

# BLUEBIRD MEADOWS

## CONSTRUCTION SET

135 MAIN STREET SOUTH  
MAP 11-5 LOT 16  
BETHLEHEM, CT



VICINITY MAP  
SCALE: 1" = 500'

OWNER/APPLICANT  
MILLSPAUGH PROPERTIES  
101 MAIN STREET SOUTH  
BETHLEHEM, CT 06751

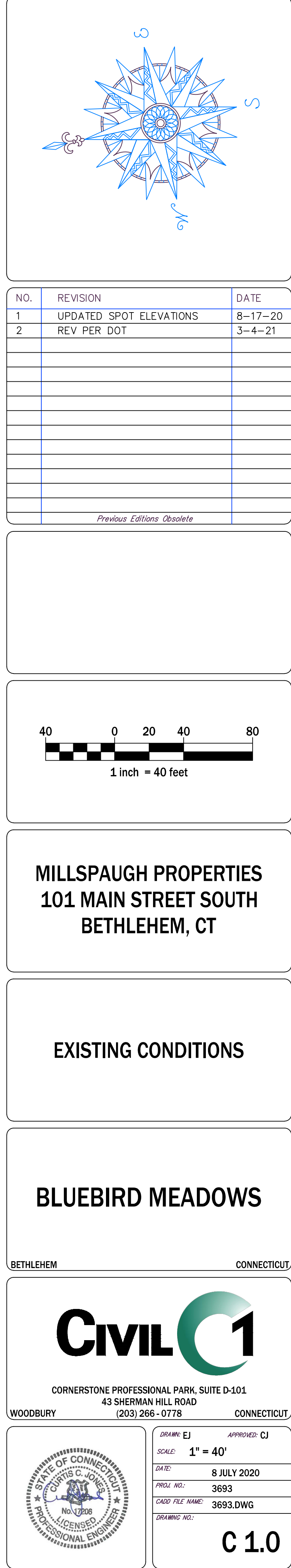
ENGINEER  
CIVIL 1  
43 SHERMAN HILL ROAD  
SUITE D-101  
WOODBURY, CT 06798

SURVEYOR  
RIORDAN SURVEYING  
701 MIDDLE ROAD TURNPIKE  
WOODBURY, CT 06798

**CIVIL C1**  
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT  
(203) 266-0778  
JULY 8, 2020  
REVISED AUGUST 9, 2021

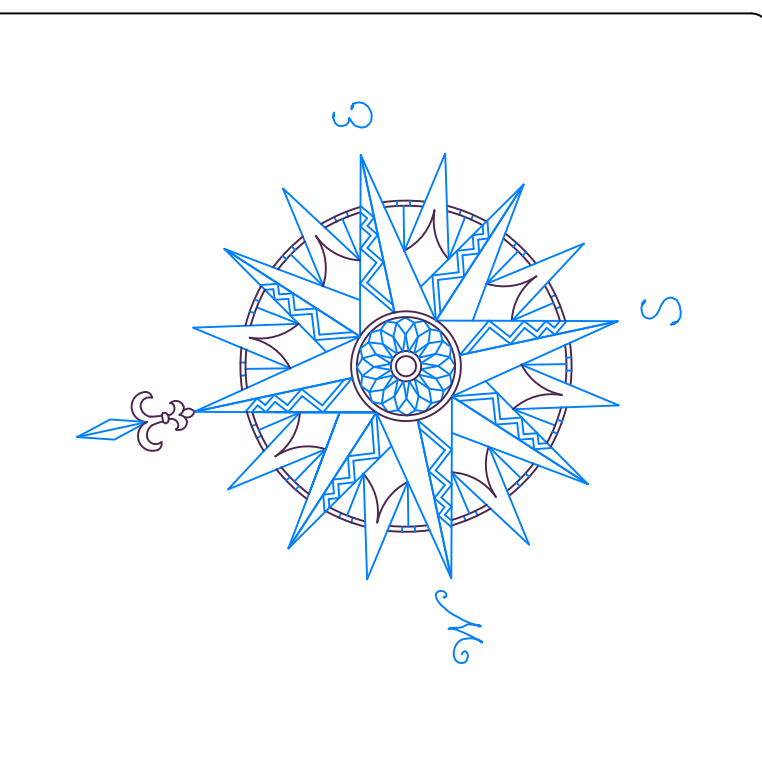
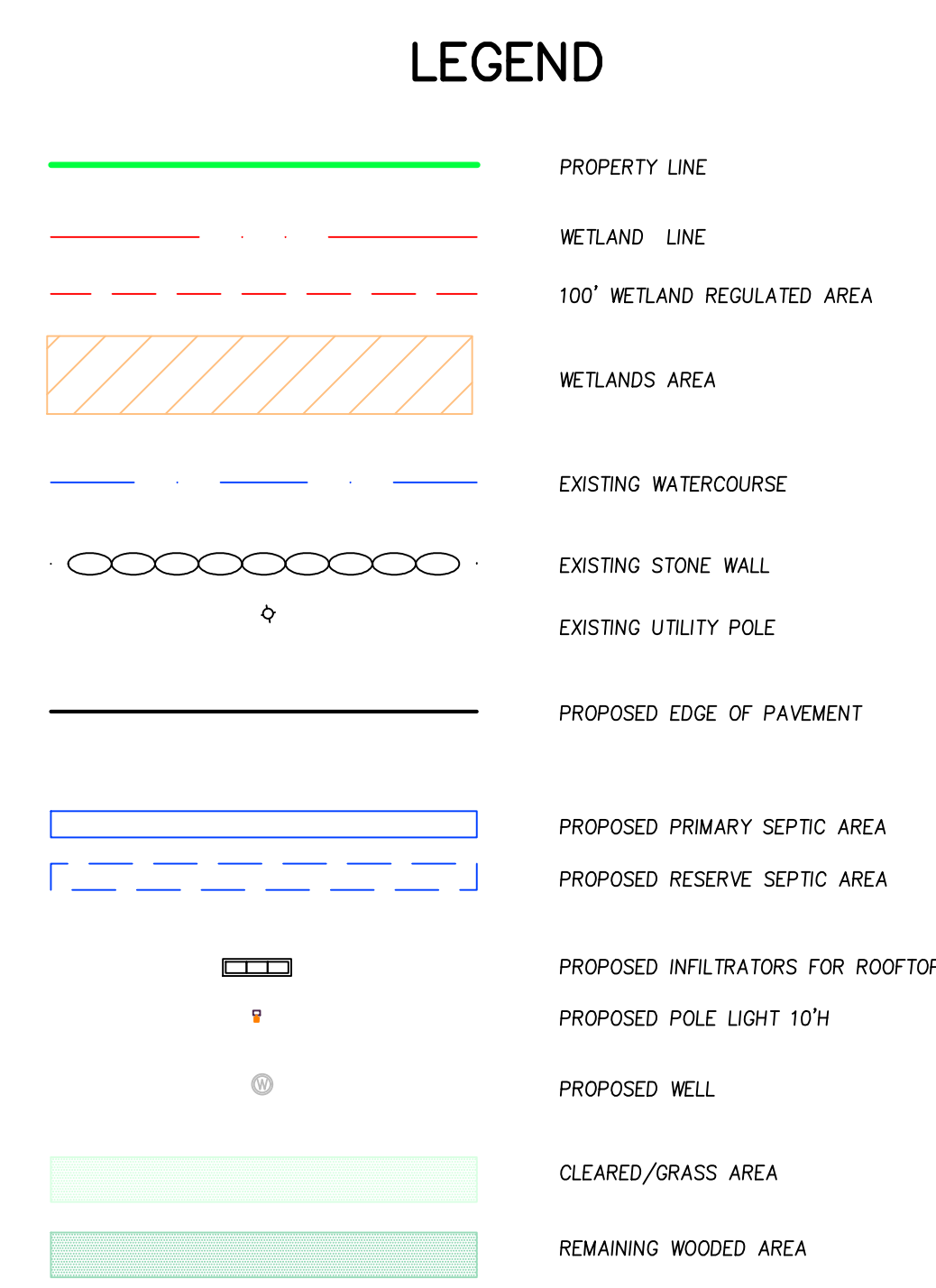
SHEET NUMBER	DESCRIPTION
C 1.0	EXISTING CONDITIONS
C 2.0	OVERALL SITE PLAN
C 2.1	SITE PLAN, GRADING PLAN, EROSION CONTROL PLAN, ROAD PROFILES
C 2.2	VEHICLE TURNING AND SIGHT DISTANCE PLAN / PROFILES
C 3.1	SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN, CROSS SECTIONS, & SOIL TEST RESULTS
C 4.1	LANDSCAPE & LIGHTING PLAN
C 5.1	DETAILS
C 5.2	DETAILS
C 6.1	EROSION CONTROL NARRATIVE & DRAINAGE SIZING CALCULATIONS
P 1.1	PHOTOMETRIC STUDY





1. THE BOUNDARY & TOPO SURVEY, AND WETLAND BOUNDARY FOR THIS PROPERTY PROVIDED BY RIORDAN LAND SURVEYING, 701 MIDDLE ROAD TURNPIKE WOODBURY, CT. DATED: DECEMBER 6, 2016
2. THE TOTAL AREA OF THE PROPERTY IS 7.79 AC.
3. THE BETHLEHEM INLAND WETLANDS COMMISSION EXERCISES REGULATORY CONTROL OVER ACTIVITIES IN OR WITHIN 100 FEET OF WETLANDS AREAS AND WATERCOURSES.
4. FOR LOCATION OF UNDERGROUND ELECTRIC, TELEPHONE OR OTHER FACILITIES OF PUBLIC UTILITIES, INQUIRE OF THE APPROPRIATE UTILITY COMPANY.




