Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

PERMIT ISSUED

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

MAR 15 2010

Permit Number: 091254

Please Read Application And Notes, If Any, Attached

This is to certify that CITY OF PORTLAND/Turner Construction Company/Philip Colen

City of Portland

has permission to Airport Terminal- 3-Story Steel frame terminal w/ selective demolition connecting to existing terminal & Parking

AT 947 Westbrook St

CBL: 199 A001002

provided that the person or persons, firm or corporation accepting this permit shall comply with of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulati the construction, maintenance and use of buildings and structures, and of the application on file this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must b procured by owner before this build ing or part thereof is occupied.

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OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Gautreau

Health Dept. MAR 15 2010

Appeal Board

Other

Department Name City of Portland

B

MEMORANDUM

To: FILE

From: Philip DiPierro 874-8632 Dept: DRC

Subject: Application ID: 2008-0137

Date: 3/8/2010

1) The final infrastructure contributions as stated in the Planning Board Approval letter shall be paid prior to the issuance of a certificate of occupancy.

2) A cost estimate for site improvements in Portland is required in order to calculate the inspection fee, which will be paid after the issuance of the building permit.

3) A pre-construction meeting must be scheduled with Phil DiPierro

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MAR 15 2010

City of Portland

MEMORANDUM

To: FILE

From: Eric Giles Dept: Planning

Subject: Application ID: 2008-0137

Date: 3/8/2010

The Planning Board conditions of approval required prior to the issuance of a building permit have been met. Remaining conditions required prior to issuance of Certificate of Occupancy or as monitoring provisions after construction is complete.

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MAR 15 2010

City of Portland

PERMIT ISSUED

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
09-1254	MAR 15 2010	199 A001002

Location of Construction:	Owner Name:	Owner Address:	Phone:
947 Westbrook St	CITY OF PORTLAND	389 CONGRESS ST	
Business Name:	**Contractor Name:**	**Contractor Address:** City of Portland	**Phone**
	Turner Construction Company/Phili	2 Seaport Lane Boston	6172938834
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		Commercial	AB

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
~~Vacant Land~~ AIR Port Passenger Terminal	Commercial - Airport Terminal- 3 Story Steel frame terminal w/ selective demolition connecting to existing terminal & Parking Garage	$495,095.00	$49,500,000.00	3

FIRE DEPT: ☑ Approved ☐ Denied

Signature: KG

INSPECTION: Use Group A-3 Type 1B

IBC 2003

Signature:

Proposed Project Description:
Airport Terminal- 3 Story Steel frame terminal w/ selective demolition connecting to existing terminal & Parking Garage

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature Date:

Permit Taken By:	Date Applied For:
Ldobson	11/06/2009

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

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MAR 15 2010

City of Portland

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland N/A	☐ Variance	☐ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone Panel 12 Zone X	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☒ Site Plan 2008-C137 11/9/09	☐ Approved	☐ Approved w/Conditions
Maj ☒ Min ☐ MM ☐	☐ Denied	☐ Denied
Date: OK with conditions 11/12/09	Date:	Date:

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT | ADDRESS | DATE | PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE | DATE | PHONE

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

__X__ **Footing/Building Location Inspection: Prior to pouring concrete or setting precast piers**

__X__ **Re-Bar Schedule Inspection: Prior to pouring concrete**

__X__ **Foundation Inspection: Prior to placing ANY backfill for below grade occupiable space**

__X__ **Underground electrical or plumbing inspection prior to pouring concrete**

__X__ **Framing/Rough Plumbing/Electrical: Prior to Any Insulating or drywalling**

__X__ **Final/Certificate of Occupancy: Prior to any occupancy of the structure or use. NOTE: There is a $75.00 fee per inspection at this point.**

__X__ **The final report of Special Inspections shall be submitted prior to the final inspection or the issuance of the Certificate of Occupancy**

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.

Signature of Applicant/Designee — Date: 3/15/10

PERMIT ISSUED

MAR 15 2010

City of Portland

3/15/10

CBL: 199 A001002 **Building Permit #:** 09-1254

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

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A Pre-construction Meeting will take place upon receipt of your building permit.

Signature of Inspections Official Date

PERMIT ISSUED

MAR 15 2010

City of Portland

CBL: 199 A001002 **Building Permit #:** 09-1254

CITY OF PORTLAND

DEPARTMENT OF PLANNING & URBAN DEVELOPMENT

389 Congress Street
Portland, Maine 04101

INVOICE FOR PERMIT FEES

Application No: 9-1254 **Applicant:** CITY OF PORTLAND
Project Name: Airport Terminal- 3 Story Steel fra **Location:** 947 Westbrook St
CBL: 199 A001002 **Development Type:**
Invoice Date: 11/06/2009

Previous Balance	-	Payment Received	+	Current Fees	-	Current Payment	=	Total Due	Payment Due Date
$0.00		$0.00		$495,095.00		$0.00		$495,095.00	On Receipt

First Billing

Previous Balance **$0.00**

Fee Description	Qty	Fee/Deposit Charge
Certificate of Occupancy	1	$75.00
Building Permit Fee First $1000	1	$30.00
Building Permit Fee Add'l $1000	1	$494,990.00
		$495,095.00

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MAR 15 2010

City of Portland

Total Current Fees:	+	**$495,095.00**
Total Current Payments:	-	**$0.00**
Amount Due Now:		**$495,095.00**

Detach and remit with payment

CBL 199 A001002
Application No: 9-1254
Invoice Date: 11/06/2009
Invoice No: 35954
Total Amt Due: $495,095.00
Payment Amount:

Bill to: CITY OF PORTLAND
389 CONGRESS ST
PORTLAND, MAINE 04101

Make checks payable to the ***City of Portland***, ATTN: Inspections, 3rd Floor, 389 Congress Street, Portland, ME 04101.

CITY OF PORTLAND

DEPARTMENT OF PLANNING & URBAN DEVELOPMENT

389 Congress Street
Portland, Maine 04101

INVOICE FOR PERMIT FEES

Application No: 9-1254 **Applicant:** CITY OF PORTLAND
Project Name: Airport Terminal- 3 Story Steel fra **Location:** 947 Westbrook St
CBL: 199 A001002 **Development Type:**
Invoice Date: 11/06/2009

Previous Balance	-	Payment Received	+	Current Fees	-	Current Payment	=	Total Due	Payment Due Date
$0.00		$0.00		$495,095.00		$0.00		$495,095.00	On Receipt

First Billing

Previous Balance **$0.00**

Fee Description	Qty	Fee/Deposit Charge
Certificate of Occupancy	1	$75.00
Building Permit Fee First $1000	1	$30.00
Building Permit Fee Add'l $1000	1	$494,990.00
		$495,095.00

PERMIT ISSUED

MAR 15 2010

City of Portland

Total Current Fees: + **$495,095.00**
Total Current Payments: - **$0.00**
Amount Due Now: **$495,095.00**

Detach and remit with payment

CBL 199 A001002
Application No: 9-1254
Invoice Date: 11/06/2009
Invoice No: 35954
Total Amt Due: $495,095.00
Payment Amount:

Bill to: CITY OF PORTLAND
389 CONGRESS ST
PORTLAND, MAINE 04101

Make checks payable to the *City of Portland,* ATTN: Inspections, 3rd Floor, 389 Congress Street, Portland, ME 04101.

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Date Applied For:	CBL:
09-1254	11/06/2009	199 A001002

Location of Construction:	Owner Name:	Owner Address:	Phone:
947 Westbrook St	CITY OF PORTLAND	389 CONGRESS ST	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Turner Construction Company/Phili	2 Seaport Lane Boston	(617) 293-8834
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Commercial	

Proposed Use:	Proposed Project Description:
Commercial - Airport Terminal- 3 Story Steel frame terminal w/ selective demolition connecting to existing terminal & Parking Garage	Airport Terminal- 3 Story Steel frame terminal w/ selective demolition connecting to existing terminal & Parking Garage

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 11/12/2009

Note: **Ok to Issue:** ☑

1) Separate permits shall be required for any new signage.
2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Tammy Munson **Approval Date:** 03/08/2010

Note: **Ok to Issue:** ☑

1) All special inspection reports must be submitted to this office for review within 48 hours of the inspection. A final special inspection report must be submitted prior to issuance of a certificate of occupancy. This report must demonstrate any deficiencies and corrective measures that were taken.
2) New cafe, restaurant, lounge, bar or retail establishment must have separate tenant fit up permits.
3) The appliance and venting shall be installed in accordance with the UL listing, IMC 2003 and NFPA 211.
4) Permit approved based on the plans submitted and reviewed w/owner/contractor, with additional information as agreed on and as noted on plans.
5) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm or HVAC or exhaust systems. Separate plans may need to be submitted for approval as a part of this process.
6) Separate Permits shall be required for any new signage.
7) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approrval prior to work.
8) Prior to the final inspection a sealed letter shall be submitted to this office confirming that based on inspections performed all discrepancies have been corrected and the work is in compliance with the approved plans and all applicable codes.

Dept: Fire **Status:** Approved **Reviewer:** Capt Keith Gautreau **Approval Date:** 11/24/2009

Note: **Ok to Issue:** ☑

PERMIT ISSUED

Comments:

11/12/2009-mes: WAIT FOR PLANNING FINAL SIGN OFF BEFORE ISSUING PERMIT

MAR 15 2010

City of Portland

Lannie Dobson - Re: Jetport

From: Penny Littell
To: Lannie Dobson; Tammy Munson
Date: 3/8/2010 2:24 PM
Subject: Re: Jetport

please issue the permit

>>> Tammy Munson 3/8/2010 11:37 AM >>>
I know we discussed this earlier and the fees are not paid. Is it ok for Lannie to issue the permit?

General Building Permit Application

Location/Address of Construction: 1001 WESTBROOK ST. PORTLAND - JETPORT		
Total Square Footage of Proposed Structure/Area: 168,523 SF	Square Footage of Lot: 750 ACRES	
Tax Assessor's Chart, Block & Lot Chart# Block# Lot#	Applicant *must be owner, Lessee or Buyer* Name CITY OF PORTLAND Address 389 CONGRESS STREET City, State & Zip PORTLAND	Telephone: 1-207-874-8877 PAUL BRADBURY
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name Address City, State & Zip	Cost Of Work: $ 49,500,000 C of O Fee: $ 75.00 Total Fee: $

Current legal use (i.e. single family) COMMERCIAL EXPANSION of Existing Bldg
If vacant, what was the previous use?
Proposed Specific use: COMMERCIAL - AIRPORT TERMINAL
Is property part of a subdivision? NO If yes, please name
Project description: THREE STORY, STEEL FRAME TERMINAL WITH SELECTIVE DEMOLITION CONNECTING TO EXISTING TERMINAL AND PARKING GARAGE. SITE IMPROVEMENTS INCLUDING UTILITIES, ROADWAYS + PARKING AREAS

Contractor's name: TURNER CONSTRUCTION COMPANY
Address: 2 SEAPORT LANE,
City, State & Zip BOSTON, MASS 02210 Telephone: 1.617.247.6400
Who should we contact when the permit is ready: PHILIP COLEMAN Telephone: 1.617.293.8834
Mailing address: SAME

Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: Paul Bradbury Date: 11/5/2009

This is not a permit; you may not commence ANY work until the permit is issue

Structural Statement of Special Inspections

Project:	PWM Jetport Terminal Enhancement 1001 Westbrook Street Portland, Maine 04102
Permit Applicant:	Turner Construction Company Two Seaport Lane, 2nd Floor Boston, Massachusetts 02210
Owner:	Portland International Jetport 1001 Westbrook Street Portland, Maine 04102

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a Schedule of Special Inspection services applicable to this project as well as the name of the Structural Special Inspection Coordinator (SSIC) and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Structural Special Inspection Coordinator (SSIC) shall keep records of all Structural inspections and shall furnish inspection reports to the Building Code Official (BCO) and the Structural Registered Design Professional in Responsible Charge (SRDP). Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Structural Registered Design Professional in Responsible Charge at an interval determined by the SSIC and the BCO prior to the start of work.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted to the BCO prior to issuance of a Certificate of Use and Occupancy.

The Special Inspection program does not relieve the contractor of the responsibility to comply with the Contract Documents. Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Prepared by: Jeffrey D. Evans, PE Structural Registered Design Professional in Responsible Charge Signature	Design Professional Seal

Owner's Authorization: Signature	Date

Building Code Official's Acceptance. Signature	Date
Permit # -	

Structural Statement of Special Inspections (Continued)

List of Inspection and Testing Agents

Agent	Firm	Contact Information
1. Structural Special Inspections Coordinator (SSIC)		
2. Special Inspector (SI 1)		
3 Special Inspector (SI 2)		
4. Testing Agency (TA 1)		
5. Testing Agency (TA 2)		
6. Testing Agency (TA 3)		
7. Other (O1)		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Structural Schedule of Special Inspections

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided to the Special Inspector for their records. *NOTE VERIFICATION THAT QUALIFIED INDIVIDUALS ARE AVAILABLE TO PERFORM STIPULATED TESTING AND/OR INSPECTION SHOULD BE PROVIDED PRIOR TO SUBMITTING STATEMENT. AGENT QUALIFICATIONS IN SCHEDULE ARE SUGGESTIONS ONLY; FINAL QUALIFICATIONS ARE SUBJECT TO THE DISCRETION OF THE REGISTERED DESIGN PROFESSIONAL PREPARING THE SCHEDULE*

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge or Special Inspector of Record deems it appropriate that the individual performing a stipulated test or inspection have a specific certification, license or experience as indicated below, such requirement shall be listed below and shall be clearly identified within the schedule under the Agent Qualification Designation.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

Experienced Testing Technician

ETT	Experienced Testing Technician – An Experienced Testing Technician with a minimum 5 years experience with the stipulated test or inspection

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Other

Structural Schedule of Special Inspections

SOILS & FOUNDATION CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.7, 1704.8, 1704.9	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Verify existing soil conditions, fill placement and load bearing requirements						
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1		PE/GE, EIT or ETT	
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report	Y	C	IBC 1704.7.2		PE/GE, EIT or ETT	
c. Test in-place dry density of compacted fill complies with the approved soils report.	Y	p	IBC 1704.7.2		PE/GE, EIT or ETT	

Structural Schedule of Special Inspections
CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.4	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Inspection of reinforcing steel and placement		P	ACI 318: 3.5, 7.1-7.7		PE/SE or EIT	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased		C	IBC 1912.5		PE/SE or EIT	
4. Verifying use of required design mix		P	ACI 318: Ch 4, 5.2-5.4		PE/SE or EIT	
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature		C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8		ACI-CFTT or ACI-STT	
6. Inspection of concrete placement for proper application techniques		C	ACI 318: 5.9, 5.10		PE/SE or EIT	
7. Inspection for maintenance of specified curing temperature and techniques		P	ACI 318: 5.11-5.13		PE/SE or EIT	

Structural Schedule of Special Inspections

MASONRY CONSTRUCTION – LEVEL 1 (NON-ESSENTIAL FACILITY)

