

SELECT FILL SPECIFICATION

SELECT FILL PLACED WITHIN AND ADJACENT TO LEACHING SYSTEM AREAS SHALL BE COMPRISED OF CLEAN SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS PER THE CONNECTICUT PUBLIC HEALTH

1. THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THE THREE (3) INCH SLEEVE.

2. UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SLEEVE (THIS IS THE GRAVEL PORTION OF THE

3. THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED,
4. THE REMAINING SAMPLE SHALL MEET THE FOLLOWING CRITERIA:

10-75

0 - 2.5

PERCENT PASSING DRY SIEVE WET SIEVE 70-100 70-100

10-50*

0-20

* 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.

SEPTIC NOTES

#100

- PROPOSED SEPTIC SYSTEM TO BE STAKED IN THE FIELD BY A LAND SURVEYOR LICENSED IN THE STATE OF CONNECTICUT.
- 2. A BENCHMARK SHALL BE SET WITHIN 10'-15' OF THE PROPOSED SEPTIC SYSTEM PRIOR TO CONSTRUCTION. ALL WORK AND MATERIAL (SEPTIC TANK, DISTRIBUTION BOX, PIPE) SHALL CONFORM TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND
- STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEM. SEWER LINE FROM FOUNDATION WALL TO SEPTIC TANK SHALL BE 4" SCHEDULE 40 PVC - ASTM D 1785 AND JOINTS PER HEALTH DEPT. CODE.
- PIPE FROM SEPTIC TANK TO DISTRIBUTION LINES SHALL BE 4" SOLID PVC CONFORMING TO STMD-3034 AND SDR-35. SYSTEMS SHALL BE SET LEVEL FOR ENTIRE LENGTH AND HAVE A CENTER TO CENTER SPACING AS CALLED FOR IN THE CONNECTICUT PUBLIC
- HEALTH CODE. THERE ARE PRESENTLY NO KNOWN WATER WELLS WITHIN 75' OF THE PROPOSED SEPTIC SYSTEMS.
- CLEAR AND GRUB THE AREA WHERE THE SEPTIC SYSTEMS AND HOUSES ARE TO BE CONSTRUCTED. ALL TOPSOIL IS TO BE STRIPPED AND
- STOCKPILED FOR FUTURE USE.
 7. ALL FILL MATERIAL SHALL BE CLEAN EARTH FREE OF STUMPS, ORGANICS, CONSTRUCTION DEBRIS AND TOPSOIL.
 8. TOPSOIL SHALL BE RE-APPLIED OVER ALL FILL AREAS AND ALL DISTURBED AREAS TO PROVIDE A MINIMUM DEPTH OF FOUR INCHES IN
- ACCORDANCE WITH THE SLOPE STABILIZATION DETAILS..

DEEP TEST PIT DATA / SOIL DESCRIPTIONS		PERCOLATION DATA PERC 1 - DEPTH 23"	
PERFORMED BY:Donovan Moe WITNESSED BY:NORTHEAST DISTRICT DEPARTMENT OF HEALTH DATE: 03/30/2021		TIME	DROP (INCHES)
TEST PIT: 1	TEST PIT: 2	11:10 6.0 11:12 7.0 11:14 8.0 11:16 8.5	
0" - 10" Topsoil / Organics 10" - 16" Orange Brown Fine Sand Loam 16" - 34" Tan Compact Sand Loam 34" - 78" Grey Sand & Gravel	0" - 10" Topsoil / Organics 10" - 27" Dark Brown Fine Sand 27" - 48" Grey Compact Sand 48" - 70" Sand & Gravel	11:18 11:20 11:22 11:25 11:28 11:31	9.25 9.5 10.0 11.0 11.5 12.0
MOTTLES: 36"	MOTTLES: 32"	PERCOLATION	RATE > 6.0 MIN./IN.
GROUNDWATER: 66"	GROUNDWATER: 62"	NOTES:	
LEDGE: NO ROOTS: 46" RESTRICTIVE: NO	RESTRICTIVE: NO	PERCOLATION TEST PERFORMED ON 3/30/2021 PERFORMED BY Donovan Moe	
TEST PIT: 3	TEST PIT: 4	PERCO	LATION DATA
0" - 12" Topsoil / Organics	0" - 10" Topsoil / Organics	PERC 2 - DEPTH 17"	
12" - 30" Tan Orange Fine Sand Loam 30" - 48" Grey Sand Layer 48" - 72" Sand & Gravel	10" - 24" Tan Orange Fine Sand Loam 24" - 80" Saturated Grey Sand & Gravel	TIME	DROP (INCHES)
MOTTLES: 30"	MOTTLES: 28"	11:04 11:10 11:16	6.25 8.25 9.75

