# GENERAL NOTES

- BOUNDARY INFORMATION IS BASED UPON A FIELD SURVEY CONDUCTED BY SLR AND TOPOGRAPHIC INFORMATION IS BASED ON GIS WITH LIMITED FIELD TOPO.
- INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 1-800-922-4455. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
- THE EXACT LOCATION AND SIZE OF ELECTRIC, TELEPHONE AND CABLE TELEVISION ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY COMPANIES.
- ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS AND DESCRIBED WITHIN THE SEDIMENT AND EROSION CONTROL NARRATIVE SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, CONNECTICUT - 2002, AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL.
- ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 6" TOPSOIL AND BE SEEDED WITH GROUND COVER SEED MIX, AS SHOWN ON THE PLANS, ALL VEGETATIVE ESTABLISHMENT SHALL CONFORM TO THE "STANDARDS FOR ORGANIC LAND CARE, NORA CONNECTICUT 2011," AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL.
- IN ALL CASES, TOPSOIL AND OTHER CONSTRUCTION MATERIALS SHALL BE DRAWN FROM THE ON-SITE STOCKPILES OF EXISTING MATERIAL. ONLY WHEN ON-SITE STOCKPILES HAVE BEEN USED SHALL MATERIAL BE IMPORTED TO THE SITE.
- ALL STORM DRAIN PIPE HDPE UNLESS OTHERWISE INDICATED. . ALL PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE FINISHED GRADE.
- 10. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE CITY OF TORRINGTON REQUIREMENTS AND TO THE APPLICABLE SECTIONS OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818 AND ADDENDUMS
- THE PLANS REQUIRE A CONTRACTOR'S WORKING KNOWLEDGE OF LOCAL, MUNICIPAL, WATER AUTHORITY, AND STATE CODES FOR UTILITY SYSTEMS. ANY CONFLICTS BETWEEN MATERIALS AND LOCATIONS SHOWN, AND LOCAL REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE EXECUTION OF WORK. THE ENGINEER WILL NOT BE HELD LIABLE FOR COSTS INCURRED TO IMPLEMENT OR CORRECT WORK WHICH DOES NOT CONFORM TO LOCAL CODE.
- 12. COMPLIANCE WITH THE PERMIT CONDITIONS IS THE RESPONSIBILITY OF BOTH THE CONTRACTOR AND THE PERMITTEE. 13. THE PROPERTY OWNER MUST MAINTAIN (REPAIR/REPLACE WHEN NECESSARY) THE SILTATION CONTROL UNTIL ALL DEVELOPMENT ACTIVITY IS COMPLETED AND ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED.
- 14. A SUPPLY OF ABSORBENT SPILL RESPONSE MATERIAL SHOULD BE KEPT ON-SITE TO CLEAN UP ANY SPILLS OF HAZARDOUS MATERIALS.

# CONSTRUCTION SEQUENCE

- PRIOR TO COMMENCEMENT OF WORK A PRECONSTRUCTION MEETING SHALL BE HELD WITH CITY STAFF AND REPRESENTATIVES OF THE CONTRACTOR AND OWNER. AT THIS MEETING, ONE PERSON WILL BE PLACED IN CHARGE OF SEDIMENT AND EROSION CONTROL FOR THE ENTIRE SITE.
- CONTRACTOR TO STAKE OUT LIMIT OF DISTURBANCE AND VEGETATION TO BE RETAINED. NO DISTURBANCE IS TO TAKE PLACE BEYOND THE LIMITS OF WORK SHOWN. CONTRACTOR TO INSTALL SEDIMENT AND EROSION CONTROLS ALONG THE PERIMETER, AND STABILIZED CONSTRUCTION
- ENTRANCES.
- I. CLEAR AND GRUB SITE AND STOCKPILE TOPSOIL. PLACE SEDIMENT FILTER FENCE AND HAYBALES AROUND STOCKPILES.
- CONTRACTOR TO INSTALL TEMPORARY SEDIMENT TRAPS PER THE SEDIMENT AND EROSION CONTROL PLAN. . INITIATE MASS EARTHWORK OPERATIONS AFTER ALL BASINS, BERMS, SWALES, SILT FENCE & HAYBALES ARE INSTALLED
- . INSTALL UTILITIES, RV SITES AND PARKING LOTS/DRIVEWAYS WHERE NOTED ON THE PLANS.
- . SLOPES ARE TO BE ESTABLISHED AS SOON AS PRACTICAL BEFORE UTILITY INSTALLATION. STABILIZE ALL SLOPES IMMEDIATELY AFTER THEIR ESTABLISHMENT.
- . THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE MODIFIED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AND DESIGNATED CITY REPRESENTATIVE AS NECESSITATED BY CHANGING SITE CONDITIONS.

# GENERAL CONSTRUCTION NOTES

- TEMPORARY SEDIMENT BASINS SHALL BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER. CLEAN THE SEDIMENT BASIN WHEN SEDIMENT ACCUMULATION EXCEEDS ONE HALF THE WET STORAGE CAPACITY OF THE BASIN
- SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER.
- 3. INSPECTION OF THE SITE FOR EROSION SHALL CONTINUE FOR A PERSON OF THREE MONTHS AFTER COMPETITION WHEN RAINFALLS OF ONE INCH OR MORE OCCUR.
- 4. THE SITE SHOULD BE KEPT CLEAN OF LOOSE DEBRIS, LITTER AND BUILDING MATERIALS SUCH THAT NONE OF THE ABOVE ENTER WATERS OR WETLANDS.
- 5. A COPY OF ALL PLANS AND REVISIONS, AND THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE MAINTAINED ON-SITE AT ALL TIMES DURING CONSTRUCTION.

# OPERATION AND MAINTENANCE PLAN (POST-CONSTRUCTION)

- ALL CATCH BASIN SUMPS SHOULD BE INSPECTED TWO TIMES PER YEAR AND SEDIMENT REMOVED WHEN IT EXTENDS TO WITHIN SIX INCHES OF THE OUTLET PIPE INVERT, NOT LESS THAN ONCE PER YEAR. THE SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED LOCATION.
- 2. A VEGETATIVE OR IMPROVED COVER SHALL BE MAINTAINED ON ALL EARTH SURFACES TO MINIMIZE SOIL EROSION. USE OF FERTILIZER SHOULD BE MINIMIZED AND APPLIED USING PRUDENT APPLICATION PROCEDURES.
- 3. A LOG OF ALL INSPECTION AND CLEANING SHALL BE MAINTAINED BY THE OCCUPANT AND BE AVAILABLE FOR INSPECTION.
- 4. DURING CONSTRUCTION AND FOR THREE MONTHS AFTER PROJECT COMPLETION INSPECTION OF SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MADE ON A WEEKLY BASIS AND AFTER RAINFALL EVENTS OF 1/2" OR GREATER. A LOG OF SUCH INSPECTIONS SHALL BE MAINTAINED AT THE SITE.

#### **PROJECT DATA**

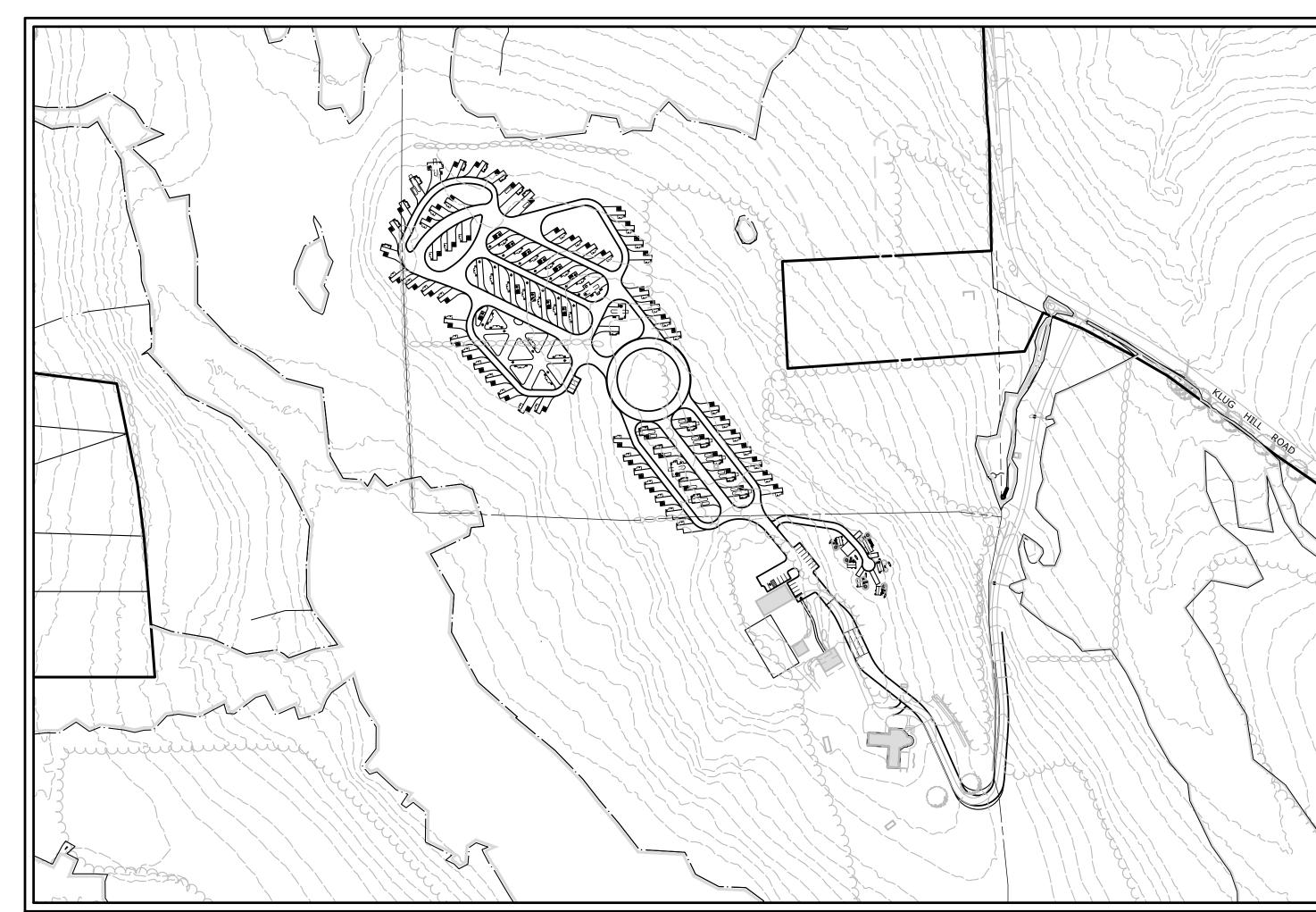
COMMON RECREATION AREA

EXISTING ZONE:	R-60
PROPOSED USE:	RECREATIONAL VEHICLE PARK
TOTAL PARCEL AREA:	±225.87 AC.
TOTAL PROPOSED RV SITES:	92 SITES

<b>R-60 -DIMENSIONAL CRITERIA</b>	<b>REQ'D/PERMITTED</b>	PROPOSED/PROVIDED	
OT AREA	60,000 SF (MIN)	±225.87 AC.	
OT WIDTH	200' (MIN)	>200'	
FRONT YARD SETBACK	50' (MIN)	>50'	
SIDE YARD SETBACK	25' (MIN)	>25'	
REAR YARD SETBACK	100' (MIN)	>100'	
IMPERVIOUS SURFACE RATIO	30% (MAX)	<30%	
BUILDING COVERAGE RATIO	10% (MAX)	<10%	
<b>RV PARK -DIMENSIONAL CRITERIA</b>	<b>REQ'D/PERMITTED</b>	PROPOSED/PROVIDED	
LOT AREA	25 AC. (MIN)	±225.87 AC.	
PARK DENSITY	1 SITE PER 40,000 SF (MIN) 1 SITE PER ±106		
RV SITE AREA	1500 SF (30' W X 50' D) (MIN) >1500 SF PER S		
SETBACK FROM ANY PROPERTY LINE	100' (MIN)	>100'	

150 SF PER SITE (MIN)



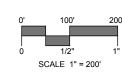


# KLUG HILL RV PARK KOA CAMPGROUND

# 232 KLUG HILL ROAD TORRINGTON, CONNECTICUT

**REGULATORY SUBMISSION** NOVEMBER 9, 2022

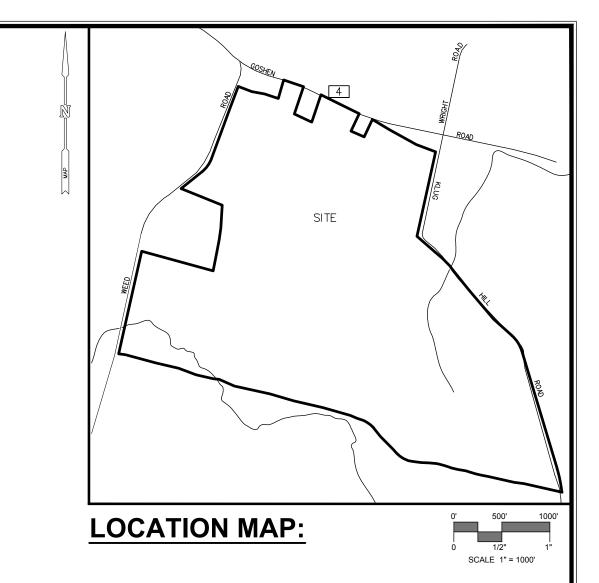
**PROJECT SITE VICINITY MAP:** 



> 150 SF PER SITE

**PREPARED BY:** 





#### **OWNER:**

**GREENSTONE INVESTMENTS, INC** 232 KLUG HILL ROAD TORRINGTON, CT 06790

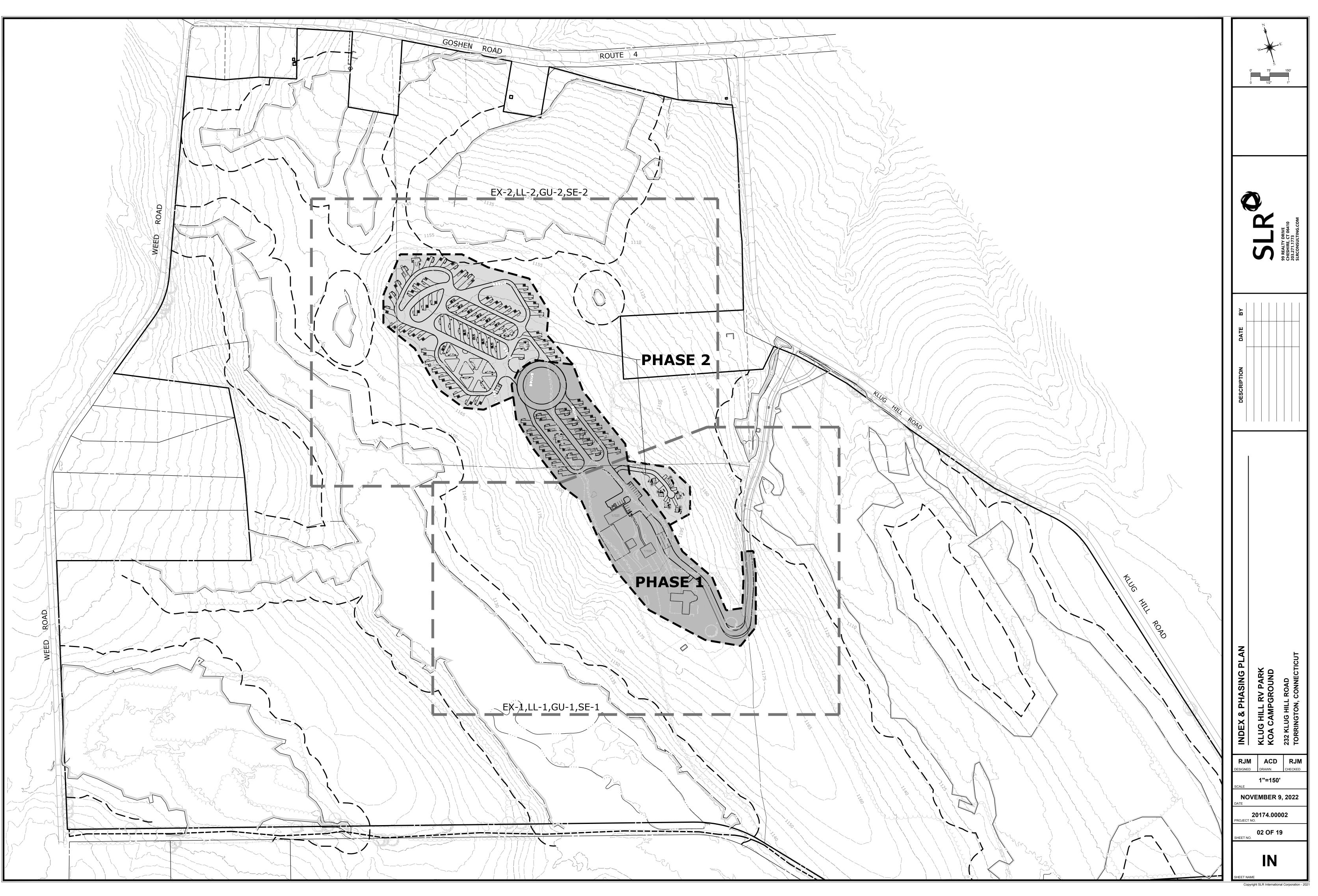
### **APPLICANT:**

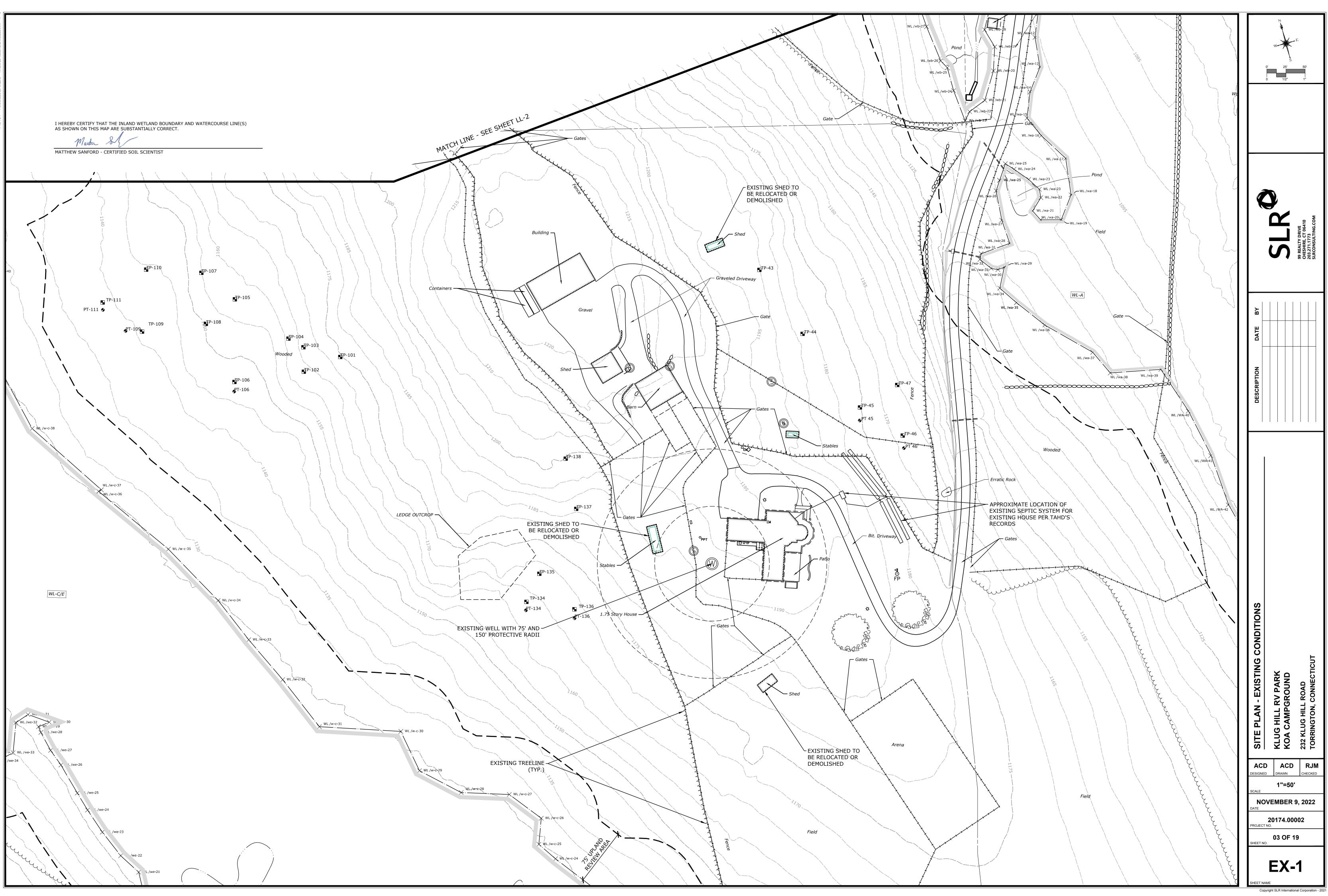
LELAH CAMPO COZY HILLS II CAMPGROUND 1311 BANTAM ROAD BANTAM, CT 06750

# LIST OF DRAWINGS

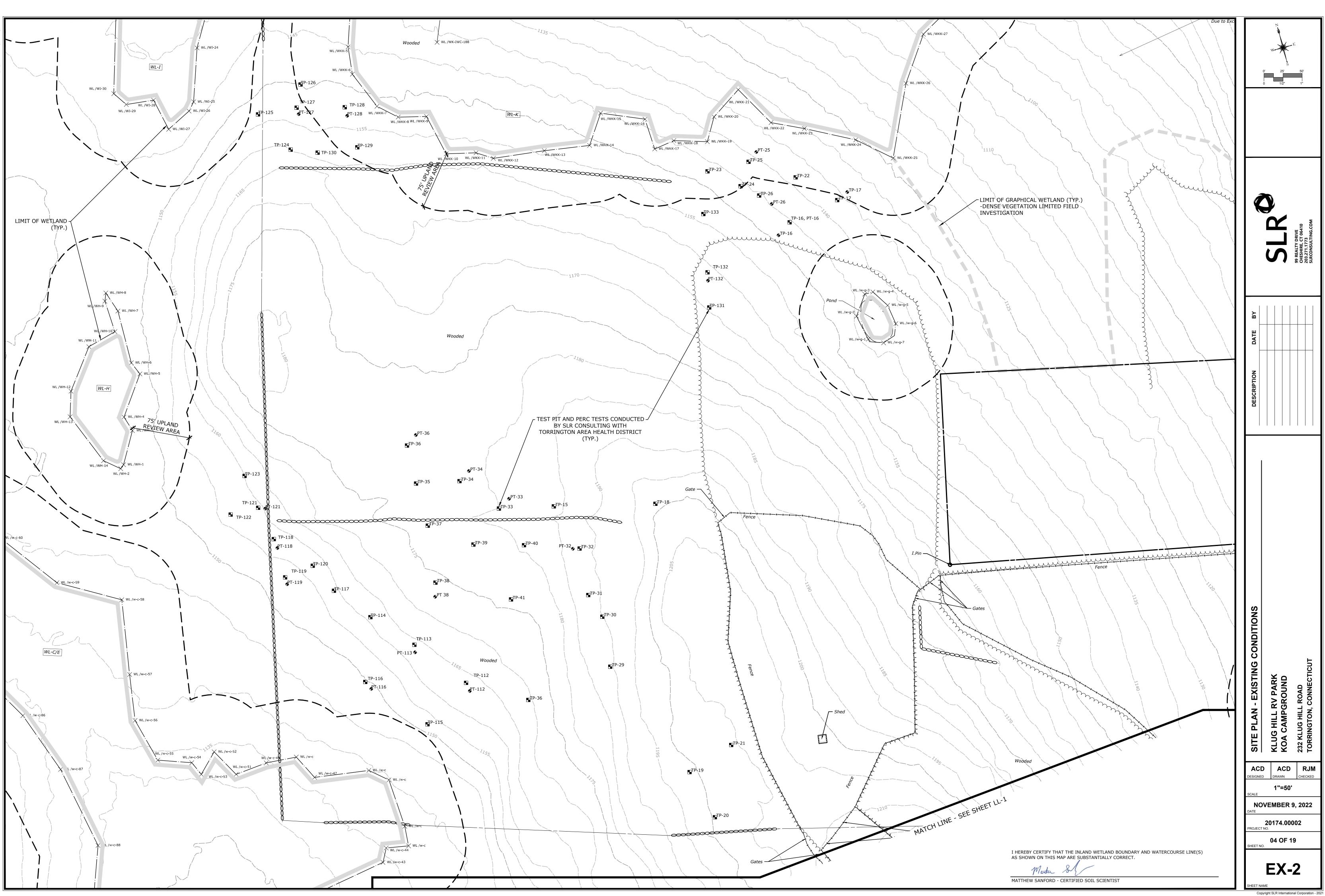
NO.	NAME	TITLE
01		TITLE SHEET
02	IN	INDEX & PHASING PLAN
03 - 04	EX-1 - 2	EXISTING CONDITIONS
05 - 06	LL-1 - 2	SITE PLAN - LAYOUT AND LANDSCAPING
07 - 08	GU-1 - 2	SITE PLAN - GRADING & UTILITIES
09 - 10	SE-1 - 2	SEDIMENT AND EROSION CONTROL PLAN
11 - 12	SD-1 - SD-2	SEPTIC SYSTEM - SOIL TESTING RESULTS
13	SD-3	SEPTIC SYSTEM - MLSS DATA TABLE
14-15	SD-4 - SD-5	SEPTIC SYSTEM - SEPTIC DESIGN & CROSS SECTIONS
16-19	SD-6 - SD-9	SITE DETAILS



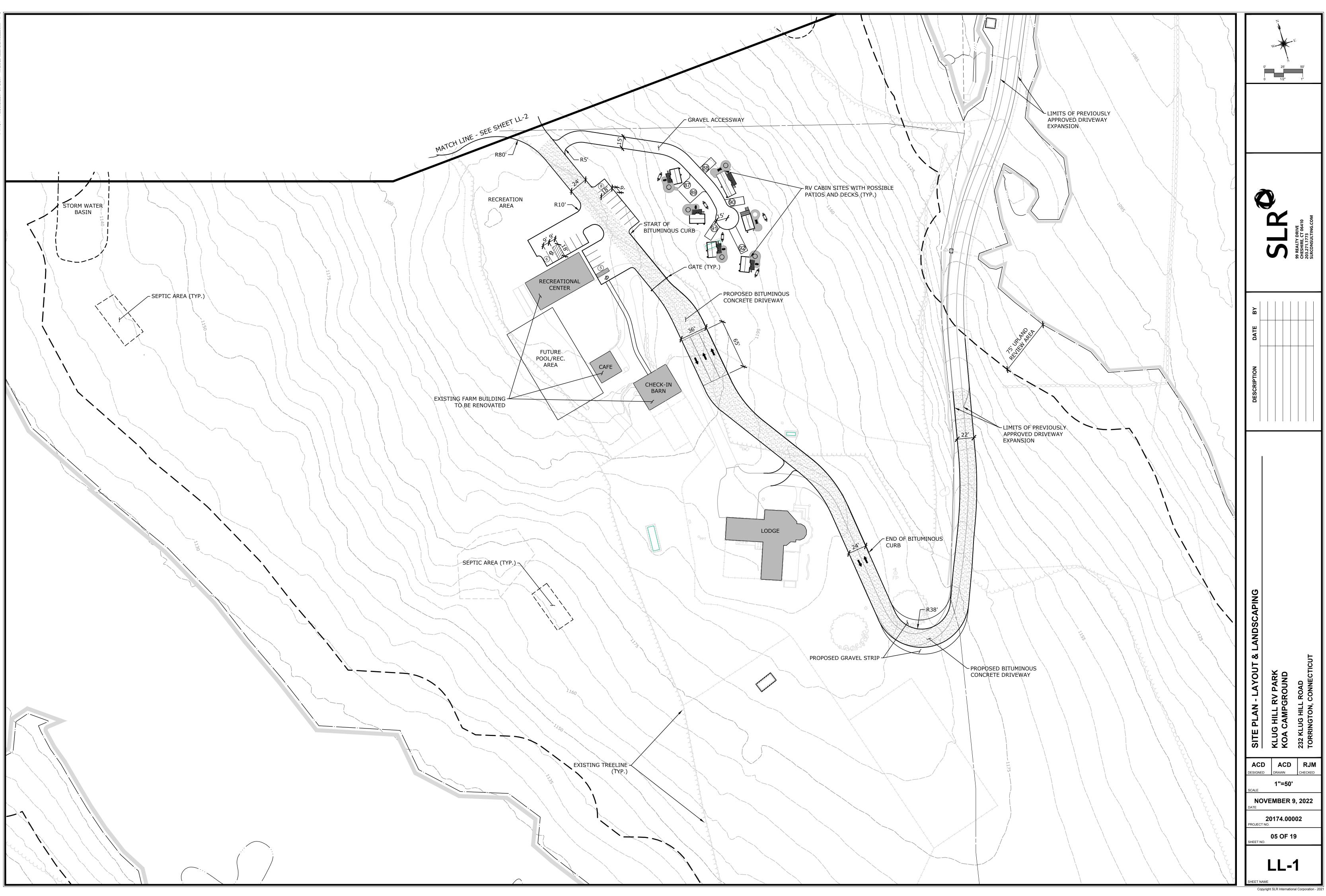




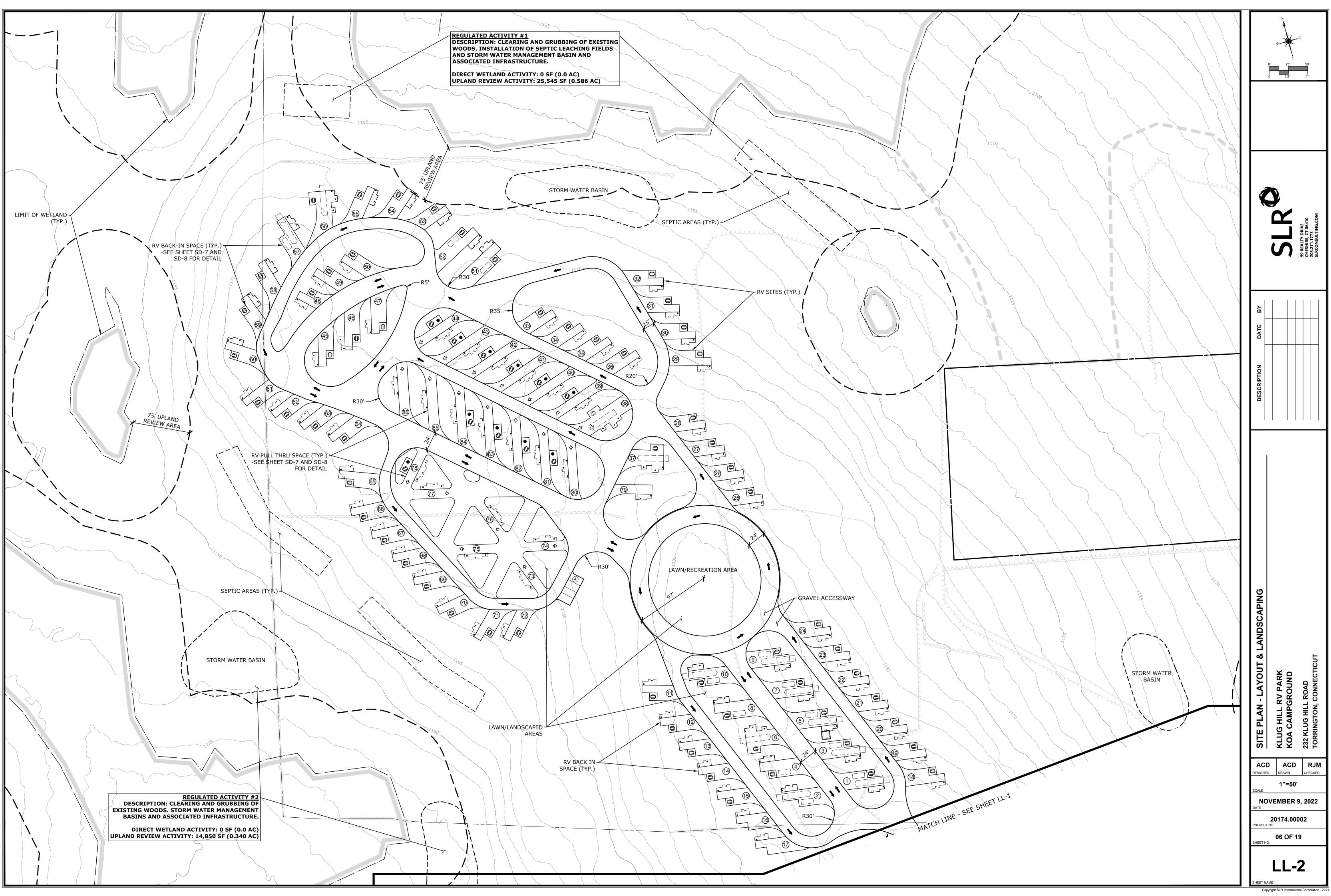




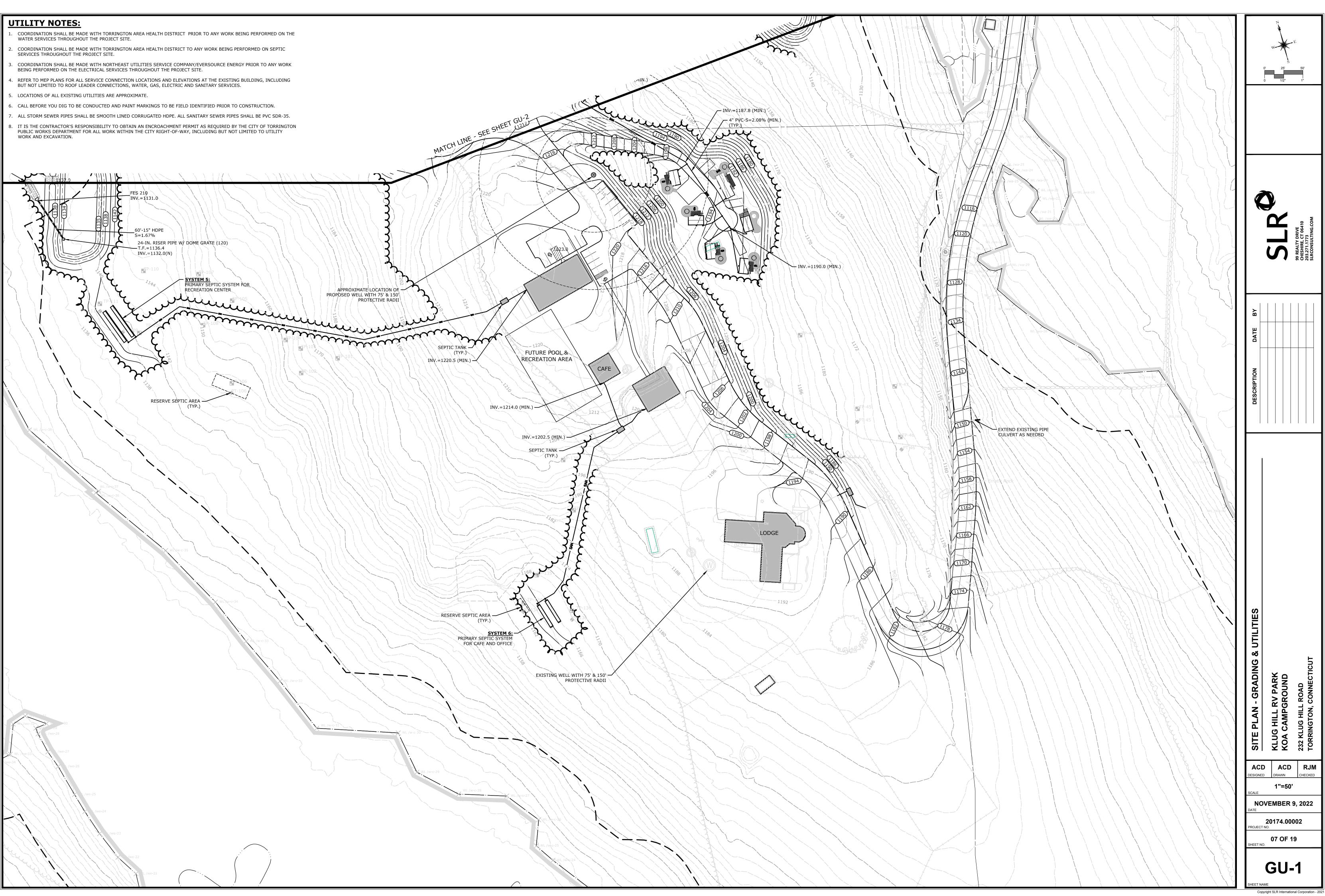
rawing: W:\C4DDESIGN\20174.0002-DE\C4D\KH - L4YOUT AND L4NDSCAPING.DWG Layout Tab:Llotted by: ADOWD On this date: Wed, 2022 November 9 - 2:23pm



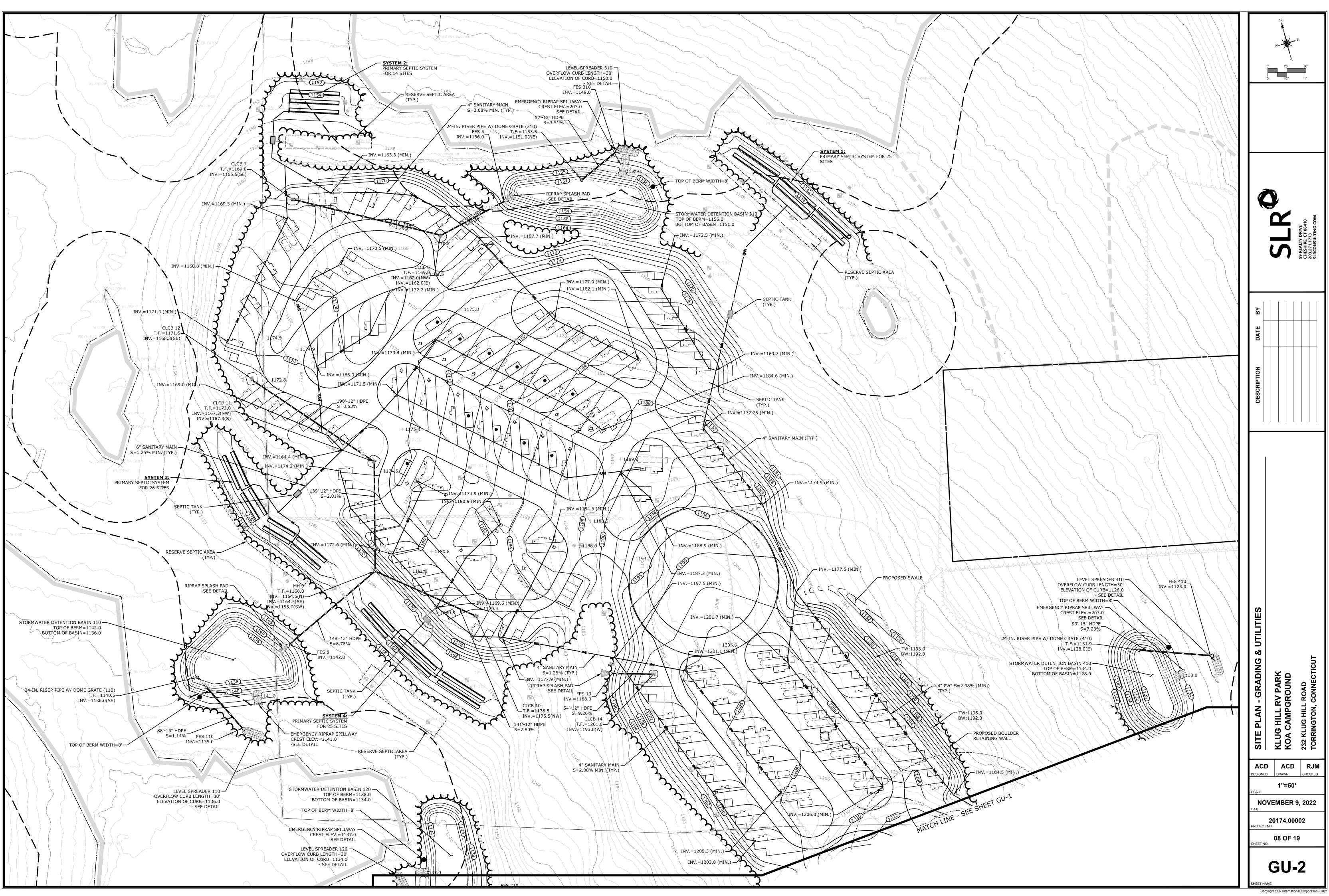


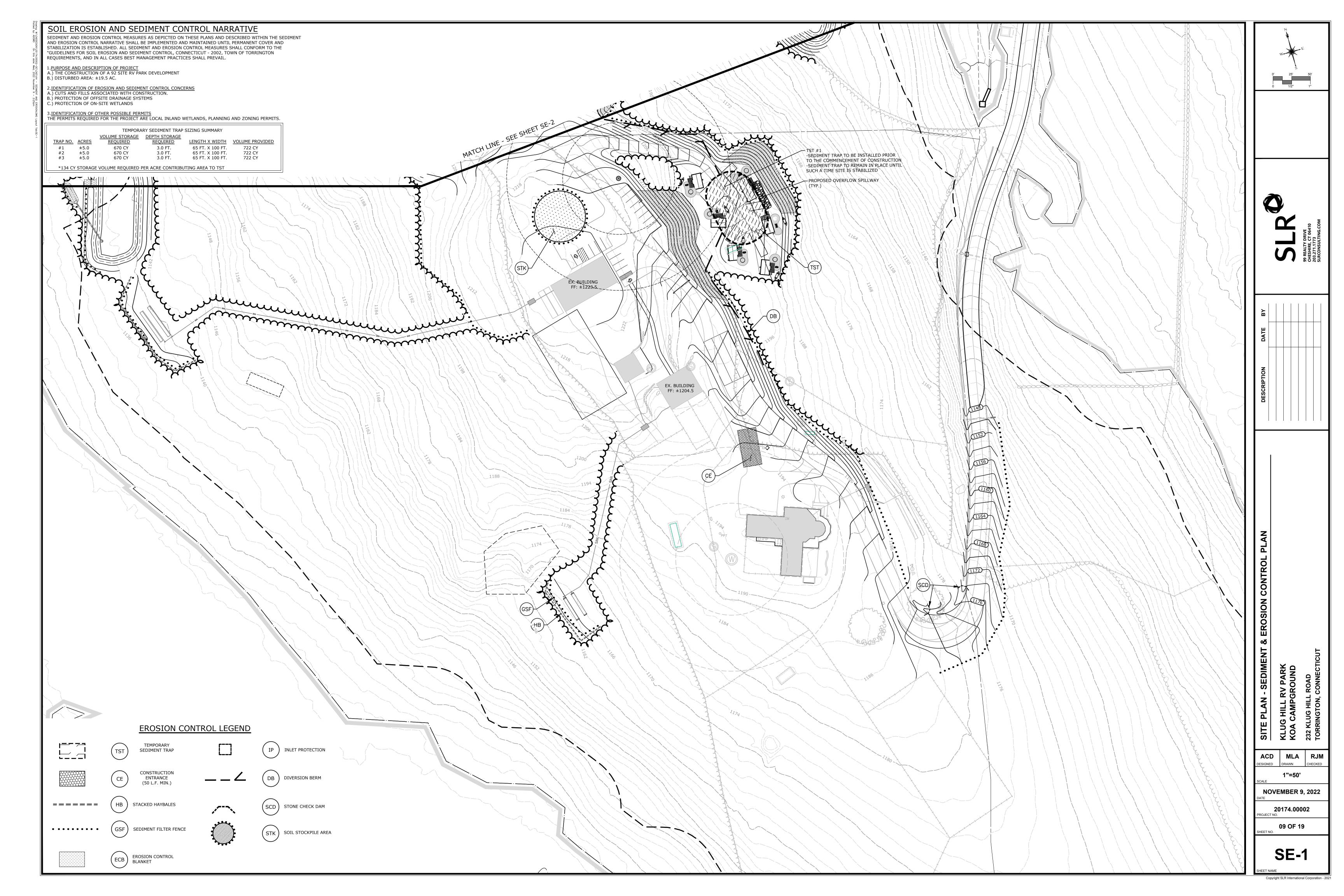


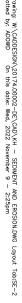
- BUT NOT LIMITED TO ROOF LEADER CONNECTIONS, WATER, GAS, ELECTRIC AND SANITARY SERVICES.













