

GENERAL NOTES - FENCING

FARM FENCE

BARBED WIRE

Barbed wire is to conform to one of the types allowed by the specifications.

Unless otherwise noted on plans four strands will be provided.

Spacing of strands shown is suggested only. Any other spacing approved by the Engineer may be used.

WOOD POSTS

Wood posts to be square cut or round to the dimensions shown on the drawings.

Posts tops may be flat or cut at a 30° angle.

For woven wire fabric, staples are to be used at top and bottom strands and at a minimum of three intermediate strands per post.

One staple per strand is to be used for barbed wire fence.

Where gate, corner, or brace posts fall in rock or marshy areas they shall be set in Class 10 or 20 Concrete.

METAL POSTS

Metal posts are to be one of the types shown on the standard drawings and conforming to the specifications.

At each corner and stretcher post wire fabric is to be cut and all horizontal strands securely wrapped around post.

Braces on corner, stretcher and end posts are to be secured 455 mm from top of post with M12 bolts.

In lieu of setting posts in concrete, manufacturer's anchoring devices meeting the specification requirements may be used when approved by the Engineer.

BRACES

Maximum spacing between braces to be 150 m.

Corner braces to be provided where corner angle is 15° or over.

Line braces to be provided where vertical alignment changes 15° or more and where spacing reaches 150 m.

MISCELLANEOUS

Fence is to be located as shown on the plans or directed by the Engineer.

The side of the post to which fabric is to be attached will be determined by the Engineer.

Fence to be grounded in accordance with detail shown on standard FE-6 where required.

Unless specified on plans, the contractor will have the option of furnishing either metal or wood posts. Posts types are not to be intermixed on any one installation.

CHAIN LINK FENCE

WIRE FABRIC

Wire fabric shall have a 50 mm mesh.

MISCELLANEOUS

In lieu of setting posts in concrete, manufacturer's anchoring devices meeting the specification requirements may be used when approved by the Engineer.

For gates exceeding 1.8 m in width rolled formed steel post will not be allowed.

Chain link fence to be grounded in accordance with details shown on standard FE-6, where required.

