

SOURCE:
 2017 USGS TOPOGRAPHIC MAP OBTAINED FROM ARCGIS
 ONLINE ESRI BASEMAP SERVICES.



148 RIVER STREET, SUITE 220
 GREENVILLE, SOUTH CAROLINA 29601
 PHONE 864-421-9999

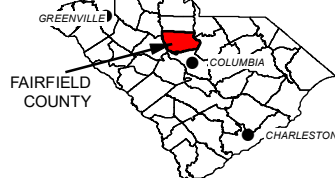
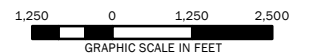
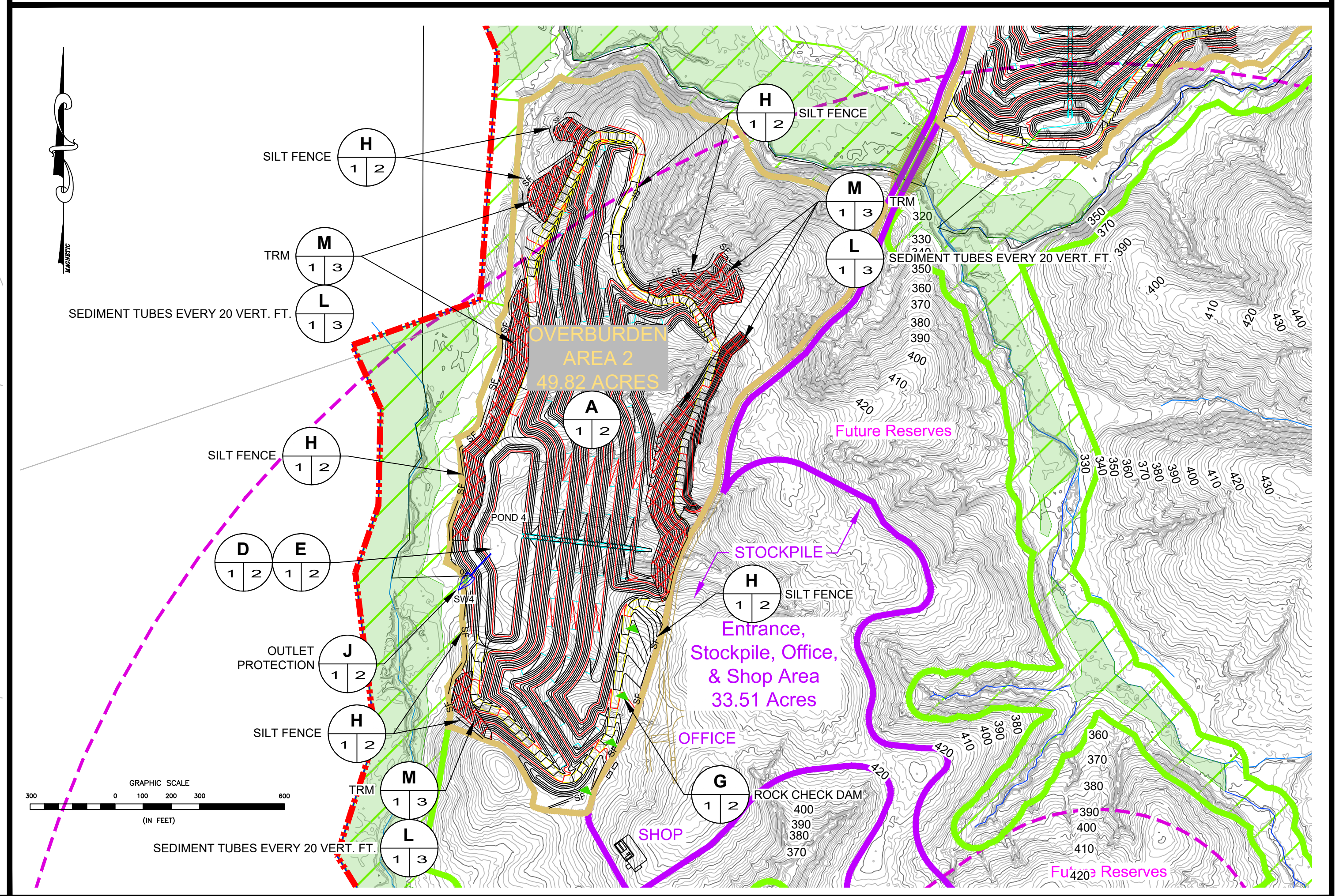
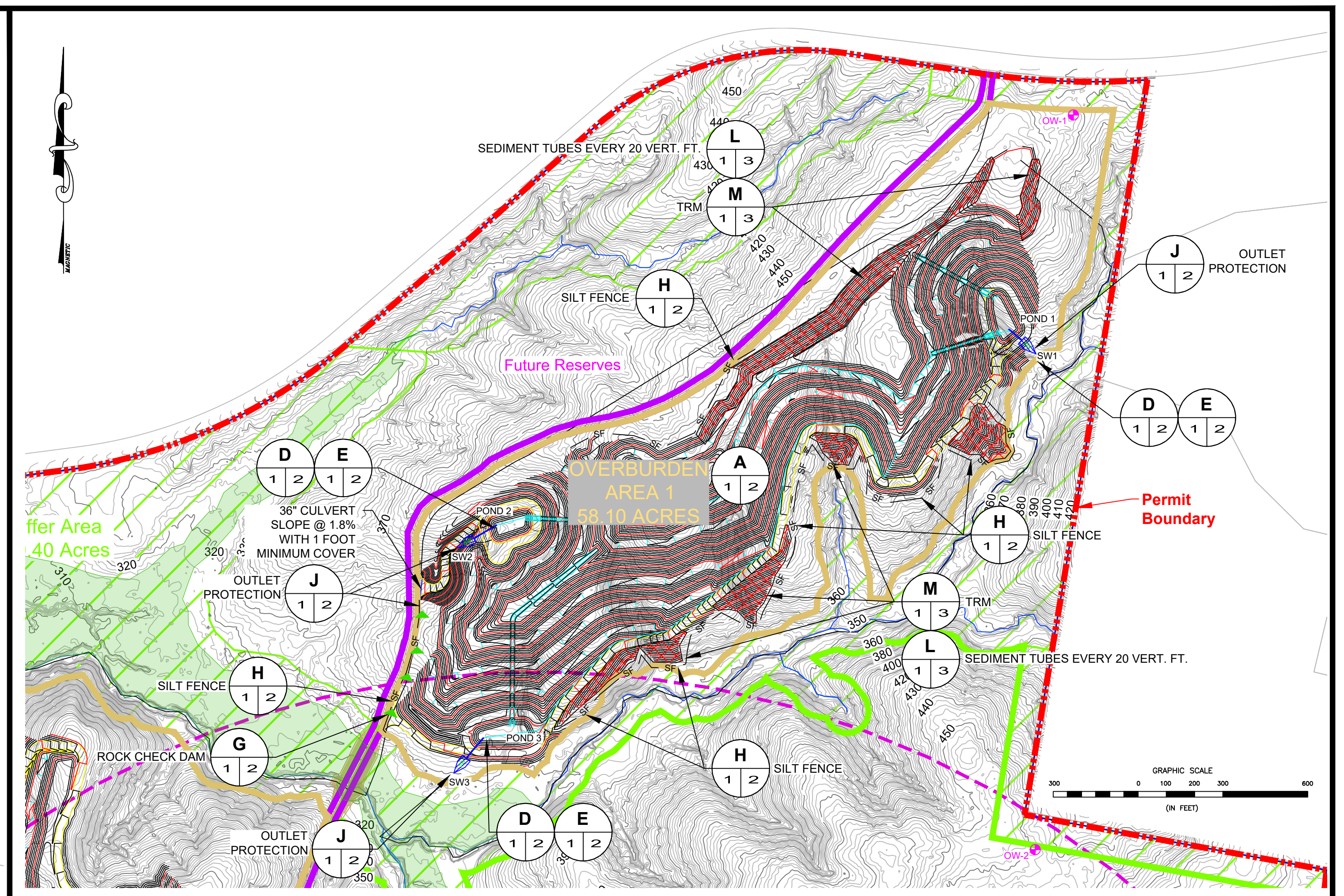
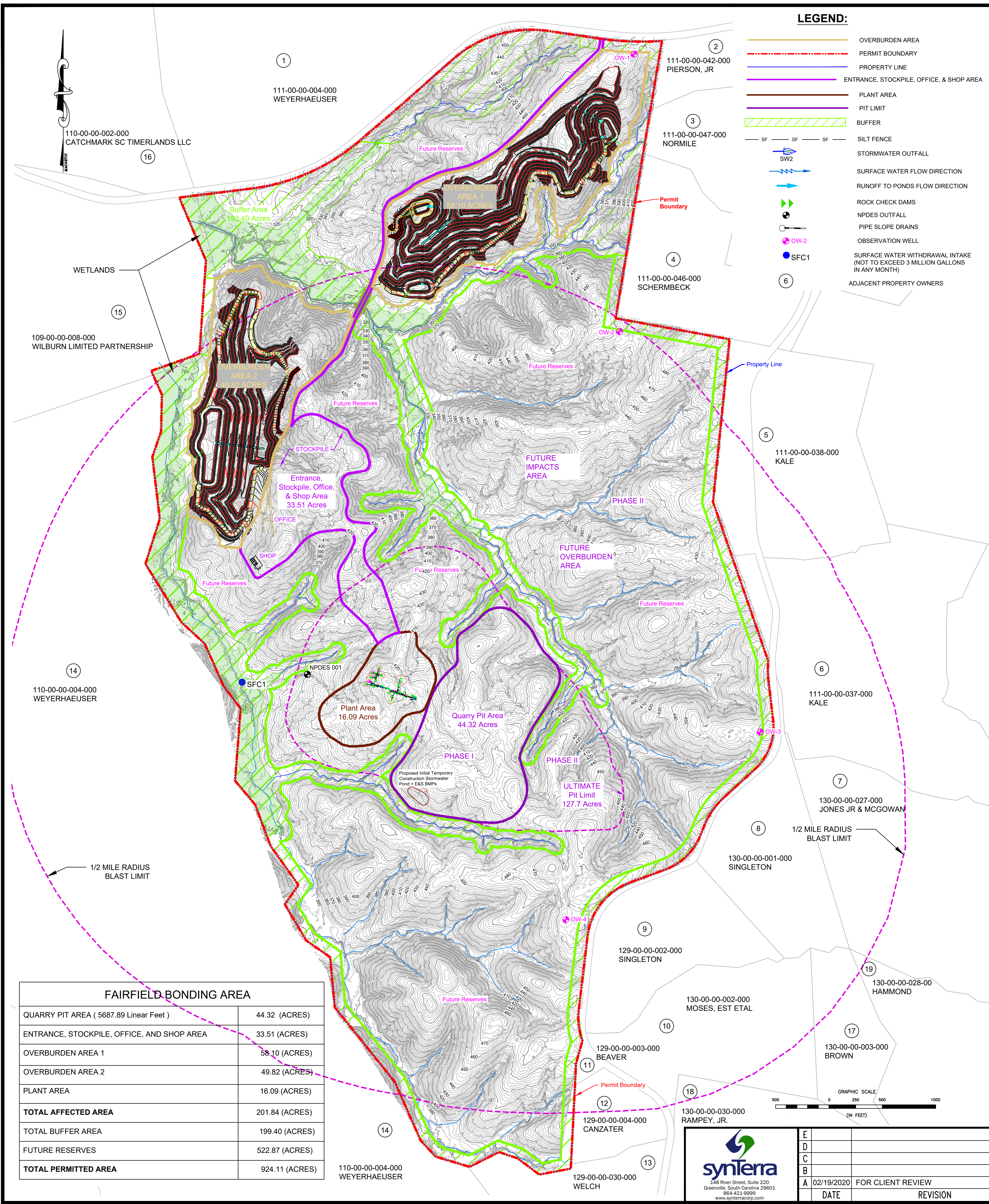


