upon passage.

Cannabis Related Terms

Backer – A licensed Backer is an individual with a financial interest in a cannabis establishment, and either (1) owns 5% or more of the cannabis establishment, including in the aggregate with a spouse, parent, and child, or (2) participates directly or indirectly in the control, management, or operation of the cannabis establishment. Cannabis Cultivator Facility – A licensed cultivator or micro-cultivator may cultivate, grow, and propagate cannabis and is licensed to sell cannabis to food and beverage manufacturers, product manufacturers, and/or cannabis retail facilities. A cannabis cultivator facility may include licensed food and beverage manufacturer, product manufacturer, product packager and transporter accessory use.

Cannabis Manufacturer Facility - A manufacturer facility is a licensed food and beverage manufacturer or product manufacturer who is permitted to purchase cannabis from a licensed cultivator, then manufacture products, food and/or beverages and sell them to a licensed retailer. A cannabis manufacturer facility may be an accessory use to a cannabis cultivator facility.

Cannabis Retail Facility - Retailers are licensed to purchase cannabis from producers, cultivators, micro-cultivators, product manufacturers and food and beverage manufacturers and to sell cannabis to consumers and research programs. A cannabis retail facility may include additional licensed accessory uses including product hybrid retailer, transporter, delivery service, and/or product packager.

Cultivator - A licensed cultivator may cultivate, grow, and propagate cannabis at an establishment containing not less than 15,000 square feet of grow space.

Delivery Service - A licensed delivery service may deliver cannabis and cannabis products from certain cannabis establishments to consumers or qualifying patients and caregivers.

Employee - An employee is anyone that is a member of the board of a company with an ownership interest in a cannabis establishment, and anyone who is directly employed by a cannabis establishment or has routine access to the establishment and its products.

Food and Beverage Manufacturer - A licensed food and beverage manufacturer may incorporate cannabis into foods or beverages as an ingredient. Licensed food and beverage manufacturers may not sell directly to consumers or qualifying patients or caregivers, and may only sell, transfer, or transport its own products to licensed cannabis establishments, laboratories, or research programs.

Hybrid Retailer - A licensed hybrid retailer may sell cannabis and cannabis products to adult consumers over 21 years of age as well as medical marijuana products to qualifying patients and caregivers.



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Key Employee - an employee with one of the following management positions, or an equivalent title in the cannabis establishment:

President or chief officer, or the top-ranking individual at the cannabis establishment responsible for all staff and overall direction of business operations.

Financial Manager, or the individual who reports to the president or chief officer and who is generally responsible for oversight of the financial operations of the cannabis establishment, including, but not limited to, revenue generation, distributions, tax compliance and budget implementation.

Employee, An employee is anyone that is a member of the board of a company with an ownership interest in a cannabis establishment, and anyone who is directly employed by a cannabis establishment or has routine access to the establishment and its products.

Compliance Manager, or the individual who reports to the president or chief officer and who is generally responsible for ensuring the cannabis establishment complies with all laws, regulations and requirements related to the operation of the cannabis establishment

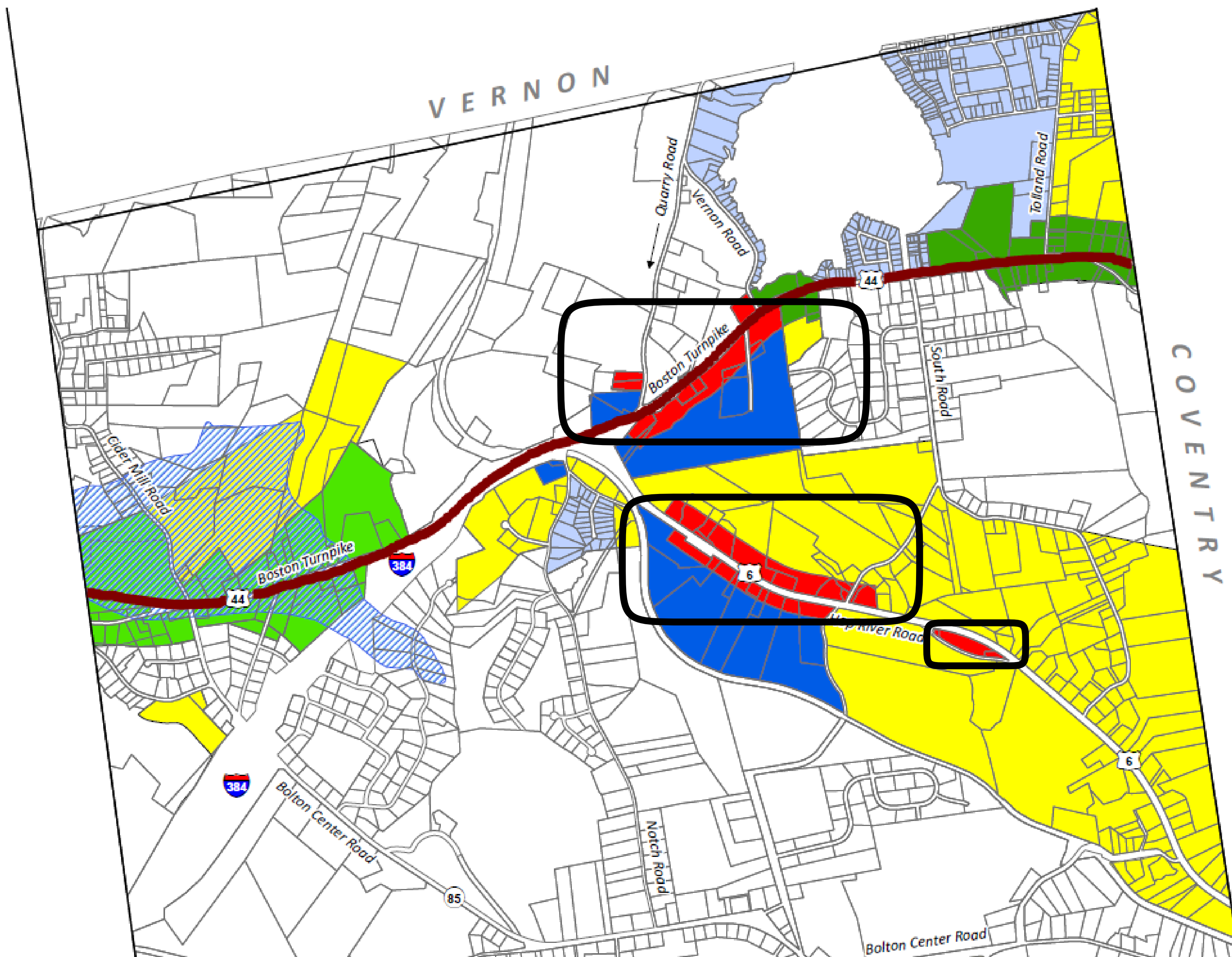
Micro-cultivator - Micro-cultivators are licensed to engage in the cultivation, growing and propagation of the cannabis plant at an establishment that is between 2,000 square feet and 10,000 square feet of grow space, prior to any expansion authorized by the Department of Consumer Protection Commissioner. Once licensed, the micro-cultivator may expand up to 25,000 square feet or convert to a cultivator if they expand to more than 25,000 square feet of grow space.

