

**POND AND WETLAND CONSTRUCTION NOTES:**

1. FILL MATERIAL USED FOR CONSTRUCTION OF THE POND BERMS SHALL BE CLAYEY SOIL FREE OF SOIL, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIALS, AND OBTAINED FROM SELECTED ONSITE LOCATIONS.
2. INITIAL CONSTRUCTION SHALL REQUIRE CLEARING AND GRUBBING OF THE BASE AREA, AND REMOVAL OF STANDING WATER AND OTHER UNSUITABLE BASE MATERIALS INCLUDING COARSE REFUSE, AS DEFINED BY THE ENGINEER.
3. AT THE LIMIT OF EXCAVATION UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED, PONDED WATER PUMPED OUT, AND THE BASE SHALL BE PROOF ROLLED PRIOR TO PLACEMENT OF CLAY (IN POND #1, AS REQUIRED) OR WETLAND SUBSTRATE (IN THE SETTLING POND EXPANSION AREAS).
4. IN THE EVENT THAT FILL MATERIAL IS REQUIRED FOR CONSTRUCTION OF THE PONDS, IT SHALL BE COMPOSED OF FILL MATERIAL AS DESCRIBED IN NOTE 1, ABOVE. THIS MATERIAL WILL BE PLACED IN HORIZONTAL LIFT HEIGHTS NOT EXCEEDING 8 INCHES, AND COMPACTED VIA SUCCESSIVE PASSES OF THE CONSTRUCTION EQUIPMENT UNTIL NO PUMPING IS NOTED.
5. FOR EACH LIFT, THE OPERATOR SHALL ACHIEVE COMPACTION OVER THE ENTIRE SURFACE PRIOR TO THE PLACEMENT OF ADDITIONAL LIFTS. THIS MAY REQUIRE EQUIPMENT PASSES IN A DIRECTION PERPENDICULAR TO THE BERM CENTERLINE TO ASSURE ADEQUACY (ESPECIALLY IN THE UPPER SECTIONS OF THE EMBANKMENT WHERE THE FILL IS RELATIVELY NARROW).
6. THE FINAL SURFACES (INSIDE AND OUTSIDE SLOPES) SHALL BE GRADED TO A SMOOTH, UNIFORM SLOPE AND COVERED WITH TOPSOIL MATERIAL SUITABLE FOR SUSTAINING VEGETATIVE GROWTH.
7. DURING FILL PLACEMENT, IF THE MATERIAL BECOMES SATURATED OR EXCESSIVELY WET, IT SHALL BE REMOVED AND REPLACED WITH DRY MATERIAL.
8. FOLLOWING FINAL GRADING, WETLAND AREAS SHALL BE COVERED WITH AN UNCOMPACTED 6" LAYER OF VFR SUBSTRATE MIX PRIOR TO PLANTING.

**PLANTING NOTES:**

1. ALL TREES SHALL BE REMOVED FROM: THE BOTTOM OF ALL PONDS; ALL AREAS OF FILL PLACEMENT; AND FROM THE POND EMBANKMENT.
  2. COW MANURE OR MUSHROOM MANURE COMPOST SHALL BE USED IN THE VFRs AND THE WETLAND AREA.
- GEOTEXTILE NOTES:**
1. GEOTEXTILES SHALL CONFORM TO THE REQUIREMENTS LISTED IN THE TABLE BELOW. TYPICAL GEOTEXTILES INCLUDE AMOCO 4508, EXXON TYPAR 3801, OR EQUIVALENT.
  2. GEOTEXTILE SHALL BE PLACED ON A REASONABLY SMOOTH SURFACE FREE OF LOOSE ROCK AND CLODS, HOLES, DEPRESSIONS, PROJECTIONS, MUDDY CONDITIONS, AND STANDING OR FLOWING WATER.
  3. THE GEOTEXTILE SHALL BE LOOSELY LAID IN SUCH A MANNER THAT IT WILL CONFORM TO SURFACE IRREGULARITIES WHEN MATERIAL IS PLACED OVER IT.
  4. THE GEOTEXTILE SHALL BE JOINED BY MACHINE SEWING USING THREAD. THE SEWN OVERLAP SHALL BE 6 INCHES AND THE SEWING SHALL CONSIST OF TWO PARALLEL STITCHED ROWS AT A SPACING OF APPROX. 1 INCH USING A LOOK-TYPE STITCH. EACH ROW OF STITCHING SHALL BE LOCATED A MINIMUM OF 2 INCHES FROM THE GEOTEXTILE EDGE.

