



MELBOURNE AIRPORT AUTHORITY BOARD MEETING
AGENDA

May 27, 2020 at 8:30 AM
Orlando Melbourne International Airport Terminal

Public attendees must arrive at the airport's baggage claim to check-in for the public meeting. Attendees will be directed to a designated area within the terminal where physical distancing guidelines will be in place and attendees can listen, view, and participate in the public meeting.

Pledge of Allegiance

Roll Call

Airport Announcements

Action Items

Approval of the minutes of the April 22, 2020 regularly scheduled Board Meeting and the May 5, 2020 Special Board Meeting.

Item A-1 Recommendation to Award a Progressive Design/Build Contract to the Selection Committee's Recommendation of The Haskell Company/RS&H/Kinley for the Terminal Renovation and Expansion Project and to Allow Staff to Negotiate a Progressive Design Contract.

On February 4, 2020, five (5) firms submitted qualifications for the Progressive Design/Build of the Terminal Renovation and Expansion Project. A five (5) member selection committee reviewed the qualification and determined that all firms were qualified and scoring close enough to allow all of them to present their qualifications in a presentation to the committee.

After the committee's review of the presentations, The Haskell Company/RS&H/Kinley team was selected. Staff began negotiations with the firm to create a progressive contract for the design and construction of the Terminal Renovation and Expansion Project.

This project is using a progressive design/build approach where the contract is awarded in stages allowing for the project to provide "off-ramps" at multiple phases throughout the project, giving the Authority the flexibility to change, modify, or cancel the contract at any point. Initial work will begin with the planning and programming for common use areas for both international and domestic flights. These areas include: Ticketing, Baggage Screening, Security Checkpoint, and Baggage Claim. Further advancing the project, work will begin on the international and/or domestic (s).

The below is the progression of the design portion that also includes some pre-construction services:

Phase 1	Planning & Programming (Total)	45 days from NTP	\$ 1,257,000
Phase 2A	Schematic Design (Ticketing)	__ days from NTP	\$ 225,000
Phase 2B	Schematic Design (Baggage Screening)	__ days from NTP	\$ 350,000
Phase 2C	Schematic Design (Security Checkpoint)	__ days from NTP	\$ 575,000
Phase 2D	Schematic Design (Baggage Claim)	__ days from NTP	\$ 350,000
Phase 2E	Schematic Design (Concourse)		\$ TBD

Phase 2F	Schematic Design (FIS)		\$ TBD
Phase 3A	60% Design (Ticketing)		\$ TBD
Phase 3B	60% Design (Baggage Screening)		\$ TBD
Phase 3C	60% Design (Security Checkpoint)		\$ TBD
Phase 3D	60% Design (Baggage Claim)		\$ TBD
Phase 3E	60% Design (Concourse)		\$ TBD
Phase 3F	60% Design (FIS)		\$ TBD
Phase 4	Create GMP for Individual Phases		\$ TBD
Phase 5A	Complete Design (Ticketing)		\$ TBD
Phase 5B	Complete Design (Baggage Screening)		\$ TBD
Phase 5C	Complete Design (Security Checkpoint)		\$ TBD
Phase 5D	Complete Design (Baggage Claim)		\$ TBD
Phase 5E	Complete Design (Concourse)		\$ TBD
Phase 5F	Complete Design (FIS)		\$ TBD
TOTAL DESIGN COSTS			\$ TBD

The total design costs with pre-construction services are within the range for professional services at 13 percent of the construction budget. The design will include multiple options for staff to select from in the form of Good/Better/Best allowing for value engineering early in the design.

A grant by the Florida Department of Transportation (FDOT) has been already awarded in the amount of \$3,093,954 with a local match.

The Federal Aviation Administration (FAA) has committed to award two separate grants for the Terminal Renovation and Expansion project. The FAA has eliminated the local match, so these are planned to be 100 percent grant funded:

- Entitlement grant - \$6,373,000. This grant represents three years of the airport's entitlement funds, approximately \$2,525,000 will be available in this fiscal year.
- Supplemental grant - \$4,444,444. These funds will be available this fiscal year.

Staff recommends approval of the award to The Haskell Company/RS&H/Kinley for the Progressive Design/Build of the Terminal Renovation and Expansion Project and to approve Phases 1, 2A, 2B, 2C and 2D at this time in an amount not-to-exceed \$2,757,000 , and authorization for the Executive Director to execute said agreement on behalf of the Authority.

Item A-2 Recommendation to Increase the Purchase Order to Vanasse Hangen Brustlin, Inc., (VHB) under its Continuing Services Contract, for the Design Criteria Administration Review for the Terminal Renovation and Expansion Project in an Amount Not-To-Exceed \$222,450.

Vanasse Hangen Brustlin, Inc. (VHB) was hired in November 2019 under its Continuing Services Contract to prepare documents for the TUI needs assessment and to develop the Terminal Renovation and Expansion Project to submit to the Federal Aviation Administration (FAA) as part of the pre-application grant requirement.

With the development of the TUI program, VHB has been instrumental in providing facility requirements, capacity determinations, and preliminary planning concepts that have been included in the Request for Qualifications for the selection of a Design/Builder for the Terminal Renovation and Expansion Project.

VHB has completed its tasks and is now ready to assist staff in overseeing the design of the terminal as an owner’s representative and to continue to be the liaison for the FAA through final design approval. The design oversight elements may include, but are not limited to:

- Finalize FAA and Florida Department of Transportation (FDOT) funding applications.
- Review all technical plans submitted by terminal designer in collaboration with airport staff and provide technical oversight on overall terminal capacity and level of service.
- Provide planning level assistance for updates and changes to the airside, landside, and terminal components for the overall project during the 30 percent and 60 percent design phases.
- Represent the MAA’s interest in technical oversight at stakeholder meetings and design related meetings.
- Provide proof of concept design simulations for airside and gate planning analyses to provide additional oversight for terminal design.
- Provide sustainability expertise to TUI and guidance on airline versus terminal and building requirements.
- Provide guidance on International Air Transport Association (IATA) versus FAA planning and design requirements based on TUI service level requirements.
- Provide guidance, oversight, and expertise on overall terminal capacity impacts by TUI or other potential airlines based on any design changes.

The PO tasks are listed below with the third task being the new proposed task for VHB’s services:

VHB Task 1 PO (FAA Pre-Application)	\$ 33,730
VHB Task 2 PO (Bid Package Criteria Analysis)	\$ 19,960
VHB Task 3 PO (FAA Application, Overall Design Review)	<u>\$222,450</u>
Total PO Amount	\$276,140

The 50/50 FDOT grant issued in January 2020 for the terminal project may be applied to this purchase order.

FDOT	\$ 111,225
MAA	<u>\$ 111,225</u>
	\$ 222,450

This will be paid on a work as performed basis.

Staff recommends approval of the increase of a purchase order to Vanasse Hangen Brustlin, Inc. in an amount not-to-exceed \$222,450 for providing design criteria administration review for the Terminal Renovation and Expansion Project and authorization for the Executive Director to execute said contract on behalf of the Authority.

Item A-3 Recommendation to Approve a purchase order with KMI International, Inc., Under its Continuing Services Contract, for Project Management Services for the Proposed Terminal Renovation and Expansion Project in an Amount Not-To-Exceed \$396,000 for Two Years.

As the Terminal Renovation and Expansion Project begins, the need for staff to represent the airport increases. Similar to the Embraer project, a dedicated project manager (a Jim Abod equivalent) will be required to oversee the design and construction of the project.

KMI International was selected under the Airport’s Continuing Service Contract as one of three firms that provide owner representatives, project managers, for capital improvement projects. The terms of the agreement with KMI would be on a yearly basis, like other continuing consultant service agreements. At the end of the year, staff will review and consider extending the contract, change personnel, or cancel the contract in favor of another firm. This agreement allows for termination at any point during the two years if the terminal project is cancelled or postponed.

KMI has a client available currently that would be able to fill-in as an extension of staff to represent the owner in all design and construction related matters.

The 50/50 Florida Department of Transportation (FDOT) grant issued in January 2020 for the terminal project may be applied to this purchase order.

FDOT	\$198,000
MAA	<u>\$198,000</u>
	\$396,000

Staff recommends approval of the purchase order to KMI International, Inc. in an amount not-to-exceed \$396,000 and authorization for the Executive Director to execute a purchase order on behalf of the Authority.

Item A-4 Recommendation to Approve a First Amendment to Lease with Eastern Florida State College.

Eastern Florida State College (EFSC) operates its Aviation Center in the building and hangar next to the international terminal, home to its Airframe and Powerplant (A&P) Program. To prepare for the planned terminal expansion project, the Airport needed to redefine Eastern Florida State College’s (EFSC) premises to exclude part of the apron behind the classroom building and hangar. EFSC is willing to make this change with the following provisions, which Airport staff finds agreeable:

- The Airport will install an exterior door on the southwest side of the hangar to accommodate EFSC towing and moving aircraft in and out of the hangar.
- EFSC will be able to use the grass ballfield for parking until the area is needed for the hotel development, at which time an alternate parking area will be provided.
- The scheduled CPI increases will be waived due to EFSC occupying a smaller premise.
- EFSC shall have the right to terminate the lease with 60-days’s written notice if it is not in material default of the lease. This is to accommodate EFSC’s long-term plan of having a larger facility at MLB to expand its class sizes due to the popularity of the A&P program. EFSC recently exercised its first five-year option, which began May 1, 2020, and has one additional five-year option period.

Staff recommends approval of the First Amendment to Lease with Eastern Florida State College and authorization for the Executive Director to execute said amendment on behalf of the Authority.

Item A-5 Recommendation to Approve Resolution 05-20 Florida Department of Transportation Grant for the Northside Expansion Project.

This action item is to approve the Florida Department of Transportation’s (FDOT) portion of the Northside Expansion Project. The funding for the proposed grant is:

FDOT	\$ 283,000
MAA	<u>\$ 0</u>
Total	\$ 283,000

This grant is deemed being strategic to the state and accordingly is a 100 percent grant.

Staff recommends approval of Resolution 05-20 Florida Department of Transportation's portion of the grant for the Northside Expansion Project and authorization for the Chairman to execute said resolution on behalf of the Authority.

Information Items

- Item I-1 Financial Update**
- Item I-2 Operations Update**
- Item I-3 Construction Projects Update**
- Item I-4 Business Development and Marketing Update**

Public Speakers

Adjournment

Pursuant to 286.0105, Florida Statutes, the Airport hereby advises the public that if a person decides to appeal any decision made by the Airport Authority with respect to any matter considered at its meeting or hearing, he will need a record of the proceedings, and that for such purpose, affected persons may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons with disabilities needing special accommodation to participate in this meeting should contact the Airport (723-6227) at least 48 hours prior to the meeting.



One Air Terminal Parkway
Suite 220
Melbourne, FL 32901 USA
MLBair.com

RESOLUTION NO. 5-20

A RESOLUTION OF THE CITY OF MELBOURNE AIRPORT AUTHORITY, BREVARD COUNTY, FLORIDA, ENTERING INTO "JOINT PARTICIPATION AGREEMENT" FOR THE NORTHSIDE EXPANSION PROJECT WITH THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) PROVIDING FOR THE FINANCIAL PARTICIPATION BY THE DEPARTMENT OF TRANSPORTATION IN CERTAIN AIRPORT IMPROVEMENT PROJECTS AT THE MELBOURNE INTERNATIONAL AIRPORT

WHEREAS, the City of Melbourne Airport Authority has requested financial participation by the State of Florida Department of Transportation in certain Airport improvement projects, and

WHEREAS, the State Department of Transportation has approved the request for financial assistance and agrees to a maximum participation in the amount not to exceed \$283,000.00 upon the terms and conditions stated in said agreement.

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF MELBOURNE AIRPORT AUTHORITY AS FOLLOWS:

SECTION 1. That the City of Melbourne Airport Authority, Brevard County, Florida, agrees to enter into a "Joint Participation Agreement" with the State of Florida Department of Transportation providing for assistance by the State in the form of a Grant in the amount not to exceed \$283,000.00 upon the terms and conditions stated in said agreement.

SECTION 2. That Jack L. Ryals, Chairman, is hereby to execute on behalf of the City of Melbourne Airport Authority, and Greg Donovan, Executive Director, is hereby authorized and directed to impress the official seal of the City of Melbourne Airport Authority, Brevard County, Florida, and attest said execution.

SECTION 3. That the City of Melbourne Airport Authority, Brevard County, Florida, expresses its sincere appreciation to the State Department of Transportation for the above grant and pledges its continued support and cooperation in the improvement and development of the Orlando Melbourne International Airport as a vital link in the State's Transportation System.

SECTION 4. This Resolution was duly passed at a regular meeting of the Melbourne Airport Authority, Brevard County, Florida, on the 27th Day of May 2020.

BY: _____
Jack L. Ryals, Chairman
Melbourne Airport Authority

ATTEST:

Greg Donovan, Executive Director

MLB
Terminal Rehab/Expansion
5/7/2020

Project Description	Cost estimate*	Amount Funded	Funding Source			Amount of Funding Grant Funding Available per year				
			FAA/FDOT	Grant Amount	Grant %	Local Match (MLB Cash)	FY 20	FY 21	FY 22	TOTAL
Terminal Exp-Public Space	29,948,750	23,005,352	FAA (Ent)	6,373,000	100%	-	2,525,000	1,924,000	1,924,000	6,373,000
			FAA (Supp)	4,444,444	100%	-	4,444,444			
			FDOT (FY 20)	3,093,954	50%	3,093,954	3,093,954			3,093,954
			FDOT (FY 21)	3,000,000	50%	3,000,000		3,000,000		3,000,000
				<u>16,911,398</u>		<u>6,093,954</u>				
Terminal Exp-PBB (2 new)	3,000,000	3,000,000	FAA (Supp)	3,000,000	100%	-	3,000,000			3,000,000
Terminal Exp-Ramp	10,370,000	6,000,000	FAA (Disc)	6,000,000	100%	-	6,000,000			6,000,000
	<u>43,318,750</u>	<u>32,005,352</u>		<u>9,000,000</u>		<u>6,093,954</u>	<u>19,063,398</u>	<u>4,924,000</u>	<u>1,924,000</u>	<u>25,911,398</u>
						Plus: Local Funds	3,093,954	3,000,000		6,093,954
			Grants	25,911,398		Amount to spend per year	22,157,352	7,924,000	1,924,000	32,005,352
			Local Match	6,093,954						
			Total	<u>32,005,352</u>		Spending Period	Aug 20-July 21	Aug 21-July 22	Aug 22-July 23	

*based on the initial cost estimate provided by VHB. Cost estimates will be updated as more data becomes available.

ORLANDO MELBOURNE INTERNATIONAL AIRPORT

Income Statement

March 31, 2020

	Year To Date Actual		\$ change	% change
	3/31/2020	3/31/2019		
Operating Revenue				
Airline Landing Fees	297,982	294,168	3,814	1%
Airline Service Fees	1,075,575	1,024,798	50,777	5%
Land & Bldg Lease Rents	4,307,538	4,093,829	213,709	5%
Terminal Rents	116,977	114,737	2,240	2%
Parking Lot Fees	885,765	928,814	(43,049)	-5%
Car Rental Concessions	512,445	498,324	14,121	3%
Restaurant Concessions	71,374	65,354	6,020	9%
Mobile Home Park Rent	954,456	990,177	(35,721)	-4%
T-Hangar Rentals	57,148	55,449	1,699	3%
Operating Grant Revenue	33,390	44,447	(11,057)	-25%
Other	173,094	158,817	14,277	9%
Total Operating Revenues	8,485,745	8,268,914	216,831	3%
Operating Expense:				
Personnel Services	2,471,618	2,270,406	201,213	9%
Contract Services	2,425,667	2,677,924	(252,257)	-9%
Police & Fire Services	562,239	575,648	(13,409)	-2%
Maintenance and Operations	1,831,195	2,541,764	(710,569)	-28%
Other	2,022	-	2,022	#DIV/0!
Total Operating Expenses	7,292,742	8,065,741	(772,999)	-10%
Operating Income (Loss)	1,193,002	203,172	989,830	
Non-Operating Revenue (Expense):				
Passenger Facility Charges	505,460	516,383	(10,923)	-2%
Customer Facility Charges	382,419	-	382,419	#DIV/0!
Gain on Sale of Assets	4,762	4,248	514	12%
Interest Income (Loss)	154,746	160,980	(6,234)	-4%
Ad Valorem Tax Revenue	1,538,248	1,741,692	(203,445)	-12%
Ad Valorem Tax Expense	(1,570,163)	(1,754,588)	184,425	-11%
(Loss) on Disposal of Fixed Assets	-	-	0	#DIV/0!
Interest Expense	-	-	-	#DIV/0!
Total Non-Operating Revenue (Expense)	1,015,472	668,715	346,757	
Net Income (Loss) Before Depreciation*	2,208,474	871,887		

* Net Income before capital contributions and transfers

ORLANDO MELBOURNE INTERNATIONAL AIRPORT
Statement of Revenues, Expenditures and Changes in Fund Net Assets
March 31, 2020

	YTD Actual	Annual Budget	% of Budget
Operating Revenues:			
Airline Landing Fees	297,982	410,882	73%
Airline Service Fees	1,075,575	2,162,952	50%
Land & Bldg Lease Rents	4,307,538	8,359,228	52%
Terminal Rents	116,977	251,071	47%
Parking Lot Fees	885,765	2,053,544	43%
Car Rental Concessions	512,445	1,057,360	48%
Restaurant Concessions	71,374	130,000	55%
Mobile Home Park Rent	954,456	1,881,097	51%
T-Hangar Rentals	57,148	118,081	48%
Operating Grant Revenue	33,390	72,000	46%
Other	173,094	253,599	68%
Total Operating Revenues	8,485,745	16,749,814	51%
Operating Expense:			
Personnel Services	2,471,618	5,576,662	44%
Contract Services	2,425,667	5,308,424	46%
Police & Fire Services	562,239	1,128,970	50%
Maintenance and Operations	1,831,195	5,903,678	31%
Other	2,022	-	#DIV/0!
Total Operating Expenses	7,292,742	17,917,734	41%
Operating Income (Loss)	1,193,002	(1,167,920)	
<u>Non-Operating Revenue (Expense):</u>			
Passenger Facility Charges	505,460	1,106,119	46%
Customer Facility Charges	382,419	775,000	49%
Gain on Sale of Assets	4,762	-	#DIV/0!
Interest Income (Loss)	154,746	174,939	88%
Ad Valorem Tax Revenue	1,538,248	1,963,017	78%
Ad Valorem Tax Expense	(1,570,163)	(1,963,018)	80%
Gain (Loss) on Disposal of Fixed Assets	-	-	#DIV/0!
Interest Expense	-	-	#DIV/0!
Total Non-Operating Revenue (Expense)	1,015,472	2,056,057	
Net Income (Loss) before Depreciation, Transfers, and Capital Contributions	2,208,474	888,137	
Depreciation Expense	-	-	
Intra Transfer to Airport Capital	-	(862,780)	0%
Net Income (Loss) After Transfers	2,208,474	25,357	

**Orlando Melbourne International Airport
Top 10 Operating Revenues
3/31/2020**

Rank	Description	YTD FY 2020	FY 20 % of Total Rev	YTD FY 2019	FY 19 % of Total Rev	\$ Change	% Change
1	Airfield Facilities Rental	2,290,457	27%	2,143,273	26%	147,184	7% A
2	Commercial Business Center Rent	1,513,156	18%	1,506,815	18%	6,341	0%
3	Tropical Haven Revenue	944,757	11%	981,295	12%	(36,538)	-4% B
4	Parking Revenue	885,765	10%	928,814	11%	(43,049)	-5% C
5	Ground Handling Revenue	630,187	7%	596,469	7%	33,718	6%
6	Car Rental Concession	512,445	6%	509,616	6%	2,829	1%
7	Terminal Rent-Airline	457,089	5%	440,034	5%	17,055	4%
8	Hangar Rent	371,709	4%	371,709	4%	-	0%
9	Landing Fees	297,982	4%	294,165	4%	3,817	1%
10	Terminal Concessions	71,374	1%	65,354	1%	6,020	9%
Total Top 10 Operating Revenue		7,974,921	94%	7,837,544	95%	137,377	
Other Operating Revenue		510,824	6%	431,370	5%	79,454	18%
Total Operating Revenue		8,485,745	100%	8,268,914	100%	216,831	3%

A Increase is due to rate implementation of contractual rate adjustments plus the lease of new facilities by existing airport tenant in FY 20.

B Decrease is due to the lapsing of the Capital Improvement Fee (\$25 per lot which was in effect from January 2019 through September 2019).

C Decrease reflects the beginning of the Covid 19 recession which started in mid-March. Parking revenues are the first to reflect the drop in enplanements.

Orlando Melbourne International Airport
Top 10 Operating Expenses
3/31/2020

Description	YTD FY 2020	FY 20 % Operating Expense	YTD FY 2019	FY 19 % Operating Expense	\$ change	% change
1 Personnel	2,471,618	34%	2,270,406	28%	201,212	9% A
2 Other Contract Services	1,529,141	21%	1,706,042	21%	(176,901)	-10% B
3 Fire Services	552,461	8%	561,265	7%	(8,804)	-2%
4 Contractual Employee	300,252	4%	387,145	5%	(86,893)	-22% C
5 Consulting Fees	243,179	3%	318,304	4%	(75,125)	-24%
6 Electric	240,091	3%	249,817	3%	(9,726)	-4%
7 Risk Management	191,178	3%	298,718	4%	(107,540)	-36% D
8 Cable TV Expense	142,222	2%	135,380	2%	6,842	5%
9 Outside Counsel Fees	111,177	2%	121,852	2%	(10,675)	-9%
10 Repair & Maint-A/C	101,154	1%	44,589	1%	56,565	127% E
Total Top 10 Operating Expense	5,882,473	81%	6,093,518	76%		
Other Operating Expense	1,410,269	19%	1,972,223	24%	(561,954)	-28%
Total Operating Expense	7,292,742	100%	8,065,741	100%	(772,999)	-10%

A Increase is primarily due to pay increases and the implementation of the revised pay plan that went into effect October 1, 2019.

B Decrease is due to 1) non-renewal of security system maintenance contract (which had fixed fee of \$11k per month plus required payment for service calls) expired in May 2019. The maintenance contract represented a new way to maintain the system and was done for a year as a trial period; staff determined it was more cost effective to operate without a separate contract in place. 2) Customs fees are down approximately \$71k due to decreased international passenger activity (MLB pays for one customs agent as a fixed fee; if add'l agents are needed, Customs bills MLB for the additional cost); and 3) ground handling costs are down \$42k due to modifications to cost containment measures implemented last year plus a reduction this year due to the covid 19 recession which reduced flight activity which resulted in lower costs to the airport.

C This expense fluctuates based on when temporary employees are used compared to regular employees. Last year the Airport utilized more temp employees than this year.

D Decrease is due to the revised cost allocation plan that was agreed to with the City of Melbourne in August 2019.

E Increase is due to a new maintenance contract that was executed in October 2019. This contract focuses on preventive maintenance to extend the lives of airport air conditioning systems and to avoid unscheduled repairs. The contract has an a/c technician on site during normal business hours and frees up airport staff for other duties.

Orlando Melbourne Int'l Airport
Cash Flow Projection
4/30/2020

	April-20	May-20	June-20	July-20	August-20	September-20	October-20	November-20	December-20	January-21	February-21	March-21
Beginning Cash Balance	\$ 20,782,540	\$ 20,483,232	\$ 19,958,075	\$ 20,430,026	\$ 19,900,138	\$ 17,491,899	\$ 22,203,798	\$ 22,348,829	\$ 20,257,646	\$ 22,250,129	\$ 23,148,103	\$ 23,122,573
Operating Revenue	1,408,266	1,408,266	1,408,266	1,408,266	1,408,266	1,408,266	1,165,545	1,165,545	1,165,545	1,520,707	1,165,545	1,165,545
Less: COVID 19 Impacts-Operating Revenues	(369,810)	(358,365)	(283,824)	(320,696)	(295,958)	(286,636)						
Plus: CARES Grant			1,158,078			2,230,000			2,250,000			
Less: Prepaid Rent Recorded as Deferred Revenue	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)	(7,659)
Plus: Monthly Collections Ad Valorem Tax	133,988	133,988	133,988	133,988	133,988	133,988	133,988	133,988	133,988	133,988	133,988	133,988
Operating Expense:												
Liability Insurance				(53,000)								
Personnel	(454,258)	(454,258)	(454,258)	(454,258)	(454,258)	(454,258)	(461,462)	(461,462)	(461,462)	(461,462)	(461,462)	(461,462)
Tui Transition Consultant		-	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)	(13,500)
Maintenance and Operations Expense	(888,328)	(864,203)	(874,203)	(874,203)	(884,203)	(884,203)	(835,831)	(2,798,849)	(835,831)	(835,831)	(835,831)	(835,831)
Net Increase (Decrease) in Cash Flow from Operations	(177,801)	(142,231)	1,066,888	(181,062)	(113,324)	2,125,998	(18,920)	(1,981,938)	2,231,080	336,242	(18,920)	(18,920)
Total Capital Outlay	(129,262)	(422,878)	(1,110,280)	(1,500,000)	(3,235,000)	(950,000)	(713,000)	(600,000)	(892,958)	(450,000)	(500,000)	(420,000)
Total Capital Grant Revenue	-	27,236	439,540	1,105,960	890,200	3,492,900	814,013	427,000	599,597	943,073	428,000	450,000
PFC Collections (Reimbursement of Eligible Costs)	94,010	92,904	119,448	96,222	97,328	84,056	35,988	36,455	31,314	39,259	37,390	40,194
CFC Collections (Designated for Future Projects)	65,875	65,100	83,700	67,425	68,200	58,900	26,950	27,300	23,450	29,400	28,000	30,100
Less: COVID 19 Impacts-Capital Revenues	(152,130)	(145,288)	(127,345)	(118,433)	(115,643)	(99,955)						
Net Increase (Decrease) in Cash From Capital	(121,507)	(382,926)	(594,937)	(348,826)	(2,294,915)	2,585,901	163,951	(109,245)	(238,597)	561,732	(6,610)	100,294
Beginning Cash/Investments	20,782,540	20,483,232	19,958,075	20,430,026	19,900,138	17,491,899	22,203,798	22,348,829	20,257,646	22,250,129	23,148,103	23,122,573
Ending Cash/Investments	20,483,232	19,958,075	20,430,026	19,900,138	17,491,899	22,203,798	22,348,829	20,257,646	22,250,129	23,148,103	23,122,573	23,203,947

Orlando Melbourne Int'l Airport
Cash Flow Projection - Capital Exp and Grant Revenue
4/30/2020

Capital Project Expenditures	Proj #	Total Cost	April-20	May-20	June-20	July-20	August-20	September-20	October-20	November-20	December-20	January-21	February-21	March-21
Obstruction Removal and Lighting	50218	1,225,000	(5,000)	(50,000)	(280,000)	(320,000)	(440,000)	(100,000)	(30,000)					
PBB 4 and 7 Replacement	50019	2,464,958	(30,262)	(150,000)	(500,000)	(450,000)	(400,000)	(300,000)	-	(100,000)	(464,958)			
ATCT Tower Demo	55019	388,000		(80,000)	(158,000)									
Airfield Utilities-GA Dr. & SO Lift	51119	1,400,000												
Ground Run Up Enclosure Facility	50319	4,000,000			(50,000)	(150,000)	(300,000)	(400,000)	(450,000)	(500,000)	(428,000)	(450,000)	(500,000)	(400,000)
Security System-phase 1	50419	461,959												
Terminal Rehab/Expansion	50519	34,000,000	(34,000)	-	-	(500,000)	(1,950,000)							
ATCT Construction (FDOT)	50215	300,000	(25,000)	(50,000)	(50,000)	(50,000)	(125,000)							
Airplane Deposit Facility	50619	70,000												
Taxiway S Improvements-Phase 1	50120	3,400,000												
Perimeter Road Rehab	50220	125,000	(35,000)											
PBB 5 Replacement	50320	1,669,094												
Roof Replacement-1250 Nasa Bldg 219	50420	150,000						(150,000)						
Aerospace Dr. Lift Station Replace	50520	85,000							(85,000)					
Tropical Haven Facility Improvements	50620	148,000							(148,000)					
Northside Expansion	54120	12,444,576												
Northside Exp-St. Michael Pl Ext	54220	10,080,000		(60,000)	(50,000)	(30,000)	(20,000)	-	-	-	-	-	-	(20,000)
Northside Exp-T/W M Ext	54320													
Northside Exp-Infrastructure Dev	54420													
Equipment Purchases		291,500		(32,878)	(22,280)									
Total Capital Outlay			(129,262)	(422,878)	(1,110,280)	(1,500,000)	(3,235,000)	(950,000)	(713,000)	(600,000)	(892,958)	(450,000)	(500,000)	(420,000)
Grant Revenue														
FAA ENTITLEMENT Grant - Obstruction Removal					49,500	252,000	288,000	396,000	90,000	27,000				
FDOT Grant-OBSTRUCTION REMOVAL								-	-	-	59,597			
FAA Ent Grnt - PBB 4 & 7				27,236	135,000	450,000	405,000	360,000	270,000	-	90,000	418,462		
FDOT Grant-PBB 4 & 7									91,513			24,611		
FAA Grant 46 Tower Demo							142,200	-						
FDOT Grant-ATCT Demo								7,900						
FDOT Grant-ATCT Equip Relo					182,540	328,960								
FDOT Grant ATCT Construction					12,500	25,000	25,000	25,000	62,500	-	-			
FDEO Grant-Ground Run up								200,000	300,000	400,000	450,000	500,000	428,000	450,000
TERMINAL EXPANSION GRANTS														
FDOT-Terminal Rehab FY 20 (438452-1-94-03--\$3,093,954)**														
FAA Entitlements FY 20-FY 22 (\$6,373,000)***								2,484,000		-	-	-	-	-
FAA Discretionary FY 20 (\$3,000,000)***											-	-	-	-
NORTHSIDE EXPANSION GRANTS														
FDEO		3,922,132			60,000	50,000	30,000	20,000	-	-	-	-	-	-
FDOT		283,000												
Total Grant Revenue			-	27,236	439,540	1,105,960	890,200	3,492,900	814,013	427,000	599,597	943,073	428,000	450,000

* Note: The expenditure for this project was December 2018 (Tower equipment relocation paid to the FAA) but the 50% reimbursement from FDOT will be made once the final reconciliation from FAA is complete.

** Grant awarded Feb 20; \$3,093,954; 50% grant

***Grant expected to be awarded August 2020; entitlement grant award is paid out over 3 years

ORLANDO MELBOURNE INTERNATIONAL AIRPORT (MLB) MONTHLY ACTIVITY REPORT
APRIL 2020

	2020	2019	MO CHANGE (%)	2020 YTD	2019 YTD	YTD CHANGE (%)
PASSENGERS						
Revenue PAX - Domestic						
Enplaned	1,248	20,592	-93.9%	57,542	85,293	-32.5%
Deplaned	1,016	19,278	-94.7%	56,226	83,174	-32.4%
Total Revenue PAX - Domestic	2,264	39,870	-94.3%	113,768	168,467	-32.5%
*Revenue PAX - Int'l						
Enplaned	48	270	-82.2%	145	2,525	-94.3%
Deplaned	66	362	-81.8%	584	2,825	-79.3%
Total Revenue PAX - Int'l	114	632	-82.0%	729	5,350	-86.4%
Non-Revenue PAX						
Enplaned	208	641	-67.6%	3,225	3,684	-12.5%
Deplaned	217	719	-69.8%	3,098	3,864	-19.8%
Total Non-Revenue PAX	425	1,360	-68.8%	6,323	7,548	-16.2%
Total PASSENGERS	2,803	41,862	-93.3%	120,820	181,365	-33.4%
CARGO Express/Freight/Sm Parcels (lbs)						
OUT	0	9,923	-100.0%	0	40,285	-100.0%
IN	0	3,405	-100.0%	0	11,006	-100.0%
Total CARGO (lbs)	0	13,328	-100.0%	0	51,291	-100.0%
Cargo in Metric Tons	0	6		0	23	
AIRCRAFT OPERATIONS						
Air Carrier	275	506	-45.7%	1,901	2,236	-15.0%
Air Taxi	144	313	-54.0%	936	1,312	-28.7%
General Aviation - Itinerant	3,105	7,389	-58.0%	22,903	26,064	-12.1%
General Aviation - Local	625	4,362	-85.7%	9,923	14,540	-31.8%
Military	13	92	-85.9%	177	584	-69.7%
Total OPERATIONS	4,162	12,662	-67.1%	35,840	44,736	-19.9%

K:\FINANCE DEPARTMENT\Accounts Receivable\[Traffic Report 2020.xlsx]Jan

*Includes Data from US Customs for General Aviation Passengers

**Orlando Melbourne International Airport
Police Department
Monthly Activity Report
April 2020**

Police Activity	
TSA Required Checks	
Response to Door & Gate Alarms	188
TSA Assists	1
Perimeter	204
Door inspections	8
SIDA & Secure Area Inspections	405
Gate Inspections	5
Customs Assists / Weapons Check	0
Security Violations	2
Assist to Other Agencies	12
Aircraft Alerts	2
Arrests	1
*Other Incident Reports	507
Traffic / Parking Citations/Warnings	0
K9 training & patrols	1
Total	1336
Administrative Action	
Security Badges Issued	77
Parking Permits Issued	1
Total	78





**Renee Purden
Chief of Police**

* Other incident reports may include: Citizen Assists, Officer Stand By, Suspicious Incidents, Vehicle Crash Reports, and Disturbance

Special Details:

Aircraft Alerts:

04/15/20 Alert 2, aircraft landed safely on runway 27L

04/21/20 – 20-111 Alert 2, there was a small fire on the right brake of an aircraft that was taxiing to runway 9R.

Arrests:

04/21/20 – 20-110 Arrest made on a Jane Doe for a fraudulent credit card and stolen ID at Enterprise car rental.

Security Violations:

04/10/20 Case # 20-104 – Subject tried to enter the N377V gate with an expired badge.

04/23/20 Case # 20-118- Subject entered the SIDA area without proper authorization / escort.