GROUNDWATER:

RESTRICTIVE:

NO

30"

NO

LEDGE:

ROOTS:

d Loam & Gravel	PERCOLATION DATA PERC 2 - DEPTH 17"			
	TIME	DROP (INCHES)		
	11:04 11:10 11:16 11:22 11:34 11:46 11:58	6.25 8.25 9.75 10.625 12.125 13.125 14.625		
	PERCOLATION	PERCOLATION RATE > 8.0 MIN./IN.		
		NOTES: PERCOLATION TEST PERFORMED ON 3/30/2021		

PERFORMED BY Donovan Moe

CONCEPT SEPTIC SYSTEM DESIGN

NO

NO

NO

PROPOSED LOT 1
PRIMARY LEACHING AREA
4 BEDROOM RESIDENCE

GROUNDWATER:

LEDGE:

ROOTS:

RESTRICTIVE:

PERCOLATION RATE: 6.0 MIN./INCH (NDDH FILE #21000307)
LEACHING AREA REQUIRED: 557.5 SF

USE TRADITIONAL TRENCH

EFFECTIVE LEACHING AREA OF LEACHING TRENCH 3.0 SF/LF REQUIRED LENGTH = 557.5 SF / 3 SF/LF = 186 LF

DEPTH TO RESTRICTIVE LAYER = 32" SLOPE = 5.0%

HYDRAULIC FACTOR (HF) = 32FLOW FACTOR (FF) = 1.0

PERCOLATION FACTOR (PF) = 1.75 (LESS THAN 10.0 MIN./INCH) MLSS REQUIRED: $32 \times 1.0 \times 1.75 = \underline{52.5 \text{ LF}}$

PROPOSED SYSTEM

USE 3 ROWS OF 65 LF

LEACHING AREA PROVIDED = 585 SF

RESERVE LEACHING AREA USE SAME AS PRIMARY SYSTEM

PROPOSED LOT 2
PRIMARY LEACHING AREA

4 BEDROOM RESIDENCE

PERCOLATION RATE: 8.0 MIN./INCH (NDDH FILE #21000307) LEACHING AREA REQUIRED: 557.5 SF

USE TRADITIONAL TRENCH

EFFECTIVE LEACHING AREA OF LEACHING TRENCH 3.0 SF/LF REQUIRED LENGTH = 557.5 SF / 3 SF/LF = 186 LF

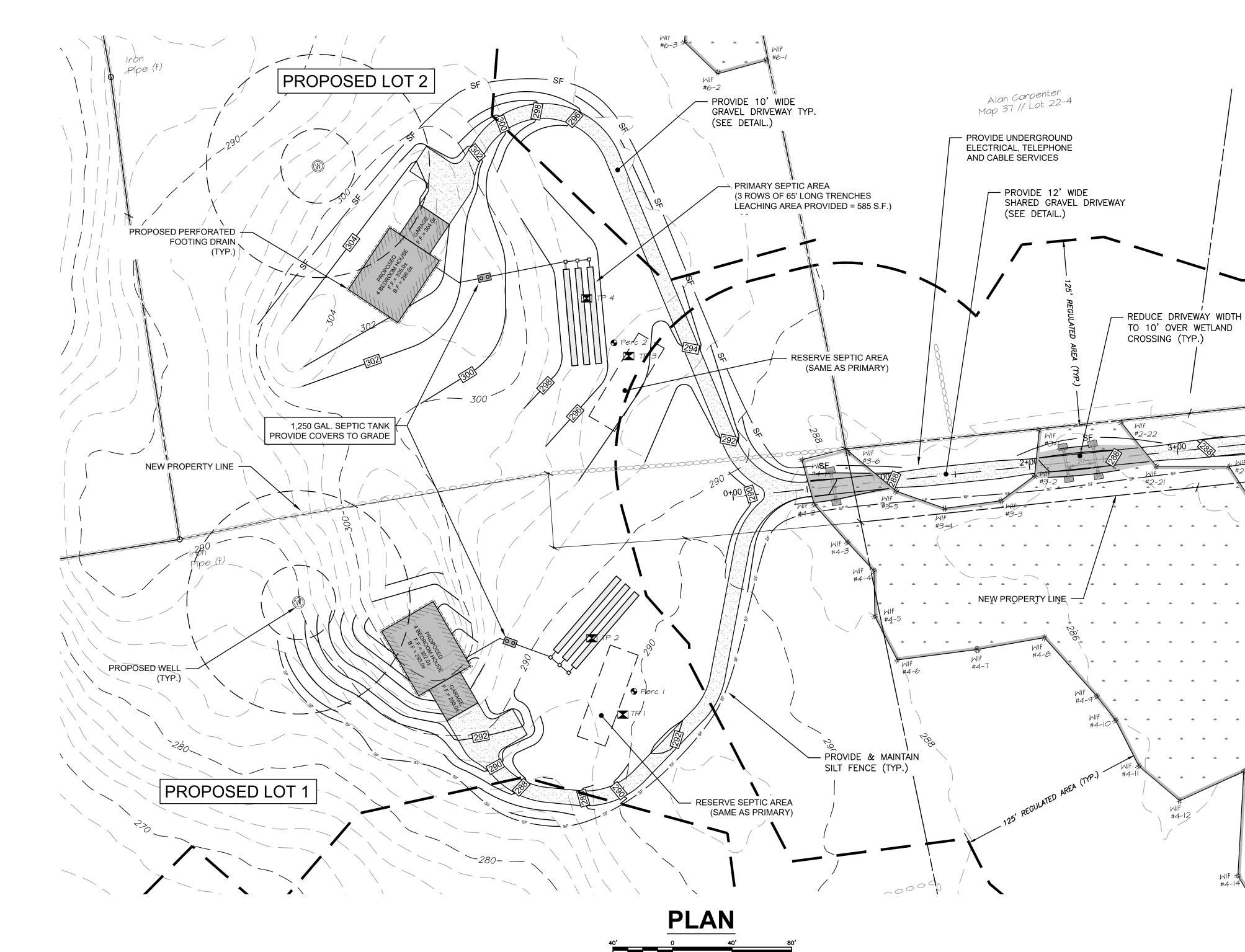
DEPTH TO RESTRICTIVE LAYER = 28" SLOPE = 4.0%

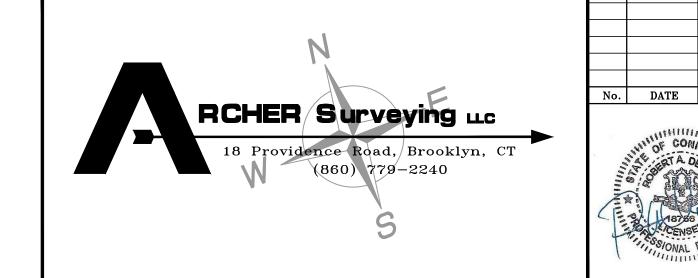
HYDRAULIC FACTOR (HF) = 34FLOW FACTOR (FF) = 1.0

PERCOLATION FACTOR (PF) = 1.75 (LESS THAN 10.0 MIN./INCH) MLSS REQUIRED: $34 \times 1.0 \times 1.75 = \underline{59.5 \text{ LF}}$

PROPOSED SYSTEM
USE 3 ROWS OF 65 LF

LEACHING AREA PROVIDED = 585 SF





SCALE: 1"=40



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S

Proj. Engineer

R.A.D.