**REQUIREMENTS FOR NONWOVEN GEOTEXTILES:**

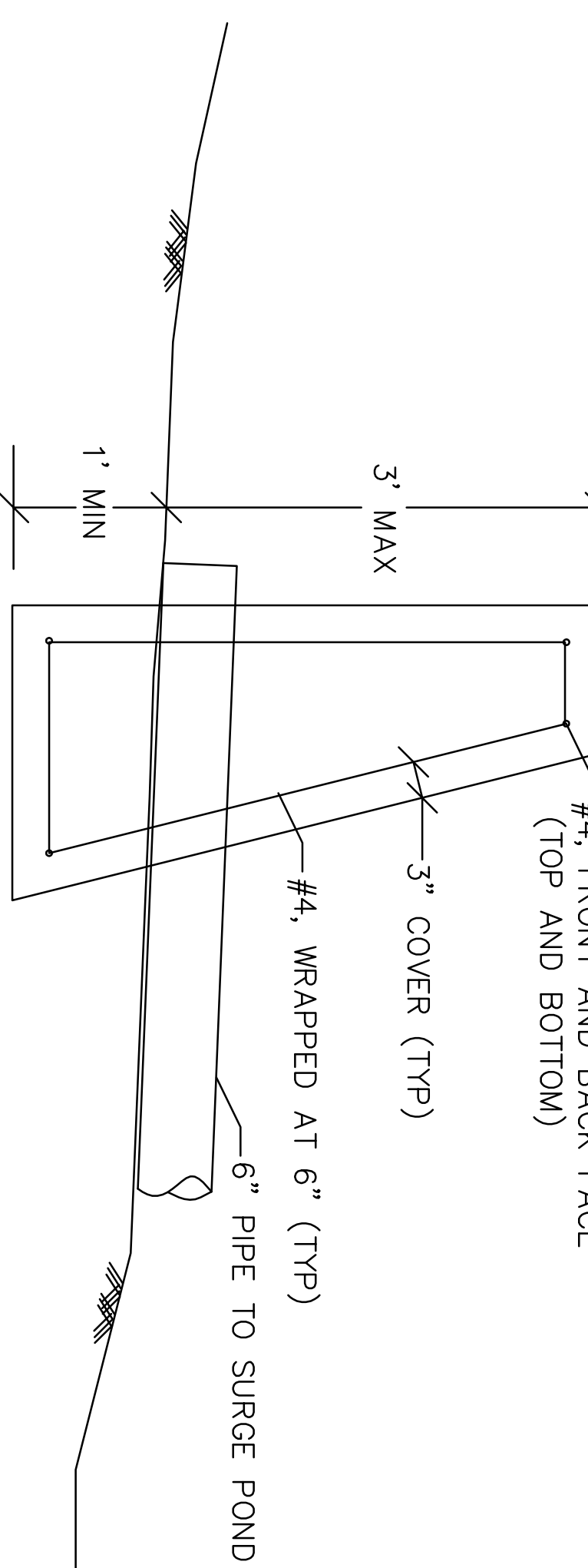
PROPERTY	TEST METHOD	MINIMUM AVERAGE ROLL VALUES (M.A.R.V.)	REQUIREMENT
TENSILE STRENGTH	ASTM D 4832	(LBS)	200 LBS. MIN.
BURSTING STRENGTH	ASTM D 3786	(PSI)	400 PSI MIN.
ELONGATION AT FAILURE	ASTM D 4832	(%)	350% MIN.
UV DEGRADATION (150 HOURS)	ASTM D 4833	(%)	90% MIN.
APPARENT OPENING SIZE PERMITTIVITY	ASTM D 4751 (U.S. SIEVE)		#70 MAX. 6.70 MIN.
	ASTM D 4491 (1"/SEC)		