STANDARD FENCE GENERAL NOTES

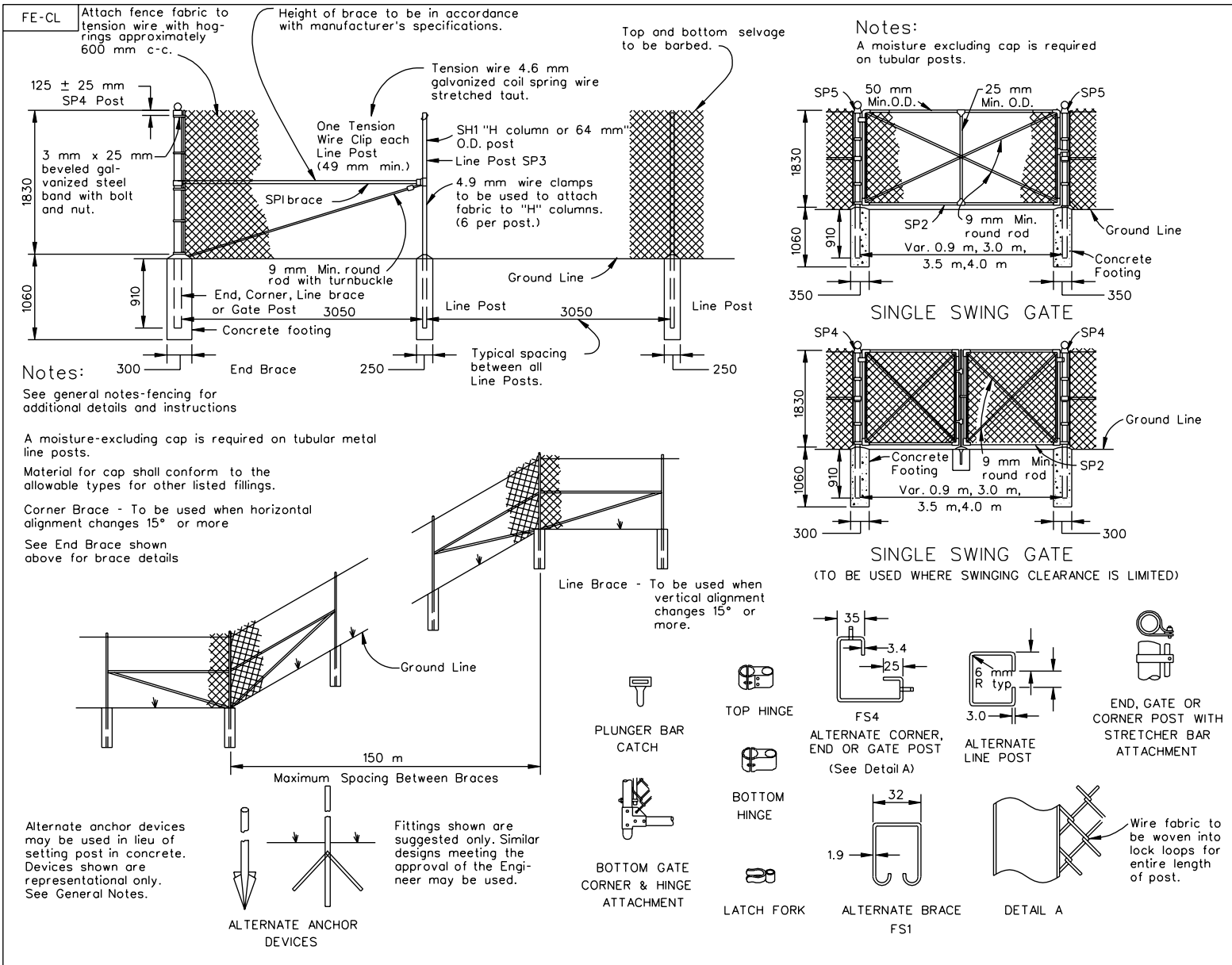
VIRGINIA DEPARTMENT OF TRANSPORTATION

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502.01

FE-W1,W2	CORNER BRACE	LINE BRACE	LINE BRACE AT END LOCATION
WOOD POST			<p>The brace wire to be placed around posts with one wire on each side of brace. Wire to be drawn taut by twisting between brace and each post. This applies to all brace wires.</p> <p>Diagonal 100 mm braces to be placed in direction of pull. Post to be notched for diagonal 100 mm braces. All 100 mm diagonal braces to have two galvanized 12d nails at each end.</p>
METAL POST	<p>* L64x64x6.4 Post with L51x51x4.8x2130 mm braces or 64 mm O.D. Post @ 5.44 ± 5% kg/m with 40 mm O.D. Braces @ 3.38 ± 5% kg/m</p>	<p>IF NOT OTHERWISE NOTED DIMENSIONS AND DESCRIPTIONS SHOWN ON ONE DRAWING APPLY TO OTHER DETAILS WITH THE SAME POST TYPE.</p>	
<p>Notes:</p> <p>SEE GENERAL NOTES-FENCING FOR ADDITIONAL DETAILS AND INSTRUCTIONS.</p>	<p>Line posts are to be of the types shown or equivalent meeting the approval of the Engineer.</p> <p>All posts are to have a minimum weight of 1.86 kg/m.</p> <p>A minimum of five clamps for attaching fabric to post are to be included in cost of each line post.</p> <p>Flanged "U" Type "T" Type</p>	<p>For use in lieu of setting posts in concrete. Devices shown are representational only. See General Notes.</p>	<p>L51 x 51 x 4.8 to be cut to fit around L64x64x6.4 stretcher post.</p> <p>L64 x 64 x 6.4 50 mm long bracket bolted to stretcher post.</p> <p>METHOD OF ATTACHING ANGLE BRACES TO STRETCHER POSTS</p>
<p>STANDARD FENCE WOVEN WIRE FABRIC VIRGINIA DEPARTMENT OF TRANSPORTATION</p>			<p>SPECIFICATION REFERENCE</p> <p>242 507 236</p>
502.02	UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS		

		CORNER BRACE	LINE BRACE	LINE BRACE AT END LOCATION	FE-B
WOOD POST			<p>Diagonal 100 mm Brace to be placed in direction of pull.</p> <p>Post to be notched for diagonal 100 mm braces. All diagonal 100 mm braces to have two galvanized 12d nails at each end.</p>	<p>The brace wire to be placed around posts with one wire on each side of brace. Wire to be drawn taut by twisting between brace and each post.</p> <p>This applies to all brace wires.</p>	
	METAL POST	<p>* L64x64x6.4 Post with L51x51x4.8x2130 mm braces or 64 mm O.D. Post @ 5.44 ± 5% kg/m with 40 mm O.D. Braces @ 3.38 ± 5% kg/m</p>	<p>IF NOT OTHERWISE NOTED DIMENSIONS AND DESCRIPTIONS SHOWN ON ONE DRAWING APPLY TO OTHER DETAILS WITH THE SAME POST TYPE.</p>		
<p>Notes:</p> <p>SEE GENERAL NOTES-FENCING FOR ADDITIONAL DETAILS AND INSTRUCTIONS.</p> <p>Line posts are to be of the types shown or equivalent meeting the approval of the Engineer.</p> <p>All posts are to have a minimum weight of 1.85 kg/m.</p> <p>A minimum of five clamps for attaching fabric to post are to be included in cost of each line post.</p> <p>Flanged "U" Type "T" Type</p>		<p>L51 x 51 x 4.8 mm to be cut to fit around L64x64x6.4 stretcher post.</p> <p>L64 x 64 x 6.4 mm 50 mm long bracket bolted to stretcher post.</p> <p>ALTERNATE</p>	<p>300x300x300 mm Concrete Block</p> <p>Line post (See detail below)</p> <p>(Typical spacing between all Line Posts)</p>		
<p>METAL LINE POST</p>		<p>METHOD OF ATTACHING ANGLE BRACES TO STRETCHER POSTS</p>	<p>ALTERNATE ANCHOR DEVICES</p> <p>For use in lieu of setting posts in concrete. Devices shown are representational only. See General Notes.</p>		
<p>SPECIFICATION REFERENCE</p> <p>242 507 236</p>		<p>STANDARD FENCE BARBED WIRE</p> <p>VIRGINIA DEPARTMENT OF TRANSPORTATION</p>			<p>UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS</p> <p>502.03</p>



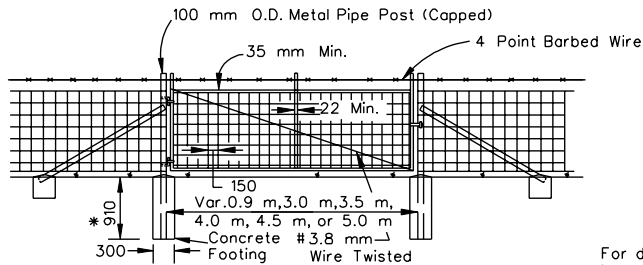
STANDARD FENCE CHAIN LINK

VIRGINIA DEPARTMENT OF TRANSPORTATION

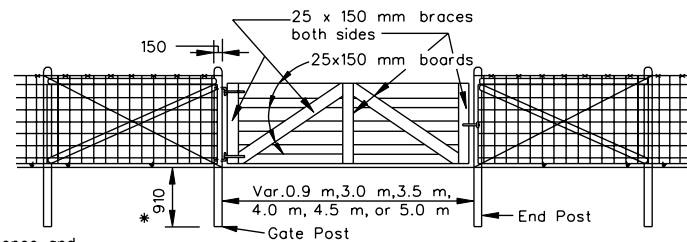
502.04 UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

SPECIFICATION
REFERENCE

242
507

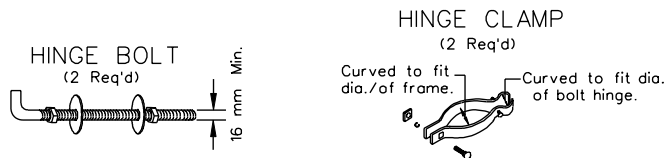


METAL GATE - METAL POSTS - WOVEN WIRE



WOOD GATE - WOOD POSTS - WOVEN WIRE

For details of fence and braces see appropriate fence standard.



SUGGESTED HINGE ASSEMBLY

* If gate width exceeds 3.6 m, gate post is to be set 1060 mm into ground
Height of gate post above ground depends on type of fence used-
1525 mm, Woven wire fabric, 1370 mm, Barbed wire.

WOOD GATE

Braces are to be bolted at extremities and intersections with 2 minimum M16 diameter galvanized bolts, nuts and washers. All other points of contact are to be nailed from both sides with a minimum of 3-10d galvanized nails.

Lumber for gate is to be any dressed, true type meeting the approval of the Engineer. It is to be treated with preservatives other than creosote.

Wood gate is to have 2 coats of exterior white paint unless otherwise directed by the Engineer. Paint is to meet requirements of the current Road and Bridge Specifications.

METAL GATE

Gate frame and center brace to be to the dimensions shown on the drawing except that a 0.9 m width gate can have a minimum 25 mm frame with no center brace.

Gate is to be hot dipped galvanized or electroplate galvanized in accordance with ASTM A-164 Type GS.