VERIFICATION AND INSPECTION IBC Section 1704.5	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. As masonry construction begins, the following shall be verified to ensure compliance.						
a. Proportions of site-prepared mortar.		P	ACI530.1, 2.6A		PE/SE or EIT	
b. Construction of mortar joints.		P	ACI530.1, 3.3B		PE/SE or EIT	
c. Location of reinforcement and connectors.		P	ACI530.1, 3.4, 3.6A		PE/SE or EIT	
2. The inspection program shall verify:						
a. Size and location of structural elements.		P	ACI530.1, 3.3G		PE/SE or EIT	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.		P	ACI530, 1.2.2(e), 2.1.4, 3.1.6		PE/SE or EIT	
c. Specified size, grade and type of reinforcement.		P	ACI530, 1.12, ACI530.1, 2.4, 3.4		PE/SE or EIT	
d. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).		P	IBC 2104.3, 2104.4; ACI530.1, 1.8C, 1.8D		PE/SE or EIT	
3. Prior to grouting, the following shall be verified to ensure compliance:						
a. Grout space is clean.		P	ACI530.1, 3.2D		PE/SE or EIT	
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.		P	ACI530, 1.12, ACI530.1, 3.4		PE/SE or EIT	
c. Proportions of site-prepared grout.		P	ACI530.1, 2.6B		PE/SE or EIT	
d. Construction of mortar joints.		P	ACI530.1, 3.3B		PE/SE or EIT	
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.		C	ACI530.1, 3.5		PE/SE or EIT	
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.		C	IBC 2105.2.2, 2105.3; ACI530.1, 1.4		PE/SE or EIT	
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.		P	ACI530.1, 1.5		PE/SE or EIT	

Structural Schedule of Special Inspections - STEEL CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.3	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Material verification of high-strength bolts, nuts and washers						
a. Identification markings to conform to ASTM standards specified in the approved construction documents		S	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3		PE/SE or EIT	
b. Manufacturer's certificate of compliance required		S			PE/SE or EIT	
2. Inspection of high-strength bolting						
a. Bearing-type connections		P	AISC LRFD Section M2.5 IBC Sect 1704.3.3		AWS/AISC-SSI	
b. Slip-critical connections		C or P (method dependent)			AWS/AISC-SSI	
3. Material verification of structural steel (IBC Sect 1708.4):						
a. Identification markings to conform to ASTM standards specified in the approved construction documents		S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4		PE/SE or EIT	
b. Manufacturers' certified mill test reports		S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4		PE/SE or EIT	
4. Material verification of weld filler materials:						
a. Identification markings to conform to AWS specification in the approved construction documents		P	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5		PE/SE or EIT	
b. Manufacturer's certificate of compliance required		S			PE/SE or EIT	
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project		S	AWS D1.1		PE/SE or EIT	
6. Inspection of welding (IBC 1704.3.1): a. Structural steel						
1) Complete and partial penetration groove welds		C	AWS D1.1		AWS-CWI	
2) Multipass fillet welds		C			AWS-CWI	
3) Single-pass fillet welds> 5/16"		C			AWS-CWI	
4) Single-pass fillet welds< 5/16"		P			AWS-CWI	
5) Floor and deck welds		P	AWS D1.3		AWS-CWI	
7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:						
a. Details such as bracing and stiffening		P			PE/SE or EIT	
b. Member locations		P			PE/SE or EIT	
c. Application of joint details at each connection		P			PE/SE or EIT	

Structural Schedule of Special Inspection Services

FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

VERIFICATION AND INSPECTION IBC Section 1704.2	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR- 2. AISC Certification		P & S S	Fabricator shall submit one of the two qualifications		PE/SE or EIT	
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.		S	IBC 1704.2.2		PE/SE or EIT	

Structural Schedule of Special Inspection Services

FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL GLUED LAMINATED TIMBER

VERIFICATION AND INSPECTION	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Licensing of manufacturers. Manufacturer shall submit an AITC qualification compliance license to the building code official. AITC Licenses qualified laminators whose personnel procedures and facilities have complied with the requirements of ANSI/AITC A190.1. 2. Material verification of Structural Glued Laminated Timber beam materials per AITC		S	Fabricator shall submit qualifications		PE/SE or EIT	
a. Identification markings to conform to AITC 117 and standards specified in the approved construction documents		S	AITC 117		PE/SE or EIT	
b. Verification that appearance grade conforms to standards specified in the approved construction documents and meets AITC 110 requirement.		S	AITC 110		PE/SE or EIT	
3. Inspection of structural glued laminated timber beams and decking for compliance with approved construction documents						
a. Size and location of structural elements		P			PE/SE or EIT	
b. Type, size and location of anchors/connections including other details of anchorage/connection of timber to structural members or other construction		P			PE/SE or EIT	
c. Protection of members during shipping and field handling		P	AITC 111		PE/SE or EIT	

Structural Schedule of Special Inspections - WOOD CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.6	Y/N	FREQUENCY: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Inspection of high-load diaphragms at roof						
a. Verify wood structural panel sheathing for grade and thickness		P	IBC 1704.6		PE/SE or EIT	
b. Verify the nominal size of framing members at adjoining panel edges		P	IBC 1704.6		PE/SE or EIT	
c. Verify the nail diameter and length		P	IBC 1704.6		PE/SE or EIT	
d. Verify the number of fastener lines		P	IBC 1704.6		PE/SE or EIT	
e. Verify the spacing between fasteners in each line and at edge margins		P	IBC 1704.6		PE/SE or EIT	
f. Continuous special inspection during field gluing operations of elements		C	IBC 1702.3		PE/SE or EIT	

Quality Assurance Plan – Seismic and Wind

QUALITY ASSURANCE FOR SEISMIC RESISTANCE CHECK LIST [IBC 1705]

Seismic Design Category	B

REQUIRED	NOT REQUIRED	NOT APPLICABLE	QUALITY ASSURANCE PLAN REQUIREMENTS (A Quality Assurance Plan is required where indicated below)
☐	☒	☐	In Seismic Design Categories A and B
☐	☐	☒	In Seismic Design Category C or greater

QUALITY ASSURANCE FOR WIND RESISTANCE CHECK LIST [IBC 1706]

Wind Exposure Category	C

REQUIRED	NOT REQUIRED	NOT APPLICABLE	QUALITY ASSURANCE PLAN REQUIREMENTS (A Quality Assurance Plan is required where indicated below)
☐	☐	☒	In wind exposure Categories A and B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 *m/sec)* or greater.
☐	☒	☐	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 *m/sec)* or greater.

Prepared by:	Building Code Official's Acceptance:
Signature Date	Signature Date

Tammy Munson - Re: Jetport

From: Barbara Barhydt
To: DiPierro, Philip; Giles, Eric; Littell, Penny; Munson, Tammy
Date: 3/8/2010 9:04 AM
Subject: Re: Jetport

It is okay to issue a building permit. The sign off is in Urban Insight. Phil is asking for a pre-construction meeting and the cost estimate for the site improvements, but this can be done after the issuance of the building permit.

Thanks.

Barbara

>>> Penny Littell Monday, March 08, 2010 8:50 AM >>>
Ok from my perspective.
-----Original Message-----
From: Tammy Munson
To: Barbara Barhydt <BAB@portlandmaine.gov>
To: Eric Giles <EGILES@portlandmaine.gov>
To: Philip DiPierro <PD@portlandmaine.gov>
To: Penny Littell <PL@portlandmaine.gov>

Sent: 3/8/2010 8:42:32 AM
Subject: Jetport

Can I issue the permit for the Jetport expansion? Are there approvals in Urban or are they in HTE?

FIRE RISK MANAGEMENT, INC
841 Worcester Road
PMB 514
Natick, MA 01760
508/405-4405 [(fax)]

January 4, 2009

Jim Stanislanski, AIA
Gensler
One Beacon Street
Third Floor
Boston, MA 02108

Re: Portland Jetport Expansion – Engineering Analysis

Jim,

This letter summarizes the approach for the vertical openings within the new Portland Jetport Expansion project. The letter provides the background applicable codes, the intent of those codes, and the engineering analysis to support this approach. As part of the analysis, engineering calculations are provided to show the time to fill the upper level will be more than the time to egress the occupants on that floor.

Overview of Vertical Openings

There are two separate vertical openings that are included in this design approach. The first opening is the escalator/stair opening from the Ticketing Level (Level 2) to the Security Screening Level (Level 4); hereafter referred to as the Opening One. Opening One is greater than twice the horizontal projection area of the escalator/stair. Also, the escalator travels past the Level 3, but is separated from this level by a 1-hour Fire Resistance Rated (FRR) barrier.

The second opening is the floor opening that connects the Departure Level (Level 3) to the Security Screening Level (Level 4); hereafter referred to as the Opening Two. Opening Two is a large opening that allows visual sight lines between the Security Screening Level and the Departure Level and vice versa. The floor area within the Departure Level and the Security Screening Level is mostly open and unobstructed to allow occupants to be readily notice a fire event before it immediately hazardous to health and ability to safely egress.

The overall design prevents smoke, hot gas, or fire from traveling from Level 2 to Level 3 without totally filling Level 4. This condition is also fulfilled for a fire event on Level 3 and its potential to impact Level 2.

Applicable Codes and Intent

The primary governing codes for the project are as follows:

- Life Safety Code – NFPA 101 – 2006 Edition.
- International Building Code – IBC – 2003 edition as adopted and amended by the City of Portland Building Code.

Approach / Justification

Narrative

As outlined above, the requirements are intended to prevent smoke and products of combustion from affecting more than two floors. The current design approach will accomplish this objective. Each opening, when reviewed separately, does not create a situation that affects more than two floors simultaneously. Floor Opening One connects Levels 2 and 4, but is directly separated from Level 3 by 1-hour rated barrier. Floor Opening Two connects Level 3 and 4, but again is directly separated from Level 2 by a 1-hour rated barrier.

When connecting the two floor openings at the top (level 4), the strict language of the codes would require a fire separation between the two openings at Level 4. However, smoke movement in any fire event, without mechanical assistance is upward. Therefore, smoke from a fire event on Level 2 will travel upward to Level 4, but will not affect the occupants of Level 3.

Also, in support of the approach, a change in the requirements for atriums was included in the new IBC 2006 edition. The change states that smoke control is not required when only two levels are connected.

To support the engineering analysis required by NFPA 101, calculations were completed to compare the time for occupants to egress Level 4 and the time for the smoke (hot upper layer) to reach a depth that is 6 feet above the floor at Level 4, at which point it will significantly affect the occupants.

Calculations

Smoke Filling:

A fire scenario was developed using the occupancy, sprinkler protection, and combustible material expected. This fire scenario was compared to the prescriptive requirement contained in the IBC. Two options were available. The fire size could be a steady-state fire with the prescriptive fire size from the IBC or it could be analyzed as a growing fire using correlations in NFPA 92B, *The Standard for Smoke Management Systems in Malls, Atria, Large Spaces*. In this analysis, a steady-state fire with a heat output of 5000 Btu/s was used; however, it should be noted that a growing fire is more realistic for this area and would likely provide a longer time for smoke to fill the Level 4 area. In addition, sprinkler activation would reduce this fire size.

Using the formulas contained in NFPA 92B (equivalent to the IBC formulas), a smoke production rate was calculated at 111,658 cfm (see Appendix A). Based on an average ceiling height within Level 4 and an area of 41,867 square feet, the total volume that can be filled (volume above 6 feet within Level 4) is approximately I million cubic feet. The time required to fill this volume is approximately 9.00 minutes.

Egress Time:

Based on IBC and NFPA 101, the total occupant load of Level 4 is 523 occupants (Gensler calculations). Using the SFPE Handbook, a conservative calculation was performed using 200 ft/minute flow rate for the travel to an exit and a 50 persons/minute flow rate for travel through a door into the exit. This calculation does not address all human behavior issues related to occupant egress; however, it does provide a relative determination of the egress time for the space. Using the average egress distance for the floor (200 feet) and the 3 exits (2-36 inch doors and one pair of 36 inch doors), the calculated egress time would be approximately 3.6 minutes.

Conclusions

Based on a review of the current design for the affected areas within the Portland Jetport, it is considered that a mechanical smoke control system is not warranted. A fire in one of the lower levels (2 or 3) could not fill the other lower level, based on the physical dynamics of smoke movement. For example, a fire on the Ticketing Level would affect that level and the Security Level, with respect to smoke filling, but not the Gate Level. Also, a fire on the Gate Level would affect that level and the Security Level, but not the Ticket Level. In addition, the time required for a fire to affect occupants on Level 4 (9 minutes) is evaluated as being more than twice that required for those same occupants to exit this level (3.6 minutes).

Please do not hesitate to contact me if you have any questions.

Reviewed by:

Sincerely,

Jeffrey D. Cummings, P.E.

STATE OF MAINE
WILLIAM D. CUMMINGS
No. 9102
LICENSED
PROFESSIONAL ENGINEER

Attachments

Appendix A – Smoke Filling Calculations

Appendix A: Smoke Filling Calculations

This appendix outlines the procedure taken for determining the smoke filling rate without any smoke control system. The calculations for the smoke filling approach were completed in accordance with NFPA 92B-2005 as referenced by NFPA 101-2006.

An axisymmetric fire was used since this would be the most likely type of smoke plume in each of the vertical openings. Equation 6.1.2.2 from NFPA 92B was used to determine the mass production rate for a fire within the ticket concourse:

$$m = \left(0.022 Q_c^{1/3} z^{5/3}\right) + 0.0042 Q_c$$

Equation 1 - Mass Production - NFPA 92B Section 6.2.1.1 b

Where:

Q_c = convective portion of heat release rate (Btu/sec) (70% of heat release rate)
z = distance above the base of the fire to the smoke layer interface (ft)
m = mass flow rate in plume at height z (lb/sec)

To convert the mass production rate to a volumetric production rate, three equations are used. First, Equation 6.2.5a from NFPA 92B is used to determine the temperature of the smoke plume.

$$T_s = T_0 + \frac{K_s Q_c}{m C_p}$$

Equation 2 - Temperature of Smoke Plume - NFPA 92B Section 6.2.5a

Where:

T_s = smoke layer temperature (°F)
T_o = ambient temperature (°F) (70°F)
K_s = fraction of convective heat release contained in smoke layer (1.0)
Q_c = convective portion of heat release (Btu/sec)
m = mass flow rate of the plume at elevation z (lb/sec)
C_p = specific heat of plume gases (0.24 Btu/lb-°F)

Second, the density of smoke is determined using the previous equations results for the smoke temperature. This

$$\rho = \frac{144 P_{atm}}{R(T_s + 460)}$$

Equation 3 - Density of Smoke - NFPA 92B Section 6.5a

Where:

ρ = density of smoke at temperature (lb/ft³)
P_{atm} = atmospheric pressure (lb/in.²) (14.67 lb/in.^{2})
R = gas constant (53.34)
T_s = temperature of smoke (°F)

Finally, the volumetric smoke production rate is determined using the following equation from NFPA 92B (Section 6.4a) and the results from the previous equation:

$$V = 60\frac{m}{\rho}$$

Equation 4 - Volumetric Flow Rate - NFPA 92B Section 6.4a

Where:

V = volumetric flow rate of smoke exhaust (ft³/min)
m = mass flow rate of smoke exhaust (lb/sec)
ρ = density of smoke (lb/ft³)

By inputting the following dimensional and the heat release rate data, a volumetric flow rate of 111,658 cubic feet per minute is obtained, where the height of the smoke layer is 30 feet and the heat release rate is 5,000 Btu/sec.

Assumptions

Fire Size	5000 Btu/s
Height of Smoke layer	30 feet
Ambient Temperature	70 °F

Results

Mass Flow Rate	111.45 lb/s
Plume Temperature	200.85 °F
Volume Flow Rate	**111657.8 cfm**

Tammy Munson - RE: PWM- Portland Jetport Fire Marshal follow-up

From: Jim Stanislaski <Jim_Stanislaski@gensler.com>
To: "McCarthy, Richard" <Richard.McCarthy@maine.gov>
Date: 3/2/2010 1:59 PM
Subject: RE: PWM- Portland Jetport Fire Marshal follow-up
CC: Cuyler Feagles <cmf@portlandmaine.gov>, "rsw@portlandmaine.gov" <rsw@por...
Attachments: Report 02-13-09 - Smoke ControlEngineering Analysis-Mod_WMC.pdf

Rich-

Please see attached stamped and signed letter as requested. Please let me know if you require anything else. If this is sufficient, we need to let Tammy Munson know at the City of Portland Building Department, since she is waiting for your approval before issuing her comments.