04/30/21

3 of 4

Sheet No.

A. KAUSCH & SONS, LLC LOTS 019-37-17, 019-37-20 & 019-37-21 CHURCH ST. SITE DEVELOPMENT BROOKLYN, CT

GRADING & SITE DESIGN

CLA

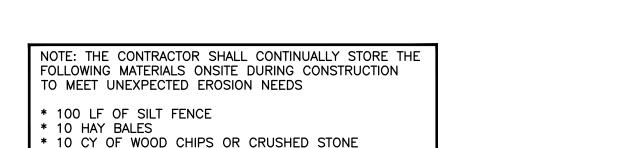
EROSION & SEDIMENTATION CONTROL NARRATIVE

- 1. THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE
- CONNECTICUT DEP.

 2. THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDED SILT FENCE, STONE CHECK DAMS AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.
- 3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
- 4. THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED WHEN WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE
- CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.

 5. STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY
- STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED (SEE NOTE).

 6. INLET SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED UNDER THE GRATES OF ALL NEW CATCH BASINS AT THE TIME OF INSTALLATION, AND UNDER THE GRATES OF EXISTING CATCH BASINS
- 7. CONTINUOUS DUST CONTROL USING WATER, CALCIUM CHLORIDE OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED ROADWAY SURFACES.
- 8. IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS SHOWN IN THE HAY—BALE BARRIER DEWATERING DETAIL OR ALTERNATE METHOD PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- 9. ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) SLOPE SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL DISTURBED AREAS IS NOT TO BE COMPLETED REFORE OCTOBER 15. THE
- 10. IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.
- 11. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.
- 12. ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.
- 13. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE TOWN.
- 14. UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
- 15. THE CONTRACTOR SHALL PROVIDE THE NAME AND EMERGENCY CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS PRIOR TO THE START OF CONSTRUCTION.



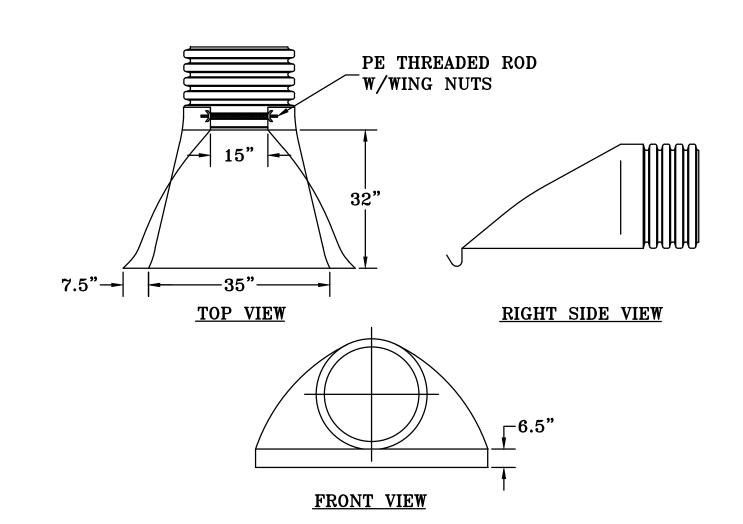
12' (Typical) 10' (Wetland Crossing) 20' (Passing Area) 5% 5%

