

SECTION 08 88 00

SPECIAL FUNCTION GLAZING – BLINDS BETWEEN GLASS WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Magnetically coupled, gear driven, raise/lower/tilt (RLT) mini-blinds installed in sealed insulating glass (IG). An externally mounted magnet assembly that is coupled to an internal magnet controls the raising, lowering, and tilting of the blind slats.

Editor's Note: In reference to the paragraph below, the 7/8 inch IG can be built to fit a 1 inch pocket. The 1 inch can be built to fit a 1-1/8 inch pocket. This is done by adding 6 mm glass on the outside glass to increase overall thickness for the sash or to meet code for thicker glass

1. Raise/lower/tilt blinds-between-glass up to 18 sq ft for [active: awning casement, sliding and bay windows, and sliding glass door] [and] [fixed] windows. IG: [7/8] [1] [and] [1-1/8] inches.
2. Tilt blinds-between-glass for windows up to 9 sq ft. IG: [7/8] [and] [1] inch.

Editor's Note: In reference to the paragraph below, the 1 inch IG is achieved by using 4 mm / 4 mm glass and does not have the option to have 6 mm glass on the outside.

3. Raise/lower/tilt blinds-between-glass for windows up to 28.125 sq ft for sliding patio doors and windows; residential and commercial. IG: 1 inch.

- B. Related Sections:

Editor's Note: Include only sections and documents that directly affect the work of this section. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section numbers should be listed below.

1. Section 08 10 00 - Doors and Frames.
2. Section 08 16 13 - Fiberglass Doors.
3. Section 08 30 00 - Specialty Doors and Frames.
4. Section 08 32 00 - Sliding Glass Doors.
5. Section 08 40 00 - Entrances, Storefronts and Curtain Walls.
6. Section 08 50 00 - Windows.
7. Section 08 53 13 - Vinyl Windows.
8. Section 08 80 00 - Glazing.
9. Section <Section No.> - <Section Title>.

Editor's Note: The following article is a listing of references in this section. This paragraph does not require compliance with standards. Add, edit, and delete as required.

1.2 REFERENCED STANDARDS

- A. American National Standards Institute (ANSI):
1. ANSI Z97.1 Safety Glazing Materials Used in Buildings – Safety Performance Specifications and Methods of Test.
- B. ASTM International (ASTM):
1. ASTM C1036 Standard Specification for Flat Glass.

2. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
3. ASTM E2190 Standard Specification for Insulating Glass Unit Performance and Evaluation.

C. Consumer Products Safety Commission (CSPC):

1. CSPC 16-CRF, Part 1201, Category II Safety Standard for Architectural Glazing Materials.

1.3 SUBMITTALS

A. Product Data: Manufacturer's standard specifications and descriptive literature, including:

1. Spec-Data product information sheets.
2. Technical information sheets.
3. Catalog cut-sheets.
4. Color charts.
5. Sample warranty forms.
6. Manufacturer's Instructions:
 - a. Delivery, storage, and handling.
 - b. Environmental conditions.
 - c. Preparation and installation instructions.
 - d. Maintenance.

B. Shop Drawings: Graphic information prepared by purchaser for approval by manufacturer.

1. Includes but is not limited to the following:
 - a. Dimensioned plans, elevations, and details, indicating: double-pane glass design; glass size; glazing pocket.
 - b. Verified opening dimensions.

C. Samples:

1. **[Full size] [Sample Size: 15 x 12 inches up to 46 x 90 inches] [Sample Size: <Insert Size>].**

Editor's Note: ODL Blinds + Glass are available for use in doors and windows. Retain and edit the following Paragraph when integral glass is used within a door. Delete if integral glass is used only in a glazing section.

2. Door:

- a. Submit 8-5/8 x 13 inch minimum corner section sample of frame for each glazing type specified.
- b. Sample will be used to verify construction, corner joint and frame finish, and color.
- c. Quantity: **[1] [2] [3] <Insert Quantity>.**

Editor's Note: Retain and edit the following when integral glass is used within a glazing section. Delete if integral glass is used only in a door section.