**VFR SUBSTRATE MIX NOTES:**

1. VFR MIXTURE SHALL BE PLACED WITHOUT COMPACTION ABOVE THE LIMESTONE BASE. NO EQUIPMENT SHALL BE RUN OVER THE ORGANIC MATERIAL.
2. VFR MATERIAL SHALL BE PREMIXED ON AN EXTERNAL PAD BEFORE PLACEMENT OVER 4" OF LOOSELY PLACED 'SHOT' CHOPPED HAY.
3. NO MIXING SHALL BE PERMITTED WITHIN THE VFR CELL. MIXING SHOULD BE DONE TO PRODUCE A HOMOGENEOUS SUBSTRATE WITH MINIMAL SIZE SEGREGATION.
4. THE VFR MATERIAL SHALL BE 'PAINTED' INTO THE POND AREA BY STARTING IN ONE END AND BACKING AWAY TOWARD THE EXIT. ONCE PLACED, NO EQUIPMENT SHALL PASS OVER THE VFR MIXTURE. THE FINAL SUBSTRATE SURFACE SHALL BE LEVEL W/ NO POTHOLES, RIDGES, LUMPS OR SEGREGATION AND 1" +/- 6" BELOW THE NORMAL POOL LEVEL.
5. ANY RAMPS USED DURING CONSTRUCTION MUST BE REMOVED BEFORE COMPLETION OF THE SUBSTRATE PLACEMENT AND THE COMPACTED SUBSTRATE MATERIAL REMOVED/REPLACED.
6. THE 30" THICK VFR SUBSTRATE LAYERS SHALL BE COMPOSED OF THE FOLLOWING COMPONENTS, BY VOLUME, WITH VOLUME MEASURED BY LOADER BUCKETS:

COMPONENTS	VOLUME %
HAY (TIMOTHY/ALFALFA - TO BE SHREDDED BY SAW, OR SIMILAR)	15
HARDWOOD CHIPS/SHREDS OR SLATS (PREFERABLY AGED)	40
LIMESTONE (MIN. 85% CARBONATE, PENNDOT 2A)	20
FRESH COW MANURE (W/ BEDDING HAY/STRAW/SANDUST, NO PAPER)	10
MUSHROOM MANURE (NO PAPER)	15

**CONCRETE IN-STREAM DAM**



**CONCRETE IN-STREAM DAM**

1. A SMALL CONCRETE DAM SHALL BE CONSTRUCTED AT THE CENTERLINE OF THE UDDY-14 TRIBUTARY TO POOL WATER FOR COLLECTION AND TREATMENT.
2. THIS DAM SHALL NOT IMPOUND MORE THAN 3' OF WATER.
3. THE DAM SHALL BE CONSTRUCTED OF 3000 PSI CONCRETE, WITH APPROPRIATE REINFORCING, AS SHOWN ON THE SKETCH ABOVE.
4. THE DAM SHALL BE KEVED INTO THE STREAM BANK ON BOTH SIDES SUCH THAT MINIMAL LEAKAGE AROUND THE PERIMETER IS NOTED. ALL FLOW FROM THE STREAM SHALL PASS THROUGH THE COLLECTION PIPE OR OVER THE TOP OF THE CONCRETE DAM.

