

ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF THE TREE) IN INCHES.

2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.

DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.

DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.

#### NOTES:

- 1. TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PRESERVED DURING AND AFTER CONSTRUCTION AND IN ACCORDANCE WITH STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY. THE CONTRACTOR SHALL TAKE WHATEVER ADDITIONAL MEASURES NECESSARY TO PROTECT EXISTING TREES TO REMAIN AGAINST UNNECESSARY CUTTING, BREAKING OF ROOTS, SKINNING AND BRUISING OF BARK, SMOTHERING OF TREES AND STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIAL WITHIN DRIP LINE, EXCESS FOOT OR VEHICLE TRAFFIC OR PARKING OF VEHICLES WITHIN DRIP LINE.
- 2. A FOUR FOOT HIGH SNOW FENCE SHALL BE PLACED BEYOND THE CRITICAL ROOT RADIUS OF TREES DESIGNATED TO BE PRESERVED, TREE ROOT SYSTEMS COMMONLY EXTEND WELL BEYOND THE DRIP LINE. INDIVIDUAL TREES TO BE PRESERVED SHALL BE COMPLETELY ENCIRCLED WITH FENCING.

WILL PRESERVE MANY OF THE IMPORTANT FEEDER ROOTS.

TREE PROECTION—UNDERGROUND UTILITY INSTALLATION

FABRIC SECURED TO POST

WITH METAL FASTENERS

BETWEEN FASTENER AND

SILT ACCUMULATION

AND REINFORCEMENT -

FENCE POST

SILT FENCE

LAWN TYPE INLET FILTER PROTECTION

NOT TO SCALE

— INLET GRATE

WOOD STAKE

- HAY BALES STAKED TO

1. CONTRACTOR TO REMOVE

HAYBALES AND STAKES JUST

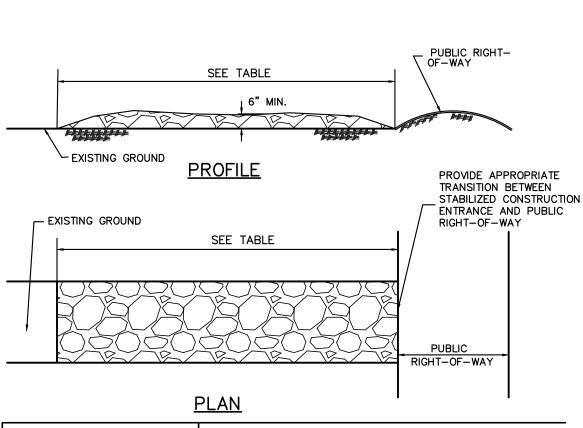
PRIOR TO FINISH GRADING

(SPACING 8'-0" ON CENTER)

DRAWSTRING RUNNING THROUGH FABRIC ALONG TOP OF FENCE

- 3. BOARDS OR FENCING SHALL NOT BE NAILED TO TREES DURING CONSTRUCTION.
- 4. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE PROTECTED ROOT ZONE (PRZ).
- 5. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP, SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LICENSED TREE EXPERT.
- 6. TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE AS NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH AS CLOSE AS POSSIBLE TO THE BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO FAR BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS, AND ROT. REMOVAL OF A "V" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.
- 7. EXISTING TREES TO REMAIN WITHIN THE LIMITS OF THE CONTRACT WORK SHALL BE REGULARLY WATERED TO MAINTAIN THEIR HEALTH.
- 8. UTILITIES SHALL BE TUNNELED UNDER TREES TO PREVENT CUTTING OF IMPORTANT FEEDER ROOTS.

# TREE PROTECTION DETAIL



PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED		
	COURSE GRAINED SOILS	FINE GRAINED SOILS	
0 TO 2%	50 FEET	100 FEET	
2% TO 5%	100 FEET	200 FEET	
> 5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE, AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY		

### CONSTRUCTION SPECIFICATIONS

- STONE SIZE USE ASTM C-33, SIZE NO. 2 OR 3. USE CLEAN CRUSHED ANGULAR STONES
   LENGTH 50 FEET MINIMUM WHERE SOILS ARE COURSE GRAINED (SAND OR GRAVEL),
   OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS)
- 3. THICKNESS NOT LESS THAN 6 INCHES.

MUST BE REMOVED IMMEDIATELY

- WIDTH NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
   WASHING WHEN NECESSARY. WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAIN INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATER COURSE THROUGH
- USE OF SAND BAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS.

  6. MAINTENANCE THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT—OF—WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT—OF—WAY
- 7. AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE SHALL BE INSTALLED BEFORE INSTALLATION.
- 8. A CONSTRUCTION ENTRANCE IS REQUIRED TO BE CONSTRUCTED AT EDGE OF PAVEMENT BETWEEN EACH CONSTRUCTED SECTION AND PHASE.

# STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCA

# CONSTRUCTION SCHEDULE AND PROCEDURE FOR IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES

- 1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, & INLET PROTECTION AS SHOWN. (1 WEEK)
- 2. STRIP TOPSOIL, CLEAR BRUSH, ROUGH GRADE, & PREPARE SUBGRADE. INSTALL STORM SEWER STRUCTURES & BASINS. (6 WEEKS)
- 3. INSTALL INLET PROTECTION ON PROPOSED INLETS (3 DAYS)
- 4. INSTALL IRRIGATION SYSTEM & APPURTENANCES. (3 WEEKS)
- 5. INSTALL PAVED WALKWAYS & PARKING AREA (3 WEEKS)
- 6. GRADE SITE PRIOR TO TOPSOIL PLACEMENT (1 WEEK)
- 7. DEEP SCARIFY SITE IN ACCORDANCE WITH SOIL COMPACTION NOTES (3 DAYS)
- 8. ESTABLISH FINISHED GRADE, SPREAD TOPSOIL AND PROVIDE PERMANENT VEGETATIVE COVER & LANDSCAPING. (2 WEEKS)
- VEGETATIVE COVER & LANDSCAPING. (2 WEEKS)

  9. REMOVE INLET PROTECTION AND SILT FENCE AFTER ALL DISTURBED AREAS HAVE

#### CONSTRUCTION SCHEDULE PROVIDED FOR SOIL EROSION CONTROL PURPOSES ONLY.

#### **GENERAL SEEDDING NOTES:**

BEEN STABILIZED. (ON GOING)

- 1. STEPS SHALL BE TAKEN TO MINIMIZE SOIL COMPACTION. ALL COMPACTED AREAS SHALL BE RE-TILLED TO A DEPTH OF 4-6 INCHES PRIOR TO SEED APPLICATION.
- 2. SEED SHALL BE PLANTED USING A SLIT SEEDER OR SEED DRILL. HYDRO SEEDING IS NOT ACCEPTABLE EXCEPT ON STEEP SLOPES.
- 3. ALL SEED SHALL BE CURRENT CROP CERTIFIED. APPROVED BY THE TOWNSHIP OR FRENCH & PARRELLO.

#### **SOIL COMPACTION NOTES:**

1. PRIOR TO PLACEMENT OF TOPSOIL & ESTABLISHMENT OF PERMANENT COVER, CONTRACTOR SHALL PROVIDE SOIL RESTORATION IN ACCORDANCE WITH "THE STANDARDS FOR SOIL EROSION & SEDIMENT CONTROL IN NEW JERSEY", LATEST EDITION. RESTORATION SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MIN DEPTH) OR IN THE ALTERNATIVE, ANOTHER METHOD AS APPROVED BY THE ENGINEER

#### **DUST CONTROL NOTES:**

REFER TO "THE STANDARDS FOR SOIL EROSION & SEDIMENT CONTROL IN NEW JERSEY", LATEST ADDITION FOR REFERENCE

The following methods should be considered for controlling dust:

Mulches - See Standard for Stabilization with Mulches Only (pg. 5-1)

<u>Vegetative Cover</u> - See Standard for Temporary Vegetative Cover (pg. 7-1), Permanent Vegetative Cover for Soil Stabilization (pg. 4-1), and Permanent Stabilization with Sod (pg. 6-1)

Spray-On Adhesives - On mineral soils (not effective on muck soils). Keep traffic off these areas.

#### Table 16-1: Dust Control Materials

MATERIAL	WATER	TYPE OF	APPLY
MATERIAL	DILUTION	NOZZLE	GALLONS/ACRE
Anionic asphalt emulsion	<b>7</b> :1	Coarse Spray	1200
Latex emulsion	12.5:1	Fine Spray	235
Resin in water	4:1	Fine Spray	300
Polyacrylamide (PAM) - spray on Polyacrylamide (PAM) - dry spray	Apply according to manufacturer's instructions.  May also be used as an additive to sediment basins to flocculate and precipitate suspended colloids.  See Sediment Basin standard (pg. 26-1)		
Acidulated Soy Bean Soap Stick	None	Coarse Spray	1200

<u>Tillage</u> - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, and spring-toothed harrows are examples of equipment which may produce the desired effect.

### Sprinkling - Site is sprinkled until the surface is wet.

<u>Barriers</u> - Solid board fences, snow fences, burlap fences, crate walls, bales of hay, and similar material can be used to control air currents and soil blowing.