#### SOIL TESTING DATA - DECEMBER 2021

OBSERVED BY JUSTIN ROMPRE, TORRINGTON & RYAN MCEVOY, SLR CONSULTING. TEST PITS #1-26 ON 12/16/21. TEST PITS #26-47 ON 12/17/21.

Test Pit: 1 00"-11" TOPSOIL 11"-21" ORANGE BROWN FINE SANDY LOAM WITH SILTS 21"-91" DARK-BROWN FINE SAND WITH SILT AND COBBLES MOTTLING - 24" **RESTRICTIVE - 24**" WEEPING - 61" GROUNDWATER - 89" LEDGE - N/A Test Pit: 2 00"-09" TOPSOIL 09"-24" ORANGE BROWN FINE SANDY LOAM 24"-40" MEDIUM-BROWN FINE SAND AND SILT, LITTLE GRAVEL, FIRM 40"-94" FINE SAND AND SILT, FIRM MOTTLING - 24" (FAINT) RESTRICTIVE - 24" WEEPING - 71" GROUNDWATER - 90" LEDGE - N/A PERC: 2 DEPTH: 18" RATE: 10.1-20.0 Test Pit: 3 00"-09" TOPSOIL 09"-23" ORANGE BROWN FINE SANDY LOAM 23"-35" MEDIUM-BROWN FINE SAND AND SILT, LITTLE GRAVEL, FIRM 35"-83" FINE SAND AND SILT, FIRM MOTTLING - 23" **RESTRICTIVE - 23**" WEEPING - 55" **GROUNDWATER - N/A** LEDGE - N/A Test Pit: 4 00"-10" TOPSOIL 10"-22" ORANGE BROWN FINE SANDY LOAM 22"-38" MEDIUM-BROWN FINE SAND AND SILT, LITTLE GRAVEL, FIRM 38"-91" FINE SAND AND SILT, FIRM MOTTLING - N/A **RESTRICTIVE - 22"** WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A PERC: 4 DEPTH: 18" RATE: 10.1-20.0 Test Pit: 5 00"-10" TOPSOIL 10"-19" ORANGE BROWN FINE SANDY LOAM 19"-38" MEDIUM-BROWN FINE SAND AND SILT, LITTLE GRAVEL, FIRM 38"-91" FINE SAND AND SILT, FIRM MOTTLING - 19" **RESTRICTIVE - 19**" WEEPING - N/A GROUNDWATER - 72" LEDGE - N/A PERC: 5 DEPTH: 18" RATE: 10.1-20.0 Test Pit: 6 00"-10" TOPSOIL 10"-27" ORANGE BROWN FINE SANDY LOAM 27"-40" MEDIUM-BROWN FINE SILTY SAND 40"-90" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - N/A **RESTRICTIVE - 27**" WEEPING - N/A GROUNDWATER - 71" LEDGE - N/A Test Pit: 7 00"-09" TOPSOIL 09"-18" ORANGE BROWN FINE SANDY LOAM 18"-37" MEDIUM-BROWN FINE SILTY SAND 37"-86" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - N/A **RESTRICTIVE - 18**" WEEPING - 68" GROUNDWATER - N/A LEDGE - N/A PERC: 7 DEPTH: 17" RATE: 1.1-10.0 Test Pit: 8 00"-07" TOPSOIL 07"-19" ORANGE BROWN FINE SANDY LOAM 19"-30" LIGHT-BROWN FINE SAND, SOME SILT 30"-88" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - 19" **RESTRICTIVE - 19**" WEEPING - 73" GROUNDWATER - N/A LEDGE - N/A

PERC: 8

DEPTH: 21"

RATE: 10.1-20.0

Test Pit: 9 00"-08" TOPSOIL 08"-20" ORANGE BROWN FINE SANDY LOAM 20"-41" LIGHT-BROWN FINE SAND, SOME SILT 41"-88" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - 20" (FAINT) **RESTRICTIVE - 20"** WEEPING - 81" GROUNDWATER - N/A LEDGE - N/A Test Pit: 10 00"-08" TOPSOIL 08"-15" ORANGE BROWN FINE SANDY LOAM 15"-34" LIGHT-BROWN FINE SAND, SOME SILT 34"-87" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - N/A RESTRICTIVE - 15" WEEPING - 79" GROUNDWATER - N/A LEDGE - N/A Test Pit: 11 00"-06" TOPSOIL 06"-22" ORANGE BROWN FINE SANDY LOAM 22"-35" LIGHT-BROWN FINE SAND, SOME SILT 35"-93" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - 22" RESTRICTIVE - 22" WEEPING - 87" GROUNDWATER - N/A LEDGE - N/A PERC: 11 DEPTH: 18" RATE: 10.1-20.0 Test Pit: 12 00"-09" TOPSOIL 09"-22" ORANGE BROWN FINE SANDY LOAM 22"-33" LIGHT-BROWN FINE SAND, SOME SILT 33"-97" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - 22" **RESTRICTIVE - 22**" WEEPING - N/A GROUNDWATER - 82" LEDGE - N/A PERC: 12 DEPTH: 24" RATE: 10.1-20.0 Test Pit: 13 00"-12" TOPSOIL 12"-20" ORANGE BROWN FINE SANDY LOAM 20"-39" LIGHT-BROWN FINE SAND, SOME SILT 39"-93" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - 20" **RESTRICTIVE - 20"** WEEPING - 68" GROUNDWATER - N/A LEDGE - N/A PERC: 13 DEPTH: 21" RATE: 30.1-45.0 <u>Test Pit: 14</u> 00"-10" TOPSOIL 10"-24" ORANGE BROWN FINE SANDY LOAM 24"-36" LIGHT-BROWN FINE SAND, SOME SILT 36"-80" MEDIUM-BROWN FINE SAND WITH SILT MOTTLING - N/A RESTRICTIVE - 24" WEEPING - 61" GROUNDWATER - N/A LEDGE - N/A <u>Test Pit: 15</u> 00"-09" TOPSOIL 09"-19" ORANGE BROWN FINE SANDY LOAM 19"-34" LIGHT-BROWN FINE SAND, LITTLE SILT, TRACE GRAVEL 34"-90" MEDIUM-BROWN FINE SAND, SOME SILT, LITTLE GRAVEL, COMPACT MOTTLING - 34" (FAINT) **RESTRICTIVE - 24**" WEEPING - N/A" GROUNDWATER - N/A LEDGE - N/A ROOTS - 34" <u>Test Pit: 16</u> 00"-11" TOPSOIL 11"-31" ORANGE BROWN FINE SANDY LOAM 31"-96" MEDIUM-BROWN FINE SAND AND SILT (MOIST)

MOTTLING - 31" **RESTRICTIVE - 31**" WEEPING - 73" GROUNDWATER - N/A LEDGE - N/A

PERC: 16 DEPTH: 19" RATE: 10.1-20.0 Test Pit: 17 00"-08" TOPSOIL 08"-19" ORANGE BROWN FINE SANDY LOAM 19"-96" MEDIUM-BROWN FINE SAND AND SILT

MOTTLING - 19" RESTRICTIVE - 19" WEEPING - N/A GROUNDWATER - 81" LEDGE - N/A ROOTS - 19"

PERC: 17 DEPTH: 18.5" RATE: 1.1-10.0

Test Pit: 18 00"-22" LEDGE

Test Pit: 19 00"-34" LEDGE

Test Pit: 20 00"-23" LEDGE

Test Pit: 21 00"-24" LEDGE

Test Pit: 22 00"-09" TOPSOIL 09"-24" LIGHT BROWN FINE-MEDIUM SAND 24"-96" BROWN FINE SAND AND SILT, MODERATE COMPACTION

MOTTLING - 24" **RESTRICTIVE - 24**" WEEPING - N/A GROUNDWATER - 44" LEDGE - N/A

Test Pit: 23 00"-08" TOPSOIL 08"-20" ORANGE BROWN FINE SANDY LOAM 20"-84" BROWN FINE SAND WITH SILT

MOTTLING - N/A **RESTRICTIVE - 29**" WEEPING - N/A **GROUNDWATER - 29"** LEDGE - N/A

Test Pit: 24 00"-08" TOPSOIL 08"-26" MEDIUM BROWN FINE SANDY LOAM 26"-85" BROWN FINE SAND WITH SILT, MODERATE COMPACTION

MOTTLING - 36" **RESTRICTIVE - 36**" WEEPING - N/A GROUNDWATER - 55" LEDGE - N/A

Test Pit: 25 00"-10" TOPSOIL 10"-21" ORANGE BROWN FINE SANDY LOAM 21"-90" BROWN FINE SAND AND SILT

MOTTLING - N/A **RESTRICTIVE - 37**" WEEPING - 37" **GROUNDWATER - N/A** LEDGE - N/A

PERC: 25 DEPTH: 18" RATE: 1.1-10.0

Test Pit: 26 00"-12" TOPSOIL 12"-24" MEDIUM BROWN FINE SANDY LOAM WITH SILT 24"-89" MEDIUM-BROWN VERY FINE SAND, MOIST

MOTTLING - 24" **RESTRICTIVE - 24**" WEEPING - 26" **GROUNDWATER - N/A** LEDGE - N/A

PERC: 26 DEPTH: 16.5" RATE: 1.1-10.0 Test Pit: 27 00"-10" TOPSOIL 10"-20" ORANGE BROWN FINE SANDY LOAM 20"-28" LIGHT-BROWN FINE SAND WITH SILT 28"-83" MEDIUM-BROWN SAND AND SILT, COMPACT

MOTTLING - N/A **RESTRICTIVE - 28**" WEEPING - N/A GROUNDWATER - 64" LEDGE - N/A

PERC: 27 DEPTH: 19' RATE: 1.1-10.0

Test Pit: 28 00"-10" TOPSOIL 10"-33" ORANGE BROWN FINE SANDY LOAM 33"-81" MEDIUM-BROWN FINE SAND WITH SILT

MOTTLING - 33" **RESTRICTIVE - 33**" WEEPING - N/A **GROUNDWATER - 59**" LEDGE - N/A

Test Pit: 29 00"-30" LEDGE ROCK

Test Pit: 30 00"-06" TOPSOIL 06"-24" ORANGE BROWN FINE SANDY LOAM 24"-50" FRACTURED LEDGE

MOTTLING - N/A **RESTRICTIVE - 24**" WEEPING - N/A **GROUNDWATER - N/A** LEDGE - 50"

Test Pit: 31 - LEDGE ROCK WITH FRACTURES VARYING DEPTH: 30-57"

Test Pit: 32 00"-10" TOPSOIL 10"-25" ORANGE BROWN FINE SANDY LOAM 25"-39" LIGHT-BROWN FINE TO MEDIUM SAND WITH SILT 39"-80" MEDIUM BROWN SAND AND SILT

MOTTLING - 39" **RESTRICTIVE - 39**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A

PERC: 32 DEPTH: 19.5" RATE: 1.1-10.0

<u>Test Pit: 33</u> 00"-08" TOPSOIL 08"-19" ORANGE BROWN FINE SANDY LOAM 19"-27" LIGHT-BROWN FINE TO MEDIUM SAND WITH SILT 27"-74" MEDIUM BROWN SAND AND SILT WITH GRAVEL, COMPACT MOTTLING - N/A

**RESTRICTIVE - 27**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A

PERC: 33 DEPTH: 18" RATE: 1.1-10.0

Test Pit: 34 00"-08" TOPSOIL 08"-30" ORANGE BROWN FINE SANDY LOAM 30"-56" FRACTURED LEDGE

MOTTLING - N/A **RESTRICTIVE - 30**" WEEPING - N/A **GROUNDWATER - N/A** LEDGE - N/A

PERC: 34 DEPTH: 19" RATE:1.1-10.0

Test Pit: 35 00"-10" TOPSOIL 10"-27" ORANGE BROWN FINE SANDY LOAM, COMPACT 27"-75" MEDIUM-BROWN VERY FINE SAND WITH GRAVEL, COMPACT

MOTTLING - N/A **RESTRICTIVE - 27**" WEEPING - N/A **GROUNDWATER - N/A** LEDGE - N/A

<u>Test Pit: 44</u> 00"-06" TOPSOIL 06"-22" ORANGE BROWN FINE SANDY LOAM 22"-38" LIGHT-BROWN FINE-MEDIUM SAND, WITH SOME SILT 38"-52" MEDIUM BROWN SAND AND SILT AND DIGGABLE LEDGE COMPACT WITH COBBLES MOTTLING - N/A **RESTRICTIVE - 38**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A <u>Test Pit: 45</u> 00"-09" TOPSOIL 09"-17" ORANGE BROWN FINE SANDY LOAM 17"-28" LIGHT-BROWN VERY FINE SAND, TRACE SILT 28"-59" DARK BROWN FINE TO MEDIUM SAND, SOME GRAVEL, SOME COBBLES (WELL GRADED), COMPACT MOTTLING - N/A **RESTRICTIVE - 28**" WEEPING - N/A GROUNDWATER - N/A S LEDGE - N/A PERC: 45 DEPTH: 19" RATE: 1.1-10.0 <u>Test Pit: 46</u> 00"-07" TOPSOIL 07"-20" ORANGE BROWN FINE SANDY LOAM 20"-60" MEDIUM-BROWN FINE SAND, WITH SOME SILT WITH DIGGABLE LEDGE @ 40" MOTTLING - N/A **RESTRICTIVE - 40**" WEEPING - N/A GROUNDWATER - N/A LEDGE - 40" FRACTURED PERC: 46 DEPTH: 19" RATE: 10.1-20.0 <u>Test Pit: 47</u> 00"-09" TOPSOIL 09"-20" ORANGE BROWN FINE SANDY LOAM 20"-31" MEDIUM-BROWN FINE SANDY LOAM 31"-58" DIGGABLE LEDGE MOTTLING - N/A **RESTRICTIVE - 32**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A ROOTS - 32" RE C

Test Pit: 36 00"-12" TOPSOIL 12"-29" ORANGE BROWN FINE SANDY LOAM 29"-40" LIGHT BROWN SAND WITH SILT 40"-78" MEDIUM BROWN FINE SAND WITH SILT, MOTTLING - N/A RESTRICTIVE - 40" WEEPING - N/A PERC: 36

GROUNDWATER - N/A DEPTH: 19" RATE: 1.1-10.0 Test Pit: 37 00"-" TOPSOIL Test Pit: 40 00"-09" TOPSOIL

LEDGE - N/A "-" ORANGE BROWN FINE SAND SOME SILT "-64" DARK-BROWN FINE SAND, SOME SILT AND COBBLES MOTTLING - N/A **RESTRICTIVE - N/A** WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A <u>Test Pit: 38</u> 00"-11" TOPSOIL 11"-34" ORANGE BROWN FINE SAND, SOME SILT 34"-71" DARK-BROWN FINE SAND, SOME SILT AND COBBLES MOTTLING - 34" **RESTRICTIVE - 34**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A PERC: 38 DEPTH: 21" RATE: 1.1-10.0 <u>Test Pit: 39</u> 00"-11" TOPSOIL 11"-37" ORANGE BROWN FINE SANDY LOAM 37"-86" LIGHT-BROWN FINE SAND, SOME COBBLES MOTTLING - 37" **RESTRICTIVE - 37**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A ROOTS - 37" 09"-30" ORANGE BROWN FINE SANDY LOAM 30"-72" FRACTURED LEDGE , ABLE TO DIG OUT MOTTLING - 30" **RESTRICTIVE - 30**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A <u>Test Pit: 41</u> 00"-06" TOPSOIL 06"-24" ORANGE BROWN FINE SANDY LOAM 24"-56" BROWN FINE SAND, SOME SILTS WITH DECOMPOSED ROCKS

MOTTLING - N/A **RESTRICTIVE - 24**" WEEPING - N/A GROUNDWATER - N/A LEDGE - 56" (FRACTURED) ROOTS - 24"

Test Pit: 42 00"-36" LEDGE ROCK AT BOTTOM

<u>Test Pit: 43</u> 00"-04" TOPSOIL 04"-25" ORANGE BROWN FINE SANDY LOAM 25"-40" LIGHT-BROWN FINE SAND, SOME SILT MIXED WITH DIGGABLE LEDGE

MOTTLING - N/A **RESTRICTIVE - 25**" WEEPING - N/A GROUNDWATER - N/A LEDGE - N/A

KLUG HILL RV PARK KOA CAMPGROUND ΕM ST S  $\overline{\mathbf{O}}$ 0 U SEP MLA RJM ---NOT TO SCALE **NOVEMBER 9, 2022** 20174.00002 11 OF 19

SD-1

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#### SOIL TESTING DATA - SEPTEMBER 2022

OBSERVED BY JUSTIN ROMPRE, TORRINGTON & RYAN MCEVOY, SLR CONSULTING. TEST PITS #101-120 ON 9/1/20. TEST PITS #121-138 ON 9/2/22.

<u>Test Pit: 101</u> 00"-05" TOPSOIL 05"-23" ORANGE BROWN FINE SANDY LOAM 23"-41" LIGHT-BROWN FINE SAND, LITTLE SILT

MOTTLING - N/A **RESTRICTIVE - 41**" ROOTS - 30" LEDGE - N/A

<u>Test Pit: 102</u> 00"-05" TOPSOIL 05"-21" ORANGE BROWN FINE SANDY LOAM 21"-48" LIGHT-BROWN FINE SAND, LITTLE SILT

MOTTLING - N/A RESTRICTIVE - 38" ROOTS - 27" LEDGE - DIGGABLE @ 38"

<u>Test Pit: 103</u> 00"-06" TOPSOIL 06"-17" ORANGE BROWN FINE SANDY LOAM 17"-26" LIGHT-BROWN FINE SAND, LITTLE SILT, BOULDERS

MOTTLING - N/A **RESTRICTIVE - 26**" LEDGE - 26"

<u>Test Pit: 104</u> 00"-03" TOPSOIL 03"-18" ORANGE BROWN FINE SANDY LOAM 18"-57" LIGHT-BROWN FINE SAND, LITTLE SILT

MOTTLING - N/A **RESTRICTIVE - 18**" ROOTS - 25" LEDGE - DIGGABLE @ 18"

<u>Test Pit: 105</u> 00"-05" TOPSOIL 05"-23" ORANGE BROWN FINE SANDY LOAM 23"-60" LIGHT-BROWN FINE SAND, LITTLE SILT, COMPACT @ 31"

MOTTLING - N/A **RESTRICTIVE - 31**" ROOTS - 24" LEDGE - N/A

Test Pit: 106 00"-06" TOPSOIL 06"-23" ORANGE BROWN FINE SANDY LOAM 23"-84" LIGHT-BROWN FINE SAND, LITTLE SILT, COMPACT @ 35"

MOTTLING - N/A **RESTRICTIVE - 35**" ROOTS - 28" LEDGE - N/A

PERC: 106 DEPTH: 19" RATE: 1.1-10.0

<u>Test Pit: 107</u> 00"-08" TOPSOIL 08"-20" ORANGE BROWN FINE SANDY LOAM 20"-42" LIGHT-BROWN FINE SAND, LITTLE SILT

MOTTLING - N/A **RESTRICTIVE - 28**" ROOTS - 28" LEDGE - DIGGABLE @ 28"

<u>Test Pit: 108</u> 00"-07" TOPSOIL 07"-24" ORANGE BROWN FINE SANDY LOAM

MOTTLING - N/A **RESTRICTIVE - 24**" ROOTS - N/A LEDGE - 24"

<u>Test Pit: 109</u> 00"-08" TOPSOIL 08"-24" ORANGE BROWN FINE SANDY LOAM 24"-64" LIGHT-BROWN FINE-MEDIUM SAND, LITTLE SILT, COMPACT @ 34"

MOTTLING - N/A **RESTRICTIVE - 34**" ROOTS - 31" LEDGE - N/A

PERC: 109 DEPTH: 20" RATE: 1.1-10.0

Test Pit: 110 00"-06" TOPSOIL 06"-28" ORANGE BROWN FINE SANDY LOAM 28"-51" LIGHT-BROWN FINE-MEDIUM SAND, LITTLE SILT 51"-74" DECOMPOSED DIGGABLE LEDGE, COMPACT @ 28" MOTTLING - N/A **RESTRICTIVE - 28**" ROOTS - N/A

<u>Test Pit: 111</u> 00"-06" TOPSOIL 06"-23" ORANGE BROWN FINE SANDY LOAM 23"-48" LIGHT-BROWN FINE SAND, LITTLE SILT, COMPACT @ 29" 48"-58" DIGGABLE LEDGE

MOTTLING - N/A RESTRICTIVE - 29" ROOTS - 27" LEDGE - DIGGABLE @ 48"

PERC: 111 DEPTH: 17" RATE: 1.1-10.0

LEDGE - N/A

<u>Test Pit: 112</u> 00"-07" TOPSOIL 07"-32" ORANGE BROWN FINE SANDY LOAM 32"-45" LIGHT-BROWN FINE SAND WITH SILT 45"-79" MEDIUM BROWN FINE SAND WITH SILT, COBBLES, COMPACT @ 45"

MOTTLING - N/A RESTRICTIVE - 45" ROOTS - N/A LEDGE - N/A

PERC: 112 DEPTH: 20" RATE: 1.1-10.0

<u>Test Pit: 113</u> 00"-07" TOPSOIL 07"-24" ORANGE BROWN FINE SANDY LOAM 24"-41" LIGHT-BROWN FINE SAND, SOME SILT 41"-47" MEDIUM BROWN FINE SAND WITH SILT 47"-62" DIGGABLE LEDGE MOTTLING - N/A

**RESTRICTIVE - 47**" ROOTS - N/A LEDGE - N/A

PERC: 113 DEPTH: 18" RATE: 1.1-10.0

<u>Test Pit: 114</u> 00"-08" TOPSOIL 08"-26" ORANGE BROWN FINE SANDY LOAM 26"-35" LIGHT-BROWN FINE SAND, SOME SILT 35"-82" DIGGABLE LEDGE

MOTTLING - N/A **RESTRICTIVE - 35**" ROOTS - 35" LEDGE - N/A

<u>Test Pit: 115</u> 00"-08" TOPSOIL 08"-25" ORANGE BROWN FINE SANDY LOAM 25"-52" DIGGABLE LEDGE

MOTTLING - N/A **RESTRICTIVE - 35**" ROOTS - 25" LEDGE - N/A

Test Pit: 116 00"-08" TOPSOIL 08"-29" ORANGE BROWN FINE SANDY LOAM 29"-62" LIGHT BROWN FINE SAND, SOME SILT, COMPACT @ 40"

MOTTLING - N/A RESTRICTIVE - 40" ROOTS - 40" LEDGE - N/A

PERC: 116 DEPTH: 19" RATE: 1.1-10.0

Test Pit: 117 00"-05" TOPSOIL 05"-27" ORANGE BROWN FINE SANDY LOAM 27"-30" LIGHT BROWN FINE SAND, SOME SILT

MOTTLING - N/A **RESTRICTIVE - 30**" ROOTS - 30" LEDGE - N/A

<u>Test Pit: 118</u> 00"-05" TOPSOIL 05"-31" ORANGE BROWN FINE SANDY LOAM 31"-82" LIGHT-BROWN FINE SAND, SOME SILT, SOME GRAVEL, FIRM @ 35" MOTTLING - N/A **RESTRICTIVE - 35**" ROOTS - 35" LEDGE - N/A PERC: 118 DEPTH: 17.5" RATE: 1.1-10.0 <u>Test Pit: 119</u> 00"-09" TOPSOIL 09"-28" ORANGE BROWN FINE SANDY LOAM 28"-74" LIGHT-BROWN FINE SAND, SOME SILT, COMPACT @ 37" MOTTLING - N/A **RESTRICTIVE - 37**" ROOTS - 46" LEDGE - N/A PERC: 119 DEPTH: 21" RATE: 1.1-10.0 Test Pit: 120 00"-04" TOPSOIL 04"-30" ORANGE BROWN FINE SANDY LOAM 30"-41" LIGHT-BROWN FINE SAND, SOME SILT 41"-68" MEDIUM BROWN FINE-MEDIUM SAND, SOME SILT, COMPACT @ 41" MOTTLING - N/A **RESTRICTIVE - 41**" ROOTS - 36" LEDGE - N/A <u>Test Pit: 121</u> 00"-05" TOPSOIL 05"-32" ORANGE BROWN FINE SANDY LOAM 32"-44" LIGHT-BROWN FINE-MEDIUM SAND, SOME SILT, SOME GRAVEL 44"-66" DIGGABLE LEDGE MOTTLING - N/A RESTRICTIVE - 44" ROOTS - 44" LEDGE - DIGGABLE @ 44" PERC: 121 DEPTH: 18" RATE: 1.1-10.0 <u>Test Pit: 122</u> 00"-08" TOPSOIL 08"-24" ORANGE BROWN FINE SANDY LOAM 24"-38" LIGHT-BROWN FINE SAND, SOME SILT 38"-75" LIGHT-BROWN FINE-MEDIUM SAND, SOME SILT, SOME GRAVEL, COMPACT @ 38" MOTTLING - N/A **RESTRICTIVE - 38**" ROOTS - 38" LEDGE - N/A <u>Test Pit: 123</u> 00"-05" TOPSOIL 05"-23" ORANGE BROWN FINE SANDY LOAM 23"-37" LIGHT-BROWN FINE SAND, SOME SILT 37"-54" DIGGABLE LEDGE MOTTLING - N/A **RESTRICTIVE - 37**" ROOTS - N/A LEDGE - N/A Test Pit: 124 00"-07" TOPSOIL 07"-29" ORANGE BROWN FINE SANDY LOAM 29"-51" DIGGABLE LEDGE MOTTLING - N/A RESTRICTIVE - 29" ROOTS - 29" LEDGE - N/A

Test Pit: 125 00"-07" TOPSOIL 07"-20" ORANGE BROWN FINE SANDY LOAM 20"-36" LIGHT BROWN FINE SAND, SOME SILT

MOTTLING - N/A **RESTRICTIVE - 36**" ROOTS - 25" LEDGE - N/A

<u>Test Pit: 126</u> 00"-05" TOPSOIL 05"-29" ORANGE BROWN FINE SANDY LOAM 29"-65" LIGHT-BROWN FINE SAND, SOME SILT, SOME GRAVEL, COMPACT @ 29" MOTTLING - 29" RESTRICTIVE - 29" ROOTS - 29" LEDGE - N/A

<u>Test Pit: 127</u> 00"-07" TOPSOIL 07"-30" ORANGE BROWN FINE SANDY LOAM 30"-54" MEDIUM-BROWN FINE SAND, SOME SILT

MOTTLING - 37" **RESTRICTIVE - 37**" ROOTS - 37" LEDGE - N/A PERC: 127 DEPTH: 19" RATE: 1.1-10.0

<u>Test Pit: 128</u> 00"-08" TOPSOIL 08"-37" ORANGE BROWN FINE SANDY LOAM, COMPACT @ 37" 37"-76" MEDIUM-BROWN FINE-MEDIUM SAND, SOME SILT, SOME GRAVEL

MOTTLING - N/A **RESTRICTIVE - 37**" ROOTS - 37" LEDGE - N/A PERC: 128 DEPTH: 18" RATE: 1.1-10.0

<u>Test Pit: 129</u> 00"-06" TOPSOIL 06"-27" ORANGE BROWN FINE SANDY LOAM 27"-58" FRACTURED LEDGE

MOTTLING - N/A RESTRICTIVE - 27" ROOTS - 27" LEDGE - N/A

Test Pit: 130 00"-10" TOPSOIL 10"-24" ORANGE BROWN FINE SANDY LOAM 24"-37" FRACTURED LEDGE

MOTTLING - N/A **RESTRICTIVE - 24**" ROOTS - 24" LEDGE - N/A

<u>Test Pit: 131</u> 00"-06" TOPSOIL 06"-25" ORANGE BROWN FINE SANDY LOAM 25"-74" LIGHT-BROWN FINE-MEDIUM SAND, SOME SILT, SOME GRAVEL, COMPACT @ 25" MOTTLING - N/A

**RESTRICTIVE - 25**" ROOTS - 25" LEDGE - N/A

<u>Test Pit: 132</u> 00"-07" TOPSOIL 07"-24" ORANGE BROWN FINE SANDY LOAM 24"-87" MEDIUM-BROWN FINE SAND WITH SILT, SOME GRAVEL, COMPACT @ 24"

MOTTLING - N/A **RESTRICTIVE - 24**" ROOTS - N/A LEDGE - N/A PERC: 132

17.5" DEPTH: RATE: 1.1-10.0

<u>Test Pit: 133</u> 00"-07" TOPSOIL 07"-30" ORANGE BROWN FINE SANDY LOAM 30"-83" MEDIUM-BROWN FINE SAND WITH SILT, SOME GRAVEL, COMPACT @ 30"

MOTTLING - N/A RESTRICTIVE - 30" ROOTS - N/A LEDGE - N/A

<u>Test Pit: 134</u> 00"-07" TOPSOIL 07"-22" ORANGE BROWN FINE SANDY LOAM, BOULDERS 22"-31" LIGHT-BROWN FINE SAND, SOME SILT 31"-77" MEDIUM-BROWN FINE-MEDIUM SAND, SOME SILT, SOME GRAVEL, COMPACT @ 31" MOTTLING - FAINT @ 31" RESTRICTIVE - 31" ROOTS - 25" LEDGE - OUTCROP 35' TO THE NORTH

PERC: 134 DEPTH: 18" RATE: 1.1-10.0

Test Pit: 135 00"-05" TOPSOIL 05"-19" ORANGE BROWN FINE SANDY LOAM 19"-43" LIGHT-BROWN FINE SAND, SOME SILT, SOME GRAVEL MOTTLING - N/A **RESTRICTIVE - 43**" ROOTS - N/A

Test Pit: 136 00"-05" TOPSOIL 05"-30" ORANGE BROWN FINE SANDY LOAM, BOULDERS 30"-82" LIGHT-BROWN FINE SAND, SOME SILT, SOME GRAVEL, FIRM @ 36" MOTTLING - N/A

ROOTS - 34" LEDGE - N/A PERC: 136 DEPTH: 18" RATE: 1.1-10.0

**RESTRICTIVE - 36**"

LEDGE - N/A

<u>Test Pit: 137</u> 00"-05" TOPSOIL 05"-27" ORANGE BROWN FINE SANDY LOAM 27"-43" LIGHT-BROWN FINE-MEDIUM SAND, SOME SILT, WITH COBBLES, COMPACT @ 27"

MOTTLING - N/A **RESTRICTIVE - 27**" ROOTS - N/A LEDGE - N/A

Test Pit: 138 00"-06" TOPSOIL 06"-16" ORANGE BROWN FINE SANDY LOAM 16"-28" LIGHT-BROWN FINE-MEDIUM SAND, SOME SILT MOTTLING - N/A

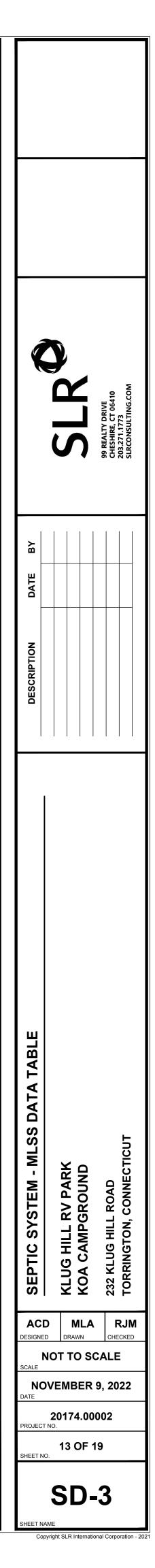
**RESTRICTIVE - 28**" ROOTS - 28" LEDGE - N/A

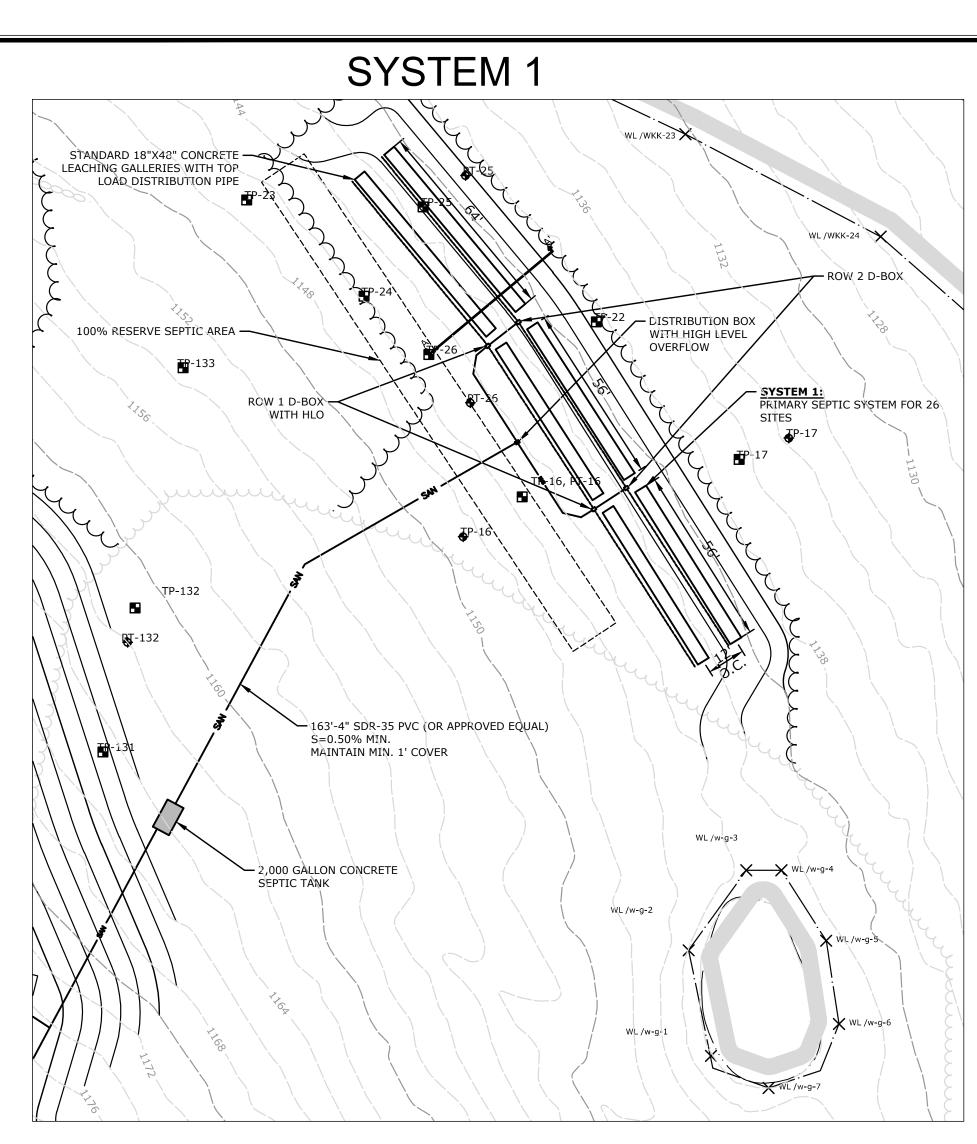
S RESUL **EESTING** ົທ KLUG HILL RV PARK KOA CAMPGROUND SYSTEM HILL ON, SEPTIC 0 D 232 TOF MLA RJM ---SIGNED DRAWN NOT TO SCALE **NOVEMBER 9, 2022** 20174.00002 12 OF 19 EFT NC SD-2

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Design Criteria	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6
Testpits in or near System	16, 17, 22, 23, 24, 25, 26	125, 126, 127, 128	118, 119, 120, 121, 122, 123	112, 113, 114, 115, 116	106, 108, 109, 110, 111	134, 135, 136
Percolation Tests in or near System	16, 17, 26	127, 128	118, 121	112,113	106, 109, 111	134, 136
Testpit(s) Used for Design	16, 17, 22, 23, 24, 25, 26	125, 126, 127, 128	118, 119, 120, 121, 122, 123	112, 113, 114, 115, 116	106, 108, 109, 110, 111	134, 135, 136
Percolation Rate (Min/inch)	1.1-10.0	1.1-10.0	1.1-10.0	1.1-10.0	1.1-10.0	1.1-10.0
Required Effective Area (sq. ft.)	2437.5	1312.5	2437.5	2437.5	619.20	387.5
Restrictive Layer	Mottling	Mottling/Compact	Compact/Diggable	Compact/Diggable	Compact	Mottling/Firm
Receiving Soil Depth (inch)	(36" (Top of System to RL)+ 26.5" (Avg. depth to RL)/2 = 31.25" Avg.	See Septic Design Sheets (Avg. depth to RL) = 42.3" Avg.	(42" (Top of System to RL)+ 37.5" (Avg. depth to RL)/2 = 39.75" Avg.	(42" (Top of System to RL)+ 32.5" (Avg. depth to RL)/2 = 37.2" Avg.	(30" (Top of System to RL)+ 31.5" (Avg. depth to RL)/2 = 30.75" Avg.	(Avg. depth to RL) = 33" Avg.
Slope (%)	10.1-15.0	8.1-10.0	10.1-15.0	>15.0	10.1-15.0	10.1-15.0
Hydraulic Factor (HF)	20	18	18	16	20	20
Flow Factor (FF)	6.25	3.5	6.5	6.5	2.06	1.03
Percolation Factor (PF)	1	1	1	1	1	1
MLSS (ft.)	125	63	117	104	41.28	20.67
Primary System Type	18" C.G.*	18" C.G.*	18" C.G.*	18" C.G.*	12" C.G.	12" C.G.**
Effective Leaching (SF/LF)	7.0	7.0	7.0	7.0	5.9	5.9
Length Used (ft.)	2x176	3x64	2x176	2x176	2x56	2x32
Effective Leaching Area Provided (SF)	2464	1344	2464	2464	660.8	389.6
Center to Center Spacing (ft.)	12	12	12	12	12	12
Reserve System Type	18" C.G.*	18" C.G.	18" C.G.*	18" C.G.*	18" C.G.*	Mantis Double-Wide 100
Effective Leaching (SF/LF)	7.0	6.2	7.0	7.0	7	20
Length Used (ft.)	2x176	2x112	2x176	3x120	2x48	1x20
Effective Leaching Area Provided (SF)	2464	1388.8	2464	2520	672	400
Center to Center Spacing (ft.)	12	12	12	12	12	N/A
C.G. = Concrete Gallery *Top Distribution Pipe/ **1' of Stone at Each End o	f Row					

# SEPTIC SYSTEM DESIGN





## SYSTEM DESIGN

DESIGN BASIS: CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS DATED JANUARY 2018, AS AMENDED.

#### FLOW: 25 RV SITES

PERC RATE: 1.1-10.0 MIN/INCH

EFFECTIVE AREA REQUIRED = 2437.5 SQ.FT. RESTRICTIVE LAYER = MOTTLING AT 24" - TP-26

SLOPE = 10.1-15.0% RS DEPTH = [36" (TOP OF SYSTEM TO RESTRICTIVE LAYER) + 26.5" (AVERAGE DEPTH TO RESTRICTIVE LAYER)] / 2 = 31.25"

HYDRAULIC FACTOR (HF) = 20

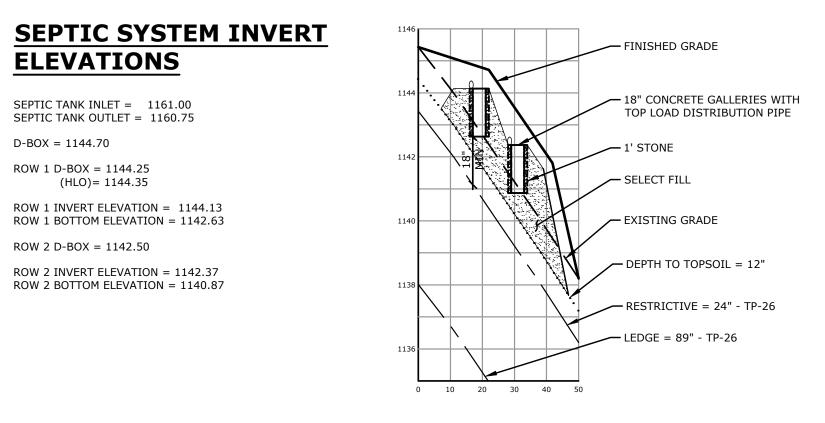
FLOW FACTOR (FF) = 6.25PERCOLATION FACTOR (PF) = 1.0

RESTRICTIVE LAYER = 31" - TP-16

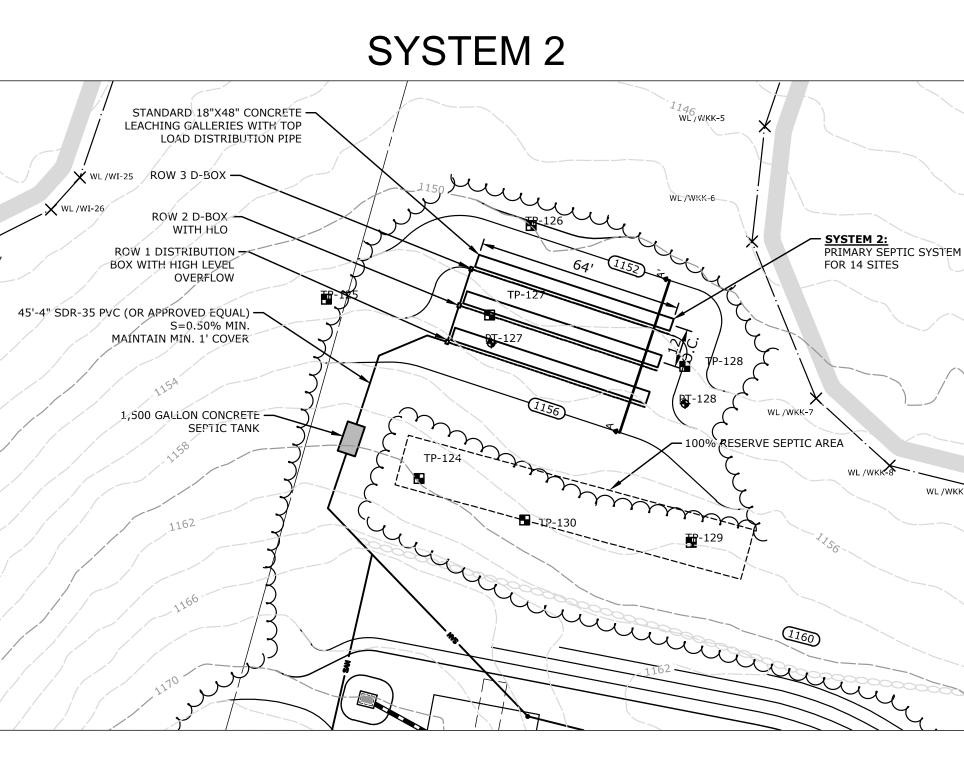
MLSS = 20\*6.25\*1.0 = 125 LF PRIMARY AREA - USE 352 LF (2 ROWS OF 176') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE EFFECTIVE LEACHING AREA PROVIDED = 2,464 SF (2X176 LF @ 7.0 SQ.FT./L.F.)

RESERVE AREA PERC RATE: 11.1-20.0 MIN/INCH EFFECTIVE AREA REQUIRED = 2,437.5 SQ.FT.

RESERVE AREA - USE 352 LF (2 ROWS OF 176') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE EFFECTIVE LEACHING AREA PROVIDED = 2,464 SF (2X176 LF @ 7.0 SQ.FT./L.F.)



<u>SECTION A-A' - SYSTEM 1</u> 1"=30' HORIZONTAL - 1"=3' VERTICAL



## SYSTEM DESIGN

DESIGN BASIS: CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS DATED JANUARY 2018, AS AMENDED.

- FLOW: 14 RV SITES
- PERC RATE: 1.1-10.0 MIN/INCH EFFECTIVE AREA REQUIRED = 1312.5 SQ.FT.
- RESTRICTIVE LAYER = MOTTLING AT 37" TP-127
- SLOPE = 8.1-10.0% RS DEPTH = (49" (TOP OF SYSTEM TO RL) + 29" (AVERAGE DEPTH TO RESTRICTIVE LAYER SURROUNDING THE LEACHING SYSTEM) = 39"
- HYDRAULIC FACTOR (HF) = 20 FLOW FACTOR (FF) = 3.5PERCOLATION FACTOR (PF) = 1.0
- MLSS = 20\*3.5\*1.0 = 70 LF

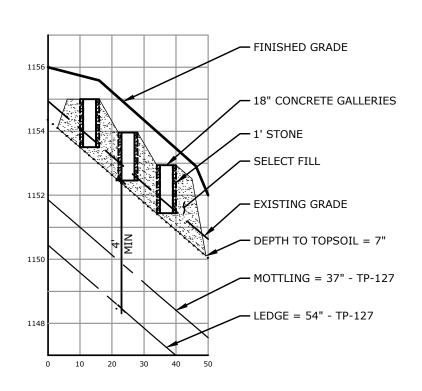
RESTRICTIVE LAYER = 24"

- PRIMARY AREA USE 192 LF (3 ROWS OF 64') OF 18"X48" CONCRETE GALLERIES) EFFECTIVE LEACHING AREA PROVIDED = 1,344 SF (3X64 LF @ 7.0 SQ.FT./L.F.)
- RESERVE AREA PERC RATE: 1.1-10.0 MIN/INCH EFFECTIVE AREA REQUIRED = 1,312.5 SQ.FT.
- RESERVE AREA USE 224 LF (2 ROWS-112' LONG) OF 18"X48" CONCRETE GALLERIES) EFFECTIVE LEACHING AREA PROVIDED = 1,388.8 SF (224 LF @ 6.2 SQ.FT./L.F.)

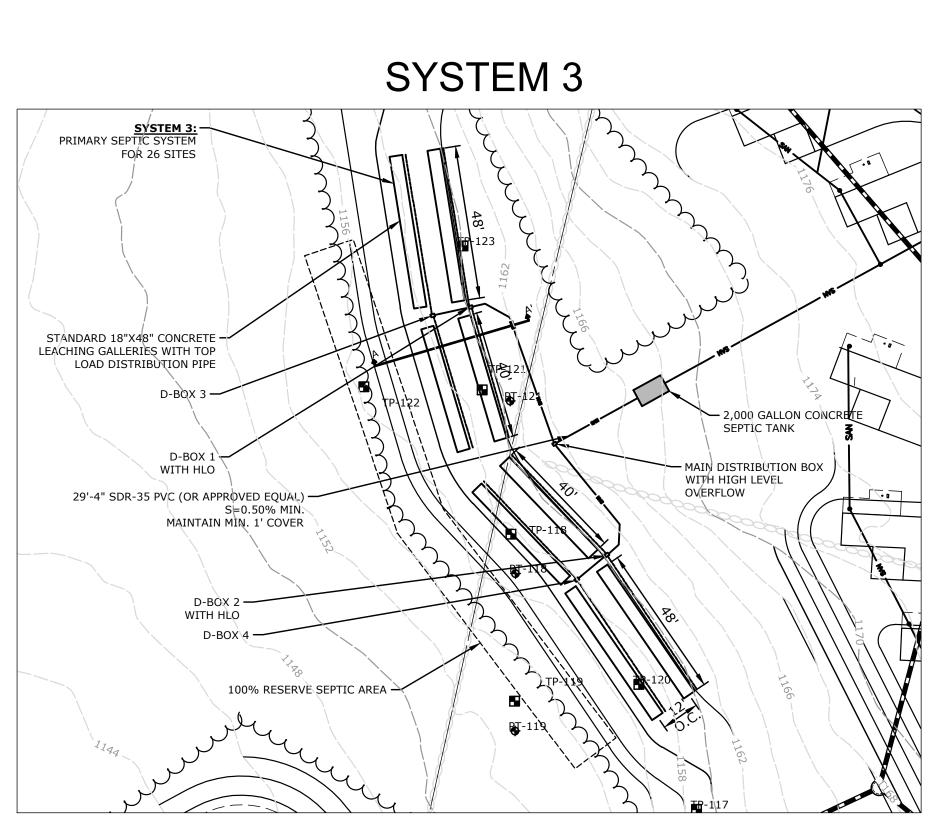
## SEPTIC SYSTEM INVERT **ELEVATIONS**

SEPTIC TANK INLET = 1156.75 SEPTIC TANK OUTLET = 1156.50

- ROW 1 D-BOX = 1155.10 (HLO)=1155.20
- ROW 1 INVERT ELEVATION = 1155.0 ROW 1 BOTTOM ELEVATION = 1153.5
- ROW 2 D-BOX = 1154.10 (HLO)=1154.20
- ROW 2 INVERT ELEVATION = 1153.96 ROW 2 BOTTOM ELEVATION = 1152.46
- ROW 3 D-BOX = 1153.05
- ROW 3 INVERT ELEVATION = 1152.94 ROW 3 BOTTOM ELEVATION = 1151.44



<u>SECTION A-A' - SYSTEM 2</u> 1"=30' HORIZONTAL - 1"=3' VERTICAL



# SYSTEM DESIGN

DESIGN BASIS: CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS DATED JANUARY 2018, AS AMENDED.

FLOW: 26 RV SITES PERC RATE: 1.1-10.0 MIN/INCH

EFFECTIVE AREA REQUIRED = 2437.5 SQ.FT. RESTRICTIVE LAYER = DIGGABLE LEDGE AT 37" - TP-123 SLOPE = 10.1-15.0%

RS DEPTH = [42" (TOP OF SYSTEM TO RESTRICTIVE LAYER) + 37.50" (AVERAGE DEPTH TO RESTRICTIVE LAYER)] / 2 = 39.75" HYDRAULIC FACTOR (HF) = 18 FLOW FACTOR (FF) = 6.5PERCOLATION FACTOR (PF) = 1.0 MLSS = 18\*6.5\*1.0 = 117 LF PRIMARY AREA - USE 352 LF (2 ROWS OF 176') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE

EFFECTIVE LEACHING AREA PROVIDED = 2,464 SF (2X176 LF @ 7.0 SQ.FT./L.F.) RESERVE AREA PERC RATE: 1.1-10.0 MIN/INCH EFFECTIVE AREA REQUIRED = 2,437.5 SQ.FT.

RESTRICTIVE LAYER = 37" - TP-119

RESERVE AREA - USE 352 LF (2 ROWS OF 176') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE EFFECTIVE LEACHING AREA PROVIDED = 2,464 SF (352LF @ 7.0 SQ.FT./L.F.)

### SEPTIC SYSTEM INVERT **ELEVATIONS**

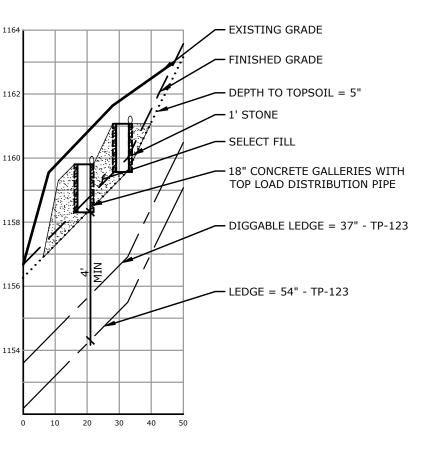
SEPTIC TANK INLET = 1163.00 SEPTIC TANK OUTLET = 1162.75 MAIN D-BOX = 1162.0 ROW 1 D-BOX 1 = 1161.20

(HLO)=1161.30 SECTION 1 INVERT ELEVATION = 1161.07 SECTION 1 BOTTOM ELEVATION = 1159.57 D-BOX 2 = 1161.45

(HLO)=1161.55 SECTION 2 INVERT ELEVATION = 1161.35 SECTION 2 BOTTOM ELEVATION = 1159.85 ROW 2

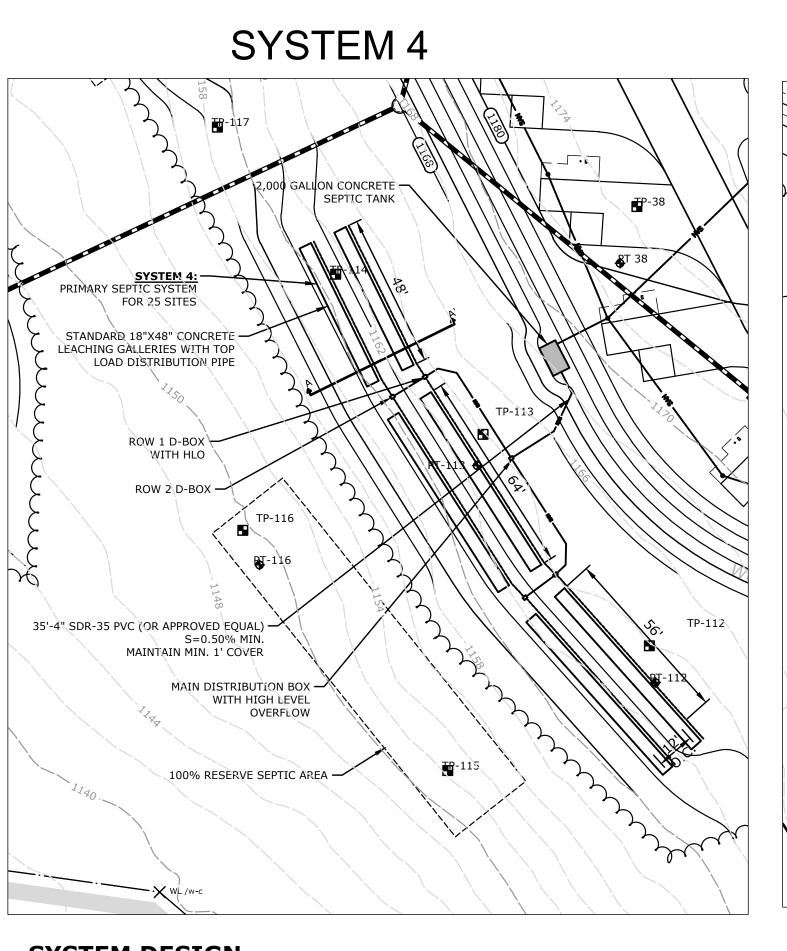
D-BOX 3 = 1159.95 SECTION 1 INVERT ELEVATION = 1159.81

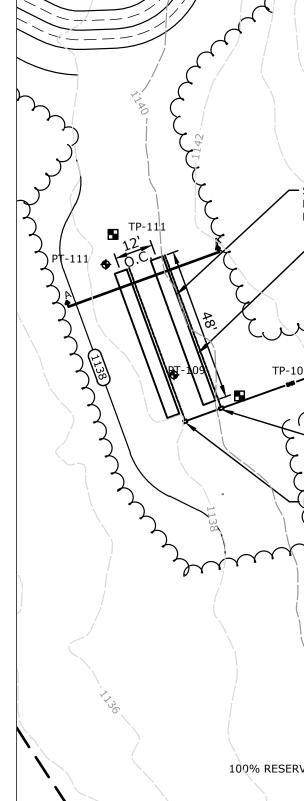
SECTION 1 BOTTOM ELEVATION = 1158.31 D-BOX 4 1159.60 SECTION 2 INVERT ELEVATION = 1159.50 SECTION 2 BOTTOM ELEVATION = 1158.00



SECTION A-A' - SYSTEM 3 1"=30' HORIZONTAL - 1"=3' VERTICAL

	0' 15' 0 1/2" SCALE 1" =	30' 1" 30'
Ŕ	SLR	99 REALTY DRIVE CHESHIRE, CT 06410 203.271.1773 SLRCONSULTING.COM
DESCRIPTION DATE BY		
SEPTIC SYSTEM - SEPTIC DESIGN & CROSS SECTIONS	KLUG HILL RV PARK KOA CAMPGROUND	232 KLUG HILL ROAD TORRINGTON, CONNECTICUT
ACE DESIGNEE SCALE NO DATE		CHECKED
PROJECT	14 OF 1	
SHEET NO	SD-	<b>4</b> nal Corporation - 20:





#### SYSTEM DESIGN

DESIGN BASIS: CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS DATED JANUARY 2018, AS AMENDED. FLOW: 26 RV SITES PERC RATE: 1.1-10.0 MIN/INCH EFFECTIVE AREA REQUIRED = 2,437.5 SQ.FT. RESTRICTIVE LAYER = DIGGABLE AT 35" - TP-114 SLOPE = >15.0% RS DEPTH = [42" (TOP OF SYSTEM TO RESTRICTIVE LAYER) + 32.5" (AVERAGE DEPTH TO RESTRICTIVE LAYER)] / 2 =37.2" HYDRAULIC FACTOR (HF) = 16FLOW FACTOR (FF) = 6.5PERCOLATION FACTOR (PF) = 1.0MLSS = 16\*6.5\*1.0 = 104 LF

PRIMARY AREA - USE 352 LF (2 ROWS OF 176') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE EFFECTIVE LEACHING AREA PROVIDED = 2,464 SF (2X176 LF @ 7.0 SQ.FT./L.F.) RESERVE AREA PERC RATE: 1.1-10.0 MIN/INCH

EFFECTIVE AREA REQUIRED = 2,437.5 SQ.FT. RESTRICTIVE LAYER = 25"

RESERVE AREA - USE 360 LF (3 ROWS OF 120') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE) EFFECTIVE LEACHING AREA PROVIDED = 2,520 SF (360 LF @ 7.0 SQ.FT./L.F.)

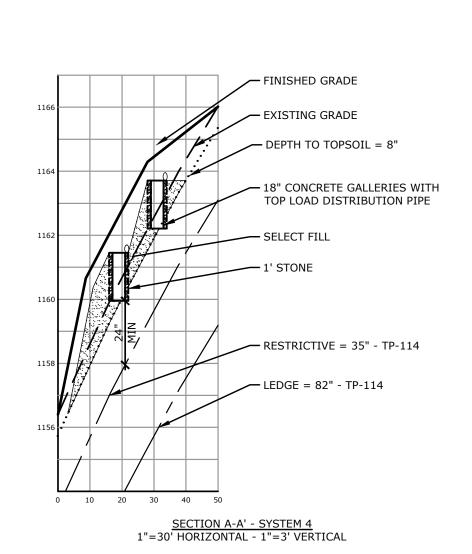
#### SEPTIC SYSTEM INVERT ELEVATIONS

SEPTIC TANK INLET = 1169.00 SEPTIC TANK OUTLET = 1168.75 MAIN D-BOX = 1164.00

ROW 1 D-BOX = 1163.80 (HLO)= 1163.90 ROW 1 INVERT ELEVATION = 1163.71 ROW 1 BOTTOM ELEVATION = 1162.21

ROW 2 D-BOX = 1161.55

ROW 2 INVERT ELEVATION = 1161.44 ROW 2 BOTTOM ELEVATION = 1159.94



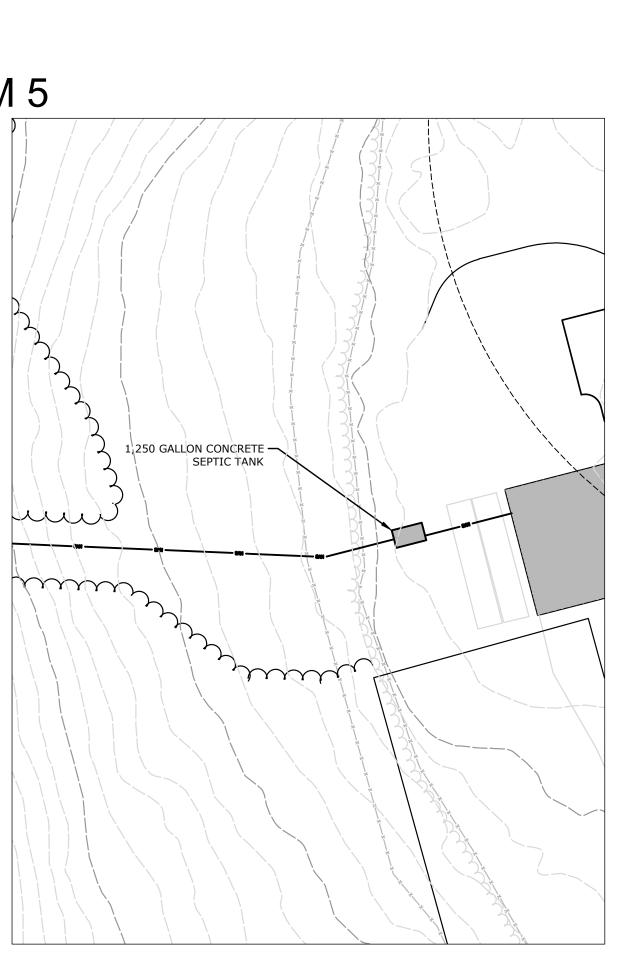


RESTRICTIVE LAYER = 35"

SEPTIC TANK INLET = 1191.75 SEPTIC TANK OUTLET = 1191.50 ROW 1 D-BOX = 1139.90 (HLO)= 1140.00 ROW 1 INVERT ELEVATION = 1139.77 ROW 1 BOTTOM ELEVATION = 1139.27 ROW 2 D-BOX = 1138.90

ROW 2 INVERT ELEVATION = 1138.77 ROW 2 BOTTOM ELEVATION = 1138.27

SYSTEM 5 **TP**-110 - STANDARD 18"X48" CONCRETE LEACHING GALLERIES WITH TOP LOAD DISTRIBUTION PIPE **E**-107 - <u>SYSTEM 5:</u> PRIMARY SEPTIC SYSTEM FOR RECREATION CENTER 500'-4" SDR-35 PVC (OR APPROVED EQUAL) S=0.50% MIN. MAINTAIN MIN. 1' COVER - un un - ROW 1 DISTRIBUTION برورور BOX WITH HIGH LEVEL OVERFLOW (HLO) ROW 2 D-BOX 100% RESERVE SEPTIC AREA -



# SYSTEM DESIGN

DESIGN BASIS: CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS DATED JANUARY 2018, AS AMENDED.

FLOW: RECREATION CENTER

PERC RATE: 1.1-10.0 MIN/INCH

EFFECTIVE AREA REQUIRED = 619.2 SQ.FT.

