SECTION 1200

LANDSCAPE
NOTE:
PLANT RECOMMENDATIONS TO BE MADE ON A PROJECT BY PROJECT BASIS.

SECTION A-A
THIS SECTION IS TO BE USED AS A GUIDE ONLY.
EACH ROCK CUT SHOULD RECEIVE INDIVIDUAL INVESTIGATION.

TYPICAL METHOD FOR BENCH PLANTING ON ROCK CUT SECTION
VIRGINIA DEPARTMENT OF TRANSPORTATION
CUT SLOPES STEEPER THAN 2:1 SHALL BE GROOVED IN ACCORDANCE WITH DETAILS SHOWN.

TOP OF CUT

GROOVES IN HORIZONTAL PLANE

DITCH LINE

ELEVATION

SECTION A-A

TYPICAL METHOD FOR HORIZONTAL GROOVING CUT SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION
PLANTING WITH BAR

1. INSERT BAR AT ANGLE SHOWN. PUSH FORWARD TO UPRIGHT POSITION.
2. REMOVE BAR. PLACE SEEDLING AT CORRECT DEPTH.
3. INSERT BAR 2 INCHES TOWARD PLANTER FROM SEEDLING.
4. PULL HANDLE OF BAR TOWARD PLANTER FIRMING SOIL AT BOTTOM OF ROOTS.
5. PUSH HANDLE OF BAR FORWARD FROM PLANTER FIRMING SOIL AT TOP OF ROOTS.
6. INSERT BAR 2 INCHES FROM LAST HOLE.
7. PUSH FORWARD THEN PULL BACKWARD FILLING HOLE.
8. FILL IN LAST HOLE BY STAMPING WITH THE FEET.
9. FIRM SOIL AROUND SEEDLING WITH THE FEET.

CORRECT AND INCORRECT DEPTHS

CORRECT AT SAME DEPTH OR 1/8" DEEPER THAN IT GREW IN NURSERY.
INCORRECT TOO DEEP. ROOTS BENT.
INCORRECT TOO SHALLOW. ROOTS EXPOSED.

HANDLING SEEDLING IN FIELD.

INCORRECT ROOTS DRY OUT IN HAND.
**GENERAL NOTES:**

1. SEE LANDSCAPE SUMMARY SHEET FOR PIT SIZES.
2. ROOT BALL SHALL BE POSITIONED LEVEL WITH FINISHED GRADE, SOIL MIXTURE SHALL TAPER ONTO BUT NOT OVER TOP OF THE ROOT BALL. MULCH SHALL EXTEND AT THE PROPER DEPTH OVER THE ENTIRE ROOT BALL AND PLANTING PIT, AND SHALL BE HAND TAPERED TO THE BASE OF ALL TRUNKS AND STEMS AFTER SPREADING.

3. THIS RULE SHALL GOVERN WITH THE FOLLOWING EXCEPTIONS:
   A. SLOPE PLANTINGS - SEE SLOPE PLANTING DETAILS
   B. INCLUSION OF PIT DRAINAGE SYSTEM - POSITION TOP OF ROOT BALL THE SAME AS FINISHED GRADE
   C. TREE GRATE PLANTING - SEE TREE GRATE PLANTING DETAILS IN PLANS.

**PLANTING DETAILS**

**Virginia Department of Transportation**

1201.04
STAKING, GUying

STAKES WILL BE DRIVEN OUTSIDE THE BALL OR ROOT AREA

ATTACH ABOVE THE FIRST BRANCH

2'' X 2'' X 6'-0''
LONG STAKE

DEPTH OF STAKES SHALL BE 2'-0''

WIRE

**Cut loose and drop root ball wrapping materials to the bottom of the pit (typical) **

** Removal of binding materials from trunks and stems, and metal cages from root balls shall conform to the current road & bridge specs. **

DOUBLE STAKING & STAKE PLACEMENT
DECIDUOUS TREES LESS THAN 2'' IN CALIPER
EVERGREEN TREES LESS THAN 4 FEET IN HEIGHT
SHRUBS 4 FEET OR MORE IN HEIGHT.