**PIPING NOTES:**

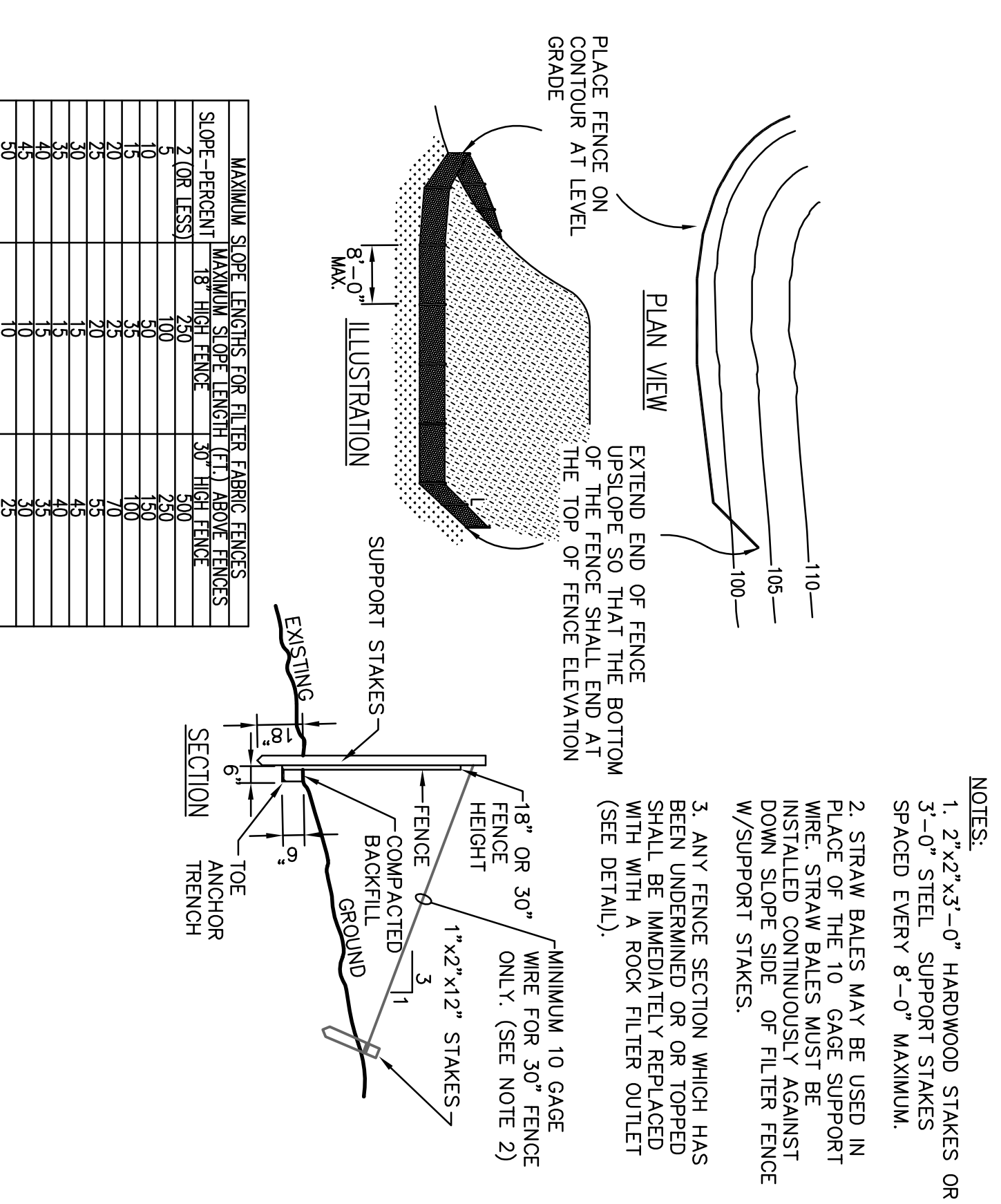
1. ALL PIPES SHALL BE SCHEDULE 40 PVC OR HDPE.
2. PIPE SHALL BE STORED ON A RELATIVELY FLAT SURFACE.
3. PIPE SHALL BE LAID SO THAT THERE IS NO REVERSAL OF GRADES BETWEEN JOINTS.
4. HEAVY DUTY THERMOPLASTIC VALVES SHALL BE USED. ALL VALVES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PURCHASE.
5. STEM EXTENSIONS SHALL CONSIST OF AN APPROPRIATE DIAMETER PVC CASING WITH A LOCKING COVER.
6. NECESSARY HOLES WILL BE CONSTRUCTED AS SHOWN ON THE PIPING DETAIL.
7. PIPES TO BE JOINED WILL BE CLEAN AND FREE FROM ANY BURRS.
8. CONTRACTOR SHALL USE PVC PRIMER PRIOR TO THE APPLICATION OF SOLVENT CEMENT.
9. THE PIPE SHALL BE FIRMLY AND UNIFORMLY PLACED ON A COMPACTED EARTH/FILL BEDDING OF AMPLE BEARING STRENGTH TO SUPPORT THE PIPE WITHOUT SIGNIFICANT SETTLEMENT.
10. EARTH/FILL MATERIALS USED FOR BEDDING SHALL BE FREE OF ROCKS OR STONES GREATER THAN 1 INCH DIAMETER AND EARTH CLODS GREATER THAN 2 INCH DIAMETER.
11. A DEEPENED GROOVE OF AMPLE LENGTH AND DEPTH SHALL BE EXCAVATED AT EACH JOINT OR FITTING LOCATION SO THAT THE PIPE IS UNIFORMLY SUPPORTED ALONG ITS ENTIRE LENGTH.