RESTRICTIVE LAYER = COMPACT AT 29" - TP-111 SLOPE = 10.1-15.0%

RS DEPTH = [30" (TOP OF SYSTEM TO RESTRICTIVE LAYER) + 31.5" (AVERAGE DEPTH TO RESTRICTIVE LAYER)] / 2 = 30.75"

HYDRAULIC FACTOR (HF) = 20FLOW FACTOR (FF) = 2.36

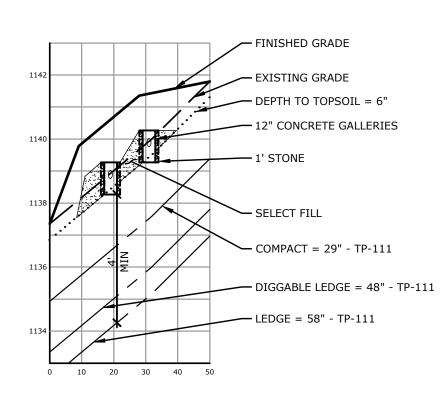
PERCOLATION FACTOR (PF) = 1.0MLSS = 20\*2.36\*1.0 = 47.28 LF

PRIMARY AREA - USE 112 LF (2 ROWS OF 56') OF 12"X48" CONCRETE GALLERIES EFFECTIVE LEACHING AREA PROVIDED = 660.8 (2X56 LF @ 5.9 SQ.FT./L.F.)

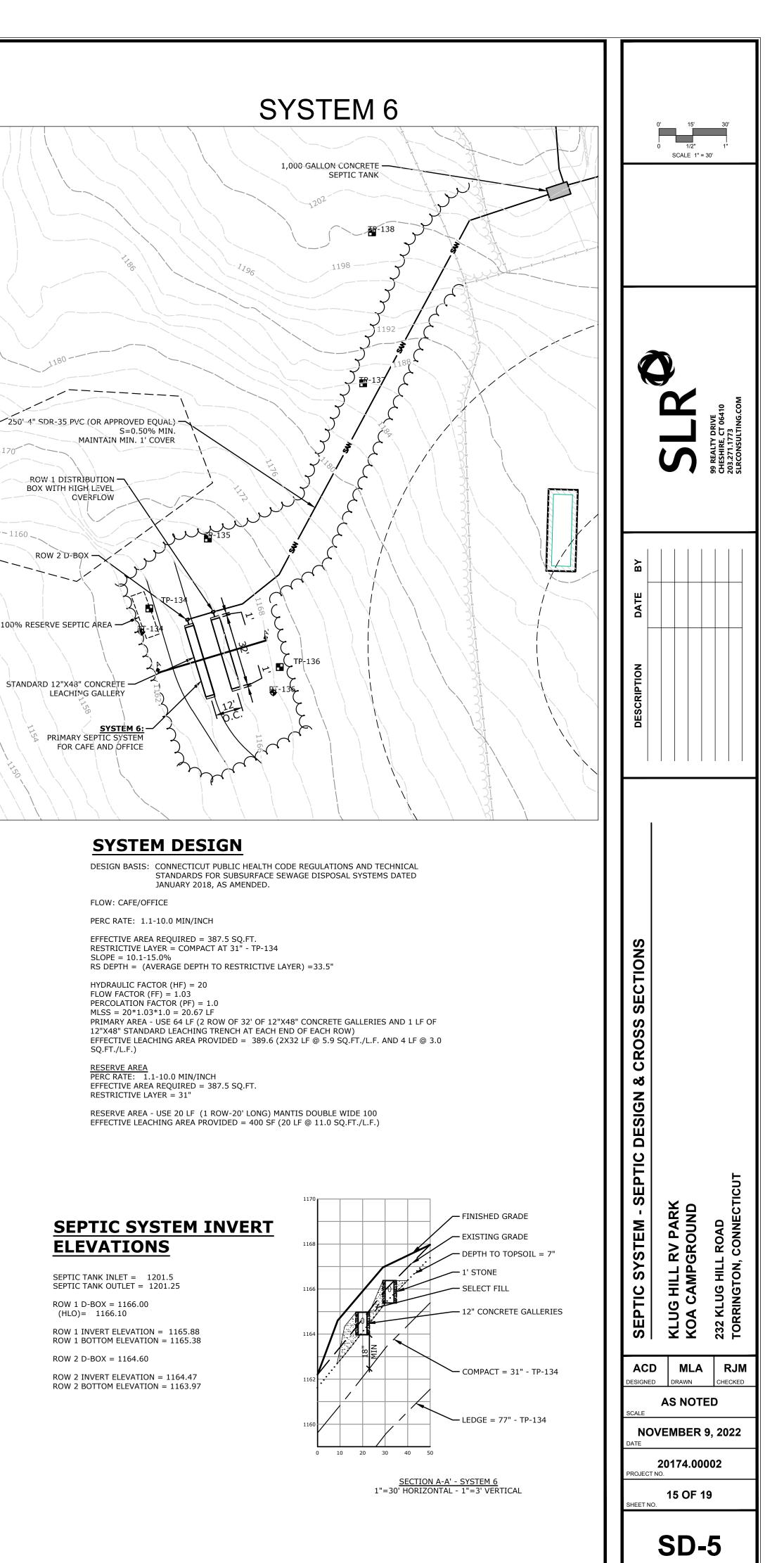
RESERVE AREA PERC RATE: 1.1-10.0 MIN/INCH EFFECTIVE AREA REQUIRED = 619.2 SQ.FT.

RESERVE AREA - USE 96 LF (2 ROWS OF 48') OF 18"X48" CONCRETE GALLERIES WITH TOP LOAD DISTRIBUTION PIPE EFFECTIVE LEACHING AREA PROVIDED = 672 SF (96 LF @ 7.0 SQ.FT./L.F.)

### SEPTIC SYSTEM INVERT **ELEVATIONS**



<u>SECTION A-A' - SYSTEM 5</u> 1"=30' HORIZONTAL - 1"=3' VERTICAL



# SEDIMENT & EROSION CONTROL SPECIFICATIONS

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

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

## LAND GRADING

INSOFAR AS POSSIBLE, EROSION ON THE SITE.

1. THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

- a. THE PERMANENT CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
- b. THE PERMANENT EXPOSED FACES OF EARTHEN FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
- c. THE CUT FACE OF ROCK EXCAVATION SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO FOUR VERTICAL (1:4).
- d. PROVISION SHOULD BE MADE TO CONDUCT SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
- e. EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTLING, OR CRACKING.
- f. NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OWNER OR UPON ADJACENT WETLANDS. WATERCOURSES, OR WATER BODIES BODIES.

g. PRIOR TO ANY REGRADING, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE.

#### TOPSOILING

- GENERAL:
- 1. TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED AREAS IN ORDER TO PROVIDE A SOIL MEDIUM HAVING FAVORABLE CHARACTERISTICS FOR THE ESTABLISHMENT, GROWTH, AND MAINTENANCE OF VEGETATION.
- 2. UPON ATTAINING FINAL UPGRADES, SCARIFY SURFACE TO PROVIDE A GOOD BOND WITH TOPSOIL
- 3. REMOVE ALL LARGE STONES, TREE LIMBS, ROOTS AND CONSTRUCTION
- 4. APPLY LIME ACCORDING TO SOIL TEST OR AT THE RATE OF TWO (2) TONS PER ACRE

#### MATERIAL:

- 1. TOPSOIL SHOULD HAVE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS FAVORABLE TO THE GROWTH OF PLANTS
- 2. TOPSOIL SHOULD HAVE A SANDY OR LOAMY TEXTURE.
- 3. TOPSOIL SHOULD BE RELATIVELY FREE OF SUBSOIL MATERIAL AND MUST BE FREE OF STONES (OVER 1" IN DIAMETER), LUMPS OF SOIL, ROOTS, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS. IT SHOULD BE FREE OF ROOTS OR RHIZOMES SUCH AS THISTLE, KNOTGRASS, AND QUAKERS.
- 4. AN ORGANIC MATTER CONTENT OF SIX PERCENT (6%) IS REQUIRED. AVOID LIGHT COLORED SUBSOIL MATERIAL.
- 5. SOLUBLE SALT CONTENT OF OVER 500 PARTS PER MILLION (PM) IS LESS SUITABLE. AVOID TIDAL MARSH SOILS BECAUSE OF HIGH SALT CONTENT AND SULFUR ACIDITY.
- 6. THE pH SHOULD BE MORE THAN 6.0. IF LESS, ADD LIME TO INCREASE pH TO AN ACCEPTABLE LEVEL.

#### APPLICATION:

- 1. AVOID SPREADING WHEN TOPSOIL IS WET OR FROZEN.
- 2. SPREAD TOPSOIL UNIFORMLY TO A DEPTH OF AT LEAST SIX INCHES (6") OR TO THE DEPTH SHOWN ON THE LANDSCAPING PLANS

# **TEMPORARY VEGETATIVE COVER**

#### GENERAL

I. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL UNPROTECTED AREAS THAT PRODUCE SEDIMENT AREAS WHERE FINAL GRADING HAS BEEN COMPLETED, AND AREAS WHERE THE ESTIMATED PERIOD OF BARE SOIL EXPOSURE IS MORE THAN 30 DAYS. AREAS TO BE LEFT EXPOSED FOR MORE THAN 30 DAYS SHALL BE SEEDED WITHIN 7 DAYS OF SUSPENSION OF CONSTRUCTION ACTIVITIES. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IF AREAS WILL NOT BE PERMANENTLY SEEDED BY SEPTEMBER 1

SITE PREPARATION:

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
- 2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA. 3. APPLY LIME ACCORDING TO SOIL TEST OR AT A RATE OF ONE (1) TON OF
- GROUND DOLOMITIC LIMESTONE PER ACRE (5 LBS. PER 100 SQ. FT.). 4. APPLY FERTILIZER ACCORDING TO SOIL TEST OR AT THE RATE OF 300 LBS.
- OF 10-10-10 PER ACRE (7 LBS. PER 1,000 SQ. FT.) AND SECOND APPLICATION OF 200 LBS. OF 10-10-10- (5 LBS. PER 1,000 SQ. FT.) WHEN GRASS IS FOUR INCHES (4") TO SIX INCHES (6") HIGH. APPLY ONLY WHEN GRASS IS DRY
- 5. UNLESS HYDROSEEDED, WORK IN LIME AND FERTILIZER TO A DEPTH OF FOUR (4") INCHES USING A DISK OR ANY SUITABLE EQUIPMENT.
- 6. TILLAGE SHOULD ACHIEVE A REASONABLY UNIFORM LOOSE SEEDBED. WORK ON CONTOUR IF SITE IS SLOPING.

#### ESTABLISHMENT:

- 1. SELECT APPROPRIATE SPECIES FOR THE SITUATION. NOTE RATES AND SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).
- 2. APPLY SEED UNIFORMLY ACCORDING TO THE RATE INDICATED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
- 3. UNLESS HYDROSEEDED, COVER RYEGRASS SEEDS WITH NOT MORE THAN 1/4 INCH OF SOIL USING SUITABLE EQUIPMENT.
- 4. MULCH IMMEDIATELY AFTER SEEDING IF REQUIRED. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW.) APPLY STRAW OR HAY MULCH AND ANCHOR TO SLOPES GREATER THAN 3% OR WHERE CONCENTRATED FLOW WILL OCCUR.

# PERMANENT VEGETATIVE COVER

GENERAL

1. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED AS VARIOUS SECTIONS OF THE PROJECT ARE COMPLETED IN ORDER TO STABILIZE THE SOIL, REDUCE DOWNSTREAM DAMAGE FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE AESTHETIC NATURE OF THE SITE. IT WILL BE APPLIED TO ALL CONSTRUCTION AREAS SUBJECT TO EROSION WHERE FINAL GRADING HAS BEEN COMPLETED AND A PERMANENT COVER IS NEEDED SHALL BE SEEDED WITHIN 7 DAYS OF ESTABLISHMENT OF FINAL GRADES.

#### SITE PREPARATION

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
- 2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
- 3. PERFORM ALL PLANTING OPERATIONS PARALLEL TO THE CONTOURS OF THE SLOPF.
- 4. APPLY TOPSOIL AS INDICATED ELSEWHERE HEREIN.

5. APPLY FERTILIZER ACCORDING TO SOIL TEST OR:

- SPREAD SEEDING: WORK DEEPLY IN SOIL, BEFORE SEEDING, 300 LBS. OF 10-10-10 FERTILIZER PER ACRE (7 LBS. PER 1,000 SQ. FT.); THEN SIX (6) TO EIGHT (8) WEEKS LATER, APPLY ON THE SURFACE AN ADDITIONAL 300 LBS. OF 10-10-10 FERTILIZER PER ACRE. AFTER SEPTEMBER 1, TEMPORARY VEGETATIVE COVER SHALL BE APPLIED.
- FALL SEEDING: WORK DEEPLY IN SOIL, BEFORE SEEDING, 600 LBS. OF 10-10-10 FERTILIZER PER ACRE (14 LBS. PER 1,000 SQ. FT.).

#### **VEGETATIVE COVER SELECTION &** MULCHING

#### TEMPORARY VEGETATIVE COVER:

PERENNIAL RYEGRASS 3 LBS./1,000 SQ.FT.

(LOLIUM PERENNE) \* PERMANENT VEGETATIVE COVER

TERMANENT VEGETATIVE COVER.			
BARON KENTUCKY BLUEGRASS	60%		
JAMESTOWN II CHEWINGS FESCUE	20%		
PALMER PERENNIAL RYEGRASS	20%		
* LOFTS - "TRIPLEX GENERAL" MIX OR APPROVED EQUAL.			

RECOMMENDED TIME SEEDING. 5 LB./1000 S.F. SEEDING RATE. SPRING SEEDING: 4/1 to 5/31

FALL SEEDING: 8/16 to 10/15 TEMPORARY MULCHING:

#### STRAY OR HAY 70-90 LBS./1,000 SQ.FT. (TEMPORARY VEGETATIVE AREAS)

WOOD FIBER IN HYDROMULCH SLURRY 25-50 LBS./1,000 SQ. FT.

ESTABLISHMENT:

- 1. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EOUIPMENT PRIOR TO SEEDING (EXCEPT WHEN HYDROSEEDING).
- 2. SELECT ADAPTED SEED MIXTURE FOR THE SPECIFIC SITUATION. NOTE RATES AND THE SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPEC. BELOW)
- 3. APPLY SEED UNIFORMLY ACCORDING TO RATE INDICATED, BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
- 4. COVER GRASS AND LEGUME SEED WITH NOT MORE THAN 1/4 INCH OF SOIL WITH SUITABLE EQUIPMENT (EXCEPT WHEN HYDROSEEDING).
- 5. MULCH IMMEDIATELY AFTER SEEDING, IF REQUIRED, ACCORDING TO TEMPORARY MULCHING SPECIFICATIONS. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).
- 6. USE PROPER INOCULANT ON ALL LEGUME SEEDINGS, USE FOUR (4) TIMES NORMAL RATES WHEN HYDROSEEDING.
- 7. USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IN CRITICAL AREAS WHERE IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER TO PREVENT EROSION.

#### MAINTENANCE:

- 1. TEST FOR SOIL ACIDITY LIME AS REQUIRED.
- 2. ON SITES WHERE GRASSES PREDOMINATE, BROADCAST ANNUALLY 500 POUNDS OF 10-10-10 FERTILIZER PER ACRE (12 LBS. PER 1,000 SQ. FT.) OR AS NEEDED ACCORDING TO ANNUAL SOIL TESTS. 3. ON SITES WHERE LEGUMES PREDOMINATE, BROADCAST AS INDICATED BY
- SOIL TEST 300 POUNDS OF 0-20-20 OR EQUIVALENT PER ACRE (8 LBS PER 1,000 SQ. FT.).

#### **EROSION CHECKS**

GENERAL:

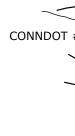
1. TEMPORARY PERVIOUS BARRIERS USING BALES OF HAY OR STRAW, HELD IN PLACE WITH STAKES DRIVEN THROUGH THE BALES AND INTO THE GROUND OR GEOTEXTILE FABRIC FASTENED TO A FENCE POST AND BURIED INTO THE GROUND, SHALL BE INSTALLED AND MAINTAINED AS REQUIRED TO CHECK EROSION AND REDUCE SEDIMENTATION.

#### CONSTRUCTION:

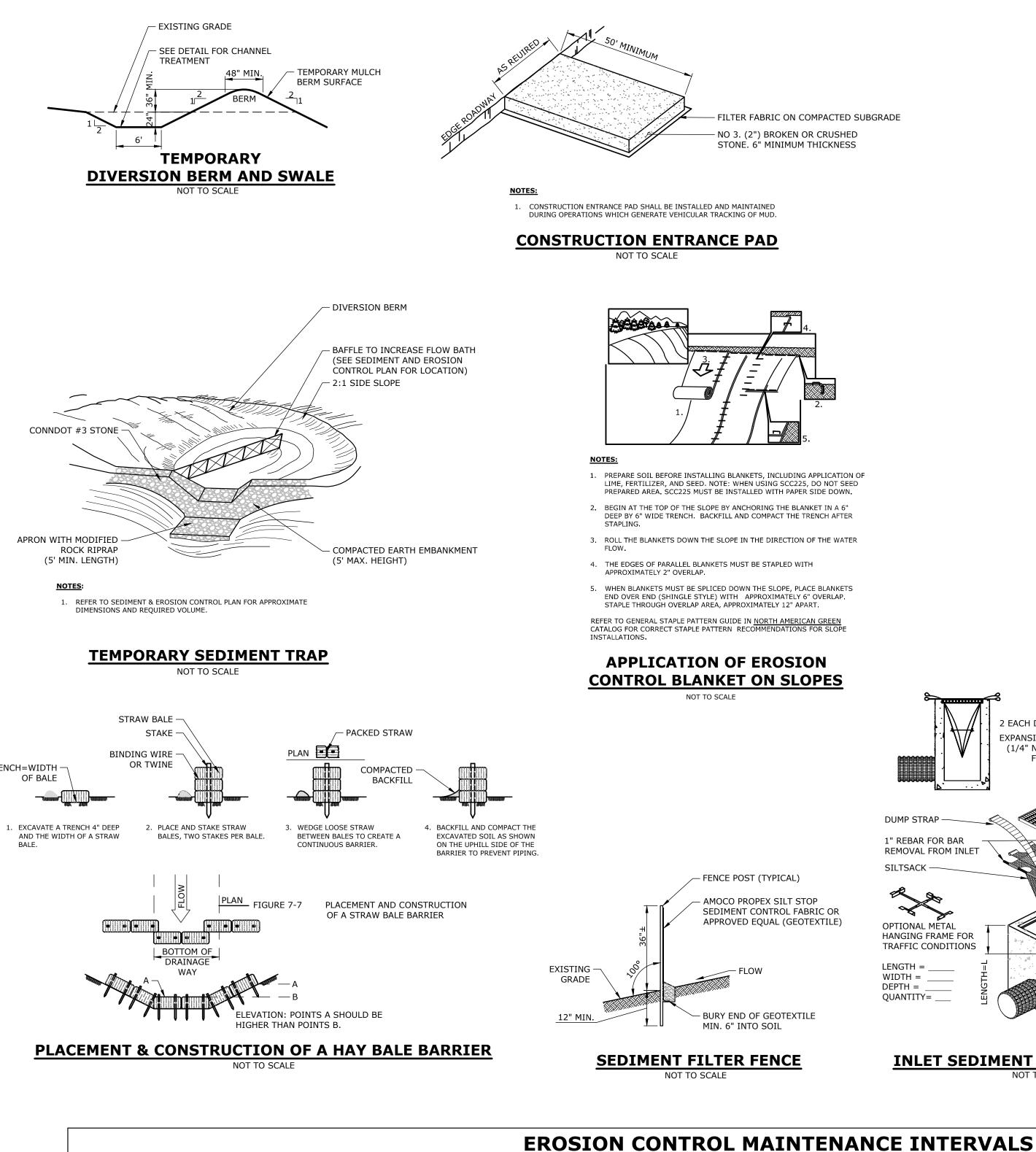
- 1. BALES SHOULD BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES
- 2. EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4") INCHES.
- 3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY WOOD STAKES OR REINFORCEMENT BARS DRIVEN THROUGH THE BALES AND INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- 4. GEOTEXTILE FABRIC SHALL BE SECURELY ANCHORED AT THE TOP OF A THREE FOOT (3') HIGH FENCE AND BURIED A MINIMUM OF FOUR INCHES (4") TO THE SOIL. SEAMS BETWEEN SECTIONS OF FILTER FABRIC SHALL OVERLAP A MINIMUM OF TWO FEET (2').

