

Window Replacement Guidelines

PUBLIC SCHOOLS OF NORTH CAROLINA

The purpose of this document is to offer guidance to local educational agencies (LEA) for the planning of the replacement of existing window systems in schools. This type of project is reviewed by NCDPI School Planning prior to the construction. Review is also required prior to funding through State or Federal programs. Replacement of individual window units or panes of glass due to damage or failure is not subject to School Planning review.

DESIGN AND CONSTRUCTION: NC General Statutes 133-1.1 requires that an architect or engineer be engaged for any project \$300,000 or more. In addition, the statute requires that projects \$100,000 or more affecting life safety (which is an issue with most window replacements); \$135,000 for repair of buildings involving major structural change in framing or foundation support system; and, \$135,000 for additions to public buildings or State-owned and operated utilities shall engage an architect or engineer. The project shall be bid and construction contracts awarded according to NC General Statutes 143-128 and 129 for all projects for construction.

SUBMITTAL REQUIREMENTS: Projects submitted to NCDPI School Planning for review shall contain the following minimum review documents:

- Building Code Summary. Indicate exterior wall fire rating. Include window system performance parameters (U-value, solar heat gain coefficient, etc.) in the Building Code Summary.
- Floor Plan(s) showing the location of the windows to be replaced and room and grade-level names where located. It makes a difference whether the windows are in classrooms, offices, corridors or other spaces.
- Elevations of the windows showing dimensions, framing, operable sections, and safety glazing.
- Details of window frames, showing anchoring to adjacent materials, flashing, thermal separation, locks, and screens (if any). Indicate emergency rescue and escape windows with the sill height of operable unit above the floor.
- Specifications for the window, glazing, flashing, sealants and hardware.
- Statement regarding how lead, asbestos, and PCB's have been identified and what steps are being taken for the abatement of same.

CODE CONSIDERATIONS: The NC State Building Codes (NCSBC) governs certain aspects of window design and installation. The current version of the NCSBC should be reviewed and applicable requirements be incorporated within the design of the project. In general, the following should be noted:

- In certain locations, operable windows meeting requirements for emergency egress are required. This will involve maintaining minimum clear opening dimensions, and installation within certain distance from floor to the operable window sill. The submittal to School Planning must include dimensioned drawings sufficient to confirm compliance with the NCSBC.
- At locations around and in doors, windows and operable windows, safety glazing shall be used. The submittal to School Planning must include the location of safety glazing to confirm compliance with the NCSBC.
- The project shall meet or exceed the requirements of the current NC Energy Code. This will require insulated glass and thermal break window frames in most projects. It is important to confirm the energy efficiency of the window system with the manufacturer along with the air infiltration of the system. Insulated glass should be manufactured by reputable companies which will provide appropriate warranties for the glass system. In addition, the LEA should consider the use of Low-E glass and other design features.