<u>Calcium Chloride</u> - Shall be in the form of loose, dry granulates of flakes fine enough to feed through commonly used spreaders at a rate that will keep surface moist but not cause pollution or plant damage. If used on steeper slopes, then use other practices to prevent washing into streams, or accumulation around plants.

Stone - Cover surface with crushed stone or coarse gravel.

# MORRIS COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES

- 1. All Soil Erosion and Sediment Control Practices will be installed in accordance with the <u>Standards for Soil Erosion and Sediment Control in New Jersey</u>, and will be in place prior to any major soil disturbance, or in their proper sequence and maintained until permanent protection is established.
- 2. Any disturbed area that will be left exposed for more than thirty (14) days and not subject to construction traffic shall immediately receive a temporary seeding. If the season prohibits temporary seeding, the disturbed areas will be mulched with straw or hay and tacked in accordance with the New Jersey Standards. See Note 22 below.
- 3. Permanent vegetation is to be established on exposed areas within ten (10) days after final grading. Mulch is to be used for protection until vegetation is established. See Note 23 below.
- 4. Immediately following initial disturbance or rough grading. All critical areas (steep slopes, sandy soils, wet conditions) subject to erosion will receive a temporary seeding in accordance with Note 22 below.
- 5. Temporary Diversion Berms are to be installed on all cleared roadways and easement areas. See the Diversion Detail.
- 6. Permanent Seeding and stabilization to be in accordance with the "Standards for Permanent Vegetative Cover for Soil Stabilization".

  Specified rates and locations shall be on the approved Soil Erosion and Sediment Control Plan.
- 7. The site shall at all times be graded and maintained so that all stormwater runoff is diverted to Soil Erosion and Sediment Control
- 8. All sedimentation structures (silt fence, inlet filters, and sediment basins) will be inspected and maintained daily.
- 9. Stockpiles shall not be located within 50' of a floodplain, slope, drainage facility, or roadway. All stockpiles bases shall have a silt fence
- 10. A Stabilized Construction Access will be installed, whenever an earthen road intersects with a paved road. See the Stabilized Construction Access detail and chart for dimensions.
- 11. All new roadways will be treated with suitable subbase upon establishment of final grade elevations.
- 12. Paved roadways must be kept clean at all times.
- 13. Before discharge points become operational, all storm drainage outlets will be stabilized as required.
- 14. All dewatering operations must be discharged directly into a sediment filter area. The filter should be composed of a fabric or approved
- material. See the Dewatering detail.
- 15. All sediment basins will be cleaned when the capacity has been reduced by 50%. A clean out elevation will be identified on the plan and a marker installed on the site.
- 16. During and after construction, the applicant will be responsible for the maintenance and upkeep of the drainage structures, vegetation
- cover, and any other measures deemed appropriate by the District. Said responsibility will end when completed work is approved by the Morris County Soil Conservation District.
- 17. All trees outside the disturbance limit indicated on the subject plan or those trees within the disturbance area which are designated to remain after construction are to be protected with tree protection devices. See the Tree Protection detail.
- 18. The Morris County Soil Conservation District may request additional measures to minimize on site or off site erosion problems during construction.
- 19. The Morris County Soil Conservation District must be notified, in writing, at least 48 hours prior to any land disturbance, and a pre—construction meeting held.
- 20. Contractor to set up a meeting with the inspector for periodic inspections of the Temporary Sediment Basin prior to and during its

#### construction.

- 21. Topsoil Stockpile Protection
  Apply Ground Limestone at a rate of 90 lbs per 1000 sq. ft.
  Apply fertilizer (10-20-10) at a rate of 11 lbs. per 1000 sq. ft.
- Apply Perennial Ryegrass seed at 1 lb. per 1000 sq. ft.
- Mulch stockpile with straw or hay at a rate of 90 lbs. per 1000 sq. ft.

  Apply a liquid mulch binder or tack to straw or hay mulch
- Apply a liquid mulch binder or tack to straw or hay mulch.

  Property entrench a silt fence at the bottom of the stockpile
- 22. Temporary Stabilization Specifications
  Apply Ground Limestone at a rate of 90 lbs per 1000 sq. ft.
- Apply fertilizer (10-20-10) at a rate of 11 lbs. per 1000 sq. ft.
- Apply Perennial Ryegrass seed at 1 lb. per 1000 sq. ft. Mulch disturbed soil with straw or hay at a rate of 90 lbs. per 1000 sq. ft.
- Apply a liquid mulch binder or tack to straw or hay mulch.

