Request for Proposal

Operations and Maintenance Services for the Inbound and Outbound In-Line Baggage Handling System

Richland - Lexington Airport District West Columbia, SC

ISSUED DATE:	December 12, 2022
ISSUED BY:	Richland - Lexington Airport District 3250 Airport Blvd, Suite 10 West Columbia, SC 29170
POINT OF CONTACT:	Mark Bell, Project and Asset Manager Email: m.bell@flycae.com
QUESTION DEADLINE:	January 9 2022; no later than 2:00 p.m. EDT
PROPOSAL DEADLINE:	January 19, 2023; no later than 2:00 p.m. EDT

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Introduction

The Richland-Lexington Airport District (RLAD) is soliciting proposals for operations and maintenance services of the Inbound and Outbound In-Line Baggage Handling System (BHS) at Columbia Metropolitan Airport.

Request for Proposal (RFP) Requirements

RLAD requires respondents to keep the proposal to a maximum of forty (40) 8½" x 11" double- sided pages, no less than 12 font, excluding:

- Cover Letter & Executive Summary (one page, single sided)
- Table-of-Contents
- Resumes (each resume should not exceed one page, double sided)
- Professional References (minimum of 3 and maximum of 5)
- Cost Template Proposal Form (Exhibit H)

Proposers shall submit four (4) printed copies of the proposal to:

Columbia Metropolitan Airport
Attn: Mark Bell, Project and Asset Manager
3250 Airport Boulevard, Suite 10
West Columbia, SC 29170

All proposals shall be clearly labeled as: **Operations and Maintenance Services for the Inbound and Outbound In-Line Baggage Handling System**.

A mandatory pre-proposal meeting and site tour is required to respond to the RFP. A meeting will be held on Tuesday, December 20, 2022 at 1:00 p.m. EST in the Columbia Metropolitan Airport's Carolina Room located at 3250 Airport Boulevard, West Columbia SC 29170. The Carolina Room is located on the lower level of the terminal. Prospective Proposers are required to attend this meeting. If Proposers are not able to attend the meeting then one must be scheduled with RLAD.

To control the dissemination of information regarding this Request for Proposals (RFP), Proposers interested in submitting proposals shall not make personal contact with any member of RLAD staff or Commissioners regarding this RFP. Questions concerning this RFP should be directed, via email, to m.bell@flycae.com no later than 5:00 p.m. EST on January 9, 2023. RLAD will respond to all relevant questions no later than 5:00 p.m. EST on January 4, 2023 via addendum. This addendum will be posted to RLAD's website www.flycae.com and emailed to the attendees from the mandatory pre-proposal meeting.

The proposal must be delivered and time stamped no later than 2:00 p.m. on January 19, 2023. Late submissions will not be accepted.

RLAD accepts no financial responsibility for any costs incurred by a Proposer in responding to this RFP, participating in oral presentations, or meeting with RLAD prior to being awarded the contract. The proposals in response to this RFP become the property of RLAD and may be used by RLAD in any way it deems appropriate. All information submitted in response to this RFP is deemed public and subject to public disclosure.

RLAD reserves the right to interview some, all or none of the Proposers responding to this RFP based solely on its judgment as to the Proposers submittals and capabilities. RLAD reserves the right to reject

any and all submittals, to request and consider additional information from submitters, and to reject any and all submittals on any basis without disclosing the reason. No Proposer may withdraw their submittal for at least one hundred twenty (120) days after the time and date set for submission. RLAD reserves the right to waive any irregularities and technical defects. RLAD reserves the right to modify, amend or waive any provisions of this RFP, prior to the issuance of a contract.

RLAD's standard Professional Services Agreement (PSA) is included (See Exhibit G) hereto and incorporated herein by this reference. RLAD requires the selected respondent to execute the PSA. RLAD may, at its sole discretion, add additional tasks beyond the scope of this RFP under the PSA. These tasks will be mutually agreed upon and negotiated at time of execution. The term of the PSA will be for two (2) years with three, one-year renewals at the sole discretion of RLAD.

Airport Activity

Columbia Metropolitan Airport (CAE) is forecasted to process approximately 713,000 enplaned passengers in 2023 and process approximately 428,000 pieces of baggage (averaging 35,700 monthly and 1,200 daily).

During the BHS peak time, there are approximately 360 bags per hour. Fifty percent of the traffic occurs before 9:00 am. The normal daily airline demand on the BHS System is between 3:30 a.m. and 6:30 p.m., subject to change based on airline schedules.

Technical Details - BHS

The outbound in-line BHS system is manufactured by Automatic Systems, Inc. (ASI) and includes approximately 1,450 linear feet of conveyor. The two Explosive Detection System (EDS) machines are L3 6700-ES. The Programmable Logic Controllers (PLC's) are Allen Bradley. Below is a list of critical BHS equipment:

Outbound Equipment Controls

- PLC's
  - (6) Allen Bradley Control Logix Model 1756-L73
- (5) Motor Control Panels
- Baggage Handling Control System
  - (1) PLC Cabinet
  - (2) Co-Servers
  - (6) CBRA HMIs
  - (4) System MDS Displays
  - (1) MDS Computer

Inbound Equipment Controls

- PLC's
  - (3) Allen Bradley Compact Logix Model 1769-L30ER
- (3) Motor Control Panels

Outbound Conveyor System

- (1) SICK Automatic Tag Readers
- (1) SICK Bag Dimensioning Devices
- (2) Siemens HSD (High Speed Diverter/Sort Diverter) Model 6600
- (25) Portec Power Turns
- (2) Interroll Spiral Turns
- (57) Buffer/Queue Conveyors

- (2) Siemens 45-Degree Short Merges (Reverse)
- (7) Siemens 45-Degree Forward Merges
- (5) Fire/Security Doors (Vigneaux)
- (28) ASI Transport Conveyors
- (3) Siemens SIBAG VSUII Vertical Sorters
- (1) Siemens 7100 Make-up Unit

Inbound Conveyor Systems

- (3) G&T/Five Star Claim Units
- (3) Power Turns (TS1500)
- (12) Transport Conveyors

Minimum Expectations/Requirements

BHS System Only

1. The Proposer is expected to staff the BHS system with a minimum of one (1) electrical/mechanical senior technician working 10-hour days, seven (7) days per week. Time of day and the overlap days are to be determined but must include startup period each day at 4:00 a.m. An example of work schedule is shown. 3:30 a.m. to Noon.

Su	M	T	W	Th	F	St
X	X	X	X			
			X	X	X	X

2. Provide sufficient staff to respond to repairs as required and maintain the BHS which may include, but not limited to, preventive maintenance of the system in accordance with OEM specifications, system performance monitoring, response to repair and/or bag jams, record keeping in the Computerized Maintenance Management System (CMMS) relative to system performance characteristics and statistics, and stakeholder communications.
3. Preventive maintenance will include visual inspections, lubricating, tightening, adjusting, and providing minor corrections to assure proper operating condition of equipment.
4. BHS tubs will be provided and utilized for odd size items. The Proposer will also be responsible for ensuring that the tubs are returned to the airlines each day.
5. All BHS work shall be planned and executed in a manner so as to minimize the impact on existing airport and airline operations.
6. In the event that contingency plans need to be activated, the Proposer is expected to assist in the implementation to maintain operations to the greatest extent possible. This may include increasing staffing and operating in areas not usually required of the Proposer (such as the ticket counters to transfer bags to another ticket counter or to another location).

Badging Requirements

The Proposer shall agree that Proposer and Proposer employees shall be required to successfully complete the CAE badge process prior to beginning work and will be required to follow all CAE, Federal Aviation Administration and Transportation Security Administration strict security rules and regulations. The badging process requires a Federal background investigation. The Proposer shall agree that the Proposer will be held responsible for the Proposer's employees. The Proposer and Proposer's employees shall not enter any of the Airports restricted areas unless authorized. The Proposer shall agree that Proposer and Proposer's employees shall have Airport badges and shall display their badges, at all times, while on Airport Property.

The Proposer shall agree that Proposer is responsible for all CAE badge fees, which shall include, but is not limited to, original badges, lost badges, replacement badges, damaged badges, and badge increases. Current background check/badge fees are $85.00 per employee; current replacement badge fees are $45.00 per employee, all subject to a price increase.

Experience

The Proposer must have at least five (5) years of experience and the ability to demonstrate their qualifications and ability to provide the following services:

- Preventive maintenance and repair of a BHS, to include, but not limited to, PLC, conveyor motors, bearings, belts, high speed diverters, and controls operations.
- Record maintenance and production of system performance reports using a CMMS.

Performance Measures can also be found in Exhibit C.

Inventory Requirements

CAE will purchase and maintain some level of recommended spare parts onsite. The operator will provide a daily list of parts used after installation. The operator may place an order request to CAE for additional parts that are not stocked onsite. See Exhibit E for RLAD supplied parts list.

If the operator purchases required parts that are not stocked onsite, RLAD or CAE shall reimburse the operator at actual cost for all parts required to maintain the BHS operations only after the consumable has been installed.

The operator will be responsible for maintaining the system to ensure system functionality and may keep separate spare parts inventory on hand as it deems appropriate.

Computerized Maintenance Management System (CMMS)

The operator will be expected to use the airport's current CMMS - Airport IQ Safety & Operations Compliance (ASOCS) or equivalent CMMS.

The CMMS will be used for all aspects of its operation including, but not limited to, tracking of work orders, spare parts, operator's labor, and the reoccurring maintenance cost of the system.

The operator will also be responsible for providing communication systems (i.e., cell phones or two way radios) for their employees. RLAD will provide a computer that will be a part of the BHS control. Operator is to maintain the current BHS Operations Procedures Manual for all critical system operations to include situation, notification and responses. A copy will be available upon request.

Submittal Criteria

The Proposal shall include the following items which will assist in the evaluation:

A. Cover Letter/Executive Summary

The Cover Letter shall name the Proposer, its legal structure, all major subcontractors and the respective roles for each company. The address of the office conducting the work and the names of the persons who will be authorized to make representations for the Proposer, their titles, addresses, e-mail and telephone numbers shall also be included.

B. Relevant Experience/Proposed Services

1. Project Understanding

   The Proposer shall discuss its understanding of the scope of services to be provided, and

based on past experience, critical issues that impact the successful operation of an in-line BHS. The purpose of this requirement is to ensure that the Proposer has a complete and accurate understanding of how to operate and maintain an in-line system and identify and correct issues prior to the system certification process with TSA.

2. Past/Current Experience
   The Proposer shall describe the company's experience with operations and maintenance of Inbound and Outbound Baggage Handling and/or In-line Baggage Screening Systems, including Baggage Control Operations for jobs it has performed or are currently performing. Additionally, the Proposer should include relevant experience in dealing with TSA and BHS manufacturers.

3. Proposed Services
   The Scope of Work shall include, but not be limited to, operating, and maintaining the inbound and outbound in-line BHS as follows:

   System Operation
   - Develop and provide the appropriate documentation and training to support all contracted operational facets of the system;
   - Operate the BHS to monitor and track system performance and coordinate planned system usage with baggage handling demand;
   - Dispatch for maintenance and/or bag jam retrieval, and coordinate as appropriate with all stakeholders;
   - Operate the system in such a manner as to achieve maximum throughput rates, sortation accuracy, tracking accuracy, read rates, and system availability;
   - Conduct periodic system performance reviews and, if necessary, propose changes that may improve overall system performance;
   - Provide the appropriate corrective measures in reaction to system faults, failures or other situations where human intervention is required to sustain system performance;
   - Analyze and assess the system performance through report and information analysis; and
   - Coordinate plans and activities between all parties as necessary to address operational and systemic requirements for operating the system.

   System Maintenance and Documentation
   - Develop and provide the appropriate schedules, documentation and training to support all contracted maintenance of the system;
   - Inspect and note suspected and malfunctioning system components for the necessary maintenance activity;
   - Conduct preventative maintenance on the system based on the Preventative Maintenance Schedule, Original Equipment Manufacturers' (OEMs) recommended maintenance instructions and system performance considerations;
   - Repair and/or replace non-warranty system components;
   - Coordinate with OEMs for all warranty and non-warranty repair and replacement work;
   - Repair and/or replace warranty System Components in the event that it is in the best interest of RLAD. When this does occur, RLAD will be credited when appropriate and/or billed for the parts and services rendered;
   - Conduct periodic reviews of maintenance procedures and, if necessary, propose changes that may improve overall system performance;
   - Track and record all maintenance and warranty information requirements in a CMMS; and
   - Serve as primary coordination point for all system repair work and coordinate plans and

activities between all parties as necessary to address operational and systemic requirements for maintaining the System.

Management and Administration

- Supervise and schedule all contracted resources in all aspects of the responsibilities and staffing levels;
- Communications, coordinating and reporting between RLAD, the air carriers, TSA and other interested parties to minimize impact to day-to-day and irregular airport operations;
- Coordinate with RLAD in the assessment and restocking of parts and consumables inventories; and
- Coordinate with RLAD in the ongoing assessment of the services and staff.

4. Staffing Plan
   The Proposer shall provide a complete and detailed organizational chart that identifies key personnel with site manager resume, including staff schedules, assignments and standard duties/responsibilities/requirements for BHS operations and maintenance positions. Proposers will be required to provide 100% of proposed staffing levels of full time employees (FTE). Additionally, any shortage to the 100% staffing level must be corrected within ten business days. For each day over the ten business days, RLAD reserves the right to reduce the Management Fee by 1/365 until staffing levels are at 100%.

5. Detailed Cost
   The Proposer shall provide a complete and detailed cost as per Exhibit H.

6. Compliance with Laws and Regulations – The Proposer must indicate that it will comply with all applicable Federal, State and Local regulations and laws, including an Affirmative Action Program.

7. Disclosure and written explanation of all litigation (including arbitrations), disputes, contract defaults, and/or liens within the last five years involving the Proposer. For the purpose of this disclosure, material shall mean an amount in controversy (alleged or otherwise) equal to or greater than $10,000.

8. Other information as deemed relevant by the Proposer.

Evaluation Criteria

Proposals will be evaluated by a Selection Committee, which will be seeking to distinguish which Proposer has, through the appropriate combination of several criteria, the abilities to best perform the required services to the satisfaction of RLAD. While some criteria may be ranked higher than others in the selection process, the proposal that achieves the highest overall ranking will be considered top-ranked by the Selection Committee. The proposals will be evaluated using the following criteria:

A. Proposer's Capability, Capacity, and Qualifications 20%
Recent relevant experience operating and maintaining in-line EDS baggage handling systems, bag rooms including Baggage Controls.

- Experience of Proposer in operating and maintaining similar size projects at medium-hub airports (or larger) U.S. airports.
- Past experience of Proposer in optimizing system performance through a demonstrated ability to provide innovative solutions based on a thorough understanding of the issues.

B. Staff Qualifications and Experience 20%

- Recent relevant experience of key staff in operating and maintaining in-line EDS baggage handling systems, bag rooms.
- Experience of key staff in operating and maintaining similar size projects at medium- hub airports (or larger) U.S. airports.
- Ability of key staff to efficiently communicate to the stakeholders involved to achieve optimal system performance.

C. Proposed Operations and Maintenance Services/Work Plan 30%

- Project Staffing – Proposer must submit a project organization chart that shows which key personnel will be responsible for the responsibilities listed previously.
- Work Plan – Creative approach to ensure system reliability and minimize downtime and interruptions to carriers.
- Safety Approach – Policies and procedures used to maintain and monitor the safety of all parties involved in the system operation and maintenance.

D. Cost Template Proposal Form (See Exhibit H) **30%**

Insurance Requirements

The selected Proposer shall carry and keep in force a comprehensive general liability and employer liability insurance by an insurance company authorized to do business in the State of South Carolina with limits of liability as follows:

- Employer Liability $1,000,000 Comprehensive General Liability
- Bodily Injury $1,000,000 each occurrence, and $2,000,000 aggregate
- Property Damage $1,000,000 each occurrence, and $2,000,000 aggregate

The selected Proposer shall furnish certificates of professional liability insurance satisfactory to RLAD as to contents and carriers. Upon execution of a contract, the selected Proposer shall furnish to RLAD District a good and sufficient Certificate of Insurance by said insurance company, and an Owner's Protective Liability Policy naming the Richland-Lexington Airport District, the Richland-Lexington Airport Commission, and the Richland-Lexington Airport District Employees as named insured. Both policies shall contain the stipulation and agreement that the insurance provided by said policies is continually in full force and effect and is not subject to cancellation or modification in full or in part without thirty (30) days advance written notice to RLAD.

Workers' Compensation and Employer's Liability Insurance: The Proposer shall maintain workers' compensation and employer's liability insurance in the amounts and form required by the laws of the State of South Carolina. The Proposer shall furnish a certification of said insurance to RLAD certifying that RLAD will be given thirty (30) days of written notice of non-renewal, cancellation, or other material change.

Disadvantaged Business Enterprise Participation

The Proposer must indicate that it will comply with all applicable Federal, State and Local regulations and laws, including Affirmative Action and the Disadvantaged Business Enterprise programs.

Additional Requirements

TBD

Exhibit A - Outbound BHS Layout

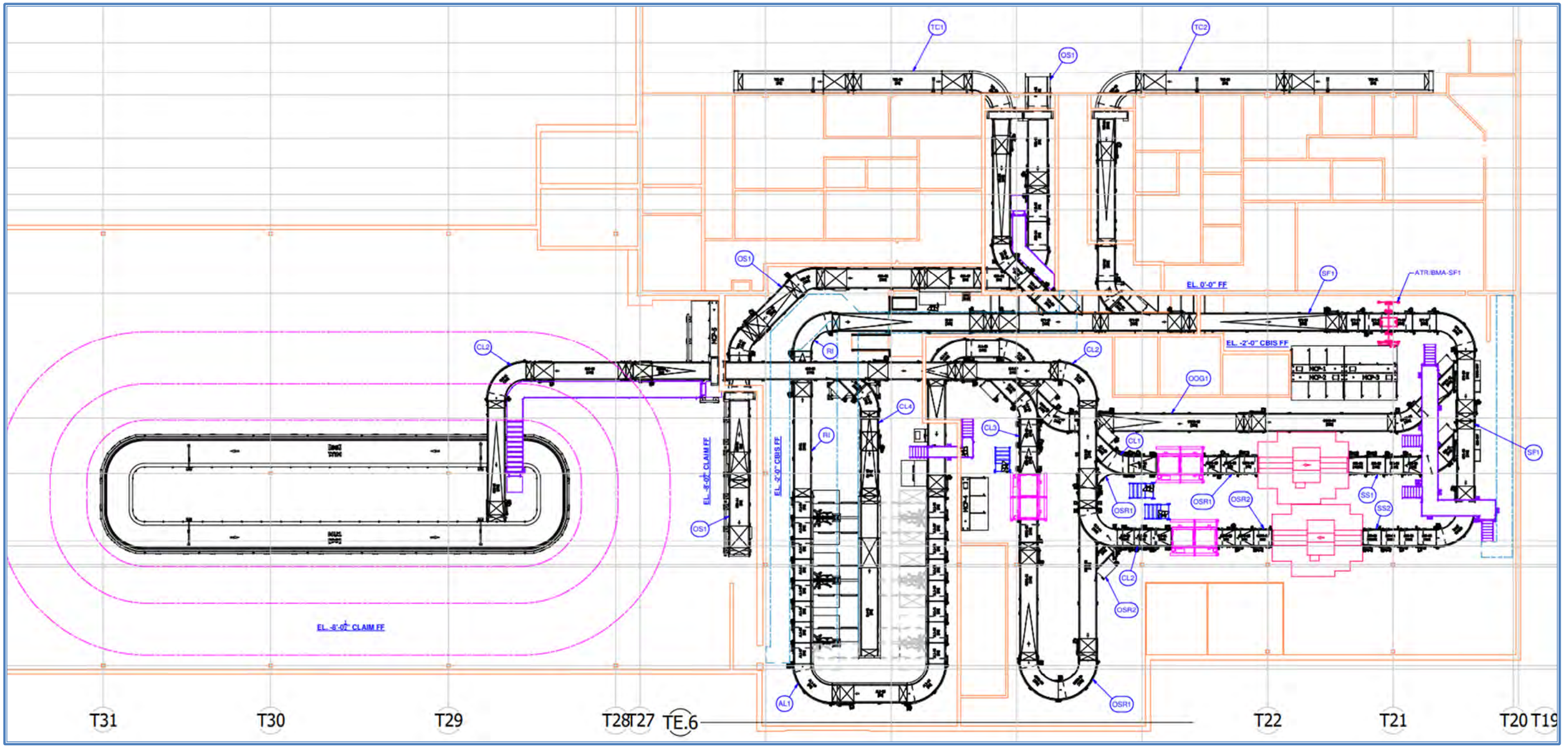

Exhibit B - Inbound BHS Layout

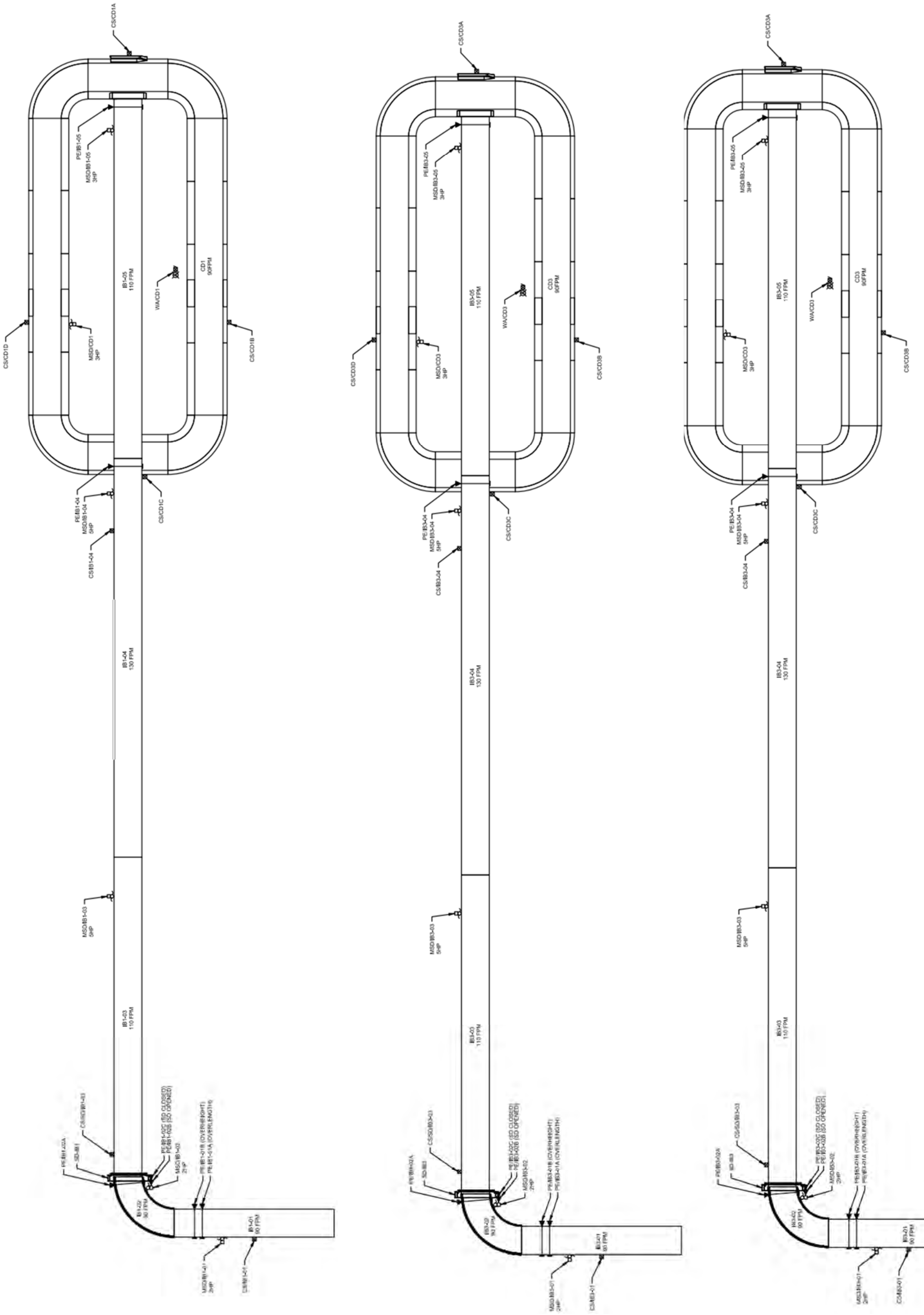

Exhibit C - Performance Measures

The following service measurements will serve as the basis for RLADs evaluation of an Operators performance against this Agreement. In each case, the Operator will not be responsible for deficiencies in meeting these service measurements due to elements outside of their control as determined by RLAD in its sole but reasonable discretion.

