

# INVITATION TO BID

**INVITATION TO BID #05-07**

**BID DESCRIPTION: Third Passenger Boarding Bridge (PBB)**

**ISSUE DATE: Monday, February 14, 2005**

**BID OPENING DATE: Wednesday, March 2, 2005**

**BID OPENING TIME: 10:30 AM CST**

BID RESPONSES MUST BE RECEIVED NO LATER THAN THE PUBLIC BID OPENING DATE AND TIME (LOCAL TIME) SPECIFIED ABOVE. BIDS WILL BE OPENED AND READ ALOUD AT THAT TIME. LATE BIDS WILL NOT BE CONSIDERED.

## **TO ALL PROSPECTIVE CONTRACTORS/BIDDERS:**

You are hereby invited to submit your bid for the item(s) to be furnished and delivered, shipped f.o.b. to the address specified herein.

All bids must be received in **DUPLICATE** in sealed envelopes.

All bids are subject to staff analysis and Board approval. The Greater Rockford Airport Authority (Authority) reserves the right to accept or reject any and all bids received and waive any and all technicalities.

Bids must be delivered prior to the public bid opening date and time to:

**Greater Rockford Airport Authority  
60 Airport Drive  
Rockford, IL 61109-2902**

Direct any and all inquiries about this bid document to Amy M. Ott, Deputy Director of Finance & Administration, at 815-969-4445 or [aott@flyrfd.com](mailto:aott@flyrfd.com) .

Direct any and all inquiries about the Specifications Section 3.2 Attachment A to Bryan Vandiver, Operations Manager, at 815-703-5308 or [bvandiver@flyrfd.com](mailto:bvandiver@flyrfd.com) .

## Instructions to Bidders

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### 1.1 Bid Preparation

Bids must be submitted, in duplicate, on the blank Bid Form furnished with these contract documents and shall conform to the terms and conditions set forth in the “Instructions to Bidders,” “General Terms and Conditions” and “Special Terms and Conditions” of the contract. Bids submitted in any other manner, or which fail to furnish all information or certificates required, may be summarily rejected. Bids may be modified or withdrawn prior to the time specified for the opening of bids. Bids shall be filled out legibly in ink or typewritten with all erasures, strikeouts and corrections initialed in ink by the person signing the bid.

### 1.2 Bid Execution

If the Bidder is a corporation, the President shall execute the bid. In the event that the bid is executed by other than the President, a certified copy of that section of the corporate by-laws or other authorization by the corporation, which permits the person to execute the bid for the corporation, shall be submitted. If the Bidder is a partnership, all partners shall execute the bid, unless one partner has been authorized to sign for the partnership, in which case, evidence of such authority satisfactory to the Deputy Director/Finance & Administration shall be submitted. If the Bidder is a sole proprietor, the owner shall execute the bid. A “Partnership” or “Sole Proprietor” operating under an Assumed Name shall be registered with the Illinois County in which located, as provided in the Illinois Compiled Statutes, 805/ILCS 405/1.

### 1.3 Bid Submission

The Greater Rockford Airport Authority must receive all bids by the specified opening time of the bid. Bids arriving after the specified time will not be accepted and will be returned unopened. All bids shall be submitted in sealed envelopes with the following information explicitly shown (centered both vertically and horizontally on the envelope): name and address of bidder and bid number. Further, the sealed envelope must be clearly marked “SEALED BID.” The Bidder shall be responsible for the delivery of the bid before the date and hour set forth for the opening of bids.

### 1.4 Error in Bid

Bidders are cautioned to verify their bids before submission. Negligence on the part of the Bidder in preparing the bid confers no right for withdrawal or modifications of the bid after it has been opened. In case of error in the extension of prices in the bid, the unit price will prevail.

### 1.5 Variances and Deviations

Variances and deviations shall be described fully on the Bid Form. In the absence of such statement, the bid shall be considered as if submitted in strict compliance with all terms, conditions, and specifications; the Contractor shall be held liable. Contractors are cautioned to avoid making variances and deviations to the specifications, which may result in rejection of their bid.

### 1.6 Reserved Rights

Greater Rockford Airport Authority reserves the right at any time and for any reason to cancel this Invitation to Bid, accept or reject any or all bids or any portion thereof, or to accept an alternate bid. The Authority reserves the right to waive any immaterial defects or irregularities in any bid. The Authority may seek clarification from any Bidder at any time and failure to respond promptly is cause for rejection. The Authority has sixty (60) days to accept the bid.

### 1.7 Interpretation or Correction of Bidding Documents

Bidders shall promptly notify the Authority no later than one (1) week before bid opening of any ambiguity, inconsistency or error, which they may discover upon examination of the bidding documents. Interpretations, corrections and changes will be made by written addendum. Each bidder shall ascertain prior to submitting a bid that all addenda have been received and acknowledged in the bid. Oral explanations will not be binding.

### 1.8 Incurred Costs

The Authority will not be liable for any costs incurred by Bidders in replying to this Invitation to Bid.

1.9 No Bid Response

If your firm declines to bid on this invitation, but desires to remain on the Authority's Bidders' List for future invitations, please submit in a letter stating why you are declining to bid.

1.10 Basis of Award

It is the intent of the Authority to award a contract to the lowest responsible bidder meeting specifications. Further, the Authority reserves the right to determine the lowest responsible bidder in any way determined to be in the best interests of the Authority. Award will be based on the following factors (where applicable): (a) adherence to all conditions and requirements of the bid specifications; (b) price; (c) qualifications of the bidder, including past performance, financial responsibility, general reputation, experience, service capabilities, and facilities; (d) delivery or completion date; (e) product appearance, workmanship, finish, taste, feel, overall quality, and results of product testing; (f) maintenance costs and warranty provisions; and (g) repurchase or residual value.

1.11 Pre-Bid Conference

If a Pre-Bid Conference is a requirement of this contract, it will be shown on the Title Page.

*End of Instructions to Bidders*

## General Terms and Conditions

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### 2.1 Non-Discrimination

Contractor shall comply with the Illinois Human Rights Act, 775, ILCS 5/1-101 et seq., as amended and any rules and regulations promulgated in accordance therewith, including, but not limited to the Equal Opportunity Clause, Illinois Administrative Code, Title 44, Part 750 (Appendix A), which is incorporated herein by reference. Furthermore, the Contractor shall comply with the Public Works Employment Discrimination Act, 775 ILCS 10/0.01 et seq., as amended.

During the performance of this Contract, the Contractor agrees that it shall not discriminate against any worker, employee or applicant, or any member of the public, on the basis of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap, or sexual orientation. Upon request of the Authority, the Contractor also agrees to submit in writing an affirmative action plan demonstrating compliance with equal employment opportunity laws and policies. Contractor further agrees that this clause will be incorporated by the Contractor in all contracts entered into with suppliers or materials or services, sub-contractors and all labor organizations furnishing skilled, unskilled and craft union skilled labor, or any other person or organization performing services in connection with this Contract.

### 2.2 Drug-Free Workplace

The Contractor agrees to provide a drug free workplace as provided for in the Drug Free Workplace Act, 30 ILCS 580/1, et seq.

### 2.3 Tax Exemption

The Greater Rockford Airport Authority is not subject to Federal Excise Tax. Per Illinois Compiled Statutes, 35 ILCS 120/2-5, the Greater Rockford Airport Authority is exempt from state and local taxes. Our exempt number is E9992-3521-04

### 2.4 Warranties

Contractor warrants that all goods and services furnished hereunder will conform in all respects to the terms of this solicitation, including any drawings, specifications or standards incorporated herein, and that they will be free from latent and patent defects in materials, workmanship and title, and will be free from such defects in design. In addition, Contractor warrants that said goods and services are suitable for, and will perform in accordance with, the purposes for which they are purchased, fabricated, manufactured and designed or for such other purposes as are expressly specified in this solicitation. The Authority may return any nonconforming or defective items to the Contractor or require correction or replacement of the item at the time the defect is discovered, all at the Contractor's risk and expense. Acceptance shall not relieve the Contractor of its responsibility.

The Contractor further agrees, upon written notice from the Authority, to promptly and without charge, make changes, corrections and/or replacement, to the satisfaction of the Authority, which may be required to make good all defects in design and material under its intended use, for a period of one (1) year, with the one (1) year period commencing on the date of acceptance by the Authority. The Contractor shall receive no compensation for cost in replacement of goods or workmanship.

### 2.5 Indemnification

Contractor agrees to indemnify, save harmless and defend the Greater Rockford Airport Authority, its agents, servants, Commissioners, and employees, and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses or expenses, including court costs and attorneys' fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to any property, which may arise or which may be alleged to have arisen, in whole or in part, out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly and solely by the negligence or other fault of the Greater Rockford Airport Authority, its agents, servants, Commissioners, or employees or any other person indemnified hereunder. This indemnification obligation is not limited by, but is in addition to the insurance obligations, which may be contained in this contract. The provision of this paragraph shall not be waived.

## General Terms and Conditions

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### 2.6 Termination and Default

Time is of the essence of this contract and if delivery of acceptable items or rendering of services is not completed by the time promised, the Authority reserves the right, without liability, in addition to its other rights and remedies, to terminate the contract by notice effective when received by Contractor, as to stated items not yet shipped or services not yet rendered and to purchase substitute items or services elsewhere and charge the Contractor with any or all losses incurred. The Authority shall be entitled to recover its attorney's fees and expenses in any successful action by the Authority to enforce this contract.

### 2.7 Royalties and Patents

Contractor shall pay all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent, copyright or trademark rights and shall hold the Authority harmless from loss on account thereof.

### 2.8 Regulatory Compliance

Contractor represents and warrants that the goods or services furnished hereunder (including all labels, packages and containers for said goods) comply with all applicable standards, rules and regulations in effect under the requirements of all Federal, State and local laws, rules and regulations as applicable, including the Occupational Safety and Health Act as amended, with respect to design, construction, manufacture or use for their intended purpose of said goods or services. Contractor shall furnish "Material Safety Data Sheets" in compliance with the Illinois Toxic Substances Disclosure to Employees Act.

Pursuant to Illinois Municipal Code 65 ILCS 5/11-42.1-1, by signing this bid the Contractor certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue.

The Contractor certifies that they are not barred from bidding on this contract as a result of engaging in or being convicted of: (a) bid-rigging in violation of Section 3; or (b) bid-rotating in violation of Section 4, of the Illinois Criminal Code of 1961, as amended [720 ILCS 5/33E-3 and 4].

### 2.9 Discounts

Prices quoted must be net after deducting all trade and quantity discounts. Where cash discounts for prompt payment are offered, the discount period shall begin with the date of receipt of a correct invoice or receipt or final acceptance of goods, whichever is later.

### 2.10 Inspections

The Authority shall have the right to inspect any materials, components, equipment, supplies, services, or completed work specified herein. Any of said items not complying with these specifications are subject to rejection at the option of the Authority. Any items rejected shall be removed from the premises of the Authority and/or replaced at the entire expense of the Contractor.

### 2.11 References

To allow the Authority to evaluate the experience of the Contractor, as it relates to this purchase, the Contractor must submit a minimum of three (3) references of organizations that have purchased similar items. Failure to include references may result in bid disqualification. References must be submitted on the Bid Form.

### 2.12 Law Governing

This contract shall be governed by and construed according to the laws of the State of Illinois.

***End of General Terms and Conditions***

## Special Terms and Conditions

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- 3.1 Pricing  
The price quoted for each item is the full purchase price, including delivery to destination, and includes all transportation and handling charges, premiums on bonds, material or service costs, patent royalties and all other overhead charges of every kind and nature. Unless otherwise specified, prices shall remain firm for the contract period.
- 3.2 Specifications  
See Attachment A for Apron Drive Passenger Boarding Bridge Specification, and Alternative Bridge Mounted DEW Valet Baggage System.
- 3.3 Transportation & Installation  
The transportation and installation costs of the bridge shall be included as part of the contract between the Authority and the Contractor.
- 3.4 Insurance  
The Contractor shall maintain at all times a minimum commercial liability insurance policy in the amount of \$2,000,000.00 and must name the Greater Rockford Airport Authority as additional insured on Contractors policy. Proof of adequate insurance in the form of a Certificate of Insurance must be provided to the Authority upon contract acceptance.
- 3.5 Training  
Eight (8) hours of operator training and eight (8) hours of maintenance training shall be provided at a time convenient to the Authority but no later than the operational date of the bridge.
- 3.6 Inspection  
The Contractor will be responsible for all repairs to the bridge until such time that the Authority has signed acceptance and all training has been completed. The Authority will provide written acceptance upon final inspection of completed punch list items verifying that the bridge is complete in all respects and operating properly, and that all training, to the Authority's satisfaction, is accomplished.
- 3.7 Warranty  
The Contractor shall warrant that the PBB and all components and accessories comply with the requirements of the contract documents, including approved drawings and this specification. The PBB shall perform to the design function for a minimum period of twenty (20) years from the date of final acceptance by the Authority.
- 3.8 Retainer  
The Authority will retain 10% of the total bid package until final inspection is deemed full and complete.
- 3.9 Invoicing and Payment  
The goal of the Authority is to pay properly submitted Contractor invoices within thirty (30) days of receipt, providing goods have been delivered and/or services have been performed, approved and accepted by the Greater Rockford Airport Authority. Original invoices must be presented for payment in accordance with instructions contained on the Purchase Order including reference to Purchase Order number and submitted to the correct address for processing.
- 3.10 Buy American Steel and Manufactured Products (Jan. 1991)  
The Contractor agrees that only domestic and manufactured products will be used by the Contractor, subcontractors, material manufacturers and suppliers in the performance of this contract, as defined in The Aviation Safety and Capacity Expansion Act of 1990. (See Attachment B)

## Special Terms and Conditions

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### 3.11 Bid Bond

Bids shall be accompanied by cash, a money order, or a cashier's certified check, payable to the Greater Rockford Airport Authority amounting to five percent (**5%**) of the bid, or by a bond in said amount and payable to same, signed by the Bidder and a corporate surety, or by the Bidder and two sureties who shall justify before any officer competent to administer oaths, in double said amount over and above all statutory exemption. Said check shall be forfeited, or said bond shall become payable in case the Bidder depositing same does not within *fourteen (14) consecutive calendar days* after written notice, execute this contract. (See Attachment C – BID BOND)

*End of Special Terms and Conditions*

Full Name of Bidder: \_\_\_\_\_

Business Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ FAX: \_\_\_\_\_

Email: \_\_\_\_\_

Contract Person: \_\_\_\_\_

FEIN: \_\_\_\_\_

The undersigned, being duly sworn, certifies that he/she is:

- The Owner/  
Sole Proprietor       a Member of the  
Partnership       an Officer of the  
Corporation       a Member of the  
Joint Venture

Further, the Contractor declares that the only person or parties interested in this bid as principals are those named herein.

Further, the undersigned hereby certifies that they have read and understand the contents of this bid and agree to furnish at the prices shown any or all of the items above, subject to all instructions, conditions, specifications, warranties and attachments, including Addenda No. \_\_\_\_\_ and \_\_\_\_\_ issued thereto, except only to the extent that the Contractor has taken express written exception in this bid, hereto. Failure to have read all the provisions of this bid shall not be cause to alter any resulting contract or request additional compensations.

Further, by signing this bid document, the bidder hereby certifies that they are not barred from bidding on this contract as a result of a violation of either Section 33E-3 or 33E-4 of the Illinois Criminal Code of 1961, as amended.

Further, by signing this bid document, the Contractor hereby certifies that pursuant to Illinois Compiled Statutes, 65 ILCS 5/11-42-1, the Contractor is not delinquent in the payment of any tax administered by the Department of Revenue.

Our State of Illinois Certification Number under the Fair Employment Practices Law is \_\_\_\_\_.

- (check if applicable) We do not have a State Pre-Qualification Statement. In lieu thereof, we will make an application at 312.814.2432 within thirty (30) days from the date of this bid opening.

Further, the Contractor agrees to provide a drug free workplace as provided for in the Drug Free Workplace Act, 30 ILCS 580.1 et seq.

**Authorized Signature:** \_\_\_\_\_

**Typed/Printed Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Third Passenger Boarding Bridge Base Bid Price \$\_\_\_\_\_

Added Alternates for Third PBB:

#1 – Bridge Mounted DEW Valet Baggage System \$\_\_\_\_\_

#2 – 400Hz/28VDC Bridge Mounted Ground Power System \$\_\_\_\_\_

#3 – Bridge Heat and Insulation \$\_\_\_\_\_

Total Base Bid and Alternates \$\_\_\_\_\_

Manufacturer name and model numbers (Bridge & Alternates) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Add additional sheets as necessary.)

Estimated Delivery Time\_\_\_\_\_

Estimated Installation to Completion Timetable\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Variances and Deviations

Variance 1: \_\_\_\_\_

\_\_\_\_\_

Variance 2: \_\_\_\_\_

\_\_\_\_\_

Variance 3: \_\_\_\_\_

\_\_\_\_\_

Variance 4: \_\_\_\_\_

\_\_\_\_\_

References

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Contact Person: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Contact Person: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Contact Person: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Contact Person: \_\_\_\_\_

Telephone #: \_\_\_\_\_

## **Attachment A**

### **APRON DRIVE PASSENGER BOARDING BRIDGE SPECIFICATION**

#### **I. GENERAL**

The Apron Drive Passenger Boarding Bridge (PBB) shall be designed to extend from the terminal departure doorway to the aircraft boarding door so that passengers can walk between the two completely protected from inclement weather, aircraft engine blast and blown dust.

The PBB shall provide a simple convenient, safe, and controlled method for passenger boarding. The bridge model for this gate shall be a 3 tunnel, 58/110 model apron drive bridge. The manufacturer shall confirm that the bridge will not exceed the ADA 1 in 12 slope requirements when servicing any of the required aircraft listed in the specifications.

#### **REQUIRED AIRCRAFT MIX**

The PBB shall provide service for the following aircraft;

- CRJ
- ERJ
- B737
- B757
- MD80
- B727

#### **II. DETAILED DESCRIPTION**

##### **A. ROTUNDA ASSEMBLY**

The rotunda assembly shall be made up of a corridor, rotunda and support pedestal. The rotunda shall be connected to the terminal, or optional fixed walkway, on the fixed side, and shall be connected to the telescoping tunnel assembly on the rotation side. The assembly shall be designed so that it does not transmit any live or dead loads or vibrations to the terminal building.

The rotunda assembly shall be designed to be the terminal end pivot for the PBB vertical and horizontal motion. The rotunda shall be fixed to a pedestal and provide the main pivot point that allows the PBB to rotate 175° (87½° clockwise and 87½° counterclockwise from the corridor centerline).

Over-travel and operational swing limits shall be located within the rotunda assembly. The operational swing limit shall be adjustable to meet local operating conditions and requirements. If the limit switch is activated, all control power to the bridge shall be disconnected to prevent the bridge from further travel. The rotunda frame shall be equipped with rubber bumper type mechanical stops to prevent the telescopic tunnels from over-retraction.

A potentiometer on top of the rotunda shall sense the rotation of the PBB and sound a warning buzzer at the control console prior to the actuation of the over-travel swing limit. The actuation of this warning buzzer shall be adjustable to meet local conditions. The warning buzzer shall be within the over-travel limit envelope and signal the rotational operational limits.

1. Corridor

The corridor shall provide the interface between rotunda and terminal building. The minimum width of the corridor shall be 4'-4" (1321mm). An additional walkway unit shall be attached between the corridor and the terminal building. This 12' long walkway shall be minimum 6'-10" (2082mm) wide by 7'-5" (2261mm) high. It shall accommodate a valet baggage system as described in the DEW Valet Baggage System, or equivalent, requirements meeting the specifications detailed in Alternate 1 (See page 18). The design of the corridor and walkway shall allow the installation of flexible weather seals and floor threshold to the face of the building.

2. Rotunda

The rotunda floor shall remain stationary and level at all times and provide a smooth transition between the terminal and the telescoping bridge tunnels.

Flap type seals shall provide weather protection between the rotunda and the hinged telescoping tunnel section.

3. Support Column

The support column shall be the structural support for the PBB. The support column shall rest on a foundation with a number 7 bolt pattern. The support column shall be custom made to meet specific site conditions. These dimensions shall be confirmed by the successful PBB manufacturer.

**B. TELESCOPING TUNNELS**

1. PBB telescoping tunnels shall be rectangular in cross section. "The roof shall be constructed of flat continuously welded 14 gauge steel; the walls shall be constructed of 14 gauge corrugated steel; and the floor panels shall be constructed of load bearing tubular steel sand blasted and painted in accordance with the bridge paint specifications; followed by flat steel painted sheeting, or corrugated panels. Either constructed floor system shall then be followed by 3/4" marine grade plywood decking." The tunnels with the largest cross section shall be closest to the aircraft. The tunnels shall be equipped with a roller track system, allowing the tunnels to extend and retract within themselves.

The selected PBB shall be based on the approved airport ramp planning procedures, and shall accommodate the proposed aircraft parking arrangements and existing terminal floor heights. The operational tunnel floor slope shall be 8.33% maximum.

2. A hinged transition ramp shall accommodate the difference in elevation where the telescoping tunnel sections overlap. The transition area shall consist of a section of floor complying with the latest ADA and NFPA 415 requirements measured with respect to the tunnel centerline. To comply with ADA requirements and ensure passenger safety, handrails shall be provided on both sides of the tunnel in the ramp area.
3. Minimum interior clear dimensions for three tunnel PBB's are as follows:

Minimum Floor Width	4'-10" (1473mm)
Minimum Interior Height	7'-0" (2134mm)
Minimum Inter-Tunnel Ramp Width	4'-8" (1422mm)
Minimum Corridor Width	4'-4" (1321mm)
4. The telescoping tunnel sections shall be equipped with an exterior electrical cable conveyance system. This system shall be accessible to maintenance personnel for inspection or cable addition at all bridge positions and operating conditions. The cable conveyance system shall be 2" by 6", resulting in a cross sectional area of 12 square inches, which shall be capable of supporting a variety of cables and hoses.

### C. SERVICE ACCESS

A service door, landing and stair leading to the apron area constitute the service access. The service access shall be located on the right hand side of the cab end of the PBB. It shall provide access between the PBB and apron for authorized personnel.

1. The service door shall be a minimum 2'-6" (762 mm) by 6'-8" (2032 mm) steel, hollow core, half wire glass, fire rated to NFPA 80. The service door shall be equipped with a weatherproof, heavy-duty, automatic door closure. A No. 4 finish, 16-gauge stainless steel cover plate with horizontal "brush marks" shall cover 12" (305mm) minimum, of the lower portion of the service door. The service door shall open outward onto the service landing.
2. The service stair landing shall be parallel to the adjacent cab bubble floor. The landing shall be made of hot dipped galvanized steel, open mesh grating. The landing shall be protected on the open sides by tubular hot dipped galvanized steel handrails that meet OSHA standards. A switch operated 100 W light shall be

located above the landing to illuminate the service area for the maintenance personnel. The switch shall be located inside the service door.

3. The service stairs shall provide access from the ramp to the service door landing and shall be equipped with self-adjusting risers and tread made from expanded metal with a serrated edge for a gripping surface. All steps shall have an equal rise. The minimum tread width shall be 28.0" (711 mm) and the minimum tread depth shall be 9.5" (241mm). The length of the stair stringers will vary depending on the type of aircraft serviced. The service stair shall be protected on each side by handrails. The service steps and handrails shall be hot dipped galvanized steel. The service stair shall be accessible to the ramp service personnel at all operational heights and positions of the PBB.

#### D. CONTROL STATION

The control station shall be located at the cab end or aircraft end of the PBB. It shall provide the operator with a control console, service utilities, and control interlocks required to accomplish the PBB operations. The control console shall be positioned on the left side of the cab and oriented facing forward in full view of the aircraft during the maneuvering and docking operations. The control station shall be located inside the cab assembly and protected from the outside environment.

The control console shall be designed to allow easy operation by personnel possessing no special skills and with minimal training. All controls necessary for the operation and control of the PBB shall be located on or near the control console face and shall be grouped on the faceplate in functional groups. The control console includes the following controls:

##### 1. Control Console

###### a. Controls

All PBB motion controls shall be the momentary contact type (dead man) controls. All of the motion controls shall be designed to be relative to the function of the PBB being controlled, i.e., raise and lower functions, the "raise" push button will be located above the "lower" push button. The control console shall include the following controls:

- 1) A three-position master key switch used to select "OFF", "ON", or "AUTO" (automatic leveling). The key may be removed only in the "OFF" or "AUTO" positions.
- 2) A joystick shall be used to control all forward and reverse motion. The speed of travel shall be proportional to the movement of the joystick. This input shall allow the wheel speed to ramp up or down to provide smooth start and stops. A 4-quad joystick or push buttons on the control console shall control the left and right steering of the PBB.

- 3) Up/Down push buttons shall raise and lower the cab to match the mating aircraft doorsill level.
- 4) Left/Right push buttons shall rotate the cab head or assembly left or right.
- 5) The Canopy is to be actuated by individual push buttons. The buttons shall extend and retract the Canopy toward and away from the required aircraft.
- 6) Exterior Bridge Lights button shall be used to turn on the exterior floodlights that illuminate the apron and drive column.
- 7) Adjustable Cab Floor switch shall be used to select the mode of operation of the adjustable floor. There shall be two settings on the power switch, MAN and AUTO. The MAN setting shall be for manual operation of the adjustable floor. The AUTO setting enables the adjustable floor to automatically rise or lower, keeping it parallel to the aircraft doorsill as the PBB is raised or lowered.
- 8) Up/Down buttons shall be used to raise and lower the adjustable floor manually so it is parallel to the aircraft door sill.
- 9) Emergency Stop Button (mushroom type) shall be used to shut off power to all drive systems; shall also shut off the Auto Leveler system and activate an audible alarm. (Illuminates when depressed.)

b. Indicators

The control console shall have several indicators that display current status of PBB functions and ancillary components. These indicators shall be as follows:

- 1) Position indicators shall show both the vertical and the horizontal position or a position indicator shall be capable of switching from one to the other. The indicator/s shall be used for vertical and horizontal pre-positioning of the PBB prior to the arrival of the aircraft. The indicator/s shall also allow the operator to accurately move the PBB to an assigned parking position.
- 2) A Wheel Position Indicator shall show the orientation of the wheels along with the true tunnel centerline, regardless of the cab's rotational position.
- 3) Auto Leveler ON indicator light shall illuminate when the auto leveler is activated. This function maintains the PBB level with the aircraft door.

- 4) Auto Leveler Fault indicator light shall illuminate as well as an audible warning when there is a malfunction with the auto leveler.
- 5) Bridge Swing Limit indicator light shall illuminate and an audible warning bell shall sound when the PBB over rotates and trips the limit switches in the rotunda. When the limit switch is tripped it shall shut down all functions. To reset the shutdown function the manual override located in the control panel must require activation and reverse the direction of movement that tripped the shutdown.
- 6) A Drive Column Steer Limit light indicator shall illuminate when the wheels are rotated to their maximum degrees of rotation.
- 7) Canopy Extended indicator light shall illuminate when the canopy is extended to the aircraft. When the canopy is deployed the movement of the PBB shall be shut down until the canopy is in the fully retracted position.

NOTE: There shall be other indicators that are not located on the control console. These indicators shall be as follows:

An Amber rotating beacon light shall be mounted underneath the cab in a visually prominent location. The beacon light shall indicate that power to the PBB is on and movement can occur at any moment.

An audible hazard bell (98 db at 10 feet (3048 mm)) shall be mounted underneath the bridge and activated when the PBB is moving.

## 2. Utilities

- a. A six pair (twelve conductor) wire outlet for installation of telephone or intercom equipment shall be located on the right side wall of the rotating cab near the control console.
- b. Two (2) 120 volt, U ground, 15 amp, three-conductor duplex receptacles shall be provided inside the bridge. One shall be located in the rotating cab section near the control console and the other in the corridor of the rotunda assembly.
- c. One (1) weatherproof, GFI protected, 120 volt, U ground, 15 amp, three-conductor duplex receptacle shall be located on the drive column.

## 3. Control Features and Interlocks

- a. Electrical or Mechanical interlocks shall be provided to prevent damage to control circuits or PBB components by selecting opposite motions simultaneously. For example, depressing the "up" button prevents depressing

the "down" button. Interlocks for the PCA, 400Hz and 28VDC units and valet baggage shall be standard as part of that equipment.

- b. When the master key switch is in the "OFF" or "AUTO" position, the controls for horizontal and vertical movement, steering, aircraft closure and cab rotation shall be inoperative.

#### E. AIRCRAFT CAB

1. Slat-type cab curtains shall allow for the rotation of the cab 92.5 degrees counterclockwise and 32.5 degrees clockwise for a total of 125 degrees. One row of wire reinforced glass windows of uniform size and shape shall be provided in the curtains to provide better visibility of the ramp area.
2. The rotation of the cab shall be a minimum 2 degrees per second. Limit Switches and hard stops shall be installed to ensure control of the cab rotation limits.
3. The cab shall be equipped with a forward facing control console. The console shall have laminated glass windows located in front, left and right of the operator. Operation of the PBB shall be accomplished without opening the weather doors. Additional visibility shall be obtained through the vision panels in the cab side-coiling curtains.
4. Weatherproof doors shall be provided adjacent to the console to seal the interior from adverse weather conditions and secure the PBB from unauthorized access when the PBB is not in use. These doors shall be swinging double doors that open inward and the ability to be latched closed. The minimum clear width of the weather doors when open shall be 43.5" (1105 mm). The minimum clear height of the weather door shall be 85" (2159 mm). The upper portion of each weather door shall have a wire-glass window.
5. A bumper or spacer shall be fitted across the front edge of the cab floor to ensure no metal contact between the PBB and the aircraft being served. The bumper/spacer material shall meet the fire protection specifications of NFPA-415 and shall be sufficiently flexible and non-abrasive to prevent scratching or other damage to the aircraft fuselage.
6. The aircraft end of the cab shall be equipped with a cab floor that adjusts to the optimum position relative to the aircraft door. The floor shall be actuated and independently adjustable to adapt to the slope of aircraft doorsills. The automatic leveling system shall correct the floor to a slope less than 0.5% after a slope of 2.0% has been reached. No portion of the cab floor shall exceed 8.33% slope in the direction of the expected passenger traffic.
7. To accommodate CRJ service, the left side of the cab floor shall be capable of retracting to allow the CRJ top step to sit flush with the bridge bumper with

minimal gaps on either side. Adequate clearance and sensors to accommodate aircraft handrail protrusions shall be provided. The moveable portion shall be hinged with a sensor to prevent damage to the aircraft step in the event of an autoleveler fault.

8. A cab floor de-icer shall be provided to the exterior of the cab weather door, with a thermostatically controlled system and manual on/off switch mounted in the control panel. The system shall include a switch in the control panel to allow the de-icer to be used in either automatic or manual mode. The heating system shall prevent any floor mechanisms, such as handrail slots from not operating in freezing conditions.
9. Exterior adjustable floodlights shall be provided for nighttime operation to illuminate the ramp ahead and the drive column.
10. One outdoor-type 100 W light encased in a safety case shall be provided at the top landing of the service stairs. An interior switch shall be located adjacent to the right-hand side of the service door.

#### F. AIRCRAFT CLOSURE

1. The aircraft end of the cab shall be equipped with a folding bellows aircraft closure (canopy). When fitted against the fuselage, the canopy shall surround both the open aircraft door and the doorway to provide shelter for the passengers transferring between the PBB and the aircraft. The canopy shall be positioned after the PBB is moved to the aircraft, using the control panel located in the cab unit.
2. The exterior gray covering shall not absorb water and shall be highly tear resistant. The contacting seal shall be made of soft material to prevent scratching or damage to the aircraft skin. The seals that contact the aircraft shall be segmented and attached to the main closure assembly with Velcro type fastener strips for easy replacement.
3. A wear and UV resistant material shall form the exterior surface of the canopy. The interior surface of the canopy shall be a flame retardant material compliant with NFPA 415 requirements.

#### G. AUTOMATIC LEVELING

1. The PBB shall be equipped with an automatic leveling system. This system shall allow the bridge to follow changes in the aircraft elevation that occur during aircraft boarding and unloading. The wheel-type-leveling sensor shall be located on the right-hand side of the cab and shall be in full view of the operator at the control console.

2. The auto-lever shall be engaged when the master key switch is positioned to “AUTO”.
3. The auto-leveler circuit shall include a sustained travel timer. Vertical travel shall stop in the event that the system does not neutralize within a pre-set adjustable distance of 1” (25 mm) to 6” (152 mm) or of a certain time limit (1.6 to 16 seconds maximum). An audible warning device shall be installed at the control console.

## H. DRIVE COLUMN

The drive column shall provide the vertical and horizontal motion for the PBB. The drive column and control systems shall be designed for smooth, quiet operation. The vertical and horizontal movements shall both be operated at the same time. The drive column shall be divided into two major components: Vertical Drive and Horizontal Drive.

1. Vertical Drive
  - a. This system shall be an electrical/mechanical system. The lift mechanism shall consist of two (2) re-circulating ball bearing screw assemblies; each with individual motors. Both vertical AC drive motors shall be individually fitted with spring actuated brakes (safety brakes) to prevent the bridge from dropping in the event of a vertical drive system failure. Each assembly shall be capable of supporting the bridge under full design load in case of failure in one of the assemblies.
  - b. To prevent bridge racking, the two lift columns shall be permanently linked through a drive shaft or if the lift columns are not linked together a fault detector shall be required. The fault detector shall sense differential motion of the ball screw assemblies and shall disconnect electrical power from the vertical drive motors if a fault is detected.
  - c. The ball nut shall be equipped with wiper brushes to remove grit and dirt from screw threads and a self-locking safety nut. Both vertical AC drive motors shall be fitted with spring actuated brakes (safety brakes) to maintain the bridge height without creep and to prevent the bridge from dropping in the event of a vertical drive system failure.
  - d. The vertical travel speed as measured at the cab platform shall be nominally 3.6 ft (1097 mm) per minute.

## 2. Horizontal Drive

- a. The horizontal drive system shall be an electrical/mechanical system. This two-wheeled drive system shall drive the PBB from its parked position to the aircraft.
- b. The horizontal drive shall be powered by an AC electric motor directly connected to each of the drive wheels controlled by variable speed drives. The horizontal drive system shall provide the extend-retract, swing and steer capabilities at variable speeds. By ramping the variable speed drives the PBB shall have smooth, controlled starts and stops.
- c. The horizontal drive motor shall be equipped with a manual brake release that allows for towing the PBB in the event of a power failure. Connection towing points shall be located on the drive system to allow the bridge to be towed in case of power failures.
- d. A steer angle of 180° shall be possible. Steering speed shall be adjustable from 16°/sec minimum to 42°/sec maximum.
- e. The PBB shall use recapped pneumatic aircraft tires.

## I. INTERIOR FINISHES

The interior finish of the PBB shall be designed to be durable and easy to clean. The materials must be selected and time-proven to withstand the environmental exposure of airport traffic.

1. The ceiling shall consist of continuous plank type panels. The ceiling panels to be removed individually. The ceiling material shall be a 4" (102 mm) or 8" (204mm) linear plank-type panel manufactured from 0.020" (.51 mm) thick aluminum with a white baked-on enamel finish. These panels run perpendicular to the tunnel centerline and shall be continuous from wall to wall. A suitable molding shall be provided along the longitudinal corners of the ceiling finish.
2. Commercial double tube, flush-recessed, fluorescent lighting fixtures with plastic diffusers shall be provided perpendicular to the long dimension of the tunnels spaced on 8'-0" (2438 mm) centers. The PBB tunnel minimum light intensity shall be 18-foot candles at the floor.
3. Three-way switches shall be provided for the interior lighting at two locations with one at the rotunda assembly and the other in the rotating cab area of the PBB.

4. The standard sub-floor within the tunnels shall be ¾" (19 mm) thick Marine grade plywood. The adjoining plywood sheets shall be supported and suitably fastened to a common member to provide smooth, even joints.
5. Corrugated black ribbed rubber ¼" (6 mm) thick, shall be provided on the floor of the cab. Flashing shall be provided at all edges of the flooring.
6. The floor covering shall be supplied and installed by PBB manufacturer. Color shall be selected by the Authority. Carpet shall be standard commercial grade carpet with a minimum pile weight of 28 oz./sq.yd.
7. The interior tunnel wall treatment shall consist of floor to ceiling laminated particleboard or laminate phenolic and melamine plastic panels. The panels shall be 4' (1219 mm) in width and shall be supported by clear anodized aluminum trim. The design shall allow each panel to be removed individually. Colors to be selected by the Authority.
8. The walls of the rotunda pivoting section shall be developed using a series of 2.5" (63.5 mm) wide formed galvanized steel slats that shall be connected together to develop a coiling curtain assembly.
9. Wall treatments in the cab pivoting section shall be galvanized steel slats. Every other slat in the cab side-coiling curtain shall be equipped with a 1.5" (38mm) wide x 12" (305 mm) high wire glass vision panel to enhance operator visibility.
10. All metal surfaces exposed to passengers shall be dry abrasive blast cleaned prior to painting to remove all mill scale, rust and dirt. The Sherwin-Williams Polyurethane paint system (or equivalent system, as approved by the Authority) shall be utilized. This system consists of a prime coat of lead and chromium free epoxy primer followed by a two-component aliphatic polyurethane topcoat. Total dry film thickness shall be a minimum of four (4) mils when dry.
11. Parts that are not exposed to the passengers shall be dry abrasive blast cleaned prior to painting to remove all mill scale, rust and dirt. These non-exposed surfaces shall only have the prime coat applied. Small miscellaneous assemblies shall have the same treatment as the non-exposed surfaces.

#### J. EXTERIOR FINISHES

All metal surfaces exposed to passengers shall be dry abrasive blast cleaned prior to painting to remove all mill scale, rust and dirt. The Sherwin-Williams Polyurethane paint system (or equivalent system, as approved by the Authority) shall be utilized. This system shall consist of a prime coat of lead and chromium free epoxy primer followed by a two-component aliphatic polyurethane topcoat . Total dry film thickness shall be a minimum of four (4) mils when dry.

### III. DESIGN CRITERIA

The PBB shall be designed in accordance with good engineering practices and the standards developed to assure safe, efficient, and practical designs in keeping with standards that have been adopted by the passenger loading bridge industries. Interior and exterior designs shall be aesthetically pleasing, and in keeping with contemporary trends.

The Apron Drive PBB shall be designed to be radially mobile and telescopic for extension and retraction of the tunnel length for servicing the previously mentioned aircraft mix. In addition to these motions, the PBB shall have the ability to move in the vertical direction as well. All of these movements (radial, telescopic, vertically, and horizontal) shall occur simultaneously to provide a smooth and expeditious approach to the aircraft.

Particular attention shall be given to keeping components simple, rugged and easily accessible for routine maintenance, including lubrication, component exchange and ease of adjustment. All access panels and openings shall be sized to accommodate the component being changed or adjusted, as well as the equipment and personnel necessary to accomplish the work.

#### A. STRUCTURAL LOADS

1. The PBB shall support the following loads. These loads may be applied in total or in part, singularly or simultaneously. The design shall be based on the combination that imposes the most adverse loading condition. In addition to the dead loads and strain caused by movement, the entire passenger boarding bridge shall support:
  - a. A live load of 40 pounds per square foot. (195 kg/m<sup>2</sup>).
  - b. A retracted and stowed wind load of 25 pounds per square foot (122 kg/m<sup>2</sup>) or an approximate wind velocity of 90.0 mph (145 km/h).
  - c. An operational wind load of 12.5 pounds per square foot (61 kg/m<sup>2</sup>) or an approximate wind velocity of 60.0 mph (97 km/h).
  - d. A roof load (snow load) of 25 pounds per square foot. (122 kg/ m<sup>2</sup>).
2. The structural design shall provide sufficient torsion rigidity to avoid excessive sway when the PBB is brought to a gradual stop.
3. All mechanisms for actuating, guiding and restraining the PBB and its components shall be designed so that no noise, sway or sense of insecurity is apparent to passengers. No operating vibrations or loads shall be transmitted to the terminal building.

4. The PBB shall be designed to accommodate the added loads of 400 Hz ground power equipment, 28 Volt DC equipment, and/or pre-conditioned air (PCA) equipment.

#### B. STRUCTURAL SUPPORT ELEMENTS (FOUNDATION DESIGN)

The Apron Drive PBB shall be secured to a site-specific foundation with an industry standard #7 bolt pattern and pier as provided by the Authority. Upon project award, successful bidder will provide foundation loading for bridge model selected.

#### C. ENVIRONMENTAL CONSIDERATIONS

The PBB shall operate satisfactorily under ambient temperatures from  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) to  $125^{\circ}\text{F}$  ( $52^{\circ}\text{C}$ ) on wet, ice-covered or snow-laden apron surfaces. All of the PBB components and materials either individually or collectively shall be designed or selected for long service life under such conditions.

#### D. POWER REQUIREMENTS

1. The base PBB shall operate on 480/277V.A.C., 3 phase, 60 Hz, 60 amp service with ground. Additional power requirements for bridge heating shall be provided if bridge heating option is selected.
2. If Alternate 2 is chosen, additional power shall be provided at the terminal to support the unit selected.
3. The PBB shall be equipped with an electrical disconnect panel that provides electrical disconnects, over-current protection, and transformers needed to adapt the specified terminal power to the PBB's electrical requirements.

#### E. CODES & REGULATIONS

1. The PBB shall be designed to conform to all applicable Federal, State, ADA, and Municipal codes and regulations that apply to the installation site. The bridge design and construction shall comply with the latest edition of the following codes:

NEC - National Electric Code  
AISC - American Institute of Steel Construction  
ASME - American Society of Mechanical Engineers  
CWB - Canadian Welding Bureau (AWS equivalent)  
NEMA - National Electrical Manufacturers Association  
OSHA – Occupational Safety and Health Administration

SAE – Society of Automotive Engineers  
NFPA 415 – National Fire Protection Agency

2. Structural

- a. American Institute of Steel Construction (AISC) Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings.
- b. American Welding Society (AWS) Standards.

Material

Structural Plate/Steel/Shapes:	ASTM-A36
Structural Tube:	ASTM-A500
Steel Pipe:	ASTM-A53
Steel Sheet:	ASTM-A570
Steel Plate:	ASTM-A514
Hinge Pins:	ASTM-A311 Grades 1018 & 1144
Bolts:	High Strength SAE-J429 Grades 5 & 8 or ASTM-A325 & A440

3. Mechanical

All mechanical components and designs shall conform to the recommendations and standards established by the Society of Automotive Engineers (SAE) and the American Society of Mechanical Engineers (ASME).

4. Electrical

- a. Electrical Certification from ETL Testing Laboratories or CSA or an NRTL testing Laboratory to NFPA-70.
- b. All equipment and methods of installation shall conform, where applicable, to the requirements and recommendations of the National Electrical Manufacturers Association (NEMA) and the National Electrical Code (NEC) latest issue.

5. Fire Protection

The PBB shall meet the requirements of the latest edition of the National Fire Protection Association (NFPA) 415, “Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways,” and NFPA 101, “Life Safety Code.”

## 6. Paint

Surface preparation and painting of the PBB shall conform to the guidelines and standards of the Structural Steel Painting Council (SSPC).

## IV. MANUALS

- A. Operation and Maintenance manuals shall follow the intent of the Air Transport Association (ATA) Specification 101. The manuals shall include preventative maintenance requirements and problem solving procedures.
- B. Manuals shall be furnished according to the following schedule:

One or Two PBB's - Four Operation and Maintenance Manuals  
Three PBB's - Five Operation and Maintenance Manuals  
Four or More PBB's – Six Operation and Maintenance Manuals

## V. RESPONSE TIME

The response time for all repairs and replacements calls shall be within two (2) hours time that the call was placed to the manufacturer.

## VI. ALTERNATES

### 1. Valet Baggage lift system

Supply and install Valet Baggage system as described in the “Bridge Mounted DEW Valet Baggage System” or equivalent on pages 18 & 19. This document provides the basis for design of the valet baggage system.

### 2. 400Hz/28VDC Bridge Mounted Ground Power System

The PBB shall be designed to accommodate the added weight requirements of a 400Hz and 28.5 VDC combination power unit attached directly to the bridge. The power unit shall be PBB undercarriage or side mounted.

400 Hz Point of Use power unit:

- Acceptable Manufacturers: Jetway, Trilectron, Hobart
- AC output - 90 kVA (72 kW continuous).
- NEMA 3R rated cabinet
- Overload capacity; 200%, 10 seconds
- Controls/Indicators package
- Mounting brackets
- Pulse-width Modulation Unit

- Molded Cables: Length sized to accommodate aircraft types listed in this specification with ON/OFF push buttons in the cable head.
- DC output – 28.5 VDC, 600 Amps continuous, 2500 Amp starting
- Overload capacity: 125%, 10 minutes

The 400 Hz and 28.5 VAC units shall be interlocked to prevent both units from operating at the same time.

Furnish and install electric cable hoists to support the 400 Hz and 28 VDC output cables. Ground level push-button station for operation. Interlock cable hoists with boarding bridge to prevent operational errors. Minimum ¼ hp motors with NEMA Class D gear reducer. Magnetic disc brake. Reversing contactor and control circuitry.

### 3. Bridge Heat and Insulation

A cab window de-icer shall be provided above the main cab operator window above the control panel. This heater shall keep the window clear for the bridge operator during winter operations.

Fiberglass insulation shall be installed in the walls and ceiling of the bridge and fixed walkway to provide an average R value of 8 minimum.

Two 10 KW forced air heaters shall be installed in the bridge. One shall be installed in the ceiling of the rotunda and the other shall be installed in the ceiling of the bridge cab bubble. The heaters shall be linked to a central thermostat within the bridge.

**Bridge Mounted DEW Valet Baggage System**  
**Or Equivalent**

1. GENERAL AND ADMINISTRATIVE

Code Compliance

The DEW Valet Baggage System Design and Construction shall comply with the latest edition of the following codes:

National Electrical Code  
American Institute of Steel Construction  
American Society of Mechanical Engineers  
Canadian Welding Bureau (AWS Equivalent)  
National Electrical Manufacturer's Association

2. OPERATIONAL PARAMETERS

a) Design Temperature

The system shall be designed to operate within a temperature range of –40 to +52 degrees Celsius.

b) Vertical Speed

The vertical speed of the carriage shall be 14 ft./min.

c) Lift Height

The system shall lift baggage up from the ground a minimum of 12 inches to a maximum of 144 inches.

d) Luggage Capacity

The system shall lift a maximum of 600 lbs of baggage (in addition to the cart).

3. PASSENGER BRIDGE TUNNEL OPENING

a) Tunnel Wall Opening Size

The DEW Valet shall require an opening in the wall of the passenger bridge that is 70 inches wide by 70 inches high.

b) Tunnel Wall Door

Access to the DEW Valet opening in the passenger bridge wall shall be restricted by a roll up door. The door dimensions shall be 70 inches wide by 70 inches high.

4. FINISH

a) Paint

The DEW Valet shall be painted to match the passenger bridge, using polyurethane enamel.

5. ELECTRICAL

a) Main Feed

The DEW Valet shall be supplied with either 120/240/480 (or 575) VAC and shall not draw more than 20 amperes under full load conditions.

b) Controls - Exterior

The exterior controls shall consist of a push button pendant station to allow the operator to raise and lower the carriage, as well as an emergency stop button.

6. SAFETY INTERLOCKS

a) Interior Door

The interior roll up door shall feature an electric locking device which prevents the door from being opened if the carriage is not in the up position. Similarly an electric switch shall prevent the carriage from being lowered if the roll up door is not closed.

b) Bridge Interlock

An interlock shall prevent the bridge from being driven if the carriage is not in the up position.

c) Overload Protection

The hoist used to lift the carriage shall have an internal overload protection device. This device shall prevent the hoist from raising or lowering the carriage if it is loaded with excessive baggage.

*End of Attachment A*

## **Attachment B**

a. The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

**(1) Steel and manufactured products.** As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.

**(2) Components.** As used in this clause components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

**(3) Cost of Components.** This means the costs for production of the components, exclusive of final assembly labor costs.

b. The successful bidder will be required to deliver only domestic steel and manufactured products, except those:

(1) that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;

(2) that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or

(3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

c. List of Supplies/Materials that the US Government has determined are not produced in the United States in sufficient and reasonably available quantities and of sufficient quality (Jan. 1991):

Acetylene, black  
Agar, bulk  
Anise  
Antimony, as metal or oxide  
Asbestos, amosite, chrysolite,  
    an chrysolite  
Bananas  
Bauxite  
Mica  
Microprocessor chips (brought onto a  
    construction site as separate units for  
    incorporation into building systems  
    during construction of repair and  
    alteration of real property)  
Nickel, primary, in ingots, pigs,  
Beef, corned, canned  
Beef extract  
Bephenium Hydroxynapthoate  
Bismuth  
Books, trade, text, technical, or  
    scientific; newspapers;  
    pamphlets; magazines;  
    periodicals; printed briefs and  
    films; not printed in the United  
    States and for which domestics  
    editions are not available  
Brazil nuts, unroasted  
Cadmium, ores and flue dust  
Calcium cyanamide  
Capers  
Cashew nuts  
Castor beans and castor oil  
Chalk, English  
Chestnuts  
Chicle  
Chrome ore or chomite  
Cinchona bark  
Cobalt, in cathodes, rondelles, or  
    other primary ore and metal  
    forms  
Cocoa beans Coconut and coconut meat, unsweetened, in shredded,  
    desiccated or similarly prepared  
    form  
Coffee, raw or green bean  
Colchicine alkaloid, raw  
Copra  
Cork, wood or bark and waste  
Cover glass, microscope slide  
Crysolite, natural  
Cammar gum

Diamonds, industrial, stones  
and abrasives  
Emetine, bulk  
Ergot, crude  
Erthryl tetranitrate  
Fair linen, altar  
Fibers of the following types:  
abaca, abace, agave, coir, flax, jute, jute burlaps, palmyra and sisal Goat and kidskins shots,  
cathodes, or similar forms;  
nickel oxide and nickel salts  
Nitroguanidine (also known as picrite)  
Nux vomica, crude  
Oiticica oil  
Olive oil  
Olives (Green), pitted or unpitted, or  
stuffed, in bulk  
Opium, crude  
Oranges, mandarin, canned  
Petroleum, crude oil, unfinished oils,  
and finished products (see definitions  
below\*)  
Pine needle oil  
Platinum and related group metals,  
refined, as sponge, powder, ingots, or  
cast bars  
Pyrethrum flowers  
Quartz crystals  
Quebracho  
Quinidine  
Quinine  
Rabbit fur felt  
Radium salts, source and  
special nuclear materials  
Rosettes  
Rubber, crude and latex  
Rutile  
Santonin, crude  
Secretin  
Shellac  
Silk, raw unmanufactured  
Spare and replacement parts for  
equipment of foreign manufacture,  
and for which domestic parts are  
not available  
Spices and herbs, in bulk  
Sugars, raw  
Swords and scabbards  
Talc, block, steatite  
Tantalum  
Tapioca flour and cassava  
Tartar, crude; tartaric acid and cream of  
tartar in bulk  
Tea in bulk

Graphite, natural, crystalline,  
    crucible grade  
Handsewing needles  
Hemp yarn  
Hog bristles for brushes  
Hyoscine, bulk  
Ipecac, root  
Iodine, crude  
Kaurigum  
Lac  
Leather, sheepskin, hair type  
Lavender Oil  
Manganese  
Menthol  
Thread, metallic (gold)  
Thyme oil  
Tin in bars, blocks and pigs  
Triprolidine hydrochloride  
Tungsten  
Vanilla beans  
Venom, cobra  
Wax, carnauba  
Woods; logs, veneer, and lumber of  
    the following species: Alaskan  
    yellow cedar, angelique, balsa, ekki,  
    greenhart, lignum vitae, mahogany,  
    and teak

Yarn, 50 Denier rayon

\*Petroleum terms are used as follows:

"Crude oil" means crude petroleum, as it is produced at the wellhead, and liquids (under atmospheric conditions) that have been recovered from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir and that are not natural gas products.

"Finished products" means any one or more of the following petroleum oils, or a mixture or combination of these oils, to be used without further processing except blending by mechanical means:

(1)" Asphalt" - a solid or semi-solid cementitious material that (1) gradually liquefies when heated, (2) has bitumen as its predominating constituents, and (3) is obtained in refined crude oil.

(2)"Fuel oil" a liquid or liquefiable petroleum product burned for lighting or for the generation of heat or power and derived directly or indirectly from crude oil, such as kerosene, range oil, distillate fuel oils, gas oil, diesel fuel, topped crude oil, or residues.

(3)"Gasoline" - a refined petroleum distillate that, by its consumption, is suitable for use as a carburant in internal combustion engines.

(4)"Jet fuel" - a refined petroleum distillate used to fuel jet propulsion engines.

(5)"Liquid gases" - hydrocarbon gases recovered from natural gas or produced from petroleum refining and kept under pressure to maintain a liquid State at ambient temperatures.

(6)"Lubricating oil" - a refined petroleum distillate or specially treated petroleum residue used to lessen friction between surfaces.

(7)"Naphtha" - a refined petroleum distillate falling within a distillation range overlapping the higher gasoline and the lower kerosene.

(8)"Natural gas products" - liquids (under atmospheric conditions) including natural gasoline that:

(a) are recovered by a process of absorption, compression, refrigeration, cycling, or a combination of these processes, from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir, and

(b) when recovered and without processing in a refinery, definitions of products contained in subdivision (2), (3), and (7) above.

(9)"Residual fuel oil" - a topped crude oil or viscous residuum that, as obtained in refining or after blending with other fuel oil, meets or is the equivalent of MILSPEC Mil-F-859 for Navy Special Fuel Oil and any more viscous fuel oil, such as No. 5 or Bunker C.

"Unfinished oils" means one or more of the petroleum oils listed under "Finished products" above, or a mixture or combination of these oils, which are to be further processed other than by blending by mechanical means.

***End of Attachment B***

**BID BOND**  
**To Be Completed and Submitted With Bid**

KNOW ALL PERSONS BY THESE PRESENTS:

THAT \_\_\_\_\_ hereinafter called Principal, and  
(Contractor)

\_\_\_\_\_ hereinafter called Surety, are  
(Surety)

jointly and severally held and firmly bound unto the \_\_\_\_\_ (Name of Agency), (city), (state), hereinafter called (Agency), in the penal sum of five percent (5%) of the aggregate of the bid of Principal for the work, this sum not to exceed (\$ \_\_\_\_\_) dollars lawful money of the United States, for the payment whereof unto (Agency), Principal and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, Principal is herewith submitting a bid to:

Third Passenger Boarding Bridge (PBB)

NOW, THEREFORE, the condition of this obligation is such that if Principal is awarded a contract for the work, and if Principal within that time specified in the bid enters into, executes and delivers to (Agency) a contract in the form provided herewith, and if Principal within the time specified in the bid gives to (Agency) the performance bond and the payment bond on the forms provided herewith, and evidence of required liability and worker's compensation insurance, then this obligation shall be void.

If, however, Principal shall fail or refuse to furnish, execute, and deliver to (Agency) said performance and payment bonds, and evidence of required liability and worker's compensation insurance in the time stated in the bid, then Principal and Surety shall forfeit to (Agency) the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED that Surety shall be liable under this obligation as Principal, and that nothing of any kind or nature whatsoever that will not discharge Principal shall operate as a discharge or a release of liability of Surety.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and (Agency) and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
Signature of Principal's Authorized Representative

\_\_\_\_\_  
Name and Title of Signer

*(Seal and signature of Notary Public), (Attach notary acknowledgment of Surety)*