TRIPLE - GUying
DECIDUOUS TREES 2'' IN CALIPER OR GREATER
EVERGREEN TREES 4 FEET IN HEIGHT OR GREATER

GENERAL NOTES
1. ALL DECIDUOUS TREES OVER 4 FT. IN HEIGHT AND ALL EVERGREEN TREES OVER 4 FT. IN HEIGHT OR TALLER SHALL BE STAKED AND GUIED WITH 3 STAKES AS SHOWN.
2. MULTIPLE STEMMED DECIDUOUS TREES 4 FT. IN HEIGHT SHALL BE STAKED WITH 3 STAKES IN SUCH A MANNER AS TO STABILIZE 3 MAINSTEMS.
3. THE WOOD STAKES SHALL BE 2''X2''X6'-0'' LONG DRESSED HARDWOOD AND DECAY RESISTANT.

THE WIRE TIES SHALL BE 14 GAUGE GALVANIZED WIRE, AND BE PROVIDED WITH A ONE FOOT PIECE OF GREEN RUBBER HOSE PLACED TO PREVENT INJURY TO THE BARK. THERE SHOULD BE A 1" - 3" SWAY IN THE TREE (THE WIRES SHOULD NOT BE PULLED TIGHT) FOR BEST ESTABLISHMENT. OTHER ANCHORING METHODS AND MATERIALS MAY BE APPROVED FOR USE BY THE ENGINEER.

SPECIFICATION REFERENCE
605
244

PLANTING DETAILS
VIRGINIA DEPARTMENT OF TRANSPORTATION

1201.05
PLANTING, STAKING, GUYING

GENERAL NOTES

1. ALL DECIDUOUS TREES 2'' IN CALIPER OR MORE, AND ALL EVERGREEN TREES OVER 4'' IN HEIGHT SHALL BE STAKED AND GUYED AS SHOWN.

2. MULTIPLE STEMMED DECIDUOUS TREES OVER 4'' IN HEIGHT SHALL BE STAKED WITH 3 STAKES IN SUCH A MANNER AS TO STABILIZE 3 MAINSTEMS.

3. THE WOOD STAKES SHALL BE CONSTRUCTION GRADE, ROUGH OR DRESS, OF GOOD HARDWOOD, DECAY RESISTANT, AND OF THE SIZE INDICATED IN THE DETAILS.

4. THE WIRE TIES SHALL BE 14 GAUGE GALVANIZED WIRE OR OTHER APPROVED MATERIAL AND BE PROVIDED WITH A 1 PIECE OF GREEN RUBBER HOSE PLACED TO PREVENT INJURY TO THE BARK. THERE SHOULD BE A 1'-3'' SWAY IN THE TREE (THE WIRES SHOULD NOT BE PULLED TIGHT) FOR BEST ESTABLISHMENT. OTHER ANCHORING METHODS AND MATERIALS MAY BE APPROVED FOR USE BY THE ENGINEER.

5. ON SLOPES STEEPER THAN 3:1, THE FRONT CENTER OF THE PIT SHALL BE MODIFIED WHEN REQUIRED TO INCLUDE A "V" CUT THE FULL DEPTH OF THE PIT. THE PIT SHALL BE DUG 2'' DEEPER THAN SHOWN IN THE SUMMARY SHEET AND BACK-FILLED WITH 2'' OF #357 AGGREGATE DAYLIGHTED TO THE SLOPE FACE, AND COVERED WITH GEOTEXTILE FABRIC PRIOR TO BACK-FILLING WITH SOIL MIXTURE.

SLOPE PLANTING DETAILS

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
203
245
605
FERTILIZER PLACEMENT

BALLED & BURLAPPED & CONTAINER PLANTS

PLACE FERTILIZER HERE, SPREAD EVENLY AROUND SURFACE OF ROOT BALL

3" MULCH

BARE ROOT PLANTS WITHOUT TAPROOT

PLACE FERTILIZER HERE, SPREAD EVENLY AROUND SURFACE OF ROOT BALL

3" MULCH

BARE ROOT PLANTS WITH TAPROOT

FERTILIZER MATERIALS

FERTILIZER MATERIALS SHALL CONFORM TO THE SECTION 244.02 (d) OF THE ROOT, ROAD AND BRIDGE SPECIFICATIONS.

THE FOLLOWING INFORMATION SHALL BE SHOWN ON A TAG ATTACHED TO FERTILIZER BAG:

1. THE NAME AND ADDRESS OF MANUFACTURER
2. NAME OF MATERIAL
3. NUMBER OF NET POUNDS OF READY MIXED MATERIALS IN THE PACKAGE
4. CHEMICAL COMPOSITION AND ANALYSIS
5. GUARANTEED ANALYSIS (VA. DEPARTMENT OF AGRICULTURE)

MULCHING MATERIALS

BARK SHALL BE DOUBLE SHREDDED HARDWOOD BARK, DISEASE FREE, BROWN IN COLOR AND SHALL CONFORM TO THE NATIONAL BARK AND SOIL PRODUCER ASSOC. STANDARDS FOR CLASSIFICATION, PARTICLE SIZE, PERCENTAGE WOOD CONTENT,moISTURE RETENTION AND pH RATING.

OTHER MULCH MATERIAL MAY BE USED WITH APPROVAL FROM THE ENGINEER.

FERTILIZER RATES

2 OUNCES PER VINE AND GROUND COVER UP TO ONE GALLON CONTAINER.
8 OUNCES PER SHRUB BARE ROOT OR ONE GALLON CONTAINER.
16 OUNCES PER SHRUB, BALLED AND BURLAPPED OR 2 THROUGH FIVE GALLON CONTAINER.
24 OUNCES PER TREE UNDER 2" CALIPER (INCLUDES MULTI-STEMMED AND EVERGREEN TREES UNDER 8")
32 OUNCES PER TREE OVER 2" CALIPER (INCLUDES MULTI-STEMMED AND EVERGREEN TREES OVER 8" IN HEIGHT)

THE FERTILIZER SHALL BE APPLIED AS A SURFACE APPLICATION, SPREAD EVENLY OVER TOP OF THE ROOT BALL AND PLANT FIT SOIL PRIOR TO MULCHING.

FERTILIZER SHALL NOT BE MIXED WITH THE SOIL MIXTURE.

APPROVED MULCHES

<table>
<thead>
<tr>
<th>TYPE</th>
<th>DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOUBLE SHREDDED HARDWOOD BARK</td>
<td>3&quot;</td>
</tr>
</tbody>
</table>
CRUSHED LIMESTONE SHALL NOT BE PLACED IN DIRECT CONTACT WITH THE ROOTS OF A TREE.

A. DISTANCE FROM TREE TRUNK TO THE WALL OR WELL TO BE 1/4 OF THE SPREAD OF THE TREE, OR AS INDICATED ON THE PLANS.

B. 2" DIAMETER PVC PIPE PLACED AT DRIP LINE (30" DIAMETER O.C. AROUND TREE) AND REACHING FROM NEW GROUND ELEVATION TO #78 AGGREGATE.

C. GEOTEXTILE FABRIC SHALL COVER ALL #78 AGGREGATE AND 1/2 THE BACK SLOPE OF RETAINING WALL, AND SHALL BE LAD BETWEEN THE JOINTS ON DRY RUBBLE WALLS AT LEAST AT FIVE LOCATIONS AROUND THE WALL AS DETAILED.

4" DIAMETER PERFORATED PVC PIPE FOR OUTLET DRAIN TO BE PROVIDED.

GENERAL NOTES

1. STANDARD TREE WALLS AND TREE WELLS SHALL BE MEASURED AND PAID IN ACCORDANCE WITH SEC. 506 OF THE ROAD AND BRIDGE Specs AND AS AMENDED BY THE FOLLOWING: THE CONTRACT UNIT PRICE SHALL ALSO INCLUDE #78 AGGREGATE, 4" PERFORATED SMOOTH WALL PVC PIPE, 2" SMOOTH WALL PVC PIPE, AND GEOTEXTILE FABRIC COMPLETE IN PLACE.

2. TREE WALLS AND TREE WELLS ARE TO BE CONSTRUCTED OF DRY RUBBLE, MORTAR RUBBLE, BLOCK OR BLOCK FACED BRICK AS SHOWN IN THE PLANS. FOR DETAILS OF RETAINING WALL DESIGN AND FOUNDATION, SEE STANDARD RW-1, RW-1A, OR RW-1B UNLESS OTHERWISE NOTED ON PLANS.