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**MILLSPAUGH PROPERTIES  
101 MAIN STREET SOUTH  
BETHLEHEM, CT**

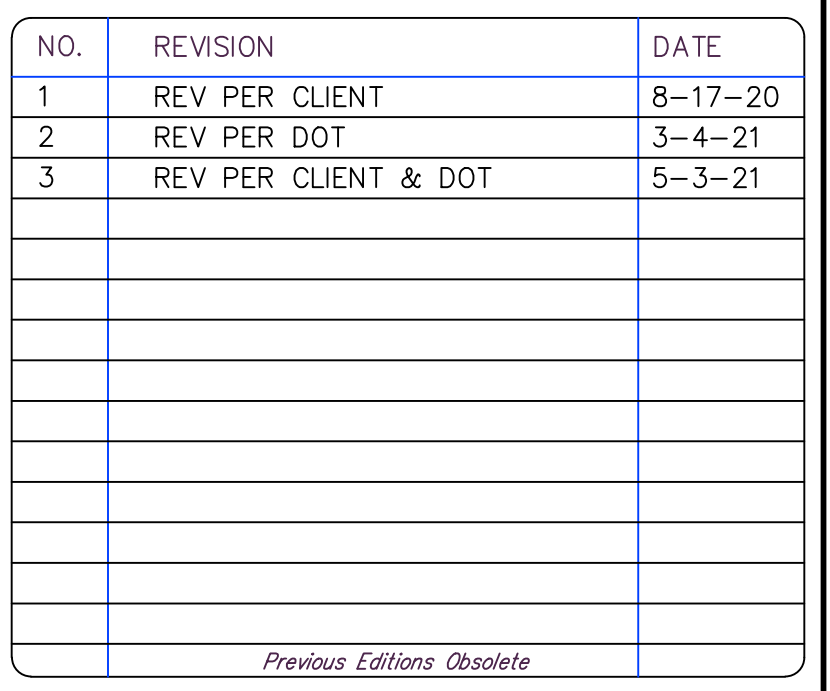
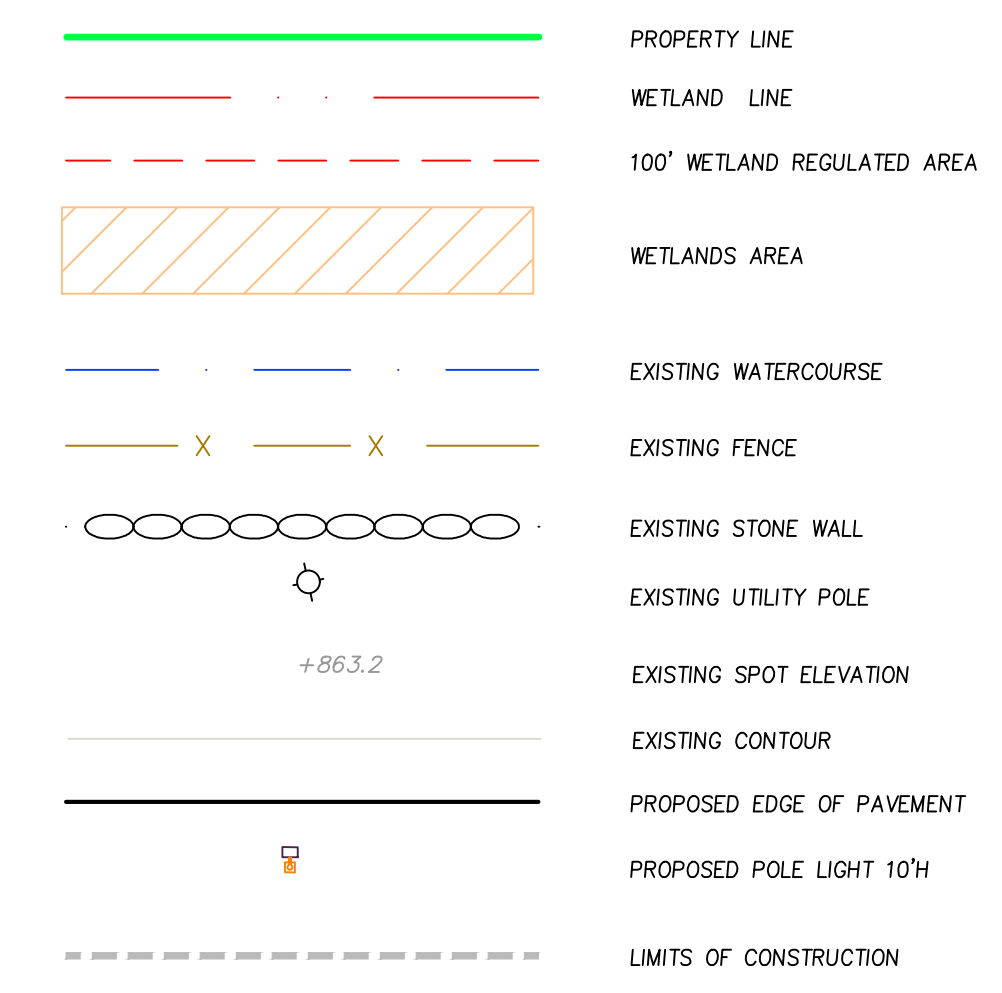
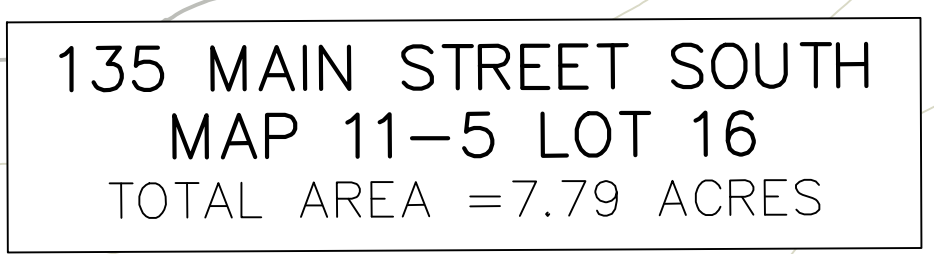
## OVERALL SITE PLAN

# BLUEBIRD MEADOWS

BETHLEHEM CONNECTICUT

<h1>CIVIL C1</h1>	
CORNERSTONE PROFESSIONAL PARK, SUITE D-101 43 SHERMAN HILL ROAD	
WOODBURY	(203) 266-0778
CONNECTICUT	
	
DRAWING: EJ APPROVED: CJ	
SCALE: 1" = 40'	
DATE:	8 JULY 2020
PROJ. NO.:	3693
CADD FILE NAME:	3693.DWG
DRAWING NO.:	C 2.0





**MILLSPAUGH PROPERTIES**  
**101 MAIN STREET SOUTH**  
**BETHLEHEM, CT**

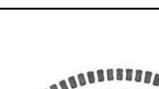
**SITE PLAN  
GRADING PLAN  
EROSION CONTROL PLAN  
ROAD PROFILES**

**BLUEBIRD MEADOWS**

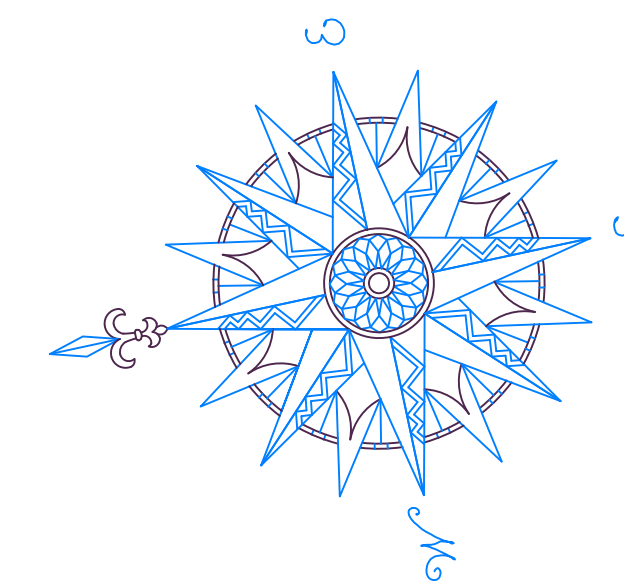
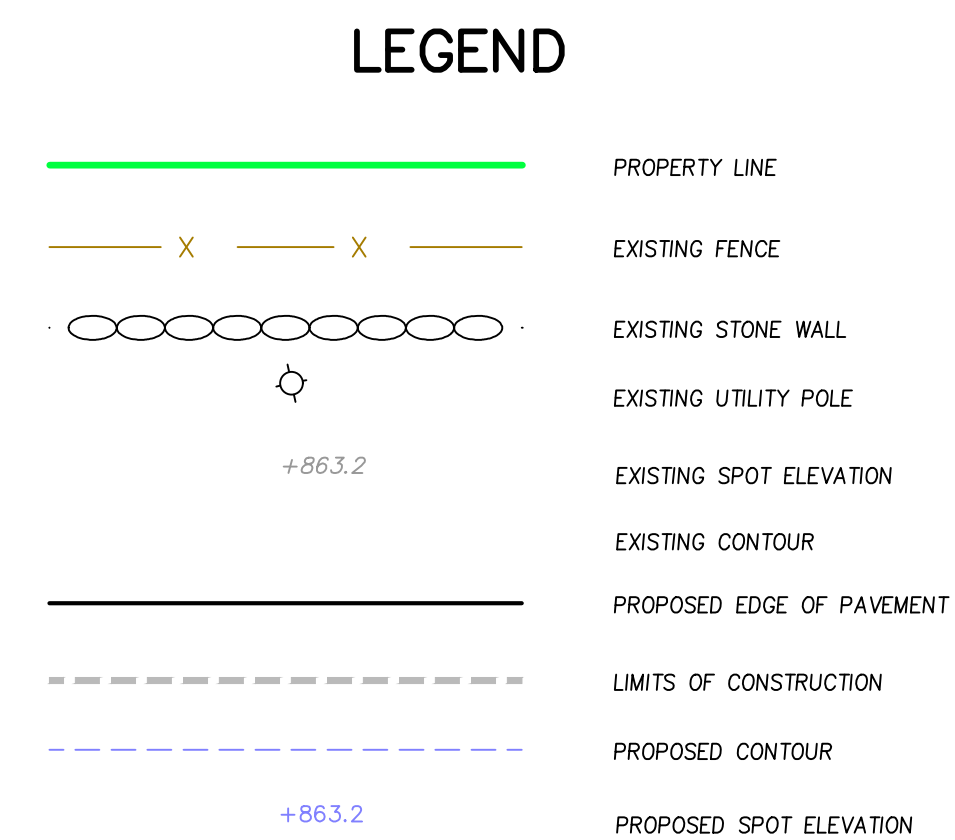
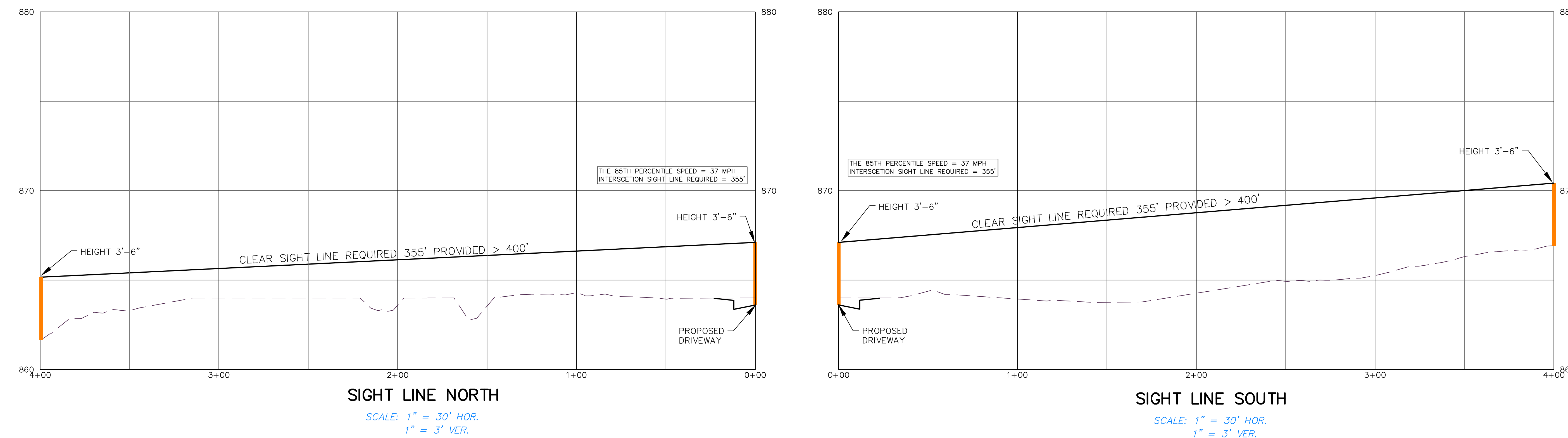
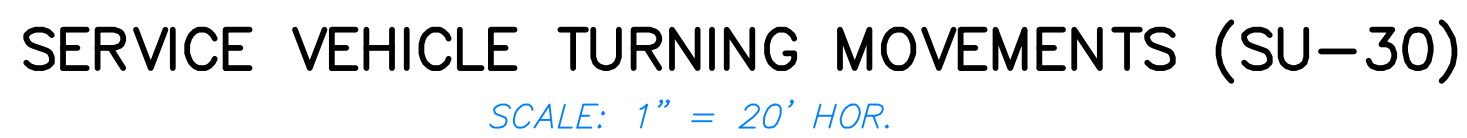


WOODBURY	(203) 266-0778	CONNECTICUT
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	PROJ. NO.:	3693
	DRAW FILE NAME:	3693
DRAWING NO.:		C 2.1