FIGURE 1
USGS TOPOGRAPHIC MAP
VULCAN MATERIALS COMPANY
WINNSBORO, SOUTH CAROLINA

DRAWN BY: K. KING
 PROJECT MANAGER:
 CHECKED BY: N. DAVIS

DATE: 1/30/2020
 MAP DATE: 2017





E			
D			
C			
B			
A	02/19/2020	FOR CLIENT REVIEW	JCC
	DATE	REVISION	BY

TOLERANCES—UNLESS NOTED

FRACTIONAL: ± 1/16"
DECIMAL: ± 0.010"
ANGLE: ± 0.1°

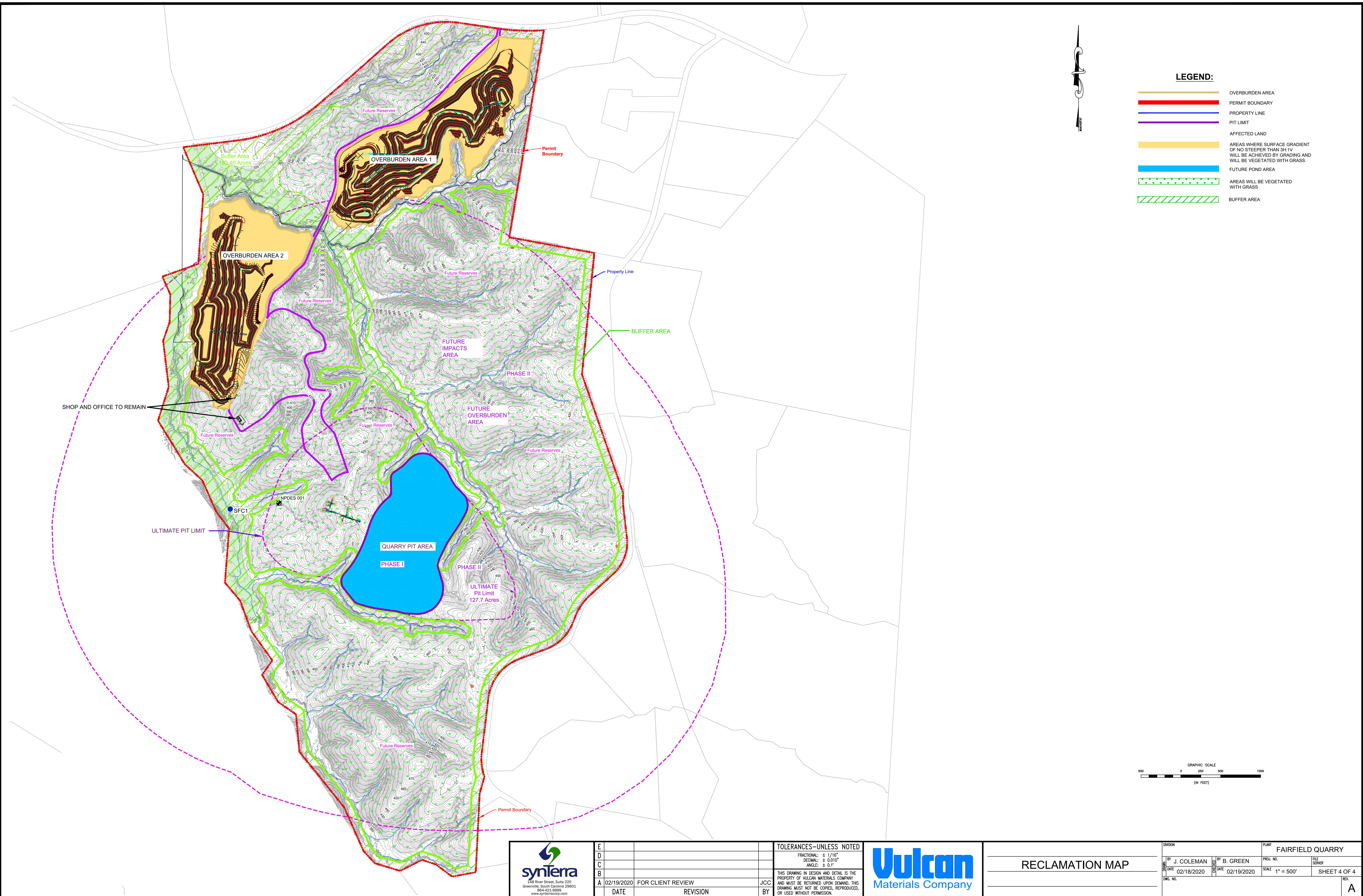
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MINE LAND USE MAP WITH BONDING

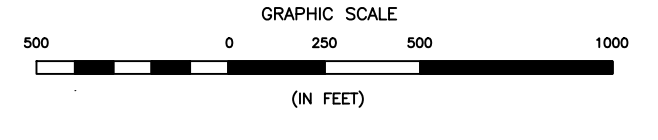
DESIGN	BY J. COLEMAN	DATE 02/17/2020	PLANT	FAIRFIELD QUARRY
FILE SERVER	BY B. GREEN	DATE 02/18/2020	SCALE	1" = 500'
SHEET 1 OF 4			REV.	A

3/16/2020 9:35 AM P:\Vulcan Construction Materials\883118 - Fairfield Quarry\01_2019 Mine Map Amendment\DWG\631801-MINE LAND USE-REV A.dwg



LEGEND:

	OVERBURDEN AREA
	PERMIT BOUNDARY
	PROPERTY LINE
	PIT LIMIT
	AFFECTED LAND
	AREAS WHERE SURFACE GRADIENT OF NO STEEPER THAN 3H:1V WILL BE ACHIEVED BY GRADING AND WILL BE VEGETATED WITH GRASS.
	FUTURE POND AREA
	AREAS WILL BE VEGETATED WITH GRASS
	BUFFER AREA



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	DATE	REVISION	BY

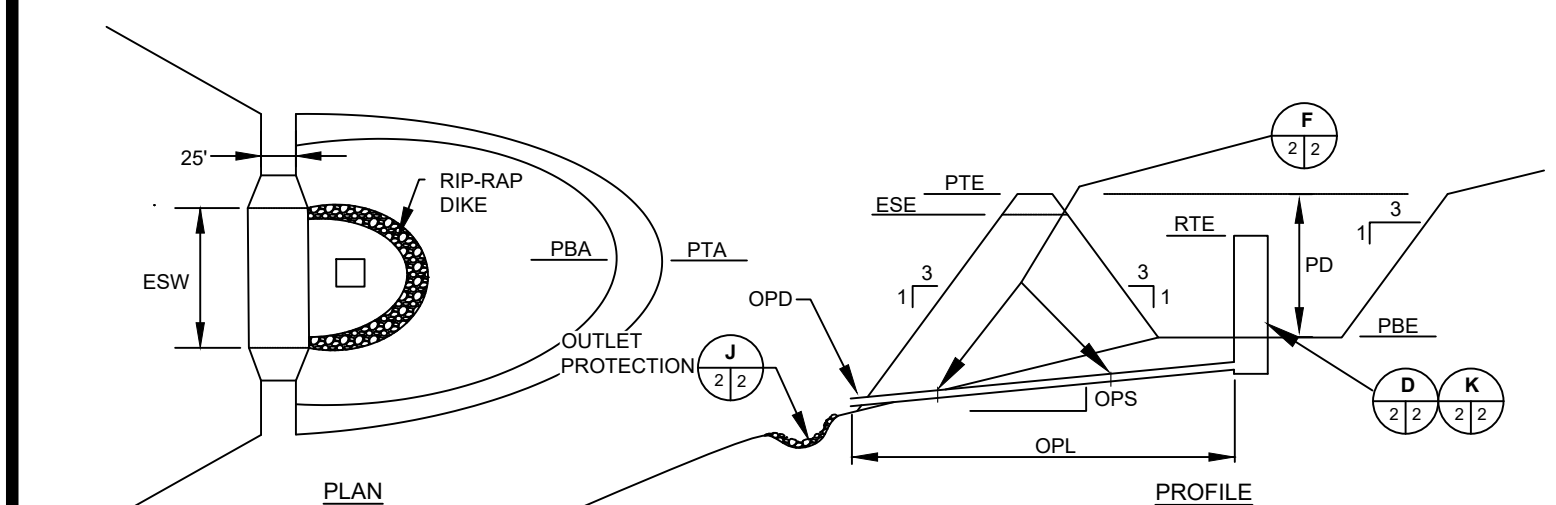
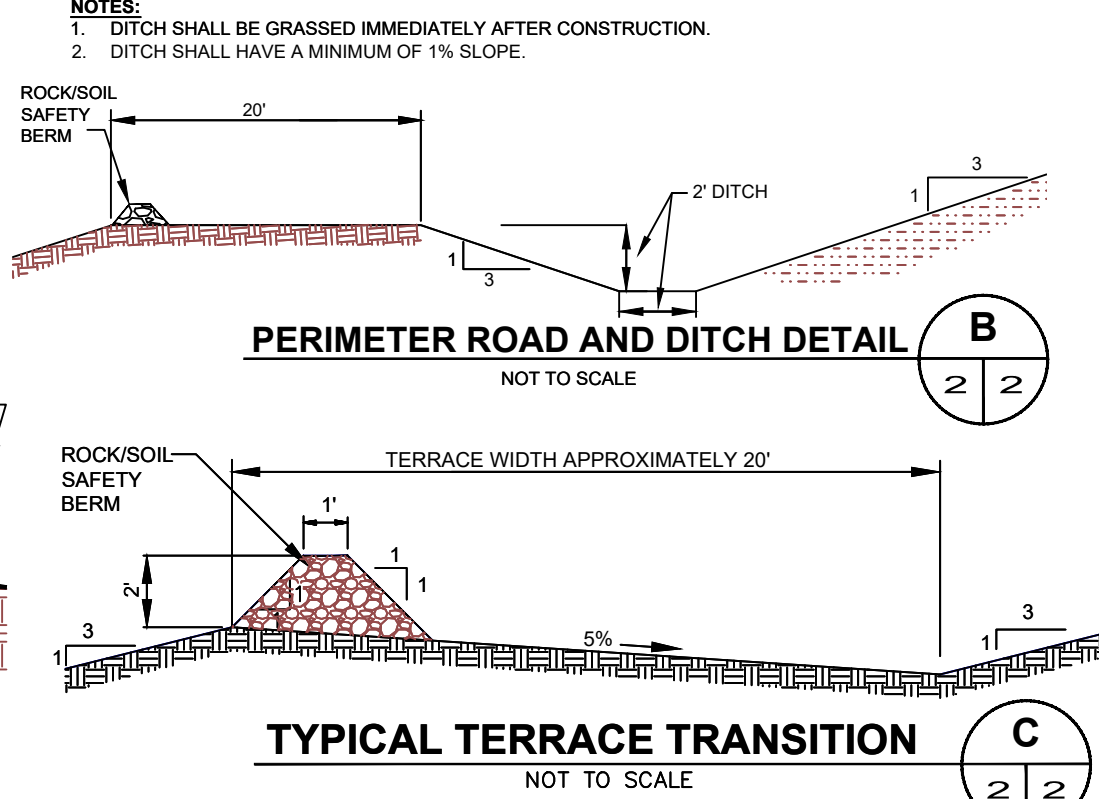
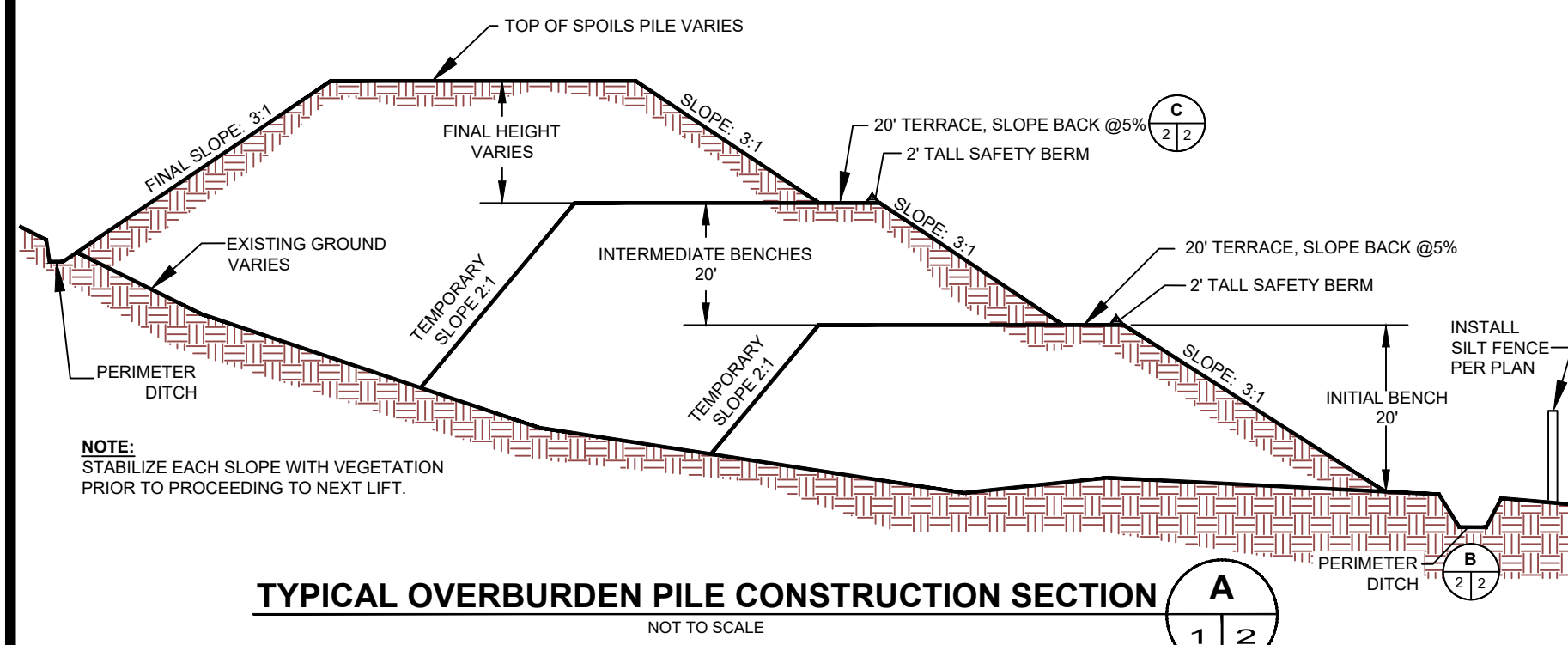
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RECLAMATION MAP

