

**NOTES**

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN PUBLIC WORKS REGULATIONS, THE TOWN ENGINEERING SPECIFICATIONS FOR ROADWORK, THE TOWN ENGINEERING SPECIFICATIONS FOR UTILITIES, THE TOWN ENGINEERING SPECIFICATIONS FOR SIGNAGE, THE TOWN ENGINEERING SPECIFICATIONS FOR LIGHTING, THE TOWN ENGINEERING SPECIFICATIONS FOR LANDSCAPE, THE TOWN ENGINEERING SPECIFICATIONS FOR FLOOD CONTROL, THE TOWN ENGINEERING SPECIFICATIONS FOR EROSION CONTROL, THE TOWN ENGINEERING SPECIFICATIONS FOR TRAFFIC CONTROL, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC UTILITIES, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC WORKS, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC UTILITIES, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC WORKS, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC UTILITIES, THE TOWN ENGINEERING SPECIFICATIONS FOR PUBLIC WORKS.
2. THE ROAD FINISH GRADE SHALL HAVE A MINIMUM SLOPE OF 0.5%.
3. YELLOW OR ORANGE WARNING TAPE SHALL BE BURIED 15" ABOVE ALL GAS, ELECTRIC, TELEPHONE AND T. V. LINES.
4. TEST SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE FOR ALL MATERIALS TO BE USED IN THE PROJECT. A COMPACTOR TEST SHALL ALSO BE PERFORMED AT THE CONTRACTOR'S EXPENSE EVERY 200' SECTION OF ROAD OR MORE OFTEN IF THE TEST FAILS TO MEET THE COMPACTOR REQUIREMENTS. THE TEST LOCATIONS SHALL BE SELECTED BY THE ENGINEER.

GRADATION REQUIREMENTS		
MATERIAL	SIZE	PERCENT (%) PASSING
SAND CUSHION - VI SPEC 704.03	2"	100 %
	1 1/2"	90-100 %
	1/2"	70-100 %
#4	#4	80-100 %
	#100	0-20 %
	#200	0-5% 0-5%
GRAVEL FOR SUBBASE - VI SPEC 704.04	#4	50-60 %
	#100	0-12 %
	#200	0-8%
CRUSHED GRAVEL FOR SUBBASE VI SPEC 704.05	2"	100 %
	1 1/2"	90-100 %
	#4	80-100 %
DENSE GRADED CRUSHED STONE VI SPEC 704.06	3 1/2"	100 %
	3"	70-100%
	2"	50-80%
	1 1/2"	30-60%
	#4	15-40%
	#200	0-6 %

**706.04 STONE FOR STONE FILL.**

Stone for stone fill shall be approved, hard, blasted, angular rock, other than serpentine rock containing the fibrous variety chrysotile (Asbestos). The least dimension of the stone shall be greater than 33% of the longest dimension. The stone fill shall be reasonably well graded from the smallest to the maximum size stone specified to form a compact mass when in-place.

(g) Type I. The longest dimension of the stone shall vary from 1 to 12 inches, and at least 50% of the volume of the stone in-place shall have a minimum dimension of 4 inches.

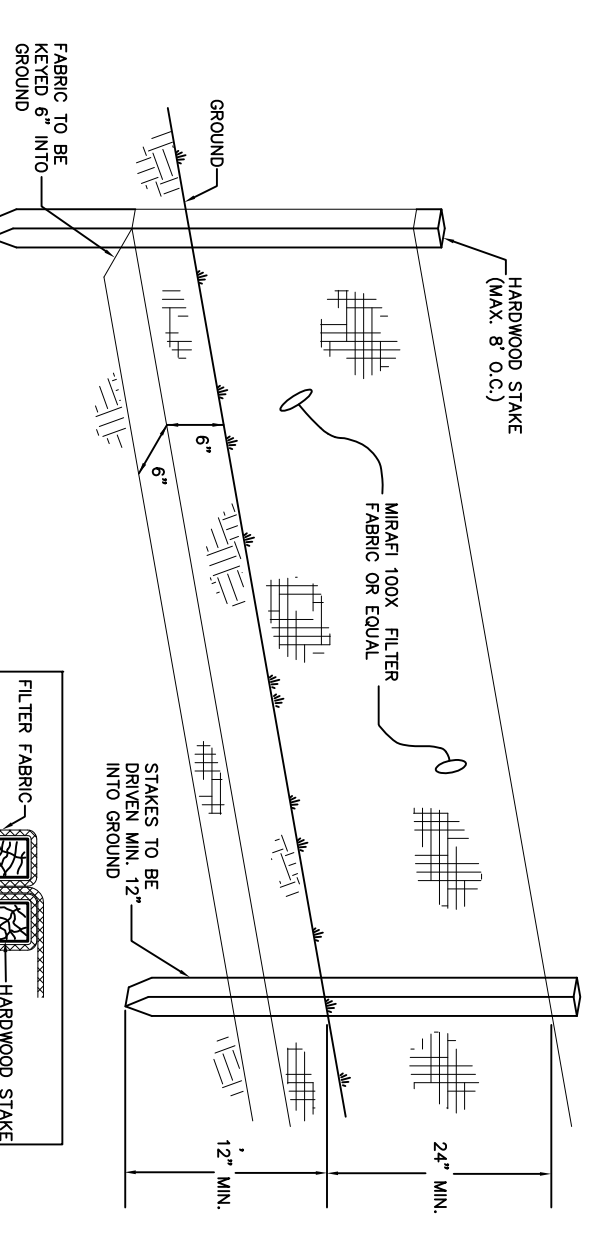
(h) Type II. The longest dimension of the stone shall vary from 2 to 56 inches, and at least 50% of the volume of the stone in-place shall have a minimum dimension of 12 inches.

(i) Type III. The longest dimension of the stone shall vary from 3 to 48 inches, and at least 50% of the volume of the stone in-place shall have a minimum dimension of 16 inches.

(j) Type IV. The longest dimension of the stone shall vary from 3 to 60 inches, and at least 50% of the volume of the stone in-place shall have a minimum dimension of 20 inches.

**MULTI-PLATE CORRUGATED GALVANIZED STEEL STRUCTURAL PLATE SPECIFICATIONS**

- 1.0 GENERAL**
- 1.1 This specification covers the design, manufacturing and installation of the MULTI-PLATE galvanized steel structural plate structure detailed in the plans.
- 2.0 DIMENSIONS**
- 2.1 **Span:** Maximum span shall be 14 ft. - 3 in
- Span shall be determined at the inside corrugations
- 2.2 **Rise:** Total rise shall be 8 ft. - 11 in
- Rise shall be determined at the inside corrugations
- 2.3 **Gage:** Plate gage shall be 10 gage for all plates
- 3.0 DESIGN**
- 3.1 **Design Criteria:** The design of the structure shall be in accordance with: ASTM A796 Standard Practice for Structural Design of Corrugated Steel Pipe, Pipe-Arches and Arcs for Storm and Sanitary Sewers and Other Buried Applications.
- 3.2 **Shop Drawings:** Shop drawings and design calculations shall be prepared and submitted to the owner for approval. The contractor shall be responsible for verification of all field dimensions prior to fabrication.
- 4.0 MATERIALS**
- 4.1 **Structural Plate:** MULTI-PLATE galvanized steel structural plate shall consist of plate and appurtenant items as shown on the plans and shall conform to the requirements of AASHTO M167 or ASTM A791.
- 4.2 **Hot Dip Galvanizing:** Galvanizing shall conform to AASHTO M111 or ASTM A153.
- 4.3 **Fasteners:** Nuts and bolts shall conform to AASHTO M232 and M291 or ASTM A449, Type 1 (bolts) and A563, Grade C (nuts).
- 4.4 **Bituminous (Asphalt) Coating:** If specified, bituminous coating shall conform to AASHTO M190.
- 5.0 FABRICATION AND QUALITY CONTROL**
- 5.1 All manufacturing processes including corrugating, punching, curving, special fabrication and galvanizing shall be performed in the United States of America at a common location.
- 5.2 All raw materials shall be domestic and fabricated or origin in the United States of America.
- 5.3 All raw materials shall be traceable and certified by the mill for material composition and physical properties.
- 6.0 INSTALLATION**
- 6.1 **Assembly:** The structure shall be assembled in accordance with the shop drawings and plate layout provided by the manufacturer. Bolts shall be tightened to an applied torque between 100 and 300 ft-lbs.
- 6.2 **Installation:** The structure shall be installed in accordance with AASHTO Standard Specifications for Highway Bridges Section 26 or ASTM A807, the project plans and specifications, and the manufacturer's recommendations.
- 6.3 **The Contractor shall provide proper bedding and backfill to avoid distortion that may create undesirable stresses in the structure and/or settlement of the roadway. The bedding shall be free of rock formations, protrusions, frozen material or organic material.**
- (a) The Contractor shall provide proper bedding and backfill to avoid distortion that may create undesirable stresses in the structure and/or settlement of the roadway. The bedding shall be free of rock formations, protrusions, frozen material or organic material.
- (b) Backfill shall be free of rocks exceeding 3 inches, frozen lumps, ice, organic matter and foreign materials that could cause hard spots or decompose to create voids.
- (c) The presence of a high percentage of fill or fine sand in the native soils suggests the need for well-graded granular material in the critical backfill zone or the use of non-woven geotextile to prevent soil migration.
- (d) During backfilling operations, only small tracked construction equipment (such as a D-4 dozer or similar) shall be near the structure as fill progresses above the crown and to the minimum height of cover. After adequate cover and compaction is achieved, live loads may increase at the direction of the Engineer.



**TEMPORARY SILT FENCE**

<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> REVISIONS <input type="checkbox"/> APPROVED FOR CONSTRUCTION <input type="checkbox"/> APPROVED FOR CONSTRUCTION	<b>O'LEARY-BURKE</b> CIVIL ASSOCIATES, P.C. 110 CANTON STREET FERRISBURGH, VT 05747 PHONE: 802-253-8889 FAX: 802-253-8889 EMAIL: OLEARY@OLEARYBURKE.COM	<b>ROGERS ROAD CULVERT REPLACEMENT</b> WESTFORD, VT	DATE: 12/15/19 DRAWING NO: 019-98 SHEET: 4 TOTAL SHEETS: 4
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