DISTRICT AND A PRE-CONSTRUCTION MEETING HELD.

- 23. Permanent Stabilization Specifications
- Apply topsoil to a depth of 5 inches (unsettled).

  Apply Ground Limestone at a rate of 90 lbs per 1000 sq. ft. and work four inches into soil.
- Apply fertilizer (10-20-10) at a of rate 11 lbs. per 1000 sq. ft.

  Apply Hard Fescue seed at 2.7 lbs. per 1000 sq. ft. and Creeping Red Fescue see at 0.7 lbs. per 1000 sq. ft. and Perennial Ryegrass
- seed at 0.25 lbs. per 1000 sq. ft.

  Mulch stockpile with straw or hay at a rate of 90 lbs. per 1000 sq. ft.

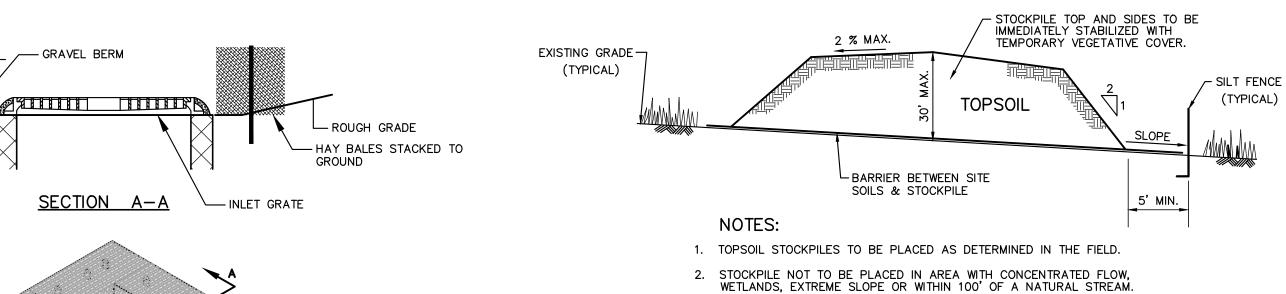
  Apply a liquid mulch binder or tack to straw or hay mulch.

\*NOTE: 48 HOURS PRIOR TO ANY SOIL DISTURBANCE, NOTICE IN WRITING, SHALL BE GIVEN TO THE MORRIS COUNTY SOIL CONSERVATION

## MORRIS COUNTY SOIL CONSERVATION DISTRICT

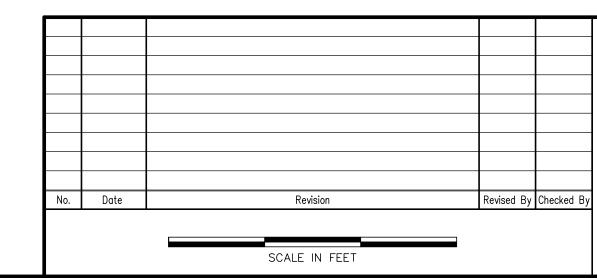
- NOTES FOR ROAD WORK

  1. The Contractor shall prepare a plan for the proper dewatering of each stream crossing prior to excavating the stream bed. Plan shall be forwarded to the engineer and Morris County Soil Conservation District for approval. The District shall be notified for inspection prior to each
- 2. Any areas used for the Contractor's staging, including but not limited to, temporary storage of stockpiled materials (e.g. crushed stone, quarry process stone, select fill, excavated materials, etc.) shall be entirely protected by a silt fence along the low elevation side to control sediment runoff.
- 3. Prior to construction, the contractor shall be responsible for notifying the Morris County Soil Conservation District of any staging and/or stockpile location areas and for obtaining a Soil Erosion and Sediment Control Certification for these areas.
- 4. A crushed stone, vehicle wheel—cleaning blanket shall be installed at the Contractor's staging yard and/or stockpile areas to prevent off—site tracing of sediment by construction vehicles onto public roads. Blanket shall be 15' x 50' x 6" (minimum), crushed stone 2-1/2" in diameter. Said blanket shall be underlain with a suitable synthetic sediment filter fabric and maintained in good order.



TEMPORARY SOIL STOCKPILE

NOT TO SCALE





# SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS

PITNEY PARK

LOT 1.01 BLOCK 131.01

TOWNSHIP OF MENDHAM
MORRIS COUNTY NEW JERSEY

DATE: DESIGNED BY: SCALE: PROJECT NUMBER: 10/27/2020 SKW AS NOTED 13311.001-T15

DRAWN BY: CHECKED BY: FIELD BOOK SHEET:

SKW DFK 4 of 5

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