Thank-you,

Jim

Jim Stanislaski, AIA, LEED AP
Associate
617.619.5767 Direct
617.895.6528 Mobile
617.619.5701 Fax

Gensler
One Beacon Street
Third Floor
Boston Massachusetts 02108
USA

From: McCarthy, Richard [mailto:Richard.McCarthy@maine.gov]
Sent: Friday, February 12, 2010 2:52 PM
To: Jim Stanislaski
Cc: Cuyler Feagles; rsw@portlandmaine.gov; Bill Hooper, Jr.; Coleman, Philip J - (BOS)
Subject: RE: PWM- Portland Jetport Fire Marshal follow-up

Jim,

we have reviewed the package you provided us. We agree with the thought process but would require the information to be certified by a Maine licensed professional engineer. Can you get that and forward it to me.

Richard McCarthy CFI II / CFPE
Office of the State Fire Marshal
Senior Plans Examiner
Office (207)626-3886
Fax (207)287-6251
richard.mccarthy@maine.gov

From: Jim Stanislaski [mailto:Jim_Stanislaski@gensler.com]
Sent: Sunday, February 07, 2010 2:54 PM
To: McCarthy, Richard

Cc: Cuyler Feagles; rsw@portlandmaine.gov; Bill Hooper, Jr.; Coleman, Philip J - (BOS)
Subject: PWM- Portland Jetport Fire Marshal follow-up

Rich-

Thank-you again for meeting with us in Portland last week. Please see attached letter that documents our design approach for the two items you raised. Please contact me should you need anything further.

Thanks,

Jim

Jim Stanislaski, AIA, LEED AP
Associate
617.619.5767 Direct
617.895.6528 Mobile
617.619.5701 Fax

Gensler
One Beacon Street
Third Floor
Boston Massachusetts 02108
USA

Tammy Munson - Re: traffic mitigation fees for the Jetport

From: Eric Giles
To: Barhydt, Barbara; DiPierro, Philip; Littell, Penny
Date: 3/4/2010 2:13 PM
Subject: Re: traffic mitigation fees for the Jetport
CC: Munson, Tammy

Penny has confirmed a building permit can be issued without the performance guarantee or inspection fee.

Erick Giles, AICP, LEED AP
Planner
City of Portland
Department of Planning and Urban Development

>>> Philip DiPierro 3/4/2010 8:17 AM >>>
We agreed to waive the PG for the de-icing facility, so I believe we would not require a PG for the terminal expansion. It was my understanding that they still had to pay the site inspection fee though.

phil

>>> Barbara Barhydt 3/3/2010 4:56 PM >>>
Erick has the stamped plans and was confirming the conditions of approval today. The only remaining conditions were the traffic mitigation fees and the standard conditions of approval, such as the inspection fee and pre-construction meeting. Correct me if I am wrong, but I believe we agreed to waive the performance guarantee.

Barbara

>>> Philip DiPierro Wednesday, March 03, 2010 4:47 PM >>>
The site inspection fee hasn't been determined yet because they haven't submitted a cost estimate for the site work. I will need a copy of the approved stamped plans. I also need to confirm that the conditions that need to be met prior to the issuance of the BP have been met. I haven't heard anything about a preconstruction meeting yet either. Have they submitted a building permit application?

Phil

>>> Eric Giles 3/3/2010 1:36 PM >>>
We also need to know if the inspection fees are due later as well.

Erick Giles, AICP, LEED AP
Planner
City of Portland
Department of Planning and Urban Development

>>> Barbara Barhydt 3/3/2010 10:01 AM >>>
Hi:

The Jetport approval includes three traffic mitigation fees. Generally we seek the fees prior to the issuance of a building permit. It is not stated as such in this approval and the last contribution clearly states that the fee is to be paid prior to the certificate of occupancy. Roy Williams indicates that the Jetport has discussed this with you, Penny, and that the fees are do later.

All other conditions of approval have been met, so the building permit could be issued subject to the infrastructure contributions being paid prior to the issuance of a certificate of occupancy. Please confirm that this is your understanding as well.

Thank you.

Barbara

Tammy Munson - Fwd: RE: PWM- Portland Jetport Fire Marshal follow-up

From: Roy Williams
To: Feagles, Cuyler
Date: 2/16/2010 11:15 AM
Subject: Fwd: RE: PWM- Portland Jetport Fire Marshal follow-up

Here it is

>>> "McCarthy, Richard" <Richard.McCarthy@maine.gov> 2/12/2010 2:51 PM >>>
Jim,

we have reviewed the package you provided us. We agree with the thought process but would require the information to be certified by a Maine licensed professional engineer. Can you get that and forward it to me.

Richard McCarthy CFI II / CFPE
Office of the State Fire Marshal
Senior Plans Examiner
Office (207)626-3886
Fax (207)287-6251
richard.mccarthy@maine.gov

From: Jim Stanislaski [mailto:Jim_Stanislaski@gensler.com]
Sent: Sunday, February 07, 2010 2:54 PM
To: McCarthy, Richard
Cc: Cuyler Feagles; rsw@portlandmaine.gov; Bill Hooper, Jr.; Coleman, Philip J - (BOS)
Subject: PWM- Portland Jetport Fire Marshal follow-up

Rich-

Thank-you again for meeting with us in Portland last week. Please see attached letter that documents our design approach for the two items you raised. Please contact me should you need anything further.

Thanks,

Jim

Jim Stanislaski, AIA, LEED AP
Associate
617.619.5767 Direct
617.895.6528 Mobile
617.619.5701 Fax

Gensler
One Beacon Street
Third Floor
Boston Massachusetts 02108
USA

From: Cuyler Feagles
To: Munson, Tammy
Date: 2/16/2010 11:25 AM
Subject: Fwd: RE: PWM- Portland Jetport Fire Marshal follow-up
Attachments: Fwd: RE: PWM- Portland Jetport Fire Marshal follow-up

Tammy,

The State Fire Marshall conducted his review of the Terminal Expansion Project. He had one reservation/ question, which is more or less outlined in the attached string of Emails. The bottom line is that he is satisfied with what the Architect (Gensler) has done, as well as with the Architects interpretation of NFPA. As you will see, he has asked for the interpretation that the Architect has put forth to be submitted by a Maine licensed professional engineer. Because Gensler is working on the project with Oest, this should be a small matter. Which is all to say that the SFM will be in a position to issue their sign- off on the project shortly. We are hoping that your office will be able to do the same shortly thereafter.

I hope I am not being too much of a pain on this, but it is getting close to show time for this project, and we want to have everything in order when that time comes.

Thank you,

Cuyler Feagles, AIA, LEED AP
Assistant Facilities Manager
Portland International Jetport
Tel. 207-756-8313
Fax: 207-774-7740

2003 INTERNATIONAL BUILDING CODE® PLAN REVIEW RECORD

Plan Review # _____
Date: _____
Valuation: _____
Fee: _____

JURISDICTION: _____
(City, County, Township, etc.)

BUILDING LOCATION: _____
(Street address)

BUILDING DESCRIPTION: _____

REVIEWED BY: _____

Numerals indicated in parentheses are applicable code sections of the 2003 *International Building Code*. The plan review accomplished as indicated in this record is limited to the code sections specifically identified in this record. Reference to commentary, applicable code sections suggests but does not relate to all code provisions which may be applicable to the specific building. This record is designed to be used in conjunction with those provisions and other applicable requirements of the jurisdiction having authority. Construction documents for code compliance.

CORRECTION LIST

No.	DESCRIPTION	Code Section
1	Separate permits for concession stands.	
2	Has standpipe system	
3	Ladder in baggage area - B1206 - Volume II	
4	Level 1 Room - 1500	
5	See GT00.01	
	Use A-3 Type 1B (noncombustible protected) Non-separated use	

07/04

2003 INTERNATIONAL BUILDING CODE® PLAN REVIEW RECORD

Plan Review # _____

Date: _____

Valuation: _____

Fee: _____

JURISDICTION: _____
(City, County, Township, etc.)

BUILDING LOCATION: _____
(Street address)

BUILDING DESCRIPTION: _____

REVIEWED BY: _____

Numerals indicated in parentheses are applicable code sections in the 2003 International Building Code. This plan review accomplishes the items indicated on this record and is in accordance with the applicable code sections specifically identified herein. This record references commonly applicable code sections; it does not reference all code provisions which may be applicable to buildings. This record is designed to be used in conjunction with sound knowledge and capable exercising of professional judgment in evaluating construction documents for code compliance.

CORRECTION LIST

No.	DESCRIPTION	Code Section

07/04

NOTES N.R. — Not required
N.A. — Not applicable

ADMINISTRATION (Chapter 1)

✓ Complete construction documents *(106.1, 106.2)*

✓ Signed/sealed construction documents *(106.1, State laws vary)*

BUILDING PLANNING (Chapters 3, 4, 5, 6)

OCCUPANCY CLASSIFICATION (302.0-312.0)

N/A Single Occupancy *(302.1)*

✓ Incidental use areas *(302.1.1)*

✓ Mixed Occupancy *(302.3)*

✓ Accessory use areas *(302.2)*

Non separated type 1B - sprinkled

GENERAL BUILDING LIMITATIONS (Chapters 5 & 6)

Apply Case 1 to determine the allowable height and area and permitted types of construction for a building containing a single occupancy or nonseparated mixed occupancies. Apply Case 2 to determine the allowable height and area and permitted types of construction for a building containing separated mixed occupancies.

AREA MODIFICATIONS TO TABLE 503

% of Allowable tabular area, A_t *(Table 503)* 100%

% Increase for frontage, I_f *(506.2)* + ____ %

% Increase for automatic sprinklers, I_s *(506.3)* OK + ____ %

Total percentage factor = ____ %

Conversion factor Unlimited
Total percentage factor ÷ 100%

Frontage *(506.2)* ____ North ____ East ____ South ____ West

Total Frontage *(F)* ____ ft. Perimeter *(P)* ____ ft.

Width of open space *(W)* = ____

% Frontage increase (I_f) = ____ *(506.2)*

$$I_f = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30}$$

CASE 1 — SINGLE OCCUPANCY OR NONSEPARATED USES (302.3.1)

Using Table 503, identify the allowable height and area of the single occupancy or the most restrictive of the nonseparated mixed occupancies. Construction types that provide an allowable tabular area equal to or greater than the adjusted building area and allowable heights (as modified by Section 504) equal to or greater than the actual building height are permitted.

DETERMINE CONSTRUCTION TYPE

Actual building area Unlimited ft²

Adjusted building area ____ ft²
actual building area ÷ conversion factor

Actual building height ____ feet ____ stories

Allowable building height ____ feet ____ stories

Permitted types of construction ____

Type of construction assumed for review *(602.1.1)* ____

CHECK ALLOWABLE AREA (506.4)

Allowable area per floor (A_a)

____ × ____ = ____ ft²
conversion factor × tabular area *(Table 503)*

Total floor area (all stories) ____ ft²

Allowable floor area (all stories)

____ × ____ = ____ ft²
Allowable area per floor (A_a) × number of stories (maximum 3)

Compliance verified (Single Occ. or Nonsep.) ____

CASE 2 — MIXED OCCUPANCY SEPARATED USES (302.3.2)

Using Table 503, identify the allowable height and area of each of the separated uses within the building. Construction types that provide, for each story of the building, tabular areas (as modified by Section 506)which result in a sum of the ratios of 1.00 or less and allowable heights (as modified by Section 504) equal to or greater than the actual height of the use are permitted.

Story	Group	Actual floor area	Adjusted floor area*	Actual height	Allowable height
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories
		ft²	ft²	ft stories	ft stories

$$\sum \frac{\text{Adjusted floor area}^*}{\text{Allow. tab. area, } A_t \text{ (Table 503)}} = \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_ \leq 1.00$$

*Adjusted floor area = actual floor area – conversion factor

CHECK ALLOWABLE AREA (506.4)

Allowable area per floor (A_a)

_____ (conversion factor) × _____ (tabular area *(Table 503)*) = _____ ft²

Permitted types of construction _____

Total floor area (all stories) _____ ft²

Type of construction assumed for review *(602.1.1)* _____

Allowable floor area (all stories)

_____ (Allowable area per floor (A_t)) × _____ (number of stories (maximum 3)) = _____ ft²

Compliance verified (Mixed Occ. Separated) _____

MEZZANINES (505)

_____ Area limitation *(505.2)*

_____ Egress *(505.3)*

_____ Openness *(505.4)*

_____ Equipment platforms *(505.5)*

UNLIMITED AREA BUILDINGS (507)

_____ Unsprinklered, one story *(507.1)*

_____ Sprinklered, one story *(507.2)*

_____ Two story *(507.3)*

_____ Reduced open space *(507.4)*

_____ Group A-3 buildings *(507.5)*

_____ High-hazard use groups *(507.6)*

_____ Aircraft paint hangar *(507.7)*

_____ Group E buildings *(507.8)*

_____ Motion picture theaters *(507.9)*

SPECIAL PROVISIONS (508)

_____ Special condition applicable *(508.1)*

_____ Compliance verified

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY (Chapter 4)

COVERED MALL BUILDINGS (402)

N/A Egress *(402.4, 402.11)*

_____ Mall width *(402.5)*

_____ Unlimited area *(402.6)*

_____ Fire separations *(402.7)*

_____ Automatic sprinkler system *(402.8)*

N/A Standpipe system *(402.8.1)*

_____ Smoke control *(402.9)*

_____ Kiosk requirements *(402.10)*

_____ Emergency voice/alarm *(402.12, 402.13)*

_____ Plastic signs *(402.14)*

_____ Fire department access *(402.15)*

HIGH-RISE BUILDINGS (403)

- N/A — Automatic sprinkler system *(403.2)*
- Fire-resistance rating reduction *(403.3)*
- Automatic fire detection *(403.5)*
- Emergency voice/alarm systems *(403.6)*
- Fire department communication *(403.7)*
- Fire command center *(403.8)*
- Elevators *(403.9)*
- Standby power *(403.10)*
- Emergency power *(403.11)*
- Stairway doors *(403.12)*
- Smokeproof exit *(403.13)*

ATRIUMS (404)

- ✓ — Atrium use *(404.2)* — see waiver
- yes — Automatic sprinkler system *(404.3)*
- ✓ — Smoke control *(404.4)* — see waiver
- ✓ — Enclosure *(404.5)*
- Standby power *(404.6)*
- ✓ — Interior finish *(404.7)*
- ✓ — Travel distance *(404.8)*

OTHER SPECIAL USE AND OCCUPANCY

- N/A — Underground structures *(405)*
- Motor vehicle related occupancies *(406, 508)*
- Group I-2 *(407)*
- Group I-3 *(408)*
- Motion picture projection rooms *(409)*
- Stages and platforms *(410)*
- Special amusement buildings *(411)*
- Aircraft-related occupancies *(412)*
- Combustible storage *(413)*
- Hazardous materials *(307.9, 414)*
- Groups H-1, H-2, H-3, H-4, and H-5 *(415)*
- Application of flammable finishes *(416)*
- Drying rooms *(417)*
- Organic coatings manufacturing *(418)*

FIRE PROTECTION (Chapters 6, 7, 8, 9)

FIRE-RESISTANCE-RATED CONSTRUCTION (Tables 601 & 602 and Chapter 7)

Note: Entry in ☐ indicates required rating in hours. NC indicates noncombustible construction required.