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**MILLSPAUGH PROPERTIES  
101 MAIN STREET SOUTH  
BETHLEHEM, CT**

# VEHICLE TURNING AND SIGHT DISTANCE PLAN / PROFILES

**BLUEBIRD MEADOWS**

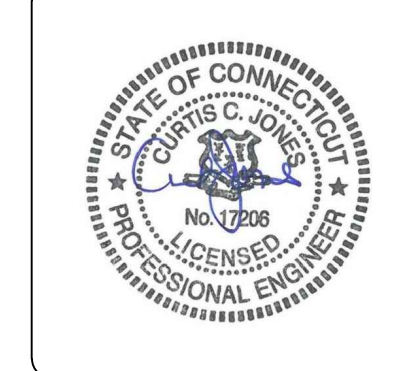
BETHLEHEM CONNECTICUT



**CIVIL C1**

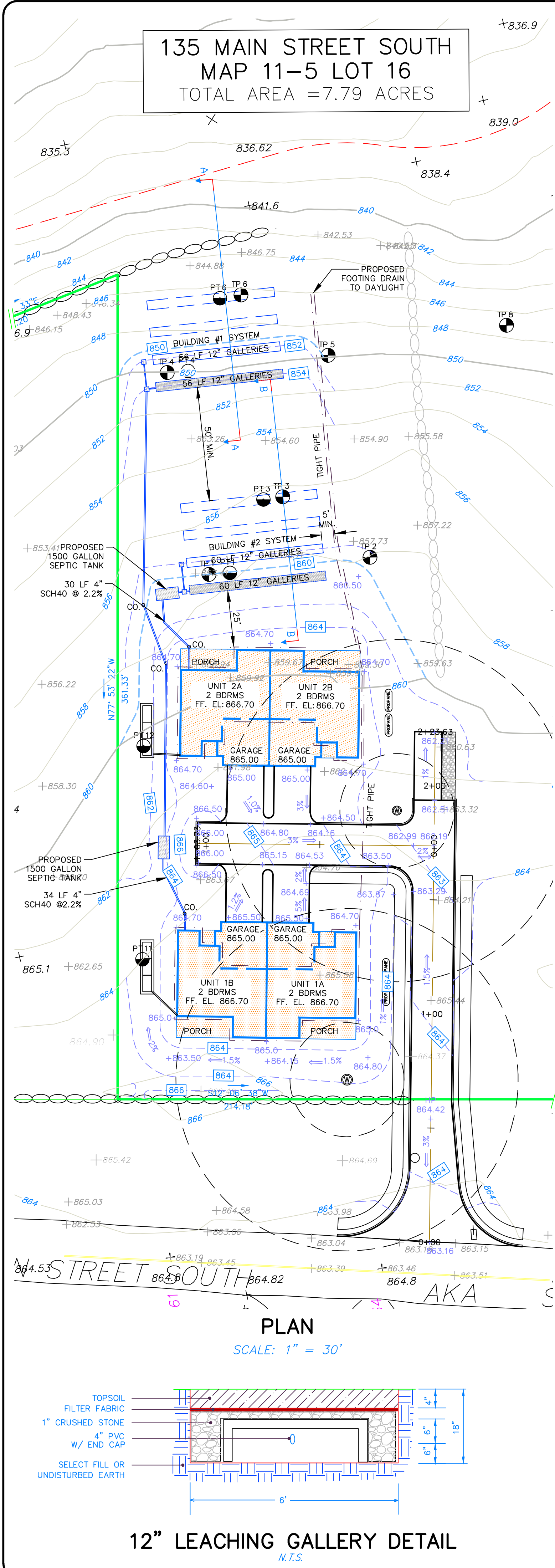
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
(203) 266-0778

WOODBURY CONNECTICUT



DRAWING: EJ	APPROVED: CJ
SCALE: AS NOTED	
DATE:	08 JULY 2020
PROJ. NO.:	3693
CADD FILE NAME:	3693
DRAWING NO.:	
C 2.2	





SOIL TEST RESULTS	
Deep Test Pit #1 June 25, 2020 0-4" Topsoil 4-32" Orange Brown Fine Sandy Loam 32-84" Grey Brown Fine-Medium Sand & Pebbles Mottling at 32" No Groundwater No Ledge Roots to 36"	Percolation Test #1 June 25, 2020 Depth of Hole: 14" Presoak: 10:20 Time Reading 11:34 4" 11:44 6" 11:54 7 1/2" 12:04 8- 1/4" 12:14 9- 1/2" 12:24 10- 3/8" 12:34 11- 1/2" 12:44 12- 1/2" Percolation Rate = 1- 10 minutes per inch
Deep Test Pit #2 June 25, 2020 0-4" Topsoil 4-41" Orange Brown Fine Sandy Loam 41-108" Grey Brown Fine-Medium Sand & Pebbles Mottling at 41" Groundwater at 100" No Ledge Roots at 45"	Percolation Test #3 June 25, 2020 Depth of Hole: 16" Presoak: 10:20 Time Reading 2:53 4 1/2" 3:03 9 1/8" 3:13 11 3/8" 3:23 13 3/4" 3:25 Dry Percolation Rate = 1- 10 minutes per inch
Deep Test Pit #3 June 25, 2020 0-4" Topsoil 4-24" Orange Brown Fine Sandy Loam 24-96" Grey Brown Fine-Medium Sand & Pebbles Mottling at 24" No Groundwater No Ledge Roots at 24"	Percolation Test #4 June 25, 2020 Depth of Hole: 14" Presoak: 10:20 Time Reading 11:36 4 1/2" 11:46 6 1/4" 11:56 7 1/2" 12:06 9" 12:16 10 1/8" 12:26 11 1/4" 12:36 12 1/2" 12:46 13 1/2" 12:47 Dry Percolation Rate = 1- 10 minutes per inch
Deep Test Pit #4 June 25, 2020 0-4" Topsoil 4-24" Orange Brown Fine Sandy Loam 24-84" Grey Brown Fine-Medium Sand & Pebbles Mottling at 24" No Groundwater No Ledge Roots at 24"	Percolation Test #4 June 25, 2020 Depth of Hole: 14" Presoak: 10:20 Time Reading 11:36 4 1/2" 11:46 6 1/4" 11:56 7 1/2" 12:06 9" 12:16 10 1/8" 12:26 11 1/4" 12:36 12 1/2" 12:46 13 1/2" 12:47 Dry Percolation Rate = 1- 10 minutes per inch
Deep Test Pit #5 June 25, 2020 0-4" Topsoil 4-24" Orange Brown Fine Sandy Loam 24-96" Grey Brown Fine-Medium Sand & Pebbles Mottling at 24" No Groundwater No Ledge Roots at 24"	Percolation Test #4 June 25, 2020 Depth of Hole: 14" Presoak: 10:20 Time Reading 11:36 4 1/2" 11:46 6 1/4" 11:56 7 1/2" 12:06 9" 12:16 10 1/8" 12:26 11 1/4" 12:36 12 1/2" 12:46 13 1/2" 12:47 Dry Percolation Rate = 1- 10 minutes per inch
Deep Test Pit #6 June 25, 2020 0-4" Topsoil 4-24" Orange Brown Fine Sandy Loam 24-84" Grey Brown Fine-Medium Sand & Pebbles Mottling at 24" No Groundwater No Ledge Roots at 52"	Percolation Test #4 June 25, 2020 Depth of Hole: 14" Presoak: 10:20 Time Reading 11:36 4 1/2" 11:46 6 1/4" 11:56 7 1/2" 12:06 9" 12:16 10 1/8" 12:26 11 1/4" 12:36 12 1/2" 12:46 13 1/2" 12:47 Dry Percolation Rate = 1- 10 minutes per inch

- ### INSPECTIONS
- THE CONTRACTOR IS RESPONSIBLE TO HAVE THE CONSTRUCTION OF THE SUBSURFACE DISPOSAL SYSTEM INSPECTED BY A LICENSED PROFESSIONAL ENGINEER AT THE FOLLOWING STAGES OF CONSTRUCTION:
    - FOLLOWING REMOVAL OF TOPSOIL AND PRIOR TO PLACEMENT OF FILL
    - AFTER PLACEMENT OF SEPTIC TANK, DISTRIBUTION BOXES, PIPE STONE AND FILTER FABRIC BUT PRIOR TO BACKFILLING.
    - FOLLOWING FINE GRADING, SEEDING AND MULCHING.
  - THE CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATING THE ABOVE INSPECTIONS WITH THE TORRINGTON AREA HEALTH DISTRICT.
  - A LICENSED PROFESSIONAL ENGINEER SHALL PERFORM THREE PERCOLATION TEST IN THE SELECT FILL AFTER PLACEMENT. THE PERCOLATION RATE IN THE SELECT FILL SHALL BE AT LEAST AS FAST AS THE NATURALLY OCCURRING MATERIAL UNDERNEATH.
  - TO ENSURE THAT THE SELECT FILL PLACED ON THE SITE MEETS THE GRADATION REQUIRED BY THE PUBLIC HEALTH CODE A LICENSED PROFESSIONAL ENGINEER SHALL COLLECT A SAMPLE OF THE SELECT FILL AT THE SITE AND WILL ARRANGE FOR A SIEVE ANALYSIS TO BE PERFORMED. **IT IS STRONGLY SUGGESTED THAT A SAMPLE OF THE SELECT FILL BE TESTED ONE WEEK PRIOR TO THE INSTALLATION OF THE SYSTEM.**
  - AN AS-BUILT PLAN SHALL BE SUBMITTED ALONG WITH A STATEMENT BY A PROFESSIONAL ENGINEER STATING THAT THE SYSTEM AS INSTALLED SUBSTANTIALLY MEETS THE INTENT OF THE APPROVED PLANS TO THE TORRINGTON AREA HEALTH DISTRICT.

- ### GENERAL SEPTIC NOTES
- ALL CONSTRUCTION OF THE SEWAGE DISPOSAL SYSTEM IS TO BE IN ACCORDANCE WITH THE STANDARDS OF THE TORRINGTON AREA HEALTH DISTRICT AND THE STATE OF CONNECTICUT DEPARTMENT OF HEALTH, PUBLIC HEALTH CODE SECTION 19-13-B103A THROUGH 19-13-B103F.
  - ALL PIPING BETWEEN BUILDINGS AND SEPTIC TANKS SHALL BE FOUR INCHES IN DIAMETER. MATERIALS MAY BE CAST IRON (HUBLESS OR BELL AND SPIGOT) ASTM A74, DUCTILE IRON ANSI A21.51, PVC SCHEDULE 40, ASTM D 1785, ATSM D 2665, EXTRA STRENGTH PVC AWWA C-900 100 PSI MIN, DUCTILE IRON ANDI A 21.51, OR PVC ASTM 7 1760.
  - THE SEPTIC TANKS SHALL BE 1,500 GALLON SEPTIC TANKS AS MANUFACTURED BY UNITED CONCRETE PRODUCTS, INC., YALESVILLE, CT., OR APPROVED EQUAL.
  - SEPTIC TANK SHALL BE INSTALLED SUCH THAT THE ACCESS COVERS ARE ACCESSIBLE WITHIN SIX INCHES OF THE FINISHED GRADE. IF THE DESIGN REQUIRES THAT AN ACCESS MANHOLE BE CONSTRUCTED DUE TO THE DEPTH OF THE TANK, IT SHALL BE PLACED OVER THE INLET, OUTLET AND CENTER BAFFLES AND EXTENDED TO WITHIN TWELVE INCHES OF FINISHED GROUND LEVEL.
  - ALL PIPING BETWEEN THE SEPTIC TANKS AND LEACHING AREAS SHALL BE TIGHT JOINTED FOUR INCH DIAMETER PVC ASTM D-3034. PIPE SHALL BE SET ON A MINIMUM SLOPE OF 1/4" PER FOOT.
  - DISTRIBUTION BOXES SHALL BE CONCRETE DISTRIBUTION BOXES AS MANUFACTURED BY UNITED CONCRETE PRODUCTS, INC., YALESVILLE, CT., OR APPROVED EQUAL. ALL DISTRIBUTION BOXES SHALL BE 4" HIGH LEVEL OVERFLOW UNLESS OTHERWISE NOTED. ALL DISTRIBUTION BOXES SHALL BE SET ON A MINIMUM OF SIX INCHES OF COMPACTED GRAVEL OR SIX INCHES OF 1" CRUSHED STONE.
  - BEFORE CONSTRUCTION ACTIVITIES COMMENCE ON THE SITE, THE LEACHING AREA SHALL BE DELINEATED TO PROTECT THE AREA FROM DAMAGE DUE TO EROSION OR COMPACTION.
  - ALL PIPING WITHIN 25 FEET OF A CURTAIN DRAIN OR FOOTING DRAIN SHALL CONFORM TO TABLE 2C OF THE TECHNICAL STANDARDS FOR THE DESIGN AND CONSTRUCTION OF SUBSURFACE SEWAGE DISPOSAL SYSTEMS PURSUANT TO SECTION 19-13-B103.
  - RESERVE AREA NEED NOT BE PREPARED AT THIS TIME, BUT WILL REQUIRE A DESIGN SYSTEM PREPARED BY A LICENSED PROFESSIONAL ENGINEER IF REQUIRED TO BE USED USED IN THE FUTURE.
  - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO THE ENGINEER WHO SHALL HAVE FINAL SAY AS TO ACTUAL DIMENSIONS AND ELEVATIONS TO BE USED.
  - ALL OTHER DISTURBED AREAS SHALL BE LOAMED AND SEEDED AS SOON AS PRACTICABLE.
  - LEACHING AREAS SHALL BE PROTECTED AT ALL TIMES FROM SURFACE WATER RUNOFF BY APPROPRIATE GRADING. SURFACE WATER RUNOFF SHALL NOT BE PERMITTED TO ENTER ANY PART OF THE LEACHING SYSTEM.
  - THERE ARE NO WELLS WITHIN 75' OF THE PROPOSED SEPTIC SYSTEM.
  - THERE ARE NO SEPTIC SYSTEMS WITHIN 75' OF THE PROPOSED WELL.
  - GARBAGE GRINDERS ARE NOT RECOMMENDED FOR USE WITH SUBSURFACE SEWAGE DISPOSAL SYSTEMS. IF A GARBAGE GRINDER IS TO BE INSTALLED, THE SIZE OF THE SEPTIC TANK MUST BE INCREASED BY 250 GALLONS IN ACCORDANCE SECTION 19-13-B103 OF THE CONNECTICUT PUBLIC HEALTH CODE.
  - THE SEPTIC TANK IS SIZED ASSUMING A LARGE CAPACITY TUB (OVER 100 GALLONS) IS NOT USED. IF A LARGE CAPACITY TUB IS TO BE INSTALLED, THE SIZE OF THE SEPTIC TANK MUST BE INCREASED IN ACCORDANCE WITH SECTION 19-13-B103 BY:
    - 250 GALLONS FOR A TUB WITH 100 - 200 GALLON CAPACITY
    - 500 GALLONS FOR A TUB WITH A CAPACITY GREATER THAN 200 GALLONS.
  - DISCHARGE WASTEWATER FROM WATER TREATMENT SYSTEMS (e.g. WATER SOFTENERS, IRON OR MANGANESE REMOVAL FILTERS) TO SUBSURFACE SEWAGE DISPOSAL SYSTEM IS PROHIBITED. ON-SITE WATER TREATMENT WASTEWATER DISPOSAL SYSTEMS SHALL HAVE A MINIMUM 10 FEET OF SEPARATION DISTANCE FROM SUBSURFACE SEWAGE DISPOSAL SYSTEM AND SHALL BE DESIGNED IN ACCORDANCE WITH DEP GUIDANCE OR GENERAL PERMIT.

- ### FILL REQUIREMENTS
- LARGE GRAIN SIZE LIMITS - FILL PLACED FOR THE LEACHING AREA SHALL CONTAIN NO MATERIAL LARGER THAN THE 3" SIEVE. THE FILL SHOULD ALSO CONTAIN NO MORE THAN 45% GRAVEL (MATERIAL BETWEEN THE NO. 4 AND 3" SIEVES).
  - SMALL GRAIN SIZE LIMITS - FILL LESS GRAVEL PLACED FOR THE LEACHING AREA SHALL COMPLY WITH THE FOLLOWING GRADATION:

SIEVE	% PASSING (WET)	% PASSING (DRY)
NO. 4	100	100
NO. 10	70 - 100	70 - 100
NO. 40	10 - 50	10 - 75
NO. 100	0 - 20	0 - 5
NO. 200	0 - 5	0 - 2.5

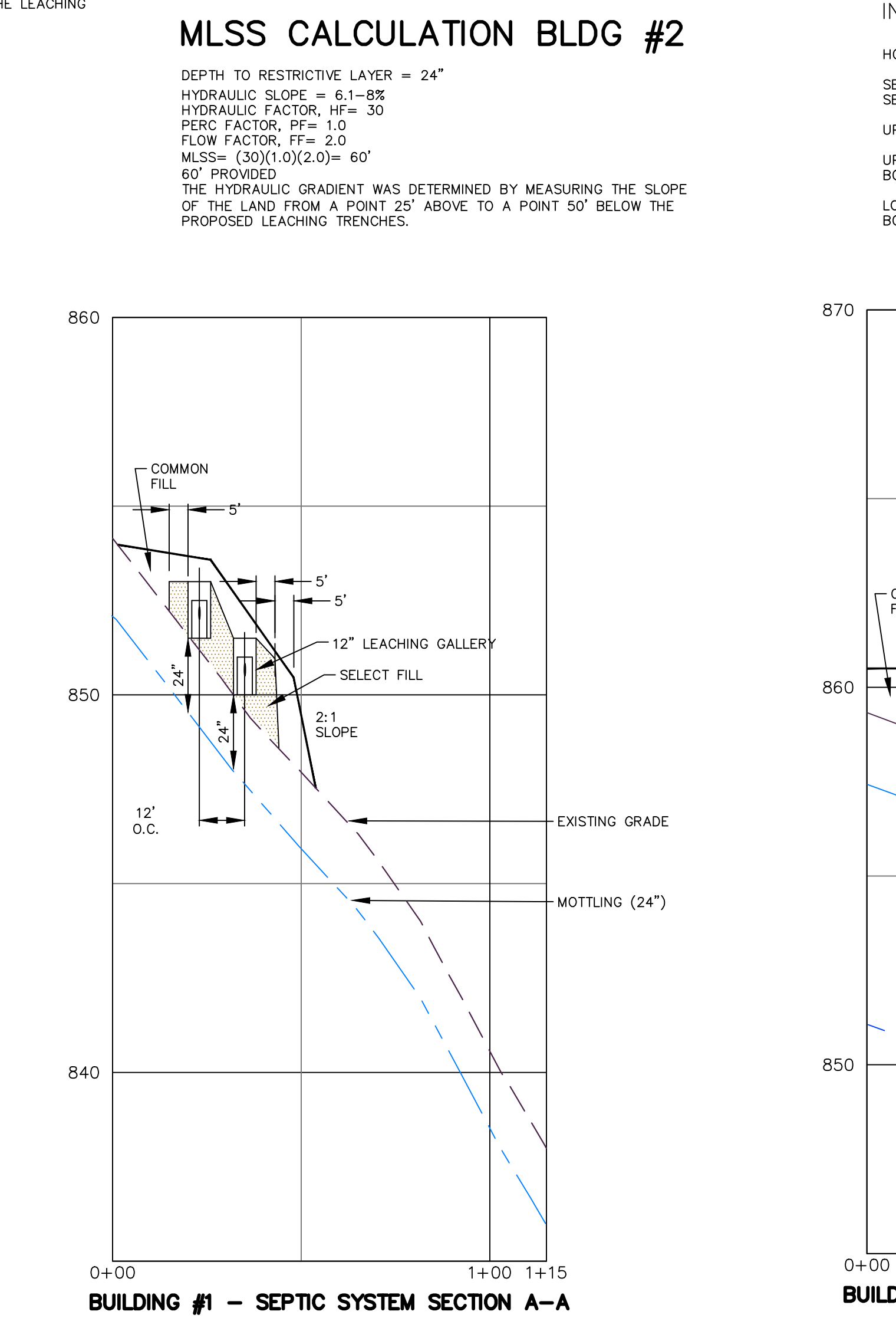
NOTE: PERCENT PASSING THE NO. 40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF PERCENT PASSING THE NO. 100 SIEVE DOES NOT EXCEED 10% AND THE NO. 200 SIEVE DOES NOT EXCEED 5%. THE SIEVE ANALYSIS MUST BE APPROVED BY THE DESIGN ENGINEER OR THE LOCAL HEALTH DEPARTMENT.
  - THE FOLLOWING SEQUENCE SHALL BE USED FOR PLACING FILL.
    - REMOVE ALL VEGETATION AND DEBRIS FROM AREA TO RECEIVE FILL. REMOVE LARGE STONES FROM SURFACE.
    - REMOVE TOPSOIL FROM AREA TO RECEIVE FILL AND STOCKPILE AWAY FROM SYSTEM AREA FOR FUTURE USE.
    - SCARIFY SURFACE WITH A MACHINE WORKING PARALLEL TO THE CONTOURS.
    - FILL SHALL BE PLACED AT THE EDGE OF THE LEACHING AREA AND PUSHED ONTO THE SCARIFIED AREA.
    - FILL SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 90 - 95% MODIFIED OPTIMUM DENSITY BY ASTM 1557 METHOD "C" UNTIL THE REQUIRED ELEVATION IS OBTAINED.
    - SELECT FILL SHALL EXTEND A DISTANCE OF FIVE FEET IN ALL DIRECTIONS FROM ANY PORTION OF THE LEACHING TRENCHES, HOWEVER WHERE THE PRIMARY SYSTEM IS ADJACENT TO THE RESERVE AREA, THE SELECT FILL MUST BE INCREASED TO 10 FEET.

### MLSS CALCULATION BLDG #1

DEPTH TO RESTRICTIVE LAYER = 24"  
HYDRAULIC SLOPE = 10.1 = 15%  
HYDRAULIC FACTOR, HF= 26  
PERC FACTOR, PF= 1.0  
FLOW FACTOR, FF= 2.0  
MLSS= (26)(1.0)(2.0)= 52'  
60' PROVIDED  
THE HYDRAULIC GRADIENT WAS DETERMINED BY MEASURING THE SLOPE OF THE LAND FROM A POINT 25' ABOVE TO A POINT 50' BELOW THE PROPOSED LEACHING TRENCHES.

### INVERT ELEVATIONS BLDG 1

HOUSE CONNECTION	862.00
SEPTIC TANK-IN	861.25
SEPTIC TANK - OUT	861.00
UPPER D-BOX INV	852.00
UPPER LEACHING TRENCH INV.	852.00
BOTTOM OF UPPER TRENCH	851.50
LOWER LEACHING TRENCH INV.	850.50
BOTTOM OF LOWER TRENCH	850.00

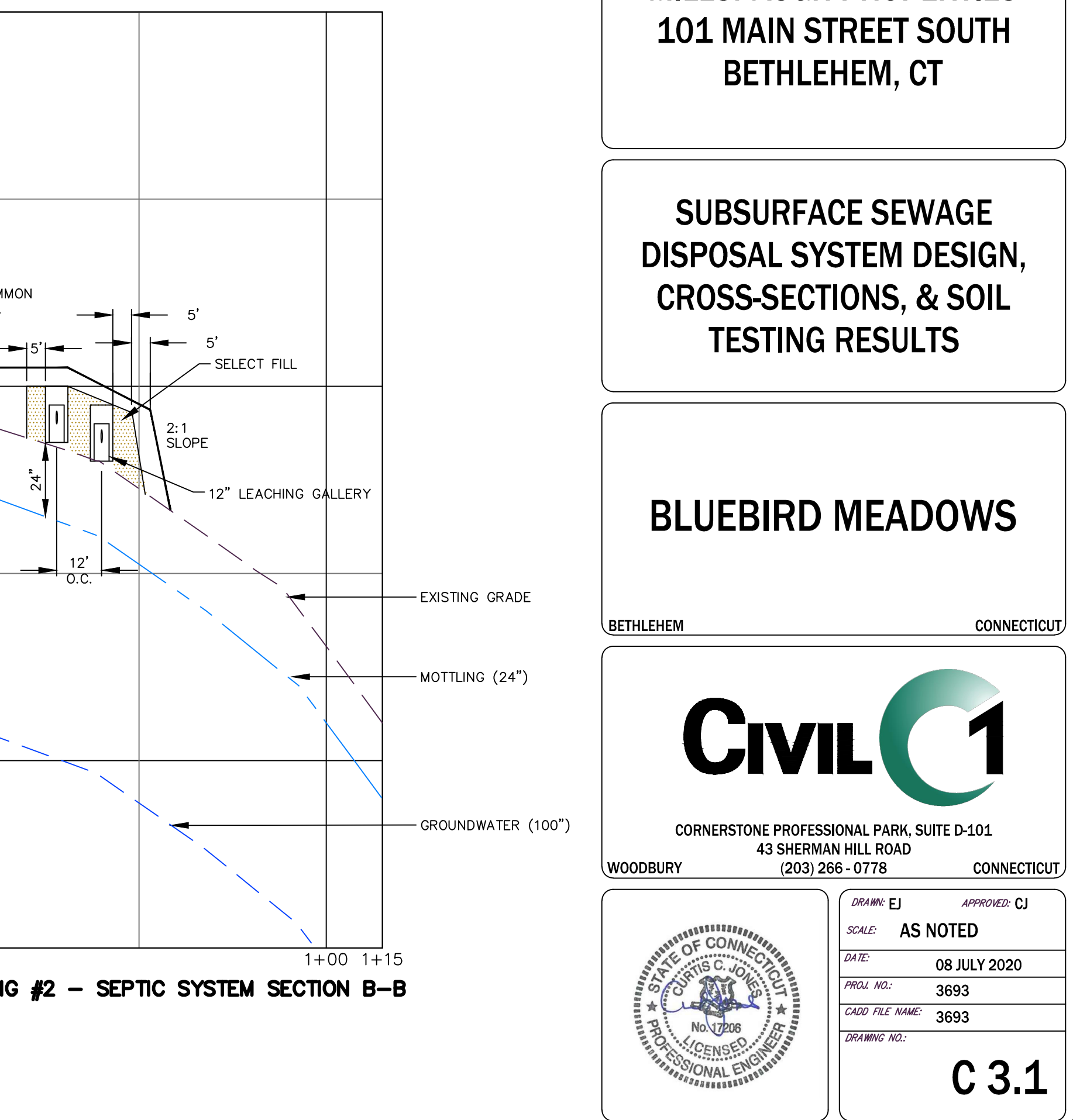


### LEGEND

	PROPERTY LINE
	WETLAND LINE
	100' WETLAND REGULATED AREA
	WETLANDS AREA
	EXISTING WATERCOURSE
	EXISTING FENCE
	EXISTING STONE WALL
	EXISTING UTILITY POLE
	EXISTING SPOT ELEVATION
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED FOOTING DRAIN
	PROPOSED PRIMARY SEPTIC AREA
	PROPOSED RESERVE SEPTIC AREA
	DEEP TEST PIT LOCATION
	PERCOLATION TEST LOCATION
	PROPOSED INFILTRATORS FOR ROOFTOPS
	PROPOSED WELL
	PROPOSED EDGE OF PAVEMENT

### INVERT ELEVATIONS BLDG 2

HOUSE CONNECTION	860.00
SEPTIC TANK-IN	859.35
SEPTIC TANK - OUT	859.10
UPPER D-BOX INV	859.00
UPPER LEACHING TRENCH INV.	859.00
BOTTOM OF UPPER TRENCH	858.50
LOWER LEACHING TRENCH INV.	858.50
BOTTOM OF LOWER TRENCH	858.00



MILLSPAUGH PROPERTIES  
101 MAIN STREET SOUTH  
BETHLEHEM, CT

SUBSURFACE SEWAGE  
DISPOSAL SYSTEM DESIGN,  
CROSS-SECTIONS, & SOIL  
TESTING RESULTS

BLUEBIRD MEADOWS

BETHLEHEM CONNECTICUT

CIVIL C1

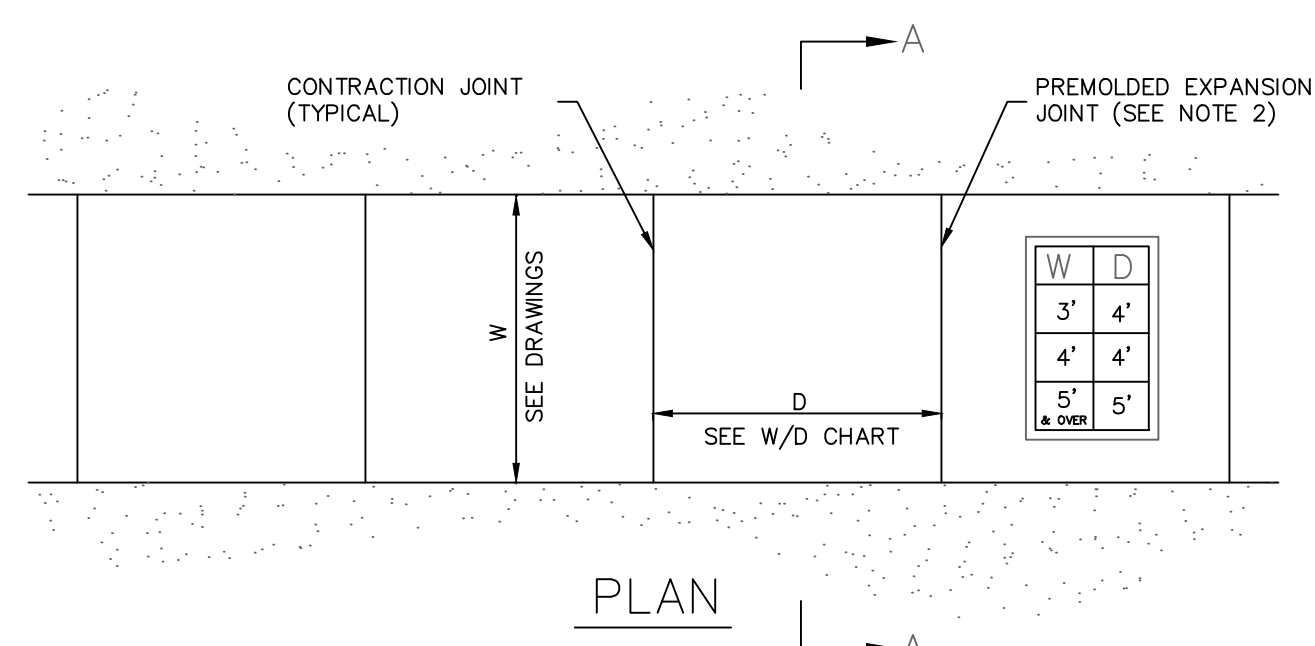
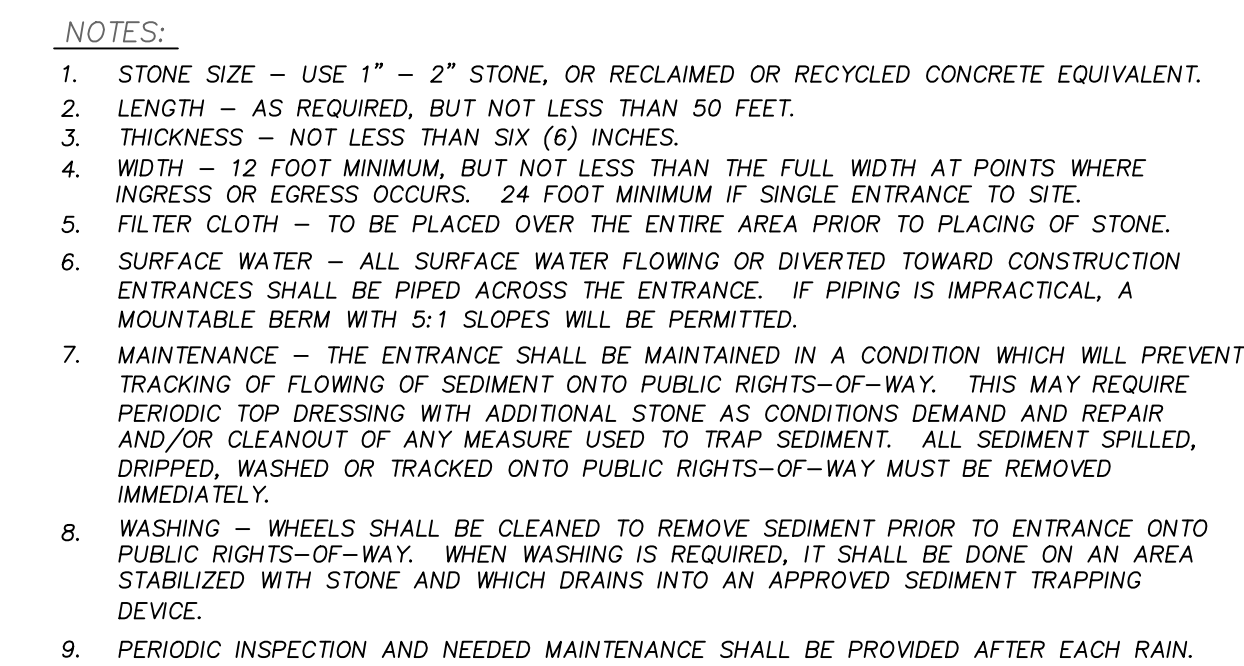
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
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WOODBURY CONNECTICUT  
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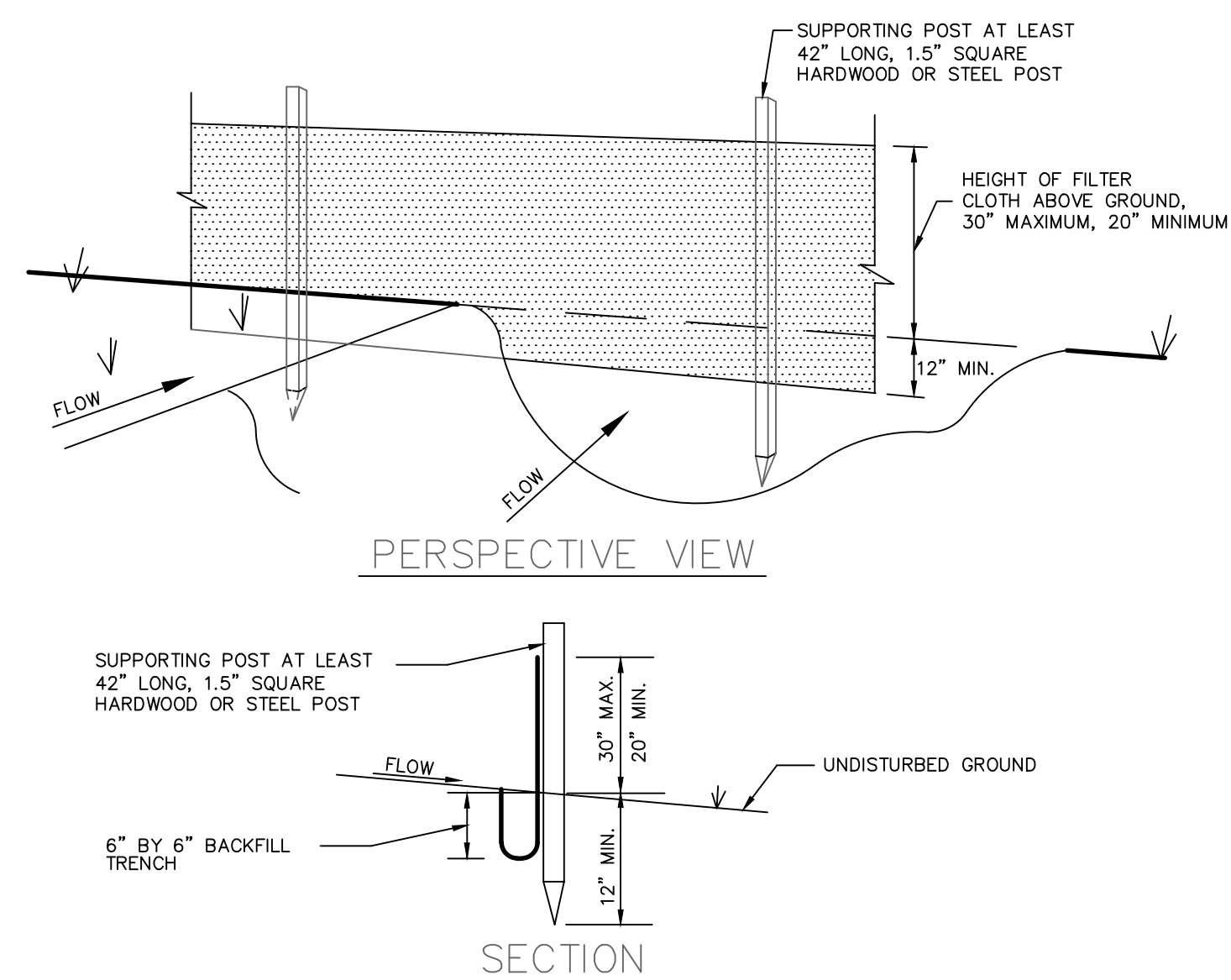