Gate fabric is to be all 3.0 mm gauge except top and bottom strands which are to be 3.8 mm. Vertical strands are to be spaced 150 mm apart.

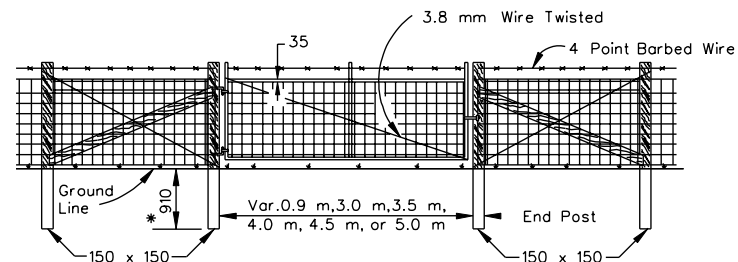
MISCELLANEOUS

If locations of gates are not specified on plans, they are to be erected at the sites designated by the Engineer.

Gate hinge and latch assemblies may be of any type meeting the approval of the Engineer, except that all hinges are to be of a bolt-through type. All fittings are to be hot dipped galvanized.

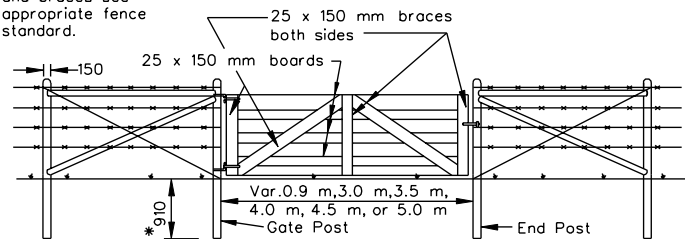
Any combination of gate and fence types meeting the approval of the Engineer will be acceptable and is not limited to the examples shown hereon.

Where wood gate posts fall in rock or marshy areas they are to be set in Class 20 or 10 concrete.



METAL GATE - WOOD POSTS - WOVEN WIRE

For details of fence and braces see appropriate fence standard.



WOOD GATE - WOOD POSTS - BARBED WIRE

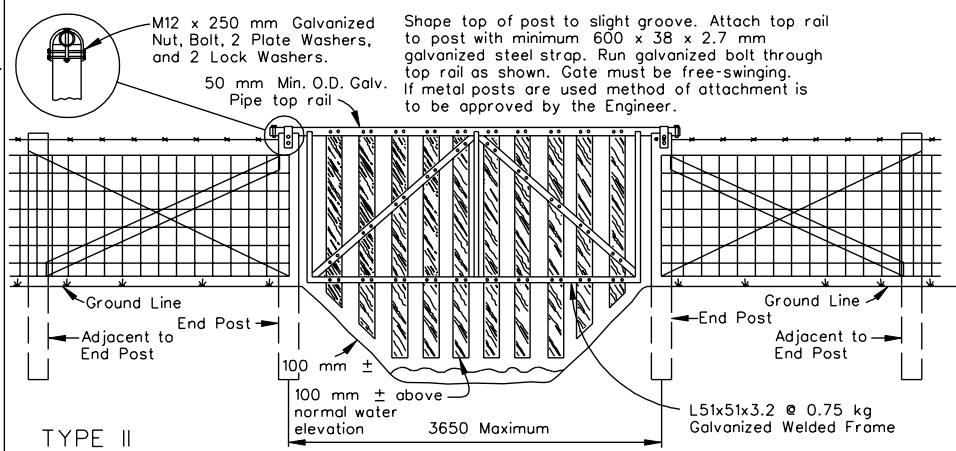
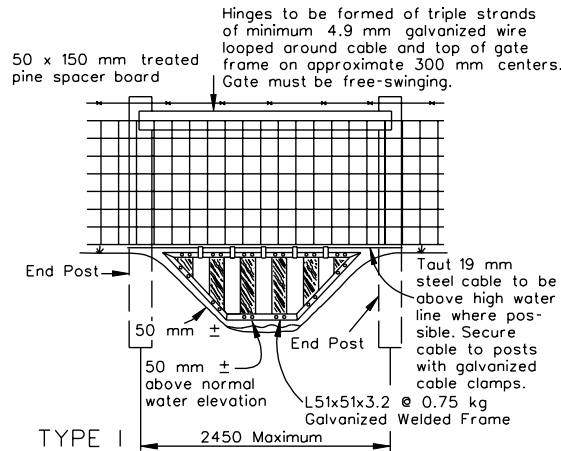
SPECIFICATION REFERENCE
242
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236

