Project Information:

Project Name:
Project St. Address:
Project City & Zip Code:

SECTION 08 36 13.1 (3 - Part Specifications / California Line)

GLAZED SECTIONAL OVERHEAD DOORS

(Insulated Frames, Air Infiltration & NFRC Rated, US Energy Code Compliant: All States)

PART 1 - GENERAL

1.01 SUMMARY - Section Includes:

A. Provide Full View Glazed Aluminum Sectional Type; Glass Garage Doors(s) with either: Tempered, Laminated, Insulated Glass (Obscured, Transparent Clear, Tinted), or Solid Aluminum Panels. Frame rails will consist of Extruded Aluminum alloy with either: Clear Anodizing, Powder Coating, Kynar Paint, or as specified by Architect, or Project Rep., for color and type. System will also include all brackets, track system guides, counterbalance, stainless steel hinges, stainless steel rollers, stainless steel fixture hardware, electric motor or manual chain hoist, for a complete finish and operational installation.

1. See 2.02 for Performance Requirements, 2.03 for Components; such as Glazing (type / color), track type, operator type, etc., and 2.04 for finish (type / color).

2. Provide system to suit field conditions and openings with applicable headroom and side room

1.02 RELATED REQUIREMENTS

A. Section 06 10 00: Rough Carpentry and Framing. [Adhere shop drawing min. requirements]

B. Section 26 05 00: Basic Materials: Empty conduit from control units to door operator. [By GC]

C. Section 26 05 00: Electrical service to disconnect near door operator [120v dedicated receptacle]

1.03 SUBMITTALS – [Administrative Requirements, for submittal procedures]

A. Shop Drawings: Indicate accessories, opening dimensions and required tolerances, connection details, anchorage, spacing, hardware locations, and installation details.

B. Product Data: Product line information specific to the performance requirements in section 2.02.

C. Test Reports: Provide a summary of the conforming test procedures and result, which include, but are not limited to: Air Infiltration, Water Resistance, Load, and Structural Testing in accordance with ASTM E-283, ASTM E-330, ASTM E-331, ASTM E-547

D. Samples: Submit two frame finish samples, and two panel samples; illustrating color and finish.

E. Manufacturer's Installation Instructions: Include any known special procedures required by project conditions; for review by the Architect and Engineer of record.

F. Operator Manual [Data Sheet required; if electric operators are specified]: Include specific model #, data for motor and transmission, gearing, lubrication frequency, maintenance, spare part sources, troubleshooting, and adjusting.

G. Operator Station Control [Data Sheet required; if electric operators are specified]: The control station should be located and installed in close proximity to the door, motor operator (left or right side), and provide for direct line to site vision; when operating (opening / closing) the unit. [Per UL325]

H. Additional Aux. Safety Components [Data Sheet required; if the electric operators are specified]: Include specific model #, data sheet, maintenance, spare part sources, and manual.

I. Warranty: Submit manufacturer warranty letter; after installation occurs. Ensure that the warranty forms have been completed in Owner's name, with jobsite address, pictures for verification that the installation occurred correctly, and is registered with manufacturer.

J. Sustainable Design Submittals: (LEED, National Green Building Standards, Green Globes)

1. Submit documentation from manufacturer of the amounts of pre-consumer and post-consumer recycled content for products specified.

2. Submit documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles of project location.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing of “Glass Garage Doors” specified in this section, with minimum (65) sixty five years of documented experience. Its Fenestration products must be tested “as a whole system” vs. relying on the data of (1) type of glazing panel alone. The test results must be certified by an independent third party laboratory, adhere to a quality assurance program; which is re-certified every (2) years, and provide NFRC Licensing; with current CPD #’s (Certified Products Database) for verification of specific glass types. See Glazing Panel Type (for specific CPD #) in section 2.03.G

B. Installer Qualifications: If product installation occurs within the State of California (where the Factory is located), a Factory Direct installation is recommended by BP – Glass Garage Doors & Entry Systems, Inc.. Alternatively, a Company specializing in performing the work within this section, which has a min. 5 years of experience, and a letter of authorization by the Manufacturer.