DIVISION		PLANT	
BY J. COLEMAN		FAIRFIELD QUARRY	
DATE 02/18/2020	BY B. GREEN	PROJ. NO.	FILE SERVER
DWG. NO.	DATE 02/19/2020	SCALE 1" = 500'	SHEET 4 OF 4
			REV. A



ABBREVIATIONS

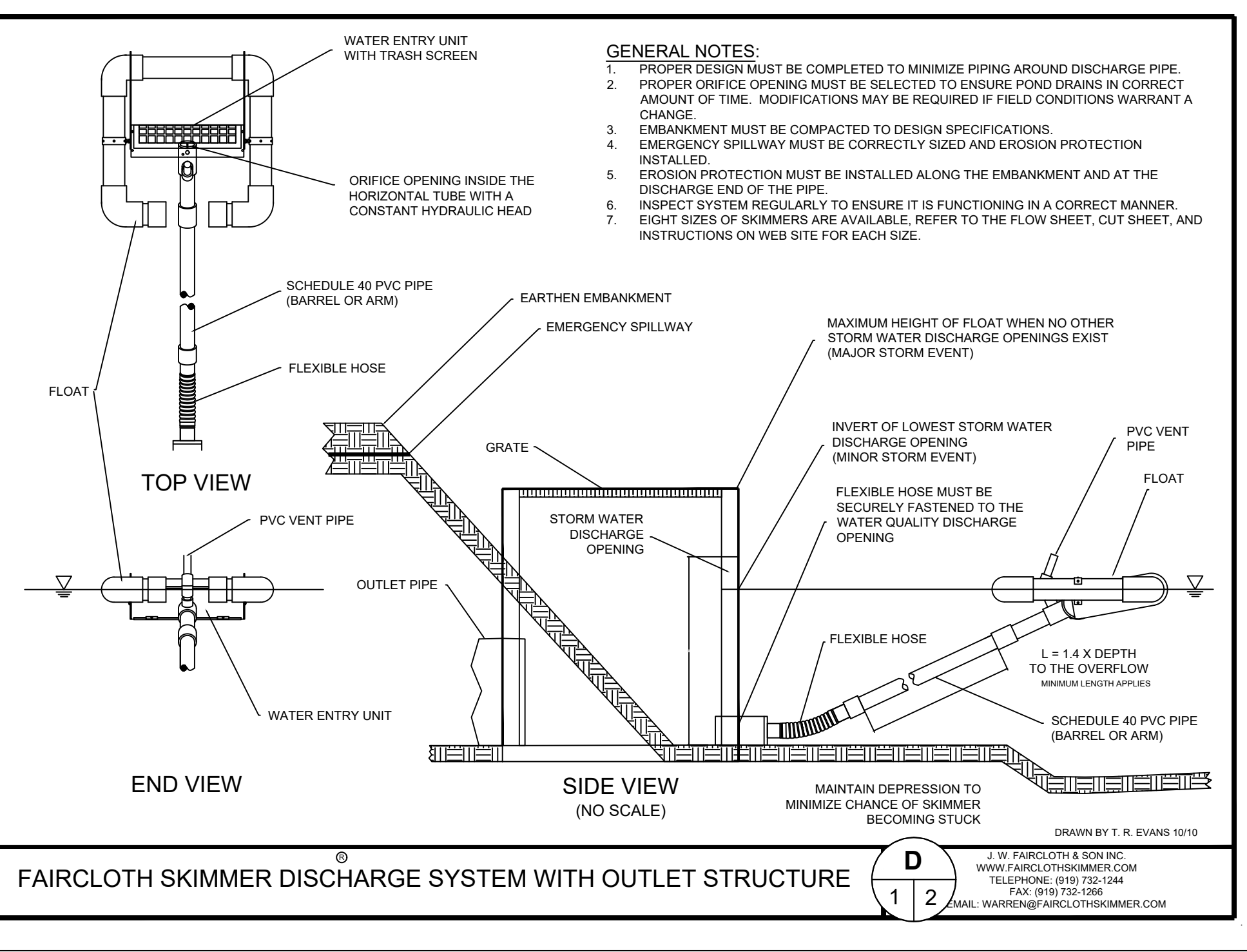
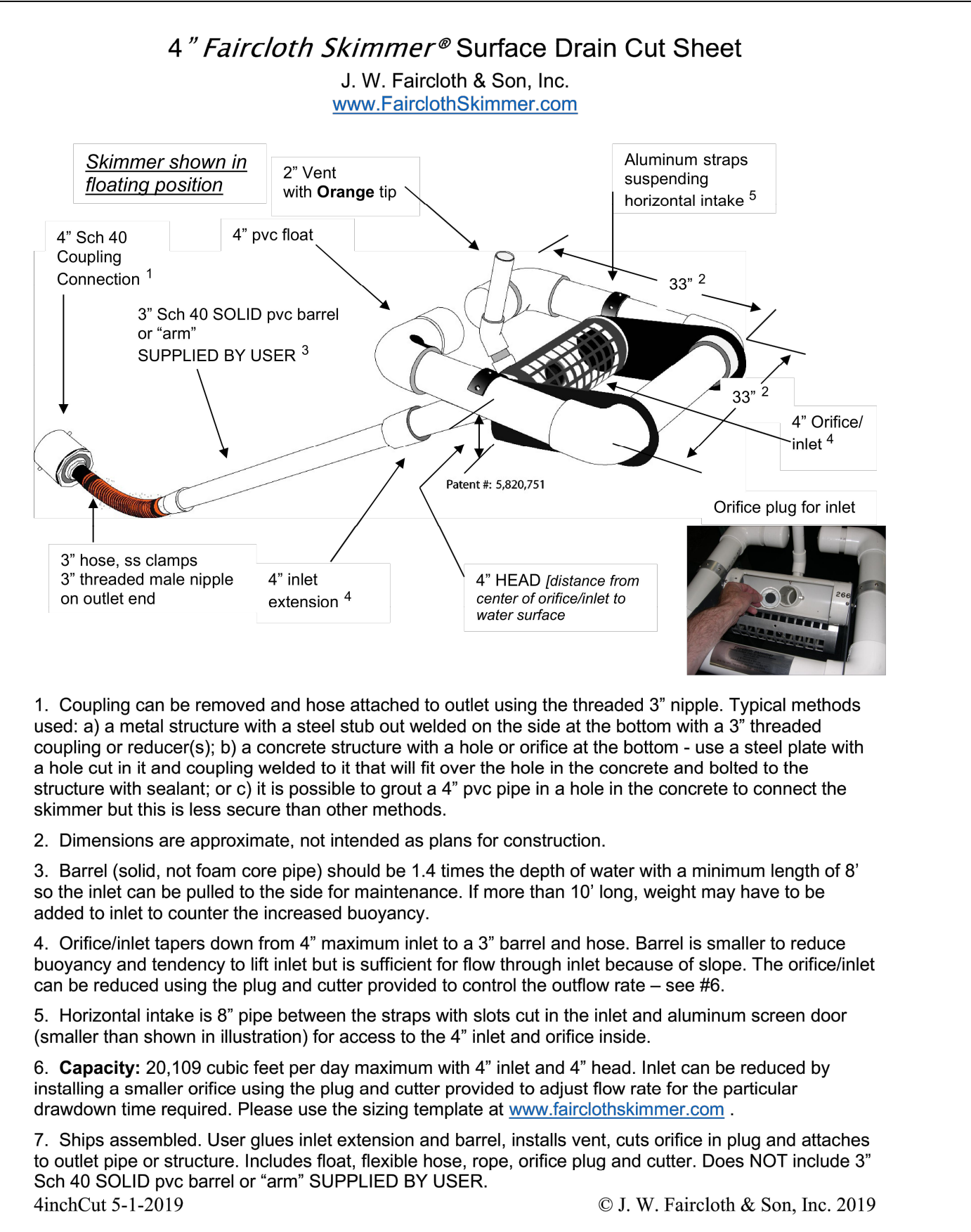
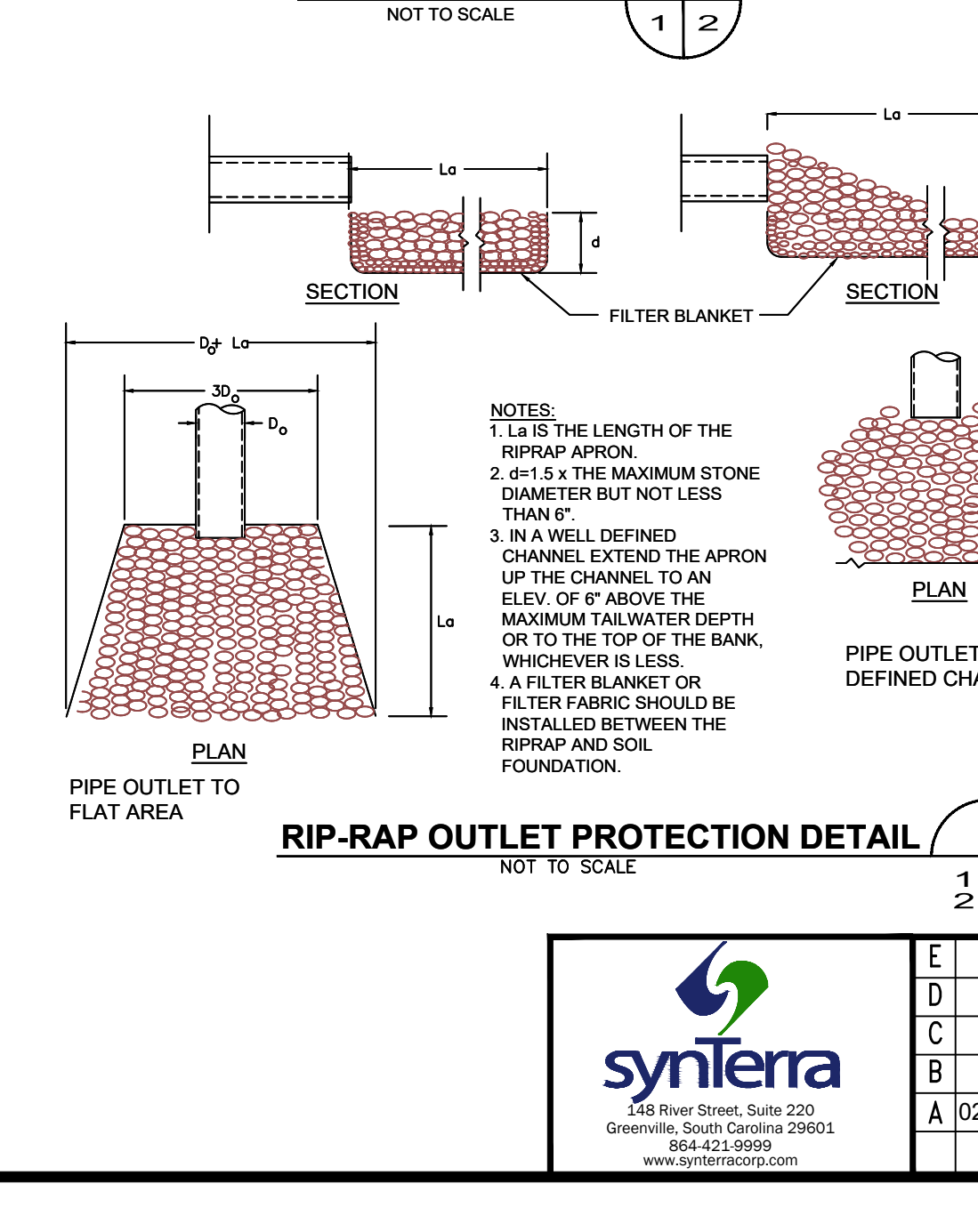
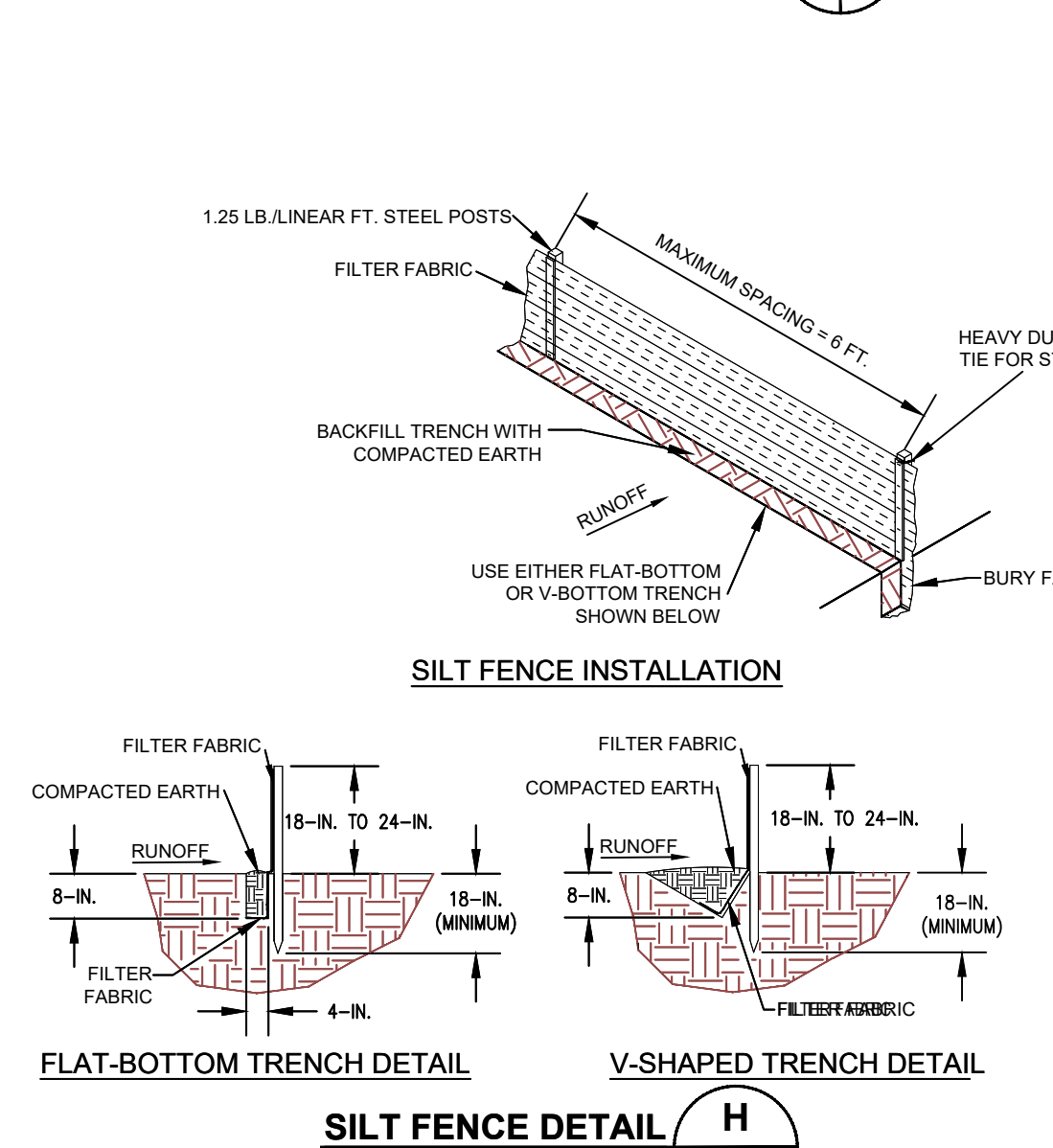
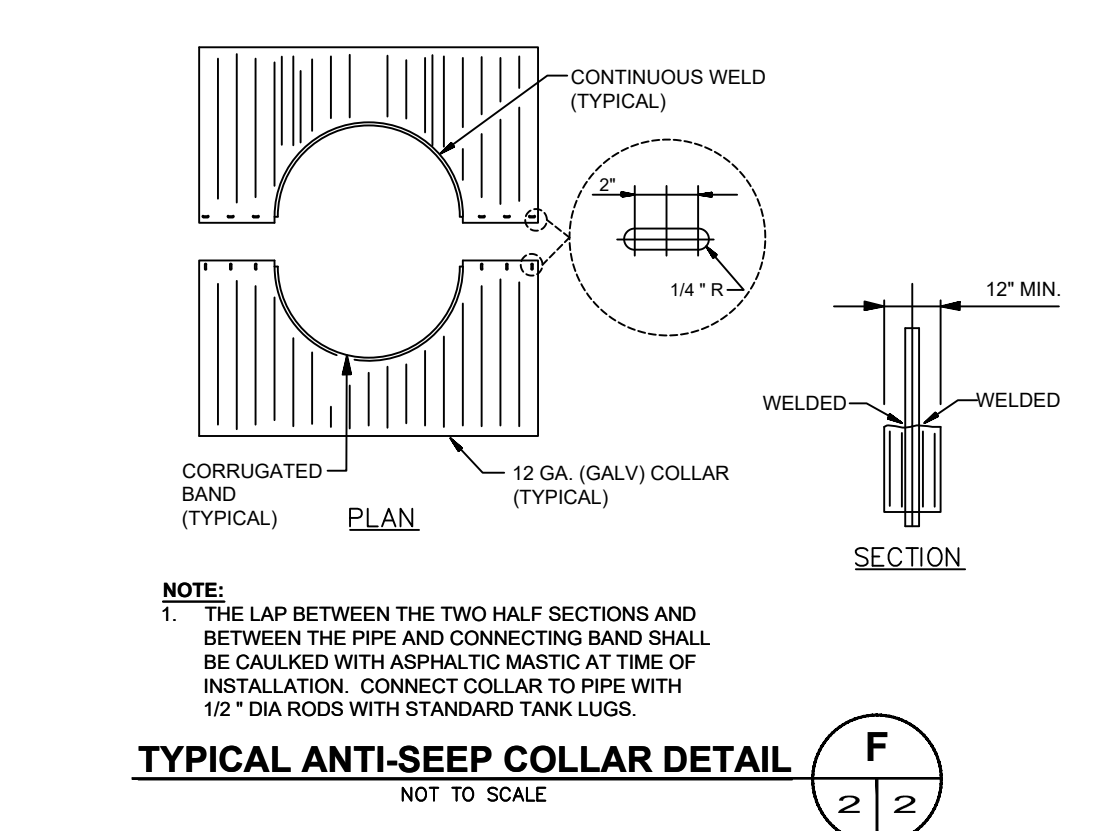
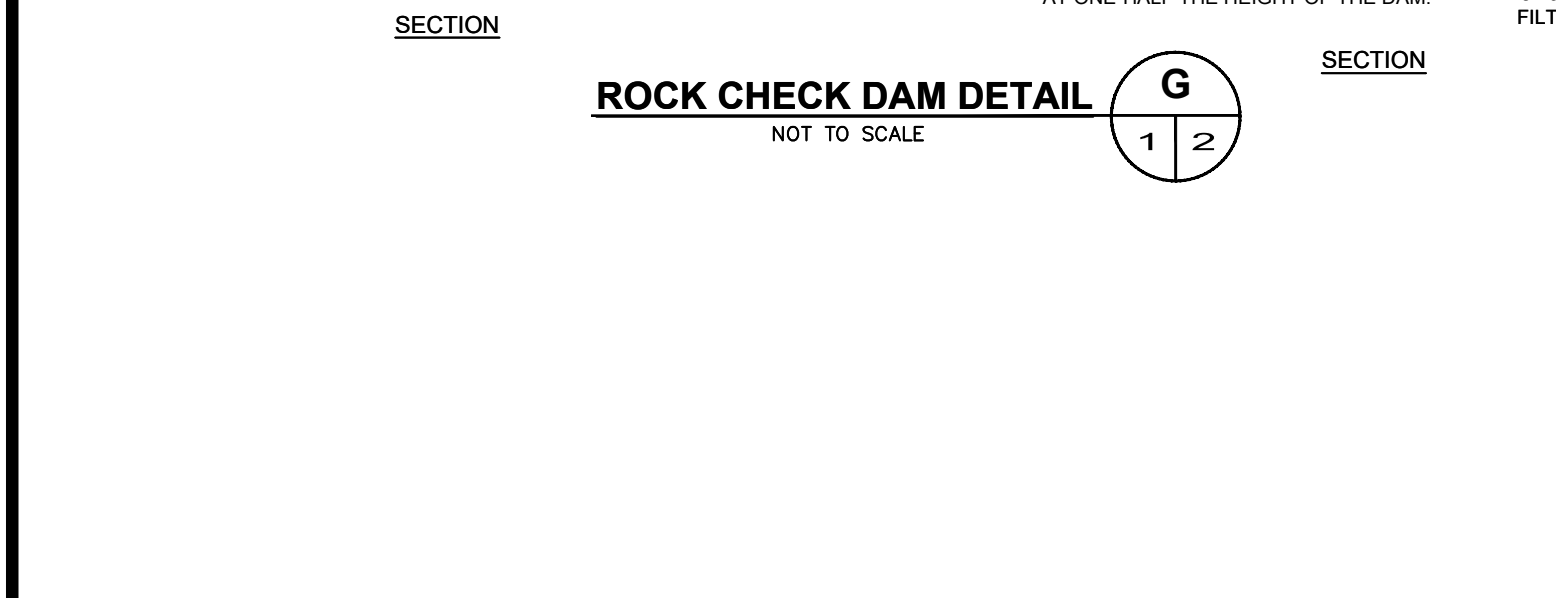
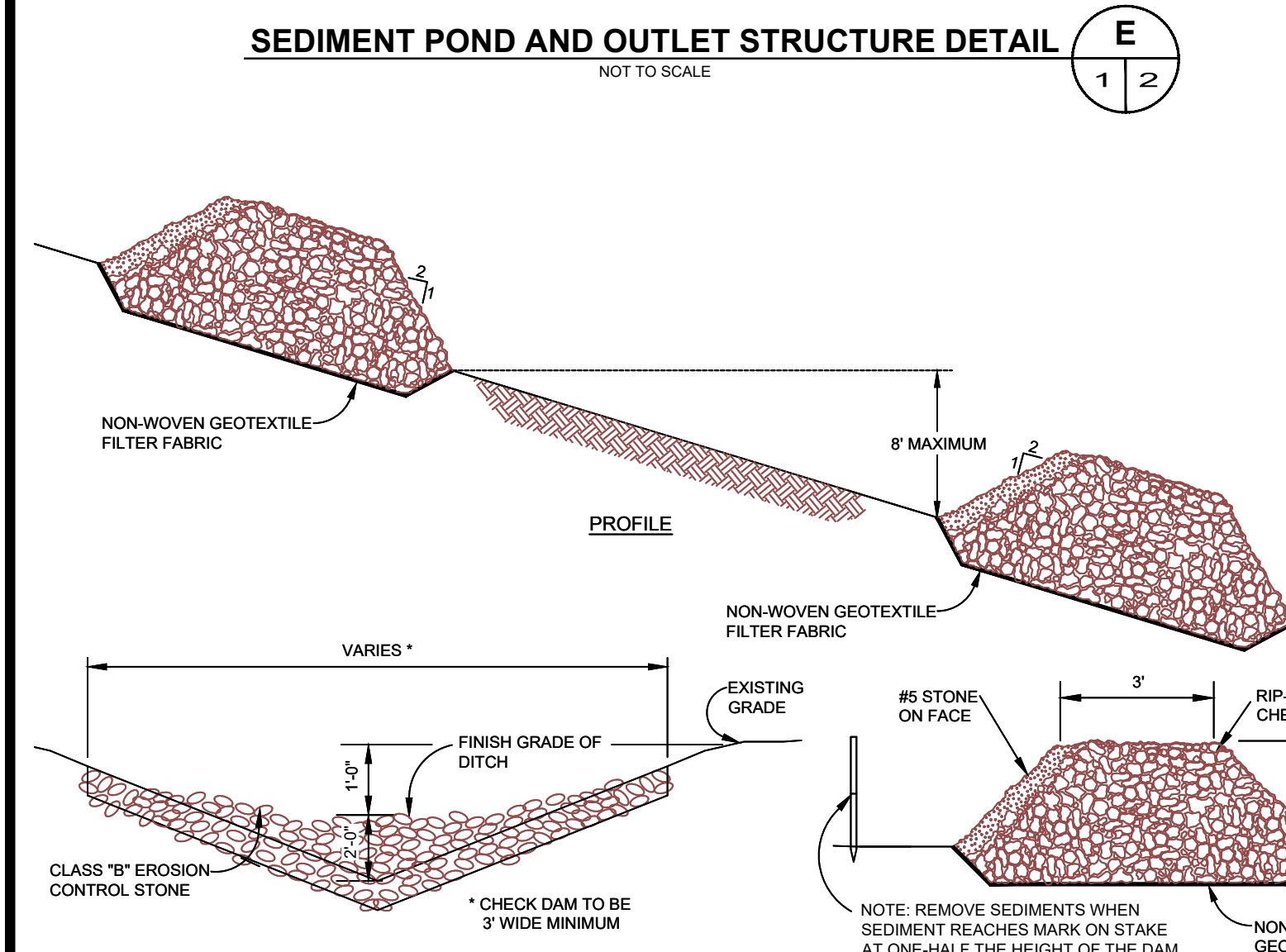
PTE POND TOP ELEVATION
ESE EMERGENCY SPILLWAY ELEVATION
RTE RISER TOP ELEVATION
PD POND DEPTH
PBE POND BOTTOM ELEVATION
ESW EMERGENCY SPILLWAY WIDTH
PBA POND BOTTOM AREA
PTA POND TOP AREA
OPL OUTLET PIPE LENGTH
OPS OUTLET PIPE SLOPE
OPD OUTLET PIPE DIAMETER