INSTALLATION AND MAINTENANCE:

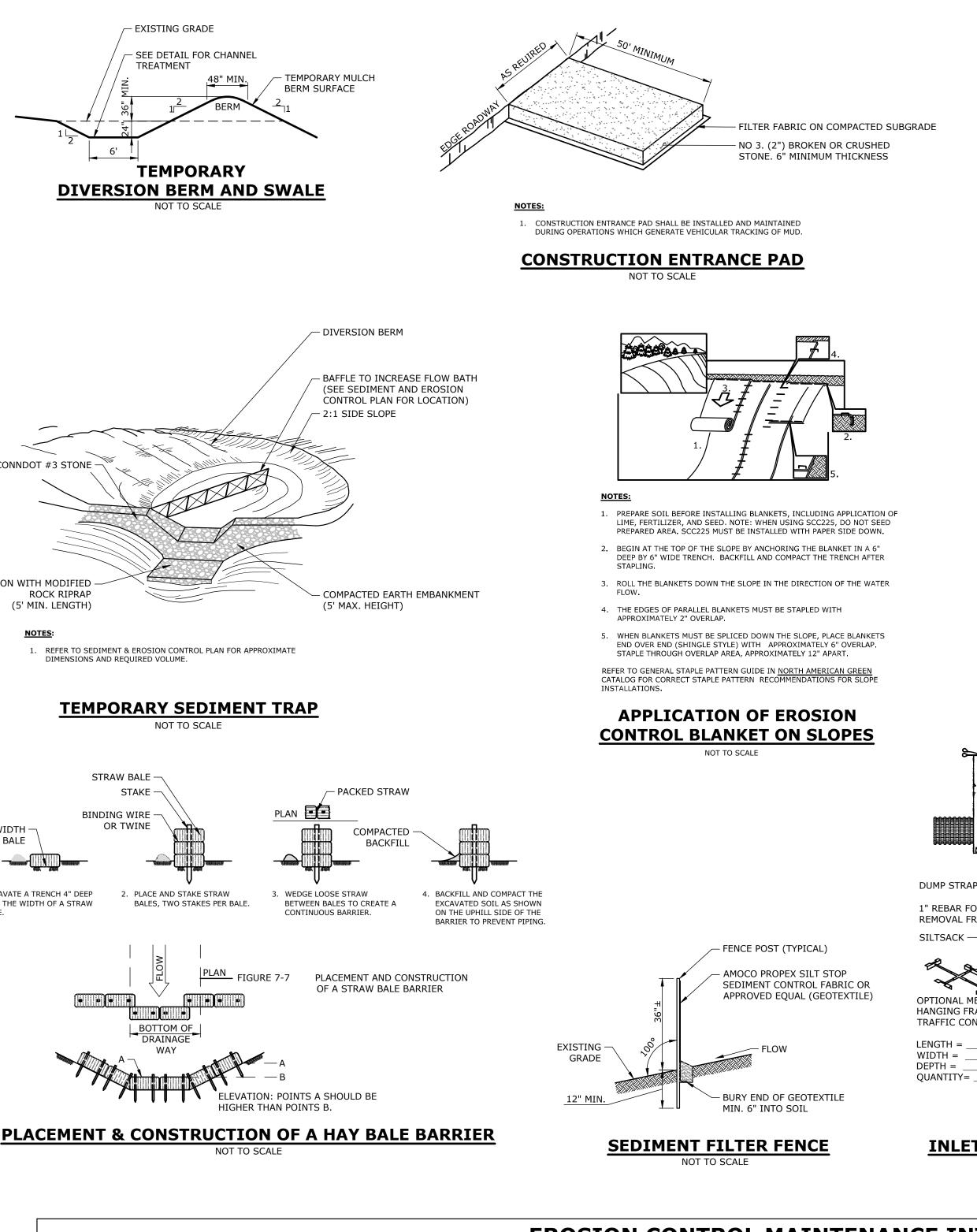
- 1. BALED HAY EROSION BARRIERS SHALL BE INSTALLED AT ALL STORM SEWER INLETS
- 2. BALED HAY EROSION BARRIERS AND GEOTEXTILE FENCE SHALL BE INSTALLED AT THE LOCATION INDICATED ON THE PLAN AND IN ADDITIONAL AREAS AS MAY BE DEEMED APPROPRIATE DURING CONSTRUCTION.
- 3. ALL EROSION CHECKS SHALL BE MAINTAINED UNTIL ADJACENT AREAS ARE STABILIZED.
- 4. INSPECTION SHALL BE FREQUENT (AT MINIMUM MONTHLY AND BEFORE AND AFTER HEAVY RAIN) AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- 5. EROSION CHECKS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE.



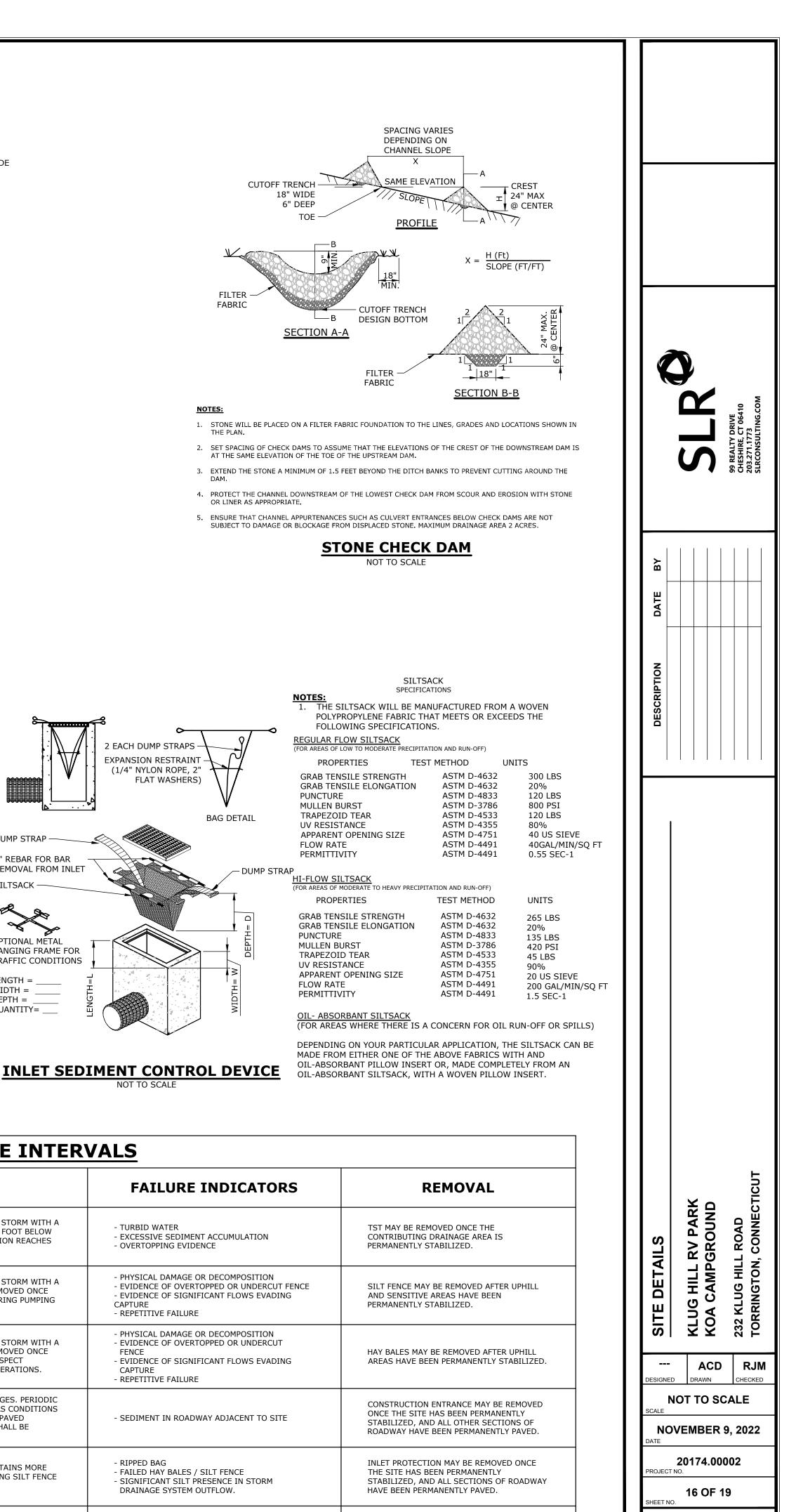








EROSION CONTROL MEASURE	CONTROL OBJECTIVE	INSPECTION/MAINTENANCE
TEMPORARY SEDIMENT TRAP (TST)	- DETAIN SEDIMENT-LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW A MAJORITY OF THE SEDIMENT TO SETTLE OUT.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. STONE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW CREST OF EMBANKMENT. SEDIMENT MUST BE REMOVED WHEN ACCUMULATION REACHES ½ OF THE REQUIRED WET STORAGE.
SILT FENCE (SF) (RELATED: IP, STK)	- INTERCEPT, AND REDIRECT/DETAIN SMALL AMOUNTS OF SEDIMENT FROM SMALL DISTURBED AREAS. - DECREASE VELOCITY OF SHEET FLOW. - PROTECT SENSITIVE SLOPES OR SOILS FROM EXCESSIVE WATER FLOW.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. ACCUMULATED SEDIMENT MUST BE REMOVED ONCE ITS DEPTH IS EQUAL TO ½ THE TRENCH HEIGHT. INSPECT FREQUENTLY DURING PUMPING OPERATIONS IF USED FOR DEWATERING OPERATIONS.
HAY BALES (HB)	- INTERCEPT, AND REDIRECT/DETAIN SMALL AMOUNTS OF SEDIMENT FROM SMALL DISTURBED AREAS. - DECREASE VELOCITY OF SHEET FLOW. - PROTECT SENSITIVE SLOPES OR SOILS FROM EXCESSIVE WATER FLOW.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. ACCUMULATED SEDIMENT MUST BE REMOVED ONCE THE DEPTH OF SEDIMENT IS EQUAL TO ½ THE HEIGHT OF THE BARRIER. INSPECT FREQUENTLY DURING PUMPING OPERATIONS IF USED FOR DEWATERING OPERATIONS.
CONSTRUCTION ENTRANCE (CE)	- REDUCE THE TRACKING OF SEDIMENT OFF-SITE ONTO PAVED SURFACES.	INSPECT AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC ADDITION OF STONE, OR LENGTHENING OF ENTRANCE MAY BE REQUIRED AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES AS A RESULT OF INEFFICIENCY OF CONSTRUCTION ENTRANCE SHALL BE IMMEDIATELY REMOVED.
CATCH BASIN INLET PROTECTION (IP)	- PROHIBIT SILT IN CONSTRUCTION-RELATED RUNOFF FROM ENTERING STORM DRAINAGE SYSTEM.	INSPECT AFTER ANY RAIN EVENT. IF FILTER BAG INSIDE CATCH BASIN CONTAINS MORE THAN 6" OF SEDIMENT, REMOVE SEDIMENT FROM BAG. CHECK SURROUNDING SILT FENCE AND HAY BALES PER NOTED ABOVE.
STOCKPILE PROTECTION (STK)	- RETAIN SOIL STOCKPILE IN LOCATIONS SPECIFIED, AND REDUCE WATER-TRANSPORT.	INSPECT SILT FENCE AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC REINFORCEMENT OF SILT FENCE, OR ADDITION OF HAY BALES MAY BE NECESSARY.

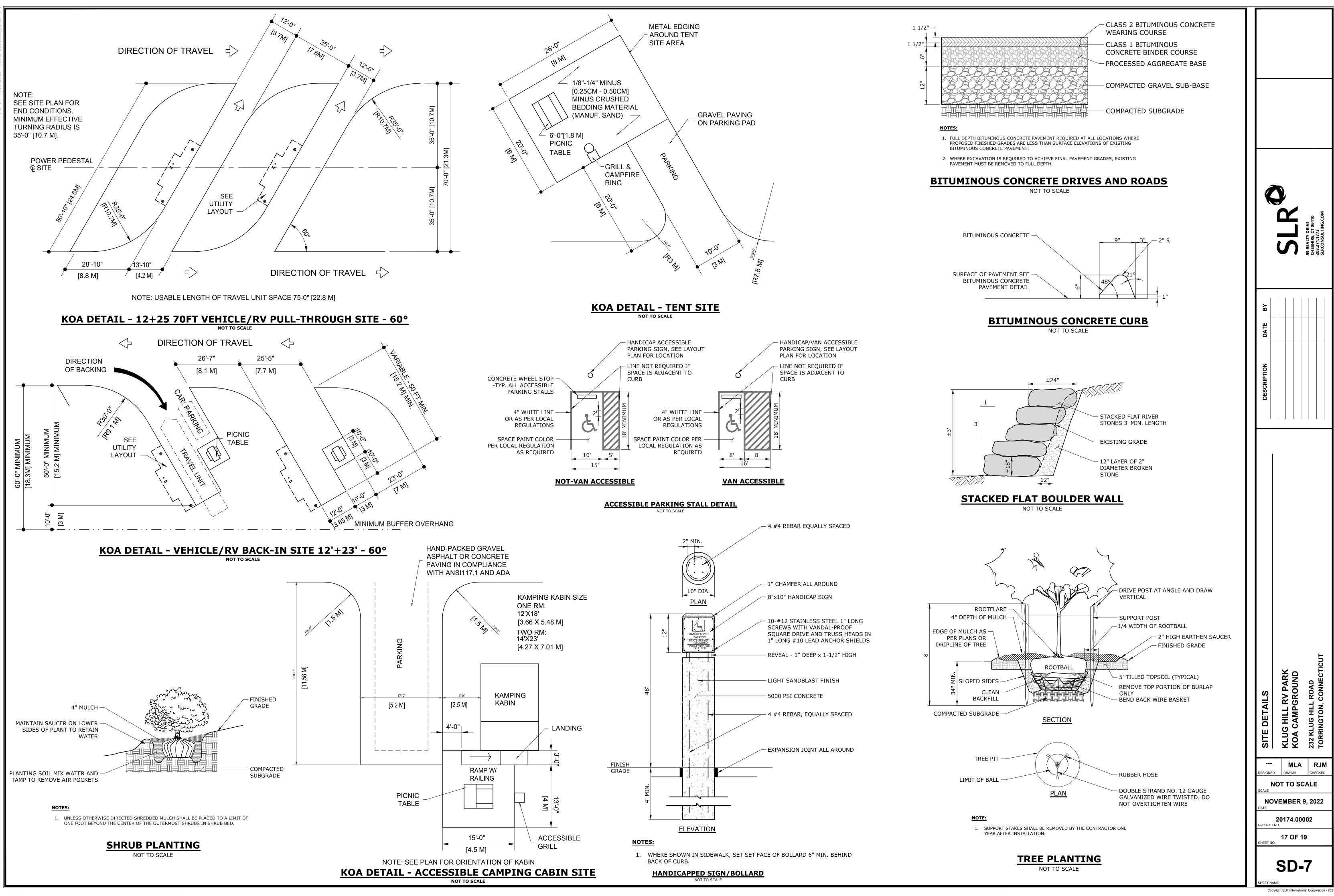


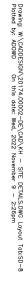
- EVIDENCE OF STOCK PILE DIMINISHING DUE TO RAIN EVENTS - FAILURE OF SILT FENCE

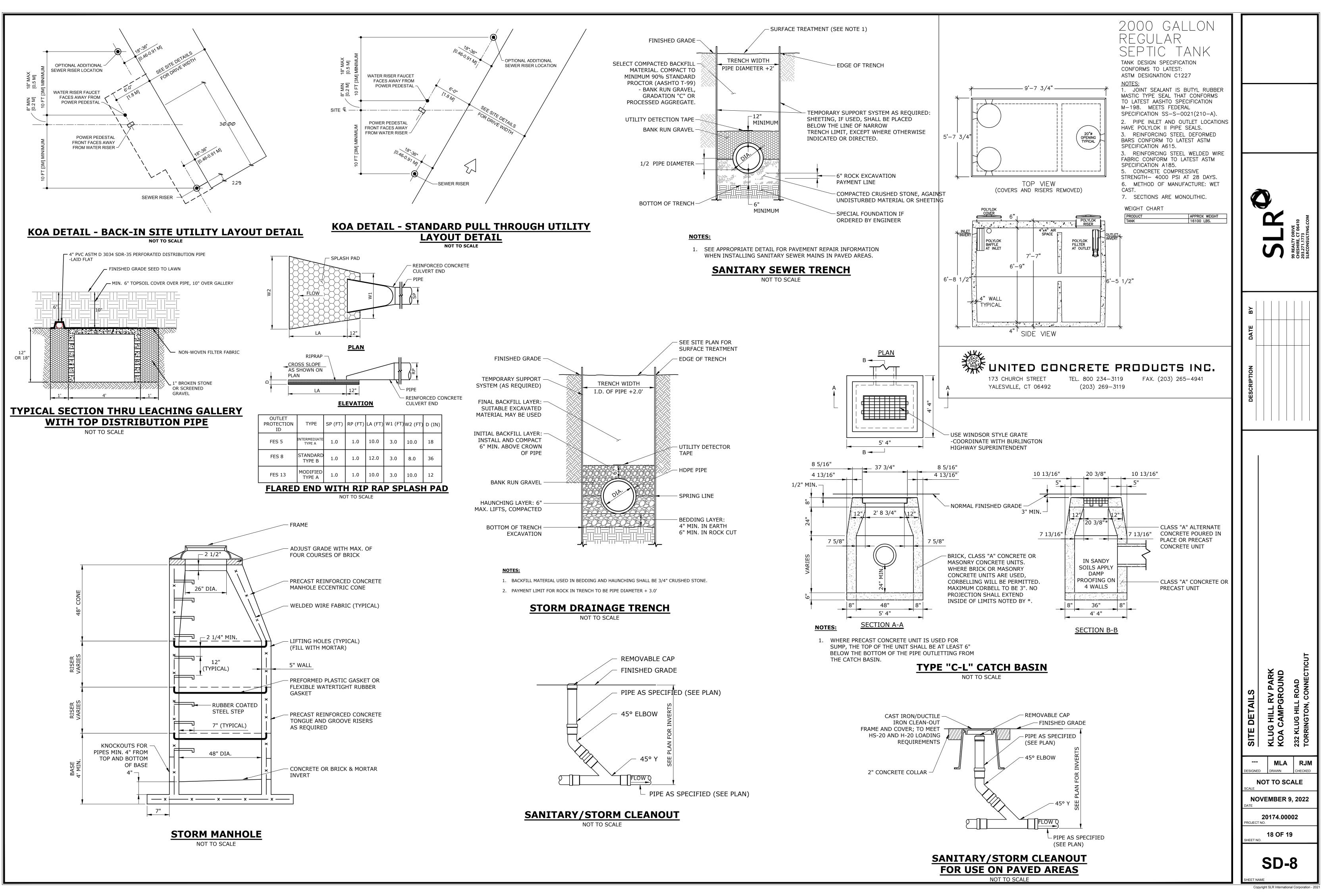
STOCKPILE PROTECTION MAY BE REMOVED ONCE THE STOCKPILE IS USED OR REMOVED.

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SD-6







#### FORMATION OF EMBANKMENTS FOR STORMWATER BASINS

#### 1. MATERIALS

ALL FILL MATERIALS SHALL BE OBTAINED FROM REQUIRED EXCAVATIONS OR DESIGNATED BORROW AREAS. FILL MATERIAL SHALL CONTAIN NO FROZEN MATERIAL, SOD, BRUSH, ROOTS, OR OTHER ORGANIC MATERIAL EARTH EMBANKMENTS SHALL CONTAIN NO STONES OR ROCK PARTICLES OVER THREE INCHES IN DIAMETER.

THE MATERIAL USED IN THE CENTER PORTION OF THE EMBANKMENT SHALL BE THE MOST IMPERVIOUS MATERIAL OBTAINED FROM THE BORROW AREAS IF REQUIRED. THE MORE PERVIOUS MATERIALS SHALL BE USED IN THE OUTER PORTION OF THE EMBANKMENT AS SHOWN ON THE PLANS.

A. IMPERVIOUS FILL MATERIALS

IMPERVIOUS FILL SHALL BE A GLACIAL TILL, AND TO BE PROVIDED FROM AN OFFSITE SOURCE IN THE QUANTITIES REQUIRED FOR COMPLETION. FILL TO BE APPROVED BY THE ENGINEER. GLACIAL TILL SHALL CONSIST OF HARD AND DURABLE PARTICLES OR FRAGMENTS AND SHALL BE FREE FROM ORGANIC MATTER AND OTHER OBJECTIONABLE MATERIALS. GLACIAL TILL SHALL GENERALLY CONFORM TO THE FOLLOWING GRADATION LIMITS:

U.S. STANDARD	PERCI	ENTAGE PASSIN	١G
SIEVE	SIZE	BY WEIGHT	
3 INC	СН	100	
NO. 4	4	60-95	
NO. :	10	50-95	
NO. 4	40	30-75	
NO. :	100	20-65	
NO. 2	200	10-40	

2. EMBANKMENT FOUNDATION PREPARATION

AREAS WHERE EMBANKMENTS ARE TO BE FORMED SHALL BE CLEARED AND GRUBBED OF ALL TOPSOIL AND OTHER ORGANIC MATERIALS TO A DEPTH OF AT LEAST 24 INCHES. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, FOUNDATION AREAS SHALL BE SCARIFIED TO A DEPTH OF THREE INCHES PRIOR TO PLACEMENT OF FILL MATERIAL.

3. PLACEMENT

NO FILL SHALL BE PLACED UNTIL THE FOUNDATION PREPARATION AND EXCAVATIONS IN THE FOUNDATION HAVE BEEN COMPLETED. NO FILL SHALL BE PLACED ON A FROZEN SURFACE NOR SHALL FROZEN MATERIAL BE INCORPORATED.

A. EMBANKMENT

MATERIAL SHALL BE PLACED IN HORIZONTAL LAYERS. THE THICKNESS OF LAYERS SHALL BE SIX INCHES. DURING CONSTRUCTION, THE SURFACE OF THE FILL SHALL HAVE A CROWN OR CROSS-SLOPE OF NOT LESS THAN TWO PERCENT. EACH LAYER OR LIFT SHALL EXTEND OVER THE ENTIRE AREA OF THE FILL.

THE FILL SHALL BE FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE OR GRADATION FROM THE SURROUNDING MATERIAL. THE MORE PERVIOUS MATERIAL SHALL BE PLACED IN THE OUTSIDE PORTION OF THE EMBANKMENT OR AS INDICATED ON THE DRAWINGS. THE FINISHED FILL SHALL BE SHAPED AND GRADED TO THE LINES AND GRADE SHOWN ON THE DRAWINGS.

B. BACKFILL AT THE PIPE OUTLET

BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED THREE INCHES IN THICKNESS AND SHALL BE BROUGHT UP UNIFORMLY AROUND THE OUTLET PIPE AND FLARED END SECTION

4. MOISTURE CONTROL

THE MOISTURE CONTENT OF MATERIALS IN THE EMBANKMENT SHALL BE CONTROLLED TO MEET THE REQUIREMENTS OF SECTION 5, "COMPACTION OF EMBANKMENT." WHEN NECESSARY, MOISTURE SHALL BE ADDED BY USE OF APPROVED SPRINKLING EQUIPMENT. WATER SHALL BE ADDED UNIFORMLY AND EACH LAYER SHALL BE THOROUGHLY DISKED OR HARROWED TO PROVIDE ROPER MIXING. ANY LAYER FOUND TOO WET FOR PROPER COMPACTION SHALL BE ALLOWED TO DRY BEFORE ROLLING. PLACING OR ROLLING OF MATERIAL ON EARTH FILLS WILL NOT BE PERMITTED DURING OR IMMEDIATELY AFTER RAINFALLS WHICH INCREASE THE MOISTURE CONTENT BEYOND THE LIMIT OF SATISFACTORY COMPACTION. THE EARTH FILL SHALL BE BROUGHT UP UNIFORMLY AND ITS TOP SHALL BE KEPT GRADED AND SLOPED SO THAT A MINIMUM OF RAINWATER WILL BE RETAINED THEREON. COMPACTED EARTH FILL DAMAGED BY WASHING SHALL BE ACCEPTABLY REPLACED BY THE CONTRACTOR.

5. COMPACTION A. EMBANKMENT

> EMBANKMENT MATERIAL SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY AT NEAR OPTIMUM MOISTURE CONTENT AND BY THE COMPACTION EQUIPMENT SPECIFIED HEREIN. THE COMPACTION EQUIPMENT SHALL TRAVERSE THE ENTIRE SURFACE OF EACH LAYER OF FILL MATERIAL. APPROVED TAMPING ROLLERS SHALL BE USED FOR COMPACTING ALL PARTS OF THE EMBANKMENTS

WHICH THEY CAN EFFECTIVELY REACH. THE CONTRACTOR SHALL DEMONSTRATE THE EFFECTIVENESS OF THE ROLLER BY ACTUAL SOIL COMPACTION RESULTS OF THE SOIL TO BE USED IN THE EMBANKMENT WITH LABORATORY WORK PERFORMED BY AN APPROVED SOIL TESTING LABORATORY. B. BACKFILL AT OUTLET CONDUIT

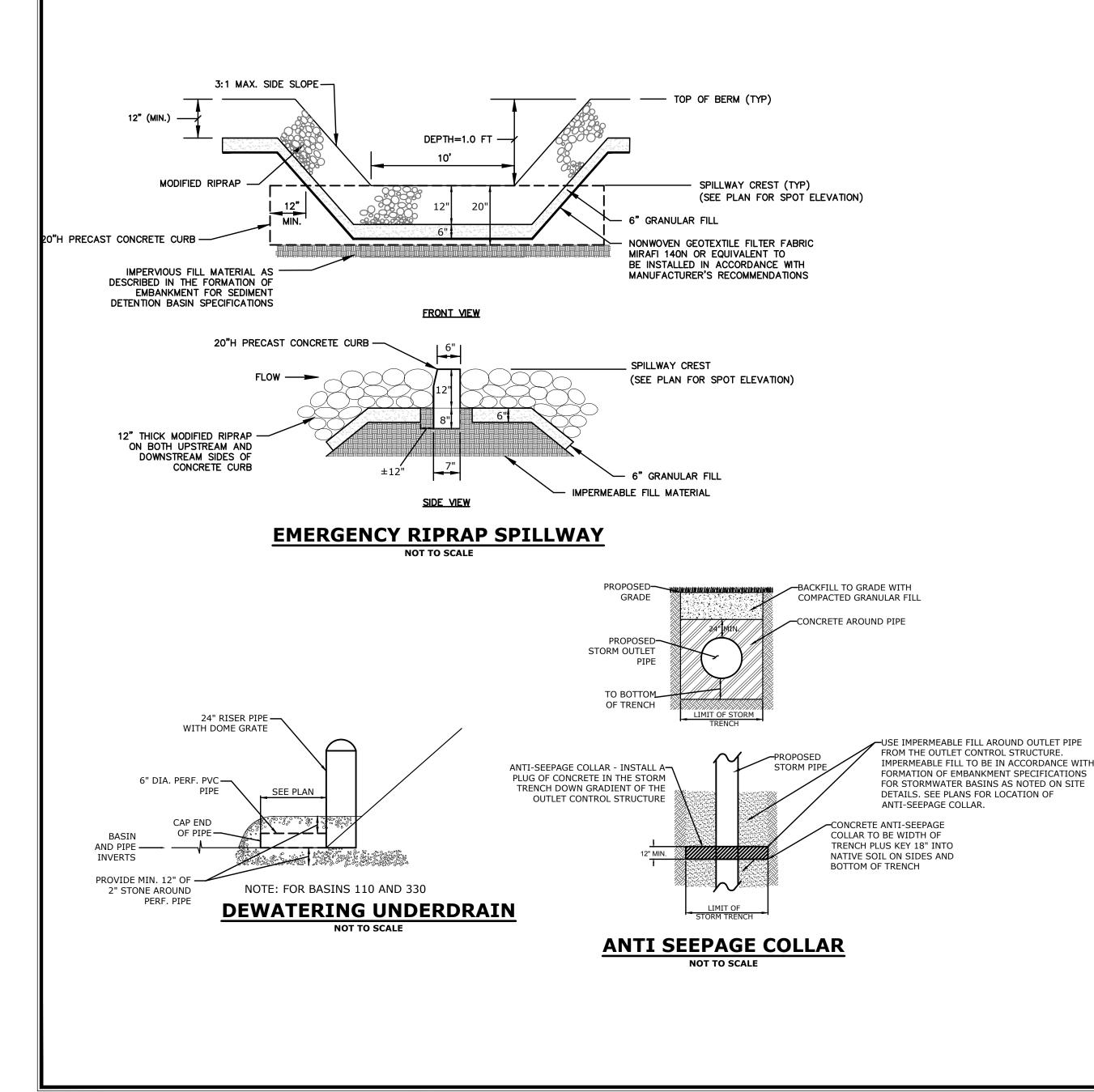
BACKFILL SHALL BE COMPACTED BY HAND TAMPING WITH MECHANICAL TAMPERS. HEAVY EQUIPMENT SHALL NOT BE OPERATED WITHIN TWO FEET OF ANY STRUCTURE. EQUIPMENT SHALL NOT BE ALLOWED TO OPERATE OVER THE OUTLET CONDUITS UNTIL THERE IS 24 INCHES OF FILL OVER THE PIPE CONDUITS.

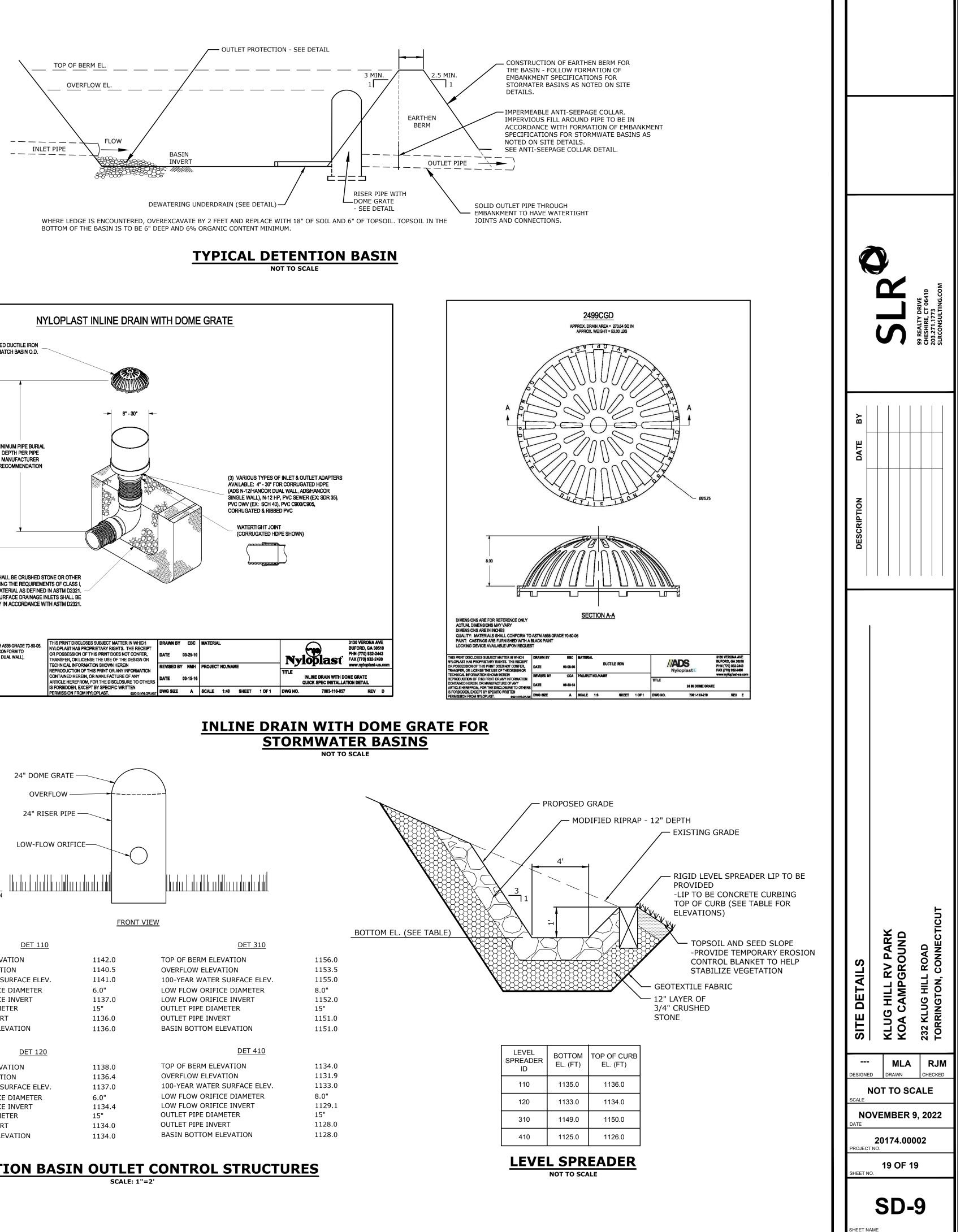
6. FINISHING EMBANKMENTS

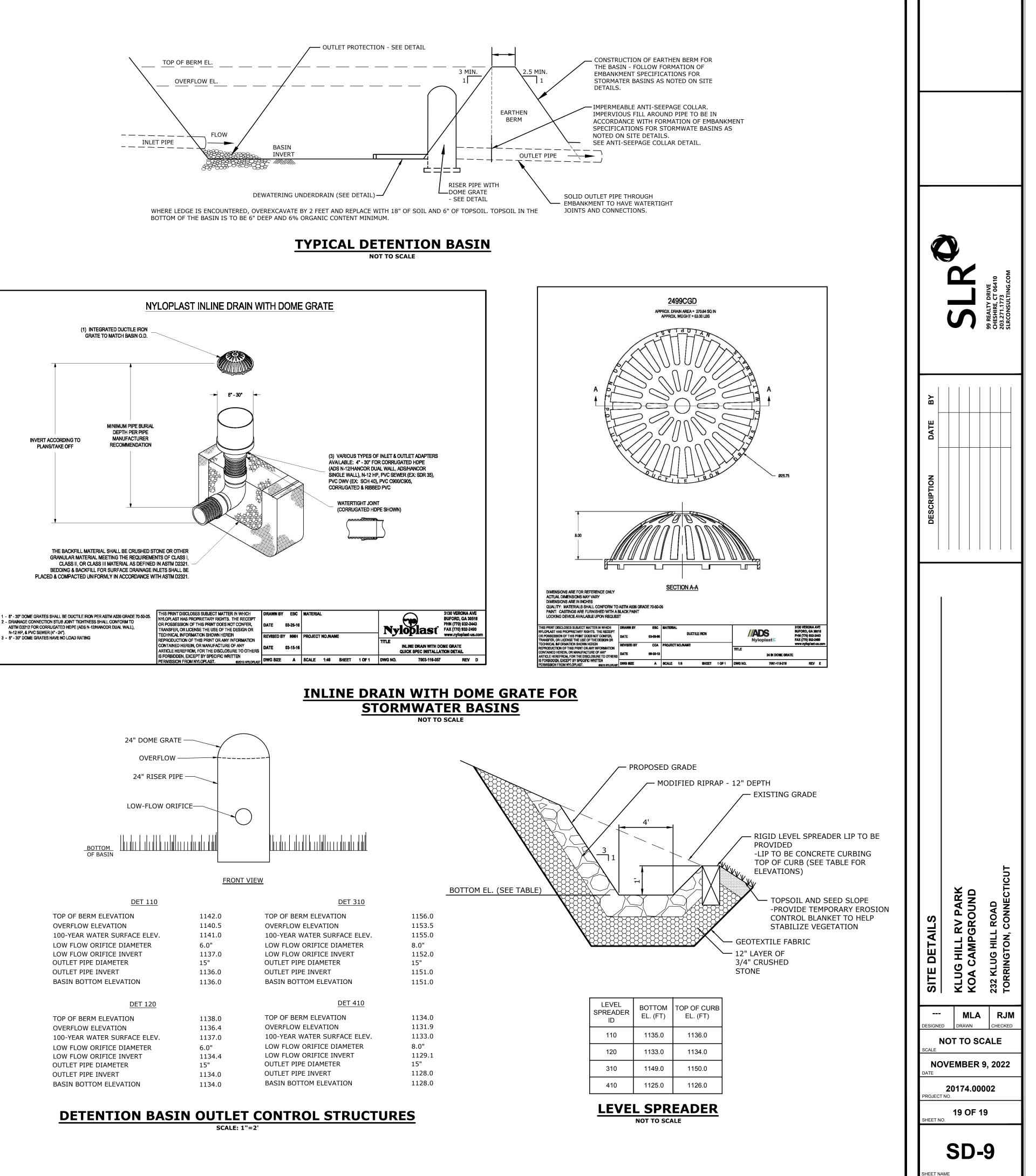
THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE ELEVATIONS, LINES, GRADES AND CROSS-SECTIONS AS SHOWN ON THE DRAWINGS. THE EMBANKMENTS SHALL BE MAINTAINED IN A MANNER SATISFACTORY TO THE ENGINEER AND SURFACES SHALL BE COMPACT AND ACCURATELY GRADED BEFORE TOPSOIL IS PLACED ON THEM. THE CONTRACTOR SHALL CHECK THE EMBANKMENT SLOPES WITH STRING LINES TO INSURE THAT THEY CONFORM TO THE SLOPES GIVEN ON THE PLANS AND ARE UNIFORM FOR THE ENTIRE LENGTH OF THE SLOPE.

7. CONTROL OF WATER

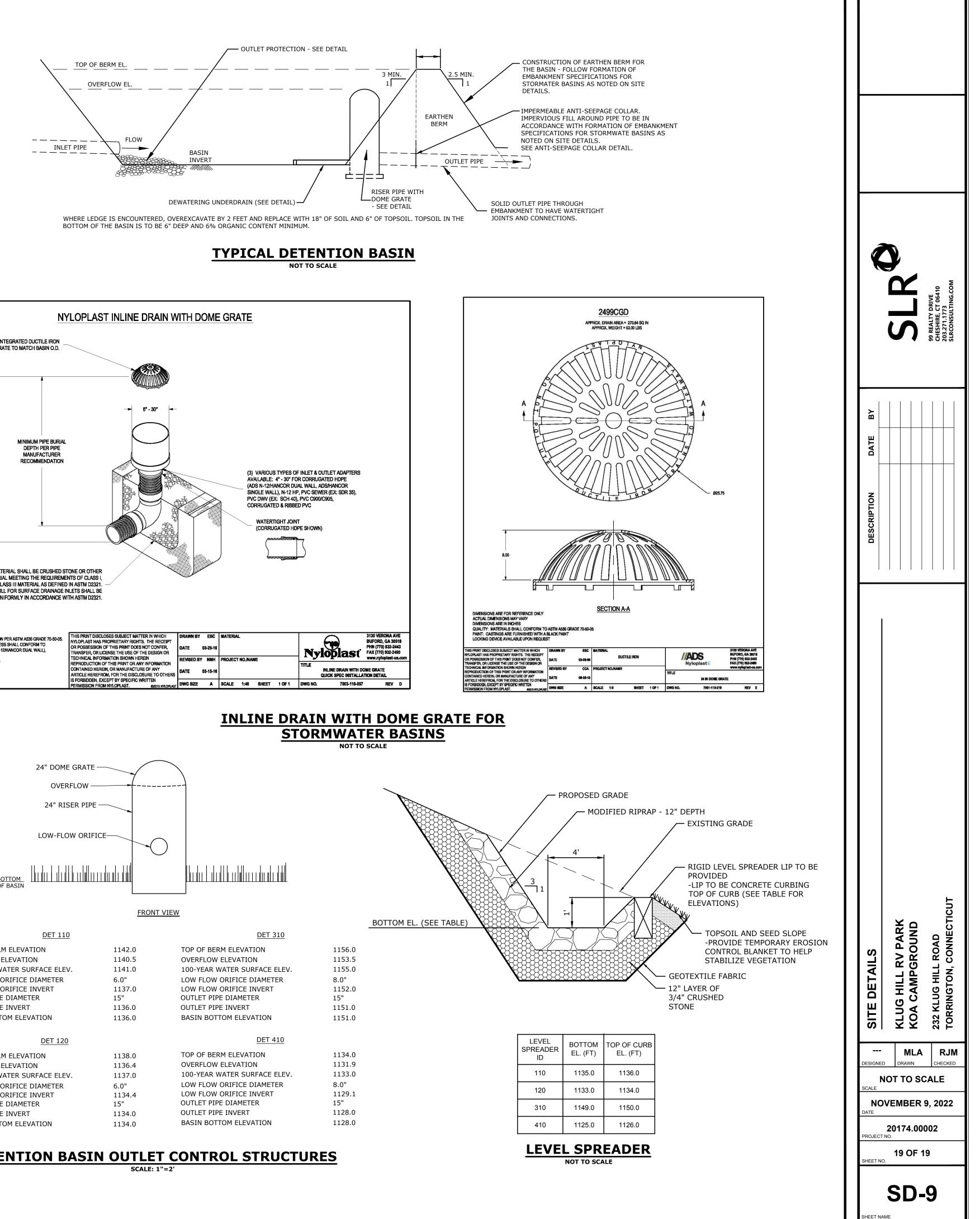
THE PROJECT SITE IS SUBJECT TO HIGH WATER TABLE. THE CONTRACTOR SHALL USE TEMPORARY PIPES OR PUMPS TO ASSURE PLACEMENT OF SELECT FILL IN DRY CONDITIONS.







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<u>STORMWATER B</u>		STORM	<b>1WATE</b>	RB



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<u>DET 110</u>		<u>DET 310</u>	
TOP OF BERM ELEVATION	1142.0	TOP OF BERM ELEVATION	1156.0
OVERFLOW ELEVATION	1140.5	OVERFLOW ELEVATION	1153.5
100-YEAR WATER SURFACE ELEV.	1141.0	100-YEAR WATER SURFACE ELEV.	1155.0
LOW FLOW ORIFICE DIAMETER	6.0"	LOW FLOW ORIFICE DIAMETER	8.0"
LOW FLOW ORIFICE INVERT	1137.0	LOW FLOW ORIFICE INVERT	1152.0
OUTLET PIPE DIAMETER	15"	OUTLET PIPE DIAMETER	15"
OUTLET PIPE INVERT	1136.0	OUTLET PIPE INVERT	1151.0
BASIN BOTTOM ELEVATION	1136.0	BASIN BOTTOM ELEVATION	1151.0
<u>DET 120</u>		DET 410	
TOP OF BERM ELEVATION	1138.0	TOP OF BERM ELEVATION	1134.0
OVERFLOW ELEVATION	1136.4	OVERFLOW ELEVATION	1131.9
100-YEAR WATER SURFACE ELEV.	1137.0	100-YEAR WATER SURFACE ELEV.	1133.0
LOW FLOW ORIFICE DIAMETER	6.0"	LOW FLOW ORIFICE DIAMETER	8.0"
LOW FLOW ORIFICE INVERT	1134.4	LOW FLOW ORIFICE INVERT	1129.1
OUTLET PIPE DIAMETER	15"	OUTLET PIPE DIAMETER	15"
OUTLET PIPE INVERT	1134.0	OUTLET PIPE INVERT	1128.0
BASIN BOTTOM ELEVATION	1134.0	BASIN BOTTOM ELEVATION	1128.0