C. Applicable Codes: Follow all Federal, State, County, and City Building codes as applicable; which include: NEC (National Electric Code) for wiring of motor and motor control requirements as appl., State Energy Code (Specific to Air Infiltration and sealing the Building Envelope); whereas the product specified in this section is “test as a whole unit” to provide Certified results for: U-Factors, SHGC, VT, and Air Infiltration rating to meet the energy calculations; required per code.

D. Products Requiring Electrical Connection: Listed and classified by UL (Underwriters Laboratories Inc.), as suitable for the purpose specified.

E. Components: All components found in section 2.03 are to be provided by the door manufacturer.

F. Single-Source Responsibility Supplier: Provide Door(s), tracks, motors, and accessories from one manufacturer; to ensure that manufacturers’ recommendation on various parts have been tested, and properly combined to function as described.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, and model: Ex. "Insulated Frame Line"

B. Storage and Handling: Store materials in clean, dry, interior area in accordance with manufacturer's instructions. Protect materials from damage during handling and installation.

1.06 WARRANTY

A. Provide Closeout Submittals for warranty requirements: Submit manufacturer warranty letter; after installation occurs. Ensure that the warranty forms have been completed in Owner's name, with jobsite address, pictures for verification that the installation occurred correctly, and is registered with manufacturer

B. Warranty: Lifetime warranty on all residential products. High cycle life hardware warranty on all commercial applications; including: track hardware, heavy-duty stainless steel hinges, stainless steel sealed roller, high cycle galvanized springs, track, and high tensile aluminum alloy frame rails.

PART 2 - PRODUCTS

2.01 SYSTEM MANUFACTURER

A. A manufacturer with no less than 65 years of experience; specifically Full View Glass Doors. **bp** - Glass Garage Doors & Entry Systems, Inc. - Factory Direct & World Wide Shipping Product Models: [**bp**-350], [**bp**-450 HD], [**bp**-550 SHD]: To be determined by **bp**, for width, height, weight, and Factory Safety Standards: [Call Factory for Assistance to designate exact Model #.]

Product Lines: California Line, Insulated Frame & Glass Line, or Hurricane & Impact Line

1. Phone: Toll Free (877) 442-1716, Phone (626) 442-1716, Fax (626) 579-5320
2. Address: 1511 W. 2nd St., Pomona, CA 91766 (Los Angeles County - California)
3. Email Request for Info: Service@GlassGarageDoors.com
4. Download Info. / Website: www.GlassGarageDoors.com

2.02 PERFORMANCE REQUIREMENTS:

Note: [Product must adhere to designated AAMA Certifications and/or Energy Code Req.'s]

A. Air Leakage Performance: Y / N – (None by default, but optionally available; and Highly Recommended by the Factory; prior to placing an order.) To be determined by the Architect, or end user; when measured in accordance with ASTM E-283 and ANSI / DASMA 105: Air

Infiltration Test Pressure Differential: 6.24 pounds per square inch. Entire assembly; including glass, panels, and Frames shall be certified by an independent Testing Lab; which indicates energy performance, wind load, cyclical testing, and technical information, when measured in accordance with NFRC 100, and NFRC 400

B. Water Leakage Performance Package: Y / N – (None by default, but optionally available; and Highly Recommended by the Factory; prior to placing an order.) To be determined by the Architect, or end user if applicable; when measured in accordance with ASTM E 331 and ASTM E 547 water testing methods. This package also includes [(1) each per door] a 4"-6"deep x ½" high x door width; Solid Aluminum Threshold. (Designed for heavy traffic [Pedestrian and Vehicular] with ADA compliance.) Tested for use with bp – Insulated Line, Air Infiltration, and Water Resistant Packages.

C. Wind Load: Withstand positive and negative wind loads equal to 25 PSF / 99mph, or as specified by local code; without damage or permanent set, when tested in accordance with ASTM E 330, using 10 second duration of maximum load.

D. Test Reports: Provide a summary of the conforming test procedures and result, which include, but are not limited to: Air Infiltration, Water Resistance, Load, and Structural Testing in accordance with ASTM E-283, ASTM E-330, ASTM E-331, ASTM E-547.

E. Torsion Springs: Commercial Projects: High Cycle Life Warranty (20,000–100,000 cycles; as applicable) as available per Manufacturer engineered calculations, or Residential Projects: [Lifetime Spring Cycle Warranty.

F. Hinges & Fixtures: 12ga, Stainless Steel, Laser Cut, and Precision Formed, offset numbered type, and graduated to ensure weather tight fit.

G. Rollers: Stainless Steel Stem, Bushing, and Fitting, with polymer coated races, 500lb-800lb capacity each roller, with precision Stainless Steel Ball Bearings, and mechanically sealed on both sides. [Note: Roller size must match the appropriate track type]

H. Additional Components: All components found in section 2.03 are to be provided by the door manufacturer (as a single source supplier) to ensure that manufacturers recommendations on various parts, have been tested, and properly combined to function as described.

I. Aluminum Stiles and Rails: Extruded aluminum with tensile strength of at least 38 ksi; (approximately double the strength of 6063-T6 alloy) and complying with ANSI/DASMA 102 / 103.

2.03 COMPONENTS

A. Stile & Rail Alloy: Extruded aluminum with tensile strength of at least 38 ksi; (approximately double the strength of 6063-T6 alloy) and complying with ANSI/DASMA 102 / 103.

B. Stiles & Rails: Models: **bp**-350 (Top / Btm. rails: 3-1/4" tall), **bp** -450HD (Top / Btm. rails: 5-3/8" tall), & **bp** -550SHD (Top / Btm. rails: 7-3/8" tall); or as required per the Manufacturer's safety recommendations for the width, height, weight, and track operating clearance.

1. Horizontal Meeting Rails: Combined overall width; 2-3/4 inch.

2. Vertical Intermediate Center Mullions: 1-1/2 inch wide.

3. End Stiles: 3-1/4 inch wide.

4. Structural Fastening: Zinc-plated 5/16 inch thru-bolts, nuts, and tension indicating washers to secure stiles and rails.

C. Door Thickness: 1 3/4 inch, nominal.

D. Joints: Smooth and tight fitting mitered joints.

E. Stop Moldings: “Aluminum” snap-in bead glass stops; (Non-Vinyl, or other type)

F. Configuration & Elevation: Product should conform to the general drawings provided, and be consistent to the number of panels drawn in width, number of panels drawn in height; or per the safety limits and recommendations of the manufacturer.

G. Glazing Panel Type: Note: (by Architect, or Project Rep.)

1. Laminated Glass Panels: 1/4”– 3/8” Laminated safety glass; ASTM C 1172 with White polyvinyl butyral (PVB) interlayer, and meeting safety criteria of CPSC 16 CFR 1201 Categories 1 and 2, ANSI Z97.1

a. Makeup / Color / Type: White Laminated Obscured [as default]

1.1 Additional Glass or Panel Choices: Colors, Types, Transparent, Obscured, or other, have been tested and provided for on the CPD (Certified Products Database) of the searchable NFRC Website: http://search.nfrc.org/search/cpd/cpd_search_detail.aspx?cpdnum=BPC-A-1

H. Counter Balance: Galvanized torsion springs, head plates, and center spring supports mounted on continuous torsion bar and adjusted to counter weight and travel of door.

1. Cable Drums: Die cast aluminum, paired for track type indicated.

2. Lift Cables: High tension aircraft cable: 1/8”-1/4”diameter; per Manufacturer requirements

3. Springs: Galvanized and related hardware as necessary for system indicated.

I. Track: As required for track system indicated with continuous steel support angles and slight taper to ensure weather-tight fit in closed position.

1. Track System Type: Standard Lift - [as default], or in accordance with manufacturer’s recommendations based on door weight, height, field conditions at header or as drawn, and local building code requirements.

