

PCSM NARRATIVE MEMORANDUM

To: PADEP SWRO

From: Civil & Environmental Consultants, Inc.

Date: June 18, 2026

Subject: Response to Comments
Quaker Valley School District New High School Project
NPDES Application No. PAD020098
Leet Township, Allegheny County, Pennsylvania
CEC Project 355-767

This memorandum summarizes the stormwater management approach developed for the proposed Quaker Valley School District New High School project to demonstrate compliance with applicable Pennsylvania Department of Environmental Protection (PADEP) stormwater management requirements. The stormwater management strategy was developed in accordance with 25 Pa. Code Chapter 102, the Pennsylvania Stormwater Best Management Practices Manual, and the applicable municipal stormwater ordinance.

Site Evaluation and Stormwater Volume Management

A Pre-Development Site Conditions (PDSC) evaluation was completed to establish existing site conditions and determine the project's stormwater volume management requirements. Infiltration testing was performed within the proposed stormwater management areas in accordance with PADEP guidance to evaluate the feasibility of infiltration BMPs.

Based on the previously completed geotechnical analysis and limited infiltration testing, infiltration-based stormwater management practices were determined to be infeasible. As a result of the field testing, the project site contains areas of potentially hazardous soils that preclude the intentional infiltration of stormwater runoff. Therefore, all proposed stormwater management facilities have been designed as non-infiltration BMPs and will incorporate impermeable liners to prevent stormwater from infiltrating into underlying soils. Given these site constraints, the stormwater management strategy focuses on maximizing runoff volume reduction through managed release and evapotranspiration to the extent practicable.

Managed Release Concept (MRC) Facilities

The project incorporates eight (8) underground Managed Release Concept (MRC) facilities distributed throughout the site. These facilities are intended to maximize stormwater volume reduction and water quality treatment to the maximum extent practicable under the site's geotechnical and environmental constraints.

Each underground MRC facility will be constructed with an impermeable liner to eliminate infiltration into underlying soils. The facilities are designed to temporarily store runoff associated with smaller storm events and release stored water at controlled rates consistent with PADEP MRC guidance. Diversion structures and manufactured pre-treatment devices are included upstream of the MRC within the site drainage systems. The diversion structures are designed to direct runoff generated by the 1.2 inch/2-hour storm event

into the MRC facilities. Runoff events exceeding the MRC storage capacity are bypassed through the diversion structures and conveyed to downstream rate control facilities for peak flow attenuation.

Bioretention Areas

The project also incorporates eight (8) Bioretention Areas located throughout the site. Similar to the MRC facilities, the Bioretention Areas will be constructed with impermeable liners to prevent infiltration into underlying soils. Although infiltration is not utilized, the Bioretention Areas provide significant stormwater benefits through temporary storage, filtration, evapotranspiration, and vegetative uptake. Each bioretention area will be planted with appropriate vegetation in accordance with PADEP BMP Manual recommendations to maximize evapotranspiration and pollutant removal benefits.

In addition to the bioretention plantings, extensive tree plantings are proposed throughout the site, including within riparian buffer areas, are proposed promote long-term stormwater volume reduction, reduce runoff temperatures, improve water quality, and restore vegetative cover within disturbed portions of the site.

Peak Rate Control

Peak rate control for larger storm events is provided through a combination of:

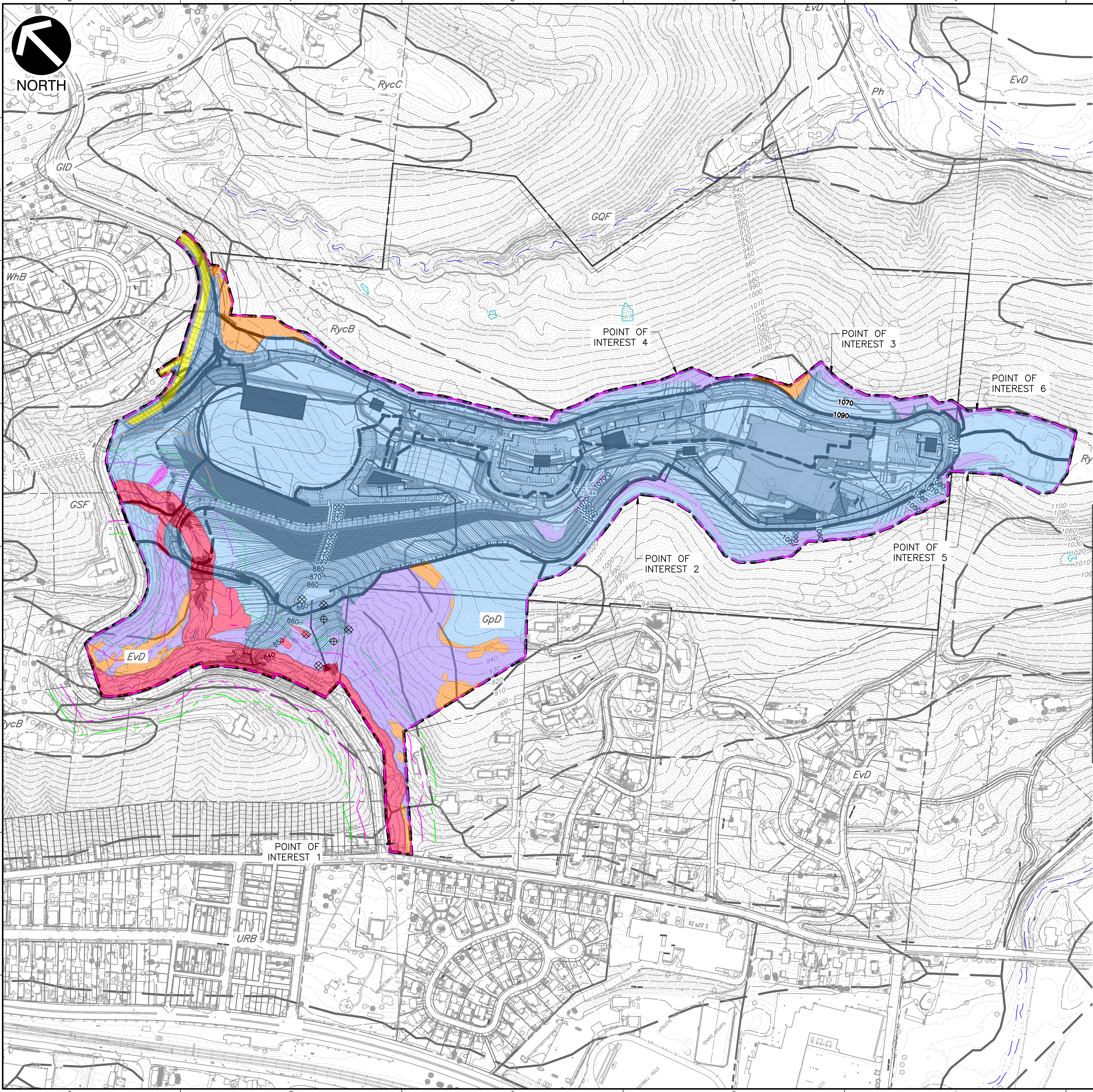
- One (1) Underground Detention Facility
- One (1) Dry-Extended Detention Basin

These facilities receive flows bypassed from the MRC systems and provide the storage volume necessary to satisfy post-development peak discharge requirements. Both facilities will incorporate impermeable liners to prevent infiltration into underlying soils. The detention facilities have been designed to provide the required rate control for applicable design storms while functioning in conjunction with the distributed MRC and Bioretention systems.

Conveyance System Design

The storm sewer conveyance network, including storm sewer piping, inlets, diversion structures, flow splitters, outlet structures, and stormwater management facilities, has been designed to safely convey the 100-year storm event per local municipal requirements.

Hydraulic analyses demonstrate that the proposed system has adequate capacity to convey runoff from all design storms while maintaining operation of the diversion structures and flow splitters. During smaller storm events, runoff is routed to the MRC facilities for volume reduction and treatment. During larger storm events, excess runoff is bypassed to the downstream detention facilities where peak discharge rates are controlled prior to release from the site.



LEGEND

| | |
|--|---------------------------------------|
| | EXISTING PROPERTY LINE |
| | EXISTING INDEX (MAJOR) CONTOUR |
| | EXISTING INTERMEDIATE (MINOR) CONTOUR |
| | EXISTING EDGE OF PAVEMENT |
| | EXISTING STRUCTURE |
| | EXISTING STREAM |
| | EXISTING GULLY |
| | EXISTING WETLAND |
| | EXISTING OVERHEAD WIRE |
| | EXISTING UTILITY POLE |
| | EXISTING FENCE LINE |
| | PROPOSED LIMITS OF DISTURBANCE |
| | PROPOSED INDEX (MAJOR) CONTOUR |
| | PROPOSED INTERMEDIATE (MINOR) CONTOUR |
| | 100' RIPARIAN BUFFER |
| | 150' RIPARIAN BUFFER |
| | 150' WETLAND RIPARIAN BUFFER |
| | INFILTRATION TEST LOCATION |
| | TEST PIT LOCATION |
| | EXCLUSION #4 |
| | EXCLUSION #5 |
| | EXCLUSION #8 |
| | EXCLUSION #10 |
| | EXCLUSION #11 |
| | EXCLUSION #12 |
| | DRAINAGE AREA BOUNDARY |

PDSC SUMMARY TABLE

| | |
|---|-----------------------------|
| TOTAL PROJECT SITE AREA | 69.57 ACRES |
| AREA EXCLUDED FOR INFILTRATION SCMS | 69.57 ACRES |
| AREA POTENTIAL SUITABLE FOR INFILTRATION SCMS | 0 ACRES |
| INFILTRATION TESTING LOCATIONS | 2 |
| TESTING RATIO | 1.0 TEST/40,000 SQUARE FEET |

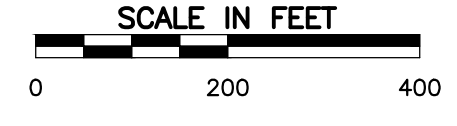
AREAS EXCLUDED FOR INFILTRATION SCMS

| EXCLUSION | DESCRIPTION | AREA (AC) |
|-----------|--|-----------|
| 4 | AREAS THAT ARE IMPERVIOUS LAND COVER IN THE PRE-CONSTRUCTION CONDITION AND WILL NOT BE DISTURBED AND AREAS WHERE ROAD MAINTENANCE ACTIVITIES WILL OCCUR AS DEFINED AT 25 PA. CODE § 102.1. | 0.58 |
| 5 | AREAS THAT ARE DEFINED AT 25 PA. CODE § 102.1 AS SURFACE WATERS AND WATERS OF THIS COMMONWEALTH AND AREAS THAT ARE DEFINED AT 25 PA. CODE § 105.1 AS FLOODWAYS AND FLOODPLAINS. | 0.07 |
| 8 | AREAS THAT WILL NOT BE DISTURBED WHERE SLOPES EXCEED 20%, INCLUDING 10 FEET FROM THE TOP AND TOE OF SLOPE. | 10.84 |
| 10 | UPLAND AREAS THAT ARE REMOTE FROM EARTH DISTURBANCE ACTIVITIES AND WOULD BE UNABLE TO RECEIVE STORMWATER FROM NEW IMPERVIOUS SURFACES BY GRAVITY FLOW. | 2.46 |
| 11 | AREAS WHERE INFILTRATION COULD, IN THE OPINION OF A LICENSED PROFESSIONAL, LEAD TO PUBLIC SAFETY CONCERNS AND/OR POLLUTION BASED ON FIELD OBSERVATIONS OR STUDIES. | 50.73 |
| 12 | AREAS THAT MUST BE AVOIDED TO MEET SETBACK GUIDANCE OR OTHER REQUIREMENTS OF LOCAL ORDINANCES. | 4.89 |

- REFERENCE**
- EXISTING CONTOURS AND FEATURES WITHIN THE SITE LIMITS PROVIDED TO CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC) BY PHILLIPS & ASSOCIATES, INC. ON 4/21/2023 IN FILE "THRASHER-TOPO-QVHS_83PAS_V2 - GCP4.DWG."
 - PROPERTY LINES AND EXISTING UTILITIES PROVIDED TO CEC BY PHILLIPS & ASSOCIATES, INC. ON 4/25/2023 IN FILE "BASE-UTILITIES-04-00-23.DWG."
 - SITE LAYOUT AND BULK GRADING PROVIDED TO CEC BY PHILLIPS & ASSOCIATES, INC. ON 3/25/2026 IN FILE "BASE-PROPOSED-03-25-2026.DWG."
 - SOILS INFORMATION BASED UPON USDA WEB SOIL SURVEY; ALLEGHENY COUNTY, PA SURVEY AREA DATA: VERSION 18; SEPTEMBER 6, 2022. ACCESSED JUNE 2023.

ONE CALL SERIAL NO.: 20260985519-000

CALL BEFORE YOU DIG!
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776



| | |
|--|------------|
| SUBMITTAL RECORD | |
| NO. | DATE |
| 1 | 06/17/2026 |
| DESCRIPTION: PDSC RESPONSE TO COMMENTS | |

700 Cherrington Parkway
 Moon Township, PA 15108
 Ph: 412.429.2324 - 800.365.2324
 www.ccecinc.com

CEC
 Civil & Environmental Consultants, Inc.

**QUAKER VALLEY SCHOOL DISTRICT
 NEW HIGH SCHOOL
 LEET TOWNSHIP
 ALLEGHENY COUNTY
 PENNSYLVANIA**

| | | | |
|--------------|-----------|--------------|------|
| DATE: | JUNE 2026 | DRAWN BY: | D/JZ |
| DWG SCALE: | AS SHOWN | CHECKED BY: | ARC |
| PROJECT NO.: | 355-787 | APPROVED BY: | CJR |

INFILTRATION EXHIBIT

DRAWING NO.: **1**

P:\300-0001-355-787-CADD\DWG\CIVIL\355787-010-100-SC-EXHIBIT.dwg | L:\6/17/2026 - mva\mva - LP_6/17/2026 10:53 AM

CHAPTER 102 PRE-DEVELOPMENT SITE CHARACTERIZATION SPREADSHEET

Project Site Name: Quaker Valley New High School

Project Site Area: 69.57 acres Applicant: Quaker Valley School District

Will PCSM requirements for the project be satisfied entirely by stormwater capture and use or riparian forest buffer SCMs or can the entire project be considered a site restoration activity?

Yes No

Is the project site located in an area of known karst terrain?

Yes No

Areas Excluded for Infiltration SCMs (*attach map(s)*)

| Exclusion | Description | Area (ac) |
|-----------|--|-----------|
| 4 | Areas that are impervious land cover in the pre-construction condition and will not be disturbed and areas where road maintenance activities will occur as defined at 25 Pa. Code § 102.1. | 0.58 |
| 5 | Areas that are defined at 25 Pa. Code § 102.1 as surface waters and waters of this Commonwealth and areas that are defined at 25 Pa. Code § 105.1 as floodways and floodplains. | 0.07 |
| 8 | Areas that will not be disturbed where slopes exceed 20%, including 10 feet from the top and top of slope. | 10.84 |
| 10 | Upland areas that are remote from earth disturbance activities and would be unable to receive stormwater from new impervious surfaces by gravity flow. | 2.46 |
| 11 | Areas where infiltration could, in the opinion of a licensed professional, lead to public safety concerns and/or pollution based on field observations or studies. | 50.73 |
| 12 | Areas that must be avoided to meet setback guidelines of the PCSM Manual or other requirements of local ordinances. | 4.89 |

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|--|--------------|
| Area Unsuitable for Infiltration SCMs (ac): | 69.57 |
| Area Potentially Suitable for Infiltration SCMs (ac): | 0 |

Soils Investigation

Investigation method(s): Test pits Soil borings Other: Infiltration Tests

Name(s) of professional(s) overseeing soils investigation:

| Name | Company | License/Certification |
|------|---------|-----------------------|
| | CEC | |

Test Pit / Soil Boring Log No. Test Locations:

| Test Location ID | Investigation Method | Total Depth Investigated (ft) | Limiting Zone Elevation (ft) | Limiting Zone Description | Infiltration Test(s) Completed? |
|------------------|----------------------|-------------------------------|------------------------------|---------------------------|---------------------------------|
| B-99 | | | | | Yes |
| B-23 | | | | | Yes |
| B-42 | | | | | Yes |
| GBB-28 | | | | | Yes |
| GBB-24 | | | | | Yes |
| IT-1 | | | | | Yes |
| IT-2 | | | | | Yes |

Infiltration Test Results No. Infiltration Tests:

| Test Location ID | Infiltration Test ID | Infiltration Test Elevation (ft) | Infiltration Test Method | Field Ksat (in/hr) | Temp (°F) | Adjusted Ksat (in/hr) |
|------------------|----------------------|----------------------------------|--------------------------|--------------------|-----------|-----------------------|
| IT-1 | IT-1 | | | | | |
| IT-2 | IT-2 | | | | | |

Recommended infiltration test location frequency: 1 test / 40,000 square feet (4 minimum)

Actual infiltration test location frequency: #DIV/0! test(s) / 40,000 square feet

#DIV/0!

#DIV/0!

| Version | Date |
|----------------|-------------|
| 1.1 | 4/3/2026 |
| 1.0 | 11/18/2024 |

| |
|---|
| Change(s) |
| Added Exclusion Nos. 13 and 14 to Exclusion Area dropdown list. |
| Original |