The Operator is expected to meet all following service measurements:

1. Maintain the System to achieve the TSA certified baggage throughput.
2. Maintain the System to meet minimum System availability of 99% (based on the mainline dieback time measured on System).
3. Maintain the System to meet minimum System reliability of 98% (based on the time allocated to unscheduled or emergency repair work orders to overall System maintenance labor).
4. Maintain the System in such a manner as to achieve sortation accuracy of 96% or above for the scanned baggage tags.
5. Maintain the System in such a manner as to achieve BHS baggage tracking accuracy of 98% within the baggage screening matrix.
6. In response to baggage jams, maintain a response time 5 minutes or less on average with a maximum response time of 10 minutes under extreme circumstances.
7. Maintain an accurate and timely system of record through (CMMS) for the tracking of work orders (statistics and supporting information), spare parts inventory, and Operator's labor.
8. Maintain sufficient quantities of spare parts.
9. Operator will serve as primary coordination point between RLAD, Owners Rep as applicable, Airlines, TSA, any OEM's involved and Operator staff for regular and irregular BHS operations (including all repair work under this Agreement) so as to minimize effort and costs to RLAD.
10. Provide timely and accurate reporting of system and operational performance information based on these performance measurements.
11. Proactively provide solutions to address deficiencies in performance metrics within and outside of their control.
12. Meet contractual commitments for staffing levels, labor costs and other costs included in the value of this Agreement.
13. The proposer must have and maintain 24/7 365 On-Call availability for emergency calls; with a thirty (30) minute return phone call response time.
14. If Operator does not meet staffing level requirements (e.g., not reporting for work, or not responding to emergency calls), there will be liquidated damages of $85.00 per hour to cover staffing costs.

Exhibit D - Outbound Equipment Manifest

Company: Boyer Construction
Project: CBIS and Ticketing Improvements
Customer No.:

ASI Project No.: 11283
Rev 0
Date: 2/17/2021

AUTOMATIC SYSTEMS, INC.

Equipment MANIFEST

						Conveyor Dimensions										Belt Information		Drive Information			Motor Information				Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Conveyor Length (ft) Incline	Conveyor Length (ft) Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
1	TEMP-01	Queue Conveyor	1	New	1		5'-1"				6	39			0 w/ cover on tail	0	39	Queue Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1			1		90
2	TEMP-01/FD	Fire Door	1	New	1																	MFR	1	0.5	1	480	60	3	1			3		
2	TEMP-02	Transport Conveyor	1	New	1		33'-11 11/16"				34	39			21 w/ flares after door	21 w/ flares after door	36	Load Belting	E	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 480VAC)		1		120
3	TEMP-03	Power Turn	1	New	1	90	8'-10"				9	39	21	21			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1			1		120
4	TEMP-04	Incline Conveyor	1	New	1			26'-10"		6'-7"	27	39			21	21	36	Rough Top Belting	E	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 480VAC)		1		120
5	TEMP-05	Decline Conveyor	1	New	1				24'-7"	4'-10"	25	39			21	21	36	Rough Top Belting	E	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 480VAC)		1		120
6	TEMP-06	Transport Conveyor	1	New	1		30'-0"				30	39			21	21	36	Load Belting	E	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 480VAC)		1		120
7	TEMP-07	Decline Conveyor	1	New	1				27'-3"	6'-8 1/2"	28	39			21	21	36	Rough Top Belting	E	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 480VAC)		1		90
8																																		
9	MU1	Make-up Unit	1	New	1		200				200		8									MFR	2	7.5	10	480	60	3	2		2	1		90
10																																		
11	OS1-01	Queue Conveyor	1	New	2		7'-3 1/2"				8	45			0 w/ SS shrouding with toe kick	0 w/ SS shrouding with toe kick	45	Queue Belting	U	R	Horizontal (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1		90
11	OS1-01/FD	Fire Door	1	New	2																	MFR	1	0.5	1	480	60	3	1			3		
12	OS1-02	Transport Conveyor	1	New	2		15'-7 1/4"				16	45			12 w/ flares after door	12 w/ flares after door	45	Load Belting	E	R	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		90
13	OS1-03	Queue Conveyor	1	New	2		5'-5"				6	45			12	12	45	Queue Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1		90
14	OS1-04	Queue Conveyor	1	New	2		5'-5"				6	45			12	12	45	Queue Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1		90
15	OS1-05	Power Turn	1	New	2	90	8'-5 5/16"				9	45	12	12			45	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		90
16	OS1-06	Queue Conveyor	1	New	2		5'-4"				6	45			12 w/ transition to 21 tail end	12 w/ transition to 21 tail end	45	Queue Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1		90
17	OS1-07	Transport Conveyor	1	New	2		11'-11"				12	45			0 w/ shrouding	21	42	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1		90
18	OS1-08	Transport Conveyor	1	New	2		19'-7 1/2"				20	45			12 w/ flares at tail end	12	42	Load Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1		120
19	OS1-09	Power Turn	1	New	2	45	4'-2 11/16"				5	45	12	12			45	MFR	E	LO	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		120
20	OS1-10	Decline Conveyor	1	New	2				13'-3 3/4"	1'-4"	14	45			12	12	42	Rough Top Belting	C	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		120
21	OS1-11	Power Turn	1	New	2	45	4'-2 11/16"				5	45	12	12			45	MFR	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		120
22	OS1-12	Decline Queue Conveyor	1	New	2				6'-11 7/8"	0'-8 1/4"	7	45			12	12	45	Rough Top Belting	U	L	Horizontal (Pushing)	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		90
22	OS1-12/FD	Fire Door	1	New	2																	MFR	1	0.5	1	480	60	3	1			3		
23	OS1-13	Decline Conveyor	1	New	2				16'-9"	4'-5 1/4"	17	45			21 w/ flares after door	21 w/ flares after door	42	Rough Top Belting	U	R	Horizontal	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		90
24	OS1-14	Unload Conveyor (Indexing)	1	New	2		14'-6"				15	45			21 w/ hinged safety guard at head end	0 w/ shrouding and toe kick	42	Load Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		90
25																																		
26	TC1-01	Ticket Counter Conveyor	1	New	2		22'-8 1/4"				23	39			0 SS w/ shrouding and toe kick	21 SS w/ cover on tail end	39	Load Belting	I	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1		90

Company: Boyer Construction
Project: CBIS and Ticketing Improvements
Customer No.:

ASI Project No.: 11283
Rev 0
Date: 2/17/2021

AUTOMATIC SYSTEMS, INC.

Equipment MANIFEST

						Conveyor Dimensions										Belt Information		Drive Information			Motor Information					Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Incline	Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
27	TC1-02	Ticket Counter Conveyor	1	New	2		22'-8 1/4"				23	39			0 SS w/ shrouding and toe kick	21 SS	39	Load Belting	I	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1		90
28	TC1-03	Power Turn	1	New	2	90	8'-10"				9	39	21 SS	0 SS w/ shrouding and toe kick			39	MFR	E	RO	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		90
28	TC1-03/FD	Fire Door	1	New	2																	MFR	1	0.5	1	480	60	3	1			3		
29	TC1-04	Incline Conveyor	1	New	2			25'-2 7/8"		7'-11"	26	39			21 w/ flares after door	21 w/ flares after door	36	Rough Top Belting	C	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 120VAC)	1	1		120
30	TC1-05	Power Turn	1	New	2	45	4'-5"				5	39	21	21			39	MFR	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		120
31	TC1-06	Queue Conveyor	1	New	2		4'-0"				4	39			21	21	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		150
32	TC1-07	Queue Conveyor	1	New	2		4'-0"				4	39			21	21	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		150
33	TC1-08	Merge (Long)	1	New	2		5'-2 3/16"				6	39			21	21	36	MFR	E	L	Vertical	MFR	1	3	4.8	480	60	3	1		1	1		150
58																																	
59	TC2-01	Ticket Counter Conveyor	1	New	2		28'-4				29	39			21 SS w/ cover on tail end	0 SS w/ shrouding and toe kick	39	Load Belting	I	R	Horizontal	SEW	1	3	4.8	480	60	3	1		1	1		90
59	TC2-02	Ticket Counter Conveyor	1	New	2		28'-4				29	39			21 SS	0 SS w/ shrouding and toe kick	39	Load Belting	I	R	Horizontal	SEW	1	3	4.8	480	60	3	1		1	1		90
59	TC2-03	Power Turn	1	New	2	90	8'-10"				9	39	21 SS	0 SS w/ shrouding and toe kick			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		90
28	TC2-03/FD	Fire Door	1	New	2																	MFR	1	0.5	1	480	60	3	1			3		
59	TC2-04	Incline Conveyor	1	New	2			25'-8 1/4"		7'-11"	26	39			21 w/ flares after door	21 w/ flares after door	36	Rough Top Belting	C	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 120VAC)	1	1		120
59	TC2-05	Queue Conveyor	1	New	2		6'-8 3/4"				7	39			21	21	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		150
59	TC2-06	Power Turn	1	New	2	45	4'-5"				5	39	21	21			39	MFR	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		150
59	TC2-07	Merge (Short)	1	New	2		3'-0 7/16"				3	39			21	21	36	MFR	E	L	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		150
59																																	
35	SF1-01	Transport Conveyor	1	New	2		20'-10 3/4"				21	39			21	21	36	Merge Takeaway Belt	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		180
36	SF1-02	Transport Conveyor	1	New	2		17'-0"				18	39			21	21	36	Merge Takeaway Belt	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		180
37	SF1-03	Decline Conveyor	1	New	2				30'-0 1/4"	7'-10"	31	39			21	21	36	Rough Top Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		180
38	SF1-04	Queue Conveyor	1	New	2		3'-6"				4	39			12	12	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		210
39	SF1-05	Queue Conveyor	1	New	2		4'-6"				5	39			12	12	39	Queue Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1	2	210
40	ATR/BMA	Automatic Tag Reader / Bag Measure Array	1	New	2																										1	1	
40	SF1-06	Queue Conveyor	1	New	2		4'-6"				5	39			12	12	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	210

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						Conveyor Dimensions											Belt Information		Drive Information			Motor Information					Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Incline	Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
41	SF1-07	Queue Conveyor	1	New	2		4'-6"				5	39			12	12	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	210
42	SF1-08	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	210
43	SF1-09	Transport Conveyor	1	New	2		13'-4"				14	39			12	12	36	HSD Delivery Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	2	1	210
44	SF1-10	Transport Conveyor	1	New	2		16'-8"				17	39			12	12	36	HSD Delivery Belting	C	R	Vertical	SEW	1	2	3.4	480	60	3	1		1	2	1	180
45																																		
46	SS1-DIV	High Speed Diverter	1	New	2															L		MFR	1		15	480	60	3						210
46	SS1-01	Reverse Merge (Short)	1	New	2		3'-0 7/16"				4	39			12	12	36	MFR	E	L	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	150
47	SS1-02	Power Turn	1	New	2	45	4'-5"				5	39	12	12			39	MFR	E	RO	Vertical	MFR	1	1	2.1	480	60	3	1		1	1	1	150
48	SS1-03	Incline Queue Conveyor	1	New	2			3'-6"		0'-3"	4	39			12	12	39	Smooth Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
49	SS1-04	Queue Conveyor	1	New	2		3'-6"				4	39			12	12	39	Smooth Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	90
50	SS1-05	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Smooth Top Belting	Q	R	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	60
51	SS1-06	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Smooth Top Belting	Q	R	Horizontal	SEW	1	2	3.4	480	60	3	1		1	2	1	40
52																																		
53	SS2-01	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	150
54	SS2-02	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			12	12	39	Smooth Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	120
55	SS2-03	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			12	12	39	Smooth Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	90
56	SS2-04	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Smooth Top Belting	Q	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	60
57	SS2-05	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Smooth Top Belting	Q	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	2	1	40
58																																		
59	OSR1-01	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Queue Belting	Q	R	Horizontal	SEW	1	2	3.4	480	60	3	1		1	2	1	40
60	OSR1-02	Incline Queue Conveyor (Removable)	1	New	2			3'-6"		0'-1 1/2"	4	39			6 w/ transition to 12 at tail	6 w/ transition to 12 at tail	39	Rough Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	60
61	OSR1-03	Incline Queue Conveyor	1	New	2			3'-6"		0'-1 1/2"	4	39			12	12	39	Rough Top Belting	Q	L	Horizontal (Pushing)	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	90
62	OSR1-04	Vertical Sorter	1	New	2		8'-7"				8	39																						120
62A	OSR1-04	Vertical Sorter (Inlet Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
62B	OSR1-04	Vertical Sorter (Upper Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120

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						Conveyor Dimensions											Belt Information		Drive Information			Motor Information					Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Incline	Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
62C	OSR1-04	Vertical Sorter (Lower Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
62D	OSR1-04	Vertical Sorter (Actuator)	1	New	2															L	Vertical	MFR	1	2	3.4	480	60	3			1			
63	OSR1-05	Queue Conveyor	1	New	2		3'-11"				4	39			12	12	39	Queue Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	120
64	OSR1-06	Incline Queue Conveyor	1	New	2			3'-8"		0'-5"	4	39			12	12	39	Rough Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
65	OSR1-07	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
66	OSR1-08	Transport Conveyor	1	New	2		31'-9 3/4"				32	39			12	12	36	Merge Takeaway Belt	C	R	Vertical	SEW	1	3	4.8	480	60	3	1		1	2	1	150
67	OSR1-09	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
68	OSR1-10	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
69	OSR1-11	Incline Conveyor	1	New	2			22'-6"		1'-9"	23	39			12	12	36	Rough Top Belting	C	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
70	OSR1-12	Queue Conveyor	1	New	2		4'-6"				5	39			12	12	39	Queue Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1		1	1	1	120
71	OSR1-13	Vertical Sorter	1	New	2		8'-7"				8	39																						120
71A	OSR1-13	Vertical Sorter (Inlet Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
71B	OSR1-13	Vertical Sorter (Upper Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
71C	OSR1-13	Vertical Sorter (Lower Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
71D	OSR1-13	Vertical Sorter (Actuator)	1	New	2															L	Vertical	MFR	1	2	3.4	480	60	3			1			
72																																		
73	OSR2-01	Queue Conveyor (Removable)	1	New	2		3'-6"				4	39			6	6	39	Queue Belting	Q	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	2	1	40
74	OSR2-02	Incline Queue Conveyor (Removable)	1	New	2			3'-6"		0'-1 1/2"	4	39			6 w/ transition to 12 at tail	6 w/ transition to 12 at tail	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	60
75	OSR2-03	Incline Queue Conveyor	1	New	2			3'-6"		0'-1 1/2"	4	39			12	12	39	Rough Top Belting	Q	R	Vertical (Pushing)	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	90
76	OSR2-04	Vertical Sorter	1	New	2		8'-7"				9	39																						120
76A	OSR2-04	Vertical Sorter (Inlet Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
76B	OSR2-04	Vertical Sorter (Upper Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
76C	OSR2-04	Vertical Sorter (Lower Belt)	1	New	2															L	Vertical	MFR	1	1.5	2.6	480	60	3		1 (1-Phase, 480VAC)	1		1	120
76D	OSR2-04	Vertical Sorter (Actuator)	1	New	2															L	Vertical	MFR	1	2	3.4	480	60	3			1			
77	OSR2-05	Queue Conveyor	1	New	2		4'-1"				5	39			12	12	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	120
78	OSR2-06	Incline Queue Conveyor	1	New	2			4'-1"		0'-7"	4	39			12	12	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
79	OSR2-07	Power Turn	1	New	2	45		4'-5"			5	39	12	12			39	Rough Top Belting	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1	1	120

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						Conveyor Dimensions										Belt Information		Drive Information			Motor Information				Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Conveyor Length (ft) Incline	Conveyor Length (ft) Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd	Photocell	Encoder	Design Belt Speed
80	OSR2-08	Merge (Short)	1	New	2		5'-0 7/16"				4	39			12	12	36	MFR	E	L	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
81																																	
82	AL1-01	Incline Conveyor	1	New	2			18'-3 3/4"		0'-9"	19	39			12	12	36	Merge Takeaway Belt	C	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	150
83	AL1-02	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
84	AL1-03	Queue Conveyor	1	New	2		6'-3 5/8"				7	39			12	12	39	Queue Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	120
85	AL1-04	Power Turn	1	New	2	90	8'-10"				9	39	12	12			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
86	AL1-05	Incline Conveyor	1	New	2			22'-8 1/2"		0'-10"	23	39			12	12	36	Rough Top Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
87	AL1-06	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
88	AL1-07	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
89	AL1-08	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
90	AL1-09	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
91	AL1-10	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
92	AL1-11	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
93	AL1-12	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
94	AL1-13	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
95	AL1-14	Power Turn	1	New	2	90	8'-10"				9	39	0 w/ shrouding	21			39	MFR	E	RO	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	90
96	AL1-15	Transport Conveyor	1	New	2		14'-4"				15	39			21	0 w/ shrouding	36	Smooth Top Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	90
97	AL1-16	Power Turn	1	New	2	90	8'-10"				9	39	0 w/ shrouding	21			39	MFR	E	RO	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	90
98	AL1-17	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
99	AL1-18	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
100	AL1-19	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
101	AL1-20	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
102	AL1-21	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
103	AL1-22	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
104	AL1-23	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90

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Customer No.:

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AUTOMATIC SYSTEMS, INC.

Equipment MANIFEST

						Conveyor Dimensions										Belt Information		Drive Information			Motor Information				Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Conveyor Length (ft) Incline	Conveyor Length (ft) Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
105	ALT-34	Queue Conveyor	1	New	2		4'-0"				4	39			21	0 w/ shrouding	39	Smooth Top Belting	U	L	Horizontal	SEW	1	2	3.4	480	60	3	1		1	1	1	90
106																																	
48	DOG1-DIV	High Speed Diverter	1	New	2															L		MFR	1		15	480	60	3						240
107	DOG1-01	Reverse Merge (Short)	1	New	2		3'-0 7/16"				4	39			12	12	36	MFR	E	L	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	240
108	DOG1-02	Incline Queue Conveyor	1	New	2			7'-1 1/2"		0'-3"	8	39			12	12	39	Rough Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	240
109	DOG1-03	Power Turn	1	New	2	45	4'-5"				5	39	12	12			39	MFR	E	RI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1	1	210
110	DOG1-04	Transport Conveyor	1	New	2		29'-5"				28	39			12 w/ transition to 21 at tail	12 w/ transition to 21 at tail	36	Load Belting	C	R	Vertical	SEW	1	3	4.8	480	60	3	1		1	1	1	180
111	DOG1-05	Decline Conveyor	1	New	2				29'-0"	1'-0"	29	39			21	21	36	Rough Top Belting	C	R	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	150
112	DOG1-06	Queue Conveyor	1	New	2		4'-4"				5	39			12	12	39	Queue Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1		1	1	1	150
113	DOG1-07	Power Turn	1	New	2	45	4'-5"				5	39	12	12			39	MFR	E	RI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1	1	120
114	DOG1-08	Merge (Short)	1	New	2		3'-0 7/16"				4	39			12	12	36	MFR	E	R	Vertical	MFR	1	2	3.4	480	60	3	1		1	1	1	120
115																																	
116	CL1-01	Incline Queue Conveyor	1	New	2			5'-2 3/4"		0'-5"	6	39			6	21	39	Rough Top Belting	Q	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
117	CL1-02	Power Spiral	1	New	2	45		4'-5"		0'-6"	5	39	21	6			39	Rough Top Belting	E	RI	Vertical	MFR	1	1	2.1	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
118	CL1-03	Merge (Short)	1	New	2		3'-0 7/16"				4	39			21	21	36	MFR	E	R	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		150
119																																	
120	CL2-01	Incline Queue Conveyor	1	New	2			3'-10"		0'-3 5/16"	4	39			21	6	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
121	CL2-02	Incline Queue Conveyor	1	New	2			3'-3"		0'-2 11/16"	4	39			21	6	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
122	CL2-03	Incline Queue Conveyor	1	New	2			3'-3"		0'-2 5/16"	4	39			21	6 w/ transition to 12 at tail	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		150
123	CL2-04	Power Turn	1	New	2	90	8'-10"				9	39	21	21			39	MFR	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		150
124	CL2-05	Transport Conveyor	1	New	2		20'-7 3/4"				21	39			21	21	36	Merge Takeaway Belt	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		180
125	CL2-06	Power Turn	1	New	2	90	8'-10"				9	39	21	21			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		180
126	CL2-07	Incline Conveyor	1	New	2			19'-8"		0'-6"	20	39			21	21	36	Merge Takeaway Belt	C	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		180
127	CL2-08	Incline Conveyor	1	New	2			45'-4"		0'-11"	46	39			21	21	36	Merge Takeaway Belt	C	R	Vertical	SEW	1	5	7.8	480	60	3	1	1 (1-Phase, 120VAC)	1	1		180
28	CL2-08/FD	Fire Door	1	New	2																	MFR	1	0.5	1	480	60	3	1		1	3		
128	CL2-09	Decline Conveyor	1	New	2				17'-6"	4'-0 1/2"	18	39			21	21	36	Rough Top Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		150
129	CL2-10	Transport Conveyor	1	New	2		19'-1 1/2"				20	39			21	21	36	Load Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		120
130	CL2-11	Power Turn	1	New	2	90	8'-10"				9	39	21	21			39	MFR	E	LI	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		90

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Equipment MANIFEST

						Conveyor Dimensions											Belt Information		Drive Information			Motor Information				Electrical Information								Speed
Line No.	Equip. I.D.	Description	Qty.	Status	Phase	Power Turn Angle	Conveyor Length (ft) Flat	Incline	Decline	Elevation Change	Approx. Length	Distance Between Guard	Inside Radius Guard Height	Outside Radius Guard Height	Left Guard Height	Right Guard Height	Belt Width	Belt Type	Drive Type (U, C, E, Q)	Drive Side (L/R)	Drive Mount Type	Motor Mfr.	No. of Motors	Motor HP	Motor FLA	Voltage	Freq	Phase	Motor Disc. Sw.	Motor Brake	VFD Req'd.	Photocell	Encoder	Design Belt Speed
131	CL2-12	Decline Conveyor	1	New	2				23'-4"	5'-6"	24	39			21	21	39	Rough Top Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		90
132																																		
133	CL3-01	Incline Queue Conveyor	1	New	2			5'-3"		0'-8 1/2"	6	39			8	21	39	Rough Top Belting	E	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
134	CL3-02	Incline Queue Conveyor	1	New	2			5'-3"		0'-8 1/2"	6	39			8 w transition to 21 at head	21	39	Rough Top Belting	E	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1	1	120
135	CL3-03	Power turn	1	New	2	45	4'-5"				5	39	21	21			39	MFR	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		120
136	CL3-04	Merge (Long)	1	New	2		5'-2-3/16"				6	39			21	21	36	MFR	E	L	Vertical	MFR	1	3	4.8	480	60	3	1		1	1		150
137																																		
138	CL4-01	Load Conveyor	1	New	2		30'-11"				31	39			0 w/ shrouding with toe kick	0 w/ shrouding with toe kick	36	Load Belting	U	L	Horizontal	SEW	1	3	4.8	480	60	3	1		1	1		90
139	CL4-02	Incline Conveyor	1	New	2			16'-2"		5'-4"	17	39			Transition 0 to 21" at tail	Transition 0 to 21" at tail	36	Rough Top Belting	C	R	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 480VAC)	1	1		120
140	CL4-03	Power Turn	1	New	2	45	4'-5"				5	39	21	21			39	MFR	E	LI	Vertical	MFR	1	1	2.1	480	60	3	1		1	1		120
141	CL4-04	Merge (Short)	1	New	2		3'-0 7/16"				4	39			21	21	36	MFR	E	L	Vertical	MFR	1	2	3.4	480	60	3	1		1	1		150
142																																		
146	RI-01	Transport Conveyor	1	New	2		23'-4 1/2"				24	39			12	12	36	Load Belting	C	L	Vertical	SEW	1	2	3.4	480	60	3	1		1	1		120
146	RI-02	Incline Queue Conveyor	1	New	2			4'-6"		0'-8"	5	39			12 w/ transition to 21 at head	12 w/ transition to 21 at head	39	Rough Top Belting	Q	L	Vertical	SEW	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		150
146	RI-03	Power Spiral	1	New	2	90		8'-10"		2'-0"	9	39	21	21			39	Rough Top Belting	E	RI	Vertical	MFR	1	2	3.4	480	60	3	1	1 (1-Phase, 120VAC)	1	1		150
146	RI-04	Incline Conveyor	1	New	2			30'-5"		5'-6"	31	39			21	21	36	Rough Top Belting	C	L	Vertical	SEW	1	3	4.8	480	60	3	1	1 (1-Phase, 120VAC)	1	1		150
147																																		

Exhibit E - RLAD Supplied Parts List

Item No.	Manufacturer	Part #	Description	QTY
	BEARINGS			
1	SEALMASTER	SFTMH-23T	BRG - 1.438 2BF SEALMASTER MH	2
2	SEALMASTER	SFTMH-27T	BRG - 1.688 2BF SEALMASTER MH	2
3	SEALMASTER	STMH-23T	BRG - 1.438 WSTU SEALMASTER MH	2
4	SEALMASTER	ECC-23	CAP - 1.438 BRG SEALMASTER	2
5	SEALMASTER	ECC-27	CAP - 1.688 BRG SEALMASTER	2
	PULLEYS			
6	Bryant	21492-P001	Pulley - 4.00 DIA X 38.000 X 1.438 - 39BF FF SNUB/TAKEUP	1
7	Bryant	21492-P005	Pulley - 6.00 DIA X 30.000 X 1.438 - 39BF TC HD/TL	1
8	Bryant	21492-P012	Pulley - 8.75 DIA X 38.000 X 1.688 - 39BF FF LAG MID DRV	1
9	Bryant	21492-P013	Pulley - 8.75 DIA X 38.000 X 1.688 FF / LAG	1
10	Bryant	21492-P018	Roller - 3.50 DIA X 39.000 X 11/16 HEX - FF	1
11	Bryant	21492-P029	PULLEY - 6.00 DIA X 36.875 X 1.438 FF	1
12	Bryant	21492-P037	PULLEY - 6.00 DIA X 36.875 X 1.438 FF	1
13	Bryant	21492-P043	PULLEY - 8.75 DIA X 44.000 X 1.688 FF / LAG	1
14	Bryant	21492-P044	PULLEY - 8.75 DIA X 44.000 X 1.688 FF / LAG	1
15	Bryant	21492-P045	PULLEY - 6.00 DIA X 36.000 X 1.438 TC	1
16	Bryant	21492-P046	PULLEY - 6.00 DIA X 42.875 X 1.438 TC	1
17	Bryant	21492-P047	PULLEY - 6.00 DIA X 42.875 X 1.438 FF	1
18	Bryant	21492-P048	PULLEY - 6.00 DIA X 42.875 X 1.438 FF	1
19	Bryant	24534-P001	PLLY - 6.00 DIA X 36.875 X 1.438 - 39BF TC Q TL	1
20	Bryant	24534-P002	PLLY – 6.00 DIA X 36.875 X 1.438 FF - 39 BF Q HD	1
21	Bryant	24855-P004	PULLEY - 4.00 DIA X 44.000 X 1.438 FF	1

22	Bryant	24855-P006	PULLEY - 4.00 DIA X 45.000 X 0.688 HX	1
	BELTING			
23	FORBO/SIEGLING	906433 W/ GUIDES	E8/2 U0/V5H MT-FR BLK - W/GUIDES 38.5" Width (Queue belting)	50 ft
24	FORBO/SIEGLING	906433	E8/2 U0/V5H MT-FR BLK - W/GUIDES X 44.500 W	15 ft
25	FORBO/SIEGLING	906434	E8/2 U0/V15 LG FR BLK - W/GUIDES X 38.500 W	30 ft
26	FORBO/SIEGLING	906434	E8/2 U0/V15 LG FR BLK - W/GUIDES X 44.500 W	50 ft
27	FORBO/SIEGLING	907229	E8/2 TX0/V10 FR LG BLK X 36.000 W	40 ft
28	FORBO/SIEGLING	907229	E8/2 TX0/V10 FR LG BLK X 42.000 W	40 ft
29	FORBO/SIEGLING	907230	Belting – E12/2 TX0/V1 M-FR-AMP BLK, 36" Width (Standard belting for load and transport conveyors)	40 ft
30	FORBO/SIEGLING	907230	Belting – E12/2 TX0/V1 M-FR-AMP BLK, 42" Width (Standard belting for load and transport conveyors)	40 ft
31	FORBO/SIEGLING	908209	PHR3-200TW BBXBB NA FR X 36.000 W	50 ft
32	FORBO/SIEGLING	908209	PHR3-200TW BBXBB NA FR X 42.000 W	34 ft
33	FORBO/SIEGLING	N/A	LACING - NYLON CVRD CABLE W/STEEL LDR	100 ft
	SPECIAL / NECESSARY TOOLS			
34	FORBO/SIEGLING	01179	UX-1 S/S Unibar Lacing; 12pieces x 12"/piece; (qty = box)	4 in set
35	FORBO/SIEGLING	02287	#1 SP Clipper w/out Pin; 12pieces x 12"/piece; (qty = box)	2 in set
36	FORBO/SIEGLING	05193	Duralink Pin, 25' x 5' Leader; (qty = roll of 25')	2 in set
37	FORBO/SIEGLING	03372	Manual Roller Lacer - 48"	1
38	FORBO/SIEGLING	04017	Manual Face Strip - 48"	1
	GEARMOTORS			
40	SEE MOTOR CHART	varies	See SEW Motors TAB	35

	ROLLER CHAINS, SPROCKETS & BUSHINGS			
41	RENOLD	60A1	CHAIN - #60 RIV ROLLER	20
42	RENOLD	60A1-26	LINK - #60 ROLLER CHAIN MASTER	10
43	RENOLD	35A1	CHAIN - RC35 RIV ROLLER	50
44	RENOLD	35A1-26	LINK - RC35 MASTER	10
45	DODGE	TL1610 X 1.375	Taper-Lock Bushing	2
46	DODGE	TL1610 X 1.438	Taper-Lock Bushing	2
47	DODGE	TL2012 X 1.375	Taper-Lock Bushing	2
48	DODGE	TL2012 X 1.688	Taper-Lock Bushing	2
49	DODGE	60BTL15H X 1610	Sprocket	2
50	DODGE	60BTL16H X 1610	Sprocket	1
51	DODGE	60BTL19H X 1610	Sprocket	2
52	DODGE	60BTL20H X 2012	Sprocket	1
53	DODGE	60BTL22H X 2012	Sprocket	1
54	DODGE	60BTL28H X 2012	Sprocket	1
	HIGH SPEED DIVERTER 3.0 - 39"W, 120VAC DI/O or PROFINET, 1m CABLE			
55	Siemens	68.0020.001-08	Motorized Pulley, Vertical Belt Drive	2
56	Siemens	68.0020.000-24	Paddle Nose Roller	2
57	Siemens	68.0020.000-51	Transition Plate Roller	2
58	Siemens	68.0020.000-57	Tie Rod, RH Thread, Long Tie Rod	0
59	Siemens	68.0020.000-58	Tie Rod, LH & RH Thread, Long Tie Rod	0
60	Siemens	68.0021.000-15	Tie Rod, RH Thread, Short Tie Rod	0
61	Siemens	68.0021.000-22	Tie Rod Bushing	0
62	Siemens	68.0020.001-35	Paddle Belt, Standard	2
63	Siemens	AL226-8002	Bearing, Hanger, 25mm	2
64	Siemens	620.003615	Servo Gearmotor	2
65	Siemens	AL257-0139	Return Roller	2
66	Siemens	AL221-032001	Bearing, Pillow Block, 45mm	2
67	Siemens	68.0020.001-38	Nut, 3/4-14 NPSM Right Hand Thread	0
68	Siemens	68.0020.000-99	Nut, 3/4-14 NPSM Left Hand Thread	0

	Electrical Items			
69	Siemens	AL18611600035	Fan Filter Mat, 5 pcs.	1
70	Siemens	68.0021.301-01	Cable Kit, 1m	1
71	Siemens	680.00019	Miniature Relay Screw Connection 6.2mm, 24VDC	1
72	Siemens	620.000617	Servo Smart Line Module, 5kw (Siemens 6SL3130-6AE15-0AB1)	1
73	Siemens	620.003639	Servo Dual Motor Module, 18A (Siemens 6SL3120-2TE21-0AD0)	1
74	Siemens	680.000042	Power Supply, 24V, 5A (Siemens 6EP1333-3BA10)	1
75	Siemens	620.002952	Servo Control Unit, CU320-2 PN (Siemens 6SL3040-1MA01-0AA0)	1
76	Siemens	AL2961118	Miniature Relay Insert Single Pole N.O. 60V	0
77	Siemens	AL2980319	Relay Base with Filter 120VAC	0
78	Siemens	S-000-000-041	Memory Module, Compact Flash, Blank (Siemens 6SL3054-0EJ00-1BA0)	1
79	Siemens	ALK50L2RGB7	Light, RGB 7-Color Indicator	0
80	Siemens	620.003675	Relay, Safety, 120VAC (Siemens 3SK1111-1AW20)	0
81	Siemens	ALLPJ-15SP	Fuse, Time Delay, Class J, 15A, 600VAC	0
82	Siemens	ALCFSAUX1NO	Auxiliary Contact, Disconnect Switch, 1 N.O. (Siemens CFSAUX1NO)	0
83	Siemens	AL6AV21232GB030AX0	Touch Panel HMI, 7" Screen (Siemens 6AV2123-2GB03-0AX0)	0
	Model 7100 Inclined Plate Baggage Carousel			
84	Siemens	AL280-72080	CHN 2080/2082 DBL STRND MASTER LINK	1
85	Siemens	AL280-92082-664	CHN 2082H DBL PITCH 166 IN LG (83 LINKS)	1
86	Siemens	AL280-62082	CHN 2082 SINGLE STRAND HALF LINK	1
87	Siemens	ALU0000103	BRUSH, TRACK, CCW WITH HOLDER, MODEL 7100	1
88	Siemens	AL7390	BUMPER 3D EXTRUSION	0
89	Siemens	AL7391	BUMPER 3D INSERT SLOPE PLATE DEVICE	0

90	Siemens	ALU0000042	GUIDE ASSY, DRIVE CHAIN	1
91	Siemens	ALU0000046	BACKUP ASSY, DRIVE CHAIN	2
92	Siemens	ALU0000072	FINGER GUARD MODEL 7100 SLOPE PLATE	0
93	Siemens	AL215E-1803	GEARMTR, SEW 7.5HP	1
94	Siemens	AL232-99261632	SPKT #2082BS16H X 2 BORE KW 2 SS	1
95	Siemens	ALU0000050	IDLER SHAFT ASSY SLOPE PLATE DRIVE	2
96	Siemens	ALU0000053	IDLER PULLEY SLOPE PLATE DRIVE	2
97	Siemens	ALU0000014	5-LINK ASSY PALLET SUPPORT MODEL 7100	1
98	Siemens	AL7360-1	GUIDE WHEEL ASSY - 4 IN URETHANE	6
99	Siemens	AL224-0203	WSHR THRUST BRZ 1-1/8ID X 1-7/8OD X 1/8	6
100	Siemens	ALU0000094	BSHG SLV COMPOSITE 1.125 X 1.375 X .375	2
101	Siemens	AL7380-16	NYLON STRAP PALLET SUPPORT 16IN CENTERS	50ft
	Compact and Indexing 45 Degree Merges			
102	Siemens	AL9944-A-39	END PULLEY, 39BG	1
103	Siemens	AL9940-A-39	SNUB PULLEY, 39BG	1
104	Siemens	AL9950-A-39	DRIVE PULLEY, 39BG	1
105	Siemens	AL221-041901	BRG SLMSTR SKWZ-LOC 2BFB-1 7/16 MH ZERK	1
106	Siemens	AL339-311112	BELT, 36W x 173 1/2L, #1SPS LACE	1
107	Siemens	AL215E-211012	GEARMTR SEW KT47 2HP 19.58:1 1 7/16	1
108	Siemens	AL215E-211014	GEARMTR SEW KT47 2HP 25.91:1 1 7/16	0
109	Siemens	AL215E-211008	GEARMTR SEW KT47 2HP 12.19:1 1 7/16	0
110	Siemens	ALM0019039	NOSEBAR WELDMENT 45 MERGE MODULE 39 BG	0
111	Siemens	AL339-311113	BELT MRG E8/2 U0/V15 LG 36W X 259 3/4	1
112	Siemens	AL9942-A-39	T-U PULLEY ASSY FF X 4 X 1-7/16 X 39 BG	1
113	Siemens	AL215E-211042	GEARMTR SEW KT47 3HP 19.58:1 1 7/16	1
114	Siemens	AL221-291901	BRG SLMSTR SKWZ-LOC WSTU-1 7/16 MH ZERK	2
	Vertical Sorter Unit II - 120 VAC Controls			
115	Siemens	AL272-070420	BELT, TIMING, DODGE 420H150	2
116	Siemens	AL215E-411001	ACTUATOR GEARMOTOR, SEW K47, 2HP, 25.91:1	2

117	Siemens	AL221-032000	BRG SLMSTR SKWZ-LOC 2BPB 1-1/2 MH PLUGGED	4
118	Siemens	AL260-0520	BSHG TL 1615 X 1-1/2	2
119	Siemens	AL260-0616	BSHG TL 2012 X 1-1/4	2
120	Siemens	AL234-0528	PUL DYNA-SYNC H150 X 28T	2
121	Siemens	AL6603-30-12	DRIVE PULLEY, SPROCKET	2
122	Siemens	68.0030.132-01	DRIVE PULLEY, 6IN, 39BG	2
123	Siemens	AL221-041900	BRG SLMSTR SKWZ-LOC 2BFB 1-7/16 MH PLUGGED	8
124	Siemens	AL257-0338	END ROLLER GALV 2-1/2 DIA X 38.88 LG	4
125	Siemens	AL221-9004	BRG, TIE ROD, LH SLMSTR CFML-12T3	4
126	Siemens	AL221-9003	BRG, TIE ROD, RH SLMSTR CFM-12T	4
127	Siemens	AL339-210001	BELT ASSEMBLY, LACED, 36W X 110L, FORBO E8/2 U0/V15 LG-FR BLK	2
128	Siemens	AL215E-116003	BELT GEARMOTOR, SEW KT47T, 1.5HP, 19.58:1	2
	Electrical Items			
129	Siemens	AL14101RQD03	PHOTOELECTRIC SENSOR-POLARIZED REFLEX, CUTLER HAMMER 14101RQD03	2
130	Siemens	680.000236	INDUCTIVE PROXIMITY SENSOR, 40-250VAC, TURCK BI 5-G18-ADZ30X2-B1331	2
131	Siemens	620.115309	REFLECTOR, RND, PEPPERL+FUCHS REF-A46, 46MM DIA, SELF ADHESIVE	2
132	Siemens	AL889N-R3AFC-6F	CONNECTOR CABLE, 3PIN, 6FT ALLEN-BRADLEY 889N-R3AFC-6F	2
133	Siemens	680.000251	INTERLOCK SWITCH, SOLENOID LOCKING, SIEMENS 3SE5 322-0SD22	2
134	Siemens	680.000258	ACTUATOR FOR INTERLOCK SWITCH, SIEMENS 3SE5 000-0AV02	2
135	Siemens	AL42GRU-9203-QD	PHOTOSENSOR, POLAR, RETROR, 4-PIN MINI QD	2
136	Siemens	AL3RH1122-1AK60	CONTROL RELAY, 120V, 2NC, 2NO	2
	POWER TURNS/SPIRALS - Interroll			
137	Conveyor No.	765740	BELT ASSY 42HC45 F45 PVOP 117L 40T	1

138	OS1-09,OS1-11	680177	ERW SG 23 42HC45	1
139		1027263	SPR 50B40 23 A TF	1
140		1027085	BEA FL 2B 1-7/16 SFT-23G WIR RGR BH PEER	1
141		1027086	BEA FL 3B 1-7/16 FB-23G WIR RGR BH PEER	1
142		5254925-130-13	DRIVE SFT 23 42HC45 45T FL KWY	1
143		1027007	BRG RUBBER TIRE 5/8" SPHERICAL KHAKI	1
144		5254925-130-24	DRIVEN SFT 23 42HC45 40T FL KWY DTB	1
145		65101237	UPR GDE KIT SIGMA FLAT 8FT	1
146	Model No.	403017	TR GDE ASSY HC F45 40T	1
147	42HC45-F45	601178	BR GDE ASSY HC F45 40T	1
148		1116015	KT47 1HP 80RPM 23 M4AB 90/1 +	0
149		402924	BELT ASSY 42HC45 F90 40T PVOP 229L	1
150		5254925-120-24	DRIVEN SFT 23 42HC45 27T FL KWY DTB	1
151		65101238	UPR GDE KIT SIGMA FLAT 12FT	1
152	Model No.	772664	TR GDE ASSY HC F90 40T	1
153	42HC45-90	772665	BR GDE ASSY HC F90 40T	1
154		1119018	KT57 2HP 65RPM 23 M4AB 90/1 +	0
155	Conveyor No.	65101197	BELT ASSY 48C39 F45 PVOP 114.5L 27T	1
156	00G1-07,CL4-03,OOG1-03	65101530	ERW SG 23 48C39	1
157	OSR2-07,SS1-02,TC1-05	1027281	SPR 50B27 23 A TF	1
158	TC2-06,CL3-03	1027085	BEA FL 2B 1-7/16" SFT-23G WIR RGR BH PEER	1
159		1027086	BEA FL 3B 1-7/16" FB-23G WIR RGR BH PEER	1
160		5254925-10-13	DRIVE SFT 23 48C39 27T FL KWY	1
161		1027007	BRG RUBBER TIRE 5/8" SPHERICAL KHAKI	1
162		5254925-10-24	DRIVEN SFT 23 48C39 27T FL KWY	1
163		65101237	UPR GDE KIT SIGMA FLAT 8FT	1
164	Model No.	601177	TR GDE ASSY C F45 27T	1
165	48C39-F45	601178	BR GDE ASSY C F45 27T	1
166		1114230	KT47 1HP 110RPM 23 M4AB 90/1 +	1
167		1127604	KT47 1HP 205RPM 23 M4AB 90/1 +	1
168		1114231	KT47 1HP 144RPM 23 M4AB 90/1 +	1

169	Conveyor No.	65101198	BELT ASSY 48C39 F90 PVOP 227L 27T	1
170		5254925-20-24	DRIVEN SFT 23 48C39 27T FL KWY DTB	1
171	Model No.	65101238	UPR GDE KIT SIGMA 12FT	1
172	48C39-F90	600221	TR GDE ASSY C F90 128-1/2L 27T	1
173		600219	BR GDE ASSY C F90 132-5/8L 27T	1
174		1110324	KT47 2HP 111RPM 23 M4AB 90/1 +	0
175	Conveyor No.	65101204	BELT ASSY 48C39 SP45 SR FR 114L 6ED 27T	1
176	CL1-02	65101530	ERW SG 23 48C39	1
177		1027281	SPR 50B27 23 A TF	1
178		1027085	BEA FL 2B 1-7/16 SFT-23G WIR RGR BH PEER	1
179		1027086	BEA FL 3B 1-7/16 FB-23G WIR RGR BH PEER	1
180		5254925-60-13	DRIVE SFT ER 23 X 56-15/16 FL KWY	1
181		1027007	BRG RUBBER TIRE 5/8" SPHERICAL KHAKI (010315)	1
182		5254925-60-24	DRIVEN SFT ER 23 X 46-15/16 FL KWY	1
183	Model No.	65101282	UPR GDE KIT SPIRAL CURVE 8FT	1
184	48C39-SP45 6ED	753605	TR GDE ASSY C SP45 6ED	1
185		753606	BR GDE ASSY C SP45 6ED	1
186		1127669	KT47/BRK460V 1HP 110RPM 23 M4AB 90/1 +	0
187	Conveyor #	65101208	BELT ASSY 48C39 SP90 SR FR 230L 24ED 27T	1
188	RI-03	5254925-190-13	DRIVE SFT 23 48C39 27T FL KWY	1
189		1027007	BRG RUBBER TIRE 5/8" SPHERICAL KHAKI	1
190		5254925-190-24	DRIVEN SFT 23 48C39 27T FL KWY	1
191	Model No.	65101283	UPR GDE KIT SPIRAL 12FT	1
192	48C39-SP90 24ED	605980	TR GDE ASSY C SP90 24ED 27T	1
193		605981	BR GDE ASSY C SP90 24ED 27T	1
194		1116089	KT47/BRK 460 2HP 145RPM 23 M4AB 90/1 + ~	0
	ELECTRICAL & CONTROLS			
195	Hoffman	HF 1316424	115V Filter Fan, 484 CFM, Lt Gray	0
196	Hoffman	HG 1300404	Exhaust Filter Grille, Lt Gray	0

197	Comm-ercial Lighting	1001-390-037	Enclosure Light Kit	0
198	Hoffman	ALFSWD	Enclosure Remote Door Switch	1
199	AB	856T-BT4	Control Tower Stack, 70mm, Steady, Red, 120VAC, Blk Housing	0
200	AB	856T-BT5	Control Tower Stack, 70mm, Steady, Amber, 120VAC, Blk Housing	0
201	AB	856T-BTR3	Control Tower Stack, 70mm, Transducer Sounder, Multi Tone, 120VAC, Black Housing	0
202	AB	856T-BA3SNC	Control Tower Stack, 70mm, 1/2" NPT Base, Three Circuit, 120VAC, Black Housing	0
203	AB	149U-ALT200, I think this is P/N 1494U-ALT200	Line Terminal Adapter (200 Amp) (2 Per Package)	0
204	AB	149U-R200-CR-LC-M-PC	Disconnect Switch, 480VAC, 200 Amp	0
205	Bussman	FRS-R-200	Fuse, Class RK5, 600V, 200 Amp	1
206	Bussman	FRS-R-150	Fuse, Class RK5, 600V, 150 Amp	1
207	Bussman	FRS-R-125	Fuse, Class RK5, 600V, 125 Amp	1
208	Merson	MPDB66623	Distribution Block, 3-Pole, 310 Amp, 1 Line, 15 Load	1
209	Merson	MPDBC6667	Distribution Block Safety Cover (One Per Pole)	0
210	AB	194E-A25-1753-6N	Disconnect Switch, Rotary, Base/DIN Rail Mount, Three Pole	0
211	Hevi-Duty	HS1F1BS	Transformer, 1kVA, 240x480 Primary – 120 Secondary	1
212	Hevi-Duty	HS5F3AS	Transformer, 3kVA, 240x480 Primary – 120 Secondary	1
213	AB	800TC-H33A	Keyed Selector Switch, 2 Position Maintained, 1 N.O., 1 N.C. (System Enable)	1
214	AB	800TC-A1D1	Push Button, 1 N.O., Green (System Start)	0
215	AB	800TC-A4D1	Push Button, 1 N.O., Grey (Lamp/Alarm Test)	0
216	AB	800TC-A9D1	Push Button, 1 N.O., Yellow (Alarm Silence)	0
217	AB	800TC-QAH2B	Push Button, Illuminated, Extended Head w/Guard, 1 N.O. 1 N.C., Blue (Fault Reset)	1

218	AB	800TC-FXQH2RA1	Push Button, Illuminated, Mushroom Push/Pull, 1 N.O., 1 N.C., Red (E-stop)	1
219	AB	800T-N314	Push/Pull Locking Attachment	0
220	AB	1606-XLE120E	Power Supply, 120VAC Input, 24VDC Output, 120 Watts/5 Amps	2
221	AB	1606-XLP50E	Power Supply, 120VAC Input, 24VDC Output, 50 Watts/2.1 Amps	1
222	AB	1492-REC20	Receptacle, DIN Rail Mount, 120VAC, 20 Amp	0
223	AB	140M-C2E-B40	Motor Protection Circuit Breaker, 480VAC, 2.5-4.0 Amp	2
224	AB	140M-C2E-B63	Motor Protection Circuit Breaker, 480VAC, 4.0-6.3 Amp	2
225	AB	140M-C2E-C10	Motor Protection Circuit Breaker, 480VAC, 6.3-10.0 Amp	2
226	AB	140M-C2E-C16	Motor Protection Circuit Breaker, 480VAC, 10.0-16.0 Amp	2
227	AB	140M-C-AFA11	140M Auxiliary Contact, 1 N.O., 1 N.C.	0
228	AB	100-C09UD10	IEC Contactor, 120VAC Coil (Load Side), 9 Amp, w/Auxiliary 1 N.O.	5
229	AB	140M-C-PEC23	140M Accessories, ECO Connecting Module, 25 Amp	0
230	AB	140M-C-W453N	3-Phase Compact Busbar, 45mm, 3 Link	1
231	AB	140M-C-W454N	3-Phase Compact Busbar, 45mm, 4 Link	0
232	AB	140M-C-W455N	3-Phase Compact Busbar, 45mm, 5 Link	0
233	AB	140M-C-WTEN	Terminal Block, Ground	0
234	AB	25B-D4P0N104	PowerFlex 525 VFD, 480VAC, 3-Phase, 4.0 Amp	1
235	AB	25B-D6P0N104	PowerFlex 525 VFD, 480VAC, 3-Phase, 6.0 Amp	1
236	AB	25B-D010N104	PowerFlex 525 VFD, 480VAC, 3-Phase, 10.5 Amp	1
237	TCI	KDRULB2H	Input Line Reactor, 3-Phase, Open, 27 Amp	1
238	AB	1489-M1C100	Circuit Breaker, 1 Pole, 10 Amp	1
239	AB	1489-M2C150	Circuit Breaker, 2 Pole, 15 Amp	0
240	AB	1489-M2C060	Circuit Breaker, 2 Pole, 6 Amp	0

241	AB	1489-M2C030	Circuit Breaker, 2 Pole, 3 Amp	1
242	AB	1492-SPM1C320	Circuit Breaker, 1 Pole, 32 Amp	1
243	AB	1492-SPM1C130	Circuit Breaker, 1 Pole, 13 Amp	1
244	AB	1492-SPM1C100	Circuit Breaker, 1 Pole, 10 Amp	1
245	AB	1492-SPM1C070	Circuit Breaker, 1 Pole, 7 Amp	0
246	AB	1492-SPM1C050	Circuit Breaker, 1 Pole, 5 Amp	1
247	AB	1492-SPM1C020	Circuit Breaker, 1 Pole, 2 Amp	1
248	AB	1756-A17	Chassis, 17 Slot	0
249	AB	1756-A7	Chassis, 7 Slot	0
250	AB	1756-PA72	Power Supply, 120VAC	1
251	AB	1756-L82E	Contrologix Processor, L82E	0
252	AB	1756-RM2	Redundancy Module	1
253	AB	1756-EN2T	EtherNet/IP Bridge Module	1
254	AB	1756-IA32	Digital AC Input Module, 32 Channel, 120VAC	1
255	AB	1756-IB16	Digital DC Input Module, 16 Channel, 24VDC	1
256	AB	1756-OA16	Digital AC Output Module, 16 Channel, 120VAC	1
257	AB	1756-N2	Empty Slot Filler Module	0
258	AB	1756-TBNH	Terminal Block, 20 Pin, Screw Clamp	0
259	AB	1756-TBCH	Terminal Block, 36 Pin, Cage Clamp	0
260	AB	1756-TBE	Extended-Depth Terminal Housing	0
261	AB	1783-US16T	Stratix 2000, 16 Port Switch, Unmanaged	1
262	AB	1783-US8T	Stratix 2000, 8 Port Switch, Unmanaged	1
263	Eaton	GBK10	Ground Bar, 10 Position, #14-4 AWG	0
264	Burndy	KA25U	Ground Lug, #14-1/0 AWG	0
265	AB	1492-J4	Terminal Block, 600V, 35 Amp, Gray	0
266	AB	1492-EBJ3	Terminal Block, End Barrier, Gray	0
267	AB	1492-EAJ35	Terminal Block, End Anchor, Gray	0
268	AB	1492-CJLJ6-10	Terminal Block Plug-In Center Jumper, 10 Pole, Yellow	0
269	Pfannen-berg	FLZ530	Thermostat Temp Control, 1 N.O.	1
270	AB	700-P400-A1	Control Relay, 4 Pole, 120VAC Coil	1

271	AB	700-P800-A1	Control Relay, 8 Pole, 120VAC Coil	1
272	AB	700-P1200-A1	Control Relay, 12 Pole, 120VAC Coil	1
273	AB	700-HN122	Slim Line Relay Socket, 5 Amp	1
274	AB	700-HK32A1	Slim Line Control Relay, 120VAC Coil, DPDT	1
275	OEM	Part #	Description	
276	AB	800TC-FXQH2RA1	Push Button, Illuminated, Mushroom Push/Pull, 1 N.O., 1 N.C., Red	1
277	AB	800T-N314	Push/Pull Locking Attachment	0
278	AB	800TC-A1D1	Push Button, 1 N.O., Green	0
279	AB	800TC-A2D1	Push Button, 1 N.O., Black	0
280	AB	800TC-A6D1	Push Button, 1 N.O., Red	0
281	AB	800TC-QAH2GD1	Push Button, Illuminated, Extended Head w/Guard, 1 N.O., Green	0
282	AB	800TC-QAH2WD1	Push Button, Illuminated, Extended Head w/Guard, 1 N.O., White	0
283	AB	800TC-QAH2BD1	Push Button, Illuminated, Extended Head w/Guard, 1 N.O., Blue	0
284	AB	800TC-QH2A	Pilot Light, Amber	0
285	AB	800T-QH2W	Pilot Light, White	0
286	AB	800TC-H2A	Selector Switch, 2 Position Maintained, 1 N.O., 1 N.C.	0
287	AB	800TC-H33A	Keyed Selector Switch,	0
288	0	0	2 Position Maintained, 1 N.O., 1 N.C.	0
289	Sonalert	SC250ER	Audible Alarm, 60-250V AC/DC, Piezo, Single Tone	0
290	AB	856T-BA3SNC	Control Tower Stack, 70mm, 1/2" NPT Base, Three Circuit, 120VAC, Black Housing	0
291	AB	856T-BT3	Control Tower Stack, 70mm, Steady, Green, 120VAC,	0
292	AB	856T-BT4	Control Tower Stack, 70mm, Steady, Red, 120VAC, Black Housing	0
293	AB	856T-BT5	Control Tower Stack, 70mm, Steady, Amber, 120VAC, Black Housing	0

294	AB	856T-BT6	Control Tower Stack, 70mm, Steady, Blue, 120VAC, Black Housing	0
295	AB	856T-BT7	Control Tower Stack, 70mm, Steady, Clear, 120VAC, Black Housing	0
296	AB	856T-BTR3	Control Tower Stack, 70mm, Transducer Sounder, Multi Tone, 120VAC, Black Housing	0
297	AB	42GRU-9202-QD	Photoelectric Sensor, Polarized Retroreflective	5
298	AB	889N-F5AF-6F	Cordset, Mini Style, Straight Female, 5 Pin, 6' Length	0
299	AB	60-2439	Mounting Bracket, Swivel/Tilt	0
300	AB	92-39	Reflector, 3", Round, Center Mount Hole	5
301	Photo-craft	RSB-P64AJ/8-30-10	Programmable RS Cube Style Encoder w/one output, Anti-Jitter, 3/8" Shaft, w/10' Cable	1
302	AB	194E-GA20-P11	Disconnect Switch, 25 Amp, 3 Pole, 1 N.O., 1 N.C. Auxiliary Contact, Grounding Pole	1
303	AB	194E-GA20-P22	Disconnect Switch, 25 Amp, 3 Pole, 2 N.O., 2 N.C. Auxiliary Contact, Grounding Pole	1
304	AB	194E-A-P22	194E Auxiliary Contact, 2 N.O., 2 N.C., Side Mount	0
305	0	0	0	0
306	OEM	Part #	Description	0
307	AB	1492-J4	Terminal Block, 600V, 35 Amp, Gray	0
308	AB	1492-EBJ3	Terminal Block, End Barrier, Gray	0
309	AB	1492-EAJ35	Terminal Block, End Anchor, Gray	0
310	AB	1492-CJLJ6-10	Terminal Block Plug-In Center Jumper, 10 Pole, Yellow	0
311	AB	1492-JG4	Grounding Terminal Block, Green/Yellow	0
312	AB	280-M24F-M1	Panel Mount Receptacle, Female, 4 Pin, 600V, 15A, ArmorStart (MTR)	1
313	AB	280-PWRM24G-M*	Cordset, Straight Male, 4 Pin, 600V, 15A, ArmorStart (MTR)	per m
314	AB	888N-F5AF1-3F	Panel Mount Receptacle, Female, 5 Pin, 600V, 8A, Mini Style (PE/SL)	0

315	AB	889N-U5AFC-*F	Cordset, Straight Male, 5 Pin, 600V, 8A, Mini Style (PE/SL)	0
316	AB	888N-F4AF1-3F	Panel Mount Receptacle, Female, 4 Pin, 600V, 10A, Mini Style (MSD)	0
317	AB	889N-U4AFC-*F	Cordset, Straight Male, 4 Pin, 600V, 10A, Mini Style (MSD)	per ft
318	AB	888N-F12AF1-3F	Panel Mount Receptacle, Female, 12 Pin, 600V, 7A, Mini-Plus Style (CS)	0
319	AB	889N-U12AF-*	Cordset, Straight Male, 12 Pin, 600V, 7A, Mini-Plus Style (CS)	per m
320	AB	888D-F4AC1-1	Panel Mount Receptacle, Female, 4 Pin, 250V, 4A, DC Micro Style (SE)	0
321	AB	871A-TS4-DM	Terminal Chamber, Straight Male, 4 Pin, 250V, 4A, DC Micro Style (SE)	0

Exhibit F - RLAD Contingency Plan

See attached PDF for Exhibit F

COLOMBIA METROPOLITAN AIRPORT

DHS/TSA PROJECT NO. 70T04018T9CAP1039

OUTBOUND BAGGAGE SCREENING

Contingency Plan – 100% Design Submittal

100% Design Phase 05-06-20
REVISION 0

Designed for the Future. Maintained for Performance.

Revision History

Version	Description of Version or Revisions made	Date
0.0	Contingency Plan Rev 0	05/06/20

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1 Objectives

1.1 Contingency Plan Implementation Risk

In the event the CBIS becomes inoperative due to any event which prevents the CBIS from processing baggage in a designed timely manner a contingency plan developed for that event will be implemented.

This plan, dependent on the critical nature and size of event, would require multiple parties to communicate in a timely and efficient manner. If the plan is not implemented properly or promptly, and event that already has degraded the system will only become more compounded and take a longer duration to alleviate.

1.2 Desired Outcomes

The desired outcome of implementing a contingency plan is to screen as many bags as possible in the shortest time possible despite an event in the system that would be preventing this operation. A contingency plan would remain in place until the system has reverted to its original state and all the events / faults have been mitigated and corrected.

1.3 Potential Impacts

If an event that creates a severe, long term downtime situation occurs, CAE would be required to quickly and effectively modify their operation to ensure all outbound baggage are still processed in a timely manner.

1.4 Recourse Requirements

TSA should have in place a dynamic agent deployment plan to provide any extra staffing inside the CBRA room in the event an unexpected flood of bags is routed to the CBRA. This could be caused by both EDS device faults or in the event the clear bag mainline of the decision point has an extended duration fault.

2 BHS System Overview

2.1 Outbound Screening System

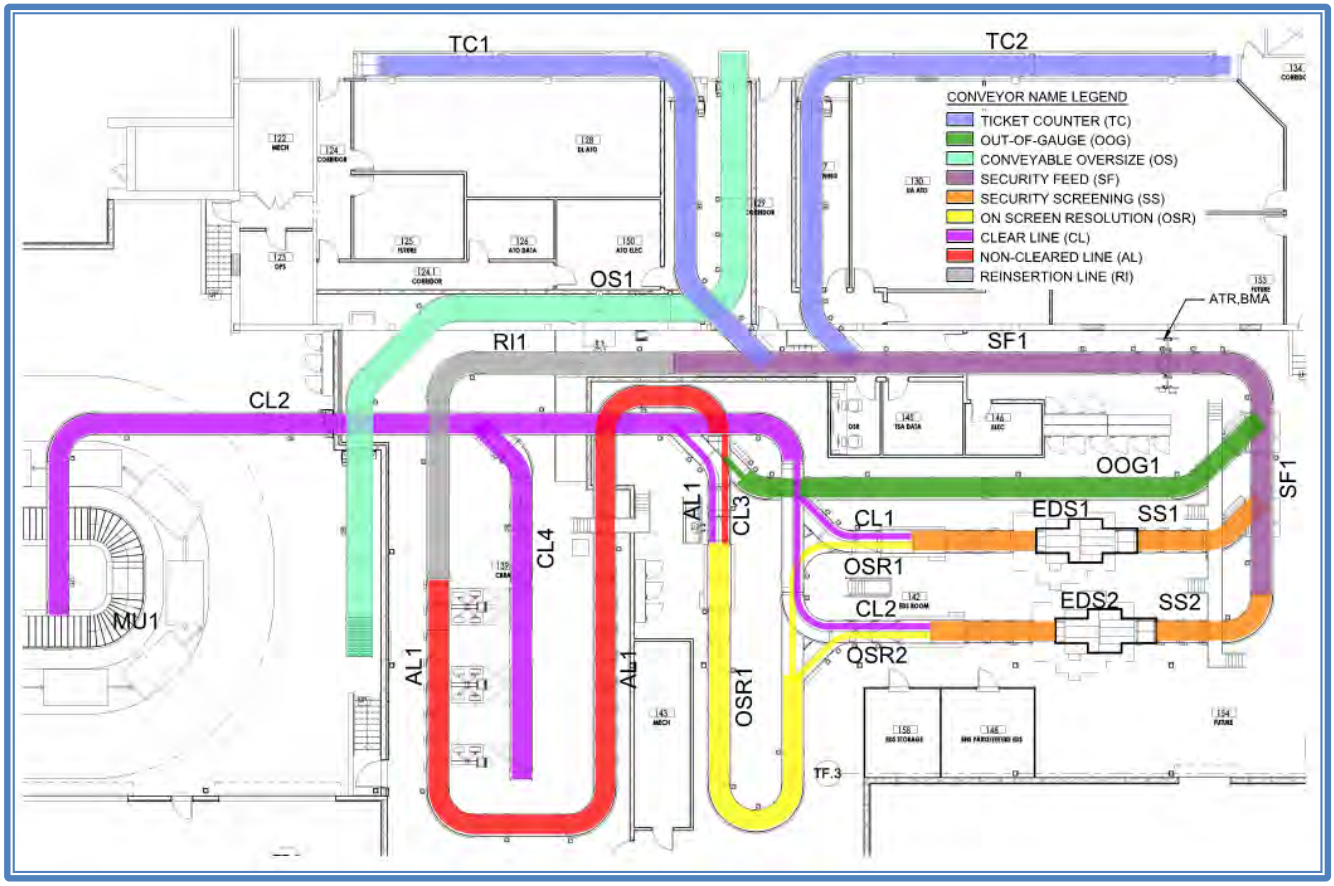


FIGURE 1 – SYSTEM OVERVIEW

2.1.1 System Configuration

The new CAE outbound CBIS system consists of the following conveyor subsystems:

- TC1: West Ticket Counter 1
- TC2: West Ticket Counter 2
- SF1: Security Feed 1 (Fed by TC1 and TC2)
- OOG1: Out of Gauge Line
- SS1: Security Screening Line 1
- SS2: Security Screening Line 2
- EDS1: Explosive Detection System 1 (Level 1)
- EDS2: Explosive detection System 2 (Level 1)
- OSR1: On Screen Resolution Line 1 (Level 2)
- OSR2: On Screen Resolution Line 2 (Level 2)
- CL1: Clear Bag Line 1
- CL2: Clear Bag Line 2
- CL3: Clear Bag Line 3
- CL4: Clear Bag Line 4
- AL1: Alarm Bag Line 1 (Level 3)
- RI1: Re-Induction Line
- MU1: Make-Up Unit 1
- OS1: Oversize Line 1

2.1.2 System Processing

Bags enter the system via the ticket counter lines (TC1 or TC2). Bags then proceed through the fire security doors that are located at the end of each ticket counter belt. The bags will then be transported on the Security Feed 1 Line (SF1) to a new ATR/BMA. The bag measuring array (BMA) will measure the bags and ensure they are within the size requirements allowed by the EDS machine. The automatic tag reader (ATR) will read the bag's IATA tag and track the bag with its IATA through the screening process and will continue on the Security Feed Line 1 (SF1).

In-gauge bags are diverted off the SF1 line to SS1 or SS2 security screening lines. Each SS line has four (4) queuing positions that feed the EDS machine(s) (including the power turn). After bags have been processed by a Level 1 EDS screening device, they continue on the SS lines to the Level 1 decision point VSU. Non-clear, lost in tracking, no decision (also pending decision) and EDS error bags are diverted "down" onto the OSR1 or OSR2 line (OSR2 merges into OSR1). Clear bags are diverted "up" to the CL1 or CL2 line (CL1 merges into CL2).

Bags that are travelling on the OSR1 line proceed to the Level 2 decision point VSU. Once the bags arrive at the Level 2 decision point VSU, after a minimum of 45 seconds OSR viewing time, clear bags will be diverted "up" to the CL3 line and proceed to make-up, all other bags will be diverted "down" to the corresponding AL line for Level 3 inspection in CBRA. Once cleared in CBRA, the luggage will be transferred to the CL4 line via zero lift table(s) and merge onto the CL2 line and conveyed to make-up.

All bags that are EDS error, lost in tracking, or failure to match IATA will be automatically routed to CBRA for resolution, and images and status may be reacquired via hand scanning depending on where the bag data was lost. If the bags image cannot be resolved, the bag can be designated by a TSO to be screened again, re-inducted on the AL1 and automatically proceed to the RI1 line.

All OOG bags are transported on the SF1 line diverted to the OOG1 line which ties directly into the AL1 line upstream of the inspection room. OOG bags will then be routed to CBRA for Level 3 inspection. Bags that do not receive BMA information or that lose tracking between the ATR/BMA and EDS machine, will be routed to the SS lines where a secondary measurement will take place utilizing over height/overlength protection pre-EDS rather than being transported via the OOG line.

Oversize (OS) bags will be transported from ticketing area on the OS1 line to the dedicated OS screening tables for TSA processing. Once cleared, the TSA will re-induct the oversized bag for transport to the makeup area.

2.2 Screening Methodology Overview

The 100% In-Line integrated EDS configuration for this project will consist of three (3) Screening Level classifications, they are as follows:

2.2.1 Level 1 – EDS screening:

All originating “in-gauge” checked bags shall be transported into an EDS device for Level 1 screening. Relevant baggage data is transferred from the BHS to the EDS and back to the BHS as the bag is processed to and through the EDS Machine. The BHS PLC then tracks the bag with BHS ID and the EDS decision. If the EDS/OSR has assigned the bag a CLEAR decision prior to the Level 1 VSU, the BHS will divert the bag “up” to the associated clear bag line (CL1/CL2). If the EDS has assigned the bag a non-clear decision, OR if an OSR non-clear decision has been made, OR if a decision has not been rendered in time, OR if the bag was deemed lost in tracking, the bags image will be transferred to an OSR operator for Level 2 processing. These bags as they reach the Level 1 decision point will be diverted “down” to the OSR1/OSR2 lines.

2.2.2 Level 2 – On Screen Resolution (OSR) operation:

Baggage that receives a non-clear decision from the EDS during Level 1 screening will have the non-clear image delivered via the EDS network to an OSR station. The images shall be received and displayed on one (1) of multiple monitors in the OSR room. An operator will view the image in the display for 45 seconds utilizing Threat Resolution Tools (TRT) to determine if the bag can be determined CLEAR or NON-CLEAR. If the operator determines that the bag is non-clear or the allocated time period expires (maximum of 45 seconds), and no decision has been rendered, the image and relevant bag will be given a NON-CLEAR Level 2 status. These bags shall be diverted at the Level 2 decision point vertical sorter, down to the AL alarm line and transported to the CBRA for inspection. Bags that are given a CLEAR decision by an OSR operator will be diverted up to the CL3 clear line and merge onto CL2 for eventual baggage makeup at MU1.

2.2.3 Level 3 Explosive Trace Detection (ETD) operation:

Lost in track bags, EDS unknown or error bags, and valid out of gauge and non-clear Level 2 bags are transported to the CBRA via the AL1 line for inspections and appropriate handling (ETD). Cleared Level 3 bags shall be placed on the CL4 clear bag line, via zero lift tables, that will merge onto CL2 to the make-up area. If the bags image cannot be resolved, (i.e. BHS UNK and no hand scan resolution, or EDS error bag) the bag can be designated by a TSO to be screened again, re-inducted on the AL1 and automatically proceed to the RI1 line. All Level 3 bags that cannot be cleared with ETD shall be handled per the local EOD protocol. Full access is provided into the CBRA to allow for any required LEO explosive robot to maneuver as required to eliminate/remove the potential threat.

3 Contingency Plan – CBIS Failures and Resolutions

The following is a preliminary contingency plan for Colombia Metropolitan Airport for the BHS and will be updated by the BHS Contractor based on their functional specification and updated throughout the Construction Phase.

3.1 General

While expectations for airline ticketing staff, baggage handling staff, TSA personnel and BHS maintenance staff may be different for each event, it may be generalized that additional staff will be required for each discipline. In the case of the BHS maintenance group, there is a set of standard procedures that should be followed for each event. The programmable logic controller (PLC) will incorporate coded control logic to automatically direct the conveyors to produce many of the necessary changes to the system as defined in the following contingency procedures.

It should be noted that for any failure of a system component in the new CBIS or CBRA that is determined to cause an extensive period of downtime or a severe reduction in throughput capacity, the response team can choose to prevent any bags from being routed to the disabled CBIS system. Any unscreened or suspect stranded bags in the CBIS system will need to be found, unloaded and transported to a CBRA for manually screening. Any clear bags stranded on the clear bag mainline out of the CBIS system will need to be recovered and inducted onto a functional input into the sortation system downstream of the CBIS system.

3.2 BHS Contingency Plan

Examples of what may Trigger a contingency operation are as follows:

- Screening equipment failure
- Conveyance equipment failure
- Loss of utility power
- Unplanned surges in system demand
- Removal of threat “Alarmed” bag from CBRA
- Threat evacuation and associated impact on baggage screening
- Airport Operations Emergency Response Plan
- TSA local standard operating procedures
- Standard Operating Procedures (SOP) for transportation security incidents
- Airport Emergency/Incident Response Plan

3.3 Defining Contingency Operation

The following must be taken into consideration before a full need assessment can be made on the best course of action for any failure:

- Peak or non-peak hours of operation
- Critical nature of failed components
- Difficulty in correcting the failure
- Availability of new components to correct failure
- Availability of appropriate personnel to correct or manage the event
- Time needed to correct the failure

3.4 Standard Procedures for BHS O&M Staff

1. Upon fault recognition, dispatch appropriate personnel to the faulted conveyor or device for inspection and determination of impact.
2. If fault can be rectified in less than 20 minutes, institute the corrective action and then return to normal activities.

3. If the fault will take greater than 20 minutes to repair, the affected operations should be informed and contingency operations should be implemented.
4. Baggage handlers will manually transfer stranded bags and load them on closest operational system.
5. Maintenance personnel will implement plans to rectify the fault and advise impacted staff of expected time for the conveyor to be operable.
6. Once the fault is corrected, maintenance will inform the affected staff, through the BHS Control Room, that their operations will return to normal.

3.5 Standard Procedures for Airline Ticketing Staff

1. Determine if the failed condition on the affected line requires intervention from BHS Maintenance personnel and inform the BHS Control Room if it does for appropriate action.
2. If the rectification is going to take longer than 20 minutes, request additional help in moving baggage to a nearby available take away load conveyor (e.g., baggage handlers).
3. Use small carts to facilitate the movement of bags.

3.6 EDS Device Failure Notification Procedures

1. The EDS vendor should be contacted for the emergency maintenance and repair of TSA provided equipment by the local TSA.
   - TSA equipment includes EDS devices, ETD equipment, NEDS interface, on-screen resolution (OSR) equipment and passive threat resolution information.
2. Any changes to the EDS device programming by the TSA must be communicated to the BHS Control Room.
3. TSA protocols exist for formal documentation of repairs and maintenance of TSA furnished equipment and should be utilized.
4. TSA agents shall clear jams within the EDS device when notified by the BHS Control Room per conformance protocols, or if it is physically noticed by TSA staff.

3.7 PLC Failure

A PLC failure may affect a large area resulting in loss of control for many conveyors or even the complete matrix or both. PLC failures are typically rare and relatively easy to fix and recover from.

Each master PLC located in the control room maintains a redundant hot back up clone that automatically switch (seamless operation) between the two (2) in the event that one (1) fails.

It should be noted that maintenance procedures must be instituted and maintained that ensure the integrity of the backup system. All program changes made to a PLC must also be made to its back up PLC.

3.8 Computer Failure

The computer system servers-those used for reporting and fault monitoring are all protected with redundant backup servers. These redundant servers are called hot backups in that they are constantly observing the activities of their counterpart online server and they can completely take over the activities of the online server if necessary without any intervention from an operator.

3.9 Power Loss

In the event of a system power loss, an Uninterruptible Power Supply (UPS) will allow the PLCs to retain all tracking data for a minimum of two (2) hours.

The UPSs provided for the EDS devices will allow for a controlled shut down of the x- ray gantry and screening computers.

In the event that any power failure results in an extended duration of the non-operable BHS system TSA and CAE will proceed in fall back operations.

4 Detailed System Plans

4.1 Ticket counter Lines TC1 and TC2 Failure

To start the outbound system, ticketing agents must first swipe an access security card to initiate the system start-up. After pressing the START pushbutton on a local ticket counter control station, the associated fire/security door will open, and the load belts will start after a set time delay to allow for the appropriate local start alarms. The CBIS conveyors downstream of the ticketing line will also start up in a reverse cascade method if they are not already in operation. All bags loaded onto the TC1 and TC2 ticketing load belts will be loaded upstream of a head end photocell just prior to the conveyor lines inclining back through the ATO space. These photocells are used to measure the length and height of the bags to ensure only bags capable of being transported by the conveyor system will be inducted into the system. Both an over length and over height photocell will be installed on each TC1 and TC2 line. When an oversize bag is detected, the TC line will stop and require the ticketing agent to remove the bag, which will be transported manually to the oversize conveyor OS1. Appropriate oversize indications are provided to alert the ticketing agents of these oversize events.

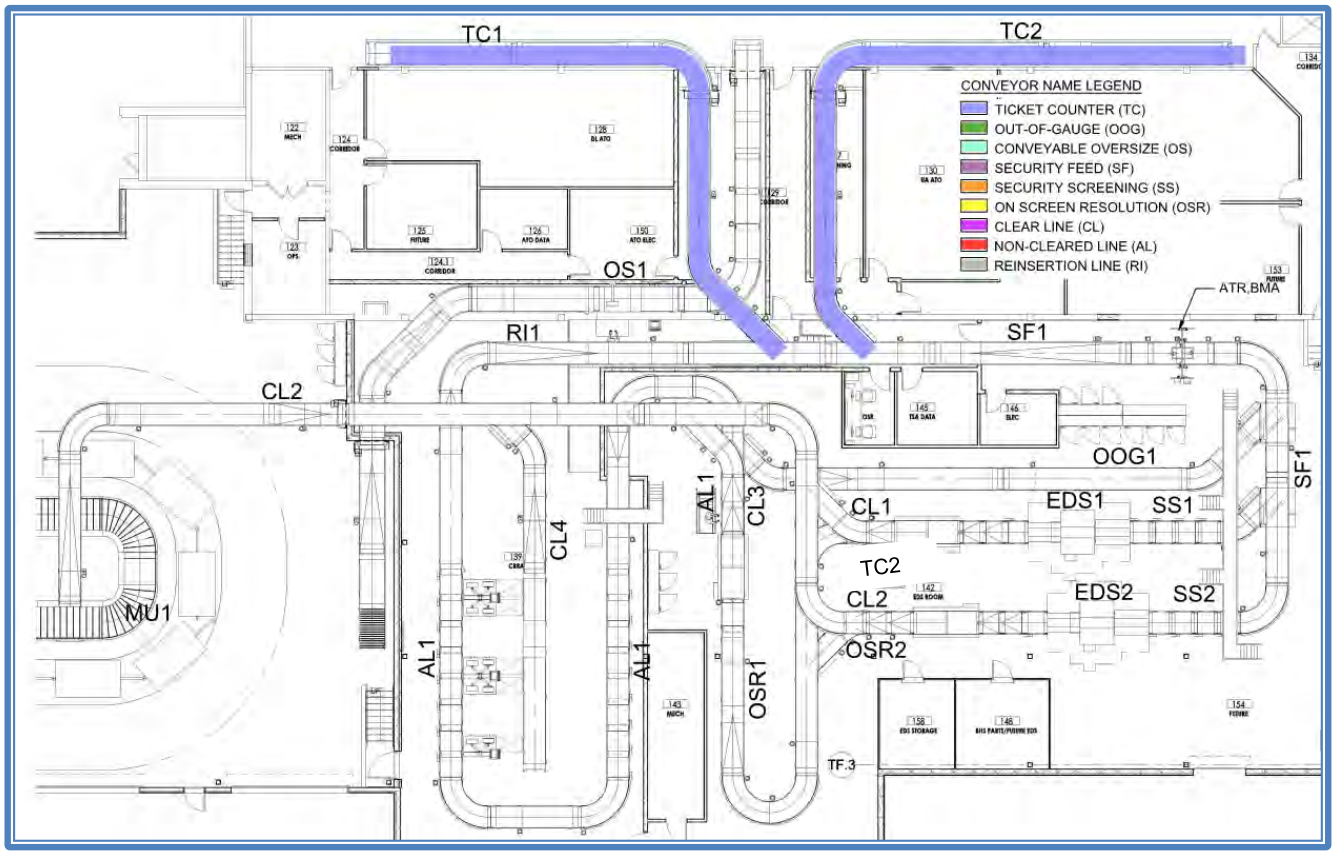


FIGURE 2 - TICKET COUNTER 1 AND 2

4.1.1 Failure before fire/security door:

If the loading take-away belt for ticket counters conveyors become inoperable a conveyor immediately downstream of the faulted conveyor and before the security door may be used. A failure of a ticketing line could be mitigated by portering to the adjacent conveyor line if operable.

4.1.1.1 Procedures for Airline Ticketing Staff

- Request additional help for moving bags to next available load point.

- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- If necessary, especially during peak loading periods, use a small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.

4.1.1.2 Procedures for BHS Maintenance Staff

- Assess fault and assess the time necessary to correct. If more than 20 minutes is needed initiate contingency operations.
- Determine if work can be conducted during airport operational hours as this work involves the public areas.
- If only one (1) ticket counter can be used provide added personnel as required to transport baggage to the operational load belt adjacent to the belt that is faulted.
- Follow BHS maintenance standard procedures.
- Coordinate with all parties involved to complete work in a timely and least disruptive manner.

4.1.2 Failure after fire/security door:

This will be treated similar to line failure before the fire doors. Baggage already placed onto these conveyors will need to be removed and placed on the nearest downstream, operating conveyor before the BMA/ATR on either transport line. As previously stated a failure of a ticketing line could be mitigated by portering to the adjacent conveyor line if operable.

4.1.2.1 Procedures for Airline Ticketing Staff

- Request additional help for moving bags to the other ticket counter load belts.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- If necessary, especially during peak loading periods, use small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.

4.1.2.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on inoperable conveyors and place them before the BMA on operational downstream conveyors or on the other ticket counter transport line.
- Follow BHS maintenance standard procedures.

4.2 Security Feed 1 SF1

The SF1 line is fed from TC1 and TC2 as well as the RI1 line from CBRA. The SF1 feeds the SS lines pre-EDS as well as the OOG line. Bags will travel on the security feed line to an ATR/BMA for identification and measuring. The baggage measuring array (BMA) is installed prior to the security screening lines (SS1 and SS2). The BMA is configured for redundancy and is utilizing laser scanning or a vision system. In the same location on SF1, the bags IATA tag will be read by an ATR, also configured for redundancy. The IATA data and baggage size information will be stored and tracked with the bag from this point through the screening process. Bags that are within dimension and can pass through the EDS equipment shall be diverted to the SS lines for screening. Bags that are OOG will be diverted from the SF line to the OOG1 line directly into CBRA for processing. Bags that do not receive BMA information will be routed to the SS lines for measurement with over height/overlength protection pre-EDS rather than the OOG line. If both screening lines are available (EDS running and pre-EDS conveyors not full), round robin distribution will be utilized.

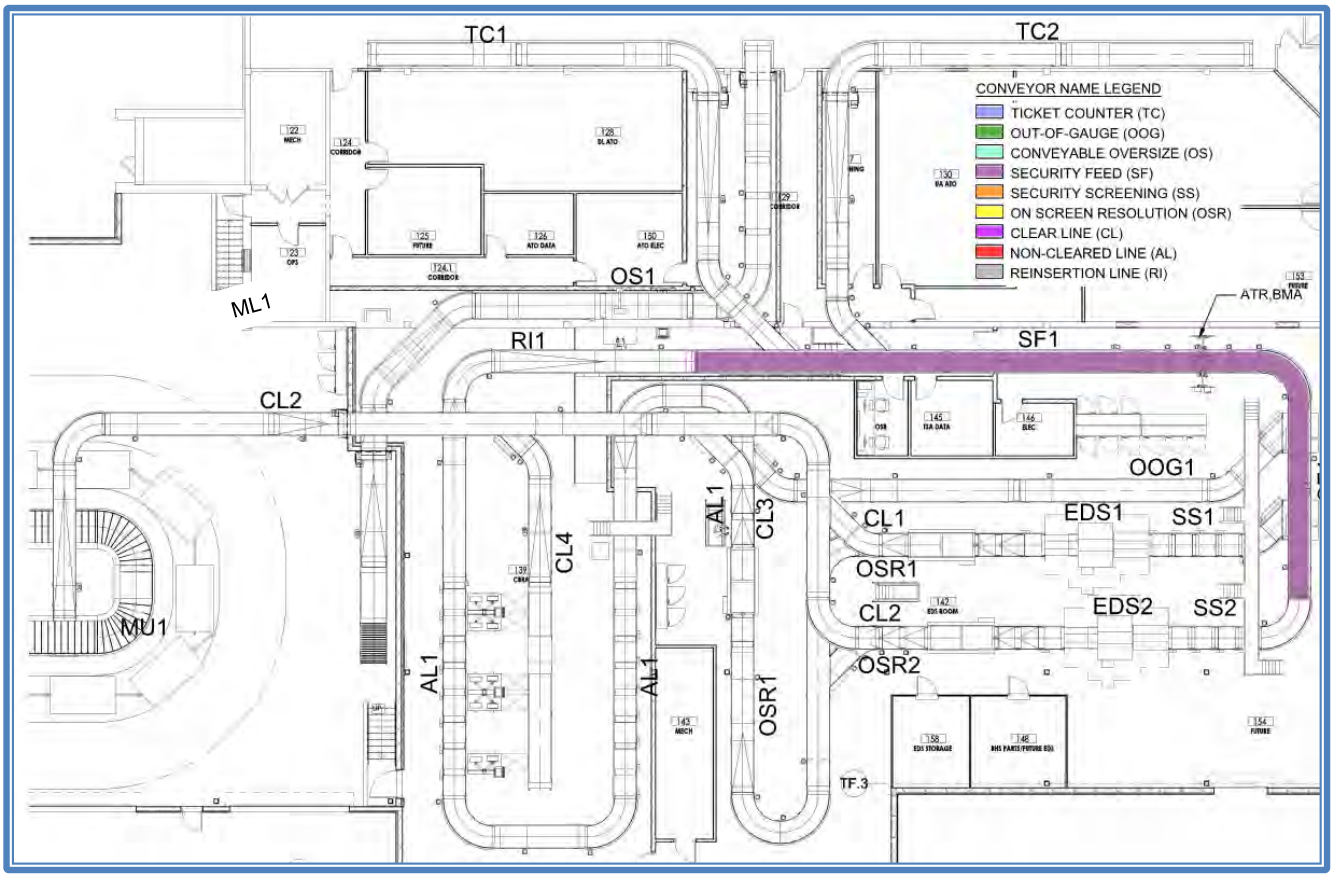


FIGURE 3 - MAIN LINE

4.2.1 Failure of the main line (SF):

This will be treated similar to line failure before the fire doors. Baggage already placed onto these conveyors will need to be removed and placed on the nearest downstream, operating conveyor before the BMA/ATR. The mainline is a difficult portion of the system to plan for contingency as it is the 'main line". An ML failure can be difficult to work around. As a result, this plan is broken into three (3) areas:

Failure of the SF Line pre-ATR:

Typically, a security feed line failure will result in direct portering to the nearest downstream conveyor pre ATR as a manual operation, as OOG transference is very limited. If the initial portion of the SF line fails prior to the merge point, bags can be portered to the adjacent ticket counter for processing.

4.2.1.1 Procedures for Airline/Airport Staff

- Request additional help for moving bags to the adjacent operating conveyor belts.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- If necessary, especially during peak loading periods, use small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.
- Select baggage for flights with departure time greater than one (1) hour for placement later into the system.

4.2.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct and if more than 20 minutes is needed initiate contingency operations.
- Manually remove bags left stranded on any of the failed conveyors and load on the nearest and accessible operating conveyor, pre-EDS. Bags can be placed on the SS lines that feed the EDS devices with additional consideration for OOG jams at the entrance of the EDS device. All personnel working in these areas will be trained to recognize OOG bags pre EDS. These bags will either be placed on operating conveyor to be directed to the OOG line if operational or will be manually transferred to CBRA for screening.
- Follow BHS maintenance standard procedures.
- Coordinate with all parties involved to complete work in a timely and least disruptive manner.

4.2.1.3 Procedures for TSA Staff

- Additional personnel in the CBIS may be required for a short period of time for possible jams at the entrance of EDS devices or in CBRA for “unknown” status bags from the stranded bags placed back in the BHS system.
- During peak hours, additional staff may be needed due to potential increase in no decision, suspect, incomplete images or jams in the EDS machines.

Failure of the SF Line post ATR, pre-SS Line:

A failure in this area will cause the system to become unusable in an automated state. Bags can be portered “around” the faulted conveyor and placed on the SS lines.

4.2.1.4 Procedures for Airline/Airport Staff

- Request additional help for moving bags to the adjacent operating conveyor belts or directly to CBRA.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- If necessary, especially during peak loading periods, use small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.
- Select baggage for flights with departure time greater than one (1) hour for placement later into the system.

4.2.1.5 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct and if more than 20 minutes is needed initiate contingency operations.
- Manually remove bags left stranded on any of the failed conveyors and load on the nearest and accessible operating conveyor. Bags can be placed on the SS lines that feed the EDS devices with additional consideration for OOG jams at the entrance of the EDS device.
- Follow BHS maintenance standard procedures.
- Coordinate with all parties involved to complete work in a timely and least disruptive manner.

4.2.1.6 Procedures for TSA Staff

- Additional personnel in the CBIS may be required for a short period of time for possible jams at the entrance of EDS devices or in CBRA for “unknown” status bags from the stranded bags placed back in the BHS system.
- During peak hours, additional staff may be needed due to potential increase in no decision, suspect, incomplete images or jams in the EDS machines.

4.3 Out of Gauge OOG1 and Oversized OS1

As luggage is dimensioned on the SF1 BMA, the bag's dimensions are compared to the maximum and minimum allowable dimensions for the EDS machine. If the bag's dimensions fall outside the parameters for the EDS, the control system will designate the bag as out of gauge. The baggage dimensioner will send the information to the PLC, which then marries that indication with the bag's tracking data and IATA. The system begins its tracking all bags at the BMA/ATR. Bags flagged as out of gauge are diverted to the OOG1 line. The out of gauge line OOG1 interfaces directly with alarm line AL1 which transports bags to the CBRA inspection stations. All out of gauge bags will be indicated as such on the BRP BSDs installed above each removal queue conveyor in the CBRA.

Oversize Baggage (OS) will be determined as such by airline employees at the ticket counters. Airline employees or airline operations will then transport these bags by cart to the OS1 conveyor line. To start the OS1 line, ticketing agents must first swipe an access security card to initiate the system start-up. After pressing the START pushbutton on at the local control station, the associated fire/security door will open, and the load belts will start after a set time delay to allow for the appropriate local start alarms. The CBIS conveyors downstream on the OS1 load belt will also start up in a reverse cascade method if they are not already in operation.

The bag will be loaded onto the OS1 line and transported to dedicated oversized tables in CBRA for inspection by the TSA. Once the search is complete and the bag is cleared, the bag will be re-inducted onto the OS1 line and transported to the makeup area. This is a manual inspection area. Control of OS items is performed by removal and reinsertion of the item after inspection. The system will stop bags at the BRP, the bag will be removed and once deemed clear, will be reinserted for processing to baggage makeup. The area is on an elevated platform due to height changes between landside and airside.

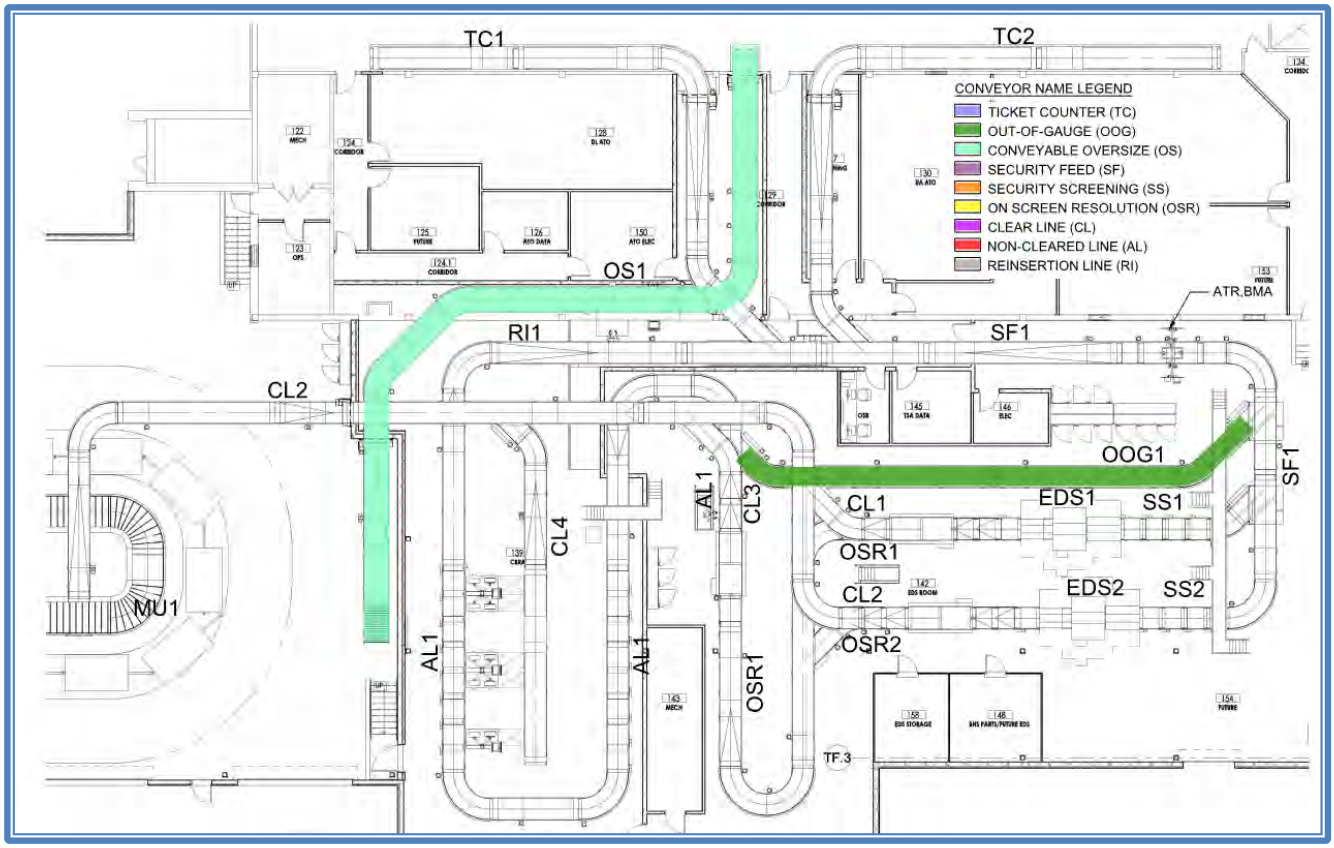


FIGURE 4 - OOG1 LINE AND OS1 LINE

4.3.1 Failure of OOG Conveyor:

A failure of the OOG line will result in the ability of OOG processing to be hindered. Bags can be portered around the faulted conveyor and be placed onto the AL Line. These bags will become unknown and as such will be transported to CBRA with an “unknown” status. These will be handled using local TSA protocol within CBRA. If they are known to be OOG, they should not be reinserted via the RI line.

4.3.1.1 Procedures for Airline/Airport Staff

- Ticket counter agents should take extra care to ensure Out-of-Gauge bags are not placed into the system. Ensure that only bags that will pass through the EDS machines are placed on the ticket counter lines.
- Request additional help for moving bags around the faulted conveyor or transport them directly to CBRA.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- If necessary, especially during peak loading periods, use small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.

4.3.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on inoperable conveyors and transport them to CBRA for processing or place on the AL line for processing to CBRA.
- Follow BHS maintenance standard procedures.

4.3.1.3 Procedures for TSA Staff

- Additional personnel in the CBRA may be required for a short period of time to handle the “unknown” status OOG bags. They can be screened in the same manner as “normal” OOG bags.
- During peak hours, additional staff may be needed to facilitate the local TSA protocol on these items.

4.3.2 Failure of ATR:

A failure of the ATR will result in the system not being able to read IATA tags which is utilized for tracking and bag identification. The system will assign a pseudo ID in the event that the ATR fails, or if the tag cannot be read. This being stated, procedures for a faulted ATR will require only a minor contingency operation be implemented. Note: baggage reconciliation utilizing a hand scanner will not be available due to the IATA not being assigned to a bag as it transfers throughout the system.

4.3.2.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.

4.3.2.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations, including notification of TSA in CBRA.
- Follow BHS maintenance standard procedures.

4.3.2.3 Procedures for TSA Staff

- “Unknown” bags will not be able to be reconciled via hand scanning if the ATR is inoperable.
- Reinduct luggage with an “unknown” status via the RI line or handle using local TSA protocol.

4.3.3 Failure of BMA:

A failure of the BMA will result in the system not being able to properly measure the luggage as it passes through it. Improperly dimensioned luggage could potentially damage the EDS machine. As a result, a failure of the BMA will result in OOG baggage being transported to the SS lines where OH and OL photo eyes will measure the bags. Bags deemed OOG by these photo eyes will result in these bags being transported to CBRA as “unscreened” luggage.

4.3.3.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Ticket counter agents should take extra care to ensure Out-of-Gauge bags are not placed into the system. Ensure that only bags that will pass through the EDS machines are placed on the ticket counter lines.
- Assist with staffing pre-EDS to help ensure that appropriately size luggage will be transferred into the EDS. Item deemed too large can be placed onto the OOG line for processing. They will arrive as “unknown” bags and should be handled using local TSA protocol.