2. Track Size: 3 inch, 12 ga. galvanized steel commercial track set, on continuous wall mounted angle support, which extends from the floor up to the door header. Continuous angle not less than 2-1/8” x 2-3/4” or 2 inch, 15 gage; galvanized steel commercial track set, on continuous wall mounted angle support, which extends from the floor up to the door header. Continuous angle not less than 2” x 2”, or in accordance with manufacturer’s recommendations based on door weight, height, field conditions of header; or as drawn, and local building code requirements. [Note: Do not exceed 800lbs on 2” track, or 1600lbs on 3” track, based on a formula of 5lbs per square ft. of requested door width x height.]

3. Support Angle: 12ga. min. Galv. steel, or in accordance with manufacturer’s recommendations based on door weight, height, track type and local building code requirements.

4. Track Radius: 15", or in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.

J. Hinges & Fixtures: 12ga, Stainless Steel, Laser Cut, and Precision Formed, offset numbered type, and graduated to ensure weather tight fit.

K. Rollers: Stainless Steel Stem, Bushing, and Fitting, with polymer coated races, 500lb-800lb capacity each roller, with precision Stainless Steel Ball Bearings, and mechanically sealed on both sides. [Note: Roller size must match the appropriate track type]

L. Operators: Choose from (1) of the following: Lift Master: Model-Trolley Electric Operator with key station type control – [as default for commercial application]; or Manual Chain Hoist Type Operator [For Use On High Lift, Full Vert., Standard, or Roof Pitch Track Only!] Note: Low Headroom Tracks will require a Trolley Type Electric Operator for Safety; as provided by door manufacturer, and in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.

1. Electrical Characteristics: Phase: [Single/Mono], Volts: [110-120], Hertz: 60, Dedicated 20 amp circuit for a (1) Horse Power A/C motor 60

M. Operator Station Control [Required if electric operators are specified]: Push Button Station with Constant Contact Pressure, as provided by door manufacturer, and in accordance with manufacturer's recommendations and local building code requirements. The control station should be located and installed in close proximity to the door, motor operator (left or right side), and provide unobstructed line to site vision; when operating (opening / closing) the unit. [Per UL325].

N. Floor Seal / Btm. Weather Stripping Gasket: Factory applied EPDM gasket full length of bottom section and at each end of top rail making contact with bumper spring.

O. Side Jamb & Header Weather Stripping: (2) part extruded aluminum and (1) part EPDM system with fasteners concealed inside snap-on cover. (2) sets ea.; mounted at interior perimeter (between jambs and continuous mounted angle, including the header), in addition to the exterior perimeter.

P. Shop Drawings: Indicate accessories, opening dimensions and required tolerances, connection details, anchorage, spacing, hardware locations, and installation details

2.04 FINISH

A. Color and Coating Type: As selected by Architect, from manufacturer's standard color range: Choose from (1) of the following below: (with color #; by Architect, or Project Rep.)

1. Clear Anodized Aluminum: Clear anodic coating; AA-M12C22A21 3-4 mils thick; ASTM B 244. (10 year color fade warranty; verified by Manufacturer in writing)
2. Powder Coat: High Performance Organic Finish: AAMA 2604; multiple coats, thermally cured fluoropolymer system. (10 year color fade warranty; verified by Manufacturer in writing)
3. Kynar: Superior Performance Organic Coating System: AAMA 2605; multiple coats, thermally cured polyvinylidene fluoride (PVDF) system. (30 year color fade warranty; verified by Manufacturer in writing)
4. Simulated Wood Grain Powder Coated Aluminum: Combination of AAMA 2604 and AAMA 2603 organic coatings. (10 year color fade warranty; verified by Manufacturer in writing)

a. Color (Name/Number): ????? [by Architect, or Project Rep.]

B. Field Touch-Up Materials: As recommended by manufacturer for field application.

2.05 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A 653 with G40 coating.

B. Torsion Springs: Galvanized steel; ASTM A 227, Class II zinc coating in accordance with Section 9.2 of ASTM A 641, or Oil Coated per ASTM A 227 - Standard Specification for Steel Wire, Cold-Drawn for Mechanical Springs; 2006. High Cycle Life (Commercial Projects) or Lifetime Warranty (Residential Projects) as provided by Door Manufacturer.

C. Aluminum Sheet: ASTM B 209, 5005 alloy, H14 temper, plain surface.

D. Aluminum Extrusions: At least 38ksi tensile strength; ASTM B 221 and Aluminum Association (AA) standards.

E. Stainless Steel Hinges & Fixtures: Graduated / Universal Hinges, Intermediate Hinges, Top Fixtures, Bottom Fixtures; and related hardware to be of 12ga. min. thickness, and 304 type min alloy

2.06 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels; 2002.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2005.

D. ASTM A 227 - Standard Specification for Steel Wire, Cold-Drawn for Mechanical Springs; 2006.

E. ASTM A 641 - Standard Specification for Zinc–Coated (Galvanized) Carbon Steel Wire; 2009.

F. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.

G. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2007.

H. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2008.

I. ASTM B 244 - Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments; 2009.

J. ASTM C 1036 - Standard Specification for Flat Glass; 2006.

K. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass—Kind HS, Kind FT Coated and Uncoated Glass; 2004.

L. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass; 2009.

M. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004.

N. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2010.

O. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2009.

P. ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference; 2009.

Q. ANSI/DASMA 102 - American National Standard Institute/Specifications for Sectional Overhead Type Doors; Door & Access Systems Manufacturers' Association, International; 2004.

R. ANSI/DASMA 103 – American National Standard Institute/Standard for Counterbalance Systems on Residential Sectional Garage Doors; Door & Access Systems Manufacturers' Association, International; 2006.

S. ANSI/DASMA 105 – American National Standard Institute/Test Method for Thermal Transmittance and Air Infiltration of Garage Doors; Door & Access Systems Manufacturers' Association, International; 2004.

T. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.

U. NFRC 400 – National Fenestration Rating Council Incorporated; Procedure for Determining Fenestration Product Air Leakage; 2010

PART 3 EXECUTION

3.01 VERIFICATION OF SITE CONDITIONS AND FIELD MEASUREMENTS PER SHOP DRAWINGS

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits; if not possible, shop drawings must be sign off prior to fabrication.

B. Verify that electric power is available and of the correct characteristics.

C. Verify that field conditions and structural blocking are acceptable and are ready to receive this work.

D. Verify that related items provided under other sections are properly sized and located.

E. Verify that built-in items are in proper location, and ready for installation of this work.

F. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door DO NOT CONFLICT WITH OVERHEAD ROLLING DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

B. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door. DO NOT CONFLICT WITH OVERHEAD ROLLING DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.03 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07 9005.

G. Provide the necessary equipment for a safe installation, which include, but are not limited to; scissor lifts [doors over 8ft high], cranes, specialty hoisting, harness, or rigging equipment.

H. Provide the necessary transporting of freight, shipping crates, boxes, and sundries to ensure the product is not damaged during shipping, transporting to the site of installation, or installation.

I. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door. DO NOT CONFLICT WITH OVERHEAD ROLLING DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.04 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch.

B. Maximum Variation from Level: 1/16 inch.

C. Maximum Deflection [Width or Height]: 0.75%, when in the open or closed position.

D. Maintain dimensional tolerances and alignment with adjacent work.

E. Operating Weight: Door weights are approx. 5lbs. pr. sq. ft. max. (Based on Laminated Safety Glass Panels: 1/4” O.A. glass; ASTM C-1172 with polyvinyl butyral (PVB) interlayer, and meeting safety criteria of CPSC 16 CFR 1201, Categories 1- 2, and ANSI Z97.1

3.05 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weather stripping.

B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.06 CLEANING

A. Remove temporary labels and visible markings.

B. Clean doors, frame rails, and glazing, with soapy water, and dry with a soft rag to avoid scratches

3.07 PROTECTION

A. Protect installed products from damage during subsequent construction.

B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

[END OF SECTION 08 36 13.10]