Other Calls for Service:

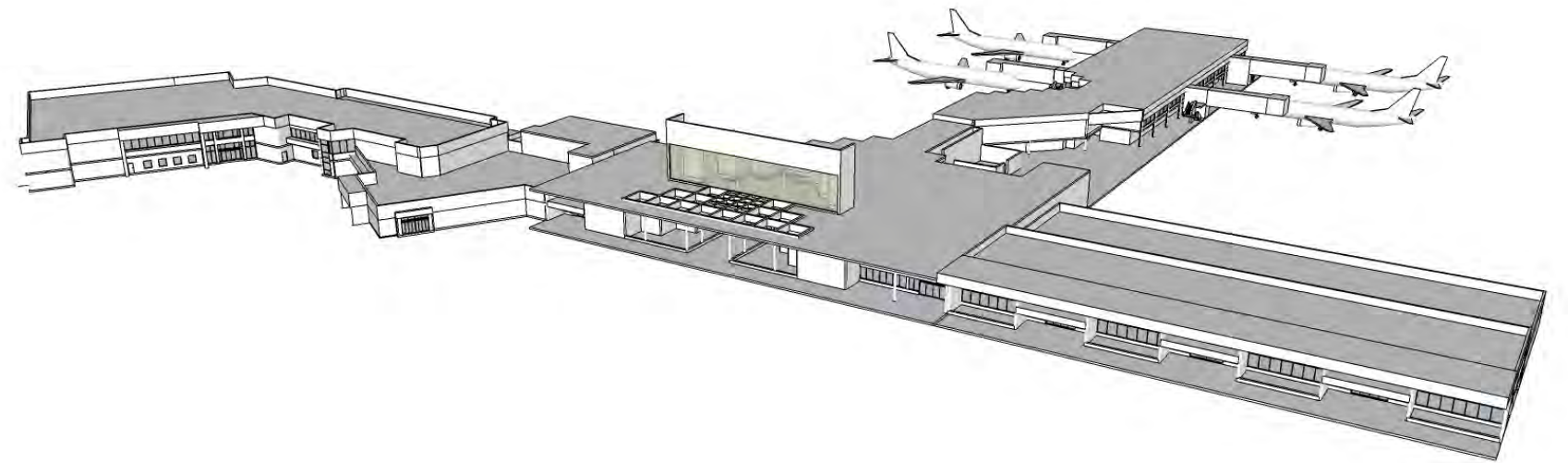
04/11/20 – 20-105 Subject was trespassed for a disturbance at the SCAT bus stop as well as on the SCAT bus.

04/29/20 – 20-122 stolen/failure to return rental car as well as rented with a fraudulent ID at Dollar thrifty. This case is still being investigated to gather further information.

MELBOURNE INTERNATIONAL AIRPORT

Terminal Transformation - Building Assessments

WORKSHOP ISSUE - 5/27/2015





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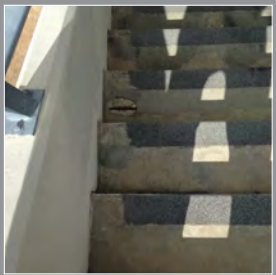


CREATIVE IDEAS. PRECISELY DELIVERED.





04
Executive Summary



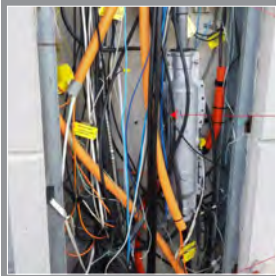
06
Architectural Assessment




13
Mechanical Assessment




23
Plumbing Assessment



32
Electrical Assessment



40
PSI - Roofing Assessment



64
PSI - Curtain Wall / Skylight Assessment

Executive Summary

BRPH Architects/Engineers has been retained by Melbourne Airport Authority to renovate the existing terminal and plan for future growth through the year 2035. This project is referred to as the Terminal Transportation Master Plan (TTMP); and developed in collaboration with the Melbourne Airport Authority planning team. The TTMP is limited in Scope to internal and external terminal renovations; and does not address the surrounding airport property Master Plan. During the development of the TTMP, BRPH Design Team met with the planners currently developing the Airport Master Plan to share our vision for the TTMP and future growth through the year 2035. The TTMP has been submitted under separate cover as a stand-alone document.

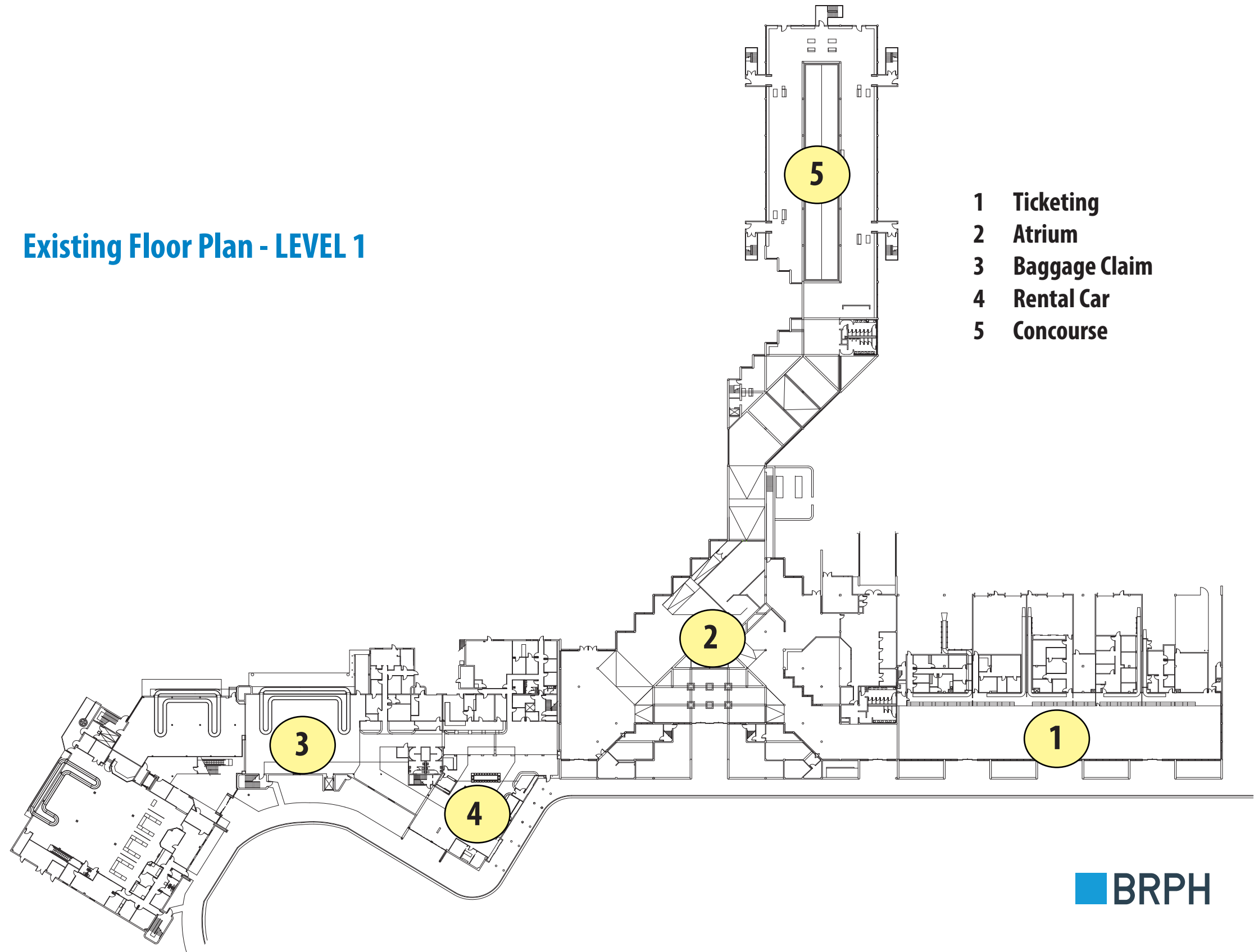
The information contained herein is an evaluation of the airport terminal infrastructure. BRPH Architectural/Engineering team performed assessments of the terminal systems and recorded the condition of the terminal infrastructure as it exists today. Prior to starting the on-site assessments; the BRPH team scheduled meetings with Melbourne Airport Maintenance Team to gain an understanding of current systems, previous scheduled maintenance and general condition of the terminal systems infrastructure.

This document contains surveys of the following systems:

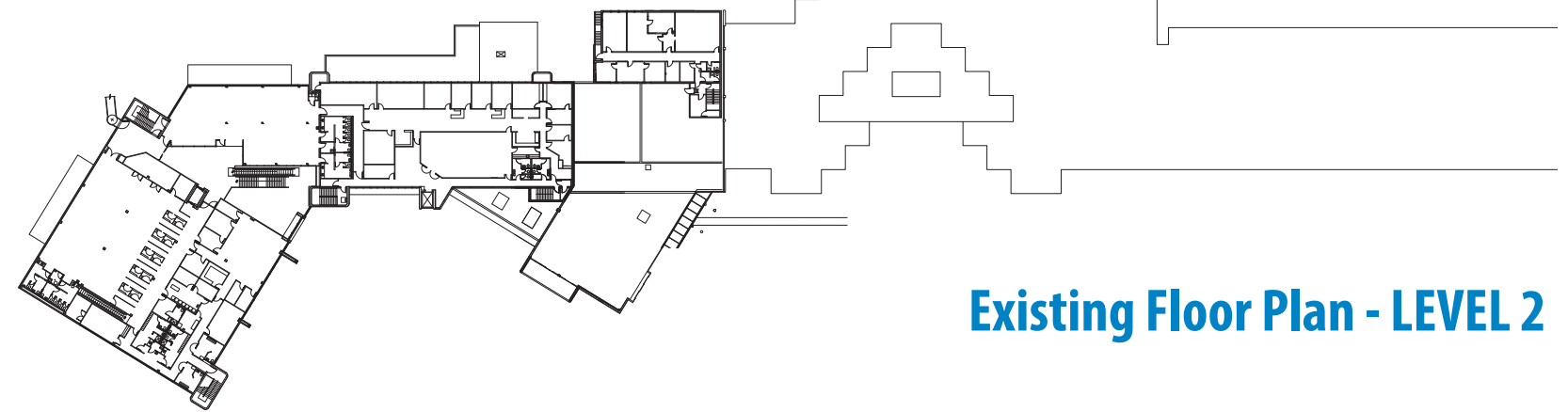
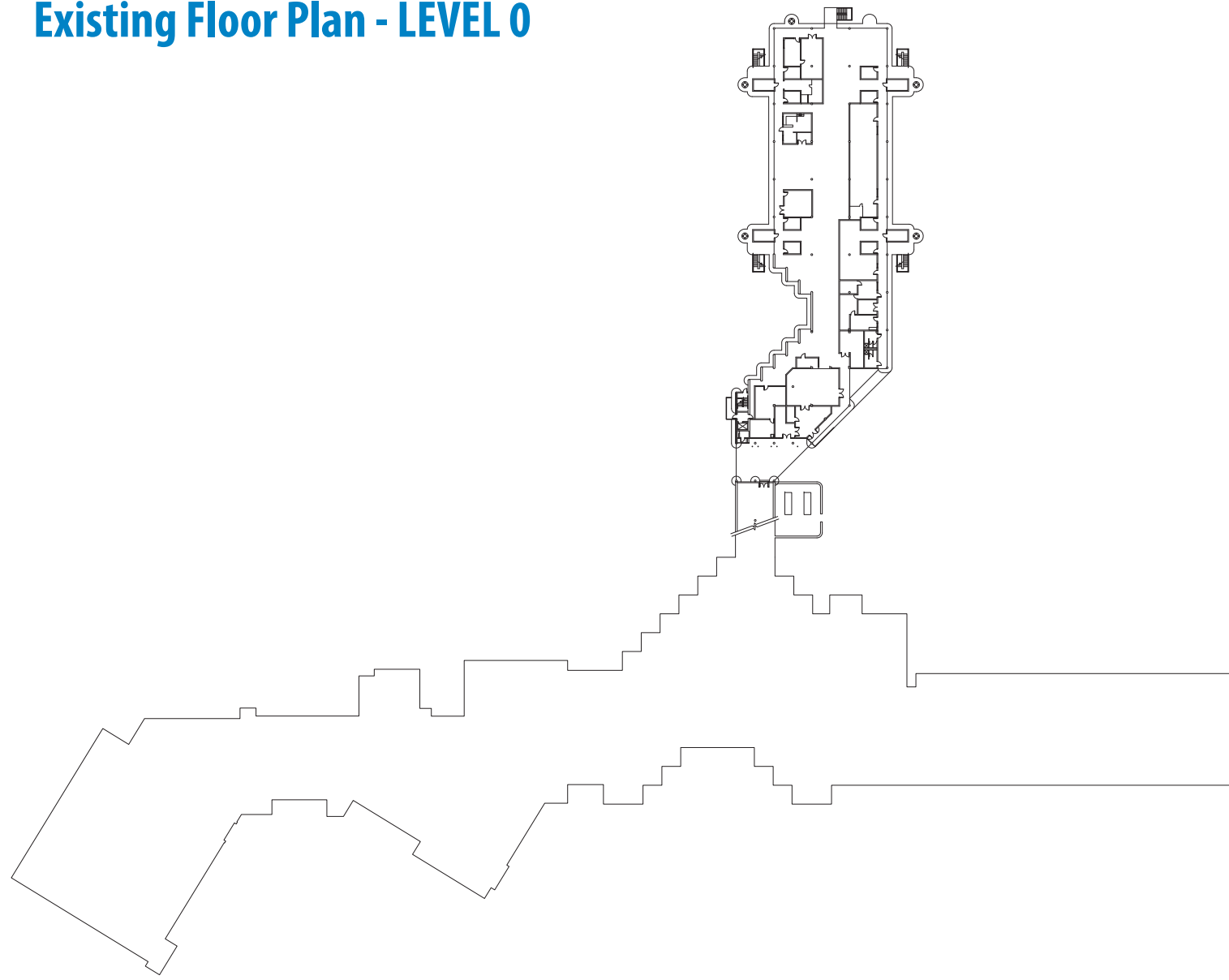
1. Interior/Exterior Architectural Systems & Finishes
2. Mechanical & Plumbing Systems
3. Electrical Power & Lighting
4. Special Systems
 - Fire alarm
 - Information Technology

The intent of the Terminal Assessments was to establish a baseline of current systems and anticipate system design renovations and improvements necessary to establish a five year capital improvement plan for the terminal renovations. In our survey approach, we subdivided the terminal into main areas as identified on the adjacent terminal floor plan, our assessment report for each systems is subdivided into the main areas listed.

Existing Floor Plan - LEVEL 1



Existing Floor Plan - LEVEL 0



Existing Floor Plan - LEVEL 2

INTRODUCTION

The team was tasked with inspecting and providing an assessment report of the existing architectural infrastructure walls, ceilings, floors, doors, windows, etc. A visual assessment of the facilities at the airport took place on February 23 and 24, 2015. Construction drawings were utilized for accuracy and thoroughness of location and type of spaces. The facility was occupied and functioning during the duration of the visit, and the outside conditions were rainy. No above ceiling or in wall inspections were conducted due to occupancy of the space and difficulty to access the ductwork or terminal devices.

The project site is the existing Melbourne International Airport located at 1 Air Terminal parkway in Melbourne, Florida. The building at the site consists of a single story terminal building and a two story concourse and bagging area. The architectural assessment consists of a visual inspection of walls and doors of the interior and exterior envelope of the building. The Roof and curtain wall assessment are provided in a separate report conducted by PSI. The interior of the international/ customs baggage area was specifically excluded from this assessment.

For clarity purposes and ease of reference the report has been organized by four (4) main building areas. Area references are:

1. Ticketing
2. Atrium
3. Baggage Claim / Rental
4. Concourse (Terminal) Areas.

1. Ticketing Area:

The Ticketing Area consists of a single story covered passenger drop-off in front of a larger one story Ticketing Lobby used as a waiting room for connecting the passengers to their airlines check-in and baggage handling.

The following is a list of the major spaces:

First Floor (Interior)

- Ticketing Lobby
- Ticketing
 - Delta Ticketing
 - US Airways Ticketing
 - Elite Airways Ticketing
 - Unused Ticketing
- Ticketing offices, restrooms, break rooms, baggage, and storage
 - Delta Offices
 - US Airways Offices
 - Elite Airways Offices
 - Unused Offices
- Passenger Drop-off / Pick-up Waiting Area

- Melbourne Police CSI entry

First Floor (Exterior Passenger side)

- Passenger Drop-off / Pick-up
- Canopy walkway to parking
- Pet Relief Area

First Floor (Exterior Flight Line side)

- Baggage Make-up
 - Delta Baggage
 - US Airways Baggage
 - Elite Airways Baggage
 - Unused Baggage
- Melbourne Police CSI storage area

2. Atrium Area:

The Atrium Area consists of one main first floor as the main hub of the airport that connects ticketing to the terminal, the terminal to baggage claim. The atrium is the area where passengers can wait before going to the secure terminal

The following is a list of the major spaces:

First Floor (Interior)

- Main Atrium skylight lounge area
- Runway Grille and Kitchen area
- Gift Shop
- Restrooms
- TSA security checkpoint
- Airport Museum
- Brazil Chamber of Commerce
- Florida room

First Floor (Exterior)

- Loading dock behind kitchen
- Outdoor dining
- Smoker's area

3. Baggage Claim / Rental Area:

Baggage Claim Area consists of two floors.

The following is a general list of the major spaces:

First Floor (Interior)

- Car Rental Area
- Airport Police
- MLB Maintenance Offices
- Lost & Found
- Bear Air Ticketing
- Rental Cars: (6) rental car companies
- Restrooms
- Information
- Baggage Claim
- International Gate
- International Concourse Customs Office
 - Customs International Baggage claim
 - Escalator to Customs Security
- Greyhound Bus terminal
- Elevator to Administrative Offices
- Shuttle arrivals and drop offs

Second Floor (Interior)

- MLB Executive Offices
- TSA
- International Concourse
 - Customs International Passport check

4. Concourse (Terminal) Area:

The Concourse Area consists of two floors connecting the passengers to their flights. The first level is the secure flight line side and is located under the concourse. This area houses the different airlines flight line operations offices. The second floor is the concourse where passengers who have passed thru security wait for their flights. The concourse area consists of a main Departure Lounge that is broken into four airline areas with 4 jet bridges.

The following is a list of the major spaces:

Second Floor (Interior)

- Concourse
- Domestic Gates:
 - Delta Gate
 - US Airways Gate
 - Elite Airways Gate
 - Unused Gate
 - Each gate includes:
 - Passenger waiting area
 - Ticketing gate booth
 - Jet way to plane
- Men's Restroom
- Women's restroom
- Gate 1 Bar and Café
- Ramp from security to Terminal

First Floor (Exterior Flight Line side)

- Under concourse
 - Delta flight Line offices
 - US Airways flight line offices
 - Elite Airways flight line offices
 - Unused flight line offices
 - Restrooms
 - Mechanical rooms
 - Electrical rooms
- Jet ways
- Stairways

ASSESSMENT

Using the same four (4) main building areas the assessment is further broken down to interior/ exterior and public/ Secure sides of each area.

Internal Walls, Doors, Ceilings and Floors:

In general an assessment of the entire Interior accessed by the public walls, doors, ceilings and floors appear to be of good working order and appearance. The finishes are in good to fair condition.

The major areas of concern are the locations of roof leaking damaging interior finishes of the walls, floors and ceilings.

1. The ceilings are outdated and could+ need to be replaced in some areas.
2. The walls are sound but the colors are outdated and could need to be repainted.
3. The doors are sound and like the walls just need to be refinished and painted.
4. Door hardware latches, locks and closers need to be replaced. The hinges and frames would just need re-furbishing.
5. The floor finishes are outdated and need to be replaced.

Storefront Entrances and Windows

In general the storefront system appears overall to be in good to fair condition good working order and appearance (reference PSI curtain wall assessment for conclusions and recommendations). The finishes are in good to fair condition. The storefront doors controls appear to have some wear and need to be refurbished and need to be replaced.

Exterior Walls on the Flight Line side

The exterior walls and doors on the secure side of the flight line have taken some abuse and needs to be prepped and re-painted. The paint on the concrete surfaces appears to be fading or thin in areas and at the lower elevations in some areas the paint is blistering off.

There also appears to be mold on the surface. This assessment only performed a visual inspection. This mold only appeared to be on the surface but an internal testing of the wall would be recommend assuring there is not any internal mold damage to the wall.



There also appears to be mold on the surface. This assessment only performed a visual inspection. This mold only appeared to be on the surface but an internal testing of the wall would be recommend assuring there is not any mold damage to the wall.



Exterior Doors on the Flight Line side

The hollow metal doors, frames and door hardware either need to be replaced or refinished. A number of doors had severe rusting at the joint between the door panel and the frame indicating that the weather-stripping was not working. Most of the doors need to be replaced with new hardware. The door frames could be replaced but the life of them might require them to be replaced in time.



RESTROOMS

Restroom Finishes:

A general walkthrough and assessment of the restrooms through the airport was performed. The interior finishes are in fair condition showing some wear in places. The finishes are outdated and could use an update. The toilet room accessories are in fair condition and could use an update.

Restroom ADA:

The general layouts of all the restrooms need to be re-worked to meet the current ADA requirements.

1. Ticketing Area:

INTERIORS

The interiors finishes of the ticketing area are in sound condition with a few minor areas. The interior finishes are outdated and could use an update.

EXTERIORS

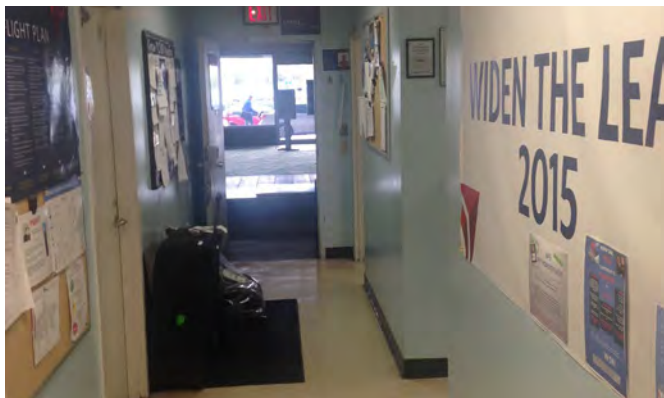
Exterior Passenger Drop-off / Pick-up Waiting Area

The exterior canopies are in fair condition. The painted finish of the canopies needs to be removed and repainted.



Ticketing Backrooms:

The interior finishes in these areas are in fair condition. Some ceilings are missing ceiling panels. The finishes are old and have seen some wear.



Exterior Baggage Make-up Area

The baggage handling areas that are being maintained by their respective airlines are in good condition. The areas that are not used are in fair condition. General maintenance, painting and cleanup would be required to maintain these areas.



2. Atrium Area:

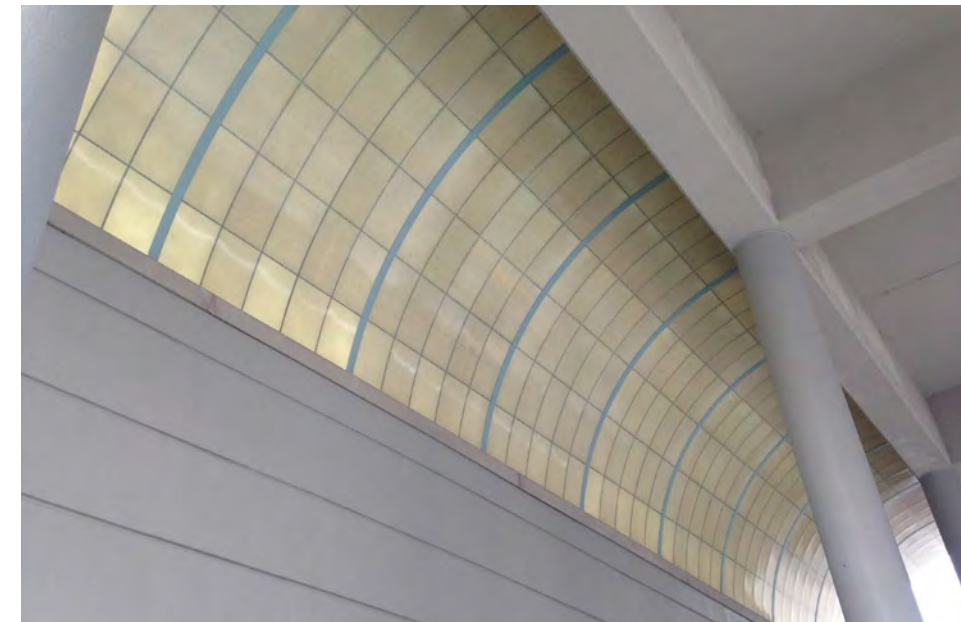
EXTERIORS

Exterior Passenger Drop-off / Pick-up Waiting Area

The exterior canopies are typical throughout the facilities in fair condition. The painted finish of the canopies needs to be removed and repainted.

Exterior Skylights

The exterior canopies are typical throughout the facilities in fair condition.



3. Baggage Claim / Rental Area:

INTERIORS

The skylights in this area are in good condition with no leaks.

Interior Restrooms

The finishes in the restrooms are in fair condition showing some wear over the years. The restrooms do not appear to meet current ADA requirements.

Interior Elevators and Escalators

The escalators and elevators are in good working conditions. There is a roof leak above the escalators in the customs area.



EXTERIORS

Exterior Passenger Drop-off / Pick-up Waiting Area

The exterior canopies are in fair condition. The painted finish of the canopies appearance to need to be refinished.

Exterior Baggage Carousel

There are three baggage carousel; two domestic flights and one international flight. The main baggage carousel is old and needs to be either re-worked and re-finished or replaced.



4. Concourse (Terminal) Area:

INTERIORS

Interior Windows / Storefronts

The storefronts in this area appear to be in fair condition. The mechanical diffusers along the windows need repair and replacement.



EXTERIORS

Exterior Walls & Doors on the Flight Line side

The hollow metal doors and frames at the concourse on the flight line side are in the most need for repair.



Exterior Stairs & Railings on the Flight Line side

The exterior stairs located at the concourse jet ways are in fair condition. The aluminum rails and handrails need to be re-finished. The treads and rises need to be re-finished to prevent further damage.



BRPH Project No. C07071.001.00

CONCOURSE AREA

Date: 3/10/2015

Square Footage: FootPrint:

Taken By: mtb

Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
ARCHITECTURE									
Concourse Area									
INTERIOR									
Departure Lounge									
a) walls	G	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	G	Carpet	unknown	13	-	-	-	-	
e) storefronts	G	Aluminum Storefront	unknown	43	-	-	-	-	Reference PSI Survey
d) check-in counters			unknown	-	-	-	-	-	
- Restrooms									
a) walls	G	Tiled Gypsum Board	unknown	30	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Painted Gypsum Board	unknown	30	-	-	-	-	
d) floors	G	Porcelain Tile	unknown	20	-	-	-	-	
e) toilet partitions	G	Solid Composite	unknown	-	-	-	-	-	
EXTERIOR SPACES									
LOWER CONCOURSE									
- Storefront									
a) Glazing	G		unknown	-	-	-	-	-	Reference PSI Survey
b) Door Frame	G		unknown	-	-	-	-	-	Reference PSI Survey
c) Door Hardware	G		unknown	-	-	-	-	-	
d) Door Controls	G		unknown	-	-	-	-	-	Door Controls are slow to operate
- Canopies									
a) Structure	G	Painted steel	unknown	-	-	-	-	-	
b) Paint	G		unknown	-	-	-	-	-	
c) Roof	G	metal roof panels	unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	
- Exterior Walls									
a) Paint	G		unknown	-	-	-	-	-	
b) Substrate	G		unknown	-	-	-	-	-	
Flight Side (secure)									
- Exterior Walls									
a) walls paint	G		unknown	-	-	-	-	-	
b) walls substrate	G		unknown	-	-	-	-	-	
e) baggage carousel	G		unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	

BRPH Project No. C07071.001.00

ATRIUM AREA

Date: 3/10/2015

Square Footage: FootPrint:

Taken By: mtb

Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
ARCHITECTURE									
ATRIUM AREA									
INTERIOR									
Main public Area									
a) walls	G	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	G	Carpet & tile	unknown	13	-	-	-	-	
e) storefronts	G	Aluminum Storefront	unknown	43	-	-	-	-	Reference PSI Survey
d) skylights	G	Various	unknown	-	-	-	-	-	
- Restrooms									
a) walls	G	Tiled Gypsum Board	unknown	-	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Painted Gypsum Board	unknown	30	-	-	-	-	
d) floors	G	Porcelain Tile	unknown	-	-	-	-	-	
e) toilet partitions	G	Solid Composite	unknown	-	-	-	-	-	
Security									
- Exterior Walls									
a) walls paint	G		unknown	-	-	-	-	-	
b) walls substrate	G		unknown	-	-	-	-	-	
e) baggage carousel	G		unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	
EXTERIOR SPACES									
- Storefront									
a) Glazing	G		unknown	-	-	-	-	-	Reference PSI Survey
b) Door Frame	G		unknown	-	-	-	-	-	Reference PSI Survey
c) Door Hardware	G		unknown	-	-	-	-	-	
d) Door Controls	G		unknown	-	-	-	-	-	Door Controls are slow to operate
- Canopies									
a) Structure	G		unknown	-	-	-	-	-	
b) Paint	G		unknown	-	-	-	-	-	
c) Roof	G		unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	
- Exterior Walls									
a) Paint	G		unknown	-	-	-	-	-	
b) Substrate	G		unknown	-	-	-	-	-	

BRPH Project No.

C07071.001.00

BAGGAGE CLAIM AREA

Date: 3/10/2015

Square Footage: FootPrint:

Taken By: mtb

Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
ARCHITECTURE									
BAGGAGE CLAIM AREA									
INTERIOR									
Main public Area									
a) walls	F	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	F	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	F	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	G	Carpet	unknown	13	-	-	-	-	
e) storefronts	F	Aluminum Storefront	unknown	43	-	-	-	-	Reference PSI Survey
e) baggage carousel	P	Painted steel	unknown	-	-	-	-	-	
- Stairs									
a) treads & risers	F		unknown	30	-	-	-	-	
b) railings	F		unknown	30	-	-	-	-	
- Restrooms									
a) walls	F	Tiled Gypsum Board	unknown	30	-	-	-	-	
b) doors	F	Painted Hollow Metal	unknown	30	-	-	-	-	
c) ceilings	F	Painted Gypsum Board	unknown	30	-	-	-	-	
d) floors	G	Porcelain Tile	unknown	50	-	-	-	-	
e) toilet partitions	F	Solid Composite	unknown	20	-	-	-	-	
Car Rental Area									
a) walls	F	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	F	Painted Hollow Metal	unknown	30	-	-	-	-	
c) ceilings	F	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	F	Carpet	unknown	13	-	-	-	-	
d) customer counter	F		unknown	20	-	-	-	-	
EXTERIOR									
Main public Area									
- Storefront									
a) glazing	G/F	Storefront system	unknown	50	-	-	-	-	Reference PSI Survey
b) door Frame	F	Storefront system	unknown	30	-	-	-	-	Reference PSI Survey
c) door Hardware	F	Storefront system	unknown	20	-	-	-	-	
d) door Controls	P	Storefront system	unknown	20	-	-	-	-	Door Controls are slow to operate
- Canopies									
a) structure	G	Painted steel	unknown	30	-	-	-	-	
b) paint	P		unknown	20	-	-	-	-	
c) roof	F	metal roof panels	unknown	20	-	-	-	-	
- Hollow Metal Doors									
a) door Panel	P		unknown	30	-	-	-	-	
b) door Frame	P		unknown	30	-	-	-	-	
c) door Hardware	P		unknown	20	-	-	-	-	
Flight Side (secure)									
- Exterior Walls									
a) walls paint	P		unknown	20	-	-	-	-	
b) walls substrate	G		unknown	30	-	-	-	-	
e) baggage carousel	P		unknown	20	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	P		unknown	30	-	-	-	-	
b) Door Frame	P		unknown	30	-	-	-	-	
c) Door Hardware	P		unknown	20	-	-	-	-	

BRPH Project No.

C07071.001.00

CONCOURSE AREA

Date: 3/10/2015

Square Footage: FootPrint:

Taken By: mtb

Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
ARCHITECTURE									
Concourse Area									
INTERIOR									
Departure Lounge									
a) walls	F	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	F	Painted Hollow Metal	unknown	30	-	-	-	-	
c) ceilings	F	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	F	Carpet	unknown	13	-	-	-	-	
e) storefronts	F	Aluminum Storefront	unknown	43	-	-	-	-	Reference PSI Survey
d) check-in counters	F		unknown	20	-	-	-	-	
- Restrooms									
a) walls	F	Tiled Gypsum Board	unknown	30	-	-	-	-	
b) doors	F	Painted Hollow Metal	unknown	30	-	-	-	-	
c) ceilings	F	Painted Gypsum Board	unknown	30	-	-	-	-	
d) floors	G	Porcelain Tile	unknown	20	-	-	-	-	
e) toilet partitions	F	Solid Composite	unknown	20	-	-	-	-	
EXTERIOR SPACES									
LOWER CONCOURSE									
- Storefront									
a) Glazing	G/F	Storefront system	unknown	50	-	-	-	-	Reference PSI Survey
b) Door Frame	F	Storefront system	unknown	30	-	-	-	-	Reference PSI Survey
c) Door Hardware	F	Storefront system	unknown	20	-	-	-	-	
d) Door Controls	P	Storefront system	unknown	20	-	-	-	-	Door Controls are slow to operate
- Canopies									
a) Structure	G	Painted steel	unknown	50	-	-	-	-	
b) Paint	P		unknown	20	-	-	-	-	
c) Roof	F	metal roof panels	unknown	20	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	P		unknown	30	-	-	-	-	
b) Door Frame	P		unknown	30	-	-	-	-	
c) Door Hardware	P		unknown	20	-	-	-	-	
- Exterior Walls									
a) Paint	F		unknown	20	-	-	-	-	
b) Substrate	G		unknown	30	-	-	-	-	
Flight Side (secure)									
- Exterior Walls									
a) walls paint	P		unknown	20	-	-	-	-	
b) walls substrate	F		unknown	30	-	-	-	-	
e) baggage carousel	P		unknown	20	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	P		unknown	30	-	-	-	-	
b) Door Frame	P		unknown	30	-	-	-	-	
c) Door Hardware	P		unknown	20	-	-	-	-	

INTRODUCTION

The team was tasked with inspecting and providing an assessment report of the existing mechanical equipment including the Rooftop AC Units (AC), Air Handling Units (AHU), air cooled chillers, chilled water pumps, and Energy Management Systems (EMS) controls. The team also reviewed the condition of the chilled water piping and ductwork within the mechanical rooms to provide a more in depth look at the mechanical systems at the Melbourne International Airport. A visual assessment of the HVAC equipment at the airport took place on February 23 and 24, 2015. Construction drawings were utilized for accuracy and thoroughness of location and type of equipment. The facility was occupied during the duration of the visit, and the outside conditions were cold which prevented the opportunity to view the equipment operating at nearly full capacity. No above ceiling inspections were conducted due to occupancy of the space and difficulty to access the ductwork or terminal devices.

ASSESSMENT

Using the same four (4) main building areas the assessment is further broken down to interior/ exterior and public/ Secure sides of each area.

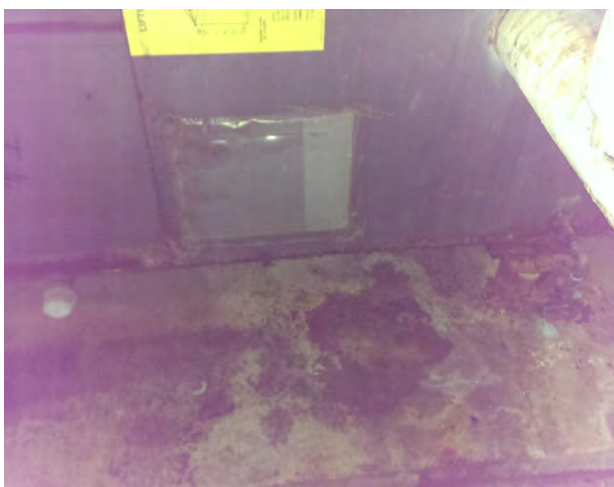
1. Ticketing Area:

HVAC

AHU-1 through AHU-4

AHU-1 through AHU-4 are located on the mezzanine and serves the main ticketing lobby and are single path, chilled water, constant speed air handling units (AHU). They are original equipment from the 1988 construction of the airport. They provide air to the main Ticketing Lobby through linear supply and return air grilles. Electric duct heaters in the supply air ductwork provide heating during the winter months.

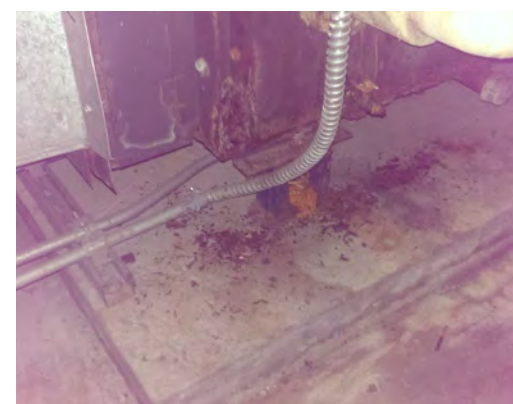
AHU-1 through AHU-4 appear to be in poor condition with large amounts oxidation on the cabinet producing holes leaking air to the mechanical room. The chilled water coils appear to be in poor condition with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by a supply fan and insulated ductwork. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-001 & -002 below.



AHU-25 through AHU-30

AHU-25 through AHU-30 are located on the mezzanine and serves the back of house of the main ticketing lobby where airline offices and break rooms and support services exists. They are small, single path, chilled water, constant speed AHU's. They are original equipment from the 1988 construction of the airport. They provide air to the offices through ductwork to supply and return air grilles. Electric duct heaters in the supply air ductwork provide heating during the winter months.

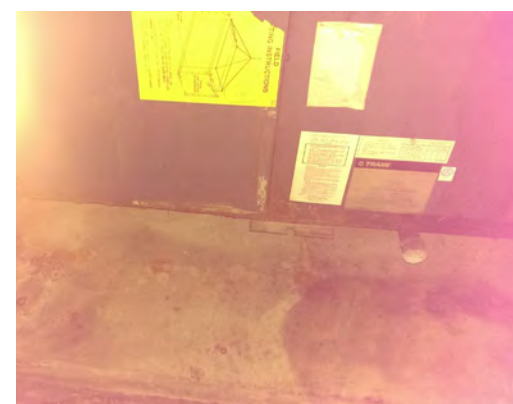
AHU-25 through AHU-30 appear to be in bad shape with large amounts oxidation on the cabinet producing holes leaking air to the mechanical room. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by Class 2 or 3 air since it is first used to ventilate the mezzanine level equipment room. This is a Code violation. OA and RA are filtered by 30% efficient filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-003 & -004 below.



AHU-5

AHU-5 is located on the mezzanine and serves the Restaurant Area and is single path, chilled water, constant speed AHU. It is part of the original equipment from the 1988 construction of the airport. It provides air to the restaurant through linear supply and return air grilles. Electric duct heater in the supply air ductwork provides heating during the winter months.

AHU-5 appears to be in poor condition with large amounts oxidation on the cabinet. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is directly ducted to this unit by insulated ductwork. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-005 & -006 below.



AHU-6

AHU-6 is located on the mezzanine and serves the mezzanine level electric room and is single path, chilled water, constant speed AHU. It is part of the original equipment from the 1988 construction of the airport. It provides air to the electric room through ductwork to supply and return air grilles. No electric heater was provided for this unit.

AHU-6 appears to be in poor condition with large amounts oxidation on the cabinet. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is directly ducted to this unit by insulated ductwork. OA and RA are filtered by 30% efficient filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-007 & -008 below.



AHU-7

AHU-7 is located on the mezzanine and serves the mezzanine level communication room and is single path, chilled water, constant speed AHU. It is part of the original equipment from the 1988 construction of the airport. It provides air to the communication room through ductwork to supply and return air grilles. No electric heater was provided for this unit.

AHU-7 appears to be in poor condition with large amounts oxidation on the cabinet. The chilled water coils appear to be in poor condition with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. No Outside Air (OA) is provided to this unit. RA is filtered by 30% efficient filters. OA is not supplied as required to meet present Code requirements. Refer to pictures M-009 & -010 below.



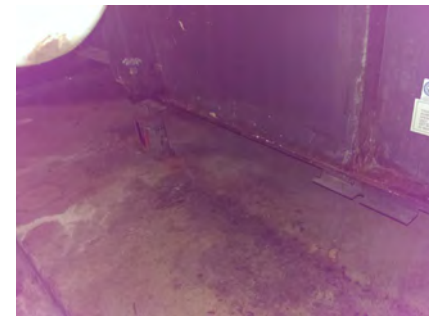
2. Atrium Area:

HVAC

AHU-18 and AHU-19

AHU-18 and AHU-19 are located on mezzanines in front (South side) of the atrium and serve the Atrium Area. They are single path, chilled water, constant speed AHU's. They are original equipment from the 1988 construction of the airport. They provide air to the main Atrium Area through supply air nozzles and linear return air grilles. Electric duct heaters in the supply air ductwork provide heating during the winter months.

AHU-18 and AHU-19 appear to be in poor condition with large amounts oxidation on the cabinet. They are in a little better shape than most, but need to be replaced. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to roof intake hoods. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-011 & -012 below.



AHU-20 and AHU-21

AHU-20 and AHU-21 are located on mezzanines in front of the atrium and serve the Retail Shops directly below them. They are single path, chilled water, constant speed AHU's. They are original equipment from the 1988 construction of the airport. They provide air to the Retail Shops through ductwork to supply air and return air grilles. Electric duct heaters in the supply air ductwork provide heating during the winter months.

AHU-20 and AHU-21 appear to be in poor condition with large amounts oxidation on the cabinet. They are in a little better shape than most, but need to be replaced. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to roof intake hoods. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-013 & -014 below.



3. Baggage Claim / Rental Area:

HVAC
Baggage Claim / Rental Area is served by self-contained, rooftop, direct expansion air conditioning units (ACU) varying in age and condition from brand new and good condition to old and bad condition. Some split system condensing units (CU's) also serve the Baggage Claim / Rental Area. The ACU's and CU's are not identified in the field so they will be assigned numbers in this report for clarity.

ACU-1
ACU-1 is a 5 ton unit above the MAA Offices. It appears to be in average condition at about midlife service life. Code required Outside Air does not appear to be provided (no OA intake hood observed). Refer to pictures M-015 & -016 below.



ACU-2
ACU-2 is a 7-1/2 ton unit above the MAA Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-017 & -018 below.



ACU-3
ACU-3 is a 4 ton unit above the MAA Offices. Records show it is about 4 years old and it appears to be in average condition at about midlife of its 10 year service life. Refer to pictures M-019 & -020 below.



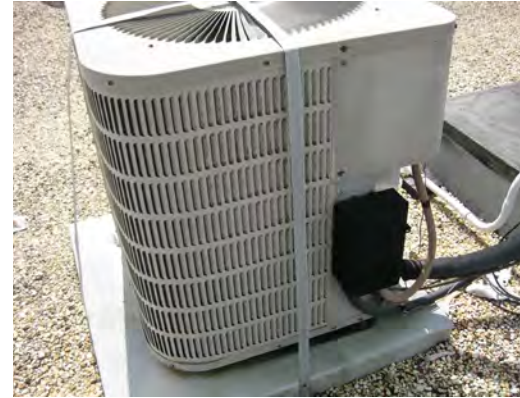
ACU-4
ACU-4 is a 7-1/2 ton unit above the MAA Offices. It appears to be in good condition at the beginning of its 10 year service life. Refer to pictures M-021 & -022 below.



Mechanical

CU-5

CU-5 is a 3 ton split system condensing unit above the MAA Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-023 & -024 below.



CU-6

CU-6 is a 1-1/2 ton split system condensing unit above the MAA Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-025 & -026 below.



ACU-7

ACU-7 is a 10 ton unit above Rental Cars. It appears to be in good condition at the beginning of its 10 year service life. Refer to pictures M-027 & -028 below.



ACU-8

ACU-8 is a 7-1/2 ton unit above Rental Cars. It was installed in 2004 and appears to be in bad condition at the end of its service life. Code required Outside Air does not appear to be provided (no OA intake hood observed). Refer to pictures M-029 & -030 below.



ACU-9

ACU-9 is a 5 ton unit above Rental Cars / Shuttles. It appears to be in poor condition at the end of its service life. Code required Outside Air does not appear to be provided (no OA intake hood observed). Refer to pictures M-031 & -032 below.



ACU-10

ACU-10 is a 20 ton unit outside MAA Offices. It was installed in 2004 and appears to be in poor condition at the end of its service life. Code required Outside Air does not appear to be provided (no OA intake hood observed). Refer to pictures M-033 & -034 below.



ACU-11

ACU-11 is a 12-1/2 ton unit outside MAA Offices. It was installed in 2004 and appears to be in poor condition at the end of its service life. Code required Outside Air does not appear to be provided (no OA intake hood observed). Refer to pictures M-035 & -036 below.



ACU-12

ACU-12 is a 7-1/2 ton unit above the TSA / Polices Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-037 & -038 below.



ACU-13

ACU-13 is a 7-1/2 ton unit above the TSA / Polices Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-039 & -040 below.



CU-14

CU-14 is a 5 ton split system condensing unit above the TSA / Polices Offices. It appears to be in poor condition at about the end of its service life. Refer to pictures M-041 & -042 below.



CU-15

CU-15 is a 2-1/2 ton split system condensing unit above the TSA / Polices Offices. It appears to be in bad condition at about the end of its service life. Refer to pictures M-043 & -044 below.



4. Concourse (Terminal) Area:

HVAC

AHU-8

AHU-8 is located in a mechanical room on 1st floor level of the south end of the Terminal Area, but it serves north end of the Atrium Area. It is single path, chilled water, constant speed AHU and is original equipment from the 1988 construction of the airport. It provides air to the main Atrium Area through linear supply air and return air grilles. Electric duct heater in the supply air ductwork provides heating during the winter months.

AHU-8 appears to be in poor condition with large amounts oxidation on the cabinet producing holes leaking air to the mechanical rom. The chilled water coils appear to be in poor condition with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to an intake louver. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-045 & -046 below.



AHU-9

AHU-9 is located in a mechanical room on 1st floor level of the Terminal Area. It serves corridor leaving Security, the Bar and Restrooms on the second level of the Terminal. It is single path, chilled water, constant speed AHU and is original equipment from the 1988 construction of the airport. It provides air to the second level through linear supply air and return air grilles, but standard supply grilles are used in the Restrooms. Electric duct heater in the supply air ductwork provides heating during the winter months.

AHU-9 appears to be in poor condition with large amounts oxidation on the cabinet producing holes leaking air to the mechanical rom. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to an intake louver. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-047 & -048 below.



AHU-23

AHU-23 shares the mechanical room with AHU-9. It serves equipment rooms on the 1st level of the Terminal. It is single path, chilled water, constant speed AHU and is original equipment from the 1988 construction of the airport. It provides air to the equipment rooms through ductwork to supply air and return air grilles. Electric duct heater in the supply air ductwork provides heating during the winter months.

AHU-23 appears to be in bad shape with large amounts oxidation on the cabinet producing holes leaking air to the mechanical rom. The chilled water coils appear to be in poor condition with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to an intake louver. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-049 & -050 below.



AHU-30

AHU-30 serves Locker Rooms on the 1st level of the Terminal. It is small horizontal, single path, chilled water, constant speed AHU hung from structure above and is original equipment from the 1988 construction of the airport. It provides air to the equipment rooms through ductwork to supply air and return air grilles. Electric duct heater in the supply air ductwork provides heating during the winter months. It is presently not operating and is scheduled for replacement.

AHU-30 appears to be in poor condition with large amounts oxidation on the cabinet producing holes leaking air to the mechanical rom. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to an intake louver. OA and RA are filtered by 30% efficient filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to picture M-051 below.



Terminal Area – AHU-10 through 17

These AHU's are located in their own individual mechanical rooms on 1st floor level of the Terminal Area. They serve the second floor of the Terminal Area. They are single path, chilled water, constant speed AHU's and are original equipment from the 1988 construction of the airport. They provide air to the Terminal Area through linear supply air and return air grilles. Electric duct heaters in the supply air ductwork provide heating during the winter months.

These AHU's appear to be in poor condition with large amounts oxidation on the cabinet producing holes leaking air to the mechanical rom. The chilled water coils appear to be in bad shape with a lot of dirt and debris present. Where the insulation is compromised, the chilled water piping is sweating and piping is deteriorating. Outside Air (OA) is supplied to these units by insulated ductwork to an intake louver. OA and RA are filtered by 30% efficient pre-filters and 85% efficient final filters. It is likely that the amount of OA supplied is insufficient to meet present Code requirements. Refer to pictures M-052 & -053 below.



Central Energy Plant (CEP)

The CEP consists of (2) nominal 200 ton air cooled chillers and (2) constant volume chilled water pumps. One chiller was manufactured in 2009 by York and one chiller was manufactured in 2005 by McQuay. They are in fair condition with the usual signs of wear for their age including oxidation of paint, rusting of the frames, and buildup of algae and mold on the barrels and chilled water piping. The chillers are still operational at this time, and have an expected service life of 15 years in this environment. The York chiller is at midlife while the McQuay chiller 2/3 of the way through its service life. Refer to pictures M-054 thru -057 below.



The chilled water pumps each serve a chiller. Chilled water pump one serves the McQuay chiller, chilled water pump two serves the York chiller. There is no redundant pump should one of the first two pumps fail. Chilled water pumps Bases are rusting. The housing for the impeller and insulation are in fair condition. Chilled water pump one appears to be original equipment that should be replaced. Chilled water pump two's motor has been replaced fairly recently, but its base is in poor condition and should be replaced. Base mounted pumps have an expected service life of 20 years, but these are exposed to weather and should be replaced. The pumps' valves and specialties are in poor condition also. Refer to pictures M-058 thru -061 below.



All of the equipment within the CEP including the chilled water piping, chemical treatment pot, expansion tank, and air separator are in poor condition and should be replaced. The pumps should be replaced in kind but the new pumps should be installed with Variable Frequency Drives (VFD) so that they can be modulated based on the load of the campus and would then be compliant with the current design standards. The pumps and CEP piping should be configured to run in a variable primary arrangement. Refer to pictures M-062 & -063 below.



BMS Controls

Most of the existing HVAC controls in the Ticketing, Atrium and Terminal Areas are original to the 1988 construction. They appear to be analog electric/electronic and are obsolete. The Baggage Claim / Rental Areas have newer controls that are electronic standalone systems. These controls should be replaced based on Direct Digital Control (DDC) System compatible with the equipment being replaced and managed through an up to date Building Management System (BMS). Refer to pictures M-064 thru -066 below.



All new controls, equipment interlocks, and existing chilled water devices should be replaced to provide a completely new and fully integrated system. Replacing pieces of an existing system is likely to create problems with integration and control of the new equipment. We also recommend complete replacement to allow all vendors to bid the new controls work to create a competitive bidding environment.

Ductwork

The Ticketing, Atrium and Terminal Areas are original to the 1988 construction. Ductwork has 30 year expected service life. Where the ductwork could be accessed, it appears to be internally lined and very dirty. It can be assumed that mold issues exist since flooding conditions have happen in the past. All ductwork is approaching the end of its expected service life and should be replaced. Refer to pictures M-067 & M-068 below.



The Baggage Claim / Rental Areas have newer ductwork, but its condition was not observed; however, this ductwork is also approaching the end of its expected service life and should be replaced.

Chilled Water Piping

Chilled Water Piping has 30 year expected service life. It is recommended that the chilled water piping be replaced. As a minimum, replace smaller piping (3" and smaller) that is more susceptible to blockage and perform test on samples of the larger pipe sizes to determine their condition before replacing the larger piping sizes. Refer to pictures M-069 & M-070 below.



BRPH Project No.

TICKETING AREA

Date: Square Footage:

Taken By: Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Mechanical									
HVAC									
AHU-1 through AHU-4	P	single path, chilled water, constant speed air handling units	1988	25	0	4			
AHU-25 through AHU-30	P	small, single path, chilled water, constant speed AHU's	1988	25	0	6			
AHU-5	P	single path, chilled water, constant speed air handling units	1988	25	0	1			
AHU-6	P	single path, chilled water, constant speed air handling units	1988	25	0	1			
AHU-7	P	single path, chilled water, constant speed air handling units	1988	25	0	1			
HVAC controls	P		1988	16	0				
Ductwork	P		1988	30	0				
Chilled Water Piping	P		1988	30	0				

BRPH Project No.

C07071.001.00

ATRIUM AREA

Date: 3/10/2015 Square Footage: FootPrint:

Taken By: mtb Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
ARCHITECTURE									
ATRIUM AREA									
INTERIOR									
Main public Area									
a) walls	G	Painted Gypsum	unknown	30	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Suspended Acoustical Ceilings	unknown	24	-	-	-	-	
d) floors	G	Carpet & tile	unknown	13	-	-	-	-	
e) storefronts	G	Aluminum Storefront	unknown	43	-	-	-	-	Reference PSI Survey
d) skylights	G	Various	unknown	-	-	-	-	-	
- Restrooms									
a) walls	G	Tiled Gypsum Board	unknown	-	-	-	-	-	
b) doors	G	Painted Hollow Metal	unknown	-	-	-	-	-	
c) ceilings	G	Painted Gypsum Board	unknown	30	-	-	-	-	
d) floors	G	Porcelain Tile	unknown	-	-	-	-	-	
e) toilet partitions	G	Solid Composite	unknown	-	-	-	-	-	
Security									
- Exterior Walls									
a) walls paint	G		unknown	-	-	-	-	-	
b) walls substrate	G		unknown	-	-	-	-	-	
e) baggage carousel	G		unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	
EXTERIOR SPACES									
- Storefront									
a) Glazing	G		unknown	-	-	-	-	-	Reference PSI Survey
b) Door Frame	G		unknown	-	-	-	-	-	Reference PSI Survey
c) Door Hardware	G		unknown	-	-	-	-	-	
d) Door Controls	G		unknown	-	-	-	-	-	Door Controls are slow to operate
- Canopies									
a) Structure	G		unknown	-	-	-	-	-	
b) Paint	G		unknown	-	-	-	-	-	
c) Roof	G		unknown	-	-	-	-	-	
- Hollow Metal Doors									
a) Door Panel	G		unknown	-	-	-	-	-	
b) Door Frame	G		unknown	-	-	-	-	-	
c) Door Hardware	G		unknown	-	-	-	-	-	
- Exterior Walls									
a) Paint	G		unknown	-	-	-	-	-	
b) Substrate	G		unknown	-	-	-	-	-	

Mechanical

BRPH Project No.

BAGGAGE CLAIM AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Mechanical									
HVAC									
ACU-1	F	5 ton, self-contained, rooftop, direct expansion air conditioning unit	?	10	5	1			
ACU-2	P	7-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	?	10	0	1			
ACU-3	F	4 ton, self-contained, rooftop, direct expansion air conditioning unit	2011	10	6	1			
ACU-4	G	7-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	2014	10	10	1			
CU-5	P	3 ton split system condensing unit	?	10	0	1			
CU-6	P	1-1/2 ton split system condensing unit	?	10	0	1			
ACU-7	G	10 ton, self-contained, rooftop, direct expansion air conditioning unit	2014	10	10	1			
ACU-8	P	7-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	2004	10	0	1			
ACU-9	P	5 ton, self-contained, rooftop, direct expansion air conditioning unit	2004	10	0	1			
ACU-10	P	20 ton, self-contained, rooftop, direct expansion air conditioning unit	2004	10	0	1			
ACU-11	P	12-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	2004	10	0	1			
ACU-12	P	7-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	2002	10	0	1			
ACU-13	P	7-1/2 ton, self-contained, rooftop, direct expansion air conditioning unit	2002	10	0	1			
CU-14	P	5 ton split system condensing unit	?	10	0	1			
CU-15	P	2-1/2 ton split system condensing unit	?	10	0	1			
HVAC controls	P		?	16	0				
Ductwork	P		?	30	?				

BRPH Project No.

CONCOURSE AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Mechanical									
HVAC									
AHU-8	P	single path, chilled water, constant speed AHU	1988	25	0	1			
AHU-9	P	single path, chilled water, constant speed AHU	1988	25	0	1			
AHU-23	P	single path, chilled water, constant speed AHU	1988	25	0	1			
AHU-30	P	single path, chilled water, constant speed AHU	1988	25	0	1			
AHU-10 thru 17	P	single path, chilled water, constant speed AHU	1988	25	0	8			
York chiller	F	nominal 200 ton air cooled chiller	2009	15	9	1			
McQuay chiller	F	nominal 200 ton air cooled chiller	2005	15	5	1			
CHW pumps	P	end suction pump	?	20	0	2			
chilled water valves & piping	P		1988	20	0				
chemical treatment pot	P		1988	20	0				
expansion tank	P		1988	20	0				
air separator	P		1988	20	0				
HVAC controls	P		1988	16	0				
Ductwork	P		1988	30	0				
Chilled Water Piping	P		1988	30	0				

INTRODUCTION

The team was tasked with inspecting and providing an assessment report of the existing plumbing and fire protection systems including the domestic hot and cold water systems, plumbing fixture conditions and equipment. The team also reviewed the condition of the fire protection piping and equipment at the Melbourne International Airport. A visual assessment of the equipment at the airport took place on April 1, 2015. The facility was occupied during the duration of the visit, and no above ceiling inspections were conducted due to occupancy of the space.

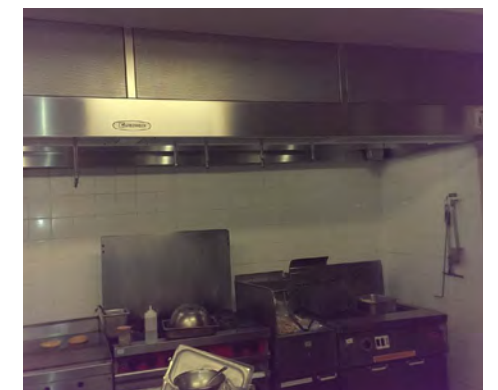
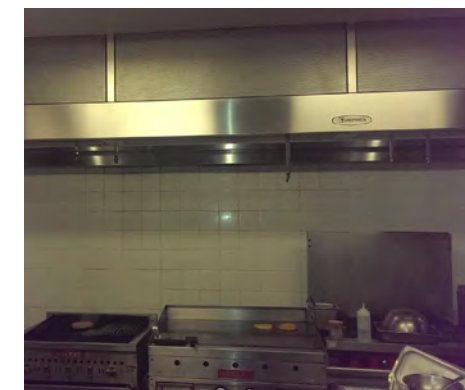
ASSESSMENT

1. Ticketing Area:

PLUMBING

Domestic Cold Water

Domestic cold water system serving the Ticketing Area includes cold water being supplied to break room sinks, kitchen and bar equipment, restroom fixtures and outside wall hydrants. The piping dates back to the original 1988 construction and should be approaching the end of its expected service life. Break room sinks appear to be in fair condition. Kitchen, restaurant and bar equipment appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Plumbing

Domestic Hot Water

Domestic hot water system serving the Ticking Area includes hot water is being supplied to break room sinks, kitchen equipment, restaurant, bar and restroom fixtures. The piping dates back to the original 1988 construction and should be approaching the end of its expected service life. The natural gas fired water heater appears to be in good condition. Break room sinks appear to be in fair condition. Kitchen, restaurant and bar equipment appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Urinals & Water Closets

Urinals and Water Closets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Lavatories / Sinks

Lavatories and Sinks were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Faucets

Faucets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

Electrical Water Coolers (EWC)

EWC's were replaced in 2000 and are approaching the end of their expected service life and should be replaced.



FIRE PROTECTION

Design Occupancy

Most of this facility falls under the Light Hazard Occupancy. The Kitchen is sprinkled and falls under the Ordinary Hazard (Group 1) Occupancy classification. The Ticketing Lobby, Back of House Offices and Equipment Areas, Restrooms, Restaurant and Bar Area are not sprinkled at this time.

Design Density

Light Hazard: 0.10 GPM/SQ. FT.
 Ordinary Hazard (Group 1): 0.15 GPM/SQ. FT.

Wet / Dry System

The existing system is a wet system consisting of 8" water supply with backflow preventer, diesel engine driven fire pump, controls and distribution piping to Kitchen sprinkler heads and fire hose cabinets. As of the date of our inspection, the fire pump was last tested 3/27/2015. The existing fire protection piping mains that are running exposed within first level of the Terminal Area are in bad condition needing to be replaced. Much of the existing piping is not accessible for inspection, but it is approaching the end of its expected service life and replacement should be considered. Sprinkler heads should be replaced also. The fire pump is old and should be replaced and relocated to a suitably size equipment room.



Dry Chemical Suppression

The existing kitchen exhaust hood has its own dry chemical fire suppression system that appears to be in fair condition.



Controls

The fire alarm controls dates back to the original 1988 construction and should be approaching the end of its expected service life. Fire alarm controls should be updated and consolidated between the various dates of construction within the facility.



2. Atrium Area:

PLUMBING

Domestic Cold Water

Domestic cold water system serving the Atrium Area is limited to cold water being supplied to electric water cooler and outside wall hydrants. The piping dates back to the original 1988 construction and should be approaching the end of its expected service life.

Electric Water Coolers (EWC)

EWC's were replaced in 2000 and are approaching the end of their expected service life and should be replaced.

FIRE PROTECTION

Design Occupancy

The Atrium Area falls under the Light Hazard Occupancy, but it is currently un-sprinkled.

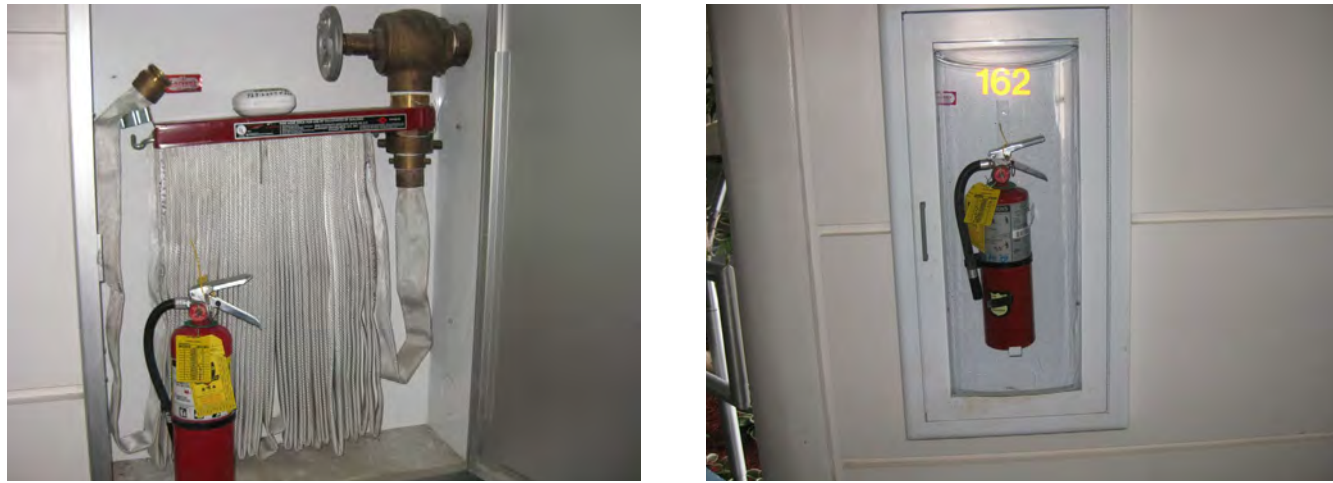
Design Density

Light Hazard: 0.10 GPM/SQ. FT.

Plumbing

Wet / Dry System

The system consists of distribution piping to fire hose cabinets. Much of the existing piping is not accessible for inspection, but it is approaching the end of its expected service life. Fire extinguisher cabinets are also provided.



Controls

The fire alarm controls dates back to the original 1988 construction and should be approaching the end of its expected service life. Fire alarm controls should be updated and consolidated between the various dates of construction within the facility.

3. Baggage Claim / Rental Area:

PLUMBING

Domestic Cold Water

Domestic cold water system serving the Baggage Claim / Rental Area includes cold water being supplied to break room sinks, restroom fixtures and outside wall hydrants. Break room sinks appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

Domestic Hot Water

Domestic hot water system serving the Baggage Claim / Rental Area includes hot water is being supplied to break room sinks and restroom fixtures by electric point of use water heaters that appear to be in good condition. Breakroom sinks appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Urinals & Water Closets

Urinals and Water Closets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Lavatories / Sinks

Lavatories and Sinks were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Faucets

Faucets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

Electric Water Coolers (EWC)

EWC's were replaced in 2000 and are approaching the end of their expected service life and should be replaced.



FIRE PROTECTION

Design Occupancy

The Baggage Claim / Rental Area falls under the Light Hazard Occupancy, but it is currently un-sprinkled.

Design Density

Light Hazard: 0.10 GPM/SQ. FT.

Wet / Dry System

The system consists of distribution piping to fire hose cabinets. Much of the existing piping is not accessible for inspection, but it is approaching the end of its expected service life. Fire extinguisher cabinets are also provided.



Controls

The fire alarm controls dates back to the original 1988 construction and should be approaching the end of its expected service life. Fire alarm controls should be updated and consolidated between the various dates of construction within the facility.

4. Concourse (Terminal) Area:

PLUMBING

Domestic Cold Water

Domestic cold water system serving the Terminal Area includes cold water being supplied to break room sinks, restroom fixtures and outside wall hydrants. The piping dates back to the original 1988 construction and should be approaching the end of its expected service life. Break room sinks appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

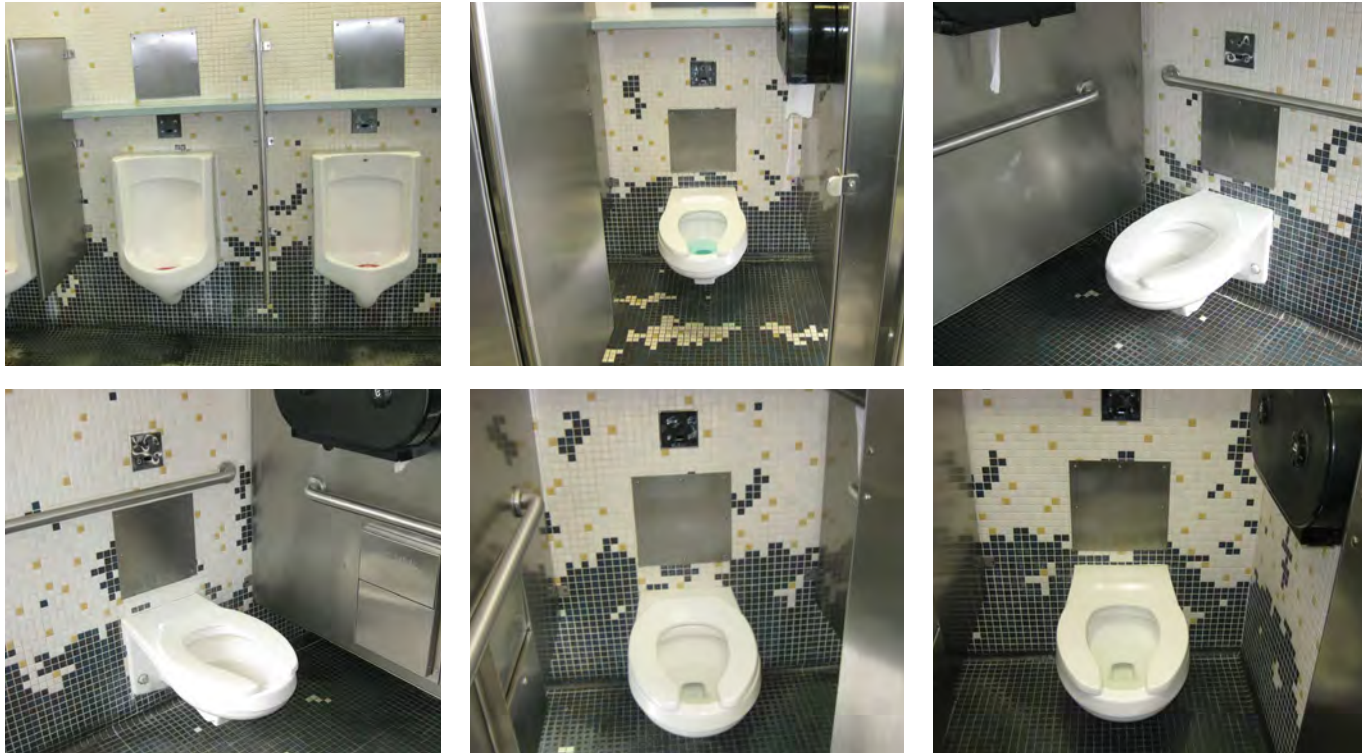
Domestic Hot Water

Domestic hot water system serving the Terminal Area includes hot water is being supplied to break room sinks and restroom fixtures by electric point of use water heaters that appear to be in good condition. The piping dates back to the original 1988 construction and should be approaching the end of its expected service life. The electric water heater serving first level appears to be in good condition. Break room sinks appear to be in fair condition. Restroom fixtures were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

Plumbing

Urinals & Water Closets

Urinals and Water Closets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Lavatories / Sinks

Lavatories and Sinks were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.



Faucets

Faucets were replaced in 2000 and appear to be in fair condition, but significant water conservation improvements have been achieved since then. Replacement of these fixtures should be considered.

Electric Water Coolers (EWC)

EWC's were replaced in 2000 and are approaching the end of their expected service life and should be replaced.

FIRE PROTECTION

Design Occupancy

Most of this facility falls under the Light Hazard Occupancy. The Kitchen falls under the Ordinary Hazard (Group 1) Occupancy classification.

Design Density

Light Hazard: 0.10 GPM/SQFT

Ordinary Hazard (Group 1): 0.15 GPM/SQFT

Wet / Dry System

The existing system is a wet system consisting of 8" water supply with backflow preventer, diesel engine driven fire pump, controls and distribution piping to sprinkler heads and fire hose cabinets. Sprinklers serve the second floor Terminal and Bar Areas. As of the date of our inspection, the fire pump was last tested 3/27/2015. The existing fire protection piping mains that are running exposed within first level of the Terminal Area are in bad condition needing to be replaced. Much of the existing piping is not accessible for inspection, but it is approaching the end of its expected service life and replacement should be considered. Sprinkler heads should be replaced also. The fire pump is old and should be replaced and relocated to a suitably size equipment room. (pictures on the adjacent page).

Controls

The fire alarm controls dates back to the original 1988 construction and should be approaching the end of its expected service life. Fire alarm controls should be updated and consolidated between the various dates of construction within the facility.



BRPH Project No.

TICKETING AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Plumbing									
Domestic Cold Water	F	Piping	1988	30	3				
Domestic Hot Water	F	Piping	1988	30	3				
Water Heater	G	Rheem-Ruud	?	15	?				
Break Room Sinks	F		1989	20	0				
Kitchen Equipment	F		1988	30	3				
Restaurant Equipment	F		1988	30	3				
Bar Equipment	F		1988	30	3				
Urinals and Water Closets	F		2000	20	5				
Lavatories/Sinks	F		2000	20	5				
Faucets	F		2000	20	5				
Electric Water Coolers	F		2000	15	0				
Fire Protection									
Wet/Dry System	F	Kitchen Wet Sprinkler System	1988	30	3				
Wet/Dry System	F	Ticketing Wet Fire Hose System	1988	30	3				
Dry Chemical Suppression	F	Kitchen Hood	1988	30	3				
Controls	F		1988	20	0				

BRPH Project No.

ATRIUM AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Plumbing									
Domestic Cold Water	F	Piping	1988	30	3				
Electric Water Coolers	F		2000	15	0				
Fire Protection									
Wet/Dry System	F	Atrium Wet Fire Hose System	1988	30	3				
Controls	F		1988	20	0				

BRPH Project No.

BAGGAGE CLAIM AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Plumbing									
Domestic Cold Water	F	Piping	1988	30	3				
Domestic Hot Water	F	Piping	1988	30	3				
Urinals and Water Closets	F		2000	20	5				
Lavatories/Sinks	F		2000	20	5				
Faucets	F		2000	20	5				
Electric Water Coolers	F		2000	15	0				
Fire Protection									
Wet/Dry System	F	Baggage Claim Wet Fire Hose System	1988	30	3				
Controls	F		1988	20	0				

BRPH Project No.

CONCOURSE AREA

Date:

Square Footage:

Taken By:

Year Built:

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor NA - Not Applicable								
Plumbing									
Domestic Cold Water	F	Piping	1988	30	3				
Domestic Hot Water	F	Piping	1988	30	3				
Urinals and Water Closets	F		2000	20	5				
Lavatories/Sinks	F		2000	20	5				
Faucets	F		2000	20	5				
Electric Water Coolers	F		2000	15	0				
Fire Protection									
Wet/Dry System	P	Piping Exposed Under 2nd Level	1988	30	3				
Wet/Dry System	F	Terminal Wet Sprinkler System	1988	30	3				
Wet/Dry System	F	Terminal Wet Fire Hose System	1988	30	3				
Fire Pump Room	F	Fire Pump System	1988	30	3				
Controls	F		1988	20	0				



INTRODUCTION

Visual assessments of the existing electrical and communications systems at Melbourne Airport Terminal were conducted on February 18th, February 25th, and March 5, 2015. As-Built documents were utilized on a limited basis to assist with comprehension of the existing facility conditions.

ASSESSMENT

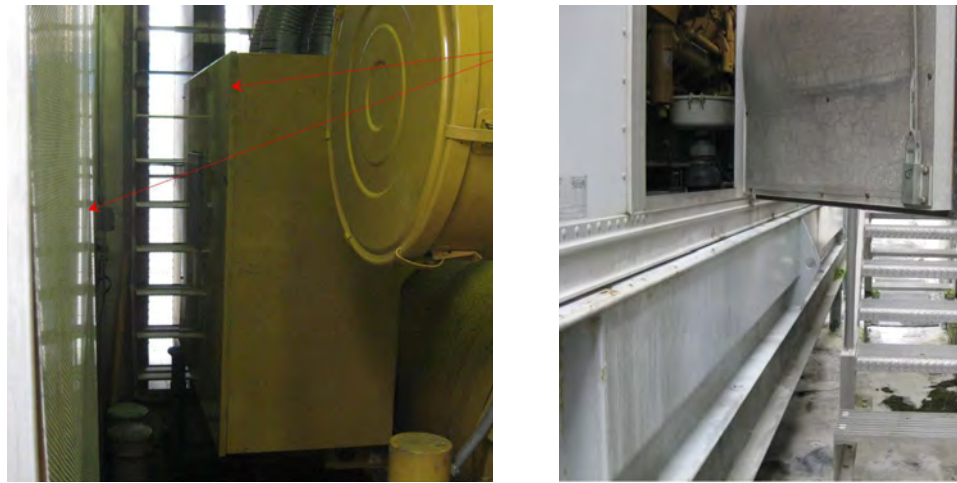
Power

The airport terminal receives utility power from an existing underground primary voltage feeder which powers an existing FP&L above grade transformer bank located inside a vault in the main building. 480Y/277V, three phase, four wire power is taken from the secondary of the transformer vault to a switchboard located in the main electrical room on the second floor of the facility, almost directly above the vault and adjacent to the large mechanical mezzanine located above the restaurant and ticketing areas of the main terminal. The switchboard is rated at 4000 Amps and provides power distribution to all other parts of the airport terminal.



Backup power is provided by an existing 1,250 kW, 480Y/277V, three phase, four wire, enclosed diesel generator located on a platform at the mezzanine level outside of the main building near the main electrical room. The generator is connected to the main switchboard via bus duct and a 4000A/3P circuit breaker (normally open) which is controlled by a Programmable Logic Controller (PLC). The circuit breaker, PLC, and associated controls and indicating lamps are all included as an integral part of the main switchboard assembly. The 4,000 amp circuit breaker appears to be over sized for this application. With a generator full load rating of approximately 1,880 amps (at 80% power factor), the maximum expected breaker at the switchboard should be 2,500 amps.

The generator appears to be in good condition but there are several code violations and/or areas of concern. Access to the generator, working clearances within the generator enclosure, and egress paths from the generator are all insufficient (photos on adjacent page). The working clearance in front of the generator main circuit breaker is approximately 16", which is well short of the requirements of National Electrical Code (NEC) Article 110. An enclosure door has been provided to alleviate this issue, but the door opening is suspended above the nearest walkway at a height which does not allow safe egress. The enclosure door openings on the north side of the generator are suspended above finished grade, approximately 10 to 12 feet below, and cannot be safely utilized without the use of a portable ladder or lift. Enclosure louvers, which are designed to remain closed until the generator starts, appear to be open at all times. The generator batteries are not ventilated and are in direct contact with the enclosure floor, which may be cause for concern. Additionally, the generator remote annunciator is located near the generator and main switchboard, which does not allow facility personnel to observe generator status from a remote location.



The main electrical switchboard appears to be in very good overall condition but a detailed assessment, including infrared scanning, is recommended. It should be noted that the switchboard manufacturer has expressed concern that replacement circuit breakers for this switchboard are no longer manufactured, which could lead to excessive down time and expense if an existing circuit breaker fails.

Power is distributed throughout the facility from the main switchboard through a system of feeders, transformers, switchboards, and panelboards. Most of these components appear to be in fair to good condition, with some exceptions as noted throughout this report.

Underground and in-floor raceways show signs of water intrusion. Testing of associated conductors is highly recommended.

In atrium areas, there are no concealed spaces such as chases or areas above ceiling for installing new electrical conduits. In particular, the TSA check point area lacks provisions for installing additional electrical circuits without using surface raceways. Additionally, the facility lacks electrical capacity to add needed power in the TSA area.

Lightning Protection

The existing lightning protection appears to be in good overall condition. However, the lightning protection system may have to be replaced and/or re-certified if extensive roof modifications are made. There are a few instances where roof top air conditioning units have been added or replaced and have not been bonded to the lightning protection system as required by NFPA 780. It is recommended that the grounding system around the building be tested to ensure proper ground continuity.



1. Ticketing Area:

LIGHTING

Lighting in the main ticketing areas is accomplished through the use of 400 watt cylindrical down lights. These fixtures are in fair to good condition but overall lighting levels appear to be low and light distribution is poor. These fixtures should be replaced with more efficient fixtures for improved performance, energy savings, and appearance. Additionally, older fixtures recessed in the ceiling which were previously abandoned should be removed completely.

Lighting at the ticket counters and baggage conveyors consists of continuous row linear fluorescent fixtures installed above a perforated ceiling diffuser system. Light levels are adequate but power density is likely higher than necessary.

Lighting in ticketing office and interior utility spaces primarily consists of 2' x 4' lay-in or other types of fluorescent fixtures. These fixtures are typically in good shape and light levels appear to be adequate but power density is likely high and likely exceeds current code allowable levels.

Exterior Lighting

Exterior lighting in loading areas behind the ticketing facilities consists of 8' linear fluorescent wraparound fixtures which are in extremely poor condition. Many of these fixtures do not work and most of them are dirty and are showing signs of rust and/or corrosion. These fixtures are not suitable for use in exterior locations and are very inefficient.

With the exception of the main public areas, lighting throughout the ticketing facilities appear to be controlled by wall switches without the use of occupancy sensors, vacancy sensors, timers, or other controls as required by applicable energy codes.

PANELBOARDS, ELECTRICAL EQUIPMENT, & DEVICES

Panelboards, electrical equipment, and devices such as receptacles (and associated faceplates) within the interior of these areas appear to be in good condition. Conduits serving these areas have been run throughout the mezzanine and above ceilings wherever possible. These conduits are accessible and also appear to be in good condition. Some interior panelboards are located within rooms also used for storage and access to these panels has been temporarily obstructed. Also, facility personnel have expressed concern that some panelboards may lack spare capacity to add future circuits, if required.



Exterior panelboards and equipment located in loading areas behind the ticketing offices are in poor condition. These panelboards are outdated, are rated for indoor use only (NEMA 1), and are showing signs of excessive rust and corrosion. Replace-

ment is recommended. Many outdoor receptacles in these areas are not weatherproof and/or GFCI type and should also be replaced.

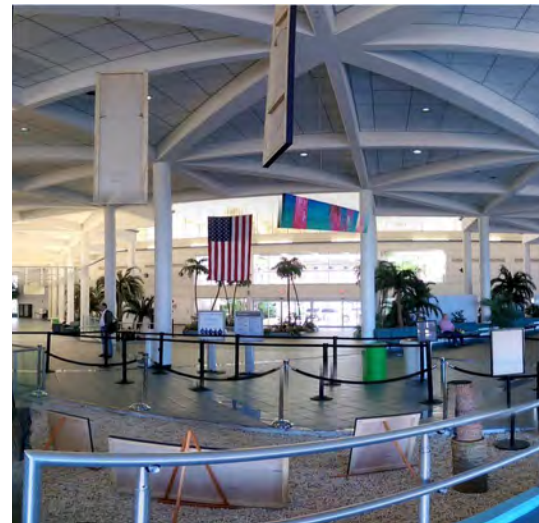


There are multiple instances where electrical disconnect switches for equipment (such as conveyors and fans) are installed in unacceptable locations with inadequate access and working clearance. Additionally, some conveyor motors and other electrical items are installed in locations which do not allow easy access for inspection, replacement, or repair.

2. Atrium

LIGHTING

Lighting in the atrium portion of the main terminal, including lounge and restaurant areas, primarily consists of linear suspended fluorescent lighting used in conjunction with round recessed mercury vapor downlights. The linear fixtures are direct/indirect fixtures, with the majority of light being directed upward toward the ceiling. The fixtures are suspended at approximately 12' above finished floor which is too high to receive significant down lighting contribution from the direct component of the fixture, which is diffused through a parabolic lens. The fixtures are too far (approximately 10 to 12 feet) below the ceiling to work effectively as indirect lighting. The result is very inefficient with low lighting levels and poor light distribution throughout the atrium areas.



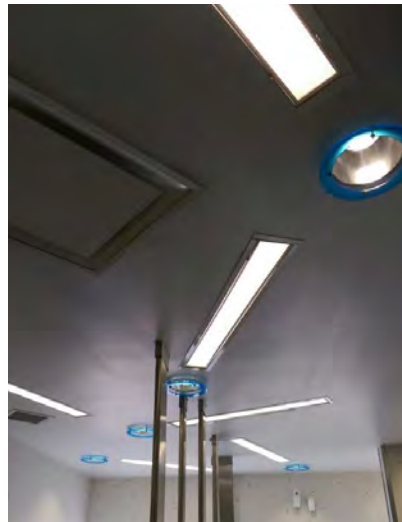
Accent Lighting

Accent lighting is provided through the use of linear fluorescent indirect lighting fixtures installed in continuous rows high around the perimeter of the atrium. These lights do not appear to be efficient or effective and are difficult to maintain and service.

Additional accent lighting has been provided within planters to highlight landscaping features. These lights appear to be in good condition.

Restroom Lighting

Restroom lighting power densities appear to greatly exceed levels allowed by current applicable codes and standards.



Main Area Lighting

In the main public areas, lighting throughout the atrium appears to be controlled by timers in conjunction with lighting contactors. These controls may need to be replaced or re-programmed since designated night lights appear to be on during daytime hours.

Non-Public Area Lighting

Lighting in non-public areas, such as the kitchen, offices, utility and storage rooms, appear to be controlled by wall switches without the use of occupancy sensors, vacancy sensors, timers, or other controls as required by applicable current energy codes.

3. Baggage Claim / Rental Area:

LIGHTING

Baggage/ Vehicle Rental/MAA Offices/Police Department

Lighting in these spaces primarily consists of 2' x 4' lay-in or other types of fluorescent fixtures. These fixtures are typically in good shape and light levels appear to be adequate but power density is likely high and likely exceeds allowable levels.

Main Area Lighting

In the main public areas, lighting appears to be controlled by timers in conjunction with lighting contactors.

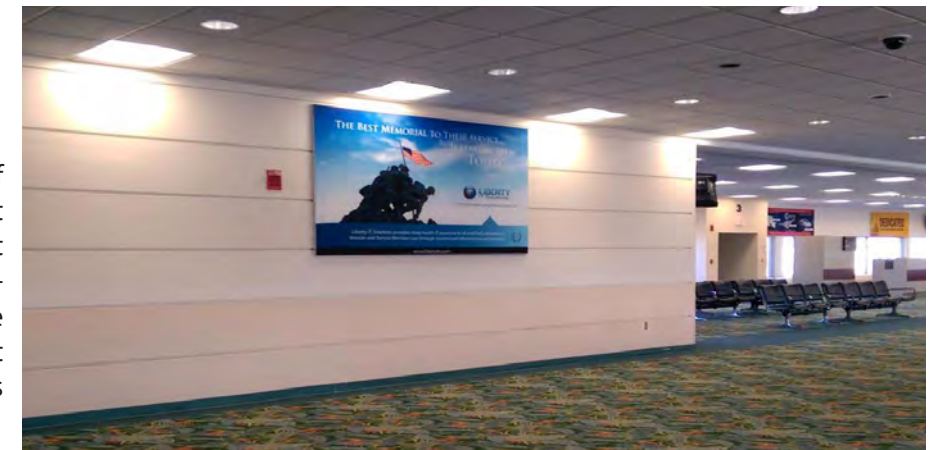
Non-Public Area Lighting

Lighting in non-public areas, such as rental counters, offices, utility rooms, and storage rooms, appear to be controlled by wall switches without the use of occupancy sensors, vacancy sensors, timers, or other controls as required by current applicable energy codes.

4. Concourse

LIGHTING

Lighting in the concourse primarily consists of 42 watt round recessed compact fluorescent down lights in main areas with 2' x 2' compact fluorescent indirect lay-in fixtures in waiting areas. These fixtures are typically in good shape and light levels appear to be adequate but power density is likely high and likely exceeds current code allowable levels.



Track Lighting

Track lighting is installed at the ramp leading up to the concourse near the TSA checkpoint. These lights are in fair to good condition but provide very low light levels considering the amount of fixtures in use.

Specialty Lighting

Specialty lighting has been provided for the arched ceiling feature in the center of the concourse waiting area, consisting of linear fluorescent cove lighting around the perimeter of the feature and decorative linear pendant fixtures along the center. This lighting appears to be in very good condition but illumination on the ceiling is unevenly distributed.

Exterior Lighting

Lighting in the exterior area directly below the concourse consists of 1' x 4' vapor tight fluorescent wall mounted fixtures which appear to be in good condition. Due to fixture quantities and locations, overall light levels are likely to be low and light distribution is expected to be poor in this area. These lights do not have any controls and are on continuously. Photocell controls were originally provided for this area but these controls have been bypassed.

Restroom Lighting

Restroom lighting power densities appear to greatly exceed levels allowed by applicable codes and standards. In the main public areas, lighting throughout the concourse appears to be controlled by timers in conjunction with lighting contactors.

Miscellaneous Lighting

Lighting in areas such as utility rooms, storage rooms, and restrooms appear to be controlled by wall switches without the use of occupancy sensors, vacancy sensors, timers, or other controls as required by current applicable energy codes.

Mezzanine and Utility Spaces

Lighting in the mezzanine and in other mechanical rooms, electrical rooms, shops, storage rooms and offices consists of a variety of fluorescent fixtures which typically appear to be in good condition. Power densities in these types of spaces may exceed current allowable levels.

Lighting in such areas appear to be typically controlled by wall switches without the use of occupancy sensors, vacancy sensors, timers, or other controls as required by applicable energy codes.

Exit and Egress Lighting

It was reported by the facility maintenance staff that emergency egress lighting is accomplished through the use of integral battery packs in selected lighting fixtures. Additionally, lit exit signs are provided throughout the facility. Several different types of exit signs are in use, and some are in poor condition.

It is strongly recommended that testing and an evaluation be performed to determine whether egress lighting levels are sufficient and whether exit paths are properly identified and illuminated as required per the Florida Building Code.



PANELBOARDS, ELECTRICAL EQUIPMENT, & DEVICES

Electrical equipment and devices such as receptacles (and associated faceplates) within the interior of the concourse appear to be in good condition. Panelboards serving the concourse and support areas (maintenance shops, etc.) are fed from an existing 480Y/277V switchboard ('MDP-C') and have mostly been installed in electrical and mechanical rooms located below the concourse. Panelboards in the concourse main electrical room appear to be in good condition but others are outdated and are showing signs of excessive rust and corrosion. Some of these panelboards are located within rooms also used for storage and access to these panels has been obstructed.



The majority of feeder and branch circuit conduits serving the concourse and support areas are installed in an overhead conduit rack system run beneath the concourse in areas exposed to the outdoor elements. These conduits are primarily EMT (Electrical Metallic Tubing) type with set screw couplings, which are not suitable for use in outdoor environments. These conduits are in very poor condition, with excessive rust and corrosion showing in many places. Some conduits have been completely compromised, and associated conductors are no longer protected. Extensive replacement is recommended.



Outdoor receptacles located underneath the concourse and on the concourse exterior appear to be GFCI type, weatherproof, and in good condition. Any exceptions should be replaced.

There are several instances where outdoor electrical equipment is showing signs of excessive rust and corrosion. Such items should be replaced.

5. Building Exterior & Site Lighting

LIGHTING

The existing canopy lighting is comprised of 4' linear vapor tight fluorescent fixtures surface mounted overhead approximately 12' on center. These fixtures are in fair to good condition and it is reported that they are functioning properly and that illumination levels are adequate.

Parking lot is comprised of an assortment of different types of sodium vapor and LED fixtures pole mounted at approximately 35 to 40 feet above grade. The sodium vapor fixtures are typically in poor condition and it has been reported that lighting levels throughout the parking areas are inadequate and light distribution is poor. The facility staff mentioned that several sodium vapor fixtures have fallen, which presents a serious safety concern. Replacements for these fixtures are LED type, which do not match in appearance and do not deliver light in the same color temperature range as the remaining sodium vapor fixtures. This results in a lighting system that is disjointed and very inefficient.

Roadway lighting is comprised of pole mounted HID fixtures which appear to be in fair condition.

Exterior signs in parking and roadway areas are typically illuminated using PAR 38 spotlight fixtures mounted on short concrete bollard type stanchions. These fixtures are in poor condition.

Parking lot, roadway, and exterior signage lights are fed from a variety of unmetered power sources and it is reported that the facility pays a surcharge at a fixed rate for the use of these fixtures. It is unknown as to whether the fixtures are controlled simultaneously, but it is likely that fixtures are controlled by multiple photocells and turn on and off at slightly different times.

Electrical

It is recommended that parking lot lighting be replaced and that a single consolidated power source and set of controls be furnished for these.

It should be noted that existing wiring associated with an abandoned rental car parking gate (no longer in use) should be removed.

Exterior lighting along the front facade of the main terminal is comprised of 175 watt metal halide down lights surface mounted underneath the high soffits. Lighting levels are reported to be adequate, but these fixtures are in poor to fair condition, are difficult to maintain, and are inefficient compared to available alternatives.

Lighting fixtures installed in low soffits near main entry points include round parabolic spotlights and square metal halide area lights. The fixtures are in good condition and light levels are adequate, but uniformity of lighting and aesthetics should be addressed.

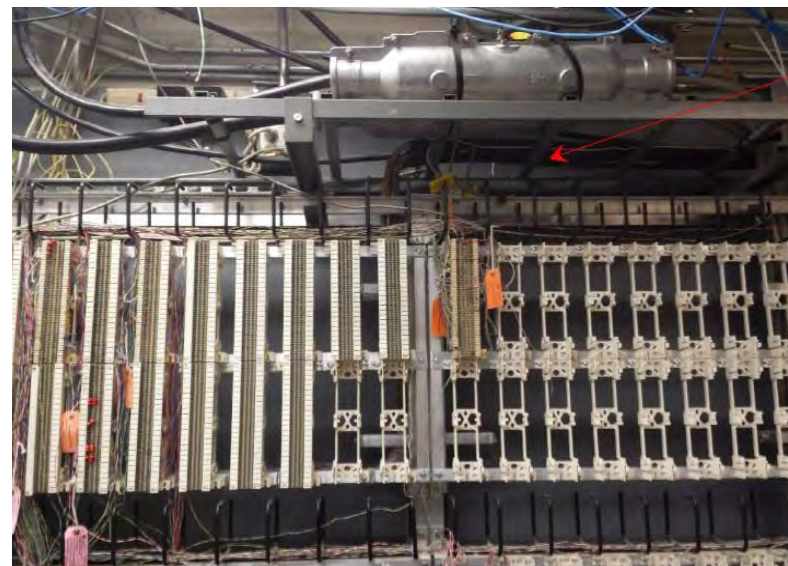
Additional accent lighting has been provided within exterior planters to highlight landscaping features. These lights appear to be in fair condition.

Ramp lighting and poles appear to be in fair condition, but associated high-mast, lower mechanisms are corroded and need to be replaced. Entry conduits at bases of ramp lighting poles have been filled with grout which prevents needed replacement of faulty branch circuit conductors.

6. Overall Telecommunications Systems

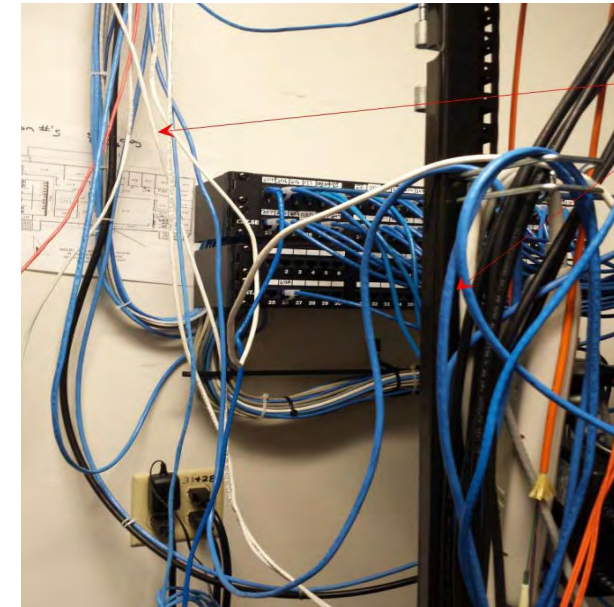
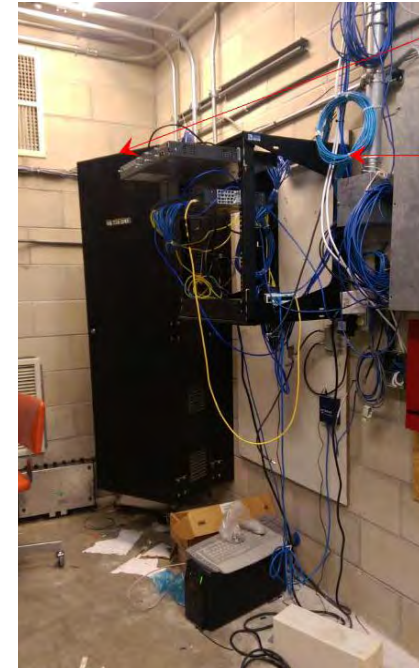
General

Existing telecommunications infrastructure needs significant upgrades to be in-line with current codes, standards, and recognized practices. There are multiple generations of cabling and connecting hardware that should be removed, replaced, and/or upgraded as recommended in this report. Such upgrades will provide improved performance, greater ease of maintenance, and added flexibility for future expansion and technology upgrades that will ultimately be required for this facility.



Telecommunications rooms

Equipment and cabling within existing communications rooms needs to be re-configured to meet NEC and BICSI codes and standards, respectively. It is recommended that all communications rooms be utilized exclusively for communications purposes. Each room should be provided with physical security and dedicated, separate HVAC. Central or distributed UPS system is recommended to serve all necessary active network hardware.



Telecommunications user infrastructure

It is recommended that all tenants have segregated network infrastructure. It is recommended that there should be redundant backbone feeds serving all telecommunications spaces.

Existing wireless Local Area Network (LAN) should be surveyed and brought up to current standards (IEEE 802.11n or 802.11ag) and be built to allow for future expansion as needed.

Recommend adding locations of "Internet laptop lanes" and "internet charging stations" to be in-line with what is provided in many other airports.

Airline ticketing network infrastructure is beyond life cycle and should be upgraded to meet current ANSI/TIA standards recommendations.

Customs network requirements should be evaluated and upgraded as be needed.

Separate ISP's (Internet Service Providers) are recommended with separate entrances into the building to mitigate downtime and add redundancy.

Telecommunications Grounding System

Telecomm grounding system needs to be upgraded to meet ANSI/TIA-607. A TBB (telecommunications bonding backbone) needs to be established and connected to every communications room and cabinet via new, two lug type, TGB's (telecommunications ground busses) located at each room and cabinet per BICSI standards. This will equalize electrical potentials between

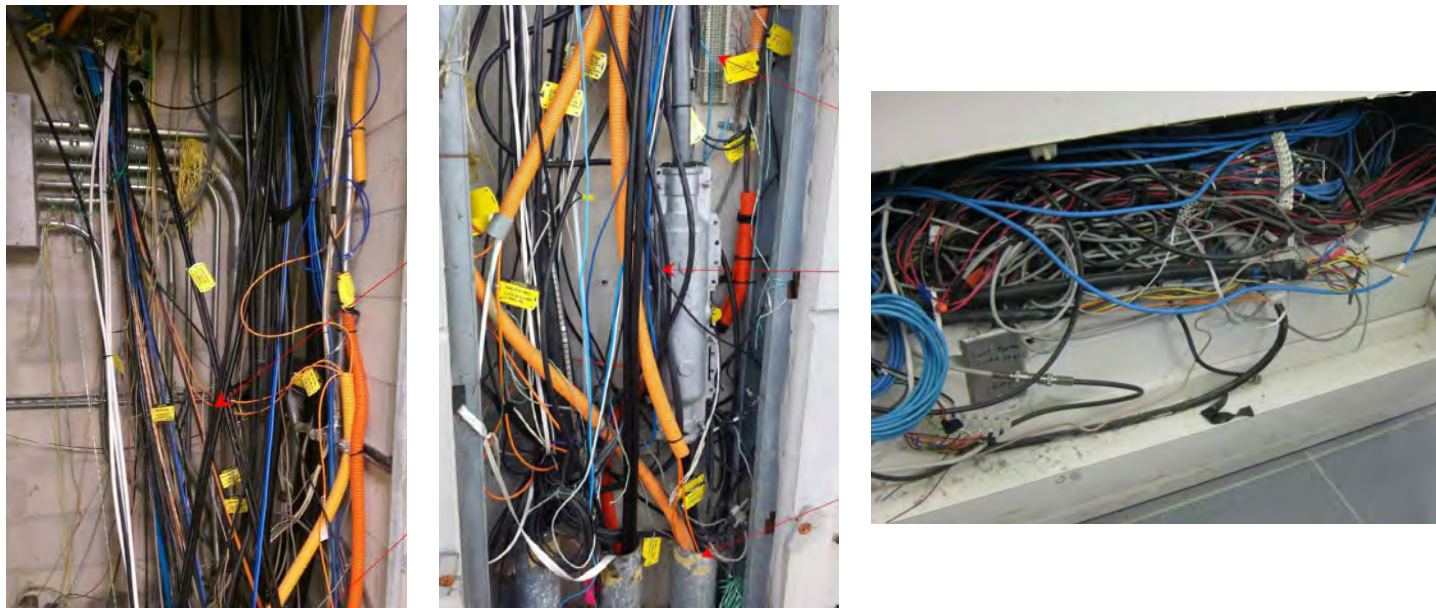
all voice/data equipment which will improve system performance. The TBB should originate at the main communications room telecommunications main ground bus, which should be bonded to the electrical service main ground using an approved BCT (bonding conductor for telecommunications).

Cable pathways & Raceways

Recommend outfitting communications rooms with cable runways and additional cabling pathways to allow for proper conveyance and cabling support. This will allow for cabling MAC's (moves, adds, and changes) to be done with ease and follow conformance as it encourages contractors and cable techs to follow a pre-established infrastructure standard when modifications are done.

All communications conduit ends need to be outfitted with nylon bushings to prevent damage to cables when being pulled. Recommend adding a new interior conduit and pull box system spanning the entire facility to allow for additional growth and minimal down time during replacement of existing communications systems. This will protect existing backbone cabling and will provide an additional path to the existing exterior communications manhole which feeds various parts of the facility. Most of the existing backbone cabling is routed out and thru this manhole which creates a single point of cabling convergence and thus a single point of failure for network cabling traversing through it. An additional interior raceway system would allow for interior rated cables to be run between different parts of the terminal without needing to exit the building. This will avoid the need for transition from indoor to outdoor rated cable types.

The majority of communications cabling serving the concourse and support areas are installed in an overhead cable tray system run beneath the concourse in areas exposed to the outdoor elements. An assessment should be made to determine whether cable types are properly segregated as required by codes and whether the cable tray system is suitable for continued use in an outdoor environment.



Telephone System

Telephone system needs to be upgraded to have all abandoned cabling and associated connecting hardware removed. Installation of a new VOIP server or an upgraded Meridian system is recommended equipment to modernize the facility's PBX capabilities. Implementation of a VOIP system will allow for identical cabling to be used for all voice and data outlets throughout the facility, which will increase flexibility and allow for easier maintenance. This will also reduce the number of outgoing active lines needed from the service provider.

Public Announcement (PA) System

PA system head end has antiquated components. It is recommended that the existing PA system and all associated components be upgraded to have local content source control capability without being exclusively dependent on the service provider and be co-located with head end equipment. Recommend PA system to have capability for automated mass notification, and to tie into FIDS system for flight announcements.

Fire Alarm System

There are at least 3 different types of Fire alarm systems serving the facility. Recommend replacement or upgrades as necessary so that the facility utilizes a single standardized fire alarm system with all components and support provided from a single fire alarm manufacturer.

CCTV

CCTV system and related components should be replaced with modern devices. A site survey should be performed to review new and existing camera locations. As of now CCTV system is managed by MAPD, however some cameras are in retail areas, which may need to have other user access to avoid future responsibility and liability issues that may occur.



BRPH Project No. C07071.001.00
TICKETING AREA Date: 3/10/15 Square Footage: Footprint
 Taken By: AHS/CDS Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
Electrical Distribution									
Main Switchboard	G	Square D 480Y/277V, 4000 Amps, 3 phase, 4 wire							
Emergency Power	F	1,250 kW, 480Y/277V, 3 phase, 4 wire, enclosed diesel generator							Clearance and egress issues.
Distribution Transformers	G								
Interior Panelboards	G								
Exterior Panelboards	P								
Interior Receptacles	G								
Exterior Receptacles	P								
Lighting									
Lobby	F	400 watt cylindrical down lights							Need improved efficiency and updated lighting controls.
Ticket Counters	F	Linear fluorescent fixtures							Need improved efficiency and updated lighting controls.
General/Misc Lighting	F	2' x 4' lay-in fluorescent fixtures in finished areas and 1' x 4 strip lights in utility areas							Need improved efficiency and updated lighting controls.
Exterior - Parking Areas	P	Primarily HID with some LED replacements.							Rust and corrosion, need improved efficiency/ lighting levels and updated lighting controls.
Exterior - Canopies	G	Linear vaportight fluorescent fixtures							Need improved efficiency and updated lighting controls.
Exterior - Facade and Entry Areas	F	Metal halide and assorted parabolic down lights							Need improved efficiency and updated lighting controls.
Exterior - Loading Dock Areas	P	Linear fluorescent fixtures							Corrosion and damage. Some are not working. Need to replace fixtures and update lighting controls.
Egress lighting and exit signs	F	Integral battery back up							Need a test and evaluation.
Lightning Protection									
Air Terminals	G								
Conductors	G								Several roof top air conditioning units need to be protected and/or reconnected to the lightning protection loop.
Grounding/Bonding									
Grounding/Bonding									Recommend detailed inspection and system testing.
Communication Systems									
Telephone	P								Recommend modifications. Please refer to narrative.
Data	F								Recommend modifications. Please refer to narrative.
Public Address/Intercom	P								Recommend modifications. Please refer to narrative.
Cable pathways & raceways	F								Recommend modifications. Please refer to narrative.
Grounding/Bonding									Recommend detailed inspection and system testing. Please refer to narrative.
Fire Detection									
Fire Alarm Systems	F								Recommend replacement and/or upgrades as indicated in the narrative
Security									
Security systems	F								Recommend site survey and detailed system evaluation.

BRPH Project No. C07071.001.00
ATRIUM AREA Date: 3/10/15 Square Footage: Footprint
 Taken By: AHS/CDS Year Built: Various stages of Renovation

Facility Check List

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
Electrical Distribution									
Distribution Transformers	G								
Interior Panelboards	G								
Exterior Panelboards	P								
Interior Receptacles	G								
Exterior Receptacles	P								
Lighting									
Atrium	F	Suspended linear fluorescent fixtures and mercury vapor down lights							Need improved efficiency and updated lighting controls.
Restrooms	G	Linear and round fluorescent fixtures							Need improved efficiency and updated lighting controls.
General/Misc Lighting	G	2' x 4' lay-in fluorescent fixtures in finished areas and 1' x 4 strip lights in utility areas							Need improved efficiency and updated lighting controls.
Accent lighting	F	linear fluorescent indirect lighting fixtures							Recommend replacement including updated lighting controls.
Landscape lighting	G	Uplights and accent lighting							Recommend replacement including updated lighting controls.
Egress lighting and exit signs	F	Integral battery back up							Need a test and evaluation.
Lightning Protection									
Air Terminals	G								
Conductors	G								Several roof top air conditioning units need to be protected and/or reconnected to the lightning protection loop.
Grounding/Bonding									
Grounding/Bonding									Recommend detailed inspection and system testing.
Communication Systems									
Telephone	P								Recommend modifications. Please refer to narrative.
Data	F								Recommend modifications. Please refer to narrative.
Public Address/Intercom	P								Recommend modifications. Please refer to narrative.
Cable pathways & raceways	F								Recommend modifications. Please refer to narrative.
Grounding/Bonding									Recommend detailed inspection and system testing. Please refer to narrative.
Fire Detection									
Fire Alarm Systems	F								Recommend replacement and/or upgrades as indicated in the narrative
Security									
Security systems	F								Recommend site survey and detailed system evaluation.

BRPH Project No. C07071.001.00
BAGGAGE CLAIM AREA Date: 3/10/15 Square Footage: Footprint
 Taken By: AHS/CDS Year Built: Various stages of Renovation

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
Electrical Distribution									
Distribution Transformers	G								
Interior Panelboards	G								
Exterior Panelboards	P								
Interior Receptacles	G								
Exterior Receptacles	P								
Lighting									
Public Areas	G	2' x 4' lay-in fluorescent fixtures							Need improved efficiency and updated lighting controls.
Ticket Counters	G	2' x 4' lay-in fluorescent fixtures							Need improved efficiency and updated lighting controls.
General/Misc Lighting	F	2' x 4' lay-in fluorescent fixtures in finished areas and 1' x 4 strip lights in utility areas							Need improved efficiency and updated lighting controls.
Lightning Protection									
Air Terminals	G								
Conductors	G								Several roof top air conditioning units need to be protected and/or reconnected to the lightning protection loop.
Grounding/Bonding									
Grounding/Bonding									Recommend detailed inspection and system testing.
Communication Systems									
Telephone	P								Recommend modifications. Please refer to narrative.
Data	F								Recommend modifications. Please refer to narrative.
Public Address/Intercom	P								Recommend modifications. Please refer to narrative.
Cable pathways & raceways	F								Recommend modifications. Please refer to narrative.
Grounding/Bonding									Recommend detailed inspection and system testing. Please refer to narrative.
Fire Detection									
Fire Alarm Systems	F								Recommend replacement and/or upgrades as indicated in the narrative
Security									
Security systems	F								Recommend site survey and detailed system evaluation.

BRPH Project No. C07071.001.00
TERMINAL AREA Date: 3/10/15 Square Footage: Footprint
 Taken By: AHS/CDS Year Built: Various stages of Renovation

System	Condition	System Description	Useful Life			Quant.	Unit Cost	System Rep. Cost	Remarks
			Yr. Installed	Useful Life(Yrs.)	Remaining Life(Yrs.)				
	G - Good F - Fair P - Poor								
Electrical Distribution									
Switchboards	G	Square D 480Y/277V, 3 phase, 4 wire							
Distribution Transformers	G								
Interior Panelboards	F								
Exterior equipment	P								
Interior Receptacles	G								
Exterior Receptacles	P								
Lighting									
Main public areas	G	2' x 4' lay-in and other types of fluorescent fixtures.							Need improved efficiency and updated lighting controls.
Track Lighting	F	Linear fluorescent fixtures							Need improved efficiency and updated lighting controls.
Specialty lighting	G	Suspended linear fluorescent fixtures							Need improved light distribution and updated lighting controls.
General/Misc Lighting	F	2' x 4' lay-in fluorescent fixtures in finished areas and 1' x 4 strip lights in utility areas							Need improved efficiency and updated lighting controls.
Restrooms	G	Linear and round fluorescent fixtures							Need improved efficiency and updated lighting controls.
Exterior/under concourse	G	HID and 1' x 4' vapor tight fluorescent wall mounted fixtures							Rust and corrosion, need improved efficiency/ lighting levels and updated lighting controls.
Egress lighting and exit signs	F	Integral battery back up							Need a test and evaluation.
Lightning Protection									
Air Terminals	G								
Conductors	G								
Grounding/Bonding									
Grounding/Bonding									Recommend detailed inspection and system testing.
Communication Systems									
Telephone	P								Recommend modifications. Please refer to narrative.
Data	F								Recommend modifications. Please refer to narrative.
Public Address/Intercom	P								Recommend modifications. Please refer to narrative.
Cable pathways & raceways	F								Recommend modifications. Please refer to narrative.
Grounding/Bonding									Recommend detailed inspection and system testing. Please refer to narrative.
Fire Detection									
Fire Alarm Systems	F								Recommend replacement and/or upgrades as indicated in the narrative
Security									
Security systems	F								Recommend site survey and detailed system evaluation.

PSI - Roofing Assessment



March 27, 2015
Revised April 7, 2015

BRPH
5700 North Harbor City Boulevard
Suite 400
Melbourne, Florida 32940

Attention: Michael Seal, AIA
Phone: (321) 234-2918

RE: Report for Roof Survey
Melbourne Airport Main Terminal
1 Air Terminal Parkway
Melbourne, Florida
PSI Project No. 0753-1348

Dear Mr. Seal:

Professional Service Industries, (PSI) is pleased to submit the following report for professional services. Included in this report is an overview of the project scope, the performed scope of services and methodology, a summary of our findings and our recommendations. This report was revised on April 7, 2015 to include additional overall photographs of the individual roof areas.

Project Information

The project site is the existing Melbourne International Airport located at 1 Air Terminal Parkway in Melbourne, Florida. It was requested that a survey be performed to assess the existing roofing systems as well as to provide general recommendations for repair options with cost estimates. Construction at the site consists of a one to two story terminal building. The existing roofs are a combination of granular modified bitumen capsheet built up roofs (BUR) systems as well as gravel surfaced BUR systems. Additionally, coated and uncoated hard surfaced concrete and EIFS roof areas exist.

Scope of Services

Field Survey

PSI performed a visual and hands on survey of the existing roof areas. Specifically, 26 separate roof areas were surveyed, generally grouped into four distinct zones for the purpose of this report: 1) Ticketing, 2) Atrium, 3) International Concourse and Baggage Claim, and 4) Main Concourse.

Melbourne Airport Roof Survey
PSI Project No. 0753-1348

March 27, 2015
Page 2

systems. As part of our field survey efforts, on site personnel and/or maintenance staff with historical knowledge of the building were briefly interviewed regarding building condition and performance. PSI utilized digital cameras and infrared thermography to assist in our visual inspection. Representative photographs obtained during our survey are presented as **Attachment 1**. PSI made note of observed deficiencies and their respective locations. Drawings of the areas surveyed are presented in this report as **Attachment 2**. A spreadsheet list of remediation needs and opinion of probable costs is included to this report as **Attachment 3**.

Infrared Thermography

Infrared thermography is a real-time, two-dimensional technology and is the process of acquisition and analysis of thermal information from non-contact thermal imaging devices. The purpose of the Infrared Thermography was to detect and/or locate any potential moisture intrusion concerns within the existing roof systems through temperature variations. PSI utilized a FLIR T640 infrared scanner and imaging system to survey select roof systems. This infrared camera provides remote thermal sensing of temperature differentials in order to give an indication and locate areas of suspected moisture intrusion and water-saturated construction materials. Non-destructive evaluations to determine suspected subsurface moisture concentrations were made utilizing infrared thermography. Specifically, PSI conducted infrared thermography scans of granulated capsheet BUR areas. Excluded from these scans were gravel BUR roof systems due to the potential for false anomalies due to surface moisture in the gravel surface.

Survey Observations

The results of the roof survey are grouped and presented here as four zones: 1) Ticketing, 2) Atrium, 3) International Concourse and Baggage Claim, and 4) Main Concourse. 26 specific roofs areas are referred to by section number, corresponding with the drawings in Attachment 2.

Ticketing – Roofs 18 - 19

Roof #18: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Contains four (4) inset drains and four (4) overflow scuppers located on north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include lead boot flashed vents and communication equipment. Active ponding and evidence of historic ponding observed in various areas, marked on Attachment 1. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermograms #12 and #13 in Attachment 2. Roof is in overall fair to poor condition.



Roof #19: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Contains ten (10) inset drains and four (4) overflow scuppers located on north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Separated from Roof #16 to the west by a metal capped, granular capsheet flashed expansion joint. Penetrations include lead boot flashed vents, skylights and communication equipment. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermogram #14 in Attachment 2. Roof is in overall fair to poor condition.

Atrium – Roofs 16 - 17

Roof #16: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Central region contains elevated, translucent panel roof. Degranulation and blistering observed. Contains eleven (11) inset drains and eleven (11) overflow scuppers located on various elevations. Various scuppers were observed to be situated significantly higher than nearby primary drains. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include granular capsheet flashed vent curbs, skylights, lead boot flashed vents and communications equipment. Additionally, HVAC ducts at east and west elevations of central translucent panel roof area are supported by granular capsheet flashed risers. Separated from Roofs #10 and #13 to the west by an exposed expansion joint. Separated from Roof #14 to the west by a metal capped, granular capsheet flashed expansion joint. Separated from Roof #19 to the east by a metal capped, granular capsheet flashed expansion joint. No expansion joint observed to the north at Roof #26 junction. Active ponding and evidence of historic ponding observed in various areas, marked on drawings in Attachment 2. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermograms #9 – #11 in Attachment 2. Roof is in overall fair to poor condition.

Roof #17: Low sloped modified bitumen BUR system covered with smooth surface capsheet. Age not known. Contains one (1) inset drain and one (1) overflow scupper located on north elevation. Parapet walls are flashed with smooth surface capsheet and topped with metal coping caps. Improper flashing of generator support columns. Exposed modified bitumen reinforcement observed. Roof is in overall poor condition.

International Concourse and Baggage Claim – Roofs 1 - 15

Roof #1: Gravel-surfaced multi ply low sloped built up roof (BUR) system. 20+ years of age. Contains two (2) inset drains and two (2) overflow scuppers on northwest elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Visually appeared to be in overall poor condition.

Roof #2: Gravel-surfaced multi ply low sloped BUR system. 20+ years of age. Contains six (6) inset drains and four (4) overflow scuppers on southwest elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include a combination of granular capsheet and lead boot flashed vents. Separated from Roof #3 by a metal capped, granular capsheet flashed expansion joint. Some aggregate loss and exposed reinforcement mat observed. Visually appeared to be in overall poor condition.

Roof #3: Gravel-surfaced multi ply low sloped BUR system. 20+ years of age. Contains five (5) inset drains and two (2) overflow scuppers on north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include a combination of granular capsheet and lead boot flashed vents, communications equipment and a glass skylight system. Separated from Roof #2 by a metal capped, granular capsheet flashed expansion joint. Some aggregate loss and exposed reinforcement mat observed. Visually appeared to be in overall poor condition.

Roof #4: Gravel-surfaced multi ply low sloped BUR system. 20+ years of age. Contains two (2) inset drains and four (4) overflow scuppers on north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Visually appeared to be in overall poor condition.

Roof #5: Gravel-surfaced multi ply low sloped BUR system. 20+ years of age. Contains six (6) inset drains and three (3) overflow scuppers on north and south elevations. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include a combination of granular capsheet and lead boot flashed vents, HVAC curbs, a roof access hatch and communications equipment. Some aggregate loss and exposed reinforcement mat observed. Visually appeared to be in overall poor condition.

Roof #6: Gravel-surfaced multi ply low sloped BUR system. 20+ years of age. Contains two (2) inset drains and no overflow scuppers. Low parapet



walls are flashed with granular capsheet and topped with metal coping caps. Visually appeared to be in overall poor condition.

Roof #7: Smooth surfaced modified bitumen roof with an unknown reflective coating. Age not known. Contains one (1) inset drain and no overflow scuppers. Penetrations include a metal flashed HVAC curb and lead boot flashed vents. Areas of active ponding visible and marked on drawing in Attachment 1. Represented by infrared thermogram #8 in Attachment 2. Visually appeared to be in overall poor condition.

Roof #8: Hard surfaced, uncoated overhang area. Believed to be of EIFS construction based on field observations. Minor damage penetrations and areas of previous repair observed on surface. Roof is in overall fair condition.

Roof #9: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Partially covered with white coating. Degranulation and poor drainage observed. Contains one (1) inset drain and one (1) overflow scupper on southwest elevation. Scupper was observed to be situated significantly higher than nearby primary drain. High parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include a combination of granular capsheet and lead boot flashed vents and HVAC curbs. Active ponding observed on approximately 50% of roof area. Infrared thermography not performed in this location due to the presence of ponding water. Roof is in overall poor condition.

Roof #10: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Additionally, the existing roof system appears to be installed over a previous roof system. Contains three (3) inset drains and one (1) overflow scupper on southeast elevation. High parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include granular capsheet flashed HVAC curbs, vents and a roof access hatch. Separated from Roof #16 by an exposed expansion joint. Active and evidence of historic ponding observed on southwest roof area near HVAC units. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermograms #1 – #3 in Attachment 2. Roof is in overall poor condition.

Roof #11: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Roof is in overall fair to poor condition.



Roof #12: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Additionally, the existing roof system appears to be installed over a previous roof system. Contains two (2) inset drains and no overflow scuppers. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Roof is in overall fair to poor condition.

Roof #13: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Additionally, the existing roof system appears to be installed over a previous roof system. Contains one (1) inset drain and no overflow scuppers. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Penetrations include granular capsheet flashed HVAC curbs. Separated from Roof #16 by an exposed expansion joint. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermogram #5 in Attachment 2. Roof is in overall fair to poor condition.

Roof #14: Granular capsheet surfaced modified bitumen low sloped BUR system. Age not known. Degranulation and blistering observed. Ponding observed around drains. Contains two (2) inset drains and no overflow scuppers. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Separated from Roof #16 to the east by a metal capped, granular capsheet flashed expansion joint. Penetrations include granular capsheet flashed HVAC curbs and communication equipment. Active and evidence of historic ponding observed on southwest roof area near HVAC units. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermograms #7 and #8 in Attachment 2. Roof is in overall fair to poor condition.

Roof #15: Hard surfaced, uncoated overhang area. Believed to be of EIFS construction based on field observations. Minor damage penetrations and areas of previous repair observed on surface. Roof is in overall fair condition.

Main Concourse – Roofs 20 - 26

Roof #20: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains four (4) inset drains and four (4) overflow scuppers located on east and west elevations. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Separated from Roof #25 to the south by a granular capsheet covered expansion joint. Penetrations include



granular capsheet flashed vent curbs, lead boot flashed vents and communication equipment. Evidence of historic ponding was observed in various areas, and is marked on Attachment 1. Roof is in overall good condition.

Roof #21: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains one (1) overflow scupper located on the north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Roof is in overall good condition.

Roof #22: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains one (1) overflow scupper located on the north elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Roof is in overall good condition.

Roof #23: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. 10 years of age. Degranulation and blistering observed. Contains one (1) overflow scupper located on the south elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Roof is in overall good condition.

Roof #24: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains one (1) overflow scupper located on the south elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Roof is in overall good condition.

Roof #25: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains one (1) inset drain and one (1) overflow scupper located on the west elevation. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Separated from Roof #20 to the north and Roof #26 to the south by granular capsheet covered expansion joints. Infrared thermography indicates areas of subsurface moisture, marked on drawings in Attachment 1 and presented as thermograms #15 and #16 in Attachment 2. Roof is in overall good condition.

Roof #26: Granular capsheet surfaced modified bitumen low sloped BUR system. 10 years of age. Degranulation and blistering observed. Contains one (1) inset drain and no overflow scuppers. Low parapet walls are flashed with granular capsheet and topped with metal coping caps. Separated from Roof #25 to the north by granular capsheet covered expansion

joint. No expansion joint separating from Roof #16 to the south observed. Add expansion joint to prevent damage of the building structure. Roof is in overall good condition.

Recommendations

Ticketing – Roofs 18 - 19

Roof #18: Perform repairs to areas of blistering and ponding to extend the service life of the overall roof system for an additional 5 years. Replace existing roof after 5 years with a granular capsheet surfaced modified bitumen low sloped BUR system. Additionally, add 2 drain systems to the far east and west regions of the roof inline with the existing primary drains during renovations to facilitate overall roof drainage. Addition of drains should coincide with re-roofing after 5 years.

Roof #19: Perform repairs to areas of blistering and ponding to extend the service life of the overall roof system for an additional 5 years. Replace existing roof after 5 years with a granular capsheet surfaced modified bitumen low sloped BUR system. Additionally, add 10 overflow drain systems to each existing primary drains to bring the roof to code. Addition of overflow drains should coincide with re-roofing after 5 years.

Atrium – Roofs 16 - 17

Roof #16: Perform repair to blisters and subsurface moisture conditions within 1 year in order to extend the service life of the overall roof system for an additional 5 years. To bring the roof to code, overflow drains must be added to the south drains. Additionally, receiver heads and downspouts must be added to the primary scupper drains on the southwest overhang to prevent further deterioration of the wall. Addition noted drainage improvements should coincide with re-roofing after 5 years. Replace existing roof after 5 years with a granular capsheet surfaced modified bitumen low sloped BUR system.

Roof #17: Replace existing roof within 1 year with a granular capsheet surfaced modified bitumen low sloped BUR system.

International Concourse and Baggage Claim – Roofs 1 - 15

Roof #1: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.



- Roof #2: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #3: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #4: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #5: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #6: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #7: Replace existing roof within 2 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #8: Perform repairs to EIFS surface and apply an epoxy-based coating within 1 year.
- Roof #9: Replace existing roof within 1 year with a granular capsheet surfaced modified bitumen low sloped BUR system. Coinciding with roof replacement, add a new positive drainage system to include at least one primary drain and overflow scupper within 1 year.
- Roof #10: Replace existing roof within 3 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #11: Replace existing roof within 3 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #12: Replace existing roof within 3 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #13: Replace existing roof within 3 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #14: Replace existing roof within 3 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #15: Perform repairs to EIFS surface and apply an epoxy-based coating within 1 year.



Main Concourse – Roofs 20 - 26

- Roof #20: Perform repairs to areas of blistering and ponding to extend the service life of the overall roof system for an additional 10 years. Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #21: Perform repairs to areas of blistering and ponding to extend the service life of the overall roof system for an additional 10 years. Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #22: Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #23: Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #24: Perform repairs to areas of blistering and ponding to extend the service life of the overall roof system for an additional 10 years. Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #25: Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.
- Roof #26: Add expansion joint separating Roof #26 from Roof #16 to prevent damage of the building structure. Addition of expansion joint should coincide with re-roofing of Roof #16 after 5 years. Replace existing roof in 10 years with a granular capsheet surfaced modified bitumen low sloped BUR system.

Limitations

The findings and observations presented herein this report are time-dependent based on the observations and testing at the time of our roof survey (March 11 and 17, 2015), and conditions may have changed or worsened since the time of our observations. PSI's survey was limited to the areas of the building that were readily accessible. Deficiencies in areas not observable or accessible may be present. Any revisions made to the findings enumerated in this report should be brought to the attention of Professional Service Industries, Inc. If deviations from noted construction or conditions are encountered during the remedial application, they should also be brought to the attention of Professional Service Industries, Inc.

The recommendations included herein are preliminary in nature and are not intended to



be a substitute for design level engineering recommendations. PSI recommends that design level bid documents be prepared for most of the remediation recommended above by a qualified professional Engineer, Architect or Consultant. Contractor submittals should be reviewed by the same professional that produced the bid package to ensure product compliance with the design intent. The remediation work be performed by a licensed commercial contractor with experience in the regional area. Quality assurance inspections should be performed by a third party professional consulting and inspection firm during the performance of the work to ensure compliance with the remedial design intent and approved submittals.

If needed, PSI is qualified to generate design level remediation bid documents, repair details and specifications. If needed, PSI can also provide construction/contract administration process including pre bid/preconstruction meetings, reviewing bids and reviewing submittals. PSI is also qualified to perform quality assurance inspections during the repair process to ensure conformance with the contract documents. Please contact the undersigned if assistance with these types of additional services is needed.

PSI warrants that these findings have been presented, after being prepared in accordance with generally accepted engineering practices. No other warranties are expressed or implied.

Note: Regarding Mold and Other Interior Microbial Organisms

It should be noted that the scope of work on this project did not include inspection or testing for the presence of mold or other indoor microbial organisms. Therefore, PSI does not assume any liability for the presence of mold and/or other microbial organisms in this facility before, during or after our services are/were completed.

Additionally, BRPH acknowledges that mold is ubiquitous to the environment with mold amplification occurring when the building materials are impacted by moisture. BRPH further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture.

Closure

PSI appreciates that opportunity to have been of service to you. If you have any questions regarding this report, or if we may be of further service, please feel free to contact this office at your convenience.



Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Phillip Vanciel, EI
Staff Engineer / Project Manager
Facilities Engineering & Consulting

Darek C. Brandt, PE (Florida)
Regional Engineer / Principal Consultant
Facilities Engineering & Consulting

Guido X. Salas, RRO
Sr. Building Envelope Consultant
Facilities Engineering & Consulting

- Attachments: 1) Representative Photographs
2) Survey Condition Drawings
3) Remediation Spreadsheets



PSI is a Miami Dade County approved testing laboratory. Certificate #13-0820.11





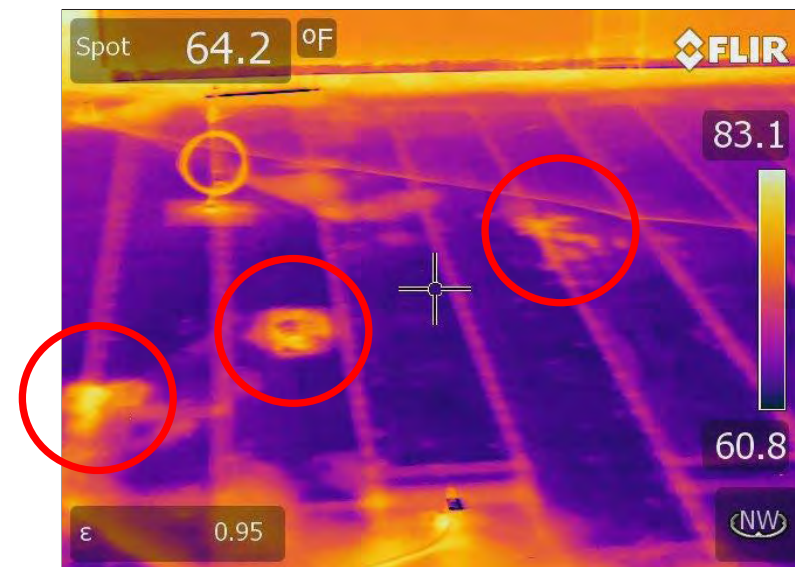
Photo 1: Overview of Roof #10 at Thermogram locations #1 – #3.



Thermogram 1: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 2: Close up of Roof #10 at Thermogram locations #1 – #3.



Thermogram 2: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



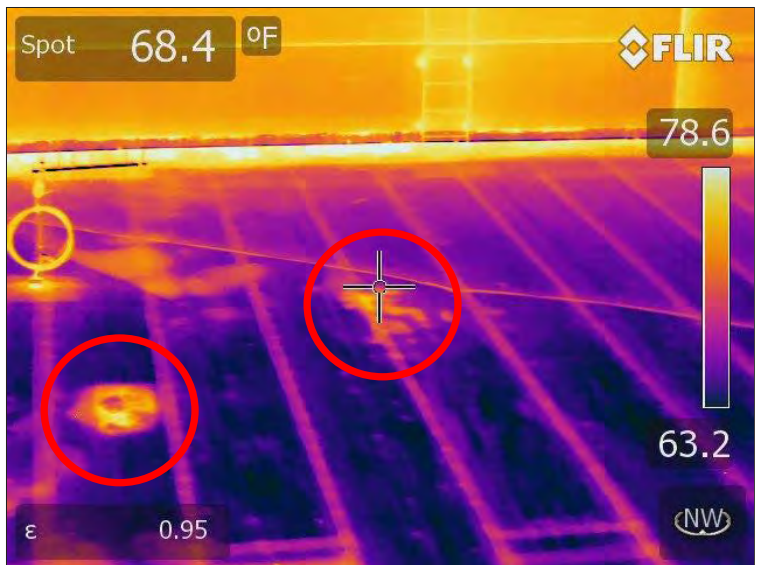
Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



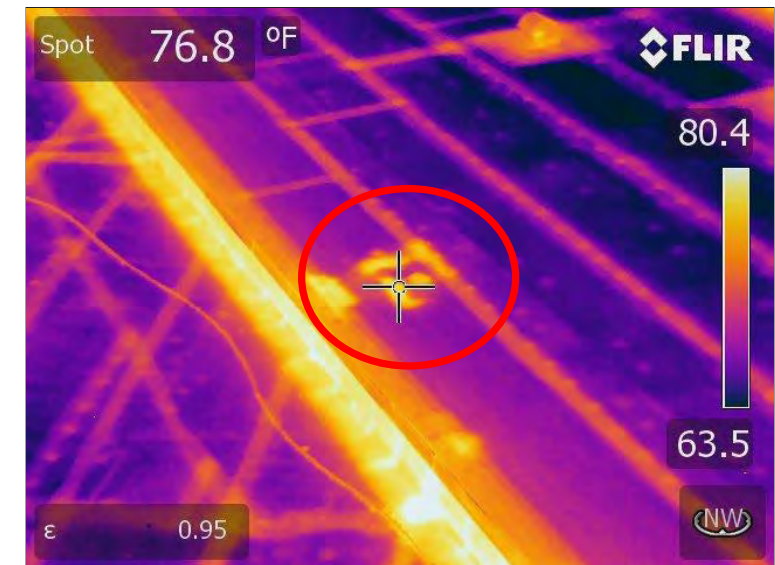
Photo 3: Close up of Thermogram locations #1 – #3 at Roof #10. p



Thermogram 3: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 4: Overview of Thermogram #4 location at Roof #10.



Thermogram 4: Light shaded areas indicate areas of potential trapped moisture under granular capsheet. Note – light lines display areas of roof transition and overlap which represent areas of heat escaping from the roof system.



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



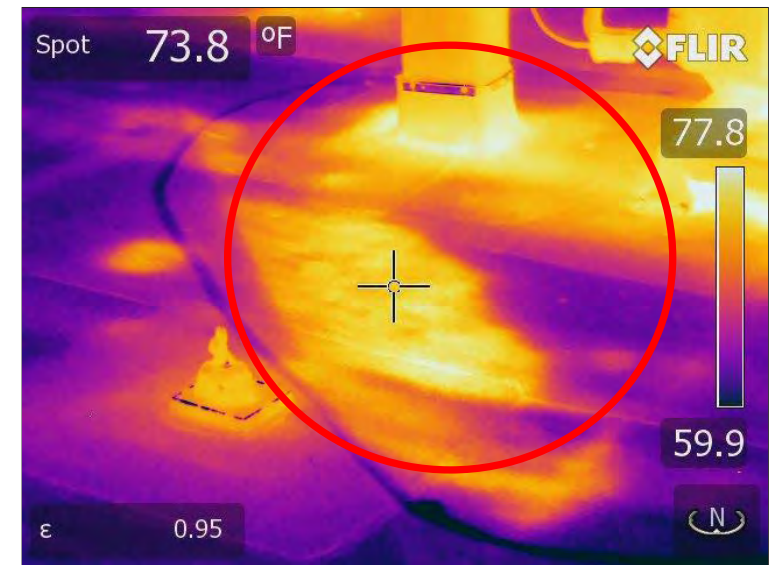
Photo 5: Overview of Thermogram #5 location at Roof #13.



Thermogram 5: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 6: Overview of Thermogram #6 location at Roof #14.



Thermogram 6: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



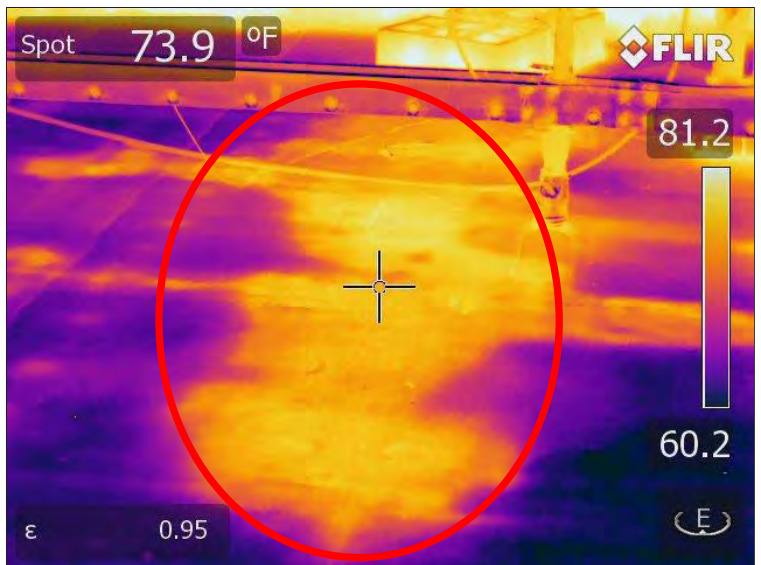
Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Photo 7: Overview of Thermogram #7 location at Roof #14.



Thermogram 7: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 8: Overview of Thermogram #8 location at Roof #7.



Thermogram 8: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



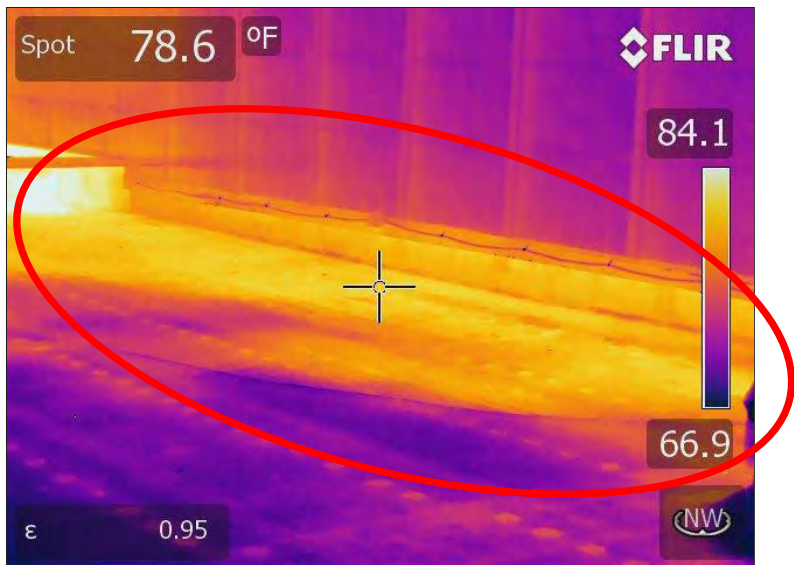
Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



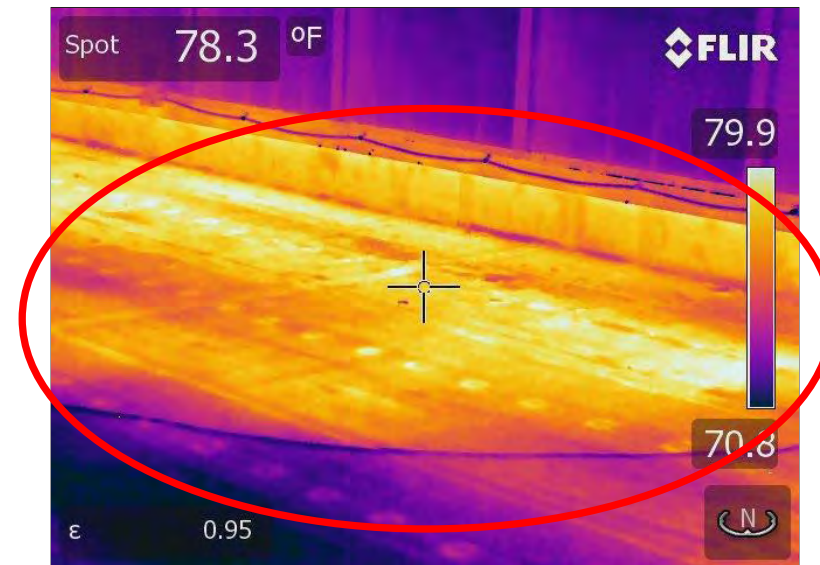
Photo 9: Overview of Thermogram #9 location at Roof #16.



Thermogram 9: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 10: Overview of Thermogram #10 location at Roof #16.



Thermogram 10: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



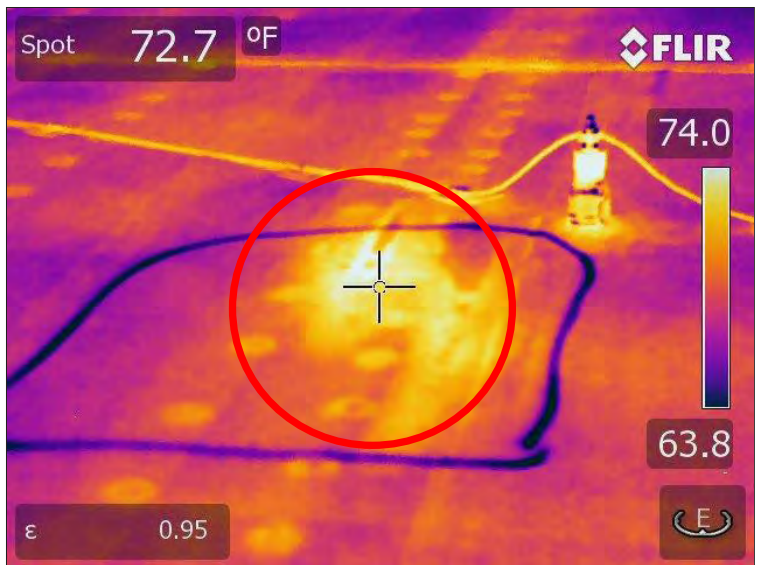
Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



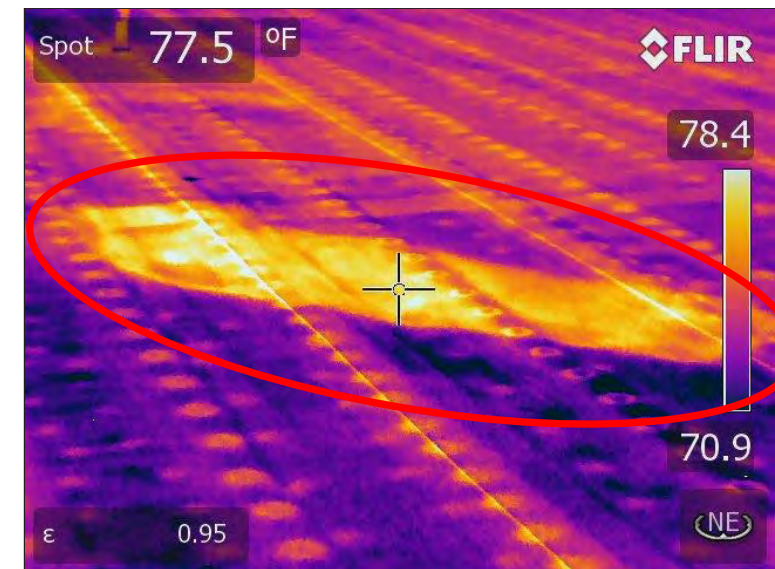
Photo 11: Overview of Thermogram #11 location at Roof #16.



Thermogram 11: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 12: Overview of Thermogram #12 location at Roof #18.

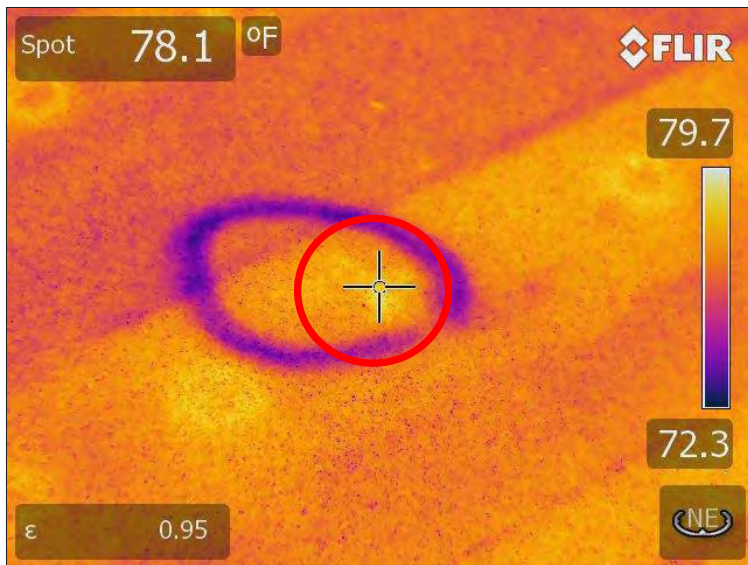


Thermogram 12: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.





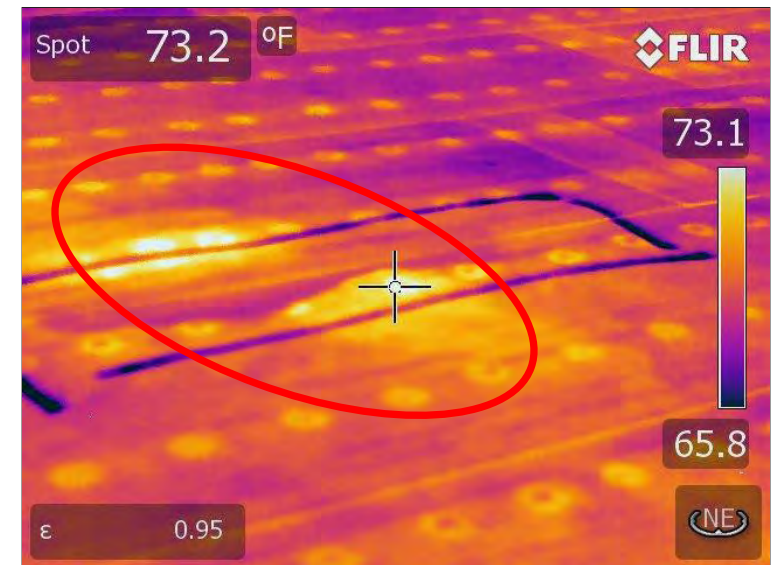
Photo 13: Overview of Thermogram #13 location at Roof #18.



Thermogram 13: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 14: Overview of Thermogram #14 location at Roof #19.



Thermogram 14: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



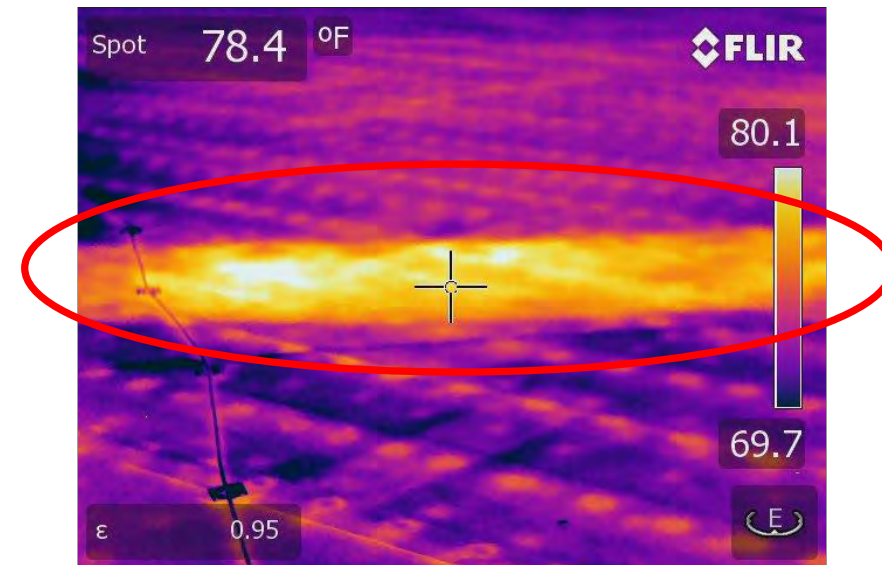
Photo 15: Overview of Thermogram #15 location at Roof #25.



Thermogram 15: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Photo 16: Overview of Thermogram #16 location at Roof #25.



Thermogram 16: Light shaded areas indicate areas of potential trapped moisture under granular capsheet.



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Photo 17: Overview of roof areas 1, 2 and 3.



Photo 18: Overview of roof area 5.



Photo 19: Overview of roof areas 12, 13 and 14.



Photo 20: Overview of roof area 16.



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Melbourne Airport Roof Survey
PSI Project No. 0753-1348



Photo 21: Overview of roof area 18.



Photo 22: Overview of roof area 19.



Photo 23: Overview of roof areas 26 and 25 and 20.

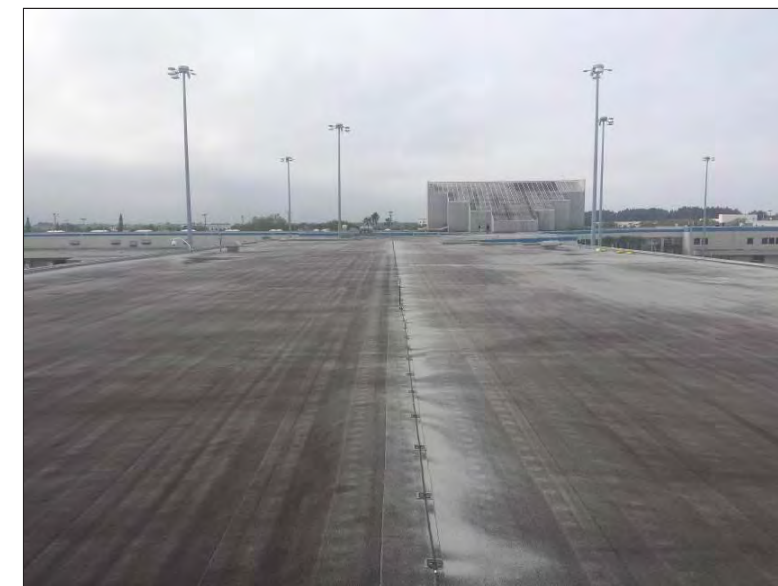


Photo 24: Overview of roof area 20.



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PSI Project No. 0753-1348



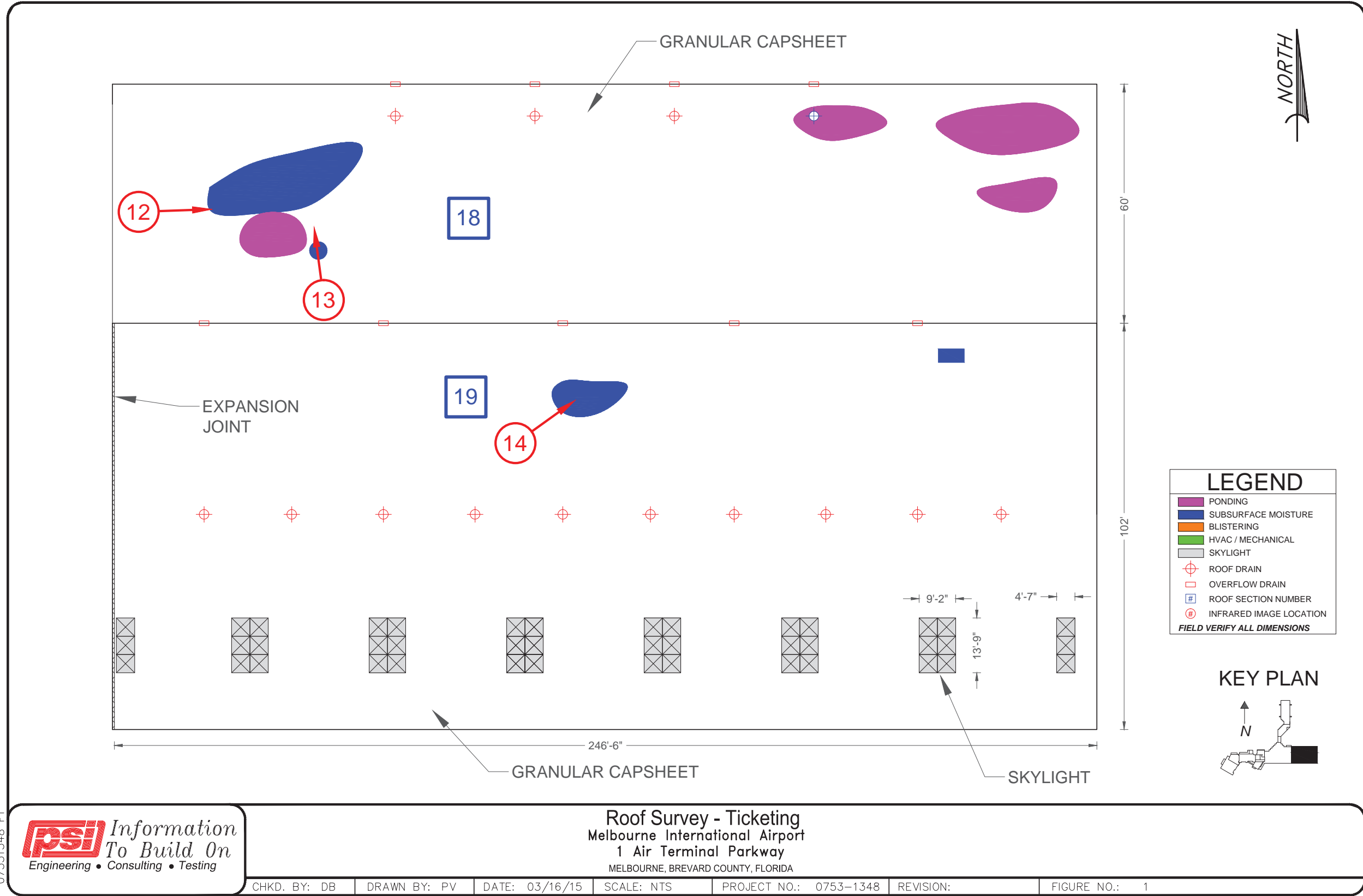
Photo 25: Overview of expansion joint between roofs 20 and 25.



Photo 26: Overview of typical parapet coping and lightning protection.



Melbourne Airport Roof Survey
PSI Project No. 0753-1348

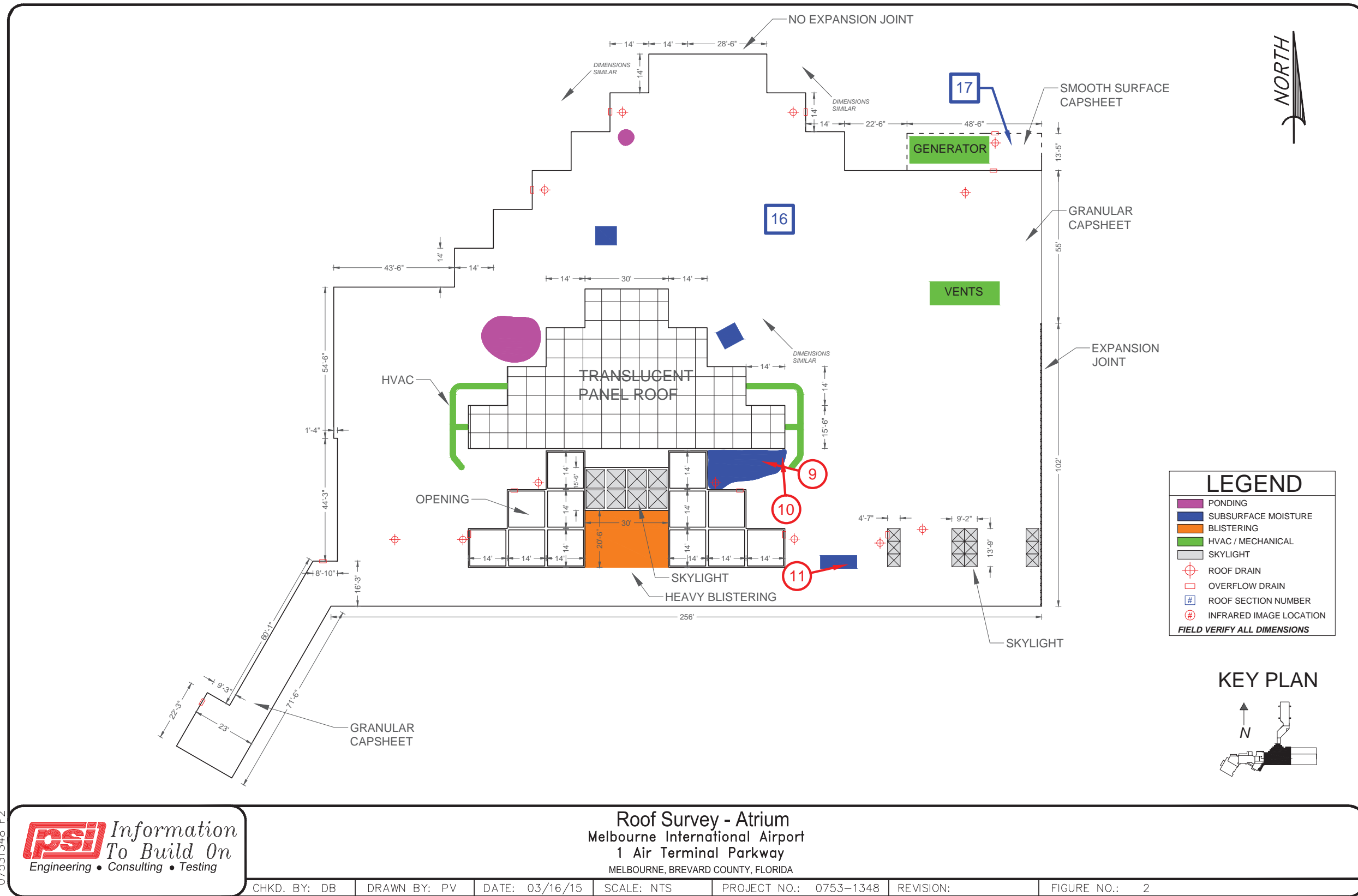


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psi Information To Build On
Engineering • Consulting • Testing

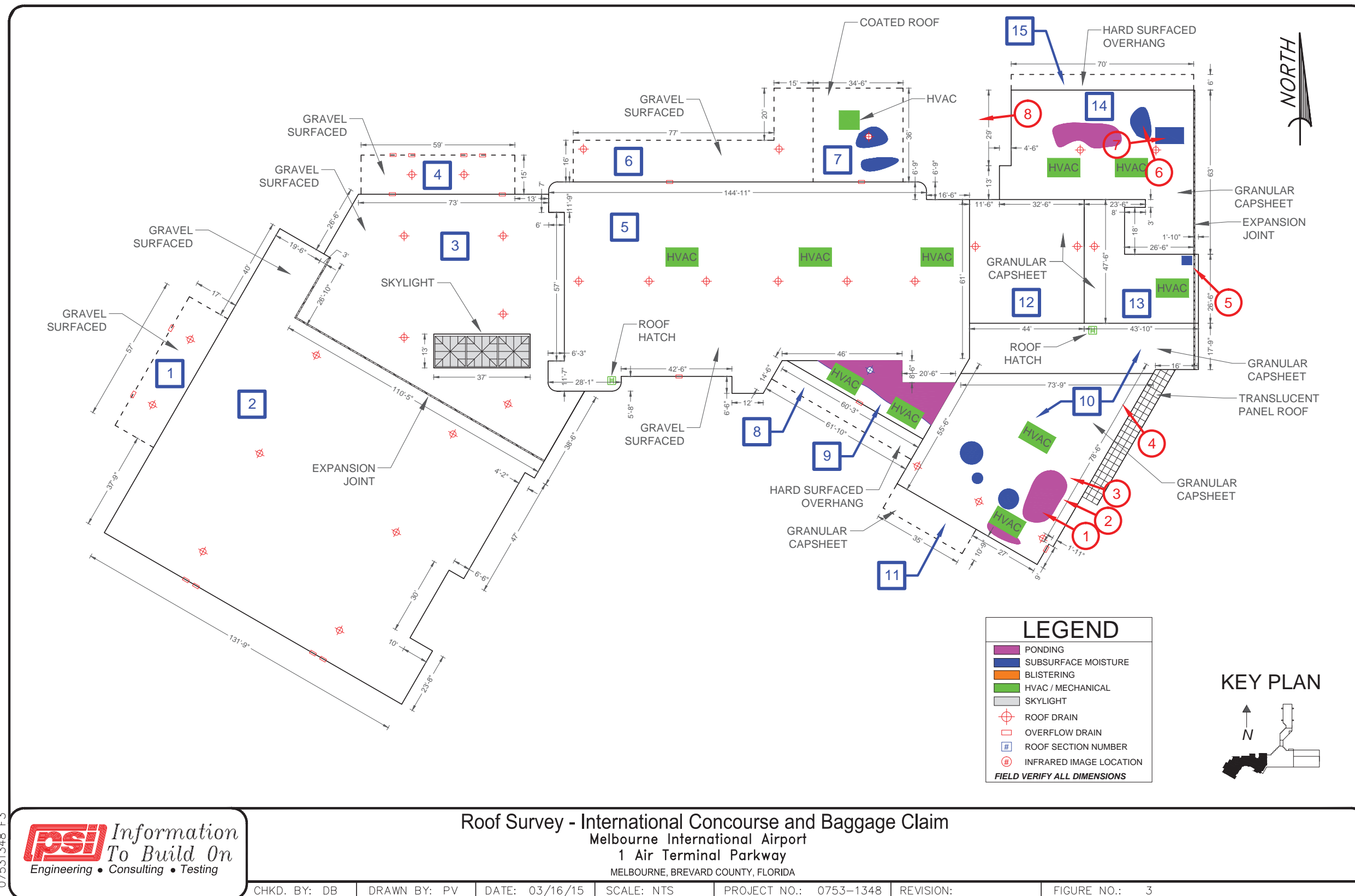
Roof Survey - Ticketing
Melbourne International Airport
1 Air Terminal Parkway
MELBOURNE, BREVARD COUNTY, FLORIDA

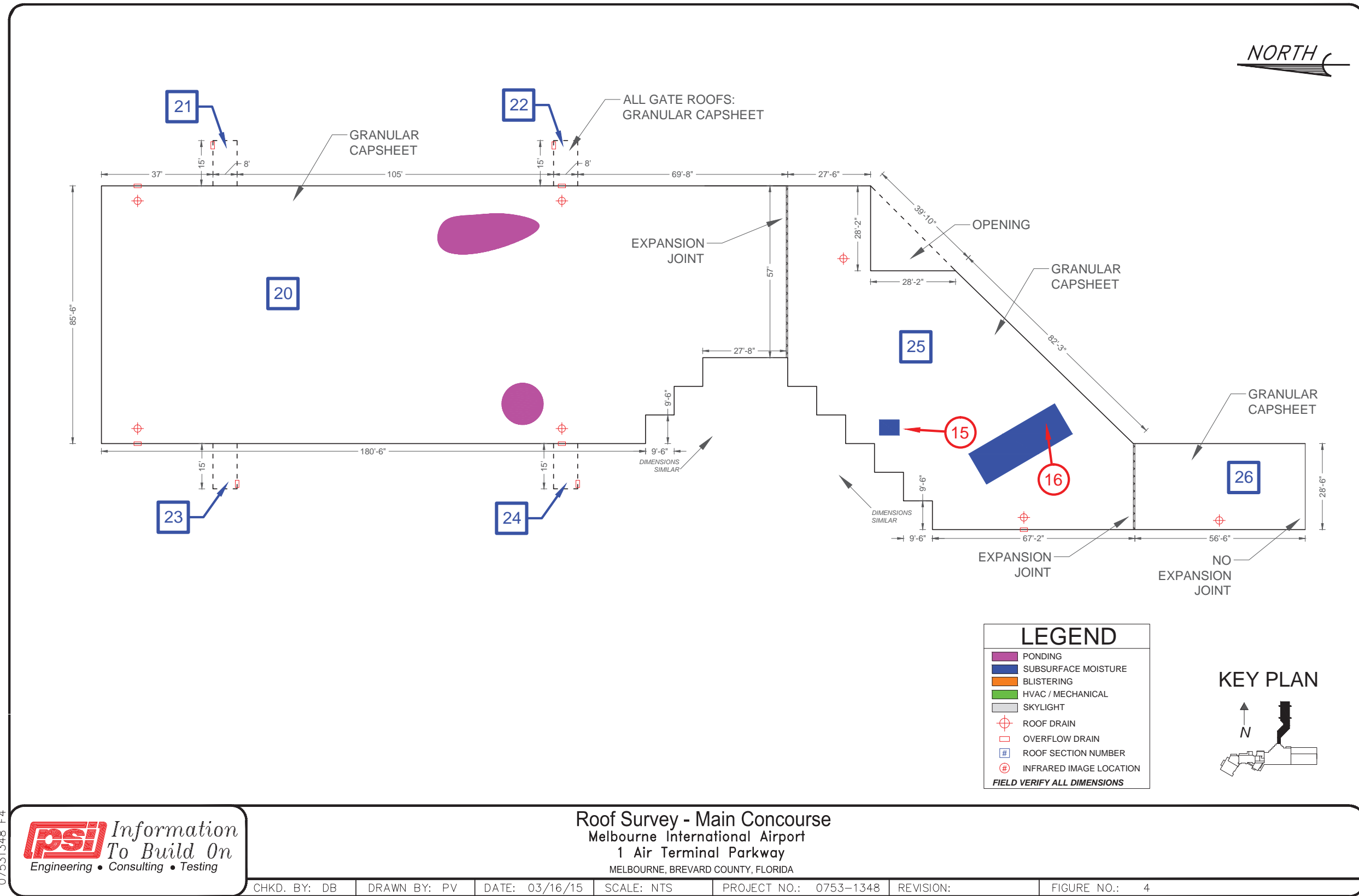
CHKD. BY: DB | DRAWN BY: PV | DATE: 03/16/15 | SCALE: NTS | PROJECT NO.: 0753-1348 | REVISION: | FIGURE NO.: 1



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Ticketing

PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

REF.		IDENTIFICATION	ESTIMATES				NEEDS DISTRIBUTION (\$)																				
Item No.	Roof No.		Qty.	Unit	Unit Costs (\$)	RUL Years	IMMED. NEEDS Year 0	NEEDS OVER THE TERM																Total over Term			
		Property/Building Component																									
001	18	Perform repair to areas of blistering and ponding.	500	SF	20.00	1		10,000																	10,000		
002	18	Perform drainage improvements, to include adding two primary drains and overflow scuppers.	1	LS	18,000.00	6																			18,000		
003	18	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	14,850	SF	20.00	6																			297,000		
004	19	Perform repair to areas of blistering and ponding.	20	SF	20.00	1		400																	400		
005	19	Perform drainage improvements, which include adding overflow drains to each existing primary.	1	LS	60,000.00	6																			60,000		
006	19	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	25,200	SF	20.00	6																			504,000		
Notes							EA - Each																				
							SF - Square Foot																				
							SY - Square Yard																				
							LF - Linear Foot																				
							Yearly Total, UNINFLATED	0	10,400	0	0	0	0	0	879,000	0	0	0	0	0	0	0	0	0	0	0	889,400
							Inflation Factor, w/ Rate = 3.0 %	N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45			N/A	
							Yearly Total, INFLATED	0	10,712	0	0	0	0	1,037,220	0	0	0	0	0	0	0	0	0	0	0	0	1,047,932



Atrium

PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

REF.		IDENTIFICATION	ESTIMATES				NEEDS DISTRIBUTION (\$)																				
Item No.	Roof No.		Qty.	Unit	Unit Costs (\$)	RUL Years	IMMED. NEEDS Year 0	NEEDS OVER THE TERM																Total over Term			
		Property/Building Component																									
001	16	Perform drainage improvements, to include adding 3 overflow drains to existing primaries and relocating overflow scuppers.	1	LS	18,000.00	6																			18,000		
002	16	Perform repair to areas of blistering and ponding.	1,000	SF	20.00	6																			20,000		
003	16	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	34,800	SF	20.00	6																			696,000		
004	17	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	650	SF	20.00	1		13,000																	13,000		
Notes							LS - Lump Sum																				
							EA - Each																				
							SF - Square Foot																				
							SY - Square Yard																				
							LF - Linear Foot																				
							Yearly Total, UNINFLATED	0	13,000	0	0	0	0	734,000	0	0	0	0	0	0	0	0	0	0	0	0	747,000
							Inflation Factor, w/ Rate = 3.0 %	N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45			N/A	
							Yearly Total, INFLATED	0	13,390	0	0	0	0	866,120	0	0	0	0	0	0	0	0	0	0	0	0	879,510

Roofing Assessment



PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

International Concourse & Baggage Claim

REF.		IDENTIFICATION	ESTIMATES				IMMED. NEEDS Year 0	NEEDS DISTRIBUTION (\$)															
Item No.	Roof No.		Qty.	Unit	Unit Costs (\$)	RUL Years		NEEDS OVER THE TERM															
		Property/Building Component					2015 Year 01	2016 Year 02	2017 Year 03	2018 Year 04	2019 Year 05	2020 Year 06	2021 Year 07	2022 Year 08	2023 Year 09	2024 Year 10	2025 Year 11	2026 Year 12	2027 Year 13	2028 Year 14	2029 Year 15	Total over Term	
001	1	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	970	SF	20.00	2		19,400														19,400	
002	2	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	14,400	SF	20.00	2		288,000														288,000	
003	3	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	7,250	SF	20.00	2		145,000														145,000	
004	4	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	885	SF	20.00	2		17,700														17,700	
005	5	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	11,600	SF	20.00	2		232,000														232,000	
006	6	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	1,800	SF	20.00	2		36,000														36,000	
007	7	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	1,250	SF	20.00	2		25,000														25,000	
008	8	Perform repairs to EIFS surface and apply epoxy-based coating.	600	SF	15.00	1	9,000															9,000	
009	9	Add positive drainage system, to include at least one primary drain and overflow scupper.	1	LS	9,000.00	1	9,000															9,000	
010	9	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	850	SF	20.00	1	17,000															17,000	
011	10	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	5,950	SF	20.00	3			119,000													119,000	
012	11	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	375	SF	20.00	3			7,500													7,500	
013	12	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	2,100	SF	20.00	3			42,000													42,000	
014	13	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	1,500	SF	20.00	3			30,000													30,000	
015	14	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	3,550	SF	20.00	3			71,000													71,000	
016	15	Perform repairs to EIFS surface and apply epoxy-based coating.	450	SF	15.00	1	6,750															6,750	
Notes		LS - Lump Sum EA - Each SF - Square Foot SY - Square Yard LF - Linear Foot	Yearly Total, UNINFLATED				0	41,750	763,100	269,500	0	0	0	0	0	0	0	0	0	0	0	0	1,074,350
			Inflation Factor, w/ Rate = 3.0 %				N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45	N/A
			Yearly Total, INFLATED				0	43,003	808,886	293,755	0	0	0	0	0	0	0	0	0	0	0	0	1,145,644



Main Concourse

PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

REF.		IDENTIFICATION	ESTIMATES				NEEDS DISTRIBUTION (\$)																
Item No.	Roof No.		Qty.	Unit	Unit Costs (\$)	RUL Years	IMMED. NEEDS Year 0	NEEDS OVER THE TERM															Total over Term
		Property/Building Component					2015 Year 01	2016 Year 02	2017 Year 03	2018 Year 04	2019 Year 05	2020 Year 06	2021 Year 07	2022 Year 08	2023 Year 09	2024 Year 10	2025 Year 11	2026 Year 12	2027 Year 13	2028 Year 14	2029 Year 15		
001	20	Repair ponding conditions.	150	SF	20.00	1	3,000															3,000	
002	20	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	18,400	SF	20.00	10										368,000						368,000	
003	21	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	120	SF	20.00	10										2,400						2,400	
004	22	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	120	SF	20.00	10										2,400						2,400	
005	23	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	120	SF	20.00	10										2,400						2,400	
006	24	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	120	SF	20.00	10										2,400						2,400	
007	25	Repair ponding conditions.	100	SF	20.00	1	2,000									2,000						4,000	
008	25	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	7,600	SF	20.00	10										152,000						152,000	
009	26	Install expansion joint between Roofs #26 and #16.	1	LS	9,000.00	6						9,000										9,000	
010	26	Replace existing roof with granular capsheet surfaced mod bit low sloped BUR system.	1,600	SF	20.00	10										32,000						32,000	
Yearly Total, UNINFLATED							0	5,000	0	0	0	9,000	0	0	0	563,600	0	0	0	0	0	577,600	
Inflation Factor, w/ Rate = 3.0 %							N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45	N/A
Yearly Total, INFLATED							0	5,150	0	0	0	10,620	0	0	0	732,680	0	0	0	0	0	0	748,450

Notes
 LS - Lump Sum
 EA - Each
 SF - Square Foot
 SY - Square Yard
 LF - Linear Foot

PSI - Curtain Wall / Skylight Survey



March 27, 2015
Revised April 7, 2015

BRPH
5700 North Harbor City Boulevard
Suite 400
Melbourne, Florida 32940

Attention: Michael Seal, AIA
Phone: 321.234.2918

RE: Report for Curtainwall and Skylight Survey
Melbourne Airport Main Terminal
1 Air Terminal Parkway
Melbourne, Florida
PSI Project No. 0753-1349

Dear Mr. Seal:

Professional Service Industries, (PSI) is pleased to submit the following report for professional services. Included in this report is an outline of the project information, scope of services, survey observations, conclusions and recommendations. This report was revised on April 7, 2015 in order to add additional information regarding the translucent skylight and wall panels in the Atrium Area.

Project Information

The project site is the existing Melbourne International Airport located at 1 Air Terminal Parkway in Melbourne, Florida. Construction at the site consists of a single story terminal building. The building contains aluminum framed curtainwall around the perimeters of the building. Skylights are installed along the south perimeter of the roof of the main terminal building.

It is been requested that a survey be performed to assess the curtainwall systems and skylights as well as to provide general recommendations for repair options, cost estimates and commentary regarding code compliance.

Scope of Services

In an effort to document existing curtainwall and skylight deficiencies and form a conclusion as to the cause of, solution, and remediation, PSI performed the following scope of services:

Professional Service Industries, Inc. • 1748 33rd Street • Orlando, FL 32839 • Phone 407/304-5560 • Fax 407/304-5561
FL Engineering Business 3684

Melbourne Airport Curtainwall & Skylight Survey
PSI Project No. 0753-1349

March 27, 2015
Page 2

Field Survey

PSI performed a visual curtainwall, glazed openings and skylight survey areas of the building highlighted in green as shown on the provided plan view layout to the building (attached to this report for reference as Figure 1). The international concourse/baggage claim was specifically excluded from this effort.

The purpose of our visual survey was to document the current condition of the existing curtainwall and skylights of the portions of the building under consideration. During our survey, PSI made note of observed deficiencies and their respective locations.

PSI utilized digital cameras and infrared thermography to assist in our visual inspection. Our survey was performed from ground level as well as from a provided aerial lift from the exterior of the building and from readily accessible portions of the roof and interior spaces. As part of our field survey efforts, on site personnel and/or maintenance staff with historical knowledge of the building were briefly interviewed regarding building condition and performance.

Infrared Thermography

Infrared thermography is a real-time, two-dimensional technology and is the process of acquisition and analysis of thermal information from non-contact thermal imaging devices. The purpose of the Infrared Thermography was utilized to detect and/or locate any potential moisture intrusion concerns within the selected interior curtainwall systems by searching for temperature variations. The temperature variations detected with the infrared camera often correspond to elevated moisture levels. As per the client's request, destructive investigation techniques were not performed during this infrared survey. PSI utilized a FLIR T640 infrared scanner and imaging system to survey the interior curtainwall systems.

Survey Observations

The On March 11th and 12th, 2015, PSI performed a visual curtainwall (and glazed openings) and skylight survey with limited infrared thermography investigation at the areas of the building highlighted in green as shown on the provided plan view layout to the building (attached to this report for reference as Figure 1). During the infrared thermography portion of the investigation, PSI scanned the interior curtainwall systems. Thermograms collected on site during our survey are attached to this report.

Visual Investigation

The curtainwall systems of the building consists of single pane tempered safety glass manufactured by either RC or Amerada. Glazing material is set in aluminum framed curtainwall.



Metal storm louvers were observed to be installed at a majority of the systems on the exterior of the aluminum framed curtainwall. Interior and exterior glazing seals consisted of rubber gaskets. The aluminum frames to interior gypsum wallboard transition is sealed with flexible sealant around the perimeter. The exterior frame to wall transition is also sealed with flexible sealant. In some areas the sealant has been painted.

With the exception of the delaminated glazing in the north wing the majority of the curtainwall systems were observed to be in overall fair to good condition. For example, although the curtainwall systems appeared that they had been in place for several years, deteriorated exterior rubber glazing gasket sealants were not typically observed. However, some deficiencies were observed and are summarized below. Representative photographs documenting the observed deficiencies are attached to this report. The locations of the deficiencies are shown on the attached Figures 2-5 as well as in the attached Deficiency Matrix.

1. Ticketing

The Ticketing area observed was located on the south elevation of the complex towards the east side of the building. The aluminum framed curtainwall systems associated with the Ticketing area are single pane tempered safety glass manufactured by RC and constructed with interior and exterior rubber glazing gasket sealants and flexible perimeter frame to wall transition sealant. The window assembly configuration is typically consistent throughout the area. Window assemblies typically consist of upper and lower panels of glass measuring approximately 51" in width x 100" in height in sets of seven for the upper panels and 60" in width x 100" in height in varying sets of either four to seven for the lower panels depending upon if aluminum framed automatic entrances are present or not. The aluminum framed curtainwall systems were in overall fair to good condition. However, deteriorated flexible sealant was observed at all perimeters at the frame to exterior wall transitions due to age and exposure to the elements.

The skylight appeared to be constructed of Lexan type plastic material with aluminum framing. The skylights measured approximately 4'7" x 4'7" in size and were in groups of three or six. A total of eight sets of skylights are associated with the Ticketing area. The skylights were investigated and designated from the east to the west. Overall skylights appeared to be in fair condition. Deteriorated flexible sealant was observed at all perimeters at the frame to exterior wall transitions due to age and exposure to the elements.

The third set of skylights (group of six) were observed to have significant cracking in two of the skylights. The first cracking skylight was the center skylight in the east row while the second cracking skylight was the south skylight in the west row. The fourth set of skylights (group of six) were observed to have significant cracking in one of the individual skylights.



The cracking was located on the north skylight in the west row. The fifth set of skylights (group of six) were observed to have significant cracking in one of the individual skylights.

The cracking was located on the south skylight in the east row. The observed cracking was completely through the Lexan plastic. Fortunately the skylights in this area are outside the building within the overhang, however water penetration is still occurring at these locations and dripping onto the areas below.

2. Atrium

The Atrium area observed was located on the south and north elevations of the building towards the center of the building. Two types of aluminum frames curtainwall systems are in place throughout the Atrium area. The first type is located throughout the south elevation of the area. The aluminum framed curtainwall associated with this elevation are constructed of single pane tempered safety glass manufactured by RC and constructed with rubber glazing gasket seals and flexible perimeter sealant at interior and exterior frame to wall transitions.

Window assemblies consist of upper and lower panels of glass measuring approximately between 45" in width to 90" in width x 100" in height in varying sets of four to eleven for the upper panels and 76" in width to 78" in width x 100" in height in varying sets of either two to six for the lower panels separated by aluminum frames automatic entrances. The aluminum framed curtainwall systems at this location were in overall fair to good condition with no observed deficiencies throughout the interior and exterior of the building. However, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements.

The second type of system in the Atrium is located throughout the north elevation of the area. The aluminum framed curtainwall associated with this elevation are constructed of single pane tempered safety glass manufactured by RC and constructed with rubber glazing gasket seals and flexible perimeter sealant at the frame to wall transition. The systems on the north elevations on the east and west sides of the concourse associated with the Atrium area appear to be constructed in the similar manner with the exception that the aluminum framing is rounded instead of rectangular framing. The window assemblies typically consist of vertical panels with twelve lites of glass measuring approximately 77" in width x 21" in height.



On the northwest side of the Atrium, there are seven bays. Six of those bays are constructed with two vertical panels while the seventh bay is constructed of six vertical panels. Within the seventh bay is an entrance/exit to the Atrium area with eight lites of glass instead of twelve above the doors. The aluminum framed curtainwall systems at this location were in overall fair condition with minor deficiencies noted throughout the interior and exterior of the building.

On the northwest elevation in the Atrium evidence of moisture and water intrusion was observed at the last panel on the right side of the 1st bay east of the Concourse. On the exterior of the rounded aluminum framing a flexible sealant was observed to have been applied to the horizontal to vertical mullion transitions. These transitions have missing, deteriorated, or partially un-adhered flexible sealant. However, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transition due to age and exposure to the elements. Damaged gaskets were observed at a total of five locations throughout the west side of the north Atrium elevation.

Infrared thermography investigation verified the locations of potential moisture intrusion observed throughout the interior curtainwall glazing systems. On the northwest elevation in the Atrium evidence of moisture and water intrusion was observed and verified with infrared thermography at the last panel on the right side of the 1st bay east of the Concourse.

On the northeast side of the Atrium, there are three bays with two vertical panels in each bay with the same size window assemblies. The aluminum framed curtainwall units were in overall fair condition with no observed deficiencies throughout the interior and exterior of the building. On the exterior of the rounded aluminum framing a flexible sealant was observed to have been applied at the horizontal to vertical mullion transitions. These transitions have missing, deteriorated, or partially un-adhered flexible sealant. However, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements.

The skylights in the Atrium appeared to be constructed of Lexan type plastic material with aluminum framing. The skylights towards the east of the Atrium area measured approximately 4'7" x 4'7" in size and were in groups of three or six. A total of three sets of skylights are associated with this area.

A second type of skylights were observed to be associated with the Atrium area. These skylights were located towards the center of the roof in this area and were constructed of the similar Lexan type plastic material with aluminum framing. The skylights measured approximately 6'8" x 6'8" in size and were in a single group of six skylights.



The skylights were investigated and designated from the east to the west. Overall skylights appeared to be in good condition. However, deteriorated flexible sealant was observed at all perimeters at the frame to exterior transitions due to age and exposure to the elements.

A translucent skylight and wall system was observed in the atrium area on the portion of the structure that extends upward from the main roof elevation. This structure has a vertical south elevation and a slanted north elevation. The translucent panels system were observed on the south and north elevations of the upward extending structure.

The translucent panels in this area are aesthetically unpleasing and are a known source of water intrusion. PSI observed evidence of the reported water intrusion on the interior of the building.

3. International Concourse/Baggage Claim

Upon direction from the client, the only glazing to be investigated throughout the International Concourse and Baggage Claim areas were the skylights above baggage claim as well as the glazing associated with the elevator shaft. The skylights appeared to be constructed of single pane glass set in structural steel framing. The skylights measured approximately 12' x 13' in size and were in a group of three (totaling 37' x 13').

Overall this particular set of skylights appeared to be in fair to good condition. However, the sealant associated with the piece of glass that was replaced on the west perimeter of the skylight system was observed to be deteriorating.

PSI investigated the glazing associated with the elevator located in the baggage claim area. Upon investigation, only the bottom lite appears to be discolored. PSI observed that a sprinkler head is directly outside the window assembly and theorized that the discoloration is due to the water directed at the window. Representatives of the airport maintenance crew reported that the window has been cleaned several times and the discoloration has remained. The window currently appears to be functioning as designed and is only aesthetically unappealing.

4. Concourse

The Concourse area observed was located on the north, east and west elevations of the building towards the north side of the building. The aluminum framed curtainwall systems associated with the Concourse area are single pane tempered safety glass manufactured by Amerada with rubber glazing gasket seals and



flexible exterior perimeter sealant. Metal storm louvers were observed to be installed or with the capability to be installed at a majority of the systems on the exterior of the aluminum framed curtainwall systems. The window assembly configuration is typically consistent throughout the area. Window assemblies typically consist of panels of glass measuring approximately 90" in width to 106" in width x 60" in height to 62" in height. Window assemblies are either stand alone or grouped in threes and one group of ten throughout the north, east, and west elevations of the concourse. The aluminum framed curtainwall systems were in overall fair condition with moderate deficiencies observed throughout the interior and exterior of the building.

Delamination was observed at the bottom of the glass at approximately 90% of the window assemblies throughout the Concourse. On the west elevation in the Concourse evidence of moisture and water intrusion was observed at the set of three aluminum framed curtainwall systems leading to the Atrium. The moisture and water intrusion was detected at the lower right corner of the north panel at the frame to interior gypsum wallboard transition. However, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transition due to age and exposure to the elements.

Infrared thermography investigation verified the locations of potential moisture intrusion observed throughout the interior curtainwall glazing systems. On the west elevation in the Concourse evidence of moisture and water intrusion was observed and verified with infrared thermography at the set of three aluminum framed curtainwall systems leading to the Atrium. The moisture and water intrusion was detected at the lower right corner of the north panel at the frame to interior gypsum wallboard transition.

Conclusions and Recommendations

Based on our survey and testing at the site, PSI concludes that the building is not currently suffering from significant moisture or water intrusion through the aluminum framed fixed curtainwalls. However, it is obvious that general maintenance of the building has been minimal or deferred for many years. It is the opinion of PSI that the majority of the aluminum framed curtainwall systems are in fair to good condition and functioning as designed. PSI understands the renovations are planned for the airport over the next 15 years, with most of the building envelope remediation occurring in years 6-15. With that in mind, PSI has developed the following recommendations.

1. Ticketing

The aluminum framed curtainwall systems were in overall fair to good condition with no observed deficiencies throughout the interior of the building. Deteriorated flexible sealant was observed at all perimeters at the frame to exterior wall transitions due to age and exposure to the elements needs to be removed and



replaced with new exterior flexible sealant. Because these areas are covered from the majority of the elements PSI recommends these repairs be performed commencing in year 10.

Overall skylights appeared to be in fair condition. Deteriorated flexible sealant was observed at all perimeters at the frame to exterior transitions due to age and exposure to the elements and needs to be removed and replaced with new exterior flexible sealant. These repairs should be performed commencing in year 6.

The third set of skylights (group of six) were observed to have significant cracking in two of the skylights. The first cracking skylight was the center skylight in the east row while the second cracking skylight was the south skylight in the west row. The fourth set of skylights (group of six) were observed to have significant cracking in one of the individual skylights.

The cracking was located on the north skylight in the west row. The fifth set of skylights (group of six) were observed to have significant cracking in one of the individual skylights. The cracking was located on the south skylight in the east row. The observed cracking was completely through the Lexan plastic. Fortunately the skylights in this area are outside the building within the overhang, however water penetration is still occurring at these locations and needs to be remediated. These repairs should be remediated in year 1 to alleviate water and moisture intrusion to the covered area below.

2. Atrium

The 1st type of aluminum framed curtainwall systems located on the south elevation were in overall fair to good condition with no observed deficiencies throughout the interior of the building. However, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements needs to be removed and replaced with new exterior flexible sealant. Because the majority of these areas are somewhat protected from the elements, these repairs should be performed commencing in year 10.

The 2nd type of aluminum framed curtainwall systems located on the north elevation were in overall fair to good condition with minor deficiencies throughout the interior and exterior of the building. On the northwest elevation in the Atrium evidence of moisture and water intrusion was observed at the last panel on the right side of the 1st bay east of the Concourse. These repairs should be remediated in year 1 to alleviate water and moisture intrusion to the interior of the building. On the exterior of the rounded aluminum framing a flexible sealant was observed to have been applied to the horizontal to vertical mullion transitions. These transitions have missing, deteriorated, or partially un-adhered flexible sealant that needs to be remediated in year 1. However, deteriorated flexible sealant was observed at



all exterior perimeters at the frame to wall transition due to age and exposure to the elements and needs to be removed and replaced with new exterior flexible sealant. These repairs should be performed commencing in year 7. Damaged exterior rubber glazing gaskets were observed at a total of five locations throughout the west side of the north Atrium elevation. These repairs should be performed in year 1.

Overall skylights appeared to be in fair to good condition. However, deteriorated flexible sealant was observed at all perimeters at the frame to exterior transitions due to age and exposure to the elements and needs to be removed and replaced with new exterior flexible sealant. These repairs should be performed commencing in year 5.

Based on the age, aesthetic appearance and lack of proper performance, the translucent skylight and wall panels on the portion of the structure extending upward from the main roof area should be replaced. PSI recommends performing water leakage repairs soon and ultimately replacing the existing system with an aluminum framed and translucent glass system in year 6.

3. International Terminal/Baggage

Overall this particular set of skylights appeared to be in fair to good condition. The sealant associated with the piece of glass that was replaced on the west perimeter of the skylight system is deteriorating and needs to be replaced. These repairs should be performed commencing in year 1.

The lower lite in the elevator window currently appears to be functioning as designed and is only aesthetically unappealing. PSI recommends pursuing more stringent cleaning methods to remove the existing residue as well as directing or eliminating the sprinkler head from contacting the window assembly. These repairs should be remediated sooner than the current schedule. Repairs should be performed in year 1.

4. Concourse

The aluminum framed curtainwall systems were in overall fair condition with moderate deficiencies observed throughout the interior and exterior of the building. Delamination was observed at the bottom of the glass at approximately 90% of the window assemblies throughout the Concourse. These repairs should be performed commencing in year 6. During the remediation design of the replacement of the glass for these areas, consideration should be given to applicable building code requirements. Specifically, it is likely that due to the size of the replacement project relative to the amount of curtainwall in place and the coastal geographic location, the glazing will need to be large missile impact resistant. Although plans and NOAs



were not available for review as part of this effort, based on inspection, it is unlikely that the current systems are missile impact resistant. Additionally, deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements. These repairs should be performed commencing in year 5. On the west elevation in the Concourse evidence of moisture and water intrusion was observed at the set of three aluminum framed storefront/curtainwall systems leading to the Atrium. The moisture and water intrusion was detected at the lower right corner of the north panel at the frame to interior gypsum wallboard transition. These repairs should be performed in year 1 to alleviate water and moisture intrusion to the interior of the building.

Limitations

The findings and observations presented herein this report are time-dependent based on the observations and testing at the time of our survey (March 11th and 12th, 2015), and conditions may have changed or worsened since the time of our observations. PSI's survey was limited to the areas of the building that were readily accessible. Deficiencies in areas not observable or accessible may be present.

Any revisions made to the findings enumerated in this report should be brought to the attention of Professional Service Industries, Inc. If deviations from noted construction or conditions are encountered during the remedial application, they should also be brought to the attention of Professional Service Industries, Inc.

The recommendations included herein are preliminary in nature and are not intended to be a substitute for design level engineering recommendations. PSI recommends that design level bid documents be prepared for most of the remediation recommended above by a qualified professional Engineer, Architect or Consultant. Contractor submittals should be reviewed by the same professional that produced the bid package to ensure product compliance with the design intent. The remediation work be performed by a licensed commercial contractor with experience in the regional area.

Quality assurance inspections should be performed by a third party professional consulting and inspection firm during the performance of the work to ensure compliance with the remedial design intent and approved submittals. If needed, PSI is qualified to generate design level remediation bid documents, repair details and specifications. If needed, PSI can also provide construction/contract administration process including pre bid/preconstruction meetings, reviewing bids and reviewing submittals.

PSI is also qualified to perform quality assurance inspections during the repair process to ensure conformance with the contract documents. Please contact the undersigned if assistance with these types of additional services is needed.



PSI warrants that these findings have been presented, after being prepared in accordance with generally accepted engineering practices. No other warranties are expressed or implied.

Note: Regarding Mold and Other Interior Microbial Organisms

It should be noted that the scope of work on this project did not include inspection or testing for the presence of mold or other indoor microbial organisms. Therefore, PSI does not assume any liability for the presence of mold and/or other microbial organisms in this facility before, during or after our services are/were completed.

Additionally, BRPH acknowledges that mold is ubiquitous to the environment with mold amplification occurring when the building materials are impacted by moisture. BRPH further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture.

Closure

PSI appreciates that opportunity to have been of service to you and look forward to working with you on future projects. Should you require any additional information concerning our report or if we can assist you in another way, please feel free to contact the undersigned at (407) 304-5560 at your convenience.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.



Brandon Mahanna, CIT
Senior Project Manager
Facilities Engineering & Consulting



Darek Brandt, PE (Florida)
Principal Consultant/Regional Engineer
Facilities Engineering & Consulting

- Attachments: 1. Photographs
2. Remediation Spreadsheets
3. Deficiency Matrix
4. Survey Condition Drawings



PSI is a Miami Dade County approved testing laboratory. Certificate #13-0820.11





Photo 1: Window assemblies in the ticketing area throughout the south elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 2: The aluminum framed curtainwall systems in the Ticketing area are single pane tempered safety glass manufactured by RC.



Photo 3: Deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements.



Photo 4: Deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements.



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Photo 5: Exterior view of aluminum framed curtainwall systems in the Ticketing area.



Photo 6: Exterior rubber glazing gasket sealants in the Ticketing area.

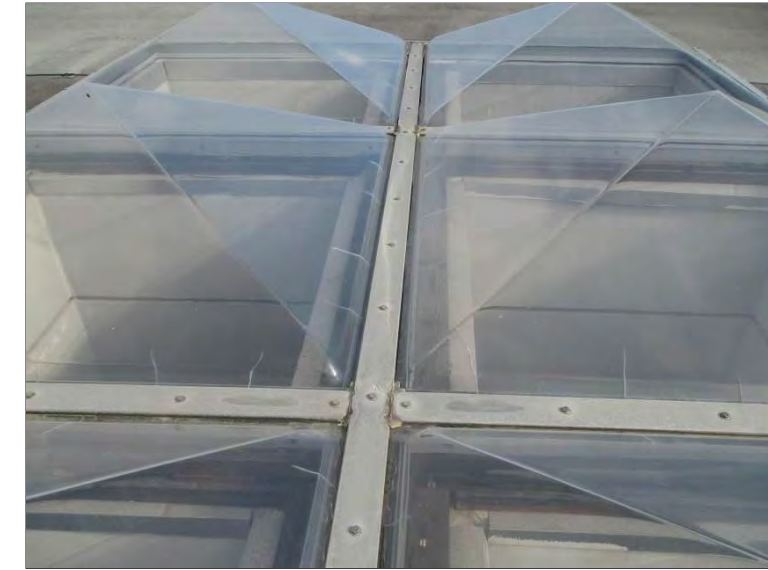


Photo 11: Skylights in the Ticketing area where PSI performed a visual survey to document current condition and note observed deficiencies.



Photo 12: Skylights in the Ticketing area were constructed of a Lexan type plastic material with aluminum framing. The skylight measured approximately 4'7" x 4'7" in size.



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Photo 13: Example of a skylight observed to be in fair condition.



Photo 14: Deteriorated flexible sealant was observed at all perimeter panels to exterior frame transitions due to age and exposure to the elements in the Ticketing area.

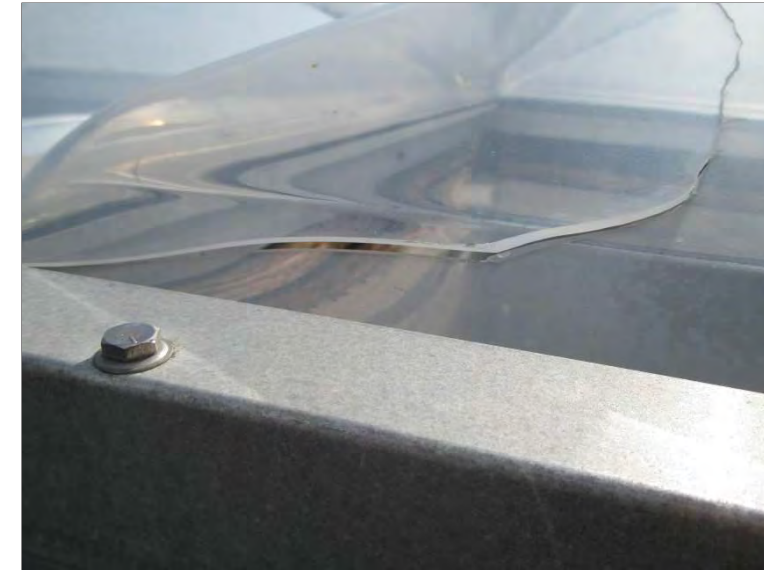


Photo 15: Cracking observed at skylight location in the Ticketing area.



Photo 16: Cracking observed at skylight location in the Ticketing area.



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Photo 17: Cracking observed at skylight location in the Ticketing area.



Photo 18: Cracking observed at skylight location in the Ticketing area.

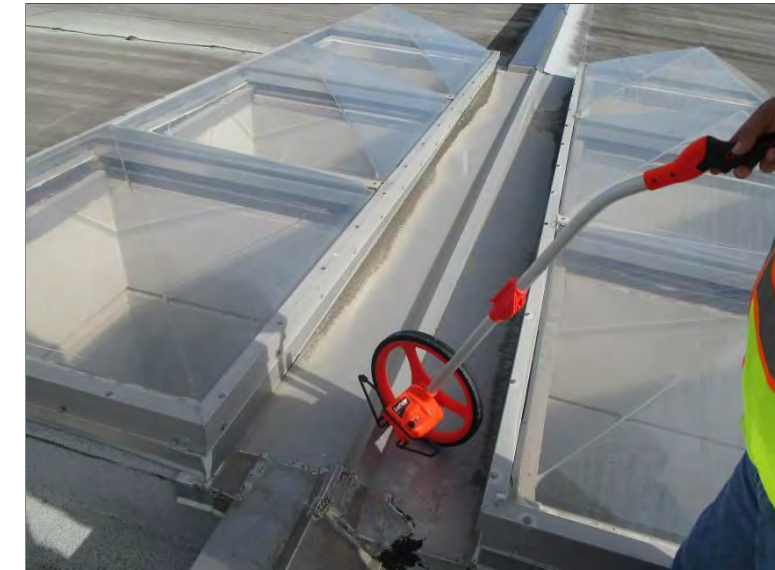


Photo 19: Skylights at the expansion joint on the roof separating the Ticketing and Atrium areas.



Photo 20: Window assemblies in the Atrium area throughout the south elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



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Photo 21: Overview of south elevation of translucent panel system of elevated structure on Atrium roof.



Photo 22: Overview of translucent panels on south elevation of elevated structure on Atrium roof.



Photo 23: Deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements in the Atrium area.



Photo 24: Deteriorated flexible sealant was observed at all exterior perimeters at the frame to wall transitions due to age and exposure to the elements in the Atrium area.



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Photo 25: Exterior view of aluminum framed curtainwall systems in the Atrium area.



Photo 26: Interior view of window assemblies in the Atrium area throughout the south elevation.



Photo 27: The aluminum framed curtainwall systems in the Atrium area are single pane tempered safety glass manufactured by RC.



Photo 28: Interior view of the aluminum framed curtainwall systems constructed with interior rubber glazing gasket sealants and flexible perimeter sealant in the Atrium area.



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Photo 29: Skylights in the center of the Atrium area where PSI performed visual survey to document current condition and note observed deficiencies.

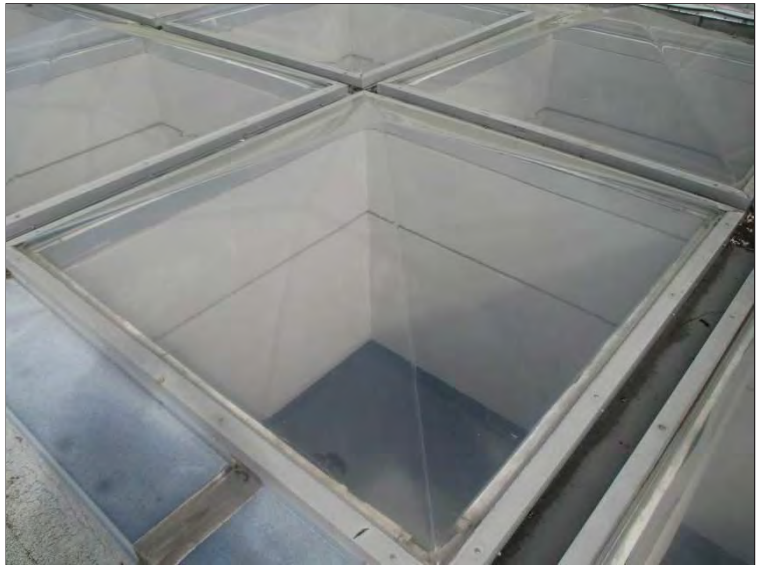


Photo 30: Skylights are constructed of a Lexan type plastic material with aluminum framing. The skylights in the center measured approximately 6'8" x 6'8" in size. Deteriorated flexible sealant was observed at all perimeters due to age and exposure to the elements.



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Photo 31: Example of a skylight observed to be in good condition in the Atrium area.



Photo 32: Example of a skylight observed to be in good condition in the Atrium area.



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Photo 33: Window assemblies on the north elevation of the Atrium area where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 34: Interior view of window assemblies on the northwest elevation of the Atrium area where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 35: The aluminum framed curtainwall systems in the Atrium area are single pane tempered safety glass manufactured by RC.



Photo 36: Interior view of window assemblies on the northeast elevation of the Atrium area where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



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Photo 37: Observed area containing evidence of water intrusion in the bay of vertical panels approximately 77" x 21" in size closest to the concourse on the northwest elevation at the lower right hand corner in the Atrium area.



Photo 38: Deteriorated flexible sealant was observed at all perimeters at the frame to exterior wall transitions due to age and exposure to the elements in the Atrium area.



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Photo 43: Flexible sealant on the exterior of the rounded aluminum framing applied to at the horizontal to vertical transitions in the Atrium area.



Photo 44: Missing flexible sealant on the exterior of the rounded aluminum framing applied to at the horizontal to vertical transitions in the Atrium area.



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Photo 45: Deteriorated or pulling away flexible sealant on the exterior of the rounded aluminum framing applied to at the horizontal to vertical transitions in the Atrium area.



Photo 46: Window assemblies in the Concourse area throughout the east elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 47: Window assemblies in the Concourse area throughout the north elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 48: Window assemblies in the Concourse area throughout the west elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



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Photo 49: Window assemblies in the Concourse area throughout the west elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 50: Window assemblies in the Concourse area throughout the west elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



Photo 51: Window assemblies in the Concourse area throughout the west elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.

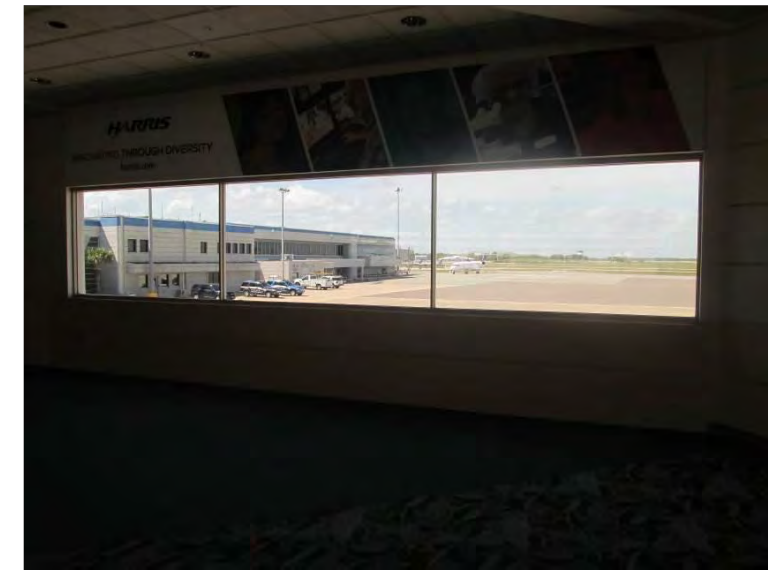


Photo 52: Interior view of window assemblies in the Concourse area throughout the west elevation where PSI performed a visual curtainwall and glazed openings survey to document current condition and note observed deficiencies.



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Photo 53: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



Photo 54: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



Photo 55: Observed area containing evidence of water intrusion in the bay of three windows on the west elevation of the Concourse area closest to the Atrium area at the lower right hand corner where the aluminum framing transitions to the interior gypsum wallboard.

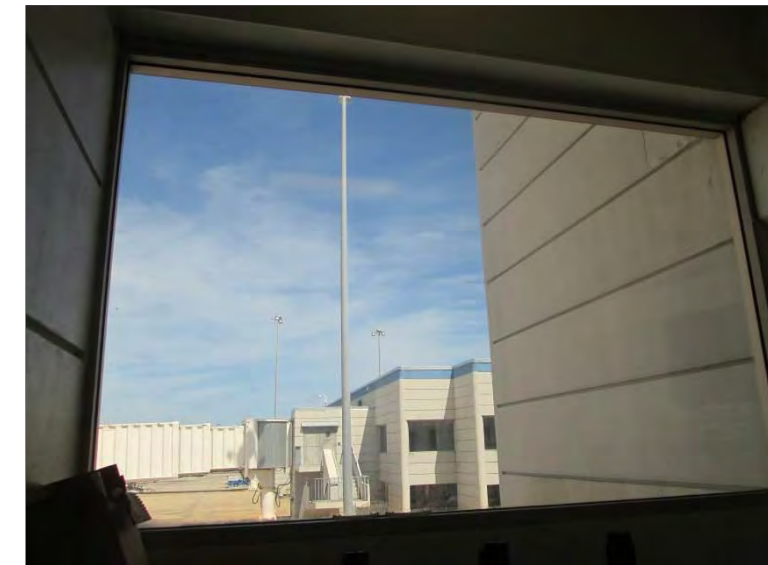


Photo 56: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



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Photo 57: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



Photo 58: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



Photo 59: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



Photo 60: Delamination observed within the single pane tempered safety glass throughout the Concourse area.



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Photo 61: The aluminum framed curtainwall systems are single pane tempered safety glass manufactured by Amerada throughout the Concourse area.



Photo 62: Discolored bottom lite associated with the elevator in the baggage claim area. The window currently appears to be functioning as designed and is only aesthetically unappealing.



Photo 63: Observed sprinkler head directly outside the window assembly that appears to be directed at the window causing the discoloration.



Photo 64: Skylights in the international terminal/baggage claim area. Skylights appeared to be constructed of single pane glass set in structural steel framing. The skylights measured approximately 12' x 13' in size and were in a group of three (totaling 37' x 13').



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Photo 65: Skylights in the international terminal/baggage claim area. Skylights appeared to be constructed of single pane glass set in structural steel framing. The skylights measured approximately 12' x 13' in size and were in a group of three (totaling 37' x 13').



Photo 66: The sealant associated with the piece of glass that was replaced on the west perimeter if the skylight system was observed to be deteriorating and needs to be replaced.



Photo 67: Digital image of the main entrances to the Atrium area.



Photo 68: Thermal image of the main entrances to the Atrium area. No thermal differences were present indicative of moisture intrusion.



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Photo 69: Digital image of the curtainwall systems on the north elevation of the Atrium area.

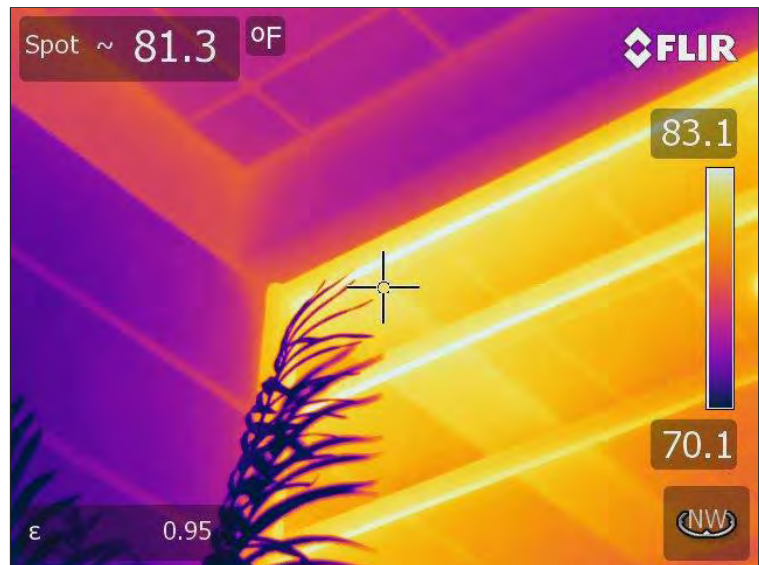


Photo 70: Thermal image of the curtainwall systems on the north elevation of the Atrium area. No thermal differences were present indicative of moisture intrusion.



Photo 71: Digital image of the curtainwall systems on the south elevation of the Atrium area.



Photo 72: Thermal image of the curtainwall systems on the south elevation of the Atrium area. No thermal differences were present indicative of moisture intrusion.



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Photo 73: Digital image of the skylights associated with the Ticketing area.



Photo 74: Thermal image of the skylights associated with the Ticketing area. No thermal differences were present indicative of moisture intrusion.



Photo 75: Digital image of the curtainwall systems throughout the Concourse area.



Photo 76: Thermal image of the curtainwall systems throughout the Concourse area. No thermal differences were present indicative of moisture intrusion.



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Photo 77: Digital image of the curtainwall systems on the northwest elevation in the Atrium area where evidence of moisture and water intrusion was observed at the last panel on the right side of the 1st bay east of the Concourse.



Photo 78: Thermal image of the curtainwall systems on the northwest elevation in the Atrium area where evidence of moisture and water intrusion was observed at the last panel on the right side of the 1st bay east of the Concourse.



Photo 79: Digital image of the curtainwall systems on the west elevation in the Concourse area where evidence of moisture and water intrusion was observed at the set of three aluminum framed curtainwall systems leading to the Atrium at the lower right corner of the north panel at the frame to interior gypsum wallboard transition.



Photo 80: Thermal image of the curtainwall systems on the west elevation in the Concourse area where evidence of moisture and water intrusion was observed at the set of three aluminum framed curtainwall systems leading to the Atrium at the lower right corner of the north panel at the frame to interior gypsum wallboard transition.



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PSI Project No. 0753-1349

Curtain Wall / Skylight Assessment



Ticketing

PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

REF.		IDENTIFICATION	ESTIMATES				IMMED. NEEDS Year 0	NEEDS DISTRIBUTION (\$)																		
Item No.	Deficiency No.		Qty.	Unit	Unit Costs (\$)	RUL Years		NEEDS OVER THE TERM																		
		Property/Building Component																Total over Term								
001	1	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior wall transitions on the south elevation.	1,169	LF	6.00	10																		7,014	7,014	
002	2	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior transitions of the skylights	658	LF	6.00	5																			3,948	3,948
003	3	Replace cracking skylights.	1	LS	9,000.00	1																			9,000	9,000
Notes			Yearly Total, UNINFLATED				0	9,000	0	0	0	0	0	3,948	0	0	0	0	7,014	0	0	0	0	0	0	19,962
			Inflation Factor, w/ Rate = 3.0 %				N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45				N/A
			Yearly Total, INFLATED				0	9,270	0	0	0	0	0	4,659	0	0	0	0	9,118	0	0	0	0	0	0	23,047



Atrium

PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

REF.		IDENTIFICATION	ESTIMATES				IMMED. NEEDS Year 0	NEEDS DISTRIBUTION (\$)																			
Item No.	Deficiency No.		Qty.	Unit	Unit Costs (\$)	RUL Years		NEEDS OVER THE TERM																			
		Property/Building Component																Total over Term									
001	1	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior wall transitions on the south elevation.	560	LF	6.00	10																			3,360	3,360	
002	2	Remediate water intrusion on the northwest elevation at the 1st bay of vertical panels from the concourse area at the lower right corner.	1	LS	750.00	1																				750	750
003	3	Apply flexible sealant to rounded aluminum framing where missing, deteriorated, or partially un-adhered at the horizontal to vertical mullion transitions.	1	LS	12,100.00	1																				12,100	12,100
004	4	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior wall transitions on the north elevation.	1,772	LF	6.00	7																				10,632	10,632
005	5	Remediate damaged exterior rubber glazing gaskets.	5	EA	150.00	1																				750	750
006	6	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior transitions of the skylights	270	LF	6.00	5																				1,620	1,620
007	7	Perform water intrusion repairs at translucent panels	1	LS	2,500.00	1																				2,500	2,500
008	8	Replace translucent panels on elevated structure	1	LS	2,500.00	1																				100,000	100,000
Notes			Yearly Total, UNINFLATED				0	16,100	0	0	0	1,620	100,000	10,632	0	0	3,360	0	0	0	0	0	0	0	0	131,712	
			Inflation Factor, w/ Rate = 3.0 %				N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45				N/A	
			Yearly Total, INFLATED				0	16,583	0	0	0	1,863	118,000	12,865	0	0	4,368	0	0	0	0	0	0	0	0	153,679	



PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

International Concourse & Baggage Claim

REF.		IDENTIFICATION Property/Building Component	ESTIMATES				NEEDS DISTRIBUTION (\$)																		
Item No.	Deficiency No.		Qty.	Unit	Unit Costs (\$)	RUL Years	IMMED. NEEDS Year 0	NEEDS OVER THE TERM															Total over Term		
								2015 Year 01	2016 Year 02	2017 Year 03	2018 Year 04	2019 Year 05	2020 Year 06	2021 Year 07	2022 Year 08	2023 Year 09	2024 Year 10	2025 Year 11	2026 Year 12	2027 Year 13	2028 Year 14	2029 Year 15			
001	1	Reglaze perimeter glazing sealant around one lite at the west side of the skylights	1	LS	1500	1		1500																1500	
002	2	Stringent cleaning of the lower lite associated with the elevator in the baggage claim and directing or eliminating sprinkler head from contacting the window assembly	1	LS	750.00	1		750																750	
Notes							LS - Lump Sum	Yearly Total, UNINFLATED	0	2,250	0	0	0	0	0	0	0	0	0	0	0	0	0	2,250	
							EA - Each	Inflation Factor, w/ Rate = 3.0 %	N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45	N/A
							SF - Square Foot	Yearly Total, INFLATED	0	2,318	0	0	0	0	0	0	0	0	0	0	0	0	0	2,318	
							SY - Square Yard																		
							LF - Linear Foot																		



PSI Project No. 0753-1349
 Property Name Melbourne International Airport
 Property Address: 1 Air Terminal Parkway
 City Melbourne
 State Florida
 Report Date: March 27, 2015

Main Concourse

REF.		IDENTIFICATION Property/Building Component	ESTIMATES				NEEDS DISTRIBUTION (\$)																		
Item No.	Deficiency No.		Qty.	Unit	Unit Costs (\$)	RUL Years	IMMED. NEEDS Year 0	NEEDS OVER THE TERM															Total over Term		
								2015 Year 01	2016 Year 02	2017 Year 03	2018 Year 04	2019 Year 05	2020 Year 06	2021 Year 07	2022 Year 08	2023 Year 09	2024 Year 10	2025 Year 11	2026 Year 12	2027 Year 13	2028 Year 14	2029 Year 15			
001	1	Remove and replace deteriorated flexible sealant at all perimeter at the frame to exterior wall transitions.	1,742	LF	6.00	5									10,452									10,452	
002	2	Replace delaminated window assemblies throughout the area	65	EA	1,500.00	5									97,500									97,500	
003	3	Remediate water intrusion on the west elevation at the set of three windows closest to the Atrium	1	LS	750.00	1		750																750	
Notes							LS - Lump Sum	Yearly Total, UNINFLATED	0	750	0	0	0	0	107,952	0	0	0	0	0	0	0	0	0	108,702
							EA - Each	Inflation Factor, w/ Rate = 3.0 %	N/A	1.030	1.06	1.09	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45	N/A
							SF - Square Foot	Yearly Total, INFLATED	0	773	0	0	0	0	127,383	0	0	0	0	0	0	0	0	0	128,156
							SY - Square Yard																		
							LF - Linear Foot																		

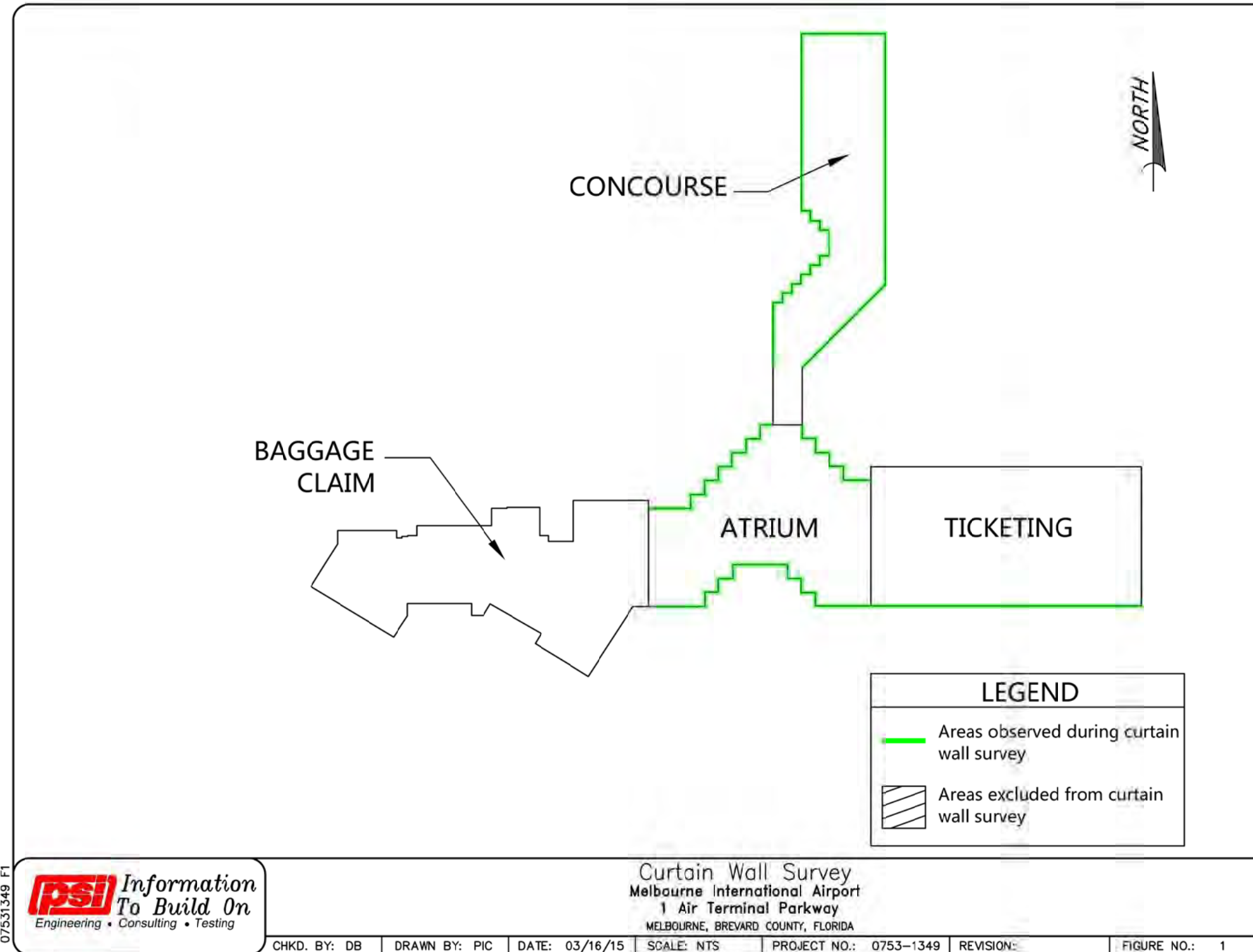
Curtain Wall / Skylight Assessment

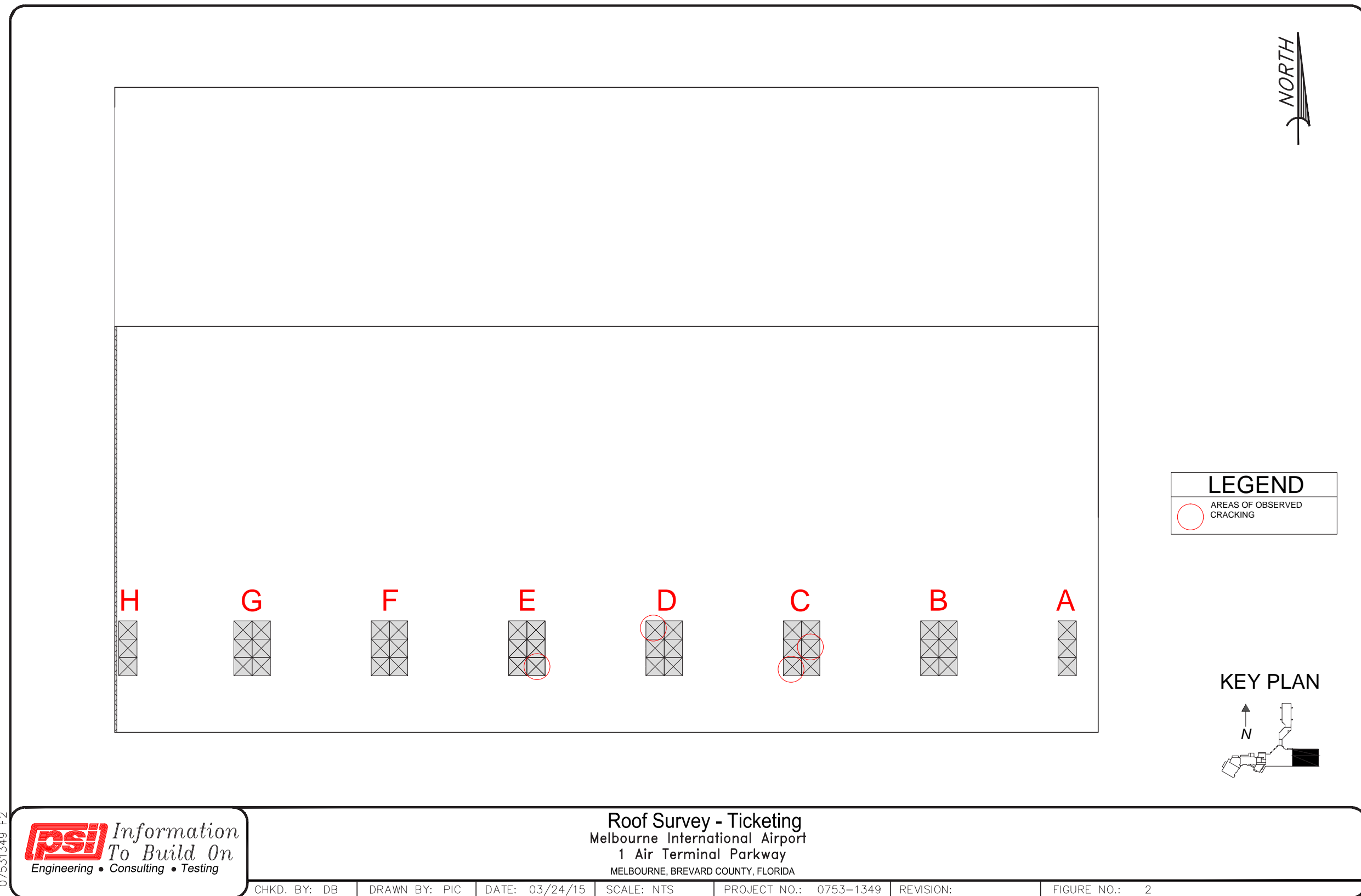
Melbourne International Airport Curtainwall and Skylight Investigation		
Section	Measurements	Deficiencies
1 South Elevation	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Seven bottom panels with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Four bottom panels with two panels on each side of the automatic doors with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Seven bottom panels with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Four bottom panels with two panels on each side of the automatic doors with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Seven bottom panels with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Four bottom panels with two panels on each side of the automatic doors with the same measurements as the top panels.	Interior None Observed Exterior None Observed
	Seven top panels with the east and west panels measuring 51" w x 100" h. The middle panels measure 60" w x 100" h. Seven bottom panels with the same measurements as the top panels.	Interior None Observed Exterior None Observed
1	Eight sets of skylights measuring 4' 7" x 4' 7" each in groups of three or six. Investigated and designated A-H from east to west.	A-None Observed B-None Observed C-Open cracking on the east row center skylight. D-Open cracking on the west row south skylight. E-Open cracking on the east row north skylight. F-None Observed G-None Observed H-None Observed

2	Three sets of skylights measuring 4' 7" x 4' 7" each in groups of three or six. Investigated and designated A-C from east to west.	A-None Observed B-None Observed C-None Observed
	One set of six skylights measuring 6' 8" x 6' 8" each.	None Observed
2 South Elevation	Four top panels 76" w x 100" h. Two lower panels with one on each side of the automatic doors 76" w x 83" h.	Interior None Observed Exterior None Observed
	Eleven top panels ranging from 45" w to 90" w x 100" h. six lower panels with three on each side of the automatic doors 78" w x 100" h.	Interior None Observed Exterior None Observed
2 Northwest Elevation	Four top panels 76" w x 100" h. Two lower panels with one on each side of the automatic doors 76" w x 100" h.	Interior None Observed Exterior None Observed
	Six vertical panels with sizes 77" w x 21" h. Two on each side of the automatic doors and two above the doors.	Interior None Observed Exterior Damaged gasket 2nd pane from ground left side Damaged gasket 6th pane from ground 1st panel west of doors
2 Northeast Elevation	Six bays total with two vertical panels of 77" w x 21" h in each bay.	Interior Evidence of water intrusion at last panel on right side Exterior Damaged gasket 9th pane from ground east vertical Damaged gasket 5th pane from ground 1st panel east vertical Damaged gasket 2nd pane from ground east vertical
	Three bays with two vertical panels of 77" w x 21" h in each bay. Bays are investigated and designated A-C from the east to the west.	Interior None Observed Exterior None Observed

3 West Elevation	Three panels with the north and south panels being 105" w x 62" h and the center panel being 114" w x 62" h.	Interior Delamination at the bottom of the glass. Water intrusion at the bottom right corner at the frame to wall transition Exterior None observed
	Six window assemblies that are stairstepped facing north all 97" w x 62" h. Investigated and designated A-F from the south to the north.	Interior A-None Observed B-Delamination at the bottom of the glass C-Delamination at the bottom of the glass D-Delamination at the bottom of the glass E-Delamination at the bottom of the glass F-Delamination at the bottom of the glass Exterior None Observed
	Four window assemblies that are stairstepped facing south all 97" w x 62" h. Investigated and designated A-D from the south to the north.	Interior A-None Observed B-Delamination at the bottom of the glass C-Delamination at the bottom of the glass D-Delamination at the bottom of the glass Exterior None Observed
	Seven bays total ranging from either a single window assembly or three sized 106" w x 60" h. Investigated and designated A-G from the south to the north.	Interior A-Delamination at the bottom of the glass at the single window B-Delamination at the bottom of the glass at all three windows C-Delamination at the bottom of the glass at all three windows D-Delamination at the bottom of the glass at all three windows E-Delamination at the bottom of the glass at the single window F-Delamination at the bottom of the glass at the single window G-Delamination at the bottom of the glass at all three windows Exterior None Observed
3 North Elevation	Six window assemblies 100" w x 60" h. Investigated and designated A-F from the west to the east.	Interior A-Delamination at the bottom of the glass B-Delamination at the bottom of the glass C-Delamination at the bottom of the glass D-Delamination at the bottom of the glass E-None Observed F-Delamination at the bottom of the glass Exterior None Observed

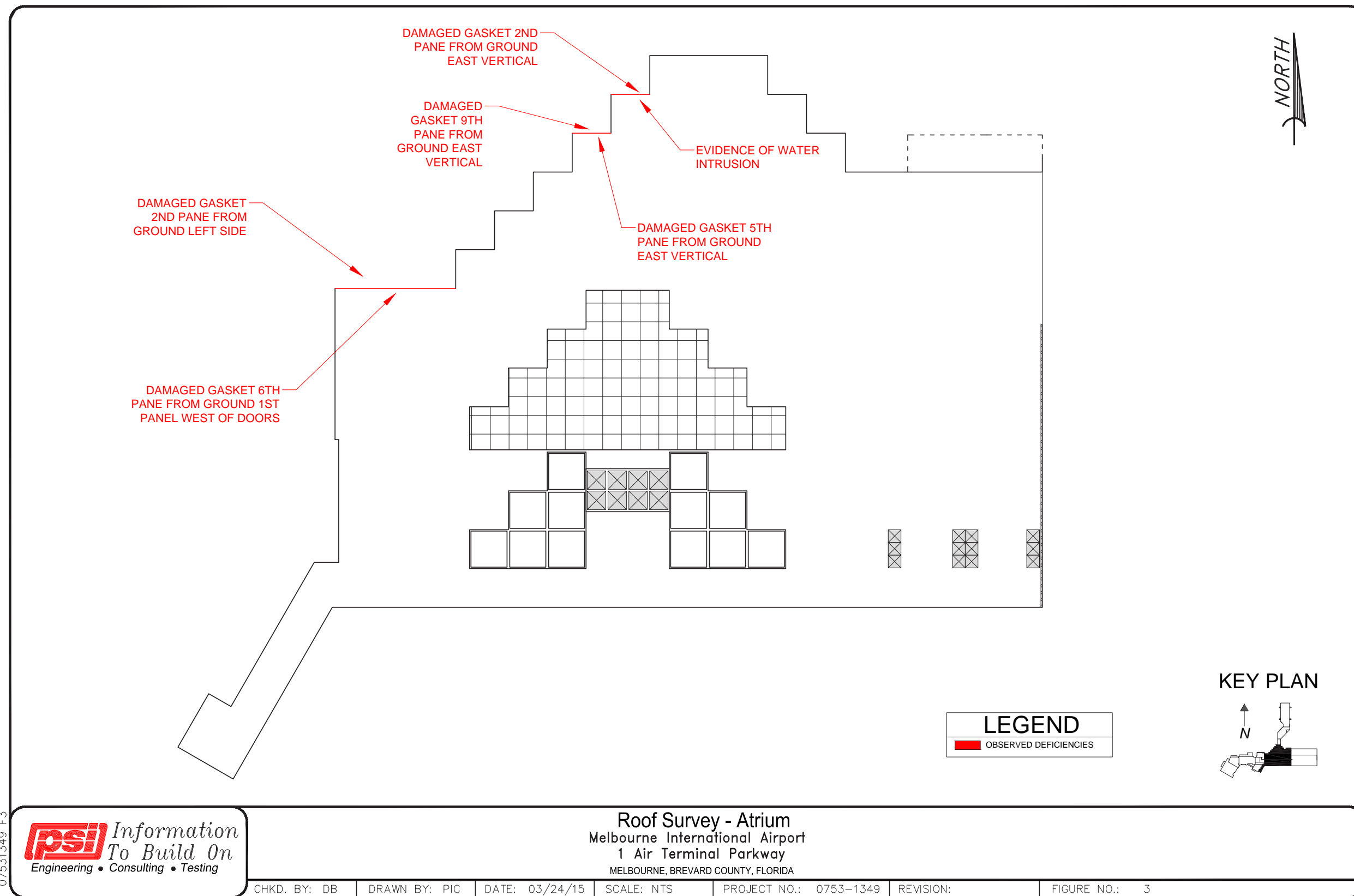
3 East Elevation	Two bays total ranging from either a single window assembly or three sized 106" w x 60" h. Investigated and designated A and B from the north to the south.	Interior A-Delamination at the bottom of the glass at the two north windows B-Delamination at the bottom of the glass at the single window Exterior None Observed
	Five bays total ranging from either a single window assembly or three sized 106" w x 60" h. Investigated and designated from the north to the south.	Interior All windows have delamination at the bottom of the glass Exterior None Observed
	Three bays total ranging from either a single window assembly or three sized 106" w x 60" h. Investigated and designated A-C from the north to the south.	Interior All windows have delamination at the bottom of the glass Exterior None Observed
	One bay with three window assemblies sized 105" w x 60" h on the north and south ends and 114" w x 60" h in the center. Investigated and designated from the north to the south.	Interior All windows have delamination at the bottom of the glass Exterior None Observed
	Ten window assemblies 90" w x 60" h. Investigated and designated A-K from the north to the south.	Interior A-Delamination at the bottom of the glass at the single window B-Delamination at the bottom of the glass at the single window C-Delamination at the bottom of the glass at the single window D-Delamination at the bottom of the glass at the single window E-None Observed F-Delamination at the bottom of the glass at the single window G-Delamination at the bottom of the glass at the single window H-Delamination at the bottom of the glass at the single window I-Delamination at the bottom of the glass at the single window J-Delamination at the bottom of the glass at the single window K-Delamination at the bottom of the glass at the single window Exterior None Observed
4	One set of three skylights measuring 12' x 13' each. Investigated and designated A-C from the east to the west.	A-None Observed B-None Observed C-Needs to be reglazed on the replacement panel on the west side of the skylight.

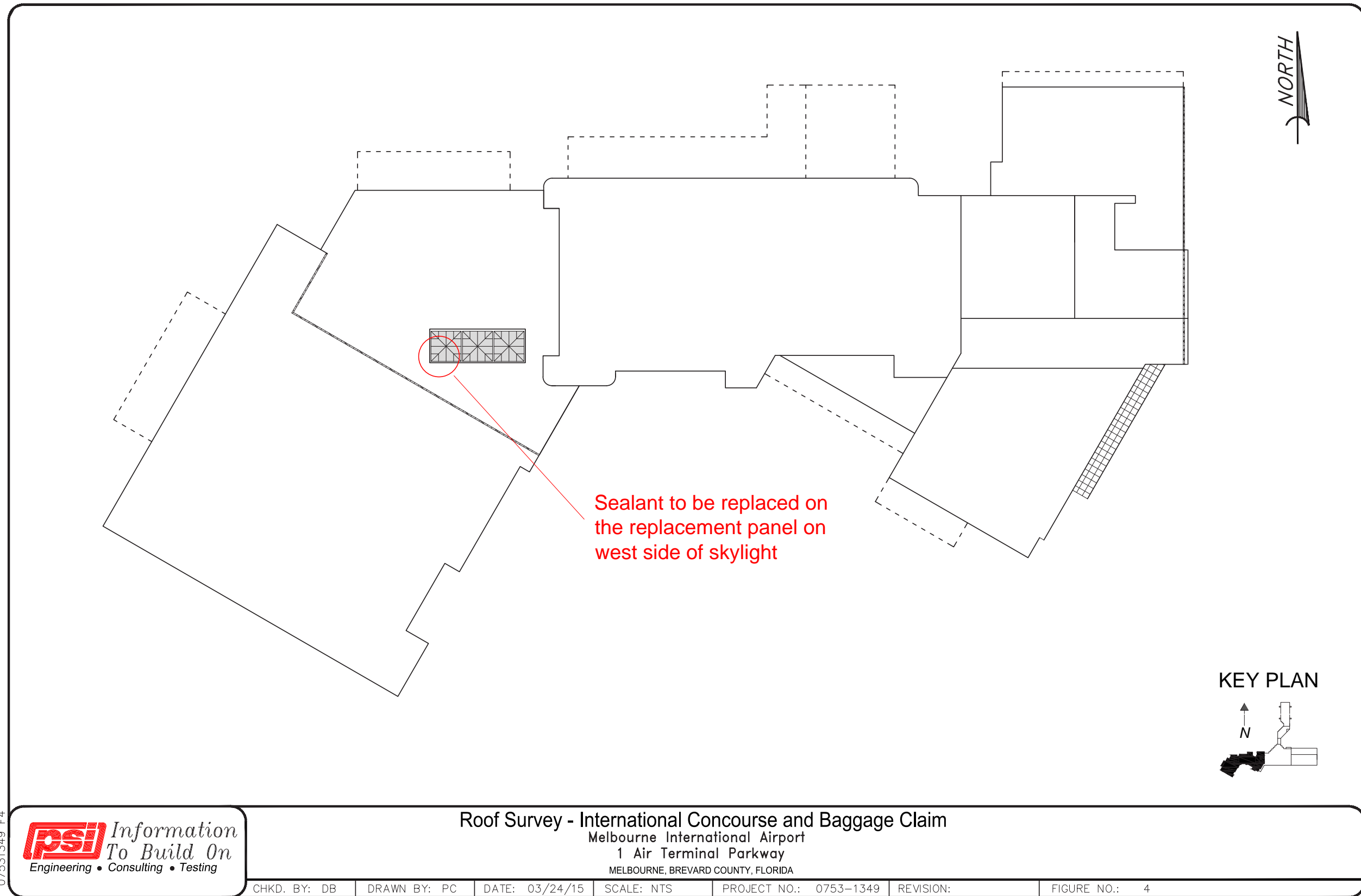


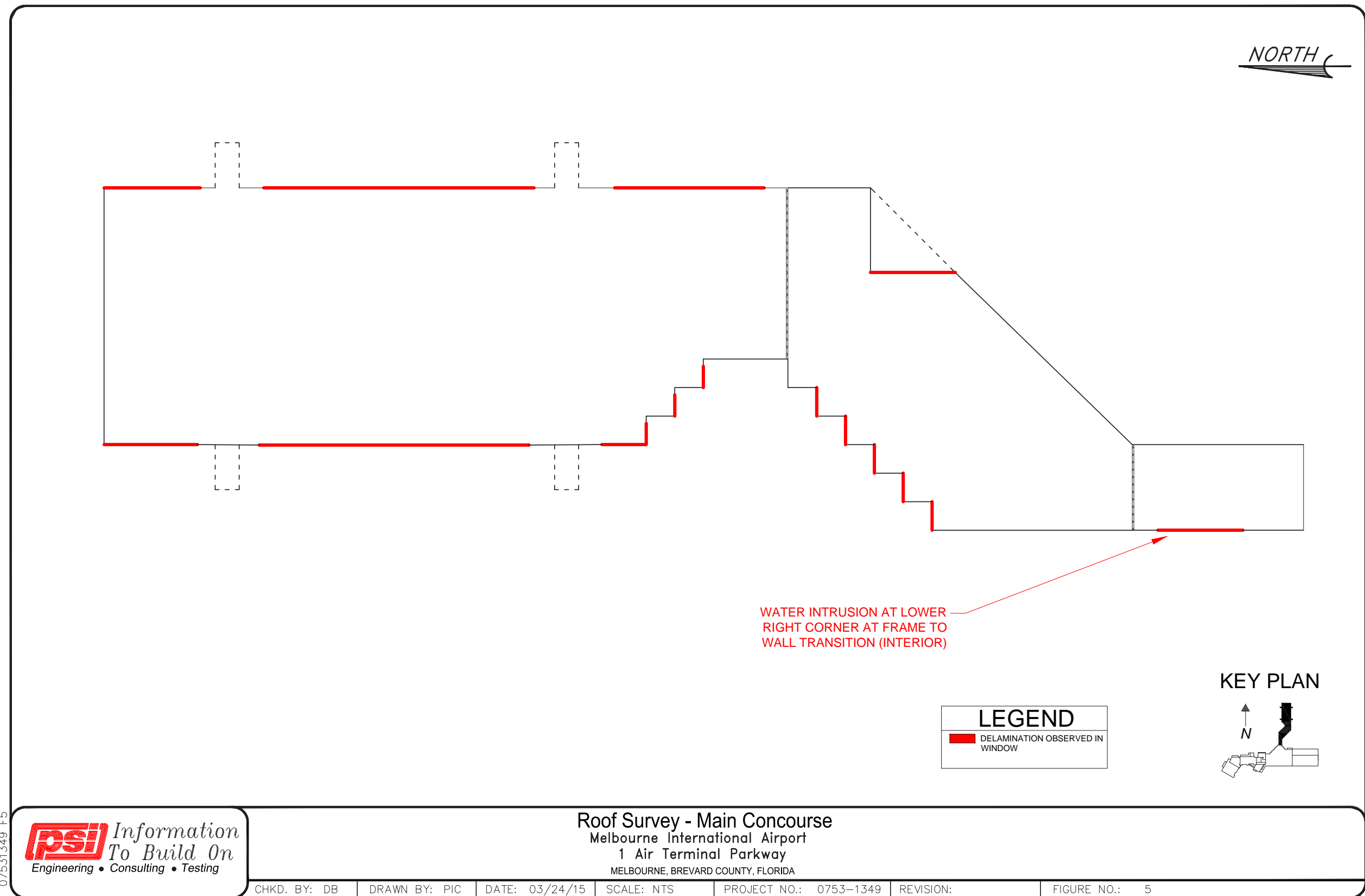


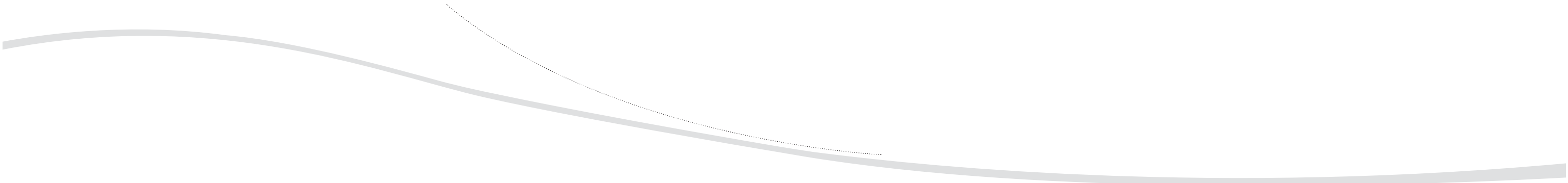
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Curtain Wall / Skylight Assessment









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FSC
Mixed Sources
Product group from well-managed
forests, controlled sources and
recycled wood or fiber

May 20, 2015

MELBOURNE AIRPORT AUTHORITY Proprietary

CREATIVE IDEAS. PRECISELY DELIVERED.

Project Status Update Report: **May 2020**

Air Traffic Control Tower:

Description: This project is a new air traffic control tower to replace the existing tower. Once complete, the existing tower will be demolished.

Designer: AEC/CTBXaviation

Contractor/CM: Walbridge

Construction Costs: \$5,895,724 (Anticipated increase of \$1,200,000 for FAA Reimbursable agreement and old tower demo)

Award Date: December 6, 2016

Completion Date: FAA move-in date: October 2019, (Final completion & tower demo: July 2020)

Status: Site work is progressing and the re-grading and sod around the tower is complete. The expansion and refurbishment of the parking lot is underway. Travel restrictions have also delayed the completion of the Phase 2 work on the tower. Closeout is now expected by the end of July 2020.

Photos:



Terminal Renovation and Expansion:

Description: In November, TUI announced that they would be flying into the Orlando Melbourne International Airport beginning in the first quarter of 2022. Terminal renovation must be completed prior to their arrival. Areas within the terminal affect by TUI flights include ticketing, baggage handling, security checkpoints, concessions, international concourse, baggage claim, Customs and Border Protection and new boarding bridges.

Designer: VHB (Space Planning only)

Contractor: TBD

Total Project Costs: \$40,000,000

Award Date: April 22, 2020

Completion Date: March 2022

Status: Project to be awarded at the May Board meeting. Project team has begun preliminary deliverable of potential design alternatives. Focus now on completing the FAA application grant for entitlement funding.

Photos:



Orlando-Melbourne International Airport Terminal Expansion
OPTION 9
AECOM
MAY 2020



International Passenger Boarding Bridges:

Description: As part of the Terminal Renovation and Expansion Project, a minimum of two passenger boarding bridges will be required at the international concourse.

Designer: TBD

Design/Builder: Aero Bridgeworks

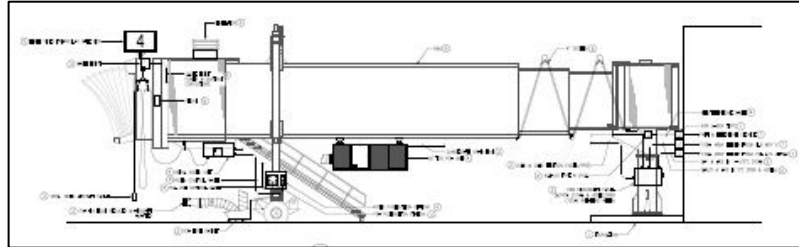
Total Project Costs: \$3,000,000 Budget (100% FAA)

Award Date: June 2020

Completion Date: November 2021

Status: Grant application for the bridges has been submitted to the FAA for approval. Once approved by the FAA the contract will be brought to a future Board meeting for approval.

Photos:



Ground Run-Up Enclosure:

Description: This facility is an enclosure to allow tenants to perform maximum power engine run-ups with little or no noise impact to the surrounding community. A siting study is to be performed for best location of the Ground Run-Up Enclosure (GRE) before the design and construction can begin. The location will be at or near the area designated on the Master Plan.

Designer: Atkins (Siting and Criteria Package Only)

Design/Builder: TBD

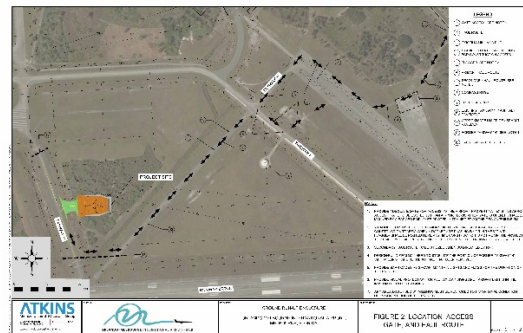
Total Project Costs: \$4,000,000 (100% Grant funded by the Florida Department of Economic Opportunity)

Award Date: May 2019

Completion Date: February 2021

Status: Design documents are passed the 30% review and will be ready to submit for permitting within the next four weeks. Project team is working with Aerion for their run-up requirements. Project completion is next March 2021.

Photos:



Passenger Boarding Bridges 7 and 4 Replacement:

Description: The Melbourne Airport Authority has begun replacing the Passenger Boarding Bridges (PBB's) with PBB #1 in 2015 and PBB #2 in 2017. This year, 2 bridges will be replaced – PBB #7 and PBB #4. Sea coast conditions have accelerated the deterioration of the PBB's causing replacement earlier than their 15-year life expectancy. FAA has accepted the accelerated deterioration and is funding 95% of their replacement. Replacement is being determined based on criteria which ranks the next PBB for replacement.

Designer: TBD

Design/Builder: Aero Bridgeworks

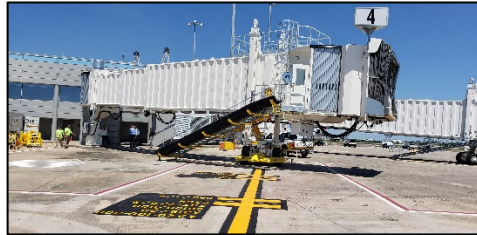
Total Project Costs: \$2,392,216 (90% FAA, 5% FDOT, 5% MAA)

Award Date: May 2019

Completion Date: June 2020

Status: Passenger Boarding Bridge 4 is complete and has been put back into service. PBB for Gate 7 is expected to start on May 26. Completion of the two bridges is expected in late June.

Photos:



Obstruction Removal and Lighting:

Description: Runway obstructions have been identified in the FAA 139 inspections. These obstructions consist mostly of trees and vegetation from Runway Protection Zones, Object Free Areas, and 7:1 Transitional Zones of RW 9L/27R, RW 9R/27L & RW 5/23. Project includes approximately ± 154 acres of vegetation, miscellaneous trees, and 15-20 L-810 obstruction lights. Operations has performed a majority of the vegetative clearing for this past year's inspection on RW 9R-27L. Obstruction lighting will be placed on buildings within the airport property as identified in the approved Master Plan.

Designer: C&S

Contractor: KCF Site Development

Total Project Costs: \$1,059,977.10 (90% FAA, 5% FDOT, 5% MAA)

Award Date: May 2019

Completion Date: August 2020

Status: Area 1 of the removal site is nearing completion. Area 2 silt fence being installed. Area 2 environmental permit received and gopher tortoise relocation complete. Area 2 clearing will begin within 2 weeks.

Photos:



Northrop Grumman Building 219 Metal Roof Replacement:

Description: The Melbourne Airport Authority (MAA) currently has the 219 Building leased to Northrop Grumman (NG). The MAA is still responsible for the maintenance and repair of the building. Last year, NG reported roof leaks in the metal roof portion of the building. MAA had a consultant review the roof and they offered a solution to roof over the metal roof with a new Roof Hugger System that will be put out for bid.

Designer: Building Management Systems

Contractor: Building Management Systems

Total Project Costs: \$149,809

Award Date: December 4, 2019

Completion Date: May 2020

Status: Roofing project is complete. Final punch list to be completed by 5/22/20. Final billing is expected the first week of June.

Photos:

