

CONSTRUCTION SPECIFICATION

PA 558 – ROOF RUNOFF STRUCTURE

1. SCOPE

The work shall consist of furnishing, fabricating, and installing all components of the roof runoff structure (s) as outlined in this specification and as shown on the drawings.

2. MATERIALS

GUTTERS, DOWNSPOUTS, AND SUPPORTS shall be made of aluminum, galvanized steel, wood, or plastic, as declared in Section 4 or as shown on the drawings. Aluminum gutters and downspouts shall have a nominal thickness of at least 0.027 and 0.020 in (0.07 and 0.05 cm), respectively. Galvanized steel gutters and downspouts shall be at least 28 gage. Wood shall be clear and free of knots. Wood gutters shall be redwood, cedar, cypress, or pressure-treated. Plastics shall contain ultraviolet stabilizers. Supports shall have sufficient strength to withstand anticipated water, snow, and ice loads. The type of supports for manufactured gutters and downspouts shall be determined by the manufacturer's requirements, given the type of installation and type of gutter or downspout.

DRAINFILL for subsurface drains and drip-lines shall meet the quality requirements of PADOT Publication 408, Section 704, Type A, Coarse Aggregate, with gradation as shown in Section 4 or in the drawings.

DRAINPIPE for subsurface drains and drip-lines shall be perforated Corrugated Polyethylene (PE) pipe and fittings meeting the requirements of ASTM F405 or ASTM F667.

3. INSTALLATION

Gutters and drainpipes shall be installed at the locations and grades as shown on the drawings.

Gutter supports shall have maximum spacing of 48 in (120 cm) for galvanized steel and 24 in (60 cm) for aluminum or plastic. Joints shall be made watertight with the use of mastics or by welding. Dissimilar metals shall not be in contact with each other. Wood gutters shall be mounted on fascia boards using furring blocks that are a maximum of 24 in (60 cm) apart.

Gutters shall be hung so that the outer edge of the gutter is below the projection of the roof line as shown on the drawings. Roof edges shall be nearly level. Replacement or repair of structure members may be necessary to provide a nearly level and uniform roof edge.

Downspouts shall be securely fastened at the top and bottom, with intermediate supports that are a maximum of 10 ft (3 m) apart.

Drainpipe shall be installed in accordance with ASTM F449.

Drainfill shall be placed in the drip drain trench in such a manner so as not to be contaminated with adjacent soil. Geotextile may be used to envelop the bottom and sides of the drainfill to accomplish this. Geotextile shall have properties equal to or exceeding the requirements of PADOT Publication 408, Section 735, Class 1 geotextile.

Outlets shall be located as shown on the drawings. Where downspouts empty directly onto the ground surface there shall be an elbow to direct the flow away from the building and splash blocks or other protection to prevent erosion. Downspouts shall not outlet into foundation drains.

4. ADDITIONAL CONDITIONS WHICH APPLY TO THIS PROJECT ARE: