BC7 A:/UPDATES/DST/1997/JETWAY.#1

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

MEMORANDUM

TO: Distribution

FROM: Benjamin Chin, Manager
Design Services

DATE: January 15, 1997

SUBJECT: Design Standard (DST) 97-1, Jetway Systems Service Bulletin #091

The purpose of this Design Standard is to transmit for your information and necessary action the attached Jetway Systems Service Bulletin #091. The Jetway Systems Bulletin discusses the necessity and procedure for the Weld Inspection/Repair of the 18" Diameter Rotunda Column Rigid Frame.

Should you have any questions regarding this matter, please contact me at 410-859-7093.

BC/jao

Distribution:

Mr. Ian Bricknell (TAMS)
Mr. Emory Carrigan (OPE)
Mr. Brad Collins (DMJM)
Mr. Ray Heverling (OPE)
Mr. Gary Hicks (DOM)
Ms. Karen Kuczinski (OPE)
Mr. Ali Logmanni (OPE)
Mr. Steve Lucchesi (URS Greiner)
Mr. Derek Moore (Bodouva)
Mr. Chirantan Mukhopadhyay (Parsons)
Mr. Jim Peterka (DOM)
Mr. Charles Steen (OPE)
Mr. William Tsai (OPE)
Mr. Reginald Weaver (Baker)

cc: Mr. Alex Noorani

JETWAY SYSTEMS
A DIVISION OF FMC

FMC Corporation
Jetway Systems
1805 West 2550 South
Ogden, UT 84401-3249
(801) 627-6600
Telefax: (801) 629-3474

December 11, 1996

Maryland Dept. of Transportation
Attn: Mr. Alex Noorani
Baltimore/Washington Int'l Airport
3rd Floor Terminal Building
Baltimore, MD 21240

Subject: FMC Jetway Systems Service Bulletin #091

Dear Mr. Noorani:

Jetway Service Bulletin #91 discusses the Weld Inspection for the 18" Diameter Rotunda Column Rigid Frame. This service bulletin is mandatory for all Apron Drive type Jetway System Passenger Boarding Bridges with 18" diameter rotunda columns (roughly, all serial numbers prior to OG-1200; 1970 or older).

These copies are for you to duplicate and distribute where you feel they are required.

If you have any questions concerning this Service Bulletin please call the Advanced Engineering Department of Jetway Systems.

Sincerely,

Bud Norman

Bud Norman,
Manager, Technical Publications
FMC Jetway Systems

BN/tj

enclosure

Manufacturing & Engineering Facility
3100 South Pennsylvania Avenue
Ogden, Utah
Telefax (801) 629-3288

FMC

JETWAY SYSTEMS®

SERVICE BULLETIN NUMBER 91

Rotunda Rigid Frame Weld Inspection for 18" Diameter Rotunda Columns

A. Description

Corrosion over time may have damaged a critical rotunda weld on some Passenger Boarding Bridges (PBB) manufactured before 1970. As a result, there is a possible failure of the rotunda rigid frame to rotunda column weld that supports the terminal end of the PBB. This failure may allow the PBB to overturn and could result in damage or injury to property and/or persons.

The inspection procedure outlined below should be performed immediately and then quarterly in conjunction with the normal preventive maintenance performed on the bridge. See Figure 1.

For rigid frames exhibiting cracked welds, the PBB must be taken out of service and the weld procedure outlined in Section F must be implemented.

B. Compliance

Mandatory; Adherence with this service bulletin is mandatory for all Apron Drive type Jetway Systems PBBs with **18" diameter** rotunda columns (roughly, all serial numbers prior to OG 1200; 1970 or older). This service bulletin applies only to PBBs with an 18" diameter rotunda column.

NOTE: The 18" diameter rotunda rigid frame was designed to withstand the loads of a standard drive PBB. The 18" diameter rotunda rigid frame is **NOT CAPABLE** of supporting the additional loads induced by a high-drive (twin ball screw) modification. **High drive columns should not be installed on PBBs with 18" diameter rotunda columns, unless they are structurally modified per FMC Jetway.**

C. Recommended General Procedure

Jetway Systems recommends the following: 1. Carefully examine the rotunda rigid frame welds, using the procedures listed in Section D; 2. If cracks are found, complete the repairs per Section F. If a crack is found on one side of the rigid frame, then the repair should be made on both sides of the rotunda rigid frame; 3. Report all findings per Section E; 4. If no cracks are found, continue inspection on a quarterly basis.

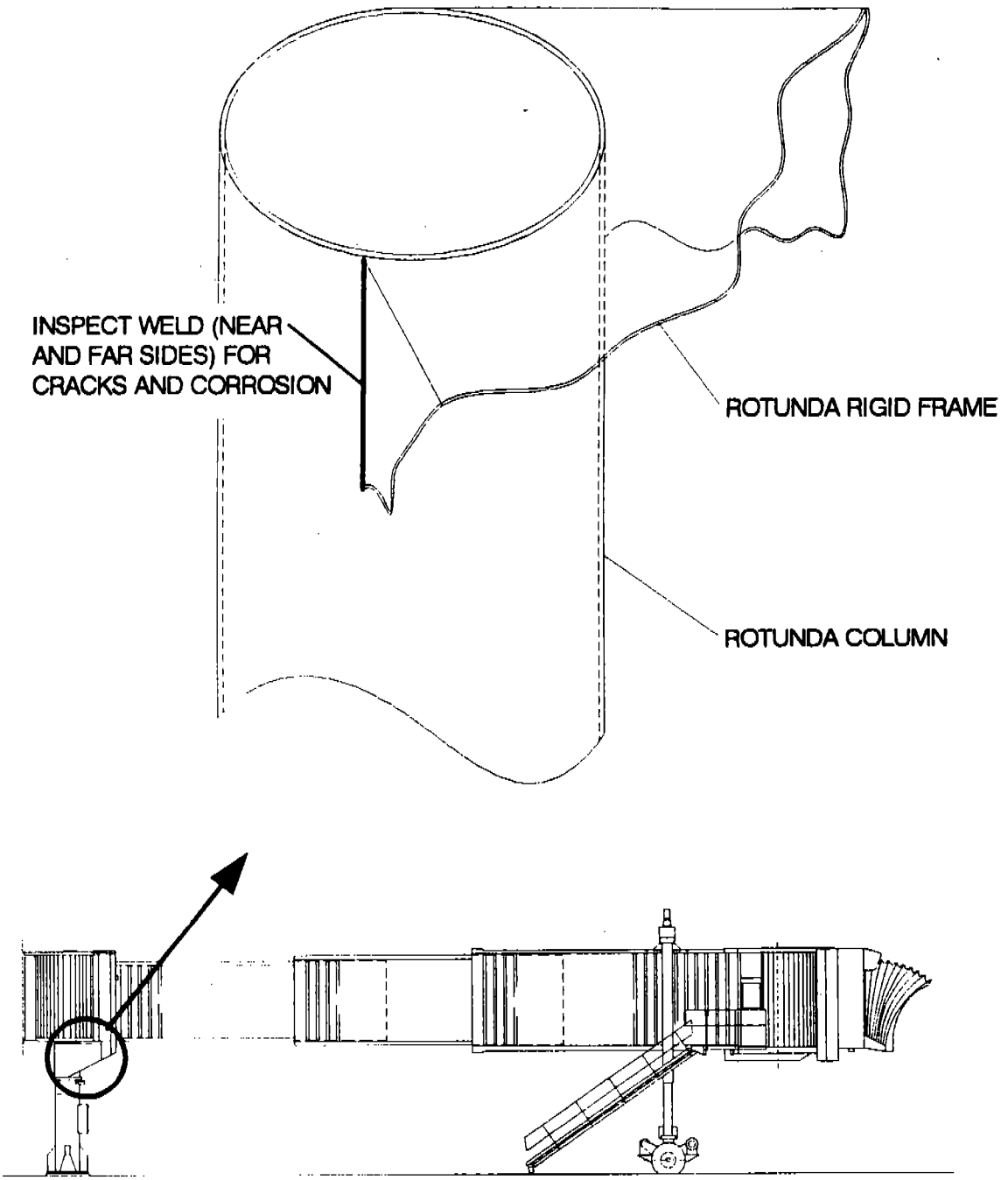


Figure 1. Rotunda Rigid Frame Weld Inspection

D. Inspection Techniques

Refer to Figure 1. Visual inspection can be used to determine the presence of cracks. First, clean all areas to be inspected. Examine the entire weld surface, the interface between the weld bead and the plate and the interface between the weld bead and the pipe (use a lamp if required). Look for signs of cracking in or around the weld. Acceptable welds shall be free of cracks, rust and corrosion.

E. Report

Report your findings to Jetway Systems, using the attached fax sheets. Provide a response for each PBB serial number at your location, **18" diameter rotunda columns only**. Make additional copies of the second page of the fax form as required. Upon receipt, Jetway Systems will supply two (2) plates, part number #3629912 (PL 5/16 x 3 x 3'-4), for each PBB requiring weld repair.

Please provide the serial numbers for PBBs, with 18" diameter rotunda columns, that were originally at your location that may have been sold or relocated. A reference to their current owners and possible location may also be included if known.

F. Weld Repair Procedure

The plates will be sent from Jetway Systems at no cost, or they can be made locally using the parameters in Figure 2.

Position the PBB at a convenient location. Support the PBB with cribbing or a maintenance frame placed under tunnel C, approximately 6 feet in front of the vertical drive columns. The cribbing/maintenance frame should be placed under the tunnel C I-beams. Turn off the power at the rotunda disconnect. Review Service Bulletin No. 72 (attached) prior to welding on the PBB. Follow the instructions in the attached welding procedure. Locate the plates as shown in figure 3. After welding the plates, the welded areas need to be primed and repainted.

G. Attachments

1. Fax form for reporting to Jetway Systems Advanced Engineering Department.
2. Weld Procedure.
3. Service Bulletin No. 72.

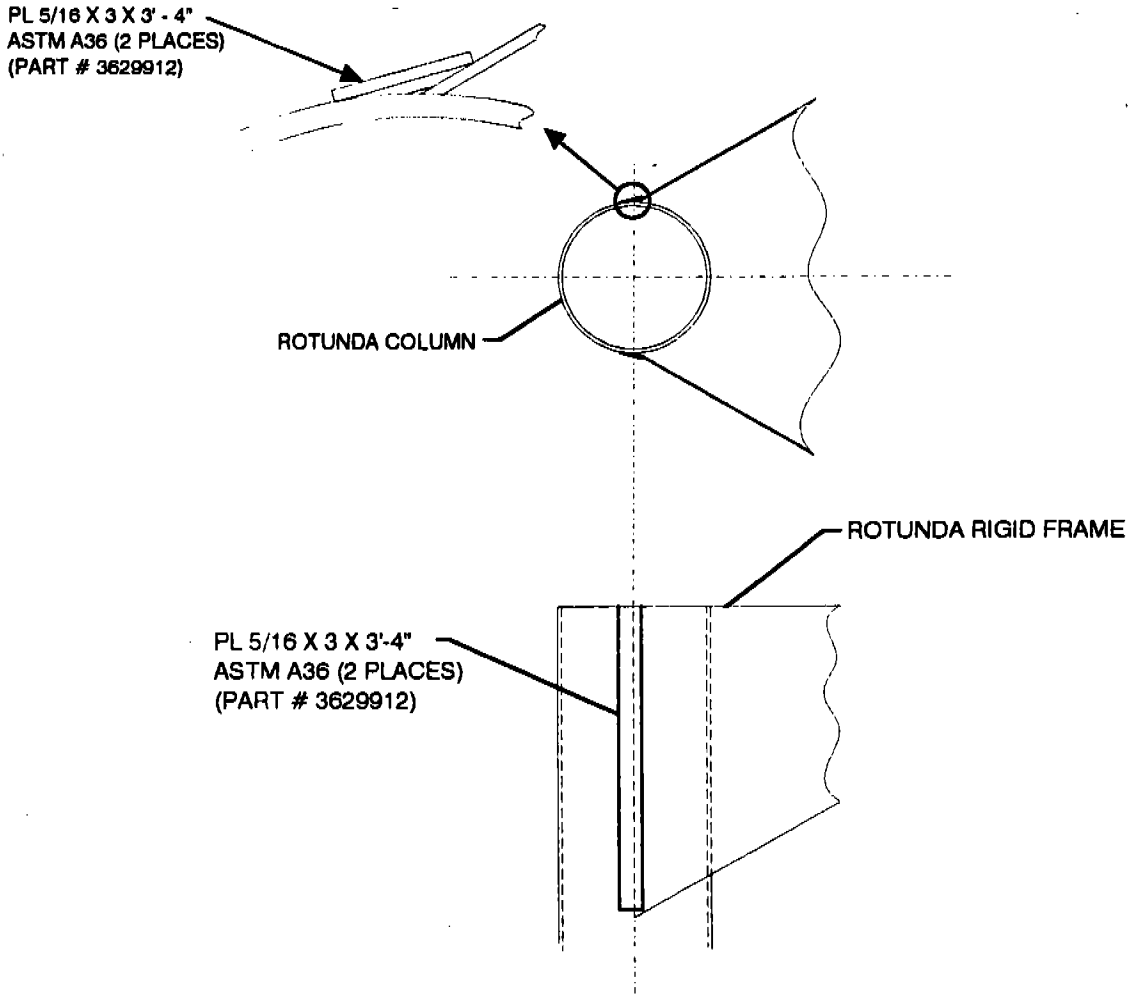


Figure 2. Reinforcement Plate.

FMC

JETWAY SYSTEMS®
SERVICE BULLETIN NUMBER 91

Fax Cover Sheet

Date: _____

To: Advanced Engineering
Cindy Green
Jetway Systems
3100 S. Pennsylvania Ave.
Ogden, UT 84401-3328

From: _____

Phone: (801) 629-3386

Phone: _____

Fax: (801) 629-3288

Rotunda Rigid Frame Weld Inspection Report

Bridge Serial No (OG No.)	Bridge Location Gate, City, State	Cracks Present? (Yes/No)

FMC

JETWAY SYSTEMS®

SERVICE BULLETIN NUMBER 91

Bridge Serial No (OG No.)	Bridge Location Gate, City, State	Cracks Present? (Yes/No)

WELDING PROCEDURE

Welding Process: Shielded Metal Arc Welding; Manual

Joint Design Used
Type: Fillet Weld; Single ( ) Double (X)
Backing: N/A

Base Metals
Material Specification: ASTM A36, A500
Type or Grade: N/A
Fillet: Two Layers 1/8" each (1/4" total)

Filler Metals
AWS Specification: AWS A5.1
AWS Classification: E7018 or E7018M

Shielding
Flux: E7018 low hydrogen, potassium, iron powder; E7018M low hydrogen, iron powder

Preheat
Preheat Temperature: Min. 150° F
Interpass Temperature: Min.: 400°F, Max.: 500°F

Position
Position of Fillet: Vertical Upward
Vertical Progression: Up

Electrical Characteristics
Current: AC ( ) DCEP (X)
DCEN ( ) Pulsed ( )
Other: AC NOT PERMITTED.

Technique
Stringer or Weave Bead: Root pass stringer, cover weave
Multi-pass or Single pass (per side): Multiple 2 pass
Number of electrodes: One
Peening: None
Interpass Cleaning: Remove flux between layers.

Postweld Heat Treatment
Temperature: Air cool.
Time: N/A

Welding Procedure
Pass or Weld Layers: Two root and cover
Process: Shielded Metal Arc Welding

Filler Metals
Classification: E7018 or E7018M (AWS A5.1)
Diameter: 1/8"

Current
Type and Polarity: Direct current electrode positive
Amps or Wire Feed Speed: 120-130 AMPS
Travel Speed: Approximately 3.2-3.5 IN/MIN

Joint Details: See Figure 3.

Author's Notes

1. CAUTION: Welders must be certified to ANSI/AWS D1.1 Structural Welding Code Steel.

2. All paint, grease, or other foreign materials in weld area must be fully removed before welding begins.

3. Before welding over previously deposited metal, all slag shall be removed and the weld and adjacent base metal shall be brushed clean. This requirement shall apply not only to successive layers but also to successive beads and to the crater area when welding is resumed after any interruption.

4. Electrodes used for this welding procedure must conform to ANSI/AWS A5.1, and shall be purchased in hermetically sealed containers or shall be dried for at least two hours between 500° and 800° Fahrenheit before they are used. Immediately after opening of the hermetically sealed container or removal of the electrode from drying ovens, electrodes shall be stored in ovens held at a temperature of at least 250° Fahrenheit. After the opening of hermetically sealed containers or removal from drying or storage ovens the electrodes cannot exceed the following: E7018 4 hours exposure time maximum, E7018M 9 hours exposure time maximum. Electrodes that exceed the exposure requirements shall be redried before use. Electrodes that do not exceed the exposure limits may be returned to the holding oven. Electrodes can only be redried one time. Electrodes that are wet may not be dried and can not be used. Electrodes shall be issued and held in quivers, or other small open containers.

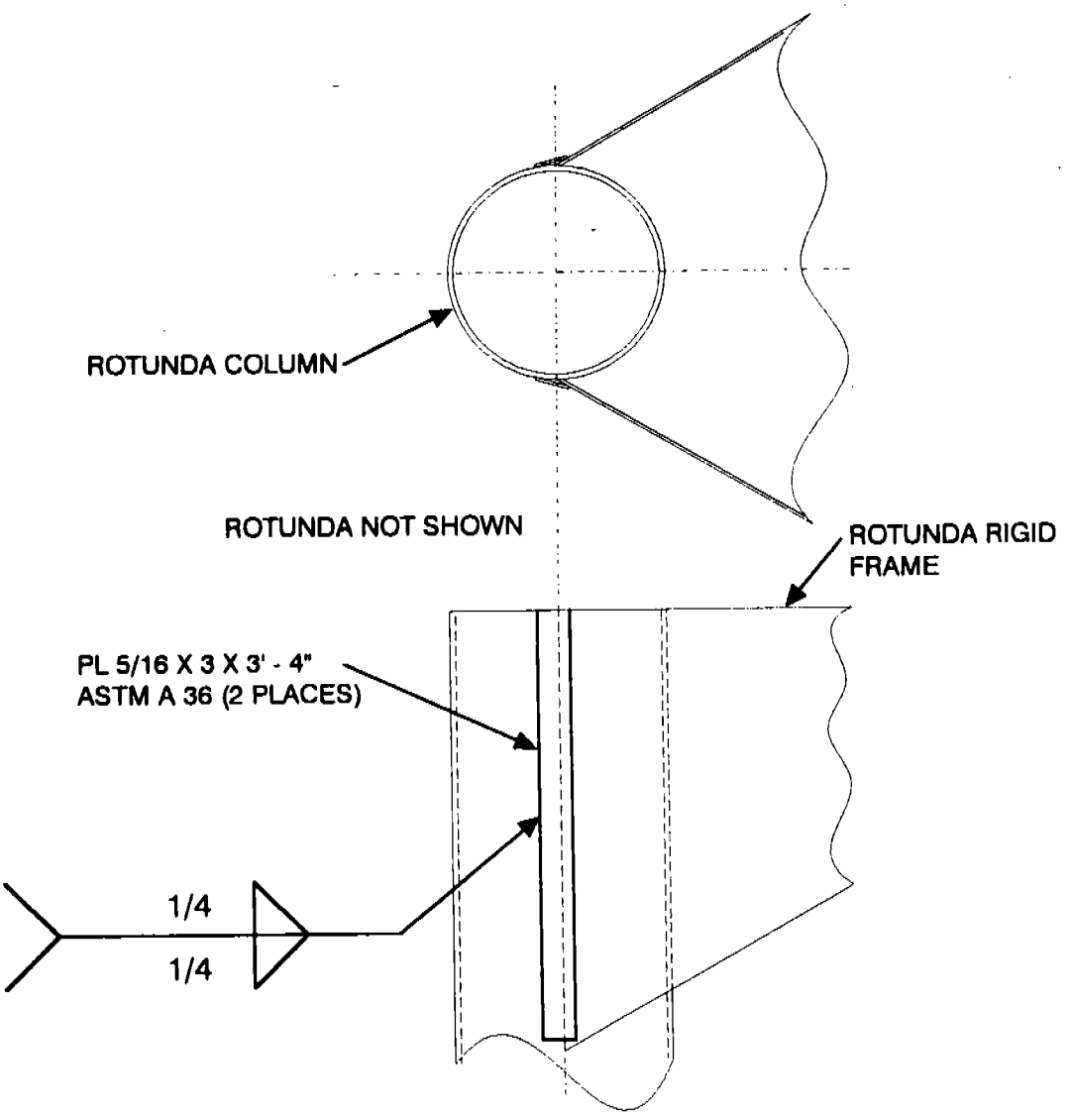


Figure 3: Joint Details.

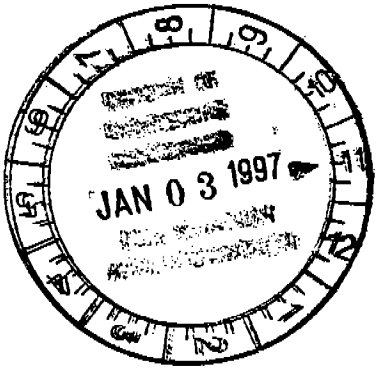
Subject: Welding (electric-arc type) on JETWAY passenger boarding bridges.

Problem: Electric-arc welding can cause internal damage to both the electrical and mechanical components of the passenger boarding bridge.

Reason: Improper grounding of the arc-welder will cause current to flow through the bridge tunnel rollers causing arcing to occur, resulting in pitting of the rollers and brinelling the bearings.

Improper grounding of the arc-welder will also cause current to flow through the internal ground wires and sensitive electronic circuits causing damage to the electronic components.

Solution: If electric arc-welding must be used on a JETWAY passenger boarding bridge, **THE WELDER GROUND CONNECTION MUST NOT BE CONNECTED MORE THAN EIGHTEEN INCHES AWAY FROM THE ARC ELECTRODE, and must be connected to one piece of the welded joint in order that the current flows only in the material welded.**



BC7 A:/UPDATES.DST/1997/MOVEMENT.#2

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

MEMORANDUM

TO: Distribution

FROM: Benjamin Chin, Manager
Design Services

DATE: January 15, 1997

SUBJECT: Design Standard (DST) 97-2, Vehicle Access on Baltimore/Washington International Airport Movement Area

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The purpose of this Design Standard is to remind all applicable personnel that access to the movement area (taxiways and runways) is restricted to vehicles with an essential function. An essential function is defined as having a need to be on the movement area, i.e., working on runway edge lights. The intent of this action is to eliminate **all** convenience crossings. Using the movement area to get to other portions of the airport that can be accessed by alternative routing must cease.

Please instruct all applicable personnel under your supervision and management, including contractors, subcontractors, and subconsultants, of this limitation and requirement.

If there is any question as to who should or should not be accessing the movement area, please direct questions to Jay Huber, Operations Center Manager at 410-859-7024.

Should you have any questions regarding this matter, please contact me at 410-859-7093.

BC/jao

Distribution:

Mr. Ian Bricknell (TAMS)
Mr. Emory Carrigan (OPE)
Mr. Brad Collins (DMJM)
Mr. Ray Heverling (OPE)
Ms. Karen Kuczinski (OPE)
Mr. Ali Logmanni (OPE)
Mr. Steve Lucchesi (URS Greiner)
Mr. Derek Moore (Bodouva)
Mr. Chirantan Mukhopadhyay (Parsons)
Mr. Charles Steen (OPE)
Mr. William Tsai (OPE)
Mr. Reginald Weaver (Baker)

cc: Mr. Jay Huber
Mr. Alex Noorani

F:/BEN/DST97-2A.DIS

Maryland Aviation Administration

"Striving to do our best in everything we do - dedicated to providing outstanding airport facilities and services"

Theodore E. Mathison **Executive Director**

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

TO: Distribution

FROM: Benjamin Chin, Manager
Design Services

DATE: February 11, 1997

SUBJECT: Design Standard (DST) 97-2A, Movement Area Driver Training Program

I am writing in follow up to DST 97-2, Vehicle Access on Baltimore/Washington International Movement Area, issued January 15, 997. Maryland Aviation Administration (MAA) has implemented a mandatory training program for every State and Federal employee, contractor, tenant, and all applicable personnel needing to operate a vehicle on Baltimore/Washington International and/or Martin State Airport's runways and taxiways. This will be a one day training program designed to increase and reemphasize safety awareness, and to provide against runway and taxiway incursions. Emphasis will be placed on radio procedures, phraseology, airfield signs and markings, and airport layout.

Please fax to Julia Owens at 410-859-5440, by close of business February 13, 1997, a list of names, along with the department or company, the name of the supervisor, and the contact number of all contractors, subcontractors, and subconsultants under your supervision and management that need to operate a vehicle on the Movement Area. MAA will contact you to advise of the training date.

Thank you for your assistance in this matter.

P.O. Box 8766, BWI Airport, Maryland 21240-0766 (410) 859-7100
FAX: (410) 850-4729 — TDD for the hearing impaired: (410) 859-7227
The Maryland Aviation Administration is an agency of the Maryland Department of Transportation

If you should have any questions regarding this matter, please contact me at 410-859-7093.

BC/jao

Distribution:

Mr. Ian Bricknell (TAMS)
Mr. Emory Carrigan (MAA)
Mr. Brad Collins (DMJM)
Mr. Ray Heverling (MAA)
Ms. Karen Kuczinski (MAA)
Mr. Ali Logmanni (MAA)
Mr. Steve Lucchesi (URS Greiner)
Mr. Derek Moore (Bodouva)
Mr. Chirantan Mukhopadhyay (Parsons)
Mr. Charles Steen (MAA)
Mr. William Tsai (MAA)
Mr. Reginald Weaver (Baker)

cc: Mr. Alex Noorani
Mr. Mike West

Maryland Aviation Administration

"Striving to do our best in everything we do - dedicated to providing outstanding airport facilities and services"

Theodore E. Mathison Executive Director

MEMORANDUM

TO: Distribution

FROM: Benjamin Chin, Manager
Design Services

DATE: February 19, 1997

SUBJECT: Design Standard (DST) 97-3, Carpeting Specification for Baltimore/Washington International (BWI)

Maryland Aviation Administration has determined Lee's Commercial Carpet with Duracolor will be the only carpet used in the public areas at BWI Airport. Accordingly, "No substitutions will be accepted" should be used when specifying Lee's Commercial Carpet on all future contracts. This requirement is effective immediately.

The Assistant Director, Division of Maintenance, must concur on the type of Lee's Commercial Carpet specified. Please add this to your checklists.

If you should have any questions regarding this matter, please contact me at 410-859-7093.

BC/jao

Distribution:

Mr. Ian Bricknell (TAMS)
Mr. Emory Carrigan (OPE)
Mr. Brad Collins (DMJM)
Mr. Ray Heverling (OPE)
Ms. Karen Kuczinski (OPE)
Mr. Ali Logmanni (OPE)
Mr. Steve Lucchesi (URSGreiner)
Mr. Derek Moore (Bodouva)
Mr. Chirantan Mukhopadhyay (Parsons)
Mr. Charles Steen (OPE)
Mr. William Tsai (OPE)
Mr. Reginald Weaver (Baker)

cc: Mr. Alex Noorani
Mr. Jim Peterka
Mr. Jim Poppinga
Mr. Mike West

Maryland Aviation Administration

"Striving to do our best in everything we do - dedicated to providing outstanding airport facilities and services"

Theodore E. Mathison **Executive Director**

MEMORANDUM

TO: Distribution

FROM: Benjamin Chin, Manager
Design Services

DATE: February 10, 1997

SUBJECT: Design Standard (DST) 97-4, Sewage Ejector Pit Design
Baltimore/Washington International (BWI)

Effective immediately, all projects with sewage ejector pits should be designed with the ejector motors, pumps, impellers and related equipment outside the actual "sewage pit". One acceptable method is to construct a wetside/dryside pit. All motors, pumps, impellers, and equipment would be installed on the dryside with pipe connections to the wetside (sewage pit side). The dryside of the pit would be sealed tight to prevent water and sewer gases infiltration. Other concepts will require the approval of the Maryland Aviation Administration Division of Engineering project manager and Division of Maintenance. This requirement applies to all current and future projects under design. Please add this to your checklists.

If you should have any questions regarding this matter, please contact me at 410-859-7093.

BC/jao

Distribution:

Mr. Ian Bricknell (TAMS)
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Mr. Derek Moore (Bodouva)
Mr. Chirantan Mukhopadhyay (Parsons)
Mr. Charles Steen (OPE)
Mr. William Tsai (OPE)
Mr. Reginald Weaver (Baker)

cc: Mr. Alek Beri
Mr. Alex Noorani
Mr. Jim Peterka