STANDARD FENCE GATES

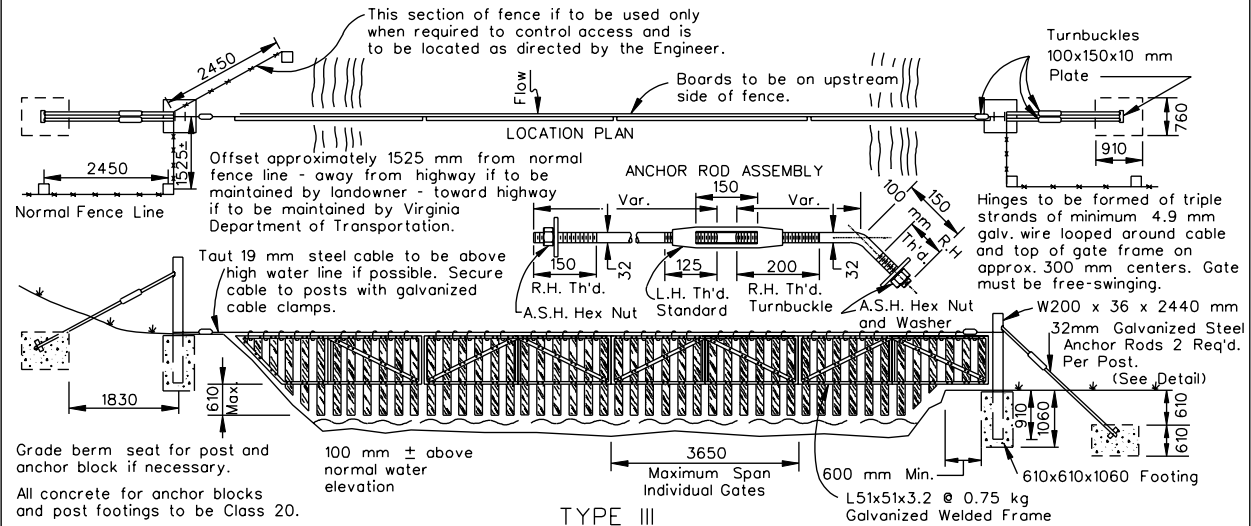
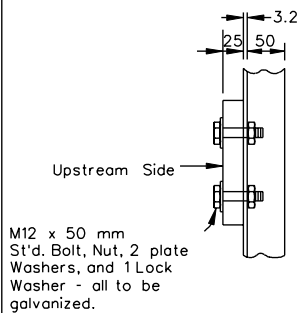
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FE-4



METHOD OF FASTENING FILLER BOARDS TO ANGLE IRON FRAME (Type I, Type II, & Type III)



Notes

Water gates may be used with Standard FE-W1, FE-W2 or FE-B fence.
 Gate is to be fabricated to conform to individual channel requirements.
 Wood filler boards to be 25 mm treated pine bolted to frame. Smooth wood side is to face upstream.
 Type I gate is to have two 200 mm as specified for the type of fence used. The adjacent to end post and bracing may be eliminated.
 Type II gate is to have two 200 mm end posts, adjacent to end posts, bracing, etc. as specified for the type of fence used.

WATER GATES IN FENCE LINES

SPECIFICATION REFERENCE

242
507
236

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Notes:

Approximate materials per installation:
 1-16 mm round by 2430 mm long copper clad ground rod.
 1 ground rod clamp
 1-2135 mm # 6 AWG solid copper wire
 3* compression connectors (suitable for copper & aluminum)

* Minimum 3 connectors for 1200 mm fence fabric to be secured to top, bottom and one intermediate horizontal wire strand. One additional connector to be furnished for each strand of barbed wire.

On barbed wire installations, one connector is to be furnished for each strand.

Ground wire is to be in contact with horizontal wire of fence by compression connectors as shown.