4.3.3.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations, including notification of TSA in CBRA.
- Assist in the monitoring of luggage into the EDS to ensure items that are OOG will not enter the machine. Disconnect switches can be used to stop bags entering the machine for removal to the OOG line.
- Follow BHS maintenance standard procedures.

4.3.3.3 Procedures for TSA Staff

- Request additional staff to handle the luggage that will be transported to CBRA directly without having been screened, and OOG bags identified pre-EDS machine.
- Reinduct of luggage with a failed BMA will result in all items arriving in CBRA again. As such do not reinduct luggage during this contingency operation.

4.4 Security Shunt Lines SS1 and SS2 and IQT

There are two (2) Security Shunt (SS) lines that feed luggage into the EDS machines. As the bag travels down the SF1 line it passes the BMA and ATR which will scan and dimension the bags to process the bags to be diverted for automated screening through the EDS machines or be diverted if out-of-gauge directly to OOG1. The EDS machines will screen in-gauge bags diverted to the security shunt lines SS1 and SS2.

These SS lines also have provisions for conducting the Image Quality Testing (IQT) as required. Low sideguards in conjunction with specific controls features can be utilized to accomplish this requirement. Specific Operational Test Kit (OTK) Test controls will be built into the CBIS in coordination with the EDS and BHS vendors and their integration documentation. The location for OTK testing controls will be no further than two (2) conveyor sections upstream of the EDS entrance and in between adjacent machines so that two (2) machines can be tested from one (1) location/side of the EDS pair. The conveyors immediately before and after each EDS will be straight with zero incline or decline. These controls will enable an operator to:

1. Stop the normal flow of bags into the EDS without losing track of bags already in the system.
2. Allow the OTK bag to be placed safely and properly onto the EDS entrance conveyor. (NOTE: The sideguard height at this interface point will be lower than typical not exceeding 4” and will be free and clear of any sharp edges or protrusions).
3. Restart the EDS entrance conveyor to feed the OTK bag into the EDS.
4. Stop the OTK bag on the EDS exit conveyor to allow removal of the IQT bag. (NOTE: The sideguard height at this interface point will be lower than typical not exceeding 4” and will be free and clear of any sharp edges or protrusions).
5. Allow repeat OTK tests as required.

Queue conveyors will be equipped with quick disconnects in this area to facilitate potential EDS removal and installation if necessary (see BHS drawings).

Once the bags have gone through Level 1 inspection in the EDS machines, they exit the EDS machines and proceed to the Level 1 decision point vertical sorter devices. Upon reaching the end of the last queue prior the Level1 VSU, the bag will be diverted down if Non-Clear, or up if Clear. Bag status will generally be the result of the Level 1 (EDS) inspection at this point in the system. Bags that are Clear will be routed to the CL1 or CL2 conveyor lines corresponding to SS1 and SS2. Clear bags will then proceed to the make-up area. Non-Clear bags are transferred to the OSR1 and OSR2 conveyor lines corresponding to SS1 and SS2. Non-clear bags undergo further inspection while travelling on the OSR1 line to the Level 2 decision point.

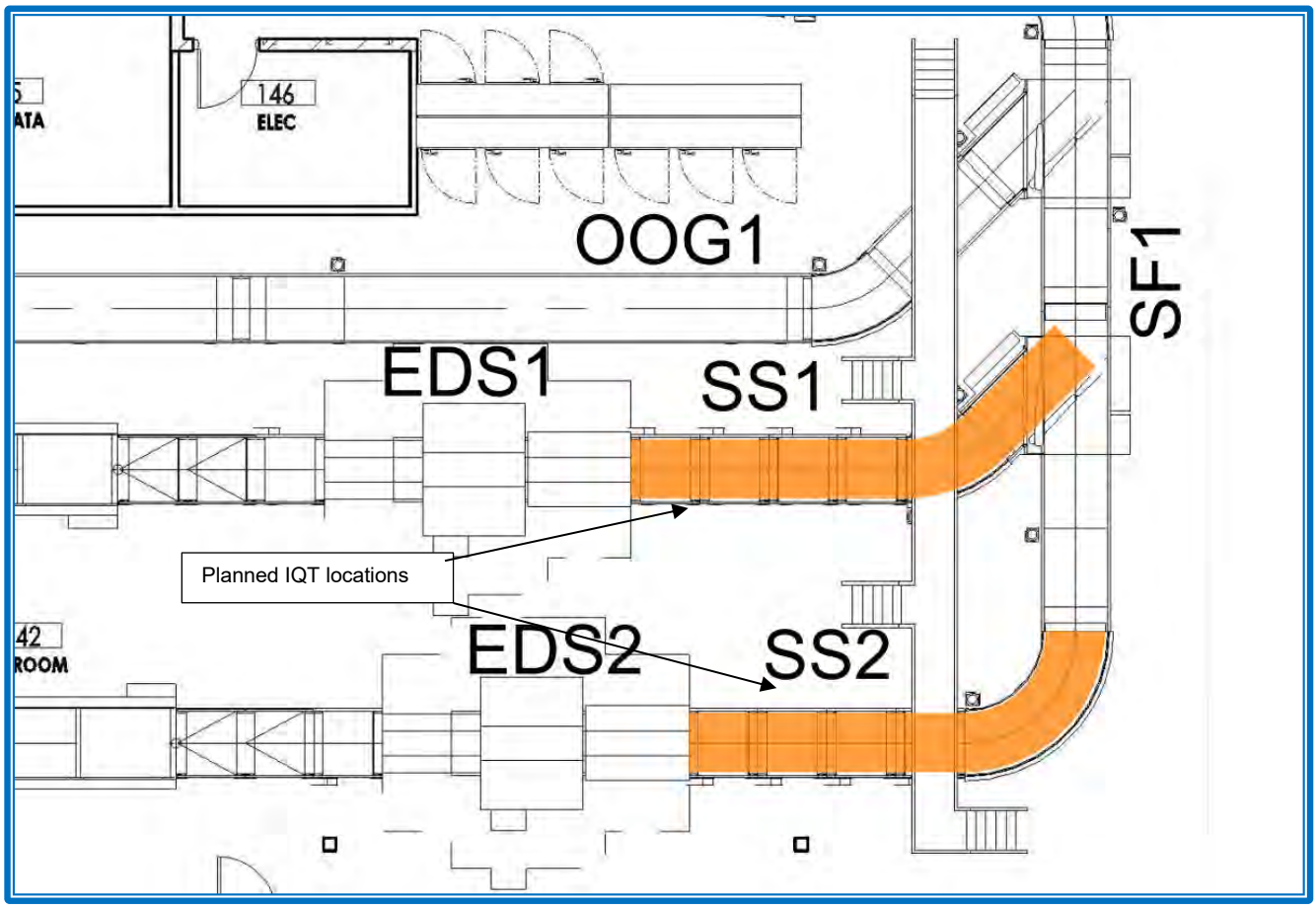


FIGURE 5 - SECURITY SHUNT LINES

4.4.1 Failure of the SS Line(s):

A failure of an individual SS line will not stop the system, yet may make it less optimal. If the SS1 Line fails, bags will be routed to the SS2 line and vice versa. There is no intervention required aside from notifications to all applicable parties that there is an issue that requires resolution. If both SS lines fail then the following contingency operation should be utilized, understanding that, a failure of the SS Lines should result in all luggage being transported to CBRA as "unscreened" luggage via the OOG path:

4.4.1.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.

4.4.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations, including notification of TSA in CBRA.
- Turn off the disconnects to the SS line diverters which will ensure all luggage is transported to CBRA.
- Follow BHS maintenance standard procedures.

4.4.1.3 Procedures for TSA Staff

- Request additional staff to handle the luggage that will be transported to CBRA directly without having been screened.
- All bags arriving in CBRA will be unscreened bags. The CBRA contingency printer should be utilized to facilitate movement of items to CBRA. The tags for each bag should be printed out and applied to the luggage and the bags should be stored locally for processing, utilizing local TSA protocol.
- Reinduct of luggage via the RI should not be utilized unless at least one (1) SS Line is operational.

4.5 On Screen Resolution Lines OSR1 and OSR2

Once the bags have gone through Level 1 inspection in the EDS machines, and have been deemed “non-clear” they exit the VSU onto the OSR lines. The OSR1 and OSR2 lines are where all EDS “non-clear” screened bags will be transported to the level 2 decision point VSU and then to either the CL1 line or the AL1 line. During the course of transport, the TSO will have a set amount of time to make a decision on all bags that were not cleared by the EDS machine. If the TSO deems the bags clear, they will be diverted “up” to the CL3 line at the VSU. If the TSO deems the bags to be non-clear, the bags will be diverted “down” at the VSU to proceed directly to CBRA for inspection via AL2. Bags that timeout will be sent to CBRA for inspection.

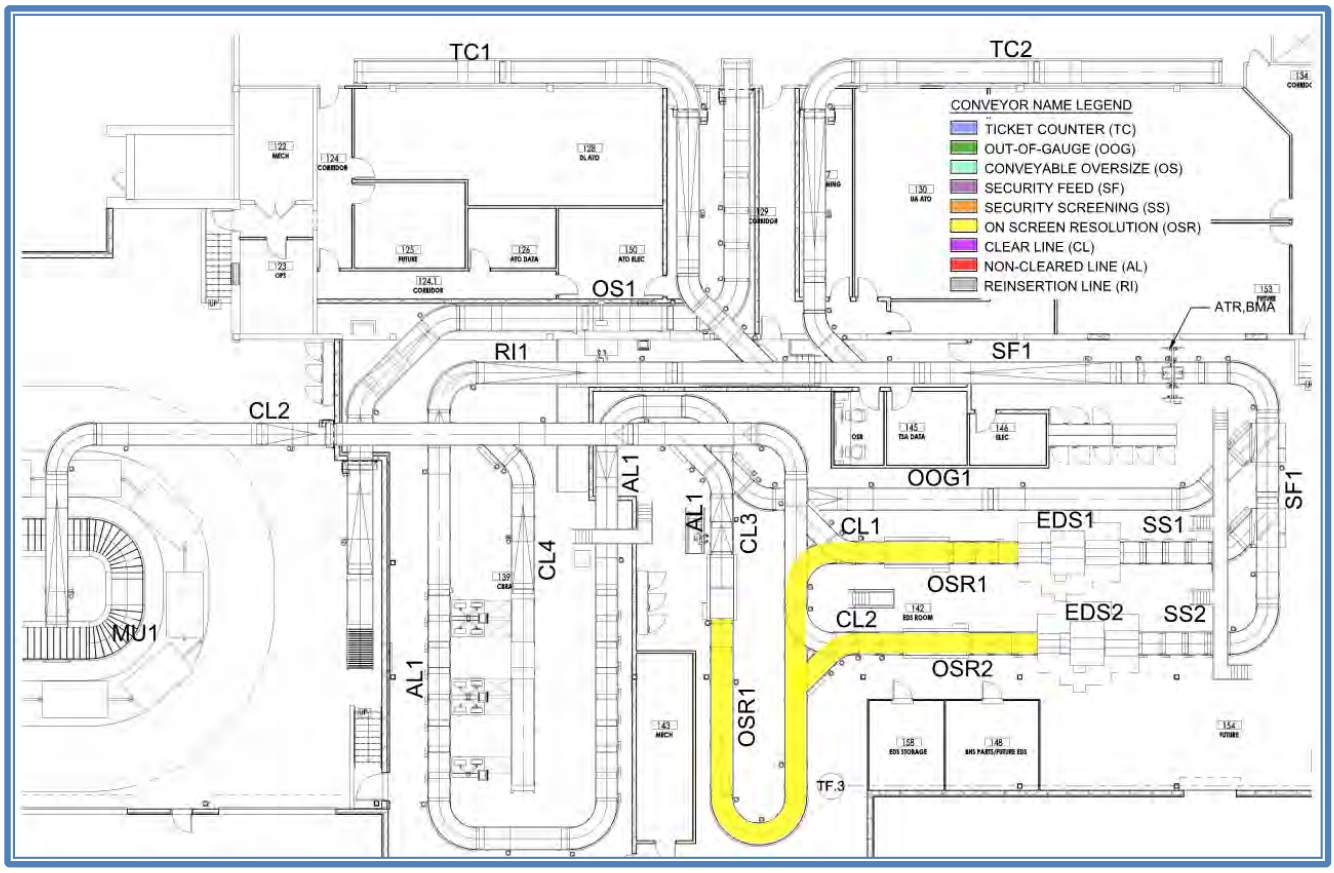


FIGURE 6 - OSR LINES

4.5.1 Failure of the OSR Line(s):

A failure of the OSR area is similar to that of the ML area as it can be treated as multiple (two (2)) areas. The first area (Area 1) contains conveyor sections OSR1-01 through OSR1-06 and also includes OSR2-01 through OSR2-06. This is the area immediately downstream of the EDS machine. The second area (Area 2) to consider includes OSR1-07- through the OSR1-10 conveyor (the VSU will be discussed in the section immediately following this section.).

For a failure within Area 1, OSR1, or Area 1 OSR2 independently, the following contingency plan should be implemented: (Note: once a failure occurs, the system will automatically route bags to the available SS and corresponding OSR line for processing. The contingency plan will be needed only until the stranded bags are removed and processed).

4.5.1.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.

4.5.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on inoperable conveyors and place them before the EDS machine on the operable conveyor line, or place them on an operable downstream conveyor (Note: placing them on a downstream conveyor will cause those bags to become “unknown”).
- Follow BHS maintenance standard procedures.

4.5.1.3 Procedures for TSA Staff

- Request additional staff to handle the luggage that will be transported to CBRA as “unknown” due to clearing of stranded bags. These bags can be reinducted as needed if volumes are high. They can also be screened within CBRA utilizing standard, local TSA protocol.

For a failure within Area 2, OR if both OSR lines become unavailable, the following contingency plan should be implemented: (Note: this will result in a failure of the system post-EDS and will not allow for bags to be processed as required.

4.5.1.4 Procedures for Airline/Airport Staff

- Request additional help for moving bags around the faulted conveyor or transport them directly to CBRA.
- If necessary, especially during peak loading periods, use small cart to facilitate transfer of bags.
- Carefully place bags lengthwise onto the conveyor observing proper bag hygiene.

4.5.1.5 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on inoperable conveyors and transport them to CBRA for processing or place on the AL after the VSU line for processing to CBRA. All of the moved bags will become “unknown”.
- Turn the OOG diverter to divert all to prevent bags from entering the SS lines and turn the disconnects on the ss line diverters to “OFF” if needed. (NOTE: They system should recognize that bags cannot be processed due to downstream of the EDS failures and as such should route bags on the OOG path for manual processing using local TSA

protocols. Turning the disconnects off ensure that this process occurs until the fault is rectified).
- Follow BHS maintenance standard procedures.

4.5.1.6 Procedures for TSA Staff

- Additional personnel in the CBRA may be required for a period of time to handle the higher quantity of “unknown” bags.
- During peak hours, additional staff may be needed to facilitate the local TSA protocol on these items.
- Bags should not be reinducted using the RI line unless at least one (1) OSR line AND the Area 2 OSR line is available. Bags will reroute following the same path if the lines are not available.

4.6 Clear Bag Lines CL1 and CL2

Bags with a Level 1 EDS CLEAR decision are sorted from the Level 1 decision VSU to the CL1 and CL2 conveyor line. The system will continue to track the bags through the vertical sorter transition to the discharge end of CL1-01 and CL2-01. The PLC will check that all bags that pass the associated photocell on these failsafe conveyors are properly tracked, Clear bags. If the control systems determine a Non-Clear status, the CL1-01 conveyor will stop, and the failsafe alarms will activate. (Please see the associated Failsafe Operations in section 5.12). Bags from the CL1 line merge onto CL2. The merged bag flow on CL2 then proceeds to the makeup unit MU1.

Bags that were pending decision are transported along the OSR lines to the Level 2 decision point. If the OSR operator assigns any of these bags a Level 2 Clear status decision, the system will transition these bags at the Level 2 vertical sorter to the CL3 clear bag line. Cleared Level 2 bags will travel on CL3, merge onto CL2 and continue to the makeup unit MU1.

Bags inspected and cleared in the CBRA will be loaded onto the CL4 clear line (via no lift sliding tables) which inclines out of the CBRA, merges onto CL2 and travel to the make-up unit MU1.

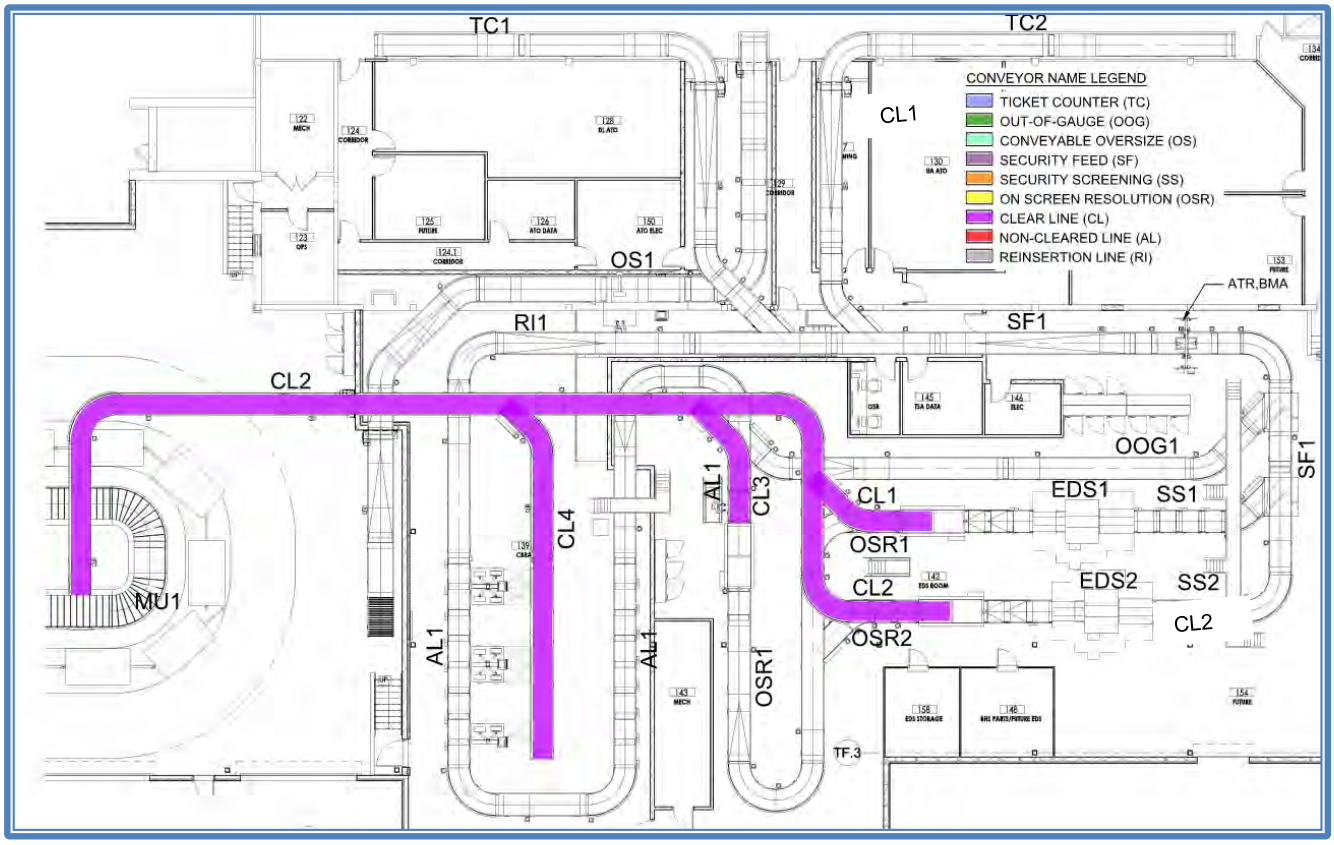


FIGURE 7 - CLEAR BAG LINES

4.6.1 Failure of the CL Subsystem(s):

A failure of the CL subsystems area is similar to that of the OSR area as it can be treated as multiple (two (2)) areas. The first area for contingency purposes will be the clear line exiting the VSU and the other area will be considered as the CBRA clear line.

For a failure within CL line exiting the VSU, the following procedures should be followed:

4.6.1.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.

4.6.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on the inoperable CL conveyors and transport them to the makeup area for processing.
- Place the VSU in maintenance mode and divert all bags to the AL line.
- Follow BHS maintenance standard procedures.

4.6.1.3 Procedures for TSA Staff

- Request additional staff to handle the luggage that will be transported to CBRA as “clear” due the CL line post-VSU being faulted. These bags should track to CBRA as “clear” and can be transported to the CBRA clear line for processing to makeup. Clear bags which are lost traveling on the AL line will show up as “unknown”. They can be reconciled using the hand scanner, reinserted via the RI line or hand searched using local TSA protocol.

For a failure on the CL line within CBRA, the following procedures should be followed:

4.6.1.4 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- Assist in handling of luggage that has been cleared by the TSA to the makeup area using carts.

4.6.1.5 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on the inoperable CL conveyors and transport them to the makeup area for processing.
- Assist in handling of luggage that has been cleared by the TSA to the makeup area using carts.
- Follow BHS maintenance standard procedures.

4.6.1.6 Procedures for TSA Staff

- Process bags normally and transport to the CL line. The airport and maintenance staff will transport luggage using carts to the makeup area for processing once cleared by the TSA.

4.7 Alarm bag Lines AL1 and AL2

4.8 Alarm bag Lines AL1 and AL2

Bags that are not cleared either by Level 1 or Level 2 screening will be diverted “down” to the alarm bag line AL2. The AL2 line will merge into the AL1 line, which proceeds directly into CBRA. Out of gauge bags from the OOG1 line feed directly into the AL1 line. Bags will travel on AL1 to the last non-occupied BIS for screening. Once bags arrive at the last available screening station, the conveyors will cascade stop to allow for the bag ahead of it to be removed and screened. Once the bag is screened by the TSO and has been cleared, the TSO will slide the bag from the sliding inspection table to the dedicated clear bag line for transport to the make-up device.

4.9 Normal Alarm Line Queuing Method

During normal operations, bags arriving on the AL shall be assigned to the available BIS that has been available for the longest period of time). If there are no available BISs, the bags shall queue and hold on the BRP prior to the most upstream-enabled BIS. If there are no enabled BISs, the bags shall queue at the second most downstream BRP. NOTE: A BIS is considered enabled when an operator is logged in at the BSD. An enabled BIS is considered available when it is not occupied with a bag for screening. NOTE: When a bag is assigned by the BHS to an available BIS, the bag cannot be reassigned to another BIS unless the BIS is disabled (i.e., the operator logs out). The queuing prioritization shall be as follows:

1. Disabled BRPs, starting from the most downstream
2. Storage space outside of CBRA
3. Intermediate queues starting from the most upstream, excluding those in between enabled BISs

4.10 Alternate (High Volume) Alarm Line Queuing Method

When the CBRA becomes overwhelmed and the queuing prioritization level 3 reaches capacity, the system shall switch to an Alternate Queuing Method (AQM) and the system starts advancing all additional bags arriving in the CBRA one conveyor at a time.

While the AQM is taking place, bags may pass unavailable BISs, blocking the path to the RL for any subsequent bag. Operators at the associated BISs will be instructed by the BSD to manually reinsert bags as necessary. The BRPs affected by AQM shall return to normal operations when the condition is lifted (i.e., a clear conveyor path to the RL is reestablished).

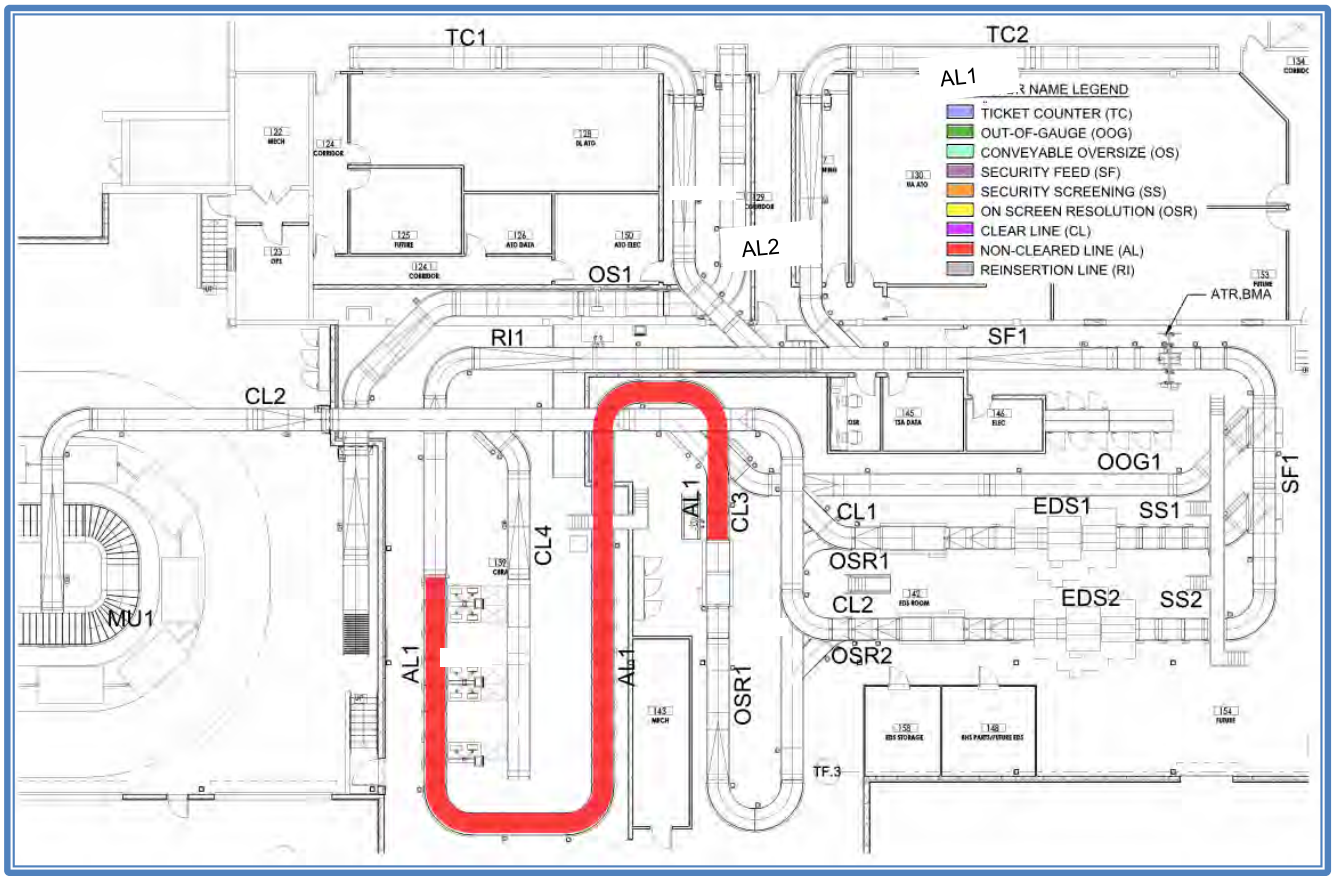


FIGURE 8 - ALARM BAG LINES

4.10.1 Failure of the AL Subsystem(s):

A failure of the AL subsystems area is similar to that of the ML area as it can be treated as multiple (two (2)) areas. The first area for contingency purposes will be the AL2 line exiting the VSU, continuing on to the entrance to CBRA and the other area will be considered as the CBRA AL1 line and starts with the first queue conveyor in CBRA.

For a failure within AL2 line exiting the VSU, the following procedures should be followed:

4.10.1.1 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Assist in handling of luggage that has been diverted to the AL2 line after the VSU for processing by the TSA.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.

4.10.1.2 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on the inoperable AL2 conveyors and transport them to the CBRA for processing.
- Assist in handling of luggage that has been deemed “alarmed” by the TSA to the CBRA for processing
- Follow BHS maintenance standard procedures.

4.10.1.3 Procedures for TSA Staff

- Process bags normally and transport to the CL line. The airport and maintenance staff will transport luggage using carts to the CBRA for processing by the TSA.

For a failure within AL1 line in CBRA, the following procedures should be followed and is determined based on which area of the CBRA AL line is faulted. I.e. failures of queues near the entrance of CBRA will have more of an effect than queues after BITs.:

4.10.1.4 Procedures for Airline/Airport Staff

- Notify maintenance of the faulted device if known.
- Bags will be removed from the last operational conveyor and placed back on the same line downstream if operable.
- Assist in handling of luggage that has been diverted to the AL1 to CBRA tables (BITs) for processing in CBRA via hand scanning.

4.10.1.5 Procedures for BHS Maintenance Staff

- Assess fault and time necessary to correct; if more than 20 minutes is needed initiate the contingency operations.
- Remove bags stranded on the inoperable AL1 conveyors and transport them to the CBRA BITs for processing.
- Follow BHS maintenance standard procedures.

4.10.1.6 Procedures for TSA Staff

- Notify maintenance of the faulted device if known.
- Process bags normally and transport to the CL line if cleared by the TSO. The airport and maintenance staff will transport luggage using carts to the CBRA BITs for processing by the TSA. If BITs are available due to queues being faulted after a BIT, process bags at the operable BITs until the system can be restored to “normal” operations. Bags should be processed using the contingency printer operation if need be and/or via the use of hand scanners for bags moved by hand that tracked properly to CBRA.

4.11 Reinsertion Line R1

A reinsert conveyor line RI1 has been designed to allow a direct transport solution from the discharge end of the alarm line to the charge end of the SF1 line, for all non-valid arriving bags required by local TSA protocol to be re-screened by the Level 1 EDS devices. At each BRP BSD, the TSA operator will have the option to assign the bag as a reinsert bag only if it has a non-valid status and if it cannot be reconciled via hand scanning. The BHS PLC will then track this bag down the remaining AL1 queue conveyors. The RI1 subsystem will only start up once the BHS PLC receives the input that the "REINSERT" softkey of the BSD has been activated. The RI1 line merges onto the SF1 feed line upstream of the BMA located on the mainline. Duplicate IATA logic will ensure than any bags that are reinserted utilize the most recent image for the item in the event that the bag requires screening via OSR or CBRA using pseudo IDs.

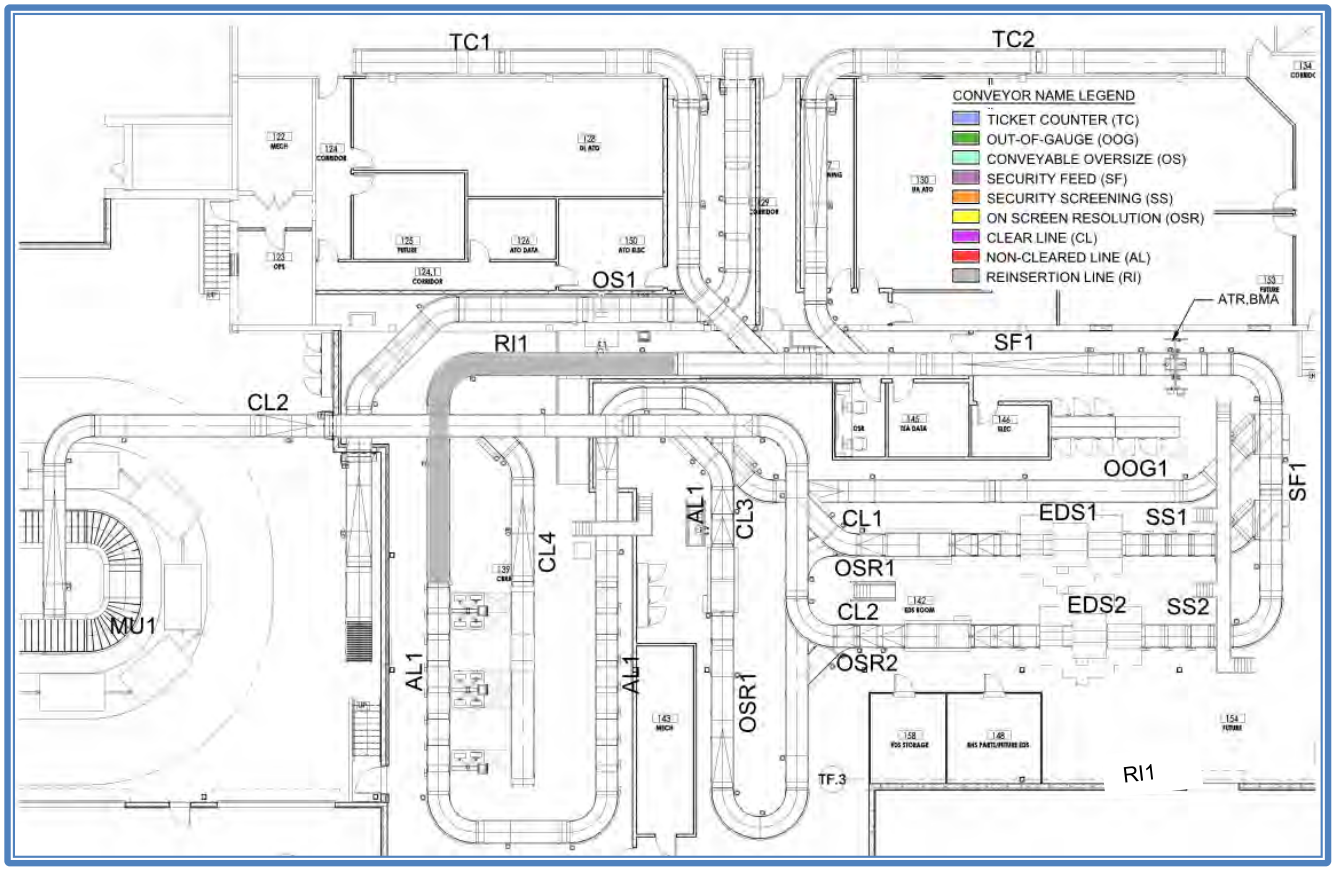


FIGURE 9 - REINSERTION LINE

4.11.1 Failure of the RI line:

If RI1 line fails bags will be removed from the last operational conveyor and placed back on the same line downstream of the fault or on the SF1 subsystem. Quickly correct the fault as this affects the operations in CBRA.

4.11.1.1 Procedure for Airline Baggage Handling Staff

- Move personnel and baggage tub carts to the CBRA to assist TSA staff in moving bags from RI faulted conveyor to the next downstream operational conveyor or SF1.

4.11.1.2 Procedures for BHS Maintenance Staff

- Asses fault and time necessary to correct and if more than 20 minutes needed initiate contingency operations.
- All bags stranded on the inoperable portion of the line should be removed and placed on an operable RI1 conveyor downstream of the failed conveyor or on the SF1 line before the BMA.
- Follow BHS maintenance standard procedures.

4.11.1.3 Procedure for TSA Staff

- Process luggage normally.

4.12 MU Device

The MU device is used as a collector for airlines to makeup flights prior to departure.

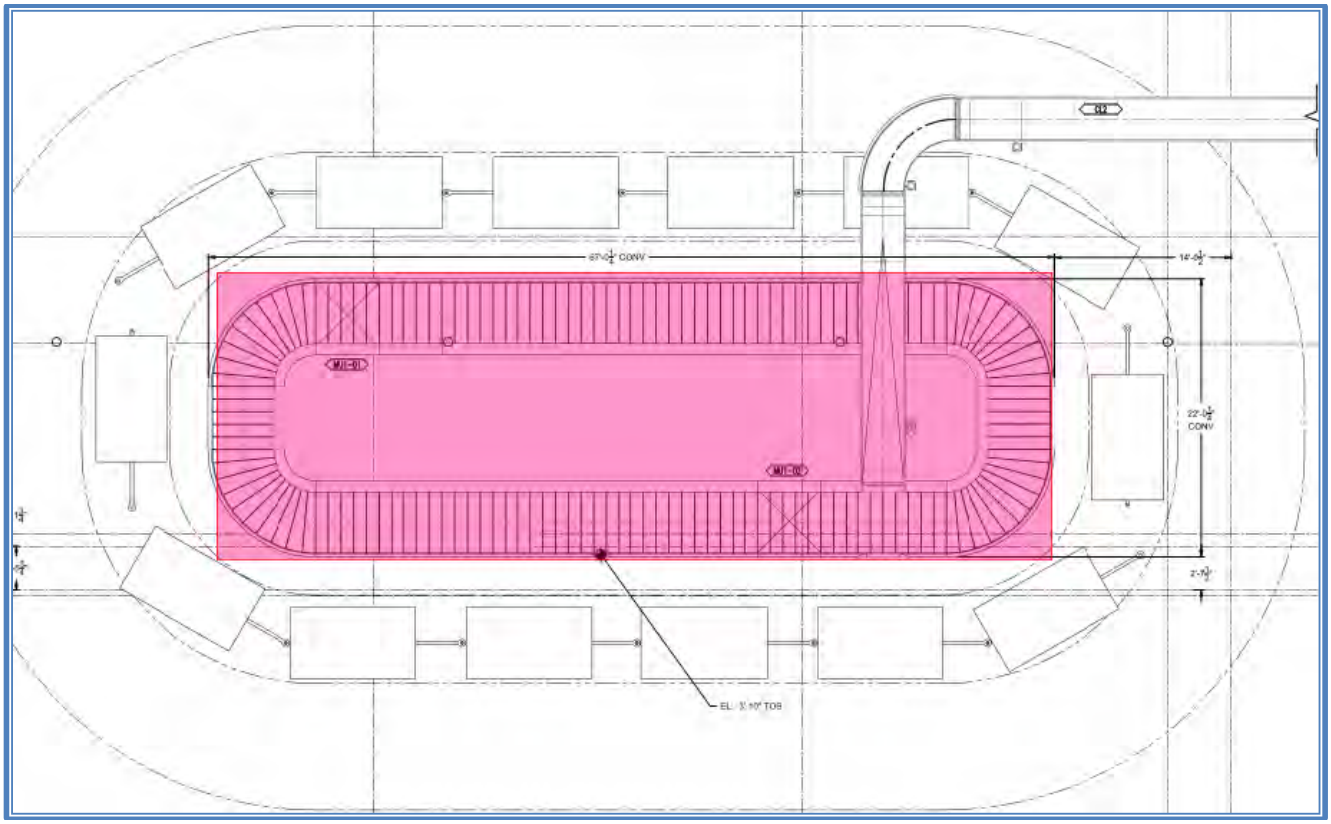


FIGURE 10 - MU1

4.12.1 MU Device

If MU1 fails bags will have to be hand transferred to the MU and be removed as they arrive at the offload point.

4.12.1.1 Procedure for Airline Baggage Handling Staff

- Move personnel and baggage tub carts to the MU area to handle the luggage. (NOTE: the BHS will NOT allow bags to be delivered to a faulted device. This “mode” will have to be initiated via the HMI/PLC to allow for bags to be delivered to the non-functioning device)

4.12.1.2 Procedures for BHS Maintenance Staff

- Asses fault and time necessary to correct and if more than 20 minutes needed initiate contingency operations.
- Assist in the offload of the CL feed lines to MU1 if resources are available.
- Follow BHS maintenance standard procedures.

4.12.1.3 Procedure for TSA Staff

- Process luggage normally, understanding that the CL line will start and stop more frequently than normal.

4.13 EDS Machines

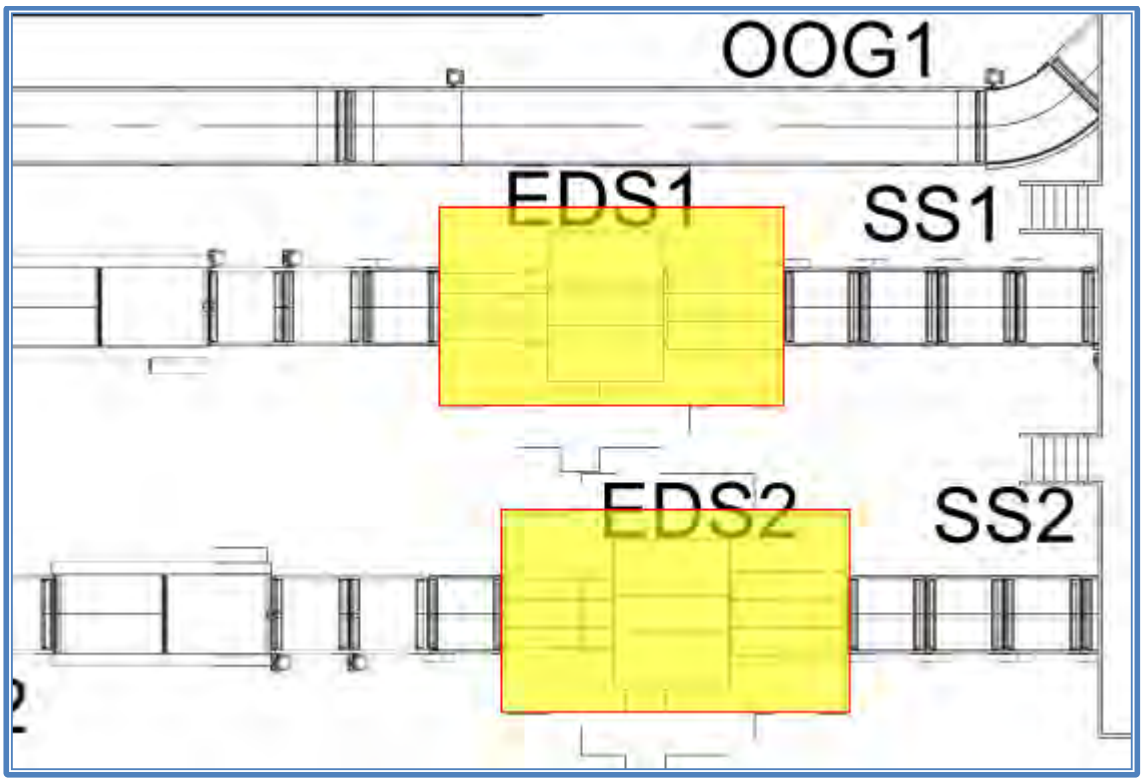


FIGURE 11 - EDS MACHINES

4.13.1 EDS Machine Failure

If one (1) of the **EDS machines becomes inoperable**, the diverter or the conveyor line directly feeding the machine fails; the other operable machine will be responsible for all security screening of luggage. This is accomplished automatically by monitoring software that disables the diverter feeding that line. This is also true regarding failures occurring on any of the security shunts lines, as noted above.

In the event that the both EDS machines become unavailable, bags already in the system on the affected subsystems will manually be removed and transported to the CBRA for screening. The stranded bags on the security shunt lines will be manually removed and placed on the working matrix before the EDS machines. The system's monitoring software will recognize the fault and place the HSD on the faulted subsystem in "divert none" mode. In case that the operational security shunt lines become full the bags will continue to CBRA via the OOG line.

4.13.1.1 Procedure for Airline Baggage Handling Staff

- Monitor the system for potential die back.
- Add staff to the CBRA to assist in taking bags to the ETD station or an area secured for the abundance of the bags.

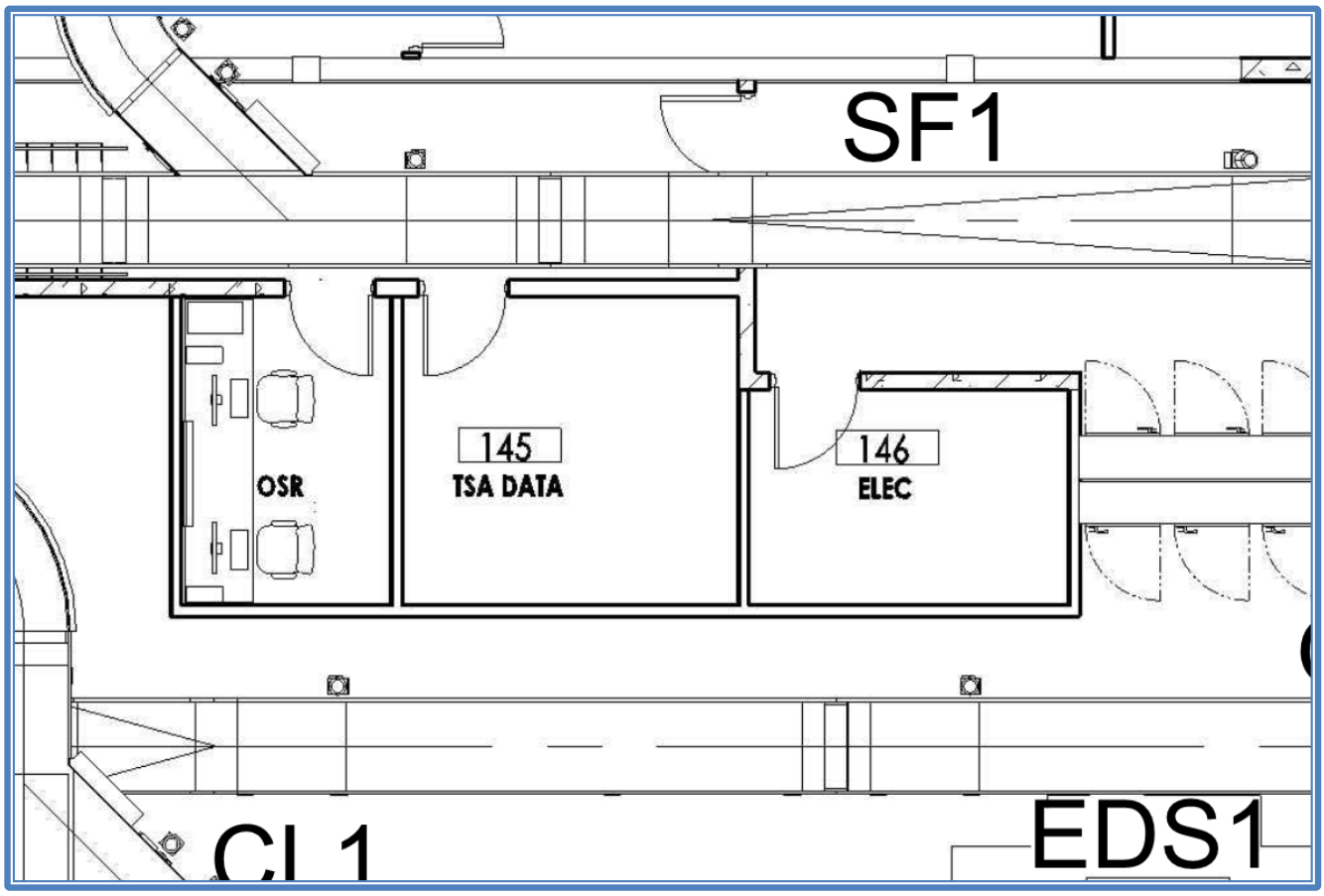
4.13.1.2 Procedure for TSA Staff

- Manually remove any bag stranded in the EDS device and place them on alternate operational EDS line upstream of EDS device.
- In case both SS lines are faulted add staff in the CBRA to assist in the screening of excess baggage.
- Contact appropriate EDS service vendor if the EDS machine malfunctions and needs maintenance.

4.13.1.3 Procedures for BHS Maintenance Staff

- Follow BHS maintenance standard procedures.
- Ensure that HSD for the failed line is bypassed and placed back into use once the fault is corrected.
- Remove bags stranded on the failed feeding line to the EDS machines and manually place them on the other operable EDS line upstream of EDS device.
- Carefully monitor the system to ensure that baggage system does not back up and cause cascading shutdowns of the system.

4.14 OSR Room



4.14.1 OSR Failure

If the ability to use the **OSR services become hindered** then all baggage will continue to the CBRA for resolution.

4.14.1.1 Procedure for TSA Staff

- Move additional personnel to the CBRA as all bags will need to be screened utilizing local TSA protocol.
- Implement procedures for securing service from the EDS/OSR vendor based on the OEM.

4.15 CBRA

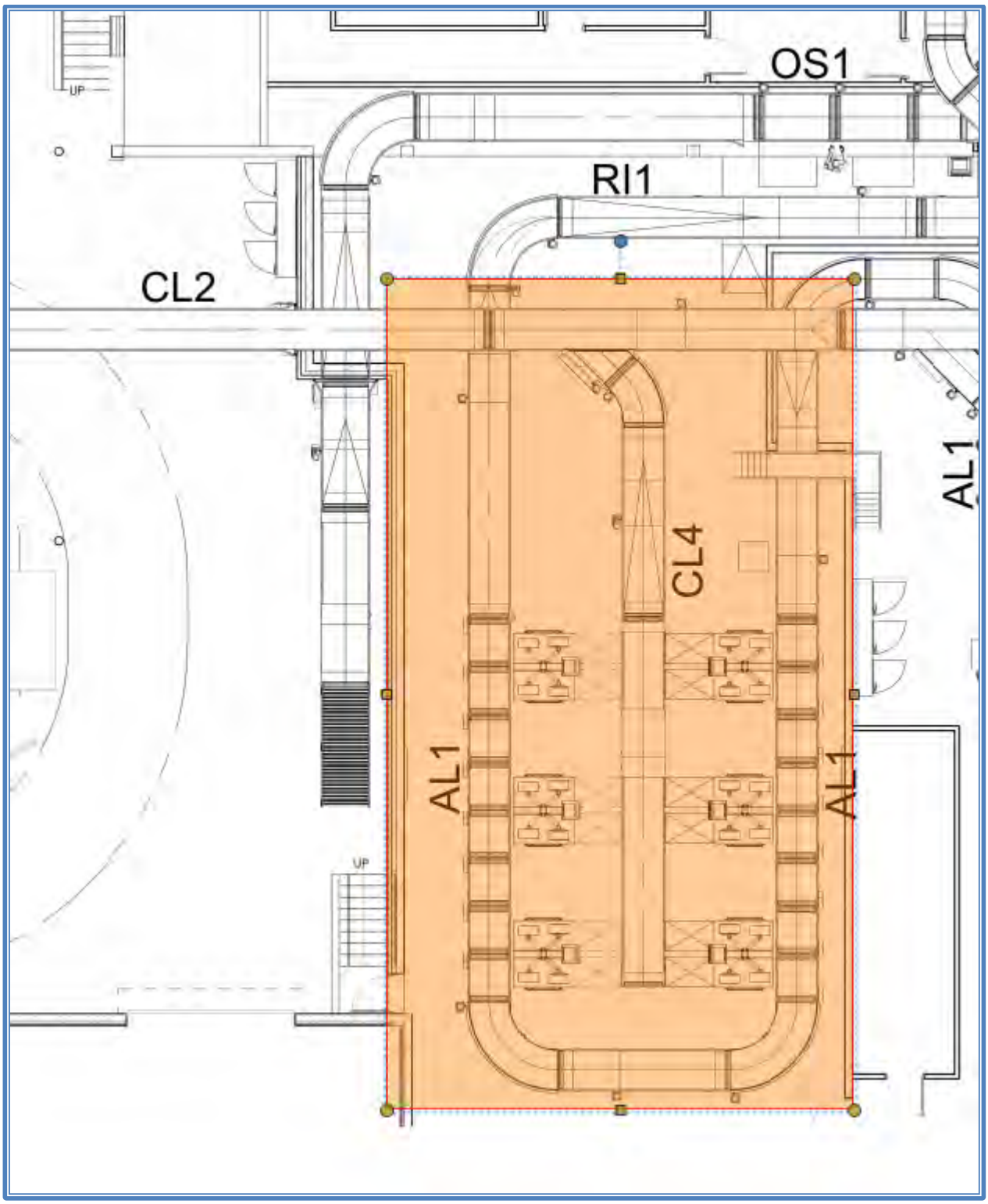


FIGURE 12 - CBRA

4.15.1 CBRA Equipment Failure

If the ability to use the **CBRA Equipment becomes hindered** then all baggage will continue to the CBRA for resolution.

4.15.1.1 Procedure for TSA Staff

- Move additional personnel to the CBRA to handle luggage that cannot be “directed search”.
- Alarmed bags entering the CBRA will need to be manually searched without direction if all HMIs fail.
- If trace detection fails then all bags will need to be manually searched.
- Contact appropriate sources/vendors for repairing failed devices.

4.16 Level 4 Bags

4.16.1 Handling of Positively Identified Threat Bags

If the TSA staff cannot clear an alarmed bag following Standard Operating Procedures (SOPs) they shall contact the Airport Manager on Duty as well as the Airports Designated Law Enforcement Officer (LEO) for resolution of the Identified Threat. Bags identified in the CBRA as a threat would require an immediate evacuation by staff. The Designated Law Enforcement Officer (LEO) then assumes full responsibility of the threat bag and his/her standard operating procedure shall be followed.

An accessible route has been provided to allow for any TCU robot access in and out of the CBRA area where the threat bag will be located.

Exhibit G – Professional Services Agreement (PSA)

See attached PDF for Exhibit G

THIS AGREEMENT IS SUBJECT TO ARBITRATION PURSUANT TO SOUTH CAROLINA CODE OF LAWS SECTION 15-48-10, ET. SEQ.

STATE OF SOUTH CAROLINA	)	
	)	
COUNTY OF LEXINGTON	)	
	)	
RICHLAND-LEXINGTON AIRPORT DISTRICT,	)	
	)	
AND	)	
	)	**MAINTENANCE**
_____	)	
	)	**CONTRACT**
	)	
_____	)	

THIS AGREEMENT ("Agreement") is made and entered into this _____ day of _____, by and between the Richland-Lexington Airport District, a political subdivision organized under the laws of the State of South Carolina ("District"), and _____, authorized to do business in the State of South Carolina ("Contractor").

W I T N E S S E T H:

WHEREAS, District owns and operates the Columbia Metropolitan Airport situated in Lexington County, South Carolina ("Airport"), which has landscaping maintenance service needs; and

WHEREAS, Contractor is in the business of providing baggage handling system inspections, preventative maintenance and repair service needs; and

WHEREAS, District and Contractor deem it to be mutually advantageous to enter into an agreement in which Contractor will provide such maintenance services.

NOW, THEREFORE, in consideration of the terms, covenants and conditions herein contained, the parties hereby agree as follows:

ARTICLE I

SERVICES TO BE PROVIDED

Section 1.1 Description of Services. Contractor will provide baggage handling system inspections, preventative maintenance, and repair service needs as defined in the specification found in Exhibit C and located in the areas depicted in Exhibit D.

Section 1.2 Materials and Equipment. The Contractor shall provide at its own expense all materials and equipment necessary to provide baggage handling system inspections, preventative maintenance, and repair service needs.

Section 1.3 Hours of Service. The maintenance services to be provided by Contractor shall be performed during time periods mutually agreed upon by District and Contractor.

ARTICLE II

RESPONSIBILITIES OF THE PARTIES

Section 2.1 District to Provide. The District will provide Contractor with copies of the as-built technical specifications for the units to the extent that such technical information is in the possession of or available to the District

Section 2.2 Inspection. Execution of this Agreement by Contractor is a representation that Contractor has visited the Airport, has inspected the areas to be maintained, and Contractor acknowledges that it is able of maintaining such areas.

Section 2.3 Independent Contractor. It is understood and agreed that District, in no event, shall be construed to be a partner, associated or joint venture with Contractor in the conduct of Contractor's business thereon. Contractor is an independent contractor and neither

party, its officers, directors, agents nor employees shall be considered to be the agent of the other for any purpose whatsoever. The District is interested only in the results obtained under this Agreement; the manner and means of conducting the work shall be under the sole control of the Contractor. None of the benefits provided by the District to its employees, including, but not limited to Workers' Compensation Insurance and Unemployment Insurance are to be available from the District to the employees, agents or servants of the Contractor. Contractor is and shall be solely and entirely responsible for its acts and for the acts of its agents, employees, servants and sub-contractors during the performance of this Agreement.

Section 2.4 Emergency Contact. Contractor shall provide District with Contractor's telephone number(s) that may be used twenty-four (24) hours-a-day by District to notify Contractor of an emergency or non-scheduled service requirements.

Section 2.5 Supervisor. Contractor shall assign a competent supervisor who will be present at the Airport at all times when Contractor's employees are engaged in contract services. The supervisor shall be identified to the District, shall maintain supervisory control over and be responsible for all on-site Contractor's employees, and shall be the District's point of contact for immediate District-Contractor matters.

Section 2.6 Records. Contractor shall prepare and maintain a log of Contractor's work at the Airport in a manner acceptable to District. Contractor's work log shall be used by District when inspecting the work performed. Contractor shall retain all work logs for a period of no less than twelve months after end of contract date or renewal period.

Section 2.7 Inspection of Work. All completed work shall be subject to inspection by the District to ascertain compliance with this Agreement. Should any such work be found to be

unsatisfactory and not in accordance with the requirements of this Agreement, the District shall notify Contractor and the Contractor shall, within twenty-four (24) hours, take steps to correct any deficiencies. In the event Contractor fails to immediately correct such deficiencies, District reserves the right to cause the work to be completed, and collect the costs of such work from Contractor.

Section 2.8 Contractor's Employees. All services provided by Contractor shall be performed by individuals trained and qualified to perform such services. All workers shall present a clean and neat appearance, shall wear appropriate uniforms and shall not engage in any profane, immoral or illegal acts. Upon District's request to the Contractor, Contractor shall immediately remove from District's property workers in violation of the above.

Each Contractor's employee scheduled to work in Airport restricted areas, or areas beyond the security checkpoint, shall be subject to and must successfully pass a Transportation Security Administration-mandated pre-employment Federal Bureau of Investigation criminal history check and security vetting prior to beginning any work at the airport. The Contractor shall maintain a list of employees scheduled to perform work at the Airport, and shall provide proof that each such employee has successfully passed the pre-employment criminal history check. Costs for such checks shall be paid by the Contractor.

Additionally, Contractor's employees shall attend, at no additional charge to District, any appropriate airport security training deemed necessary by District.

ARTICLE III

TERM

This Agreement shall be effective as of the ____day of _____ ("Commencement Date"), and shall end on the ____ day of _____, unless terminated prior thereto as hereinafter provided.

ARTICLE IV

COMPENSATION

The District shall pay the Contractor the fees listed in Exhibit H for the work performed pursuant to this Agreement, payable in arrears, within thirty (30) days of receipt of Contractor's work records and invoice.

The monthly fees state above shall not increase during the initial term of this contract. If the Contractor anticipates that the monthly fees connate be maintained for any renewal period, a price escalation up to three percent (3%) shall be considered by the District under the following circumstances:

(a) The Contractor must notify the District, in writing, no later than 120 days before the initial contract period ends. Failure to notify the District shall result in the District denying the price escalation

(b) At no time shall the price escalation exceed the fixed percentage of three percent (3%) proposed by the Contractor.

The Contractor agrees to perform inspections, preventative maintenance, and repair services for the remaining term of the contract on any new equipment after the warranty period

ends. The District may request additional maintenance services due to unforeseen events or circumstances. Additional services, and compensation for those services, will be negotiated on a case-by-case basis.

ARTICLE V

FEDERAL, STATE AND LOCAL LAWS ENVIRONMENTAL RESTRICTIONS

Section 5.1 ***Government Requirements***. Contractor, its officers, employees, servants, agents, invitees and subcontractors, shall promptly comply with laws, statutes, regulations, ordinances and rulings of the United States of America, the State of South Carolina, the District, and other governmental bodies and agencies having jurisdiction over the Airport, including without limitation the Rules and Regulations of District, as they may be amended from time to time. Contractor will obtain and at all times, observe and keep in full force and effect, all licenses and permits necessary for the performance of contractual services.

Section 5.2 ***Airport Security***. Contractor shall observe all security requirements of 49 CFR Part 1542, and all applicable parts of the Airport Security Program, as the same may be amended from time to time, and to take such steps as may be necessary or directed by the District to ensure that its officers, employees, servants, agents, invites and subcontractors observe these requirements. Likewise, Contractor shall observe all operational requirements of the Airport Certification Manual, requirements of 14 CFR Part 139, and any other applicable FAA regulations and the District's Airport Rules and Regulations.

Should the District incur any fines or penalties imposed by the Transportation Security Administration or any expense in enforcing the regulations of 49 CFR Part 1542 or the Airport

Security Program as a result of the acts or omissions of Contractor, Contractor agrees to pay or reimburse all such costs and expenses. Contractor further agrees to rectify any security deficiency as may be determined by the District or the Transportation Security Administration. The District reserves the right to take actions necessary to rectify any security or operational deficiency in the event Contractor fails to remedy such deficiencies, including termination of this Agreement.

Section 5.3 Equal Employment Opportunity, Non-Discrimination.

(a) *Equal Employment Opportunity*. Contractor agrees that, pursuant to 14 CFR Part 152, Subpart E, it will insure that no person shall, on the grounds of race, creed, color, national origin or sex, be excluded from participating in any employment activities covered by said federal regulations.

(b) *Non-Discrimination*. Contractor for itself, its successors and assigns, as part of the consideration hereof, does hereby covenant and agree that:

(1) No person shall be excluded from participation in, denied the benefit of, or be other subjected to discrimination in the use of the Airport facilities because of his or her race, color, creed, sex or national origin.

(2) In the construction of any improvements on, over or under the Airport and the furnishings of services thereat, no person shall be excluded from participation in, or denied the benefits of, such construction or service, or otherwise be subjected to

discrimination, because of his or her race, color, creed, sex or national origin.

Section 5.4 Subordination to Federal Statute. It is understood and agreed between the parties hereto that this Agreement shall be subject and subordinate to the provision of any existing or future agreement between the District and the United States of America relative to the ownership, operation or maintenance of the Airport, the execution of which has been or may be required by the provision of any existing or future act affecting the operation or maintenance of the Airport.

Section 5.5 Environmental Restrictions. Contractor shall not cause or permit any hazardous material including any solid, liquid, vapor, soot, fumes, acids alkalis, or waste including materials to be recycled, reconditioned, or reclaimed to be brought upon, kept, or used in or about the Airport premises by Contractor, its agents, employees, contractors or invitees without the prior written consent of District. Provided, however, that Contractor may use any materials that are necessary and useful to Contractor's business and that will be used, kept and stored in a manner that complies with all laws, existing or as they may be enacted in the future.

If Contractor breaches the obligations stated in the preceding paragraph, Contractor shall indemnify, defend and hold District harmless from any and all claims, judgments, damages, penalties, fines, costs, liabilities, or losses which arise during or after the term of this Agreement as a result of such contamination.

Notwithstanding any provision in this Agreement to the contrary, the representations and warranties made and the indemnify obligations provided for in this Section shall survive the expiration or termination of this Agreement.

ARTICLE VI

INDEMNITY and INSURANCE

Section 6.1 Indemnify. Contractor shall indemnify and save harmless District, its Commissioners, officers, and employees form all suits, actions, or claims brought because of injuries or damages received or sustained by any person, persons, or property which in whole or in part arose on account of the operation of Contractor, its subcontractors, officers, employees, or agents; or on account of or in consequence of any neglect in safeguarding the work or through use of unacceptable materials in performing the work; or because of any act or omission, neglect, or misconduct of Contractor, its subcontractors, officers, employees, or agents; except to the extent such injuries or damages are caused in part by the negligence of the parties indemnified hereunder.

Contractor shall reimburse District, its Commissioners, officers, and employees any and all costs incurred by them in defending or investigating any such suit, action, or claim, including attorney's fees, expert witness fees, investigative costs and court costs. The provisions of this section shall survive the expiration or termination of this Agreement.

Section 6.2 Insurance. Without limiting Contractor's obligation to indemnify the parties as set forth in Section 6.1 hereof, Contractor shall carry and keep in force a comprehensive general liability and employer liability insurance by an insurance company authorized to do business in the State of South Carolina with limits of liability as follows:

Employer Liability $1,000,000

Comprehensive General Liability

Bodily Injury $1,000,000 each occurrence, and

	$2,000,000 aggregate
Property Damage	$1,000,000 each occurrence, and
	$2,000,000 aggregate.

Simultaneously with the execution of this Agreement, Contractor shall furnish to District a good and sufficient Certificate of Insurance by said insurance company, and a contractor's Owner's Protective Liability Policy naming District, the Richland-Lexington Airport Commission, and the District's employees as named insured. Both policies shall contain the stipulation and agreement that the insurance provided by said policies is continually in full force and effect and is not subject to cancellation or modification in full or in part without thirty (30) days advance written notice to District. In the event of such cancellation or modification, Contractor shall obtain other insurance in the same or greater amounts and immediately furnish certificates of insurance evidencing such coverage. The insurance limits set forth in this section are to be considered minimum limits of insurance shall be from time to time increased to meet the then current District minimum insurance requirements upon thirty (30) days written notice by District.

Section 6.3 Workers' Compensation and Employer's Liability Insurance. Contractor shall maintain workers' compensation and employer's liability insurance in the amounts and form required by the laws of the State of South Carolina. Contractor shall furnish a certificate of said insurance to the District certifying that the District will be given thirty (30) days written notice of non-renewal, cancellation or other material change.

ARTICLE VII

EVENTS OF DEFAULT

Section 7.1 Events of Default Defined. The following shall be deemed events of default under this Agreement and the terms "events of default" or "default" shall mean, whenever they are used in this Agreement, any one or more of the following events:

(a) The Contractor shall fail to observe or perform any of the Contractor's covenants, agreements or obligations hereunder; or

(b) Abandonment by Contractor or discontinuance for any period of time of its performance hereunder.

Section 7.2 Remedies on Default. The District may terminate this Agreement upon any event of default.

Section 7.3 Non-Waiver. The waiver by District of any breach by the Contractor of any term, covenant, provision or condition hereof, shall not operate as a waiver of any subsequent breach of the same or a waiver of any breach of any other term, covenant, provision or condition hereof, nor shall any forbearance by District to seek a remedy for any breach by Contractor be a waiver by District of its rights and remedies with respect to such or any subsequent breach of the same or with respect to any other breach.

Section 7.4 Termination by Contractor. District shall in no event be in default in performance of any of its obligations hereunder unless and until District shall have failed to perform such obligation for a period of thirty (30) days or such additional time as is reasonably required to correct any such default after notice by Contractor to District, properly specifying wherein District has failed to perform any such obligation.

ARTICLE VIII

MISCELLANEOUS

Section 8.1 Assignment and Subcontracting. Contractor shall not assign or subcontract any of its rights under this Agreement or any interest therein. District reserves the right to transfer its interest herein to any other governmental body authorized by law to operate the Airport.

Section 8.2 Attorneys Fees. In the event of a breach of the terms of this Agreement by Contractor, Contractor agrees to pay the costs and expenses of enforcing compliance of same, including the payment of reasonable attorney's fees.

Section 8.3 Notices. All notices, certificates, statements, demands, requests, consents, approvals, authorizations, offers, agreements, appointments, designations or other communication which may be or are required to be given by either party to the other shall be deemed sufficiently to have been given on the second day following the day on which the same are mailed by registered or certified mail, postage prepaid addressed as follows:

To District:

Richland-Lexington Airport District
c/o Mark Bell, Project and Asset Manager
Columbia Metropolitan Airport
3250 Airport Blvd. Suite 10
West Columbia, South Carolina 29170

And to Contractor:

_____

District and Contractor may, by notice given hereunder, designate any further or different address to which subsequent notices, certificates or other communication shall be sent.

Section 8.4 Severability. In the event any terms, covenants, conditions or provisions of this agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other term, covenant, condition or provision hereof.

Section 8.5 Force Majeure. Neither District nor Contractor shall be deemed in violation of this Agreement if it is prevented from performing any of the obligations hereunder by reason of embargoes, shortages of material, acts of God, acts of the public enemy, riots, rebellions, sabotage, or any other circumstances for which it is not responsible or which are not in its control, and the time for performance automatically shall be extended by the period the party is prevented from performing its obligations hereunder.

Section 8.6 Construction of Agreement. In the event of ambiguity in any of the terms or substance of this Agreement, it shall not be construed for or against any party on the basis that such party did or did not author the same.

Section 8.7. Construction and Enforcement. This Agreement shall be construed and enforced in accordance with the laws of the State of South Carolina.

Section 8.8 Entire Agreement. This Agreement expresses the entire understanding between the District and the Contractor.

Section 8.9 Remedies, Attorney Fees, and Costs. In the event of any dispute under this Agreement, the parties to have the matter decided by arbitration. If the parties cannot agree on one arbitrator to decide the matter, each party shall select one arbitrator and those two

arbitrators shall select a third arbitrator. In the event of a three member arbitration panel, the powers of the arbitrators shall be those exercised by a majority. The prevailing party shall be entitled to an award of all reasonable out-of-pocket costs and expenses (including attorneys' and arbitrators' fees) related to the entire arbitration proceedings. Expect as provided herein, all other provisions of the South Carolina Uniform Arbitration Act, as amended, shall apply.

IN WITNESS WHEREOF, District and Contractor have caused this Agreement to be executed and sealed in their behalf by their duly authorized representatives, and their corporate seals to be hereunto affixed and attested, all as of the date first-above written.

Witness:

Richland-Lexington Airport District

_____

By:_____
Mike Gule, AAE
Executive Director

By:_____
Carol Fowler
Commission Chairwomen

Witness:

Contractor:

_____

By:_____
Its: _____
Date: _____

Exhibit H - Cost Template Proposal Form

Instructions: *Please complete this worksheet by ONLY filling in the YELLOW highlighted areas with your data regarding this RF Please note, the management fee (or profit) by year is to be filled out in section 4. Please email m.bell@flycae.com for a copy of Exhibit H in Excel.*

#1. Labor Costs: (First twelve months of fully staffed service)

	Position Title	No. Positions	Annual Salary	Hourly Wage	Annual Labor Hours 1 FT yr = 2,080 hrs	Annual Labor Cost Burden %*	Annual Labor Cost w/Burden
1				$ -	2,080		-
2				$ -	2,080		
3				$ -	2,080		
4				$ -	2,080		
5				$ -	2,080		
6				$ -	2,080		
7				$ -	2,080		
8				$ -	2,080		
9				$ -	2,080		
10				$ -	2,080		
11				$ -	2,080		
12				$ -	2,080		
13				$ -	2,080		

* Burden % should include all staff taxes, insurance, fringe, other indirect labor costs

Total Labor Costs (First 12 months of fully staffed service)	$ -
Total Labor Costs - Year 2	$ -
Total Labor Costs - Year 3	$ -
Total Labor Costs - Year 4	$ -
Total Labor Costs - Year 5	$ -
Total Labor Costs - Year 6	$ -
Total Labor Costs - Year 7	$ -

#2. Other Annual Costs for Service

Tools, Equipment, Materials and Expendables	$ -	*this cost is fixed*
Office Services, Supplies & Consumables, Bonds	$ -	
Recruiting/Training/Travel/Parking/Phones/Radios/Uniforms	$ -	
CMMS Support	$ -	*this cost is fixed*
Other	$ -	
Total Annual Other Costs		$ -

#3. Start-up Costs (One-time)

Tools, Equipment, Materials and Expendables	$ -	
Office Services, Supplies & Consumables, Bonds	$ -	
Tools and Equipment - Initial Purchase	$ -	*this cost is fixed*
Recruiting/Training/Travel/Parking/Phones/Radios/Uniforms	$ -	
CMMS Deployment	$ -	
Other	$ -	
Total Start-up Costs		$ -

#4. Annual Management Fee/Profit

Year 1	$ -
Year 2	$ -
Year 3	$ -
Year 4	$ -
Year 5	$ -
Year 6	$ -
Year 7	$ -

#5. Totals

Start-up Costs (#3)	$ -
Year 1 (#1, #2, &4)	$ -
Year 2 (#1, #2, &4)	$ -
Year 3 (#1, #2, &4)	$ -
Year 4 (#1, #2, &4)	$ -
Year 5 (#1, #2, &4)	$ -
Total Five Year Costs - Including start-up costs	$ -
Year 6 (if Contract Extended)	$ -
Year 7 (if Contract Extended)	$ -
Total Contract Value	$ -