8" ROLLED BANK GRAVEL SURFACE TO CTDOT 818 M.02.03

— 6" PROCESSED AGGREGATE BASE TO CTDOT 818 M.05.01

TYPICAL DRIVEWAY CROSS SECTION

NOT TO SCALE



HDPE FLARED END SECTION

NOT TO SCALE

TEMPORARY VEGETATIVE COVER

A TEMPORARY SEEDING OF RYE GRASS WILL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF STOCKPILES. IF THE SOIL IN THE STOCKPILES HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS IT SHALL BE LOOSENED TO A DEPTH OF 2 INCHES BEFORE THE FERTILIZER, LIME AND SEED IS APPLIED. 10–10–10 FERTILIZER AT A RATE OF 7.5 POUNDS PER 1000 S.F. LIMESTONE AT A RATE OF 90 LBS. PER 1000 S.F. SHALL BE USED. RYE GRASS APPLIED AT A RATE OF 1 LB. PER 1000 S.F. SHALL PROVIDE THE TEMPORARY VEGETATIVE COVER. STRAW FREE FROM WEEDS AND COARSE MATTER SHALL BE USED AT A RATE OF 70–90 LBS. PER 1000 S.F. AS A TEMPORARY MULCH. APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS.

PERMANENT VEGETATIVE COVER

TOPSOIL WILL BE REPLACED ONCE THE EXCAVATIONS HAVE BEEN COMPLETED AND THE SLOPES ARE GRADED AS SHOWN ON THE PLANS. PROVIDE SLOPE PROTECTION AS CALLED FOR ON THE PLANS AND DETAILS. TOPSOIL SHALL BE SPREAD AT A MINIMUM COMPACTED DEPTH OF <u>4 INCHES</u>. ONCE THE TOPSOIL HAS BEEN SPREAD, ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION WILL BE REMOVED AS WELL AS DERRIS

- APPLY AGRICULTURAL GROUND LIMESTONE AT THE RATE OF TWO TONS PER ACRE OR 100 LBS. PER 1000 S.F.
- APPLY 10-10-10 FERTILIZER OR EQUIVALENT AT A RATE OF 300 LBS. PER ACRE OR
- 7.5 LBS. PER 1000 S.F.

 WORK LIMESTONE AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES.
- INSPECT SEEDBED BEFORE SEEDING.
- IF TRAFFIC HAS COMPACTED THE SOIL, RETILL COMPACTED AREAS.
 APPLY THE FOLLOWING GRASS SEED MIX:

TYPICAL SEED MIXTURE

ALL DISTURBED AREAS
KENTUCKY BLUEGRASS
CREEPING RED FESCUE
PERENNIAL RYEGRASS

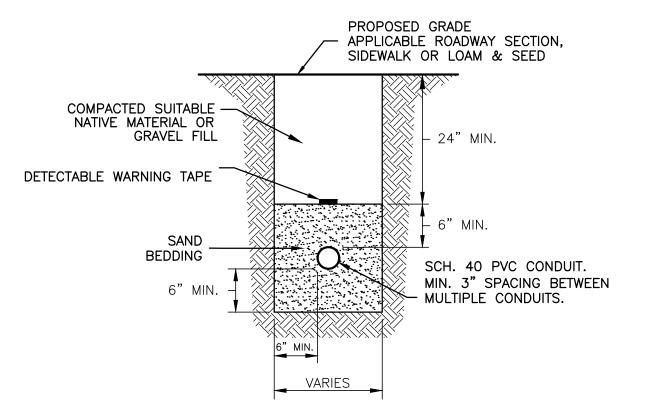
 LBS./ACRE
 LBS./1000 S.F

 20
 0.45

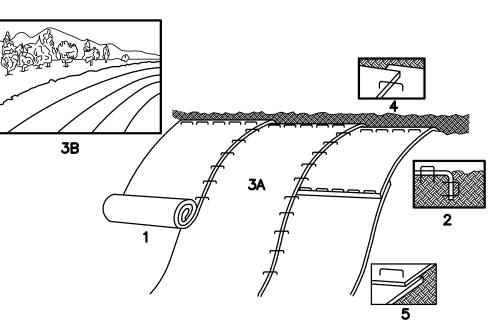
 20
 0.45

 5
 0.10

 45
 1.00



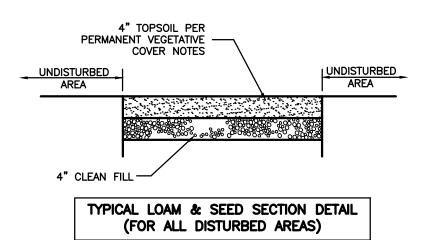
TRENCH DETAIL: ELECTRICAL CONDUIT



- 1. PROVIDE 4" THICKNESS OF TOPSOIL OVER CLEAN FILL. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED MIX PER PERMANENT VEGETATIVE COVER NOTES. (SHALL BE PAID FOR AT THE UNIT PRICE FOR LOAM, SEED, FERTILIZE & MULCH)
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP x 6" WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 ROLL THE BLANKET (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
 THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"
- 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

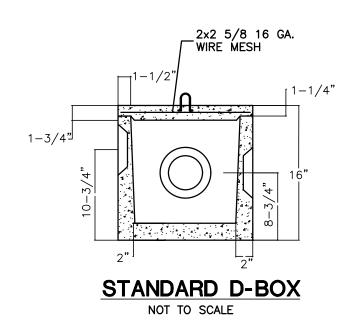
NOTE: ALL PERMANENT EROSION CONTROL BLANKETS ARE TO BE NORTH AMERICAN GREEN BIONET C125BN OR APPROVED EQUAL.

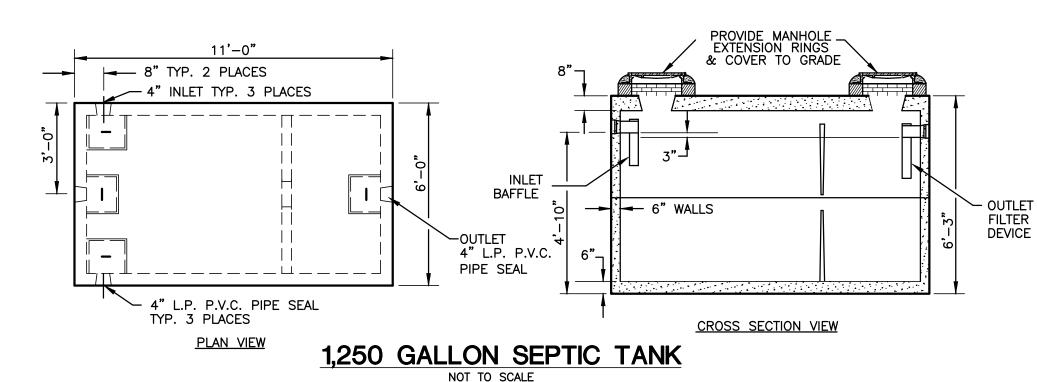
EROSION CONTROL MATTING DETAIL (FOR 3:1 SLOPES OR GREATER)

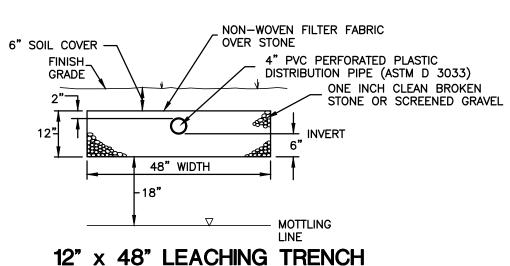


SLOPE STABILIZATION DETAILS

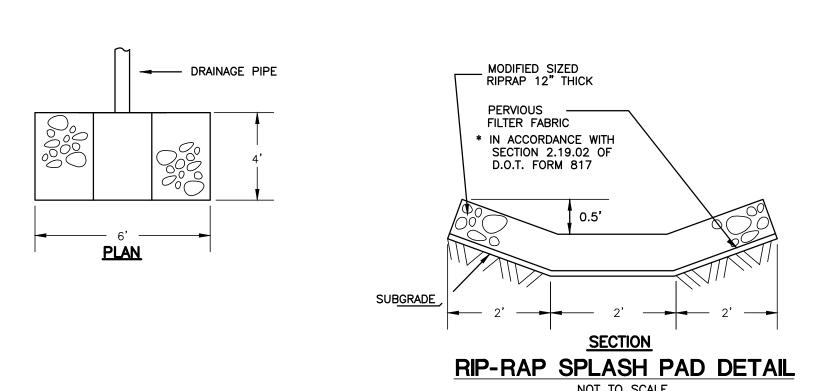
NOT TO SCALE

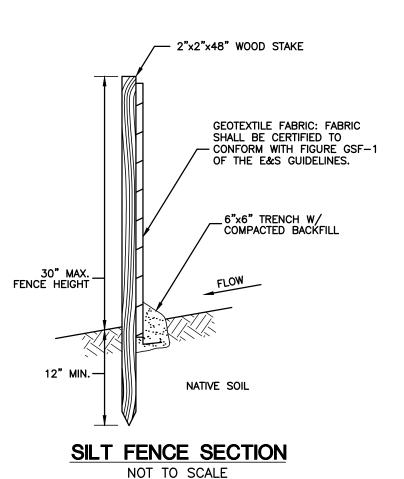


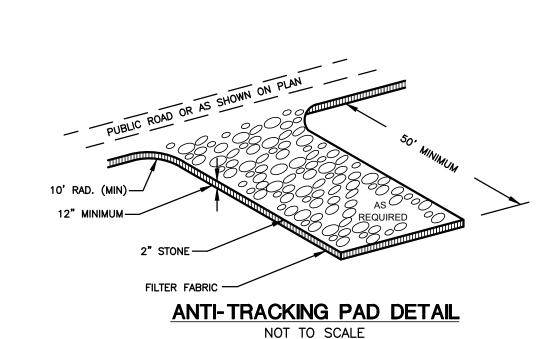


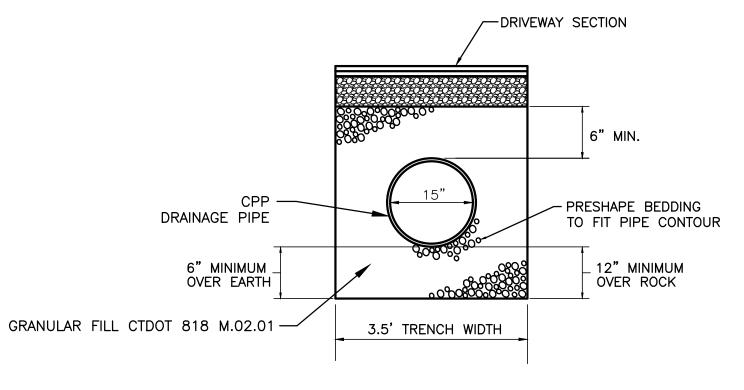


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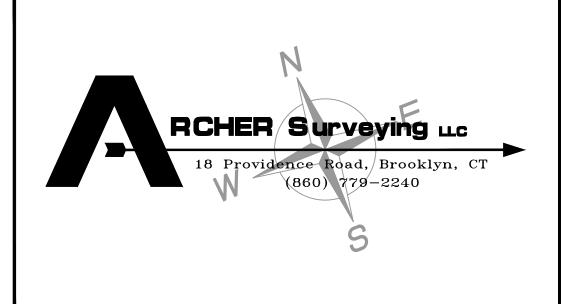


