EXTERIOR DOOR SCOPING GUIDELINES

1.0 GENERAL GUIDELINES

2.0 BUILDING ENVELOPE SCOPING GUIDELINES

3.0 EXTERIOR DOOR CATEGORIES AND COMPONENTS:

3.1 Introduction

Water leakage through doors is typically limited to discrete areas of the building due to the limited number of doors on a typical school building. Doors are typically only located at grade and in some cases at roof bulkheads. The primary causes of leakage at doors are:

- Wind-blown rain at roof doors
- Leakage below roof doors due to low flashing height
- Wind-blown rain or ponding water near at-grade doors (may be due in part to insufficient slope on the adjacent hardscape)

One challenge often associated with exterior doors is meeting accessibility requirements while still providing sufficient water penetration resistance. Since it may not be possible to find an ADA-compliant door/threshold that is suitable for a specific waterproofing condition, other measures such as water-resistant finishes or interior walk-off grates are often necessary to prevent interior damage due to leakage.

- For discussion of Energy Code Compliance issues, refer to the Building Envelope Scoping Guidelines.

- See the Building Envelope Testing Scoping Guidelines for further discussion of testing strategies

3.2 Project Definition

The Exterior Door Capital Category may include some or all of the following components:

- *Doors & Frames*
- *Door Hardware*
- *Transom/Sidelites*
- *Lintels*

Design Requirements: *Refer to Section 4.6 Exterior Doors and other relevant sections of the SCA Design Requirements for further design and technical requirements.*

3.3 Referred Items and Additional Items

Scope all Exterior Door Items, using the BCAS report as a checklist of items. Specifically address all deficiencies noted in the BCAS report and include in the 'Recommended Items'. Include introductory statements regarding the overall condition of the existing Exterior Doors.

Be sure to address existing conditions of all components under the Exterior Door section, including doors and frames, hardware, gaskets/weather seals, lintels, and transom/sidelites. Indicate any deficiencies in door and hardware operation.

Also, review Bulkhead/Penthouse doors and sills and include findings & recommendations with "Roofs. Specialties". Provide pan flashing below bulkhead doors. Replacement or modifications to bulkhead doors must be coordinated with roofing to avoid invalidating existing roof warranties.

- Measure sill height above the roof and recommend adjustment if door and sill replacement is needed for roof replacement. Ideally there should be a minimum of 8 in. between the sill of the rough opening for the door and the adjacent walking surface (whether that surface is pavers/terrace or the roof membrane itself). Lower flashing height (~ 5 in.) may be allowable if liquid membrane flashing is used, and the detail is warrantable by the roofing manufacturer.

- Additional roof insulation requirements may require raising of the bulkhead doors to provide the minimum required height of base flashing to satisfy roofing warranty requirements. If raising of the bulkhead saddle is required, determine if additional steps are required at the interior of the stair landing. Investigate the space at the existing landing to determine if addition of steps is feasible. **Also, if the doorsill height must be raised, confirm that the resulting minimum door height per code (typically 6'-8") is maintained. If required, consider the feasibility of raising the door opening/lintel above the door head to the underside of the bulkhead roof structure to achieve the required door height and sill clearance above the raised roof surface.**

In the recommendations, indicate any repairs that can be referred to DOE/DSF as maintenance items.

3.4 Investigation & Documentation of Findings

Prepare "Existing Condition" or "Damage Mapping" drawings that record the location(s) and extent of deficiencies observed on annotated plans, elevations and other drawings as appropriate. Also, prepare corresponding "Recommended Work" drawings that graphically describe the recommendations. Refer to the Building Envelope Scoping Guidelines, Section 2.5 Investigation & Documentation of Findings for additional requirements.

3.5 Exterior Door Elements Work

3.5.1 Exterior Doors & Frames

Look for deteriorated doors and frames. The SCA standard is galvanized heavy-duty hollow metal doors and frames.

Generally, if the existing exterior doors and/or frames are severely deteriorated, both the door and frame, including complete hardware and weatherstripping need to be replaced.

Older doorframes are often cast-iron, which may complicate installation or replacement of new hardware or doors within existing frames.

Verify the need for ADA 2010 and 2014 NYC Building Code Chapter 11 compliance, which often precludes the increase in sill height or the use of raised interior gaskets for waterproofing. In these cases, if there is no way to avoid the accessibility requirements and the door sill waterproofing is limited, it may be necessary to use walk-off grates or similar devices to catch water that leaks in during wind-driven rain events. Note that doors at accessible entrances require level surfaces (less than 2.08%) within the required door maneuvering clearances at both sides and thresholds must be beveled and not exceed permitted offsets.

In carefully considered instances, if the doors are in poor condition but the frame is sound and requires only surface preparation and painting, consider just replacing the door.

- Since exterior door and frame replacement may trigger current code compliance requirements for accessibility, including door width, opening pressures, steps and approach clearances, replacement of the existing door "in kind" may be desirable.
- Metal doors cannot be "shaved" or otherwise adjusted in the field, so measurements must be accurate. Depending upon the accuracy and skill of the contractor, installation of new hollow metal doors within existing metal frames may be problematic and could result in change orders.
- If condition of existing frames is later found to be more deteriorated than anticipated, a change order for frame replacement may be required during construction.

If the building is SHPO Eligible and existing wood doors and frames are deteriorated, replace with new hollow metal doors with applied trim or profiled sections to replicate the original door and frame design.

In the scope of Exterior Door Work, include any masonry work and interior repairs related to the door and frame removal and replacement. If there is interior damage due to the existing Exterior Door deficiencies, also include these repairs with the Exterior Door Work.

3.5.2 Door Hardware

Review and document conditions of existing thresholds, hardware, and weatherstripping. Indicate if there is existing electronic security hardware or components.

If doors and frames require replacement, include removal and reinstallation of electronic security elements.

3.5.3 Transom/Sidelites

Inspect the condition of existing transoms and sidelites. Review SCA Design Requirements, DR 4.6.1 for transom/side light materials and security screen requirements.

It is not uncommon to have cast-iron transoms as part of stair window assemblies. Such cases need careful consideration. All floor-spanning stair windows without a clear masonry separation above the transom must be investigated carefully. A separated replacement may be possible, but may be problematic.

3.5.4 Lintels

Inspect the condition of lintels over existing doors. Indicate if repair or replacement is required. Typically, lintel replacement, if required, should be scoped with Masonry Work, since it requires brick removal and replacement, new lintel flashing, etc.

If the DOE-Referred work is for Exterior Doors only, include lintel replacement for severely deteriorated lintels where known and Provisions for additional lintel replacement which may be discovered during construction.

Include rust removal, preparation and painting of lintels under Exterior Door and/or Masonry projects. If Exterior Doors are replaced, treat all exposed lintel surfaces following removal of

existing doors. If door replacement is not part of the final scope, prepare and paint all visible lintel surfaces as part of Masonry work.

3.6 Related Items

3.6.1 HVAC

The Exterior Door Work above may impact existing mechanical items. If there are existing HVAC items (ducts, piping, etc.) which are in the vicinity of the door or attached to the frame that will be impacted by the construction, the work and expense to remove, reinstall or replace should be included in the Exterior Door project.

3.6.2 Plumbing

Plumbing Work is rarely impacted by Exterior Door Work. If there are existing plumbing items (piping, etc.) which are in the vicinity of the door or attached to the frame that will be impacted by the construction, the work and expense to remove, reinstall or replace should be included in the Exterior Door project.

3.6.3 Electrical

The Exterior Door Work above may impact existing electrical items. Identify existing doors that are provided with Electronic Security, Intrusion Detection Systems. Removal and reinstallation of existing systems and connections should be included with the "Referred Work". Installation of new systems or replacement of existing should be identified as "SCA Additional Items". Electronic security elements are typically addressed under "School Safety" Capital Projects.

3.7 Design Considerations

Field verify the doorframe profiles and alignment with the face of Exterior and Interior walls. The frame width and coverage should be maintained to minimize disruption of interior finishes, as well as alignment with door saddles and thresholds, etc. Adapt SCA Standard Details to the existing conditions.

End of Exterior Door Scoping Guidelines