3. ALL TREE WALL OR TREE WELL INSTALLATIONS ARE TO BE APPROVED BY THE ENGINEER.

STANDARD TREE WALLS AND TREE WELLS
SUGGESTED TREATMENT
VIRGINIA DEPARTMENT OF TRANSPORTATION

1201.08

SPECIFICATION REFERENCE
506 232
245 203
NOTES

1. PICNIC TABLE SHALL BE CLASS A4 CONCRETE.
2. ALL STEEL REINFORING BARS SHALL BE #3.
3. ALL HARDWARE IS TO BE GALVANIZED.
4. SURFACE TEXTURE IS TO BE LIGHTLY BUFFED SMOOTH.
5. EPOXY FILLER IN BOLT HOLES ARE TO MATCH COLOR OF ADJACENT SURFACE.
6. MEASUREMENT AND PAYMENT FOR PREGAST CONCRETE PICNIC TABLE, WITH PAD, WILL BE PAID FOR ON AN EACH BASIS, WHICH COST SHALL INCLUDE PRICE OF CONCRETE PICNIC TABLE, PAD, AND AGGREGATE, COMPLETE IN PLACE.
<table>
<thead>
<tr>
<th>E/H</th>
<th>FOR UNLOADED WALLS</th>
<th>FOR LOADED WALLS</th>
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<tr>
<td>1.0</td>
<td>B = 0.50 H</td>
<td>B = 0.66 H</td>
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<td>B = 0.57 H</td>
<td>B = 0.67 H</td>
</tr>
<tr>
<td>1.2</td>
<td>B = 0.61 H</td>
<td>B = 0.68 H</td>
</tr>
<tr>
<td>1.3</td>
<td>B = 0.64 H</td>
<td>B = 0.69 H</td>
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<tr>
<td>1.4</td>
<td>B = 0.66 H</td>
<td>B = 0.70 H</td>
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<td>B = 0.74 H</td>
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<tr>
<td>3.0</td>
<td>B = 0.77 H</td>
<td>B = 0.77 H</td>
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</table>

Top thickness for unloaded walls are to be 0.15 H with a minimum thickness of 2 ft.

Top thickness for loaded walls are to be 0.20 H with a minimum thickness of 2.5 ft.

Minimum thickness of base = top thickness.

Maximum height of wall (H) is to be 8 ft.
<table>
<thead>
<tr>
<th>HEIGHT OF WALL &quot;H&quot; IN FEET</th>
<th>THICKNESS AT TOP &quot;A&quot; IN FEET</th>
<th>THICKNESS AT BASE IN FEET</th>
<th>AREA OF WALL SQ. FEET</th>
<th>AREA OF FOOTING SQ. FEET</th>
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</table>

H = HEIGHT IN FEET
A = 1'-6"
BASE = 4/10 H
EARTH = 100 Lb. per
RUBBLE = 150 Lbs.
ANGLE OF REPOSE = 1 1/2: 1

POROUS BACKFILL @ 100 LBS./CU. FT.
#78 OR #8 AGGREGATE OR CRUSHED GLASS
MEETING #78 OR #8 GRADATION REQUIREMENTS

3" DRAIN PIPES B-C-C

WEEP HOLE WITH 12"x12" PLASTIC HARDWARE CLOTH
1/4" MESH OR GALVANIZED STEEL WIRE MINIMUM.

WIRE DIAMETER .03", NUMBER 4 MESH HARDWARE
CLOTH ANCHORED FIRMLY TO OUTSIDE OF STRUCTURE

CLASS A3 OR C1 CONCRETE

NOTE:
DEPTH OF WALL IN GROUND DETERMINED BY
CONDITIONS. SHALL BE NOT LESS THAN 1'-6".
IF COMPRESSION AT TOE EXCEEDS SAFE BEARING
CAPACITY OF SOIL, A SPECIAL FOOTING IS TO BE USED.
### MORTAR RUBBLE RETAINING WALL

**INFINITE SURCHARGE AND DECK SURCHARGE - LOADED**

<table>
<thead>
<tr>
<th>HEIGHT OF WALL &quot;H&quot; IN FEET</th>
<th>THICKNESS AT TOP &quot;A&quot; IN FEET</th>
<th>THICKNESS AT BASE IN FEET</th>
<th>AREA OF WALL SQ. FEET</th>
<th>AREA OF FOOTING SQ. FEET</th>
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</tbody>
</table>

DRAIN PIPES ARE TO BE ONE CONTINUOUS LENGTH OR BELL AND SPIGOT WITH MORTARED JOINTS.

H = HEIGHT IN FEET
BASE = 6/10 H
WT. EARTH = 100 LBS./CU. FT.
WT. RUBBLE = 150 LBS./CU. FT.
ANGLE OF REPOSE = 1 1/2:1

WEIP HOLE WITH 12"x12" PLASTIC HARDWARE CLOTH 1/4 MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.012" NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO OUTSIDE OF STRUCTURE

3" DRAIN PIPE B'C-C

CLASS A3 OR C1 CONCRETE

NOTE:
IF COMPRESSION AT TOE EXCEEDS SAFE BEARING CAPACITY OF SOIL, A SPECIAL FOOTING IS TO BE USED.

DEPTH OF WALL IN GROUND SHALL BE DETERMINED BY CONDITIONS, SHALL BE NOT LESS THAN 1'-6".