Product Manufacturer - A licensed product manufacturer may perform cannabis extractions, chemical synthesis, and all other manufacturing activities. A product manufacturer may sell, transfer, or transport its own products to a cannabis establishment, laboratory or research program, provided such transportation is performed by utilizing its own employees or a transporter. A product manufacturer may not deliver any cannabis to a consumer, qualifying patient, or caregiver directly or through a delivery service.

Product Packager - A licensed product packager shall be responsible for ensuring that cannabis products are labeled and packaged in compliance with all state laws, regulations, and policies.

Retailer - licensed to purchase cannabis from producers, cultivators, micro-cultivators, product manufacturers and food and beverage manufacturers and to sell cannabis to consumers and research programs. A licensed retailer may sell cannabis and cannabis products to adult consumers over 21 years of age.

Transporter - A licensed transporter may deliver cannabis and cannabis products between cannabis establishments.



- Sewer Line
- GB
- I
- NB
- R-1
- R-2
- R-3
- GMUIZ
- RMUZ
- APZ



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Custom is our standard

November 3rd, 2022


Town of Bolton, Connecticut
Planning and Zoning Commission
222 Bolton Center Road
Bolton CT 06043

Dear Mr. Chairman and Members of the Commission,

We are requesting an additional 90-day extension for all approvals granted under Permit #PL-22-4 as permitted by Section 16B.5.b **Endorsement and Filing** of the Bolton Zoning Regulations. This request is being made so we can determine the overall project cost and feasibility.

Thank you for your consideration.

Best regards,



Steven Rockefeller
President

Able Coil & Electronics Co., Inc.
P.O. Box 9127
837 Boston Turnpike
Bolton, CT 06043
Email: srockefeller@ablecoil.com
Tel: (860) 646-5686
Fax: (860) 646-5678

www.ablecoil.com

25 Howard Road | PO Box 9127
Bolton CT 06043

From: Waters, Elizabeth <ewaters@boltonct.org>
Sent: Wednesday, October 12, 2022 3:28 PM
To: Carson, Patrice <pcarson@boltonct.org>
Subject: RE: B Clark - appointment and term?

Ok, just make sure that they understand that the appointee only serves until the next election. ☺

Elizabeth C. Waters, CCTC

From: Waters, Elizabeth <ewaters@boltonct.org>
Sent: Wednesday, October 12, 2022 2:02 PM
To: tmanning818@gmail.com
Cc: nolightsec@aol.com; Carson, Patrice <pcarson@boltonct.org>
Subject: RE: Brittany Clark Resignation

Good afternoon:

Brittany Clark has filed her hard copy, signed resignation in my office today. Your board now has 60 days in which to fill the vacancy. If the seat is not filled within the 60 days (December 12th), then the BOS will have 30 days after that time to fill the vacancy. **As soon as your board makes the appointment, you must notify me in writing within 5 days so that I may report the appointee to the Secretary of the State and update our records.**

The new appointee is only a member of the board until Nov.20, 2023. See below. At the next election, there will be a 2 yr. vacancy seat on the board to fill for the rest of Brittany's term which expires in 2025.

Per the current **Charter sect 2.5 (D)** *An appointee to a vacancy in elected office shall serve until a successor is duly elected at either a special election or the next regular Town election and has qualified.*

Also, the Charter also states in the **same section, (C)** *The process for filling a vacancy in any elective Town office, including alternate positions, is as follows: first, the remaining board or commission members shall make an automatic offer to an alternate to fill the vacancy. Said vacancy shall be filled by an alternate with the same political affiliation as the member who created the vacancy, taking into account the laws concerning minority representation contained in the General Statutes and Section 11.1 of this charter. If no such alternate exists, or if no such alternate is willing to fill the vacancy, the board or commission members will make the appointment as otherwise permitted or required by law.*

Let me know if you have any questions.

Thanks,

Elizabeth C. Waters, CCTC
Town Clerk
Town of Bolton
PH: 860-649-8066 x6106
Fax: 860-643-0021