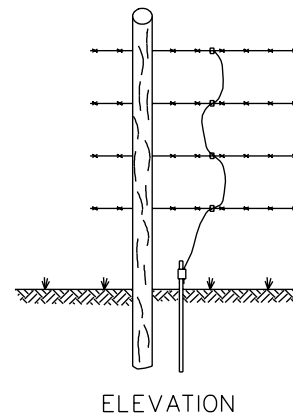
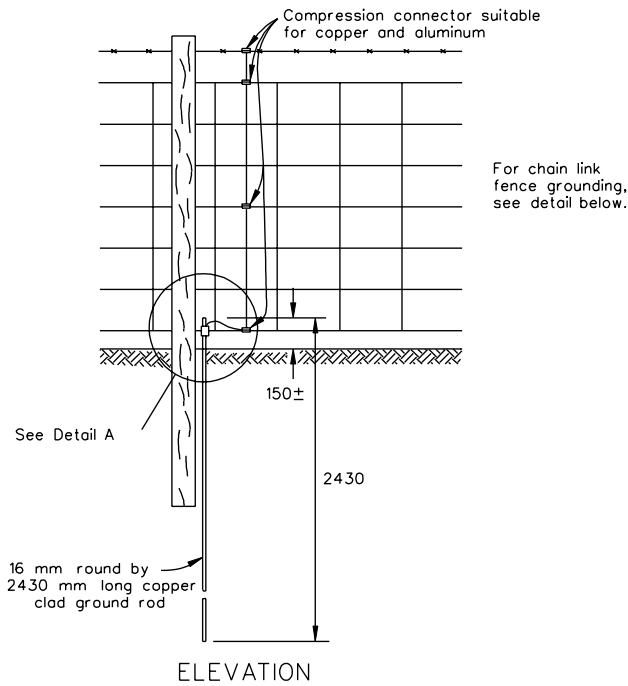
Ground rods to be located on post side of fence and as close as possible to post and fence.

Unless called for on the plans or directed by the Engineer, fence grounding will be required only at the following locations:

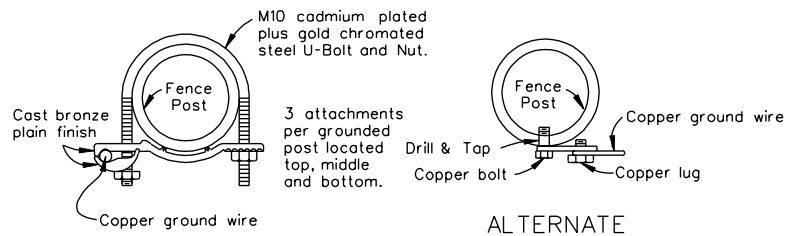
Metal fences, including plastic coated fence fabric, shall have grounds installed at points 15 m beyond the overhead points of outside conductors of 500 KV and above high voltage lines passing above the fence line. If the conductors of the high voltage line are parallel to and within 12.2 m of the fence line as measured horizontally, additional grounds shall be installed at 15 m maximum intervals along the parallel section of fence.

Cost for furnishing and placing all grounding materials is to be included in price bid per linear meter of fence.

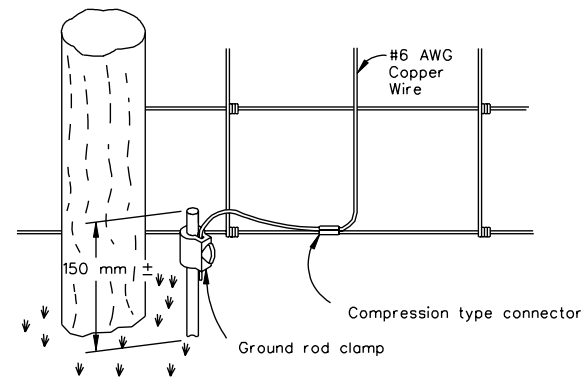
Details shown hereon are to apply to all fence types. Lawn fences will be grounded only when recommended by the Engineer.



ELEVATION

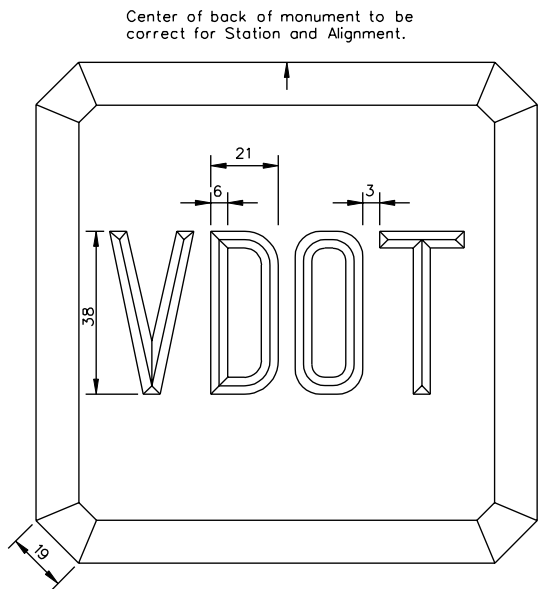
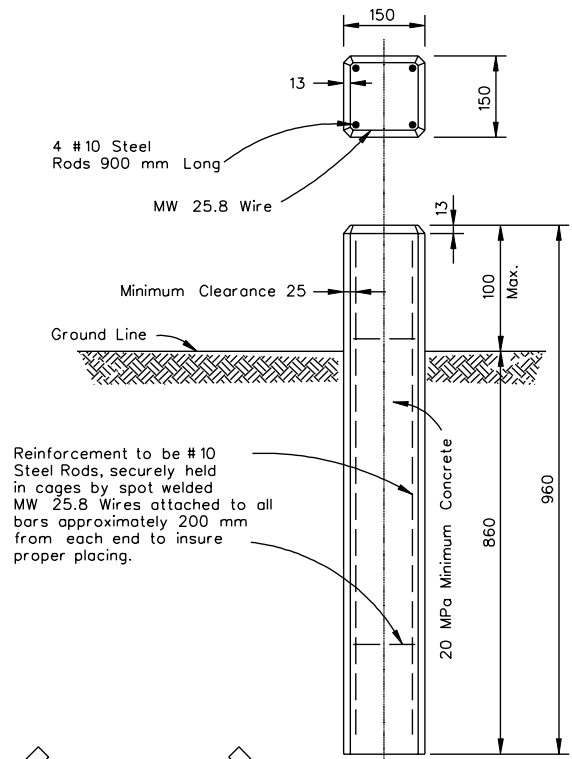


DETAIL FOR GROUNDING STEEL POST OF CHAIN LINK FENCE



DETAIL A

SPECIFICATION REFERENCE	STANDARD METHOD OF FENCE GROUNDING		
507 236	VIRGINIA DEPARTMENT OF TRANSPORTATION	UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS	502.07

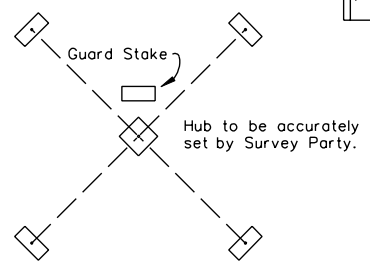


Notes:
 The letters "VDOT" are to be indented in the top of each Right-of-Way Monument.
 In entrances and yards where the monuments would be unsightly, they may be set with the top flush with the ground.

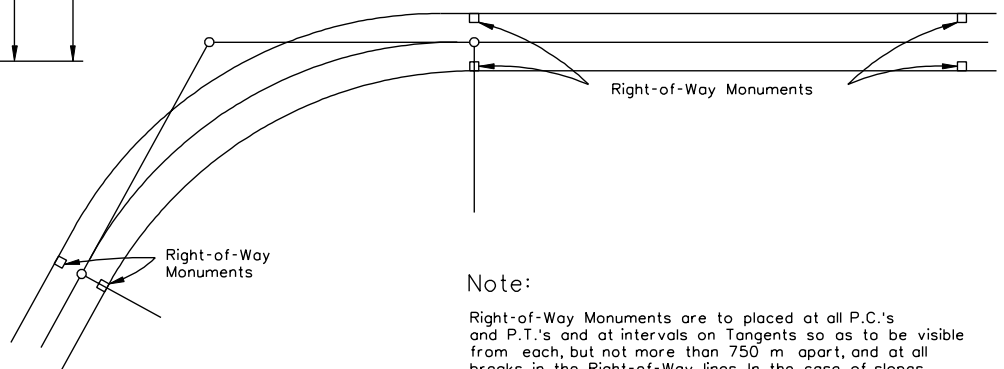
ALTERNATE METHODS OF PLACING WIRES

- Wires on all 4 sides welded to all 4 bars.
- Wires on 3 sides welded to all 4 bars.

All lettering to be 38 mm Standard foundry letters.



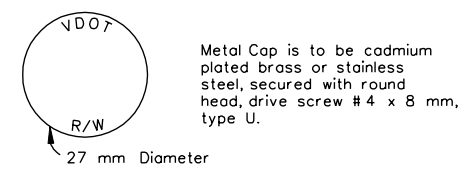
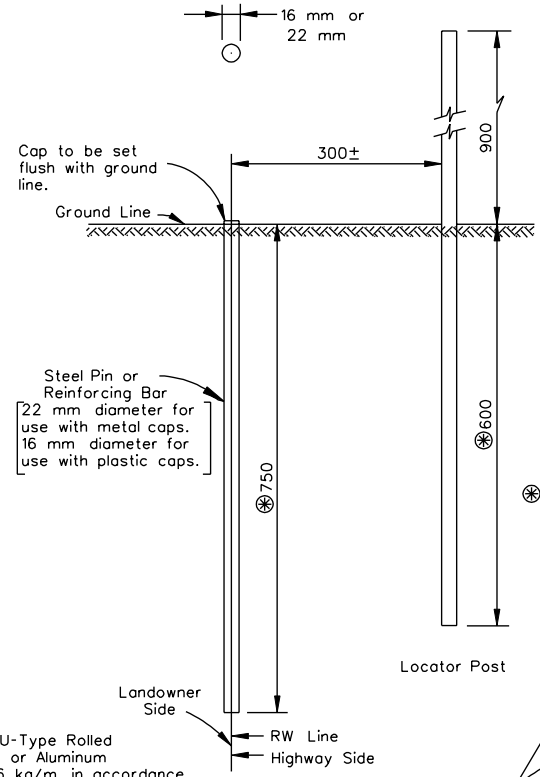
Before Hub is disturbed in setting monuments four liner stakes are to be set, so that two lines stretched between stakes will intersect exactly over tack in Hub. Tops of stakes to be more than 225 mm above ground at monument.



Note:
 Right-of-Way Monuments are to be placed at all P.C.'s and P.T.'s and at intervals on Tangents so as to be visible from each, but not more than 750 m apart, and at all breaks in the Right-of-Way lines. In the case of slopes acquired as easement, the monuments are to be set on normal Right-of-Way lines.

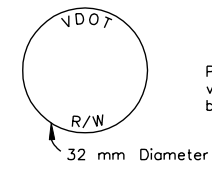
STANDARD PLAN AND METHOD OF SETTING RIGHT-OF-WAY MONUMENTS

SPECIFICATION REFERENCE



METAL CAP DETAIL

Metal Cap is to be cadmium plated brass or stainless steel, secured with round head, drive screw #4 x 8 mm, type U.



PLASTIC CAP DETAIL

Plastic Cap is to be high visibility orange with stamped, black letters.

CAPS TO BE FURNISHED BY VDOT

⊗ Depth of pin and locator post in the ground may be lengthened or shortened to fit conditions.

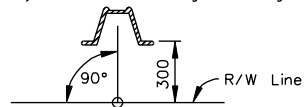
Locator post is to be eliminated in urban areas.

Notes:

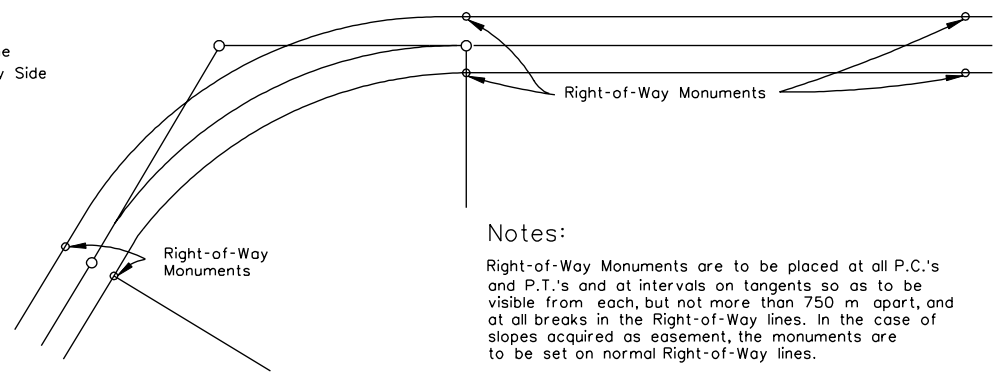
Locator post to be U-Type Rolled Rail Steel @ 3 kg/m or Aluminum Alloy 6063-T6 @ 1.16 kg/m in accordance with the specifications.

Steel posts to be galvanized in accordance to ASTM A123M.

Locator post and pin to be set by the Survey Party at the time of original staking.



Pin to be accurately set by Survey Party and cap punched to indicate R/W Line.



Notes:

Right-of-Way Monuments are to be placed at all P.C.'s and P.T.'s and at intervals on tangents so as to be visible from each, but not more than 750 m apart, and at all breaks in the Right-of-Way lines. In the case of slopes acquired as easement, the monuments are to be set on normal Right-of-Way lines.

SPECIFICATION REFERENCE
219 503

STANDARD PLAN AND METHOD OF SETTING RIGHT-OF-WAY MONUMENTS

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503.02