IB — Construction classification *(602)*

COMBUSTIBILITY (602.2, 602.3, 602.4, 602.5, 603)

2→1 — Exterior walls

0 — Interior elements

2→1 — Roof — 603.1(1)(1.3)

FIRE-RESISTANCE RATINGS AND FIRE TESTS (703)

- Ratings / Combustibility *(703.2, 703.4)*
- Alternative methods *(703.3, 718, 720, 721)*

BUILDING ELEMENTS (Table 601)

- ☒ 2 — Structural frame *(714)* (protected)
- ☒ 02 — Interior bearing walls
- ☐ 0 — Interior nonbearing walls
- ☒ 2 — Floor construction *(711)*
- ☒ 1 — Roof construction *(711)*

EXTERIOR WALLS (507, Table 602, 704, 706.6)

	North	East	South	West
Fire separation distance	N/A			
Bearing	☐	☐	☐	☐
Nonbearing	☐	☐	☐	☐

EXTERIOR WALLS (continued)

☐ _____ Opening protection *(704.8, 704.12, 704.14)*

☐ _____ Vertical fire spread protection *(704.9, 704.10)*

☐ _____ Parapets *(704.11)*

FIRE BARRIERS (706)

☐ _____ Shaft enclosures *(706.3.1)*

☐ _____ Exit enclosures *(706.3.2, 706.3.3)*

☐ _____ Horizontal exits *(706.3.4)*

☐ _____ Incidental use areas *(706.3.5)*

☐ _____ Mixed occupancy and fire area separations *(706.3.6, 706.3.7)*

SHAFTS (707)

☐ _____ Exceptions *(707.2)*

☐ _____ Construction *(707.3 - 707.14)*

OTHER FIRE RESISTANT CONSTRUCTION

☐ _____ Fire walls *(705)*

☐ _____ Fire partitions *(708)*

☐ _____ Smoke barriers *(709)*

_____ Smoke partitions *(710)*

_____ Penetrations *(712)*

_____ Fire resistant joint systems *(713)*

_____ Opening protectives *(715)*

_____ Dampers *(716)*

_____ Concealed spaces *(717)*

_____ Thermal and sound-insulating materials *(719)*

INTERIOR FINISHES (Chapter 8)

_____ Smoke development *(803.1)*

_____ Flame spread *(803.1)*

_____ Non-textile finish *(803.2)*

_____ Floor finish *(804)*

_____ Decorations and trim *(805)*

FIRE PROTECTION (Chapter 9)

AUTOMATIC SPRINKLER SYSTEMS (903) (Where required)

Yes Assembly (A-1, A-2, A-3, A-4, A-5) *(903.2.1)*

_____ Educational (E) *(903.2.2)*

_____ Factory/Industrial (F-1) *(903.2.3)*

_____ High-hazard (H-1, H-2, H-3, H-4, H-5) *(903.2.4)*

_____ Institutional (I-1, I-2, I-3, I-4) *(407.5, 903.2.5)*

_____ Mercantile (M) *(903.2.6)*

_____ Residential (R) *(903.2.7)*

_____ Storage/Repair garage (S-1) *(903.2.8)*

_____ Parking garages *(903.2.9)*

_____ Windowless story *(903.2.10.1)*

_____ Rubbish and linen chutes *(903.2.10.2)*

_____ Buildings over 55 ft. high *(903.2.10.3)*

_____ Incidental use areas *(302.1.1)*

_____ Additional required systems *(Table 903.2.13)*

_____ International Fire Code *(IFC 903.2.13)*

AUTOMATIC SPRINKLER SYSTEMS* (903) (Design)

OK Shop drawings *(106.1.1.1)*

_____ NFPA 13 system *(903.3.1.1)*

_____ NFPA 13R system *(903.3.1.2)*

_____ NFPA 13D system *(903.3.1.3)*

_____ Quick-response and residential heads *(903.3.2)*

_____ Actuation *(903.3.4)*

_____ Water suply *(903.3.5)*

_____ Hose connections *(903.3.6, 903.3.7)*

_____ Sprinkler monitoring and alarms *(903.4, 907.13)*

* Also see Fire Code Sprinkler Plan Review Record

ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS (904)

_____ Installation *(904.3)*

_____ Wet-chemical systems *(904.5)*

_____ Dry-chemical systems *(904.6)*

Separate Permit

_____ Foam systems *(904.7)*

_____ Carbon dioxide systems *(904.8)*

_____ Halon systems *(904.9)*

_____ Clean-agent systems *(904.10)*

_____ Commercial cooking systems *(904.2.1, 904.11)*

STANDPIPE SYSTEMS (905)

_____ Installation standards *(905.2)*

_____ Building height *(905.3.1)*

_____ Group A *(905.3.2)*

_____ Covered malls *(905.3.3)*

_____ Stages *(905.3.4)*

_____ Underground buildings *(905.3.5)*

_____ Helistops/heliports *(905.3.6)*

_____ Hose connections and locations *(905.1, 905.4, 905.5, 905.6)*

_____ Cabinets *(905.7)*

_____ Dry standpipes *(905.8)*

_____ Valve supervision *(905.9)*

PORTABLE FIRE EXTINGUISHERS (906)

_____ Required locations - IFC *(906.1)*

FIRE ALARM AND DETECTION SYSTEMS (907) (Where required)

Separate Permit

_____ Construction documents *(907.1.1)*

_____ Assembly (A-1, A-2, A-3, A-4, A-5) *(907.2.1)*

_____ Business (B) *(907.2.2)*

_____ Educational (E) *(907.2.3)*

_____ Factory (F-1, F-2) *(907.2.4)*

_____ High-hazard (H-1, H-2, H-3, H-4, H-5) *(907.2.5)*

_____ Institutional (I-1, I-2, I-3, I-4) *(907.2.6)*

_____ Mercantile (M) *(907.2.7)*

_____ Residential (R-1, R-2) *(907.2.8, 907.2.9)*

_____ Single/multiple station smoke alarms *(907.2.10)*

_____ High rise buildings *(907.2.12)*

_____ Atriums *(907.2.13)*

_____ Other buildings/areas *(907.2.11, 907.2.14 - 907.2.23)*

FIRE ALARM AND DETECTION SYSTEMS (907) (Design)

_____ Residential smoke alarm power source *(907.2.10.2)*

_____ Residential smoke alarm interconnection *(907.2.10.3)*

Separate Permit

_____ Location/Power supply/Wiring *(907.3 - 907.5)*

_____ Activation/Presignal/Zones *(907.6 - 907.8)*

_____ Alarm notification appliances *(907.9)*

_____ Detectors *(907.10 - 907.12)*

_____ Monitoring *(907.14)*

EMERGENCY ALARM SYSTEMS (908)

_____ Detection system applicable *(908.1 - 908.6)*

SMOKE CONTROL SYSTEMS (909)

_____ Where required *(402.9, 404.4, 405.5, 408.8, 410.3.7.2, 1019.1.8, 1024.6.2.1)*

See Waiver

_____ Design requirements *(909.1 - 909.4)*

_____ Smoke barriers *(909.5)*

_____ Pressurization method *(909.6)*

_____ Airflow method *(909.7)*

_____ Exhaust method *(909.8)*

_____ Equipment/Power *(909.10, 909.11)*

_____ Detection and control *(909.12 - 909.18)*

_____ Smokeproof enclosures *(909.20)*

_____ Underground buildings *(909.21)*

SMOKE AND HEAT VENTS (910)

_____ Requirements *(910.1 - 910.3)*

_____ Mechanical alternative *(910.4)*

FIRE COMMAND CENTER (911)

_____ Features *(911.1)*

OCCUPANT NEEDS (Chapters 10, 11, 12)

MEANS OF EGRESS (Chapter 10)

OCCUPANT LOAD *(1004.1.2 and Table 1004.1.2)*

Location	Floor Area	–	Sq.ft./ person	=	Occt. load	Other occt. loads	Total
See Code Summary							

CAPACITY OF EGRESS COMPONENTS *(1005.1 and Table 1005.1)*

Egress width (inch/occupant)

Stairways _____

Other egress components _____

CAPACITY

Location	Stairways	Other egress components

NUMBER OF EXITS *(1018.1, 1018.2)*

Location	Required	Shown

MEANS OF EGRESS (continued)

GENERAL MEANS OF EGRESS

OK — Design requirements *(1003.2 - 1003.7)*

Means of egress illumination *(1006)*

Exit signs *(1011)*

Accessible means of egress *(1007)*

Means of egress doors *(1008.1-1008.1.2)*

Special doors/Gates/Turnstiles *(1008.1.3, 1008.2, 1008.3)*

OK — Door landings/Thresholds/Arrangement *(1008.1.4 -1008.1.7)*

Door hardware *(1008.1.8, 1008.1.9)*

Stairways *(1009)*

Handrails *(1009.11)*

Roof access *(1009.12)*

Ramps *(1010)*

Guards *(1012)*

EXIT ACCESS

OK — Door number and arrangement *(1013.2, 1014.1, 1014.2)*

Exit access travel distance *(1013.3, 1015.1)*

Aisles *(1013.4)*

Egress balconies *(1013.5, 1015.3)*

Corridors *(1016)*

Air movement in corridors *(1016.4)*

EXITS / EXIT DISCHARGE

OK — Exits/Exit doors *(1017, 1018)*

Interior exit stairways *(1019)*

Exit passageways *(1020)*

Horizontal exits *(1021)*

Exterior exit ramps/stairways *(1022)*

Exit discharge *(1023)*

OTHER MEANS OF EGRESS

Miscellaneous egress requirements *(1014.3 - 1014.6)*

Bleachers *(1024.1.1)*

Assembly exits & egress *(1024.2 - 1024.5)*

Assembly aisles & features *(1024.6 -1024.15)*

Emergency escape and rescue *(1025)*

ACCESSIBILITY* (Chapter 11)

OK — Scoping requirements *(1103)*

Accessible route *(1104)*

Accessible entrances *(1105)*

Parking and passenger loading *(1106)*

Dwelling units and sleeping units *(1107)*

Special occupancies *(1108)*

Features and facilities *(1109)*

Signage *(1110)*

*Also see Accessibility Plan Review Record

INTERIOR ENVIRONMENT (Chapter 12)

_____ Ventilation openings *(1203)*

_____ Temperature control *(1204)*

_____ Lighting *(1205)*

_____ Yards or courts *(1206)*

_____ Sound transmission *(1207)*

_____ Interior space dimensions *(1208)*

_____ Access to unoccupied spaces *(1209)*

_____ Surrounding materials *(1210, 2509)*

BUILDING ENVELOPE (Chapters 13*, 14, 15)

*See Energy Conservation Code Plan Review Record

EXTERIOR WALLS (Chapter 14)

OK Performance requirements *(1403)*

_____ Materials *(1404)*

_____ Exterior wall coverings/MCM's *(1405, 1407)*

_____ Combustible material restrictions *(1406)*

ROOF ASSEMBLIES AND ROOFTOP STRUCTURES (Chapter 15)

OK Weather protection *(1503)*

_____ Flashing *(1503.2, 1507.2.9, 1507.3.9, 1507.5.6, 1507.7.6, 1507.8.7, 1507.9.8)*

_____ Performance requirements *(1504)*

_____ Fire classification *(1505)*

_____ Materials *(1506)*

_____ Roof coverings *(1507)*

_____ Roof insulation *(1508)*

_____ Rooftop structures *(1509)*

_____ Reroofing *(1510)*

STRUCTURAL SYSTEMS (Chapters 16, 17, 18)

STRUCTURAL DESIGN (Chapter 16)

STRUCTURAL DESIGN CALCULATIONS

OK Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown
See Plans	

_____ Live load reduction *(1603.1.1, 1607.9, 1607.10)*

_____ Roof live loads *(1603.1.2, 1607.11)*

Roof snow loads *(1603.1.3, 1608)*

_____ Ground snow load, P_g *(1608.2)*

_____ If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

_____ If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*

_____ If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

_____ Roof thermal factor, C_t *(Table 1608.3.2)*

_____ Sloped roof snowload, P_s *(1608.4)*

DESIGN LOADS (continued)

Wind loads *(1603.1.4, 1609)*

_____ Design option utilized *(1609.1.1, 1609.6)*

_____ Basic wind speed *(1609.3)*

_____ Building category and wind importance factor, I_w *(Table 1604.5, 1609.5)*

_____ Wind exposure category *(1609.4)*

_____ Internal pressure coefficient *(ASCE 7)*

_____ Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

_____ Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

_____ Seismic use group ("Category") *(Table 1604.5, 1616.2)*

_____ Spectral response coefficients, S_{DS} & S_{D1} *(1615.1)*

_____ Site class *(1615.1.5)*

_____ Seismic design category *(1616.3)*

_____ Basic seismic-force-resisting system *(Table 1617.6.2)*

_____ Response modification coefficient, R, and deflection amplification factor, C_d *(Table 1617.6.2)*

_____ Analysis procedure *(1616.6, 1617.5)*

_____ Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

_____ Concentrated loads *(1607.4)*

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.6, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

QUALITY ASSURANCE (Chapter 17)

_____ Approvals/Research report(s) *(1703, 1703.4.2)* Report No._____

_____ Owner's special inspection program specified *(1704.1.1)*

_____ Prefabricated items *(1704.2)*

_____ Steel construction *(1704.3)*

_____ Concrete construction *(1704.4)*

_____ Masonry construction *(1704.5)*

_____ Wood construction *(1704.6)*

_____ Prepared fill and foundations *(1704.7, 1704.8, 1704.9)*

_____ Wall panels and veneers/EIFS *(1704.10, 1704.12)*

_____ Sprayed fire-resistant materials *(1704.11)*

_____ Quality assurance plan - Seismic/Wind *(1705, 1706)*

_____ Seismic resistance *(1707)*

_____ Structural testing/Observations (seismic) *(1708, 1709)*

_____ Testing (other) *(1710 - 1715)*

SOILS AND FOUNDATIONS (Chapter 18)

_____ Soils investigations/Reports *(1802.1, 1802.6)*

_____ Soil classification *(1802.3)*

_____ Excavation, grading and fill *(1803)*

_____ Load-bearing values *(1804)*

_____ Footings and foundations *(1805)*

_____ Retaining walls *(1806)*

_____ Dampproofing and waterproofing *(1807)*

_____ Foundations (other types) *(1808 - 1812)*

STRUCTURAL MATERIALS (Chapters 19, 21, 22, 23) -012

CONCRETE (Chapter 19)

_____ Plain and reinforced concrete design/construction standard specified *(1901.2, 1908)*

_____ Construction documents *(1901.4)*

_____ Minimum concrete strength *(Table 1904.2.2[2])*

_____ Hot weather and cold weather curing specified *(1905.12, 1905.13)*

_____ Seismic design *(1910)*

_____ Slab provisions *(1911)*

MASONRY (Chapter 21)

_____ Design method, construction standard specified *(2101.2)*

_____ Construction documents *(2101.3)*

_____ Construction materials *(2103)*

_____ Mortar type *(2103.7)*

_____ Cold weather and hot weather construction specified *(2104.3, 2104.4)*

_____ Seismic design *(2106)*

_____ Glass unit masonry *(2110)*

_____ Fireplaces/Heaters/Chimneys *(2111, 2112, 2113)*

STEEL (Chapter 22)

_____ Structural steel design/construction standard specified *(2205)*

_____ Open-web steel joist design/construction standard specified *(2206)*

_____ Steel cable structures *(2207)*

_____ Steel storage racks *(2208)*

_____ Cold-formed steel design/construction standard specified *(2209)*

_____ Light framed cold-formed steel design/construction standard specified *(2210)*

_____ Wind/seismic design of light-framed, cold-formed steel shear walls *(2211)*

WOOD (Chapter 23)

