

SECTION 071300 – BELOW GRADE WATERPROOFING

STRUCTURAL GUIDELINES

1.1 Introduction

- a. The requirements and guidelines outlined herein are intended to provide an outline of best practices to enhance the performance of the exterior building enclosure systems and to reduce future maintenance when possible.
- b. The Architects and Engineers for all construction projects are responsible for identifying and preparing the full documentation necessary for all permits and reviews by governmental authorities having jurisdiction over the projects at University of Delaware.
- c. The information outlined herein are preferences or specific requirements of the University of Delaware under this Section.

1.2 Codes and Standards

- a. FM Global – All roofing projects shall be submitted to FM Global Plan Review concurrent with the design development phase submission. The design professional shall incorporate FM review comments within the project documents prior to bid
- b. National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual
- c. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
- d. American Air Barrier Association (AABA)
- e. Sealant Waterproofing and Restoration Institute (SWRI)
- f. Occupational Safety and Health Administration (OSHA)
- g. American National Standards Institute/American Society of Safety Engineers (ANSI/ASSE) Z359.2-2007 – Fall Protection

1.3 Environmental Testing

- a. The University may perform environmental testing of existing materials to be impacted by the work for hazardous materials (i.e. lead, asbestos, mold, etc.) during the design phases, including but not limited to, the following:
 - i. Roofing materials
 - ii. Flashing materials
 - iii. Paints
 - iv. Sealants

1.4 Quality Assurance Guidelines

- a. Manufacturer's Inspections
 - i. The University prefers to have the manufacturer's field technical representative perform interim inspections during the execution of the work.
- b. Pre-Installation Conferences
 - i. Conduct Pre-Installation Conferences where works involve multiple trades before starting substantial work.
- c. Mock-ups and Samples
 - i. On large projects the university requires full size exterior wall mock-ups to demonstrate expected performance and quality of embedded components and aesthetics of visible cladding and fenestration components.
 - ii. Construct mock-ups and obtain samples for review before starting substantial work.

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PART 1 - GENERAL

1.1 SUMMARY

- A. The Architects and Engineers for all construction projects are responsible for identifying and preparing the full documentation necessary for all permits and reviews by governmental authorities having jurisdiction over the projects at University of Delaware.
- B. The information outlined herein are preferences or specific requirements of the University of Delaware under this Section.

1.2 PRE-INSTALLATION MEETINGS

- A. The university requires Pre-installation Conferences for all Building Enclosure components
- B. All related trades should be present at Pre-installation Conference

1.3 QUALITY ASSURANCE

- A. The below grade waterproofing system is to be same manufacturer both horizontal and vertical. (**NOTE:** *Where above grade air/vapor barrier system is required for the Project the University prefers to utilize the same manufacturer as the Below Grade Waterproofing.*)
- B. All components within the below grade waterproofing system are to be from a single manufacturer.

1.4 WARRANTY

- A. Manufacturer's Warranty: Where subsurface water is determined to be present per a project specific soils report provide manufacturer's labor and materials watertight warranty for a minimum of 10 year period.

PART 2- PRODUCTS

2.1 Horizontal Application – Acceptable manufacturers, CETCO (CoreFlex preferred, Ultraseal acceptable) or Grace, Preprufe 300R, Preprufe 160R (blindsided applications).

2.2 Vertical Application – Acceptable manufacturers, CETCO EnviroSheet, Grace Bituthene, Carlisle CCW MiraDRI 860/861.

- A. The University prefers the use of a molded-sheet drainage panels/boards tied to a foundation perimeter pipe to collect and redirect all subsurface water to the below grade storm water management systems.
- B. It is recommended that where vertical below grade waterproofing is required that proper drainage of subsurface water, such as a foundation drainage pipe be provided. Foundation drainage piping should be at a minimum dead level, 1/8" positive fall preferred.

2.3 ELEVATOR PITS, MANHOLES, ETC.

- A. The University prefers the use of under slab/positive side waterproofing in lieu of negative side crystalline waterproofing application.

- B. The University prefers a waterproof admixture within the design mix for below grade concrete structures.
- C. Detailing of below grade waterproofing systems and vapor retarder systems should be clearly coordinated with appropriate manufacturers and detailed.

PART 3 - EXECUTION

- 3.1 Below Grade Waterproofing –Manufacturer’s Warranty watertight warranty to include third party inspections by construction team.

END OF SECTION