	1	2	3	4
PTE	396.0'	382.0'	342.0'	338.0'
ESE	395.0'	381.0'	341.0'	337.0'
RTE	394.0'	380.0'	340.0'	336.0'
PD	10'	10'	10'	10'
PBE	386.0'	372.0'	332.0'	328.0'
ESW	20'	38.3'	20'	20'
PBA	0.156 ac	0.103 ac	0.200 ac	1.387 ac
PTA	0.560 ac	0.381 ac	0.640 ac	2.455 ac
OPL	117'	161'	188'	106'
OPS	1.7%	1.2%	1.06%	1.90%
OPD	24"	24"	24"	24"

RISERS

1 388.5' 4" SKIMMER 334.0' 4" SKIMMER

2 374.5' 4" SKIMMER 330.0' 4" SKIMMER



RIP RAP OUTLET PROTECTION

	POND 1	POND 2	POND 3	POND 4
D ₀	24 in.	24 in.	24 in.	24 in.
3D ₀	6 ft. (72 in.)	6 ft. (72 in.)	6 ft. (72 in.)	6 ft. (72 in.)
D ₀ + L _a	28 ft.	22 ft.	29 ft.	18 ft.
L _a	26 ft.	43 ft.	27 ft.	16 ft.
d	2.7 ft. min.	1.13 ft. min.	2.7 ft. min.	1.13 ft. min.

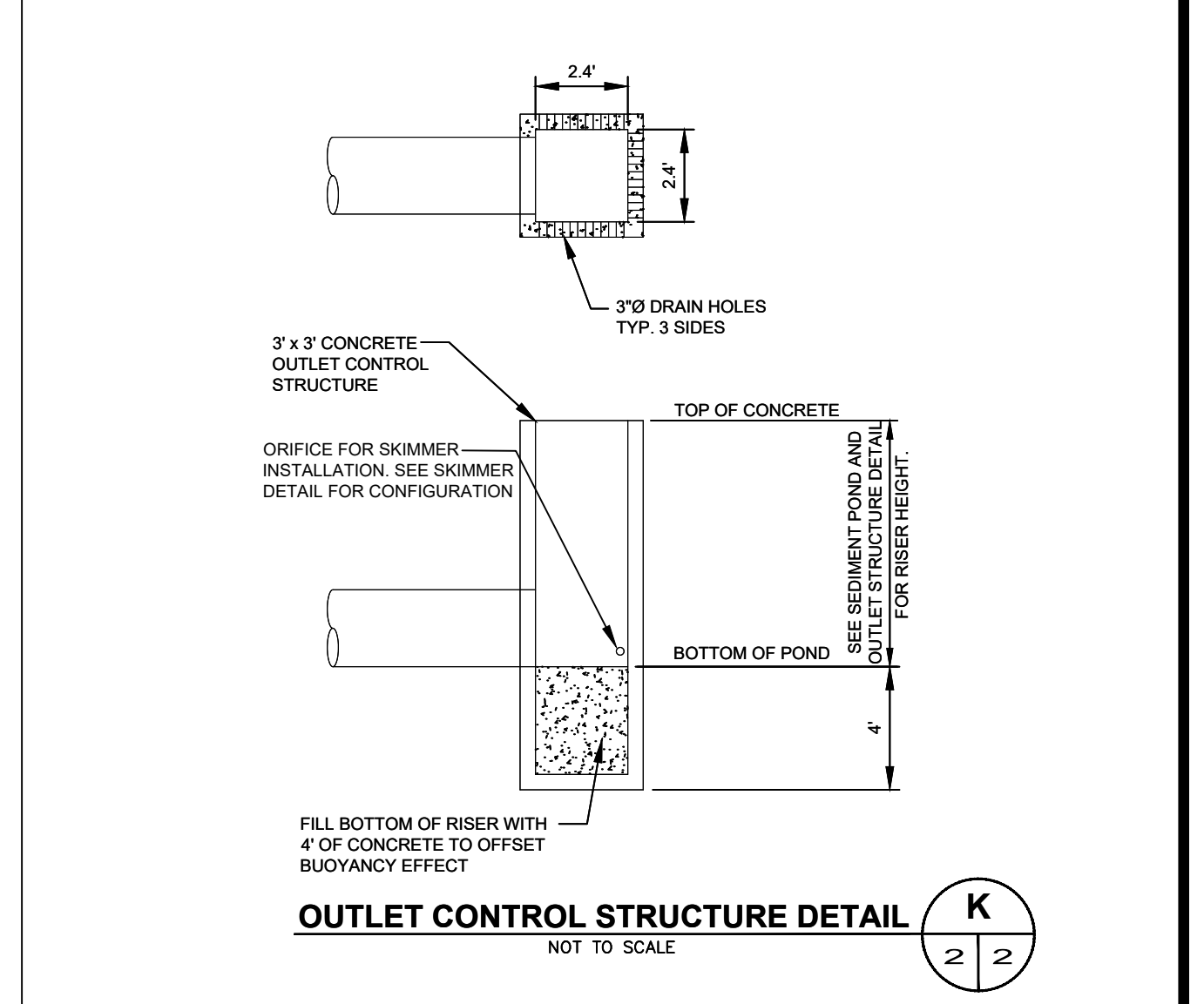


TABLE 1: PERENNIALS *Months shaded in gray represent applicable planting dates.

COMMON NAME*	BOTANICAL NAME	APPROVED SITE(S)	PLANTING RATE (lb/acre)	PLANTING LOCATION	Planting Dates
GRASSES					
Bahagrass*	Paspalum notatum	Slopes	30	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Common Bermudagrass* (Duller + full abort)	Cynodon dactylon	Shoulders, Slopes, or Medians	25	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Common Bermudagrass* (var. nuttallii)	Cynodon dactylon	Shoulders, Slopes, or Medians	30	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Coastal Panicgrass	Panicum capillare	Shoulders, Slopes, or Medians	15	Lower State	1 2 3 4 5 6 7 8 9 10 11 12
Tall Fescue	Festuca arvensis	Shoulders, Slopes, or Medians	50	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Centipedegrass	Eriochloa fasciculata	Shoulders, Slopes, or Medians	10	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
LEGUMES*					
White Clover	Trifolium repens	Shoulders, Slopes, or Medians	5	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Service Lepsedra (Scarlet weed)	Lespedeza cuneata	Slopes	50	Upper State	1 2 3 4 5 6 7 8 9 10 11 12
Service Lepsedra (Greenleafed weed)	Lespedeza cuneata	Slopes	80	Upper State	1 2 3 4 5 6 7 8 9 10 11 12

PLANTING SCHEDULE

DATE: 02/18/2020

SCALE: N.T.S.