_____ Design method option used *(2301.2)*

MATERIAL STANDARDS / CONSTRUCTION REQUIREMENTS (2303 - 2306)

_____ Lumber *(2303.1.1)*

_____ Wood I-joists *(2303.1.2)*

_____ Glue laminated timbers *(2303.1.3)*

_____ Wood structural panels *(2303.1.4, 2304.6, 2304.7)*

_____ Fiber-, hard-, & particle-, boards *(2303.1.5 - 2303.1.7)*

_____ Decay and termite protection *(2303.1.8, 2304.11)*

_____ Structural composite lumber *(2303.1.9)*

_____ Fire-retardant-treated wood *(2303.2)*

_____ Hardwood plywood *(2303.3)*

_____ Metal plate connected trusses *(2303.4)*

_____ Joist hangers and connectors *(2303.5)*

_____ Fasteners and fastening *(2303.6, 2304.9, Table 2304.9.1)*

_____ Heavy timber construction *(2304.10)*

_____ Shear walls and diaphragms *(2305, 2306)*

CONVENTIONAL LIGHT-FRAME CONSTRUCTION (2308)

_____ Limitations satisfied *(2308.2)*

_____ Wind/Seismic requirements *(2308.2.1, 2308.2.2, 2308.11, 2308.12)*

_____ Braced walls *(2308.3, 2308.9.3)*

_____ Foundation anchorage *(2308.3.3, 2308.6)*

_____ Floor joists *(Tables 2308.8[1], 2308.8[2])*

_____ Wall studs *(Table 2308.9.1)*

_____ Girders *(Tables 2308.9.5, 2308.9.6)*

_____ Ceiling joists *(Tables 2308.10.2[1], 2308.10.2[2])*

_____ Roof rafters *(Tables 2308.10.3.[1] - 2308.10.3[6])*

_____ Roof uplift *(2308.10.1)*

NONSTRUCTURAL MATERIALS (Chapters 24, 25, 26)

GLASS AND GLAZING (Chapter 24)

_____ Sloped glazing and skylights *(2405)*

_____ Safety glazing *(2406, 2407, 2408, 2409)*

GYPSUM BOARD AND PLASTER (Chapter 25)

_____ Gypsum board materials *(2506, Table 2506.2)*

_____ Plaster *(2507, 2508, 2510 - 2513)*

PLASTIC (Chapter 26)

FOAM PLASTIC INSULATION (2603)

_____ Labeling *(2603.2, 2603.5.6)*

_____ Surface-burning characteristics *(2603.3, 2603.5.4)*

_____ Thermal barrier *(2603.4)*

_____ Exterior walls/Roofs *(2603.5, 2603.6)*

_____ Special approval *(2603.8)*

MISCELLANEOUS PLASTICS

_____ Interior finish and trim *(2604)*

_____ Plastic veneer *(2605)*

_____ Light-transmitting plastics *(2606 - 2611)*

BUILDING SERVICES* (Chapters 27, 28, 29, 30)

ELEVATORS AND CONVEYING SYSTEMS (Chapter 30)

_____ Construction standard specified *(3001.2)*

_____ Hoistway enclosures *(3002)*

_____ Opening protectives *(3002.1.1)*

_____ Emergency operations *(3003)*

_____ Hoistway venting *(3004)*

_____ Conveying systems *(3005)*

_____ Machine rooms *(3006)*

* Also see Electrical (Ch.27), Mechanical (Ch.28) and Plumbing (Ch.29) Plan Review Records

SPECIAL DEVICES AND CONDITIONS (Chapters 31, 34)

SPECIAL CONSTRUCTION (Chapter 31)

_____ Membrane structures *(3102)*

_____ Awnings and canopies/Marquees *(3105, 3106)*

_____ Signs *(3107)*

_____ Radio and television towers *(3108)*

_____ Swimming pool enclosures *(3109)*

PEDESTRIAN WALKWAYS AND TUNNELS (3104)

_____ Construction and use *(3104.3, 3104.4)*

_____ Separation *(3104.5, 3104.10)*

_____ Public way *(3104.6)*

_____ Egress/Ventilation *(3104.7 - 3104.9, 3104.11)*

EXISTING STRUCTURES (Chapter 34)

_____ Additions, alterations, repairs *(3403)*

_____ Fire escapes *(3404)*

_____ Change of occupancy *(3406)*

_____ Accessibility *(3409)*

_____ Compliance alternatives *(3410)*

BUILDING EVALUATION SUMMARY *(Table 3410.7)*

Existing occupancy _____ Proposed occupancy _____
Year building was constructed _____ Number of stories _____ Height in feet _____
Type of construction _____ Area per floor _____
Percentage of frontage _____ % Corridor wall rating _____
Completely suppressed: Yes _____ No _____ Required door closers: _____ Yes _____ No _____
Compartmentation: Yes _____ No _____
Fireresistance rating of vertical opening enclosures _____
Type of HVAC system _____, serving number of floors _____
Automatic fire detection: Yes _____ No _____, type and location _____
Fire alarm system: Yes _____ No _____, type _____
Smoke control: Yes _____ No _____, type _____
Adequate exit routes: Yes _____ No _____ Dead ends: Yes _____ No _____
Maximum exit access travel distance _____ Elevator controls: Yes _____ No _____
Means of egress emergency lighting: Yes _____ No _____ Mixed occupancies: Yes _____ No _____

Safety parameters	Fire safety (FS)	Means of egress (ME)	General safety (GS)
3410.6.1 Building height			
3410.6.2 Building area			
3410.6.3 Compartmentation			
3410.6.4 Tenant and dwelling unit separations			
3410.6.5 Corridor walls			
3410.6.6 Vertical openings			
3410.6.7 HVAC systems			
3410.6.8 Automatic fire detection			
3410.6.9 Fire alarm system			
3410.6.10 Smoke control	* * * *		
3410.6.11 Means of egress	* * * *		
3410.12 Dead ends	* * * *		
3410.13 Max. exit access travel distance	* * * *		
3410.6.14 Elevator control			
3410.6.15 Means of egress emergency lighting	* * * *		
3410.6.16 Mixed occupancies		* * * *	
3410.6.17 Automatic sprinklers		÷ 2 =	
3410.6.18 Incidental use area protection			
Building score — total value			

* * * * No applicable value to be inserted.

BUILDING SAFETY EVALUATION SCORE *(Table 3410.9)*

Formula	Table 3410.7		Table 3410.8		Score	Pass	Fail
FS–MFS ≥ 0	_____	(FS) —	_____	(MFS) =	_____	_____	_____
ME–MME ≥ 0	_____	(ME) —	_____	(MME) =	_____	_____	_____
GS–MGS ≥ 0	_____	(GS) —	_____	(MGS) =	_____	_____	_____

FS = Fire Safety
ME = Means of Egress
GS = General Safety
MFS = Mandatory Fire Safety
MME = Mandatory Means of Egress
MGS = Mandatory General Safety

APPENDICES A - J

_____ Appendices adopted *(101.2.1)* _____ Compliance verified

Memorandum

Gensler

To	Fax No.
Project file	Telephone No.
From	**Date**
William Hooper, Genlser	5 Nov 2009
Project	**Project Number**
Portland International Jetport	09.6395.000
Subject	**File**
New Commercial Permit Application	3C
Distribution	**This is page**
	1 of 1

Memorandum / Discussions / Observations

City of Portland, Maine
New Commercial Permit Application
Separate Fire Department Submission Checklist

1. **Applicant:**
   Paul Bradbury, PE
   Airport Director
   Portland International Jetport
   1001 Westbrook Street
   Portland, Maine 04102
   (207)874-8877

2. **Project Architect:**
   William D. Hooper, AIA, LEED AP
   Principal
   Gensler
   2020 K Street Suite 200
   Washington, DC 20006
   (202)721-5339

3. **Proposed Use of Structure:**
   IBC: Non separated use / NFPA: Mixed occupancy

4. **Square Footage of Proposed Structure:**
   See "Building Area Tabulation" attached drawing A00.10

5. **Existing and Proposed Fire Protection of Structure:**
   See "Building Code Analysis" on attached drawing A00.10

6. **Separate Plans shall be submitted for Suppression System, Detection System and Life Safety Plans:**
   See attached drawings

7. **Elevators shall be sized to fit and 80" x 24" stretcher:**
   See attached elevator cab plans. Elevators are sized to fit stretchers this size.

2020 K Street, NW
Suite 200
DC 20006
Tel. 202.721.5200
Fax: 202.872.8587

B. RENOVATIONS

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
1. Renovated areas	3403.1: "Additions or alterations to any building or structure shall conform to the requirements of the code for new construction"	43.8.1.1 (2): "The existing portion of the building shall comply with the requirements of this Code applicable to existing buildings for the occupancy" 43.5.2.3: The total area of renovated areas (excluding mech, elec and plumbing renovation square footage) is less than 50 percent of the area of the building, therefore the project is considered a *"rehabilitation"* not a "reconstruction or extensive modification".)
2. Non-renovated areas	3403.1: "Portions of the structure not altered and not effected by the alteration are not required to comply with the code requirements for a new structure."	43.8.1.1 (2): "The existing portion of the building shall comply with the requirements of this Code applicable to existing buildings for the occupancy"
3. Accesibility for existing buildings:	3409.4 Additions: "Provisions for new construction shall apply to additions" 3409.5 Alterations: "A building, facility or element that is altered shall comply with applicable provisions in Chapter 11 and ICC A117.1 unless technically infeasible."	n/a

One Beacon Street
Boston Massachusetts 02108
Tel. 617.619.5700
Fax. 617.619.5701

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
c. Exterior doors and windows	Table 601 Type IB: 0 hrs	Not applicable
d. Interior bearing walls	Not applicable	Not applicable
e. Interior non-bearing walls	Table 601 Type IB: 0 hrs	Table 4.1.1 Type II (222): 0 hrs
f. Floor construction	Table 601 Type IB: 2 hrs	Table 4.1.1 Type II (222): 2 hrs
g. Roof construction assembly	Table 601 Type IB: 1hr Note C: Fire retardant treated wood allowed as part of roof construction when the vertical distance from the upper floor to the roof is 20 feet or more	Table 4.1.1 Type II (222): 1 hr 4.3.2.9.1: Fire-retardant treated wood shall be permitted for roof construction…in Type II buildings.
h. Structural frame	Table 601 Type IB: 2 hrs	Table 4.1.1 Type II (222): 2 hrs
i. Occupancy separation walls	Table 302.1.1 Incidental Uses: No separations required due to automatic sprinkler system (Note: other codes may require separations for elec, elevator machine, and mechanical rooms)	6.1.14.3.1 Mixed occupancy: No separations required due to automatic sprinkler system (Note: other codes may require separations for elec, elevator machine, and mechanical rooms).
j. Shaft enclosures (with exception of atrium elevators-see F.2 below)	707.4: "shaft enclosures shall have a fire resistance rating not less than the floor assembly penetrated" (2 hrs)	8.6.5: enclosures connecting four stories or more- 2 hrs Other enclosures- 1 hr (Building code governs)
k. Escalator Floor Opening Enclosure	707.2: Exception 5: "a shaft enclosure is not required for floor openings complying with the provisions for covered malls or atriums."	8.6.8.6 (1): Opening protection requirement "shall not apply to escalators in large open areas such as atriums and enclosed shopping malls"
l. Exit stair enclosures	707.4: "shaft enclosures shall have a fire resistance rating not less than the floor assembly penetrated" (2 hrs)	7.1.3.2.1: (1) 1 hr where connects three stories or less (2) 2 hrs where exit connects four or more stories

Boston
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Tel: 617.619.5700
Fax: 617.619.5701

Section 4.5. Fire Protection

Item	NFPA 415, 2008 ed.
Section 4.5:	- Sprinkler system has been designed in accordance with NFPA 13. As required by NFPA 415, passenger-handling areas have been classified as Ordinary Hazard Group I Occupancies for the purpose of sprinkler system design. In addition, the baggage, package, and mail handling areas have been classified as Ordinary Hazard Group II Occupancies for the purpose of sprinkler system design. Other areas of the new terminal building have been classified in accordance with NFPA 13. - New Class I standpipes have been provided in accordance with NFPA 14 since the expansion is greater than 2 stories. - New Fire Alarm and Communications System has been designed in accordance with NFPA 101 - New Manual fire alarm services have been designed in accordance with NFPA 72. - All areas of the new terminal are within 500' of a fire hydrant. - Water supply for sprinkler demand is adequate per calculation method prescribed in paragraph 4.5.5. - Portable fire extinguishers are distributed throughout terminal in accordance with NFPA 10.

Section 5.1. Aircraft Fueling Ramp Drainage

Item	NFPA 415, 2008 ed.
Section 5.1	Aircraft fueling ramps slope away from the terminal buildings with a minimum grade of 1 percent (1:100) for the first 50 ft (15 m).

Section 6.1. Aircraft Loading Walkways

Item	NFPA 415, 2008 ed.
Section 6.1	Loading walkways will be specified at a later date. Fixed rotundas are provided for future loading walkway connections. Each rotunda is paired with an exit stair that serves egress from the aircraft and the terminal. Doors from terminal and from the aircraft swing in the direction of egress.
Paragraph 6.2.4:	Loading walkway will have a system of pressurization fans to maintain a positive pressure in the walkways relative to the terminal when the walkways are in use. The fan air source is located in an area that will remain uncontaminated in the event of a ramp fire emergency.
Paragraph 6.2.6:	Loading walkways will be specified with positive pressure systems only and do not have negative pressure systems.

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Memorandum

Gensler

To	Project file	**Fax No.** **Telephone No.**	
From	William Hooper, Gensler	**Date**	5 Nov 2009
Project	Portland International Jetport	**Project Number**	09.6395.000
Subject	New Commercial Permit Application	**File**	3C
Distribution		**This is page**	1 of 1

Memorandum / Discussions / Observations

City of Portland, Maine
New Commercial Permit Application
Separate Fire Department Submission Checklist

1. **Applicant:**
   Paul Bradbury, PE
   Airport Director
   Portland International Jetport
   1001 Westbrook Street
   Portland, Maine 04102
   (207)874-8877

2. **Project Architect:**
   William D. Hooper, AIA, LEED AP
   Principal
   Gensler
   2020 K Street Suite 200
   Washington, DC 20006
   (202)721-5339

3. **Proposed Use of Structure:**
   IBC: Non separated use / NFPA: Mixed occupancy

4. **Square Footage of Proposed Structure:**
   See "Building Area Tabulation" attached drawing A00.10

5. **Existing and Proposed Fire Protection of Structure:**
   See "Building Code Analysis" on attached drawing A00.10

6. **Separate Plans shall be submitted for Suppression System, Detection System and Life Safety Plans:**
   See attached drawings

7. **Elevators shall be sized to fit and 80" x 24" stretcher:**
   See attached elevator cab plans. Elevators are sized to fit stretchers this size.