**SEEDING TABLE**

SEED MIXTURE (SPECIES)	RATE OF APPLICATION 100% OF PLUS LBS./ACRE	SEED QUALITY MINIMUM % GERMINATION	SEED QUALITY MINIMUM PURITY %
BIRDFOOT TREFOIL	6	90	96
REDTOP	3	85	92
PERENNIAL RYE	10	90	98
TALL FESCUE	10	90	97

**MULCHING NOTES (TO BE APPLIED AT A RATE OF 2.5 TONS / ACRE)**

1. STRAW SHALL BE UNROTTED, SMALL, GRAIN FREE OF ALL KINDS OF WEEDS AND PROHIBITIVE NOXIOUS WEEDS SUCH AS: THISTLES, JOHNSONGRASS AND QUACKGRASS.
2. WOOD CELLULOSE SHALL BE GREEN DYED AND AIR-DRIED WOOD CELLULOSUS FIBERS, CONTAINING NO GROWTH OR GERMINATION INHIBITING SUBSTANCES, IN PACKAGES NOT EXCEEDING ONE HUNDRED POUNDS NET WEIGHT SHOWN ON PACKAGE AND MEETING THE FOLLOWING:
  - A. MOISTURE CONTENT: 14% +/- 3%
  - B. ORGANIC MATTER (OVEN DRIED BASIS): 98.6 +/- 0.2%
  - C. ASH CONTENT: 1.4% +/- 0.2%
  - D. WATER HOLDING CAPACITY: 1000% MINIMUM
3. SHREDDED BARK SHALL BE SUITABLE FIBROUS GROUND, SHREDDED OR CHUNKS, AGED HARDWOOD BARK, FREE FROM WAXLE, NOXIOUS WEED SEEDS AND INSECT LIFE NOT DECOMPOSED AND BETWEEN 1/4" AND 2" IN DIMENSION TOXIC TO PLANT LIFE AND NOT MORE THAN 0.75% OF SAPONIFIABLE ACIDS.
4. A. EMULSIFIED ASPHALT SHALL CONFORM TO PADOT STANDARDS CONTAINING NO SOLVENTS OR DILUTING AGENTS TOXIC TO PLANT LIFE AND NOT MORE THAN 0.75% OF SAPONIFIABLE ACIDS.
- B. CUTBACK ASPHALT SHALL CONFORM TO PADOT STANDARDS.
- C. NON ASPHALTIC EMULSION SHALL BE NATURAL VEGETABLE GUM BLENDED WITH JELLING AND HARDENING AGENTS (TERRA TACK AR) AS MANUFACTURED BY GRASS GROWERS COMPANY OR EQUAL.
- D. OTHER MULCH BINDERS AS APPROVED BY THE PAPER BUREAU OF LAND AND WATER CONSERVATION.



**SCALE 1" = 10'**

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**NOTES:**

1. 2"x2"x3"-0" HARDWOOD STAKES OR 3"-0" STEEL SUPPORT STAKES SPACED EVERY 8'-0" MAXIMUM.
2. STRAW BALES MAY BE USED IN PLACE OF THE 10 GAGE SUPPORT INSTALLED CONTINUOUSLY AGAINST W/SUPPORT STAKES.
3. ANY FENCE SECTION WHICH HAS SHALL BE IMMEDIATELY REPLACED WITH WITH A ROCK FILTER OUTLET (SEE DETAIL).

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**CONSULTANTS**

**JUDY 14 AMD COLLECTION/TREATMENT PROJECT**  
INDIANA COUNTY, PA  
PROJECT NAME: BLACKLICK CREEK WATERSHED ASSOC.  
OWNER: HOMER CITY, PA

**OWNER:**

REV.	DATE	DESCRIPTION
06/15/06	06/15/06	
06-1300-0406		
N.T.S.		
DGM		
DGM		
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**DETAILS**

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