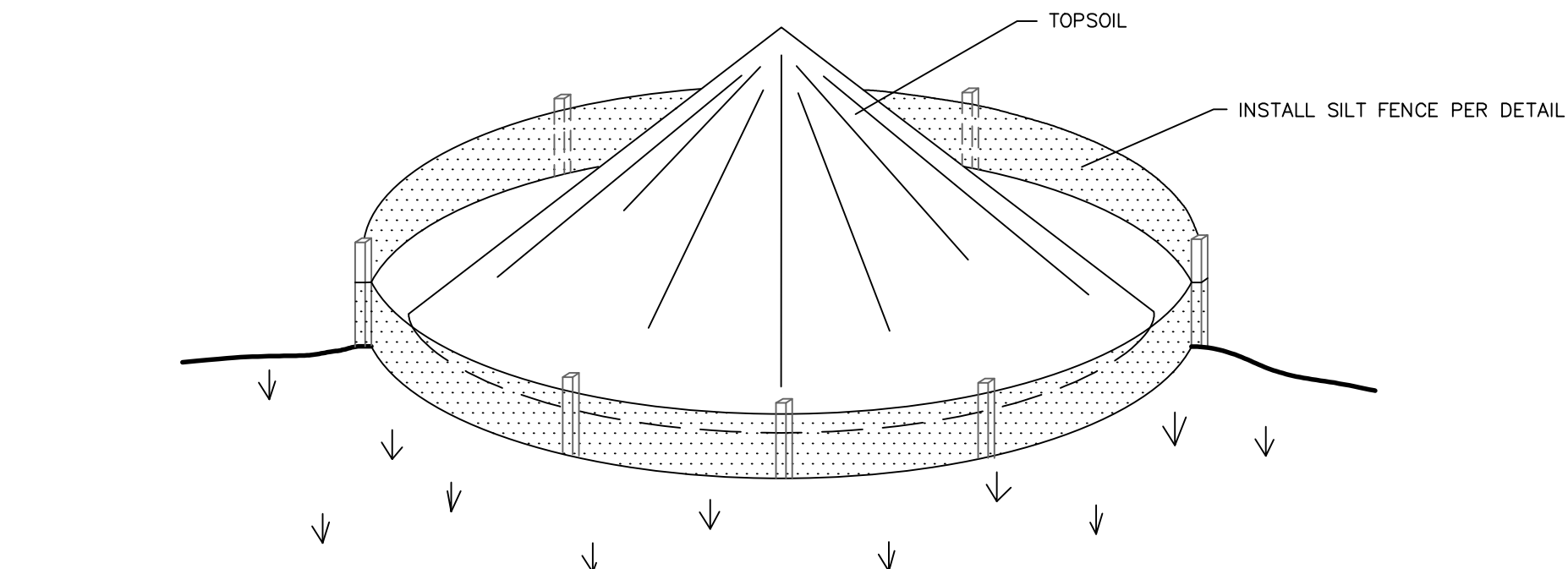
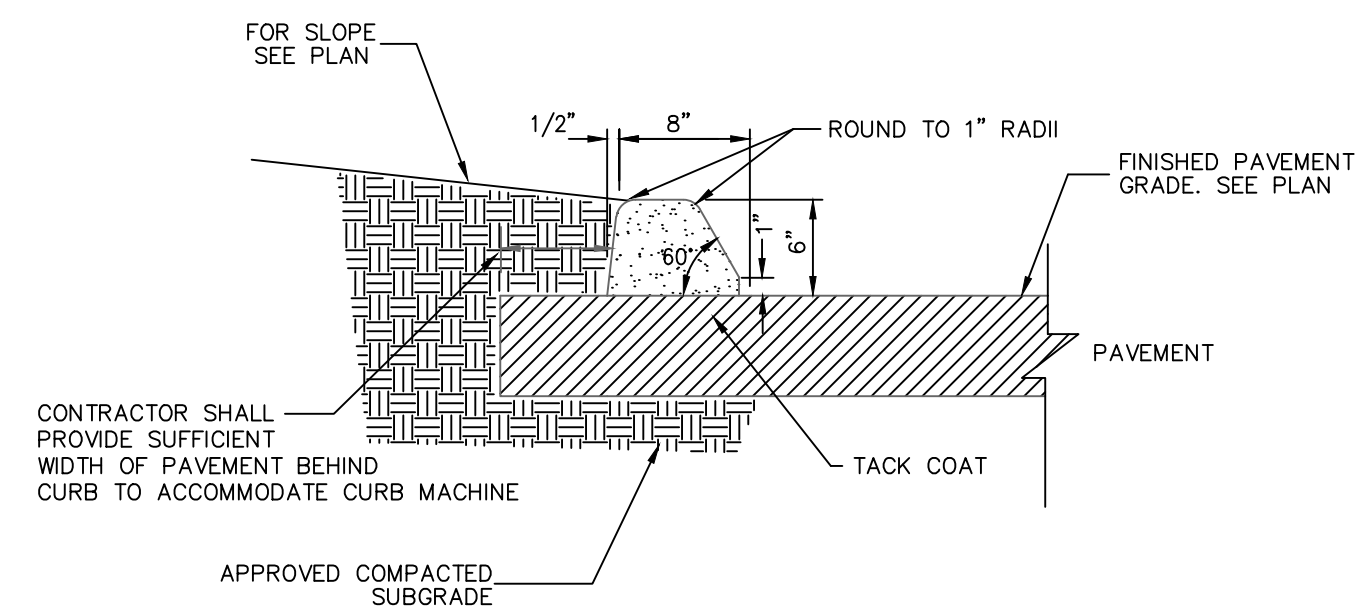


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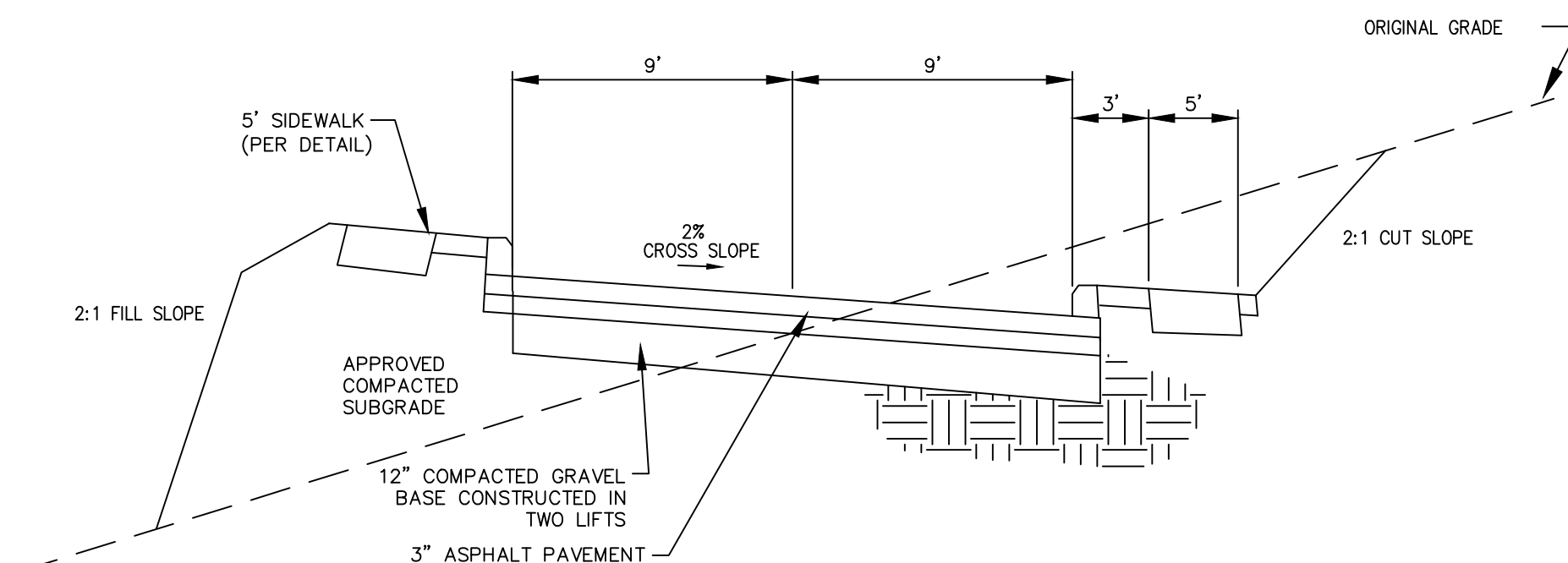
1. MINIMUM CROSS SLOPE SHALL BE 1/8" PER FOOT UNLESS OTHERWISE INDICATED ON DRAWINGS.
2. PROVIDE 1/4" PREMOLDED EXPANSION JOINTS AT 20' INTERVALS UNLESS OTHERWISE DIRECTED.



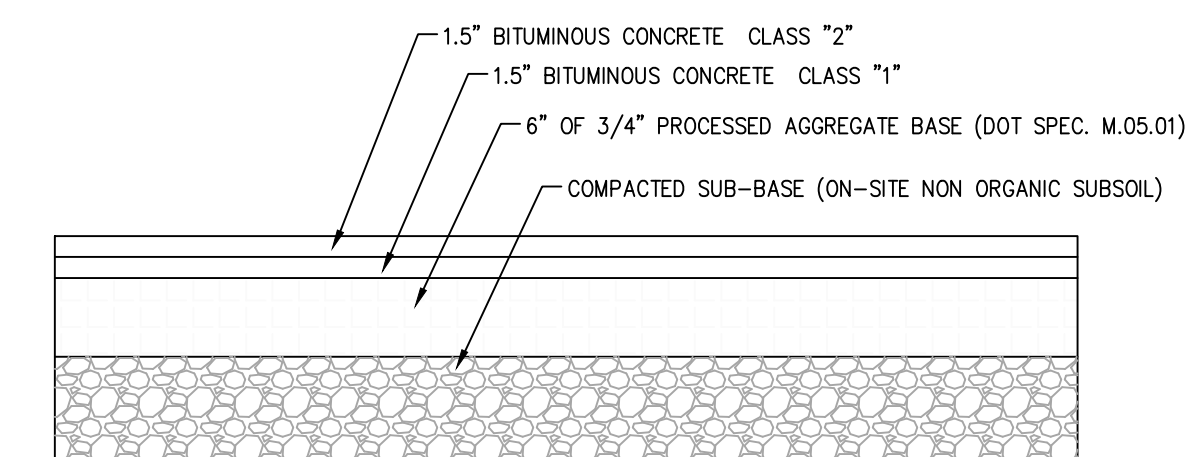
- |   |  |
|---|--|
| 1. EXCAVATE A TRENCH A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE ON THE UP SIDE OF THE FENCE LOCATION.   | POSTS: 1.5" SQUARE HARDWOOD OR STEEL                       |
| 2. DRIVE SUPPORT POSTS ON THE DOWN SLOPE SIDE OF THE TRENCH TO A DEPTH OF AT LEAST 12 INCHES INTO ORIGINAL GROUND.  | FILTER CLOTH: MIRAFI 100X, ENVIRONMENTAL OR APPROVED EQUAL |
| 3. STAPLE OR SECURE THE GEOTEXTILE TO THE SUPPORT POSTS PER MANUFACTURER'S INSTRUCTIONS SUCH THAT AT LEAST 6 INCHES OF GEOTEXTILE LIES WITHIN THE TRENCH. |  |
| 4. BACKFILL THE TRENCH WITH TAMPED SOIL OR AGGREGATE OVER THE GEOTEXTILE.   |  |



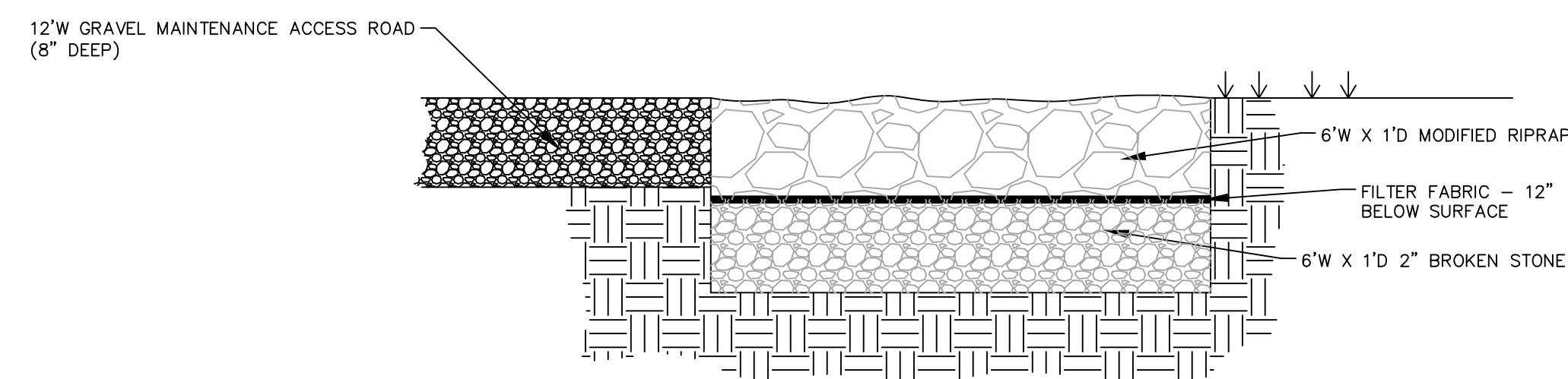
1. LOCATE STOCKPILE SO THAT NATURAL DRAINAGE IS NOT OBSTRUCTED.
2. DIVERT RUNOFF WATER AWAY FROM OR AROUND THE STOCKPILE.
3. INSTALL A GEOTEXTILE SILT FENCE OR HAY BALE BARRIER AROUND THE STOCKPILE AREA APPROXIMATELY 10 FEET FROM PROPOSED TOE OF THE SLOPE.
4. THE SIDE SLOPES OF STOCKPILED MATERIAL SHOULD BE NO STEEPER THAN 2:1.
5. STOCKPILES THAT ARE NOT TO BE USED WITHIN 30 DAYS NEED TO BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE.
6. AFTER STOCKPILE HAS BEEN REMOVED, THE SITE SHOULD BE GRADED AND PERMANENTLY STABILIZED.



N.T.S.



N.T.S.



NOTE:  
AREA ADJACENT TO TRENCH TO BE BROUGHT  
TO FINISHED GRADE IMMEDIATELY AS REQUIRED,  
TOPSOILED, SEEDD AND MAINTAINED FOR EROSION CONTROL

N.T.S.

[illegible]

The image shows a professional engineer's seal and a drawing title block. The seal is circular with the text "STATE OF CONNECTICUT" at the top and "PROFESSIONAL ENGINEER" at the bottom. In the center, it says "CURTIS C. JONES", "No. 1206", and "LICENSED". To the right of the seal is a drawing title block with the following information:

DRAWN: EJ	APPROVED: CJ
SCALE: N.T.S.	
DATE: 08 JUL 2020	
PLOT NO.: 3693	
CARD FILE NAME: 3693	
DRAWING NO.:	C 5.1

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SCALE: N.T.S.

DATE: 08 JUL 2020

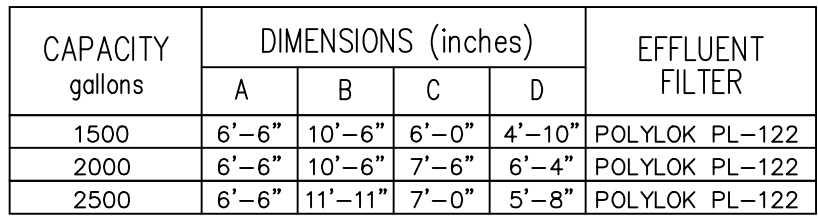
PROJ. NO.:	3693
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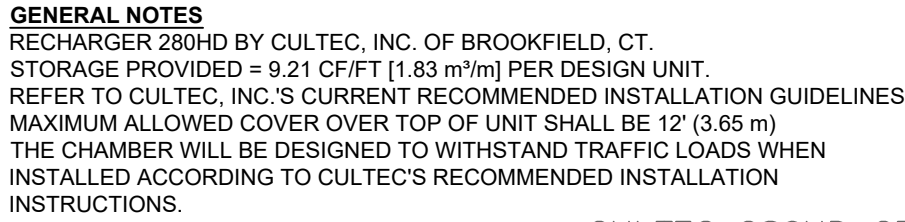
**C 5.1**





1. TWO COMPARTMENT SEPTIC TANKS TO BE CONNECTICUT PRECAST INC., OR APPROVED EQUAL.
2. CONCRETE 4,000 PSI @ 28 DAYS.
3. WALLS: 6" THICK, TOP: 6" THICK(8" FOR 2500 GAL.), BOTTOM: 6" THICK.
4. ALL COVERS TO ACCEPT RISER SECTIONS.
5. SHIPLAP JOINTS SEALED WITH BUTYL RUBBER.
6. EFFLUENT FILTERS TO BE POLYLOK INC., OR APPROVED EQUAL.
7. TANKS, RISERS AND COVERS TO BE H20 LOAD RATED.

*N.T.S.*



ALL RECHARGER 280HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.

ALL RECHARGER 280HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

8" PVC  
CLEAN-OUT AT  
GRADE

8"x8" TEE  
HIGH OVER FLOW  
INV. 108.5

CULTEC  
SYSTEM

27 1/8" MIN. SQUARE

16"

10"

12" MIN.

PAVEMENT OR FINISHED GRADE

12.0" SDR-35 / SCH. 40 PVC COLLAR

FIELD PLACED GLASS "C" CONCRETE

MAINTAIN 6.0" CLEARANCE BETWEEN HEAVY DUTY LID AND PVC CLEAN-OUT CAP

6.0" SDR-35 / SCH. 40 PVC ENDCAP CLEAN-OUT ADAPTER W/ SCREW-IN CAP

6.0" SDR-35 / SCH. 40 PVC RISER

6.0" SDR-35 / SCH. 40 PVC COUPLING

TRIM CHAMBER INSPECTION PORT KNOCK-OUT TO MATCH O.D. OF 6.0" INSPECTION PORT PIPE

6.0" SDR-35 / SCH. 40 PVC (INSERTED 8.0" INTO CHAMBER)

NEDAH FOUNDRY MODEL R-5800-A (OR EQUAL) HEAVY DUTY FRAME AND LID

INSPECTION PORT

*N.T.S.*

[illegible]

**MILLSPAUGH PROPERTIES  
101 MAIN STREET SOUTH  
BETHLEHEM, CT**

## DETAILS

# BLUEBIRD MEADOWS

CONNECTICUT

**CIVIL C1**

**PROFESSIONAL PARK,  
SHERMAN HILL ROAD  
(203) 266 - 0778**

01  
CONNECTICUT

DRAWN: EJ	APPROVED: C
SCALE: N.T.S.	
DATE:	08 JUL 2020
PROJ. NO.:	3693
CADD FILE NAME:	3693
DRAWING NO.:	

## C 5.2



## GENERAL PRINCIPLES

The following general principles shall be maintained as effective means of minimizing erosion and sedimentation during the development process.

Stripping away of vegetation, regrading or other development shall be done in such a way as to minimize erosion.

Grading and development plans shall preserve important natural features, keep cut and fill operations to a minimum, and insure conformity with topography so as to create the least erosion potential and adequately handle the volume and velocity of surface water runoff.

Whenever feasible, natural vegetation shall be retained, protected and supplemented wherever indicated on the site development plan.

The undisturbed area and the duration of exposure shall be kept to a practical minimum.

Disturbed soils shall be stabilized as quickly as possible.

Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development when expected to be exposed in excess of 7 days.

The permanent (final) vegetation and mechanical erosion control measures shall be installed as soon as practical during construction.

Sediment in the runoff water shall be trapped until the disturbed areas are stabilized by the use of debris basins, sediment basins, silt traps or similar measures.

All lots, tracts or developments shall be final graded to provide proper drainage away from buildings and dispose of it without ponding, and all land within a development shall be graded to drain and dispose of surface water without ponding.

Land disturbance will be kept to a minimum. Restabilization will be scheduled as soon as practical. Not more than 5 acres will be disturbed at any one time.

Haybale filters will be installed along the toe of slope of all critical cut and fill slopes.

All control measures will be maintained in effective condition throughout the construction period.

The responsibility for implementing the erosion and sediment control plan will rest with the developer. He acknowledges that he is responsible for informing all concerned of the requirements of the plan and for notifying the planning administration of any transfer of responsibility.

Additional control measures will be installed during construction if necessary or required.

Concentration of surface runoff shall be only permitted by piping and/or through drainage swales or natural watercourses.

Excavation and Fills --

Slopes created by cuts or fills shall not be steeper than 2:1 unless noted specifically on the plans and shall be restabilized by temporary or permanent measures, as required during the development process. Erosion control blankets will be used on slopes in the vicinity of wetlands regulated areas and on additional slopes as needed.

Adequate provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surfaces of fills.

Cuts and fills shall not endanger adjoining property.

All fills shall be compacted to provide stability of material and to prevent undesirable settlement. The fill shall be spread in a series of layers each not exceeding twelve (12) inches in thickness and shall be compacted by a mechanical roller or other approved method after each layer is spread.

Fills shall not encroach on natural watercourses, constructed channels or regulated flood plain areas, unless permitted by license or permit from authority having jurisdiction.

Fills placed adjacent to natural watercourses, constructed channels or flood plains shall have suitable protection against erosion during periods of flooding.

Grading shall not be done in such a way as to divert water onto the property of another landowner without their express written consent.

During grading operations, necessary measures for dust control shall be exercised.

All erosion and sediment control measures will be constructed in accordance with the standards and specifications of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (2002) – State of Connecticut DEEP Bulletin 34.

## RESPONSIBILITY FOR THE PLAN

The responsibility for implementing and maintaining the Erosion and Sedimentation Control Plan rests with the DEVELOPER, where any development of the parcel gives cause to erosion and sedimentation. The DEVELOPER shall be held responsible for informing all concerned regarding responsibility of the plan.

The responsibility of all drainage, erosion and sedimentation control measures will therefore rest with the DEVELOPER.

Whenever sedimentation is caused by stripping vegetation and/or grading, it shall be the responsibility of the person, corporation or other entity having responsibility to remove sedimentation from all lower properties, drainage systems and watercourses and to repair any damage at their expense as quickly as possible.

Maintenance of all drainage facilities and watercourses within any land development shall be the responsibility of the DEVELOPER until they are accepted by the Town. All control measures will be maintained in effective condition throughout the construction period. Surface inlets shall be kept open and free of sediment and debris. The system shall be checked after every major storm and sediment shall be disposed of at an approved location consistent with the plan.

It shall be the responsibility of any person, corporation or other entity engaging in any act on or near any stream, watercourse or swale or upon the flood plain or right-of-way thereof to maintain as nearly as possible in its present state that same stream, watercourse, swale, flood plain or right-of-way for the duration of the activity and to return it to its original or equal condition after such activity is completed.

Maintenance of drainage facilities or watercourses originating and completely on private property shall be the responsibility of the DEVELOPER to their point of open discharge at the property line or at a communal watercourse within the property.

No person, corporation or other entity shall block, impede the flow of, alter, construct any structure or deposit any material or thing or commit any act which affects normal or flood flow in any communal stream or watercourse without having obtained prior approval from the Town.

An adequate right-of-way and/or easement shall be provided for all drainage facilities and watercourses which are proposed either for acceptance by the Town or provided by other property owners for the convenience of the OWNER.

SEEDING AND PLANTING REQUIREMENTS

Seedbed Preparation

Fine grade and rake surface to remove stones larger than 2" in diameter. Install needed erosion control devices such as surface water diversions. Grade stabilization structures, sediment basins or drainage channels to maintain grassed areas. Apply limestone at a rate of 2 tons/Ac. or 90 lbs/1000 SF unless otherwise required according to soil test results. Apply fertilizers with 10–10–10 at a rate of 300 lbs./Ac. or 7.5 lbs/1000 SF. At least 50% of the nitrogen shall be from organic sources. Work lime and fertilizer into soil uniformly to a depth of 4" with a whisk, springtooth harrow or other suitable equipment following the contour lines.

Seed Application

Apply grass mixtures at rates specified by hand, cyclone seeder or hydroseeder. Increase seed mixture by 10% if hydroseeder is used. Lightly drag or roll the seeded surface to cover seed. Seeding for selected fine grasses should be done between April 1 and June 1 or between August 15 and October 15. If seeding cannot be done during these times, repeat mulching procedure below until seeding can take place or seed with a quick germinating seed mixture to stabilize slopes. A quick germinating seed mixture (Domestic Rye) can be applied between June 15 through August 15 as approved by the Engineer.

Mulching

Immediately following seeding, mulch the seeded surface with straw, hay or wood fiber at a rate of 1.5 to 2 tons/Ac. except as otherwise specified elsewhere. Mulches should be free of weeds and coarse matter. Spread mulch by hand or mulch blower. Punch mulch into soil surface with track machine or disk harrow set straight up. Mulch material should be "tucked" approximately 2– 3" into the soil surface. Chemical mulch binders or netting, in combination with the straw, hay or wood fibers, will be used where difficult slopes do not allow harrowing by machines.

Grass Seed Mixtures

Temporary Covers

Perennial ryegrass 20 lbs/Ac.

Annual ryegrass 20 lbs/Ac.

Permanent Covers

Creeping Red Fescue 40 lbs/Ac.

Canada Bluegrass 20 lbs/Ac.

IN CASE OF AN EMERGENCY (e.g. severe flooding, rains, or other environmental problems): THE PARTY RESPONSIBLE AND THE TOWN'S WEO SHALL BE NOTIFIED.

EMERGENCY CONTACT: BEN MILLSPAUGH, MILLSPAUGH PROPERTIES. (203) 524–4895

## CONSTRUCTION SEQUENCE

THE SEQUENCE OF CONSTRUCTION WILL BE AS FOLLOWS:

Field stakeout the limits of all construction activities.

Haybales and/or siltation fence and other erosion control features will be placed as shown on the enclosed plan prior to the start of any construction.

Remove stumps and vegetation from the area of construction.

Install the anti-tracking pad as shown on the plan. At the end of each working day any accumulated silt shall be swept from the existing town roads.

Install temporary sediment traps as necessary during construction.

Strip and stockpile topsoil and subsoil material at the locations shown on the plans.

The cuts and fills will be made and all slopes loamed, seeded and mulched.

The septic tanks, leaching fields, d–boxes, and distribution piping will now be installed.

Infiltration beds for rooftop leader drains shall be installed according to manufacturer specifications. Connection to leader drains shall be stubbed out from infiltrator and capped until connection to downspout/leader drain piping.

Gravel shall be placed on private road.

The building foundations will be excavated and the foundations constructed.

The area surrounding the buildings will be final graded.

Underground utilities shall be installed.

Water breaks will be installed to control lateral runoff along both sides of the proposed driveway prior to paving.

Haybale sediment check dams will be installed to control lateral runoff along both sides of the proposed road prior to paving.

Road shall be paved.

Sidewalks shall now be installed.

Provide temporary seeding measures on all exposed soils which were damaged due to construction activities and are not to be permanently restored or are outside of construction traffic zones for a period in access of 30 days.

Seed all disturbed areas.

Clean all silt from drainage structures.

The starting time for the construction is unknown, however the time limit for the site construction and building is approximately 270 days.

The following general specifications will also be adhered to:

Land disturbance will be kept to a minimum. Restabilization will be scheduled as soon as practical.

Haybale filters will be installed along the toe of all critical cut and fill slopes.

All erosion and sediment control measures will be constructed in accordance with the standards and specifications of the Guidelines for Erosion and Sediment Control (2002) of the State of Connecticut.

Erosion and sediment control measures will be installed prior to construction whenever possible.

All control measures will be maintained in effective condition throughout the construction period.

Additional control measures will be installed during construction if necessary or required.

## MAINTENANCE PLAN FOR INFILTRATION SYSTEMS

CULTEC INFILTRATION BEDS FOR ROOFTOP LEADER DRAINS:

The Cultec 280 HD subsurface infiltrators shall be inspected and maintained per the manufacturer Operations & Maintenance manuals that can be found on the manufacturer website.

This includes semi-annual inspections for the first year post-constructions, and at least annual inspections thereafter.

Maintenance and cleanout shall be performed by a licensed contractor if/when the average depth of sediment exceeds 3" in the bottom of the chambers.

RESPONSIBILITY:  
The homeowner will be responsible for the long term maintenance of the storm drainage system as listed above.

## FILL MATERIAL & COMPACTION REQUIREMENTS

1. Fill material shall be free of brush, rubbish, large rocks, logs, stumps, building debris and other objectionable material that would interfere with, or prevent construction of, satisfactory fills, where embankments are to be constructed on slopes steeper than 3:1. Deeply scarify the existing slope or cut into steps before filling is begun.

2. Place and compact all fill in layers not exceeding 1 foot in thickness. No fill should be placed on surfaces of snow, ice or frozen or unstable surfaces. If fill placement is not completed within 1 day, then install temporary erosion and sediment controls such as a temporary fill berm to redirect runoff water away from the unstable slope until fill placement resumes.

3. No frozen material be incorporated into the fill envelope. Material shall be placed in horizontal layers in 12 inch loose lifts and each layer compacted. During construction, the surface of the material shall be sloped to drain. The material shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture or gradation from the surrounding material.

4. The moisture content of the material shall be controlled to meet the necessary requirements of compaction. When necessary, moisture shall be added by the use of approved sprinkling equipment. Water shall be added uniformly and each layer shall be thoroughly disked or harrowed to provide proper mixing. Any layer found too wet for compaction shall be allowed to dry before rolling. Placing or rolling of materials will not be permitted during or immediately after rainfalls which increase the moisture content beyond the limit of satisfactory compaction.

5. The material shall be brought up uniformly and its top shall be kept graded and sloped so that a minimum of rain water will be retained thereon. Compacted material damaged by runoff shall be replaced immediately by the contractor.

6. Material shall be compacted to 95% of the standard proctor density at or near optimum moisture content and by the compaction equipment specified herein. The compaction equipment shall traverse the entire surface of each layer of material. Approved tamping rollers shall be used for compacting. The contractor shall demonstrate the effectiveness of the roller by actual soil compaction test results of the soil with laboratory work performed by an approved soil testing laboratory. Compaction tests shall include modified proctor and nuclear density tests made at the Engineer's discretion.

## INFILTRATOR SIZING CALCULATIONS

DRAINAGE CALCULATIONS FOR SIZING OF INFILTRATORS FOR ROOF RUNOFF  
(PER BUILDING)  
BLUEBIRD MEADOWS – BETHLEHEM CT  
June 23, 2020

ZERO INCREASE IN VOLUME  
100–YEAR DESIGN STORM

SCS Runoff Curve Number Method:

$Q = (P - 0.25)2 \sqrt{P + 0.85}$

and

$S = 1000 / CN - 10$

Where:

Q = runoff (in.)

P = rainfall (in.)

S = potential maximum retention after runoff begins (in.)

CN = runoff curve number

V = Volume

Existing Conditions:

Area of Drainage Being Collected = 3,859 sf

Type C Soil – Woods (CN = 70)

$S = 1000/70 - 10 = 4.28$

$Q = (7.0 - 0.2(4.28))2 \sqrt{7.0 + 0.8(4.28)} = 3.62 \text{ in.} = 0.30 \text{ ft.}$

Volume = 3,859 sq. ft. x 0.30 ft. = 1,165cu. ft.

Proposed Conditions:

Area of Drainage Being Altered = 3,859 sf

Impervious (CN=98)

$S = 1000/98 - 10 = 0.20$

$Q = (7.0 - 0.2(0.2))2 \sqrt{7.0 + 0.8(0.2)} = 6.76 \text{ in.} = 0.56 \text{ ft.}$

Volume = 3,859 sf. x 0.56 ft. = 2,175 cu. ft.

Increase in Volume = 2,175 cu. ft. – 1,165 cu. ft. = 1,010 cu. ft.

Percolation Rate of 20 min./in. for 24 hour period = 72 in./24 hours = 6"/24 hours

Area of bottom of Infiltrators = 24'L x 5.92'W = 142 sf x 6"/24 hours = 852 cu. ft.

Area of the sides of Infiltrators = 2 x 3.21'h x 24'L = 154 sf x 6"/24 hours = 924 cu. ft.

Total infiltration Provided in 24 hours = 852 cu. ft. + 924 cu. ft. = 1,775 cu. ft.

Volume Capacity of 3 Units of Cultec 280HD (40% void ratio in stone) = 262.4 cu. ft.

Total Capacity Provided = 1,775 cu. ft + 262.4 cu. ft. = 2,037.4 cu. ft.

Excess Capacity Provided = 2,037.4 cu. ft. – 1,010 cu. ft. = 1,027.4 cu. ft.

**MILLSPAUGH PROPERTIES**  
**101 MAIN STREET SOUTH**  
**BETHLEHEM, CT**

**EROSION CONTROL NARRATIVE**  
**& DRAINAGE SIZING**  
**CALCULATIONS**

**BLUEBIRD MEADOWS**

BETHLEHEM

CONNECTICUT

**CIVIL C1**

CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD

WOODBURY

(203) 266 - 0778

CONNECTICUT



DRAWN: EJ

APPROVED: CJ

SCALE:

N.T.S.

DATE:

08 JUL 2020

PROJ. NO.:

3693

CARD FILE NAME:

3693

DRAWING NO.:

**C 6.1**