SHEET 2 OF 4



TOLERANCES—UNLESS NOTED

FRACTIONAL: ± 1/16"
DECIMAL: ± 0.010"
ANGLE: ± 0.1°

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DATE	REVISION	BY
02/19/2020	FOR CLIENT REVIEW	JCC



EROSION AND SEDIMENT CONTROL DETAILS

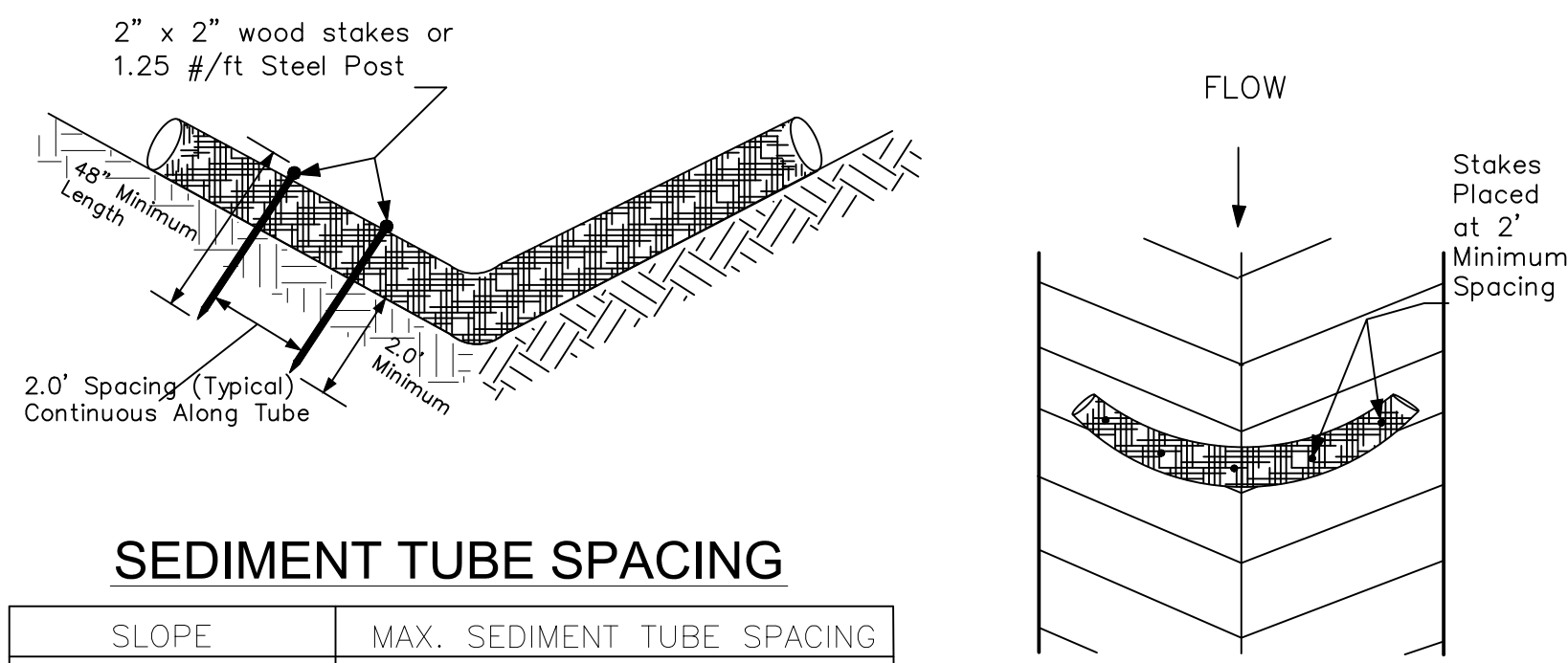
FAIRFIELD QUARRY

DATE: 02/18/2020

SCALE: N.T.S.

SHEET 2 OF 4

SEDIMENT TUBE INSTALLATION



SEDIMENT TUBE SPACING

SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150- FEET
2%	100- FEET
3%	75- FEET
4%	50- FEET
5%	40- FEET
6%	30- FEET
GREATER THAN 6%	25- FEET

PLAN SYMBOL



SEDIMENT TUBES - GENERAL NOTES

- Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.
- Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needles, and leaf mulch-filled sediment tubes are not permitted.
- The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.
- Sediment tubes, when used as checks within channels, should range between 18-inches and 24-inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.
- Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
- Sediment tubes should be staked using wooden stakes (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48-inches in length placed on 2-foot centers.
- Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before installation.
- The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.
- Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
- Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
- Sediment tubes should continue up the side slopes a minimum of 1-foot above the design flow depth of the channel.
- Install stakes at a diagonal facing incoming runoff.

SEDIMENT TUBES - INSPECTION & MAINTENANCE

- The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
- Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
- Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
- Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- Large debris, trash, and leaves should be removed from in front of tubes when found.
- If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
- Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

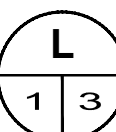
South Carolina Department of Health and Environmental Control

SEDIMENT TUBES

STANDARD DRAWING NO. FEBRUARY 2014
GENERAL NOTES DATE

TYPICAL SEDIMENT TUBE DETAIL

NOT TO SCALE



Turf Reinforcement Mats

Turf Reinforcement Mats (TRMs)

Plan Symbol

Description

Turf Reinforcement Mats are products composed primarily of nondegradable products that enhance the ability of living plants to stabilize soils. They bind with roots to reinforce the soil matrix with longevity greater than 5-years.

When and Where to Use It

Use TRMs where vegetation alone will not hold a slope or streambank. TRMs enable the use of "green" solutions in areas where only "hard" solutions such as riprap or concrete linings were viable in the past.

TRM Categories

- Type 1, Type 2, Type 3, and Type 4.

Types 1 & 2 TRMs are a strong three-dimensional stable net structure. A degradable fiber matrix may be included to provide immediate coverage for bare soil.

- Type 1** matting should be placed on slopes **2H:1V or flatter** or in channels where the calculated design shear stress is **4.0 lb/ft² or less** and the design flow velocity is **up to 10 fps**.
- Type 2** matting should be placed on slopes **1.5H:1V or flatter** or in channels where the calculated design shear stress is **6.0 lb/ft² or less** and the design flow velocity is **up to 15 fps**.
- Type 3** TRMs are a strong three-dimensional stable net structure providing sufficient thickness, strength, and void space to capture and retain soil and allow for the development of root growth and vegetation within the matrix. Matting of this type should be placed on slopes **1H:1V or flatter** or in channels where the calculated design shear stress is **8.0 lb/ft² or less** and the design flow velocity is **up to 20 fps**.
- Type 4** (High Survivability) TRMs are specially designed geosynthetics for erosion control applications on steep slopes and vegetated waterways.

- All components of Type 4 TRMs should be 100% synthetic and resistant to biological, chemical, and ultraviolet degradation.
- Matting of this type should be placed on slopes **1H:1V or greater** or in channels where the calculated design shear stress is **up to 12 lb/ft²** and the design flow velocity is **up to 25 fps**.
- This category is used when field conditions exist with high loading and/or high survivability requirements such as maintenance, structural backfills protecting critical structures, utility cuts, potential traffic areas, abrasion, higher factors of safety and/or general durability concerns.

South Carolina DHEC
Storm Water Management BMP Handbook

July 31, 2005 18

Turf Reinforcement Mats

All primary TRM matrix materials are defined as long-term, non-degradable materials designed to reduce soil erosion and assist in the growth, establishment, and protection of vegetation for a period of time exceeding 5 years.

Installation

Grade and compact areas to be protected with TRMs as indicated on the plans.

Remove large rocks, soil clods, vegetation, and other sharp objects that could keep the TRM from intimate contact with subgrade.

Prepare seedbed by loosening 2 to 3 inches of soil above final grade.

The proper installation of TRMs is different for each product, therefore the recommended installation procedure from the specific manufacturer should be followed.

When requested, a Manufacturer's Representative may be required to be on-site to oversee and approve the initial installation of the TRM. When requested, a letter from the Manufacturer approving the contractor installation may be required.

Inspection and Maintenance

- Check areas protected by TRMs for dislocation or failure every 7 calendar days and within 24-hours after each storm that produces 1/2-inch or more of rain.
- Conduct regular inspections until grasses are firmly established.
- Adhere to the pinning or stapling pattern as shown on the Manufacturer's installation sheet. If there is evidence that the TRM is not securely fastened to the soil, install extra pins or staples to inhibit the TRM from becoming dislodged.
- If washout or breakage occurs, repair all damaged areas immediately by restoring the soil on slopes or channels to its finished grade, re-apply fertilizer and seed, and replacing the appropriate TRM material as needed.

TRM Channel Design Criteria

When designing a permanent conveyance with a grassed or vegetative lining, the design should address the bare condition prior to vegetation being established. A geotextile lining may be applied to protect the conveyance during this period. It is important to use both the tractive force and the permissible velocity methods to determine the level of protection that is required.

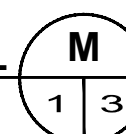
The design of TRMs is based on the anticipated shear stresses and maximum flow velocities the fabric will encounter. Once the design shear stresses and maximum flow velocities are known, a corresponding TRM that meets the conditions may be selected from the SCDOT approved products list.

South Carolina DHEC
Storm Water Management BMP Handbook

July 31, 2005 19

TURF REINFORCEMENT DETAIL

NOT TO SCALE



E	D	C	B	A
				02/19/2020 FOR CLIENT REVIEW
				DATE REVISION

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EROSION AND SEDIMENT CONTROL DETAILS

DIVISION		PLANT	
FAIRFIELD QUARRY			
BY J. COLEMAN	DATE 02/18/2020	BY B. GREEN	DATE 02/18/2020
PRJL. NO.	SCALE N.T.S.	FILE SERVER	SHEET 3 OF 4
DWG. NO.		REV.	A