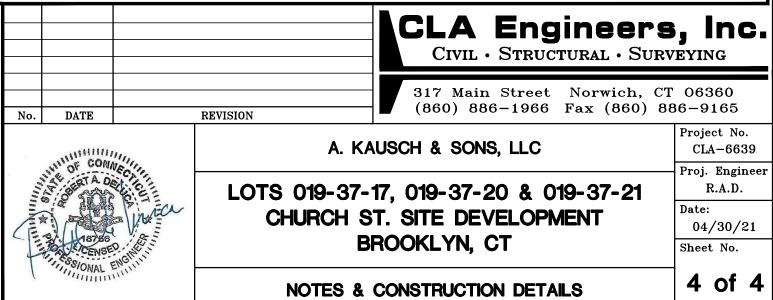




DRAINAGE PIPE BEDDING DETAIL

NOT TO SCALE





NORTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

ENGINEERING PLAN REVIEW PERTAINING TO A 3-LOT SUBDIVISION (ASSESSOR'S MAP/LOT NOS. 019-37-17, 019-37-20 & 019-37-21) CHURCH STREET BROOKLYN, CT

(May 7, 2021)

The comments contained herein pertain to my review of plans for a proposed 3-lot residential subdivision located on Church Street in Brooklyn, Connecticut, consisting of four (4) sheets, prepared for A. Kausch & Sons by Archer Surveying, LLC and CLA Engineers, dated April 10, 2021 and April 30, 2021, respectively. Also reviewed were the CLA Drainage Report of April 2021 and the CLA Wetlands Report, dated May 3, 2021. Comments pertain to both wetlands and planning and zoning concerns.

Sheet 1 of 4 - Property Survey Plan

- 1. Location Map is missing a north arrow.
- 2. Note 1 under "Notes" does not include the accuracy of the topographic elevations shown on the plan. The accuracy needs to be included as part of this note.
- 3. Zoning criteria is missing on this plan.
- 4. A "property line symbol" covers some stone wall symbols but not others in the lots of interest. Why is this so?
- 5. Wetland delineation certification block and signature of the certified Connecticut soil scientist is missing on the plan.
- 6. A silt fence, compost/silt sock and/or hay bale sediment control symbol needs to be included in the "Legend."

Sheets 2 & 3 of 4 – Grading & Site Design Plan

- 1. The area of disturbed wetlands is not noted on the plan (driveway crossing and underground utilities installation). The areas of disturbance need to be noted on the plan.
- 2. Underground utilities will disturb wetlands. The route of the utilities should be shown on the plan.

- 3. Different symbols are used for "Silt Fence." Use one symbol only and make changes to the plan to reflect this.
- 4. The drainage report for this project was also reviewed. It states that Wetlands Crossing 2 needs three (3) 15" pipes. The site plan and wetland crossing profile only show two (2) pipes. Therefore, an additional pipe needs to be added to the plan and profile along with distances to be maintained between the pipes.
- 5. Due to the proposed driveway being finished so close to the level of the wetlands, soil test pits should be dug to look for presence of groundwater and mottling, especially within the wetland crossings, to further validate the driveway cross section design depicted on Sheet 4 of 4.
- 6. Different symbols are used for "Silt Fence." Use one symbol only and make changes to the plan to reflect this.
- 7. Different symbols are used for "New Property Line." Use one symbol only and make changes to the plan to reflect this.

Sheet 4 of 4 – Notes & Construction Details

1. Any reference to CT DOT Form 817 is to be changed to the current Form 818 designation.

General Comments

- 2. Even though USDA NRCS soils types with boundaries are included in the wetlands report, they should also be included on the project plans.
- 3. An overall plan showing the "new" lot lines should be included in the plan set. As it is presented now, it is difficult to see how the proposed subdivision relates to the existing lot configurations.

Syl Pauley, Jr., P.E.

Syl Pauley, Jr., P.E., NECCOG Regional Engineer