3. Glazing:

- a. Submit sample size or full size of frame for each glazing type specified.
- b. Sample will be used to verify construction, corner joint, and frame finish and color.
- c. Quantity: **[1] [2] [3] <Insert Quantity>.**

1.4 QUALITY ASSURANCE

- A. Manufacturer:
 - 1. Experience: Greater than [20] <Insert> years' experience manufacturing products of the type specified in this specification.
- B. Installer:
 - 1. Experience: Submit verification of evidence of similar work of this section.
 - 2. Qualifications: Specialized in installation of blinds -between-glass component glazing units.
- C. Installation Documents: Maintain manufacturer's installation instructions, approved submittals, and related documents on-site to confirm proper installation.
- D. Product Sourcing: Products specified in this specification are to be supplied by a single manufacturer.

1.5 PRE-INSTALLATION CONFERENCE

- A. Convene [two] <Insert Weeks> weeks prior to installation Work of this specification.
 - 1. Attendees: [Architect,] [Contractor,] [Installer,] [Manufacturer Representative,] [and] [representatives of involved trades].
 - 2. Agenda: Schedule, responsibilities, and coordination
 - a. Agenda Items:
 - 1) <Insert Agenda Items>.
 - 2) <Insert Agenda Items>.
 - 3) <Insert Agenda Items>.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Material Delivery:
 - 1. According to manufacturer's written instructions.
 - 2. Materials to be in manufacturer's original, unopened, undamaged containers or packaging with identification labels intact, product name and manufacturer clearly visible.
 - 3. Deliver in sizes to suit project.
- B. Material Storage:
 - 1. Protect materials from exposure to harmful environmental conditions.
 - 2. Store in a clean, dry, frost-free location at manufacturer's recommended temperature and humidity levels.
- C. Handling:
 - 1. Exercise care during off-loading and installation to avoid damage and marring of finishes.
 - 2. Handle in a manner to distribute material load evenly to prevent twisting, bending, and cracking of windows, doors, and associated parts.
 - 3. Replace any products damaged during handling with new materials.

4. Do not remove red stop sign or operate blinds until installed in opening; window, door, etc.

1.7 WARRANTY

- A. Manufacturer's Warranty: **[10] <Insert No. of years>** years warranty, from date of substantial completion, covering defects in materials.
 1. Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.
 2. Manufacturer's warranty is in addition to and not intended to limit other rights.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **[Acceptable] [Basis of Design]** Manufacturer: ODL, Inc.; Address: 215 E. Roosevelt Avenue, Zeeland, Michigan, 49464; Phone: (866) 472-0042; Fax: (616) 772-3840; Email: blinds_info@odl.com; Website: www.odl.com/blinds.
- B. Substitutions: **[No substitutions permitted] [Permitted]**.

Editor's Note: Delete the following paragraph if a list of acceptable manufacturers is not necessary. Note that many public bids will require a minimum of three manufacturers.

- C. Acceptable Manufacturers:
 1. ODL, Inc.
 2. **<Insert Manufacturer>**.
 3. **<Insert Manufacturer>**.

2.2 BLINDS-BETWEEN GLASS WINDOWS

- A. Standards and Code Compliance:
 1. Seal: IGCC. ASTM E2190 seal certification.
 2. Glass: ANSI Z97.1. safety glazing (Applies to tempered glass only).
 3. Glass, Annealed: ASTM C1036.
 4. Glass, Tempered: ASTM C1048.
 5. Safety: ANSI / WCMA A100.1.
 6. ENERGY STAR: Will help your window achieve ENERGY STAR performance when select Low-E glass is employed.
 7. NFRC CAD: Available for simulations.
 8. Certified safe for children and pets with no exposed cords.
- B. Performance and Design Requirements:
 1. Insulated Glass with Between-the-Glass Blinds must comply with the following:
 - a. ASTM E2190 testing in insulating glass units for durability classification by Insulating Glass Certification Council.
 - b. Life cycle testing, demonstrating over 10,000 tilting operations.
 - c. Demonstrate proper blind operation inside insulating glass unit with inside glass exposed to temperature of 68 degrees F and external glass exposed to temperature of minus 22 degrees F.

2. Blinds:

Editor's Note: Delete the following blinds that are not required for the Project.

- 1) Blinds + Glass, 7/8 inch Tilt:
 - a) Lift Force: N/A
- 2) Blinds + Glass, 1 inch Classic:
 - a) Maximum Sq Ft: Lift Force: 67 N or less.
- 3) Blinds + Glass, 1 inch Custom:
 - a) 22 x 64 inches: Lift Force: 48 N or less.
 - b) All Other Sizes up to Maximum Sq. Ft: Lift Force: 54 N or less.
- 4) Blinds + Glass 7/8 inch Custom:
 - a) 22 x 64 inches: Lift Force: 41 N or less.
 - b) All Other Sizes up to Maximum Sq. Ft: Lift Force: 67 N or less.
- 5) Blinds + Glass 7/8 inch RLT-Top:
 - a) All Sizes up to Maximum Sq. Ft: Lift Force: 54 N or less.
- 6) Blinds + Glass XL Custom 1 inch:
 - a) All Sizes up to Maximum Sq. Ft: Lift Force: 75 N or less.
3. Slats: 6010-T8 aluminum alloy. Thickness: 0.008 inches. Profile: Crowned.
4. Slat Width: Varies with insulating glass thickness.
5. Slat Spacing: Manufacturer's standard.
6. Slat Finish: Low emissivity paint with polyester UV high resistant finish.
7. Head and Bottom Rails: 6063-T5 aluminum alloy, painted same color with slats.
8. Ladder Cords: Thermally fixed polyester. UV resistant. Evenly spaced to prevent long-term slat sag.
9. Operating Mechanism: Sintered neodymium, iron-boron support magnets.
10. Insulated Glass Units: Clear insulating glass, factory assembled. Consisting of sealed lites separated by a dehydrated air space, qualified according to ASTM E2190, and complying with other requirements specified.
 - a. Heat-Treated Float Glass: ASTM C1048; Type 1; Quality-Q3; Class 1 (clear) unless otherwise indicated; of kind and condition indicated.
 - b. Glass Thickness: [3] [4] [6] mm based on product type and options selected.
 - c. Overall Thickness of Insulated Glass Blind System Unit: [7/8] [1] [and] [1-1/8] inch.
 - d. Sealing System: Dual seal equivalent.
 - e. Spacer: Tin-plated steel.
 - f. Desiccant: Desiccant matrix.

C. Fabrication:

1. Factory fabricate insulating glass blind system with necessary space around internal magnet, so it interfaces with external magnet operator.
2. Tolerances:

- a. Space of approximately 0.125 inch on each side between slats and spacer, for free movement of system and allowing thermal transmission of aluminum slats.
- b. Blind Width and Height Tolerance:
 - 1) Float and Annealed Glazing: Plus 0.125 inch. Minus 0.063 inch.
 - 2) Custom Tempered Glazing: Plus 0.156 inch. Minus 0.094 inch.

D. **[Product:] [Basis of Design: ODL]** Blinds + Glass 7/8 inch RLT-Top for Windows. For use in single and double hung windows. Streamlined EasyGlide Operator and Ergo Track located on top center. Maintenance: Clean with soap and water, or high quality window cleaner.

Editor's Note: Delete the glass type not being specified.

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

- 1. Glass Type: **[Tempered] [and] [Annealed]**.
- 2. Insulated Glass Thickness: 7/8 or 1 inch.
 - a. Spacer: Intercept, tin-plated steel.
 - b. Sealant: Dual seal equivalent.
 - c. Desiccant: Desiccant matrix (moisture & chemical management).
 - d. Cover Caps: UV stabilized, heat tolerant polymer.
 - e. Blinds Slats: 10 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever two of the three paragraphs below that are not necessary. NEAT glass coating applies to tempered glass only.

- 3. Low-E Single: 2nd surface soft coat. **[N/A] [270] [272] [340] [366]**.
- 4. Low-E Dual: 4th surface hard coat Low-E. **[N/A] [189/270] [189/272] [189/340] [189/366]**.
- 5. Glass Coating: 1st surface glass coating Neat available on **[270] [and] [366]**.
- 6. Tint: **[Solar Gray] [and] [Solar Bronze]**.
- 7. Finish: **[White] [Tan] [Espresso] [Slate Gray] [Sand] [Silver Moon]**.
- 8. Full Warranty: 10 years.
- 9. Size Ranges: Height: 12 to 41 inches. Width: 15 to 54 inch.
 - a. Size Increments 1/16 inch both height and width.
 - b. Maximum Area: 9 sq ft. No more than 36 inches in one direction.

E. **[Product:] [Basis of Design: ODL]**Blinds + Glass 7/8 inch Tilt for Windows. For use in single and double hung windows and light commercial applications. Blinds remain down with single-function tilt operator for optimum light and privacy control. Tilt Operator is located in top right-hand corner. Maintenance: Clean with soap and water, or high quality window cleaner.

Editor's Note: Delete the glass type not being specified.

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

- 1. Glass Type: **[Tempered] [and] [Annealed]**.
- 2. Insulated Glass Thickness: 7/8 and 1 inch.
 - a. Spacer: Intercept, tin-plated steel.
 - b. Sealant: Dual seal equivalent.
 - c. Desiccant: Desiccant matrix (moisture & chemical management).
 - d. Cover Caps: UV stabilized, heat tolerant polymer.
 - e. Blinds Slats: 11.5 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever two of the three paragraphs below that are not necessary. NEAT glass coating applies to tempered glass only.

3. Low-E Single: 2nd surface soft coat. [N/A] [270] [272] [340] [366].
4. Low-E Dual: 4th surface hard coat Low-E. [N/A] [189/270] [189/272] [189/340] [189/366].
5. Glass Coating Neat: 1st surface. [270] [366] [189/270] [189/366].
6. Tint: [Solar Gray] [and] [Solar Bronze].
7. Finish: [White] [Tan] [Espresso] [Slate Gray] [Sand] [Silver Moon].
8. Full Warranty: 10 years.
9. Size Ranges: Height: 12 to 68 inches. Width: 8 to 54 inch.
 - a. Size Increments 1/16 inch both height and width.
 - b. Maximum Area [Annealed Glass] [and] [Tempered Glass]: 9 sq ft. No more than 36 inches in one direction.]

- F. **[Product:]**[Basis of Design: ODL]Blinds + Glass 7/8 inch Blinds for Windows and Sliding Patio Doors. For use in awning, casement, fixed, sliding, and bay windows; and sliding patio doors. Choice of left or right-hand EasyGlide Operator / Ergo Track location. Maintenance: Clean with soap and water, or high quality window cleaner.

Editor's Note: Delete the glass type not being specified.

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

1. Glass Type: Tempered. Operator: [Dual. Up to 18 sq ft., 48 inches or greater in height] [Single. Up to 12 sq ft, 48 inches or less in height].
2. Glass Type: Annealed. Operator: [Dual. Up to 15 sq ft., 48 inches or greater in height] [Single. Up to 12 sq ft, 48 inches or less in height].
3. Operation Location: [Left] [Right].
4. Glass Pane Thickness: 3 and 6 mm.
5. Insulated Glass Thickness: 7/8 and 1 inch.
 - a. Spacer: Intercept, tin-plated steel.
 - b. Sealant: Dual seal equivalent.
 - c. Desiccant: Desiccant matrix (moisture & chemical management).
 - d. Cover Caps: UV stabilized, heat tolerant polymer.
 - e. Blinds Slats: 10 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever of the two paragraphs below that is not necessary.

6. Low-E Single: 2nd surface soft coat. [N/A] [270] [272] [340] [366].
7. Low-E Dual: 4th surface hard coat Low-E. [N/A] [189/270] [189/272] [189/340] [189/366].
8. Glass Tint: Glass panel 1, [Solar Gray] [Solar Bronze].
9. Finish: [White] [Tan] [Espresso] [Slate Gray] [Sand] [Silver Moon].
10. Full Warranty: 10 years.
11. Size Ranges: Height: 18 to 80 inches. Width: 8 to 48 inch.
 - a. Size Increments 1/16 inch both height and width.
 - b. Maximum Area [Annealed Glass: Up to 15 square feet.] [Tempered Glass: Up to 18 square feet. No more than 36 inches in one direction.]

- G. **[Product:]** [Basis of Design: ODL]Blinds + Glass 1 inch Blinds for Windows and Doors. For use in awning, casement, fixed, sliding, and bay windows; and sliding patio doors. Choice of left or right hand EasyGlide Operator. Maintenance: Clean with soap and water, or high quality window cleaner.

Editor's Note: Delete the glass type not being specified.

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

1. Glass Type: Tempered.

Editor's Note: Delete whichever two of the following three paragraphs are not necessary.

- a. Operator: Dual. Maximum 17 sq ft. Operator Location: **[Left] [Right]** side.
- b. Operator: Dual. Minimum height 48 inches. Operator Location: **[Left] [Right]** side.
- c. Operator: Single. 48 inch and above. Operator Location: **[Left] [Right]** side. Low track options above 30 inches.

2. Glass Type: Annealed.

Editor's Note: Delete whichever two of the following three paragraphs are not necessary.

- a. Operator: Dual. Maximum 17 sq ft. Operator Location: **[Left] [Right]** side.
- b. Operator: Dual. Minimum height 48 inches. Operator Location: **[Left] [Right]** side.
- c. Operator: Single. 48 inch and above. Operator Location: **[Left] [Right]** side. Low track options above 30 inches.

3. Glass Pane Thickness: 3 and 6 mm.

4. Insulated Glass Thickness: 1 and 1-1/8 inch.

- a. Spacer: Intercept, tin-plated steel.
- b. Sealant: Dual seal equivalent.
- c. Desiccant: Desiccant matrix (moisture & chemical management).
- d. Cover Caps: UV stabilized, heat tolerant polymer.
- e. Blinds Slats: 12.5 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever of the following two paragraphs below that is not necessary.

5. Low-E Single: 2nd surface soft coat. **[N/A] [270] [272] [340] [366]**.6. Low-E Dual: 4th surface hard coat Low-E. **[N/A] [I89/270] [I89/272] [I89/340] [I89/366]**.7. Glass Tint: **[Solar Bronze] [Solar Gray]**.8. Finish: **[White] [Tan] [Espresso] [Slate Gray] [Sand] [Silver Moon]**.

9. Full Warranty: 10 years.

10. Size Ranges: Height: 14 to 80 inches. Width: 8 to 80 inches.

- a. Size Increments 1/16 inch both height and width.
- b. Maximum Area **[Annealed Glass: 15 sq ft.] [Tempered Glass: 17 sq ft.]** No more than 36 inches in one direction.

- H. **[Product:] [Basis of Design: ODL]** Blinds + Glass Classic 1 inch for use in sliding patio doors. Choice of left or right-hand Standard Classic or Low-Profile Operator location. Easy to maintain: Clean with soap and water, or high quality window cleaner.

Editor's Note:

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

1. Glass Type: Tempered.

- a. Operator: Dual. **[Left] [Right]** side.
- b. IG Height: 42 inches minimum.
- c. Operator Type: **[Classic: 0.667 inches thick] [Low Profile: 0.438 inches thick]**.

2. Glass Pane Thickness: 3 mm.

3. Insulated Glass Thickness: 1 inch.

- a. Spacer: Intercept, tin-plated steel.
- b. Sealant: Dual seal equivalent.
- c. Desiccant: Desiccant matrix (moisture & chemical management).
- d. Cover Caps: UV stabilized, heat tolerant polymer.
- e. Blinds Slats: 12.5 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever of the two following paragraphs below that is not necessary.

4. Low-E Single: 2nd surface soft coat. [N/A] [270] [272] [366].
5. Low-E Dual: 4th surface hard coat Low-E. [N/A] [189/270] [189/272] [189] [189/366].
6. Finish: White.
7. Full Warranty: 10 years.
8. Size Ranges: Height: 42 to 80 inches. Width: 14 to 36 inch.
 - a. Size Increments 1/16 inch both height and width.
 - b. Maximum Area Tempered Glass: 17 sq ft. No more than 36 inches in one direction.

- i. **[Product:] [Basis of Design: ODL]** Blinds + Glass XL 1 inch for use in large format sliding patio doors and windows in residential and light commercial applications. Choice of left or right-hand EasyGlide Operator. Easy to maintain: Clean with soap and water, or high quality window cleaner.

Editor's Note: Delete the glass type that is not required.

Lead Times USA: 12 business days + transit.

Lead Times Canada: 14 business days + transit.

1. Glass Type: Tempered. XL Sizes: 28.125 sq ft. Operator: Dual. [Left] [Right] side.
2. Glass Type: Tempered. Operator: Dual. [Left] [Right] side. EasyGlide.
3. Glass Pane Thickness: 4 mm.
4. Insulated Glass Thickness: 1 inch.
 - a. Spacer: Intercept, tin-plated steel.
 - b. Sealant: Dual seal equivalent.
 - c. Desiccant: Desiccant matrix (moisture & chemical management).
 - d. Cover Caps: UV stabilized, heat tolerant polymer.
 - e. Blinds Slats: 10 mm wide aluminum UV stabilized coating.

Editor's Note: Delete whichever of the two paragraphs below that is not necessary.

5. Low-E Single: 2nd surface soft coat. [N/A] [270] [272] [340] [366].
6. Low-E Dual: 4th surface hard coat Low-E. [N/A] [189/270] [189/272] [189/340] [189/366].
7. Finish: [White] [Tan] [Espresso] [Slate Gray] [Sand] [Silver Moon].
8. Full Warranty: 10 years.
9. Size Ranges: Height: 46 to 90 inches. Width: 9 to 63 inch.
 - a. Size Increments 1/16 inch both height and width.
 - b. Maximum Area Tempered Glass: 28.125 sq ft. No more than 48 inches in one direction.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings with qualified installer present. Verify that openings are square and plumb. Ensure that opening provides adequate support for the system. Proceed with installation only after conditions are deemed satisfactory.

3.2 PREPARATION

Editor's Note: Specify preparatory work required prior to installation/application/erection of primary products.

- A. Prepare glass pockets to receive ODL Blinds + Glass products in accordance with ODL's instructions and approved submittals.
- B. Ensure the Capillary tubes are not blocked or clogged.

Editor's Note: Add preparatory efforts as required.

- C. < _____ >.

3.3 INSTALLATION

- A. Install insulating glass blind system according to manufacturer's written instructions and approved submittals.
- B. Sealants: Apply according to manufacturer's written instructions.

3.4 ADJUSTMENT

- A. Clean glass, and position external magnet on glass aligned with internal magnet to produce optimum tilt operation for smooth slat rotation of blinds. Remove non-permanent labels, and clean surfaces.

3.5 CLEANING

- A. Clean sealants, caulking and other materials from surfaces, including adjacent work.
- B. Clean frames, casings and glass using materials and methods recommended by the manufacturer.
 - 1. Clean using methods which comply with AAMA 609.
 - 2. Clean glass using methods which comply with GANA 01-0300.
- C. Wash insulating glass blind system units on exposed surfaces in each area of project not more than four days before date scheduled for inspections that establish date of Substantial Completion.

Editor's Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Include only statements unique to this section. Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.

3.6 PROTECTION

- A. Protect blinds-between-glass component glazing from damage during construction in accordance with manufacturer's instructions and approved submittals until completion of project.
 - 1. Protect insulating glass blind system units from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with insulating glass blind system units, remove substances immediately.
- B. Remove and replace insulating glass blind system units that are broken, chipped, cracked, or abraded or that are damaged from natural causes, accidents, or vandalism during construction period.

END OF SECTION