Washington
2020 K Street, NW
Suite 200
DC 20006
Tel: 202.721.5200
Fax: 202.872.8587

B. RENOVATIONS

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
1. Renovated areas	3403.1: "Additions or alterations to any building or structure shall conform to the requirements of the code for new construction"	43.8.1.1 (2): "The existing portion of the building shall comply with the requirements of this Code applicable to existing buildings for the occupancy" 43.5.2.3: The total area of renovated areas (excluding mech, elec and plumbing renovation square footage) is less than 50 percent of the area of the building, therefore the project is considered a *"rehabilitation"* not a "reconstruction or extensive modification".)
2. Non-renovated areas	3403.1: "Portions of the structure not altered and not effected by the alteration are not required to comply with the code requirements for a new structure."	43.8.1.1 (2): "The existing portion of the building shall comply with the requirements of this Code applicable to existing buildings for the occupancy"
3. Accesibility for existing buildings:	3409.4 Additions: "Provisions for new construction shall apply to additions" 3409.5 Alterations: "A building, facility or element that is altered shall comply with applicable provisions in Chapter 11 and ICC A117.1 unless technically infeasible."	n/a

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Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
c. Exterior doors and windows	Table 601 Type IB: 0 hrs	Not applicable
d. Interior bearing walls	Not applicable	Not applicable
e. Interior non-bearing walls	Table 601 Type IB: 0 hrs	Table 4.1.1 Type II (222): 0 hrs
f. Floor construction	Table 601 Type IB: 2 hrs	Table 4.1.1 Type II (222): 2 hrs
g. Roof construction assembly	Table 601 Type IB: 1hr Note C: Fire retardant treated wood allowed as part of roof construction when the vertical distance from the upper floor to the roof is 20 feet or more	Table 4.1.1 Type II (222): 1 hr 4.3.2.9.1: Fire-retardant treated wood shall be permitted for roof construction…in Type II buildings.
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Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
6. Minimum corridor width	1016.2: 44 inches (OR) Table 1005.1: 0.15 inches per occupant served whichever is greater (OR) 36 inches with a required occupant capacity of 50 or less.	Table 7.3.3.1: not less than 36 inches or 0.2 inches per person
7. Exit stairways		
a. Unit of exit width	Table 1005.1: 0.2 inches per occupant	Table 7.3.3.1: 0.3 inches per occupant (note: NFPA governs)
b. Minimum new stair width	1009.1: 36 inches for fewer than 50 occupants, 44 inches for over 50 occupants (OR) Table 1005.1: 0.2 inches per occupant served whichever is greater.	7.2.2.2.1.2: 36 inches for fewer than 50 occupants. Table 7.2.2.2.1.2 (B): 44 inches for more less than 2,000 occupants / 56 inches for greater than 200 occupants.
c. Minimum landing width	1009.4: Width shall be not less than width of stair they serve	7.2.2.3.2.3: not less than the width of the stair.
d. Maximum vertical distance between landings	1009.6: 12 feet max	New stairs: Table 7.2.2.2.1.1(a): 12 feet max
e. Minimum headroom	1009.2: 6'-8"	New stairs: Table 7.2.2.2.1.1(a): 6'-8"
f. Tread and riser dimensions	1009.3: Risers: 7 inches max / 4 inches min Treads: 11 inches minimum	New stairs: Table 7.2.2.2.1.1(a) Risers: 7 inches max / 4 inches min Treads: 11 inches minimum
g. Level 5 Mechanical Mezzanine	505.3: A single means of egress is allowed, however a single exit exceeds common path of travel, therefore two exits are provided. Stair #8 does not go to grade, so the maximum travel distance includes the distance traveled on the stairway.	8.6.9.3.2: not required to be open to level below 40.2.4.1.2: A single means of egress is allowed, however a single exit exceeds 75' max. common path of travel, therefore two exits are provided.
h. Exterior Stairs: Outdoor conditions	1009.5.2: "Outdoor stairways...subject to snow or ice shall be protected to prevent accumulation of same" Exterior stairs from hold room level are designed with a canopy roof.	7.2.2.6.5: "Outside stairs...shall be designed to minimize water accumulation on their surfaces" Exterior stairs from hold room level are designed with a canopy roof.

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Building Code Analysis
Quality Assurance Checklist

Gensler

Project Name	Portland Jetport Terminal	**Design Director**	
Project Location	South Portland, Maine	**Project Manager**	Bill Hooper
Project Number	09.6395.000	**Project Architect**	
QA Reviewer/Date	Jim Stanislaski / 5 Nov 09	**Project Designer**	
Building Code(s) Referenced	NFPA 415, 2008 ed.	**Local Code(s) Referenced**	
Date printed		**File** 3C	**This is page** 1 of 3

A. SUMMARY

The project is an addition/renovation to an existing commercial airport terminal. The scope includes selective renovations (including mech/elec/plumbing upgrades) within the existing 160,000SF concrete-framed terminal. New construction includes approximately 165,000 SF of ticketing, baggage handling, concessions, security screening and hold room spaces. The new building will be a 3-story steel-framed structure that connects over a roadway to an existing parking garage. Code analysis below assumes two separate terminal buildings (new terminal addition and existing terminal) with new fire walls and/or fire separation assemblies separating old and new construction. Existing fire walls and fire shutters in the existing terminal are anticipted to remain in-place. There will be no change in use or occupancy in the renovated areas. This code analysis is based on review of NFPA 415, 2008 ed.- Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

Section 4.1. General

Item	NFPA 415, 2008 ed.
Section 4.1	- Construction is Type IB - Interior finish materials are Class A or B - There are no below grade areas that are a full story below grade - Potential fuel spill points are greater than 100' from airside glazing. Pavement markings shall be provided for each aircraft type which will define wheel stops. See drawing A00.51 for aircraft parking plan.

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Section 4.5. Fire Protection

Item	NFPA 415, 2008 ed.
Section 4.5:	- Sprinkler system has been designed in accordance with NFPA 13. As required by NFPA 415, passenger-handling areas have been classified as Ordinary Hazard Group I Occupancies for the purpose of sprinkler system design. In addition, the baggage, package, and mail handling areas have been classified as Ordinary Hazard Group II Occupancies for the purpose of sprinkler system design. Other areas of the new terminal building have been classified in accordance with NFPA 13. - New Class I standpipes have been provided in accordance with NFPA 14 since the expansion is greater than 2 stories. - New Fire Alarm and Communications System has been designed in accordance with NFPA 101 - New Manual fire alarm services have been designed in accordance with NFPA 72. - All areas of the new terminal are within 500' of a fire hydrant. - Water supply for sprinkler demand is adequate per calculation method prescribed in paragraph 4.5.5. - Portable fire extinguishers are distributed throughout terminal in accordance with NFPA 10.

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Boston
One Beacon Street
Massachusetts 02108
Tel 617.619.5700
Fax 617.619.5701

Certificate of Design Application

From Designer: Gensler

Date: November 5, 2009

Job Name: Portland International Jetport Terminal Enhancement

Address of Construction: 1001 Westbrook Street

2003 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year IBC 2003 Use Group Classification (s) Non separated

Type of Construction IB

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC Yes

Is the Structure mixed use? Yes If yes, separated or non separated or non separated (section 302.3) Non separated

Supervisory alarm System? Yes Geotechnical/Soils report required? (See Section 1802.2) Yes

Structural Design Calculations

n/a Submitted for all structural members (106.1 - 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (1603.1.1, 1607)

Floor Area Use	Loads Shown
Assembly	100 PSF
Mechanical	200 PSF
Light Storage	125 PSF
Generator	250 PSF
Kitchens	150 PSF

Wind loads (1603.1.4, 1609)

Analytical Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

III / 1.15 Building category and wind importance Factor, I_w table 1604.5, 1609.5)

C Wind exposure category (1609.4)

+/- 0.18 Internal pressure coefficient (ASCE 7)

47 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)

30 PSF Main force wind pressures (1603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

n/a Design option utilized (1614.1)

II Seismic use group ("Category")

0.297 / 0.112 Spectral response coefficients, S_{DS} & S_{D1} (1615.1)

C Site class (1615.1.5)

None Live load reduction

18 PSF Roof *live* loads (1603.1.2, 1607.11)

47 PSF Roof snow loads (1603.7.3, 1608)

60 PSF Ground snow load, P_g (1608.2)

47 PSF If P_g > 10 psf, flat roof snow load P_f

1.0 If P_g > 10 pst, snow exposure factor, C_e

1.1 If P_g > 10 pst, snow load importance factor, I_s

1.0 Roof thermal factor, C_t (1608.4)

47 PSF Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

Non-detailed steel Basic seismic force resisting system (1617.6.2)

3 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

E.L.F. Analysis procedure (1616.6, 1617.5)

0.06 x W Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

n/a Flood H100 MPH S.

n/a Elevation of structure

Other loads

n/a Concentrated loads (1607.4)

n/a Partition loads (1607.5)

n/a Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)

Certificate of Design

Date: November 5, 2009

From: William D. Hooper, AIA, LEED AP

These plans and / or specifications covering construction work on:

Portland International Jetport Commercial Passenger Terminal, 1001 Westbrook Street

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

LICENSED ARCHITECT
WILLIAM D.
HOOPER
No. 3[illegible]

Signature:

Title: Principal

Firm: Gensler

Address: 2020 K Street Suite 200

Washington, DC 20006

Phone: (202) 721-5339

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov

Accessibility Building Code Certificate

Designer: Gensler

Address of Projecr: 1001 Westbrook Street

Nature of Project: Addition and selective renovations to commercial passenger terminal including associated parking, sitework and utilities.

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act. Residential Buildings with 4 units or more must conform to the Federal Fair Housing Accessibility Standards. Please provide proof of compliance if applicable.

Signature:

Title: Principal

Firm: Gensler

Address: 2020 K Street Suite 200
Washington, DC 20006

Phone: (202) 721-5339

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Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

Signature: _____

Title: Principal

Firm: Gensler

Address: 2020 K Street Suite 200

Washington, DC 20006

Phone: (202) 721-5339

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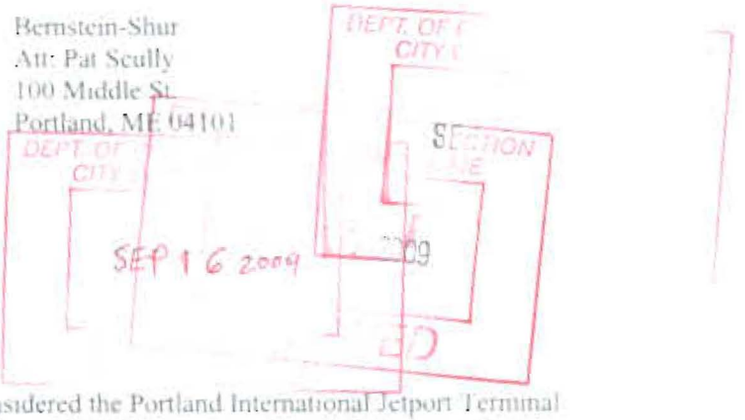
CITY OF PORTLAND, MAINE

PLANNING BOARD

September 4, 2009

Paul Bradbury, P.E.
Airport Director
Portland International Jetport
1001 Westbrook St.
Portland, ME 04102

Bernstein-Shur
Att: Pat Scully
100 Middle St.
Portland, ME 04101



RE: Terminal Expansion
Application ID #: 2008-0137
CBL: 208 A001002

Dear Mr. Bradbury,

On August 11, 2009 the Portland Planning Board considered the Portland International Jetport Terminal Expansion proposal. The Planning Board reviewed the proposal for conformance with the Site Plan standards. The Planning Board voted 4 in favor (Lewis, Patterson, Lowry, Tevanian) – 1 opposed (Silk), Hall absent, to approve the proposal.

SITE PLAN REVIEW

1. On the basis of plans and materials submitted by the applicant and on the basis of information contained in Planning Report #16-09 and Planning Board Report #19-09 and on the basis of materials submitted under the request for reconsideration, and memorandum dated August 6, 2009, and materials and testimony of the August 12, 2009 public hearing relevant to standards for site plan regulations, the Planning Board finds that with the imposition of conditions the plan is in conformance with the site plan standards of the City of Portland Land Use Code and the Traffic Movement Permit, subject to the following conditions of approval:

Conditions of Approval:

1. Stormwater
   Prior to issuance of a Building Permit the applicant shall receive approval from the MDEP for all stormwater systems.

2. International Parkway/Jetport Boulevard Intersection
   A. The applicant shall install traffic improvement signs and pavement markings at the intersection within six months from the date of Planning Board approval. The improvements shall be subject to the approval of the Department of Public Services.

   B. A feasibility study shall be conducted that reviews options to address the anticipated capacity issues of the intersection within a year from the date of Planning Board approval.

The potential mitigation options reviewed shall include: a full traffic signal warrant study conducted according to the MUCTD and MaineDOT requirements and coordinated with the Department of Public Services, construction of a roundabout, construction of a realigned intersection, maintaining a two-way STOP sign control and adding intersection capacity to attain acceptable levels of service.

C. Prior to issuance of a Certificate of Occupancy permit, the applicant shall implement all recommendations from the feasibility study.

3. Congress Street/Westbrook Street Intersection

A. The applicant shall contribute $10,600 towards the installation of street improvements identified by the Department of Public Services. Specific improvements as represented by the applicant shall include:

i. Pedestrian countdown device;
ii. A crosswalk with colored stamping, as approved by the Historic Preservation Department; and
iii. Install a sidewalk between the Westbrook St. and Waldo St. with a crosswalk if the right-of-way is owned by the city.

B. The applicant shall install video detection equipment or contribute $9,400 for such installation in accordance with the Department of Public Services.

C. Prior to the Certificate of Occupancy the applicant shall ensure that all identified traffic mitigation measures are fully funded and implemented by this project through a financial contribution no less than $20,000.

4. Johnson Road/Turnpike Connector/Turnpike Northbound Ramps

A. Prior to issuance of a Certificate of Occupancy the applicant shall be responsible for interconnecting traffic signals at the Johnson Road/Jetport Boulevard/Turnpike Connector, Turnpike Connector/Turnpike NB Ramps, Turnpike Connector/SB Ramps, and Congress Street/Turnpike Connector/Hutchins Drive intersections. Work shall include installing necessary equipment, conducting traffic counts, and developing and inputting timing plans to allow for coordination, and field adjusting once all work has been completed.

B. Prior to issuance of a Certificate of Occupancy the applicant shall be responsible for constructing an eastbound right turn lane on the connector for right turning vehicles onto I-95 NB ramp. The length shall be the maximum allowable without requiring widening of the I-95 overpass.

5. Enplanements

As related to conditions of approval numbered 2, 3, and 4 associated with the Traffic Movement Permit, at such time as the Jetport reaches enplanements of 1.1 million for 2 out of 4 years the Jetport shall have used the capacity under the Traffic Movement Permit and shall be required to submit an updated Traffic Movement Permit Application to the City.

6. Travel Demand Management Plan

A. The applicant shall submit an annual TDM report for review and approval by the Planning Authority, with an initial report submitted within 12 months following the issuance of the

Certificate of Occupancy for Terminal Expansion. The report shall summarize the current program elements and participation in the program.

B. Prior to the issuance of a Certificate of Occupancy, as part of the TDM, the applicant shall report to the Planning Board the steps taken to publicize that the preferred route taken to the Jetport are Congress St./Jetport Exit 46 from the Turnpike and the Westbrook Street/Jetport Exit 3 from 295 and other steps to increase public awareness in promoting these routes including but not limited to the following:

i. Alteration of the Jetport Directions Web page;
ii. Signage at the 5B exit informing drivers the "Best Route to Jetport" is Exit 3; and
iii. Inclusion of the preferred route in all marketing launching the "new, improved" Jetport.

7. Trail
The applicant will use good faith efforts to obtain FAA approval for location of a trail along the Fore River from Yellowbird Lane to the South Portland City line, which approval need not encompass an easement or permanent encumbrance upon the Jetport property and may be revocable by FAA for any reason, and shall pursue such approval with the FAA at offices of higher authority than the New England Region Office. Failing approval of a trail in said location, applicant shall pursue FAA approval for the alternate trail connection location as presented to the Planning Board by the applicant and depicted on Board A (unlabeled) at the August 11, 2009 public hearing, and shall dedicate such trail via easement to the City or City designee, subject to any FAA requirements related thereto. If FAA approval is not obtained for such trail location ("Board A"), then applicant shall submit one further alternate location (acceptable to the Planning Authority) for such trail in a location acceptable to the FAA, if such a location can be determined, and if no such location can be agreed upon after best efforts, then no such trail or easement shall be required.

8. North/South Runway
If the applicant decides to implement a proposal for expansion of the north/south runway, the applicant shall return to the Planning Board for review of that expansion concerning impacts to adjacent property owners and its affect on capacity of the airport facilities within the City of Portland.

9. Noise Compatibility Program
The Jetport shall comply with its adopted noise compatibility program approved by the FAA, as it may be revised from time to time.

Please note the following provisions and requirements for all site plan and subdivision approvals:

1. The site shall be developed and maintained as depicted in the site plan and the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or the planning authority pursuant to the terms of this article. Any such parcel lawfully altered prior to the enactment date of these revisions shall not be further altered without approval as provided herein. Modification or alteration shall mean and include any deviations from the approved site plan including, but not limited to, topography, vegetation and impervious surfaces shown on the site plan. No action, other than an amendment approved by the planning authority or Planning Board, and field changes approved by the Public Services authority

as provided herein, by any authority or department shall authorize any such modification or alteration.

2. The above approvals do not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.

3. An inspection fee payment of 2.0% of the guarantee amount and seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Services Dept. prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.

4. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.

5 Final sets of plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.

6. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

7. Prior to construction, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Service's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

8. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

Philip DiPierro, Development Review Coordinator, must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at 874-8632. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Eric Giles at (207) 874-8723 or by email at egiles@portlandmaine.gov.

Sincerely,

David Silk, Chair
Portland Planning Board

From: Marge Schmuckal
To: Eric Giles
Date: 11/12/2009 3:11:41 PM
Subject: Airport Expansion - Westbrook ST

Eric,
I received a building permit for this project I have a letter approving the project. Have the Performance Guarantee fees been paid? Is is ok to issue the permit at this time?
Thanks,
Marge

CC: Philip DiPierro

Gensler

Project Name		Project Number	
	Portland Jetport Terminal		09.6395.000
		This is page	
			2 of 3

Section 4.2. Heating Ventilating and Air Conditioning

Item	NFPA 415, 2008 ed.
Paragraph 4.2.1:	The new terminal Heating, Ventilating and Air Conditioning system specifications require those systems to be installed in compliance with NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; NFPA 54, *National Fuel Gas Code*; and NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*.
Paragraph 4.2.2:	Air supply and exhaust openings serving the new terminal space are not located on the ramp side.
Paragraph 4.2.3:	The openings to rooms that contain gas- or oil-fired equipment serving the new terminal space do not face the ramp.
Paragraph 4.2.4:	Stacks or chimneys from the boilers and water heaters terminate at least 20 feet above ramp grade and above the roof.
Paragraph 4.2.6:	The new terminal space Heating, Ventilating and Air Conditioning system specifications require restaurant exhaust systems to be installed in compliance with NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.

Section 4.3. Exits

Item	NFPA 415, 2008 ed.
Section 4.3:	- Means of egress have been designed to conform with NFPA 101, 2006 ed. (see separate code analysis) - Egress to the ramp will have signage with 2 in high "Emergency Exit Only"

Section 4.4. Electrical

Item	NFPA 415, 2008 ed.
Section 4.4:	- Electrical systems have been designed in accordance with NFPA 70 - There are no ventilation openings for electrical rooms on ramp side

Boston One Beacon Street
Massachusetts 02108
Tel: 617.619.5700
Fax: 617.619.5701

Applicant: Portland International Jetport Date: 9/26/08
Address: 1001 Westbrook St C-B-L: 199-A-1002 per latest ~~208-A-001~~

CHECK-LIST AGAINST ZONING ORDINANCE

Date - Existing Developed Site Permit #09-1254
Zone Location - AB
Interior or corner lot -
Proposed Use/Work - Addition of a New Terminal Bldg expansion (4 levels) - 160,000# with walkway overhead to the existing Pkg garage. ReAlign Jetport Rd - New Surface parking Areas
Sewage Disposal - City
Lot Street Frontage - 50' min - Well over
Front Yard - None req. unless front on Westbrook St → it is Not
Rear Yard - Not Abutting res. zone or use - None req -
Side Yard - Not Abutting res. zone or use - None req -
Projections -
Width of Lot - N/A
Height - 75' MAX allowed - 71.5' to the highest pt
Lot Area - min 20,000# - well over
→ Lot Coverage/ Impervious Surface - 70% - The Area for the New Addition is on impervious. Any change to existing update? ok
Area per Family - N/A
→ Off-street Parking - Planning Board reviews & approves this size of Bldg (over 50,000#)
Loading Bays - 1 shown
Site Plan - # 2008 - 0137
Shoreland Zoning/ Stream Protection - NA
Flood Plains - Panel 12 - Zone X
Noise Study? - ok

Comments Submitted

Rec. 9/24/08

CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
Zoning Copy

2008-0137
Application I. D. Number

9/18/2008
Application Date

Portland International Jetport
Applicant

1001 Westbrook Street, Portland, ME 04102
Applicant's Mailing Address

Portland Jetport
Project Name/Description

Consultant/Agent

1001 - 1001 Westbrook St, Portland, Maine — 147 Westbrook
Address of Proposed Site

Applicant Ph: (207) 756-8029 Applicant Fax: (207) 774-7740
Applicant or Agent Daytime Telephone, Fax

208 A001002 — 199-A-009 027
Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): ☐ New Building ☐ Building Addition ☐ Change Of Use ☐ Residential ☐ Office ☐ Retail
☐ Manufacturing ☐ Warehouse/Distribution ☐ Parking Lot ☐ Apt 0 ☐ Condo 0 ☐ Other (specify)

Proposed Building square Feet or # of Units	Acreage of Site	Proposed Total Disturbed Area of the Site	Zoning
		0	

Check Review Required:

☑ Site Plan (major/minor)	☐ Zoning Conditional - PB	☐ Subdivision # of lots		
☐ Amendment to Plan - Board Review	☐ Zoning Conditional - ZBA	☐ Shoreland	☐ Historic Preservation	☐ DEP Local Certification
☐ Amendment to Plan - Staff Review		☐ Zoning Variance	☐ Flood Hazard	☐ Site Location
☐ After the Fact - Major		☐ Stormwater	☑ Traffic Movement	☐ Other
☐ After the Fact - Minor		☐ PAD Review	☐ 14-403 Streets Review	

Fees Paid: Site Plan $3,000.00 Subdivision Engineer Review Date 9/22/2008

Zoning Approval Status:

Reviewer

☐ Approved ☐ Approved w/Conditions See Attached ☐ Denied

Approval Date Approval Expiration Extension to ☐ Additional Sheets Attached

☐ Condition Compliance signature date

Performance Guarantee ☐ Required* ☐ Not Required

* No building permit may be issued until a performance guarantee has been submitted as indicated below

☐ Performance Guarantee Accepted	date	amount	expiration date
☐ Inspection Fee Paid	date	amount	
☐ Building Permit Issue	date		
☐ Performance Guarantee Reduced	date	remaining balance	signature
☐ Temporary Certificate of Occupancy	date	☐ Conditions (See Attached)	expiration date
☐ Final Inspection	date	signature	
☐ Certificate Of Occupancy	date		
erformance Guarantee Released	date	signature	
Guarantee Submitted	submitted date	amount	expiration date
tee Released	date	signature	

MEMORANDUM

To: FILE

From: Marge Schmuckal **Dept:** Zoning

Subject: Application ID: 2008-0137

Date: 9/26/2008

This project is within the A-B Airport Business Zone which allows this type of airport terminal use. For where this project is located there are no setback requirements. The building is going on an area that I believe is impervious at this time. However, the parking revisions may impact impervious surface ratios. The applicant should address the requirement of 70% maximum impervious surface requirements.

The parking requirements will be determined by the Planning Board as outlined under section 14-332(t) since this project is well over 50,000 square feet of building addition.

The maximum building height is 75 feet. I have scaled 71.5 feet from apparent grade to the highest peak.

The area of the new addition is not is Shoreland and is not in a Flood Plain area.

Separate permit(s) shall be required for any new signage.

Marge Schmuckal
Zoning Administrator

MEMORANDUM

To: FILE

From: Marge Schmuckal **Dept:** Zoning

Subject: Application ID: 2008-0137

Date: 11/19/2008

With the latest submittal on 11/5/08, the materials included a report on noise emissions at the airport. These noise emissions as defined and mapped are for "aircraft noise levels" The AB zone under external effects, section 14-202(c), defines a maximum volume of sound not to exceed 60 dBAs. This section refers to HVAC systems or other building operating systems. This section does not refer to the noise of the aircraft. Section 14-408 makes an exception for aircraft generated noise under the "external effects" section of the ordinance. Therefore the airport aircraft are not regulated under the Zoning Ordinance According to the submitted materials, FAA, EPA and HUD have regulations that cover such activities.

I am not aware of any building equipment that surpasses the regulation of the AB Zone noise requirements

Marge Schmuckal
Zoning Administrator

Strengthening a Remarkable City, Building a Community for Life · www.portlandmaine.gov

Lee Urban- Director of Planning and Development
Marge Schmuckal, Zoning Administrator

Meeting Information

DATE: 8/21/08

LOCATION: Jetport - 1001 Westbrook St - Terminal Expansion

PEOPLE PRESENT: Bill Hooper (Gensler) - Tony Lombardo (Oest)
DAVID Pineo - BARBARA - MARGE

ZONE: AB ~~not for a specific New Airline~~ coming in

DISCUSSION: 160,000 ☐ Addition - with surface parking
45,000 ☐ per floor. - parking to be determined by the PB - 5 New gates

Wetlands impact doesn't appear significant at this point
TMP
Traffic concerns - probably require a traffic Study
Bike Racks required 2 Bike parking space per 10 parking spaces
1 below grade - 3 floors above grade with a crossWalk
- Road will be realigned - existing 5% grade in certain areas (flag over street)
lighting - site circulation
Growth 4% per year on average
Allows larger aircrafts i.e. 757s (taller tails)
Noise Study being done

Need materials 3 weeks in advance of a workshop

NO changes in the APPROACHES for Planes

Room 315 – 389 Congress Street – Portland, Maine 04101 (207) 874-8695 – FAX (207) 874-8716 – TTY (207) 874-3936

Stormwater questions - New Stormwater regs coming on line
DEP - Chapter 500 - using DeLuca Hill.

To Eric
11/19/08

three (3) motor vehicles or for the business of repairing motor vehicles shall be deemed to become a nonconforming use through the subsequent erection of such church, hospital or school closer than the aforesaid distance to such a garage.
(Code 1968, § 602.18.E)

Sec. 14-407. Temporary stands.

No premises shall be used for business purposes consisting of temporary stands, booths, platforms or vehicles intended for the sale of merchandise or other mercantile purposes, if any part of such stand, booth, platform or vehicle is proposed to be located nearer than one hundred twenty-five (125) feet to any residence zone, except that stands for the sale of agricultural products shall be permitted as specified in division 2 of this article.
(Code 1968, § 602.18.F)

Sec. 14-408. Exceptions to performance standards.

The operation on public streets, airports and railroad rights-of-way of motor vehicles and other vehicles for the transportation of goods or persons shall be excepted from the limitations of the sections entitled "external effects."
(Code 1968, § 602.18.G)

Sec. 14-409. Heliports.

Heliports shall meet the following minimum specifications, subject to regulations of the Civil Aeronautics Administration when such regulations are greater:

(a) *Roof heliport:*

1. Take-off area: Two hundred (200) feet by two hundred fifty (250) feet minimum.

2. Parking area: Thirty (30) feet by ninety (90) feet minimum.

(b) *Ground heliport:*

1. Take-off area: Three hundred (300) feet by seven hundred (700) feet minimum.

2. Parking area and station building shall be located

to Eric 11/19/08

mayor's annual appointments & nominations to boards & commissions 2008

Greater Portland Transit District
Councilor Cheryl Leeman
Mayor Edward Suslovic
Councilor Kevin Donoghue
Jeffrey Monroe, Public at large
Brian Plourde, Public at large

Pacts - Policy Committee
Councilor Kevin Donoghue
Katherine Earley
Joseph Gray, Jr.
Michael Bobinsky

Pacts - Technical Committee
James Carmody

Pacts - Planning Committee
Alex Jaegerman, City Planner

People's Regional Opportunity Program Boards Of Directors
Ronnie Katz

Council Of Governments General Assembly
Councilor Cheryl Leeman
Councilor James Cohen
Mayor Edward Suslovic
Councilor Jill Duson
Councilor John Anton
Lee Urban

Alternates
Councilor David Marshall
Joseph Gray, Jr.

Island Advisory Committee
Councilor Kevin Donoghue
Mike Murray

Ecomaine
Councilor John Anton
Councilor Nicholas Mavodones
Duane Kline
Troy Moon
Michael Bobinsky

Bayside Development Committee
Councilor Nicholas Mavodones, Chair
Councilor Kevin Donoghue

Jetport Noise Advisory Committee
Councilor Daniel Skolnik

Casco Bay Island Transit District
Councilor Kevin Donoghue

Portland Downtown District
Councilor David Marshall

Portland Public Arts Comm.
Councilor David Marshall

Cumberland County Budget Advisory Committee
Mayor Edward Suslovic

Downtown Portland Corporation
Mayor Edward Suslovic
(Appointed by Council as Corporators of DPC)

Waterfront Alliance
Councilor John Anton

Youth Advisory Committee
Mayor Edward Suslovic
Councilor David Marshall

Portland Community Chamber
Patricia Finnigan
Assistant City Manager

Maine Municipal Association Legislative Policy Committee
Councilor Nicholas Mavodones,
Councilor David Marshall
Councilor Daniel Skolnik
Linda Cohen
Gary Wood, Alternate
Mayor Edward Suslovic, Alternate
Councilor James Cohen Alternate

Metro Regional Coalition
Councilor James Cohen
Joseph Gray, Jr.

Business Diversity
Councilor Cheryl Leeman, Co-Chair
Councilor David Marshall, Co-Chair
Councilor Daniel Skolnik

One Beacon Street
Third Floor
Boston MA 02108
USA

Tel 617.619.5700
Fax 617.619.5701

Gensler

October 14, 2009

Ms. Tammy Munson
City of Portland Planning and Development Department
Inspections Division
389 Congress Street
Portland, ME 04101-3509

Re: Portland International Jetport (PWM) Terminal Expansion
Request for Approval of Later Code Edition and Alternative Design

Dear Ms. Munson:

We appreciate the opportunity to meet with you and members of the Inspections Division staff on December 23, 2008 and most recently on October 7, 2009 to discuss two specific code-related issues pertaining to the major commercial terminal expansion at the Portland International Jetport. The Jetport will apply for a building permit next month (November 2009) with construction scheduled to start in April 2010.

Background / Previous Submissions:
The terminal expansion project was submitted to the City of Portland as part of a Development Review application dated September 22, 2008. We received three comments from the Portland Fire Department (attachment 1) and responded to these comments in a memo dated February 16, 2009. The IBC/NFPA Code Analysis and Fire Department checklist for was made part of the Development Review Application. We are writing to formally request approval for the following two items:

1. Use IBC 2009 edition Smoke Control exception:
The project is currently designed to meet the International Building Code (IBC) 2003 edition as adopted by the City of Portland. The project has two atriums that connect only two stories. IBC 2003 edition requires a smoke control system:

> *"404.4 Smoke control. A smoke control system shall be installed in accordance with Section 909."*

Subsequent IBC 2006 and 2009 editions have identical exceptions for atriums that connect only two stories (2009 edition excerpt below):

> *"404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909. Exception: Smoke control is not required for atriums that connect only two stories."*

Gensler

We are requesting approval to reference the IBC 2009 edition for the smoke control exception only. Considering that codes are continually updated to reflect improved testing, building sciences research and real-world building performance, we believe that this does not compromise life safety. Additionally, when the terminal addition is complete in 2012, the IBC 2009 edition may be the applicable code, if adopted by the City of Portland as currently planned. Floor plans and views of the two atriums are included as attachments 4 through 7.

2. Design Alternative to Firewall between Separate Buildings:

The terminal addition is a structurally independent building that connects to the existing parking garage and existing terminal at selected locations. For the purposes of the IBC, we have prepared the code analysis with the base assumption that the terminal addition is a separate building, which therefore requires a three hour rated firewall or fire shutters at connection points to existing structures. The connection to the parking garage is a three hour fire wall which complies with IBC 2003 ed. section 705. However, a continuous fire wall that extends from grade to the roof at the lowest level of the renovated baggage make-up room has practical difficulties, due to a new baggage carousel that spans the line between the new and existing terminal. A fire shutter in this location would bisect the carousel and might also be blocked by parked baggage carts (attachment 4).

We are seeking approval allowed by IBC 2003 ed. section 104.11:

> *"104.11 Alternative materials, design, and methods of construction and equipment: ...An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent and provisions of the code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety."*

Alternative design description:

We are proposing providing a 3 hour fire separation assembly that encases the baggage make-up room on the lowest level in the existing terminal, with 3 hour rated walls and 3 hour rated spray-on fireproofing on the existing floor deck above the baggage make-up room (attachment 4). Although it is not required by code, we are also proposing to upgrade existing sprinklers in the departures lounges on Level 3, which is directly above the renovated baggage make-up room (attachment 5). Aside from the baggage make-up room on the lowest level, all other connections to the existing building are protected with a fire wall or fire shutter that complies with IBC 2003 ed. Section 705.

We believe the alternative design provides an equivalent effectiveness and is not an unusual life safety risk for the following reasons:

- The 3 hour fire rating is maintained continuously on all interior wall and ceiling surfaces along the entire baggage room perimeter.
- The existing and new structures are noncombustible steel and concrete construction types.

Gensler

- Code compliant fire protection (sprinklers) would likely control a fire in the lower level baggage room or upper level departures lounges before structural failure.
- The terminal is only two stories at this location, with a short travel distance to a public way.
- Unlike most buildings, the airport terminal is manned 24 hours a day, 365 days a year with continuous monitoring of life safety systems.
- The airport fire station is manned 24 hours a day, 365 days a year and is immediately adjacent to the terminal.

We appreciate your timely attention to these requests. Please contact me at (617) 619-5767 should you require any additional supporting documentation; we would be pleased to schedule a follow-up meeting if necessary.

Sincerely,

Jim Stanislaski, AIA
Project Architect

cc: Mr. Paul Bradbury, Portland International Jetport
Mr. Keith Gautreau, Portland Fire Department

attachments:

1. Portland Fire Department comments
2. Site plan
3. View of terminal addition from west
4. Level 2 plan (ticketing hall and baggage make-up room)
5. Level 3 plan (departures lounges and concessions)
6. Level 4 plan (passenger security screening)
7. Interior view of atriums 1 and 2

MEMORANDUM

To: FILE

From: Greg Cass **Dept:** Fire

Subject: Application ID: 2008-0137

Date:

1. Please provide details for emergency access during construction.
2. Please provide a NFPA 415 code summary
3. Please complete the Fire Dept. checklist, including fire flows and details of all fire suppression and detection systems.

Attachment 1

Gensler

- Code compliant fire protection (sprinklers) would likely control a fire in the lower level baggage room or upper level departures lounges before structural failure.
- The terminal is only two stories at this location, with a short travel distance to a public way.
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Sincerely,

Jim Stanislaski, AIA
Project Architect

cc: Mr. Paul Bradbury, Portland International Jetport
Mr. Keith Gautreau, Portland Fire Department

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5. Level 3 plan (departures lounges and concessions)
6. Level 4 plan (passenger security screening)
7. Interior view of atriums 1 and 2

Signatures below indicate City of Portland approval of items described above without exception:

SIGNED,

Date 11/13/2009

Chief Fred LaMontagne
Fire Chief, Portland Fire Department

SIGNED,

Capt. Keith Gautreau Date 11/13/2009

Captain Keith Gautreau
Fire Prevention Bureau, Portland Fire Department

Agenda

Gensler

Project		Project Number	
	Portland International Jetport (PWM) Terminal		09.6395.000
Meeting Location		**Meeting Date and/or Time**	
	Portland Planning and Development Department		7 Oct 09: 2PM
Meeting Subject		**File**	
	Code Review prior to Building Permit Application		IMN
Present			
Distribution			
	Those present		
Prepared by		**This is page**	
	Jim Stanislaski		1 of 1
Items to be Discussed		**Responsible Party**	

1. Project status update

2. New state building code adoption timeframe

2. Site:

A. Airside access (gates)

B. Hydrant and Fire Department Connection locations

2. Building:

A. Waiver: Use of IBC 2006 ed (in lieu of 2003 ed):"404.4 Smoke control. A smoke control system shall be installed in accordance with Section 909. Exception: Smoke control is not required for atriums that connect only two stories."

B. Approval: Engineering Analysis Methodology: NFPA 101 8.6.7(5) Calculated egress time: 3.62 minutes x 1.5 = 5.43 minutes. Smoke below 6' above floor = 9 minutes

C. Approval: 3 hour ceiling fireproofing in lieu of a Firewall at bag make-up room in the existing terminal.

D. Fire Alarm: Annunciator panel type and location

E. Fire Protection: Existing building scope

2020 K Street, NW
Suite 200
Washington DC 20006
Tel. 202.721.5200
Fax: 202.872.8587

Section 4.2. Heating Ventilating and Air Conditioning

Item	NFPA 415, 2008 ed.
Paragraph 4.2.1:	The new terminal Heating, Ventilating and Air Conditioning system specifications require those systems to be installed in compliance with NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; NFPA 54, *National Fuel Gas Code*; and NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*.
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Paragraph 4.2.6:	The new terminal space Heating, Ventilating and Air Conditioning system specifications require restaurant exhaust systems to be installed in compliance with NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.

Section 4.3. Exits

Item	NFPA 415, 2008 ed.
Section 4.3:	- Means of egress have been designed to conform with NFPA 101, 2006 ed. (see separate code analysis) - Egress to the ramp will have signage with 2 in high "Emergency Exit Only"

Section 4.4. Electrical

Item	NFPA 415, 2008 ed.
Section 4.4:	- Electrical systems have been designed in accordance with NFPA 70 - There are no ventilation openings for electrical rooms on ramp side

Boston
One Beacon Street
Massachusetts 02108
Tel: 617.619.5700
Fax: 617.619.5701

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
i. Exterior Stairs: Separation from Interior of Building (exterior stairs on airside from Level 3 hold rooms)	1022.6 Exception 1: "Separation...not required for (A-3 occupancy) that are no more than two stories above grade where the level of exist discharge is the first story above grade" This is superseded by section 1007.8 that requires a 1 hr rating at exterior area of rescue assistance.	7.2.2.6.3.1(2): "Outside stairs serving not in excess of two adjacent stories, including the story of exist discharge, shall be permitted to be unprotected where there is a remotely located second exit"

F. ATRIUM / COMMUNICATING SPACE

Item	International Bldg Code (2006 ed)	NFPA 101 (2006 ed)
1. Atrium Definition	404.1.1: Project contains two atriums: Opening between Hold Room Level 3 and Security Level 4 (and) Opening between Ticketing Hall Level 2 and Security Level 4. **Waiver: Design team proposes to use most current IBC 2009 ed. 404.4: "Exception: Smoke control is not required for atriums that connect only two stories"**	8.6.6: both unenclosed floor openings are classified as a "Communicating Space" (Mini-atrium) that does not connect more than three contiguous stories.
2. Elevator shafts in atrium	707.2 Exception 5: "A shaft enclosure is not required for floor openings complying with the provisions for covered malls or atriums"	No exception-building code governs

One Beacon Street
Massachusetts 02108
Tel: 617.619.5700
Fax: 617.619.5701

	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
	Table 1016.1: (with sprinkler system) Assembly: 0 hrs Business: 0 hrs H-3: 1 hr Factory/Industrial: 0 hrs	7.1.3.1 : Exit access corridors: 1 hr
	Table 705.4: 3 hrs (separation at existing terminal and parking garage)	8.2.1.3: 2 hr fire barrier wall (building code governs)

S

	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
	See egress plans	See egress plans
	See egress plans	See egress plans
	Table 1015.1: (with sprinkler system) Assembly: 250' Business: 300' actory/Industrial: 250' ighest Atrium Level: 200' (404.8)	(with sprinkler system) New Assembly: 250' (12.2.6(1)) Exist Assembly: 250' (13.2.6(1)) New Business: 300' (38.2.6.1) Exist Business: 300' (39.2.6.1) New Mercantile: 250' (36.2.6.2) Industrial: 250' (Table 40.2.6)
	3.3: (with sprinkler system) embly: 75' ness: 100' ory/Industrial: 100'	(with sprinkler system) New Assembly: 20'/75' (12.2.5.1.2) Exist Assembly: 20'/75' (13.2.5.1.2) New Business: 100' (38.2.5.3.1) Exist Business: 100' (39.2.5.3.1) New Mercantile: 250' (36.2.6.2) Industrial: 100' (Table 40.2.5)
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C. OCCUPANCY REQUIREMENTS

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
1. Building use and classification	302.3.1 Non-separated use 303.1 Assembly (A-3) most restrictive for height and area calculations	6.1.14.3.1 Mixed occupancy
2. Occupancy separation	Table 302.1.1 Incidental Uses: No separations required due to automatic sprinkler system (Note: other codes may require separations for elec, elevator machine, and mechanical rooms)	6.1.14.1.3(1): Mercantile, business, industrial or storage uses are considered incidental to the predominant occupancy (Assembly)

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Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
1. Construction classification	602.2: Type IB (noncombustible protected)	NFPA 220: Type II (222)
2. Maximum allowable stories (height)	Table 503: 180 feet / 12 stories 3403.1: "An existing building plus additions shall comply with the height and area provisions of Chapter 5"	Building code governs
3. Maximum allowable area	Table 503: Unlimited for Type IB 3403.1: "An existing building plus additions shall comply with the height and area provisions of Chapter 5"	Building code governs
4. Fire resistive ratings		
a. Exterior bearing walls	Not applicable	Not applicable
b. Exterior non-bearing walls	Table 602 Type IB: 0 hrs (based on >30' separation from other structures)	Table 4.1.1 Type II (222): 0 hr

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Building Code Analysis
Quality Assurance Checklist

Gensler

Project Name	Portland Jetport Terminal	**Design Director**	
Project Location	South Portland, Maine	**Project Manager**	Bill Hooper
Project Number	09.6395.000	**Project Architect**	
QA Reviewer/Date	Jim Stanislaski / 4 Nov 09	**Project Designer**	
Building Code(s) Referenced	IBC / NFPA 101	**Local Code(s) Referenced**	
Date printed		**File** 3C	**This is page** 1 of 7

A. SUMMARY

The project is a major addition and selective renovations to an existing commercial airport terminal. New construction includes approximately 165,000 SF of ticketing, baggage handling, concessions, security screening and hold room spaces. The new building will be a 3-story steel-framed structure that connects over a roadway to an existing parking garage. Code analysis below assumes two separate terminal buildings (new terminal addition and existing terminal) with new fire walls and/or fire separation assemblies separating old and new construction. Existing fire walls and fire shutters in the existing terminal are anticipted to remain in-place. There will be no change in use or occupancy in the renovated areas. This code analysis is based on review of the two major applicable codes: International Building Code (2003 ed) and NFPA 101 (2006 ed). NFPA 1 (Uniform Fire Code) as adopted by the State of Maine references NFPA 101.

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Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
i. Exterior Stairs: Separation from Interior of Building (exterior stairs on airside from Level 3 hold rooms)	1022.6 Exception 1: "Separation...not required for (A-3 occupancy) that are no more than two stories above grade where the level of exist discharge is the first story above grade" This is superseded by section 1007.8 that requires a 1 hr rating at exterior area of rescue assistance.	7.2.2.6.3.1(2): "Outside stairs serving not in excess of two adjacent stories, including the story of exist discharge, shall be permitted to be unprotected where there is a remotely located second exit"

F. ATRIUM / COMMUNICATING SPACE

Item	International Bldg Code (2006 ed)	NFPA 101 (2006 ed)
1. Atrium Definition	404.1.1: Project contains two atriums: Opening between Hold Room Level 3 and Security Level 4 (and) Opening between Ticketing Hall Level 2 and Security Level 4. **Waiver: Design team proposes to use most current IBC 2009 ed. 404.4: "Exception: Smoke control is not required for atriums that connect only two stories"**	8.6.6: both unenclosed floor openings are classified as a "Communicating Space" (Mini-atrium) that does not connect more than three contiguous stories.
2. Elevator shafts in atrium	707.2 Exception 5: "A shaft enclosure is not required for floor openings complying with the provisions for covered malls or atriums"	No exception-building code governs

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Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
m. Corridors	Table 1016.1: (with sprinkler system) Assembly: 0 hrs Business: 0 hrs H-3: 1 hr Factory/Industrial: 0 hrs	7.1.3.1 : Exit access corridors: 1 hr
n. Fire Walls between new terminal and exist buildings	Table 705.4: 3 hrs (separation at existing terminal and parking garage)	8.2.1.3: 2 hr fire barrier wall (building code governs)

E. EGRESS REQUIREMENTS

Item	International Bldg Code (2003 ed)	NFPA 101 (2006 ed)
1. Occupant load calculation	See egress plans	See egress plans
2. Number and location of exits	See egress plans	See egress plans
3. Maximum exit access travel distance	Table 1015.1: (with sprinkler system) Assembly: 250' Business: 300' Factory/Industrial: 250' Highest Atrium Level: 200' (404.8)	(with sprinkler system) New Assembly: 250' (12.2.6(1)) Exist Assembly: 250' (13.2.6(1)) New Business: 300' (38.2.6.1) Exist Business: 300' (39.2.6.1) New Mercantile: 250' (36.2.6.2) Industrial: 250' (Table 40.2.6)
4. Maximum common path of egress travel	1013.3: (with sprinkler system) Assembly: 75' Business: 100' Factory/Industrial: 100'	(with sprinkler system) New Assembly: 20'/75' (12.2.5.1.2) Exist Assembly: 20'/75' (13.2.5.1.2) New Business: 100' (38.2.5.3.1) Exist Business: 100' (39.2.5.3.1) New Mercantile: 250' (36.2.6.2) Industrial: 100' (Table 40.2.5)
5. Maximum dead end corridor length	1016.3: (with sprinkler system) Assembly: 20' Business: 50' Factory/Industrial: 50'	(with sprinkler system) New Assembly: 20' (12.2.5.1.3) Exist Assembly: 20' (13.2.5.1.3) New Business: 50' (38.2.5.2.1) Exist Business: 50' (39.2.5.2) New Mercantile: 50' (36.2.5.2.1) Industrial: 50' (Table 40.2.5)

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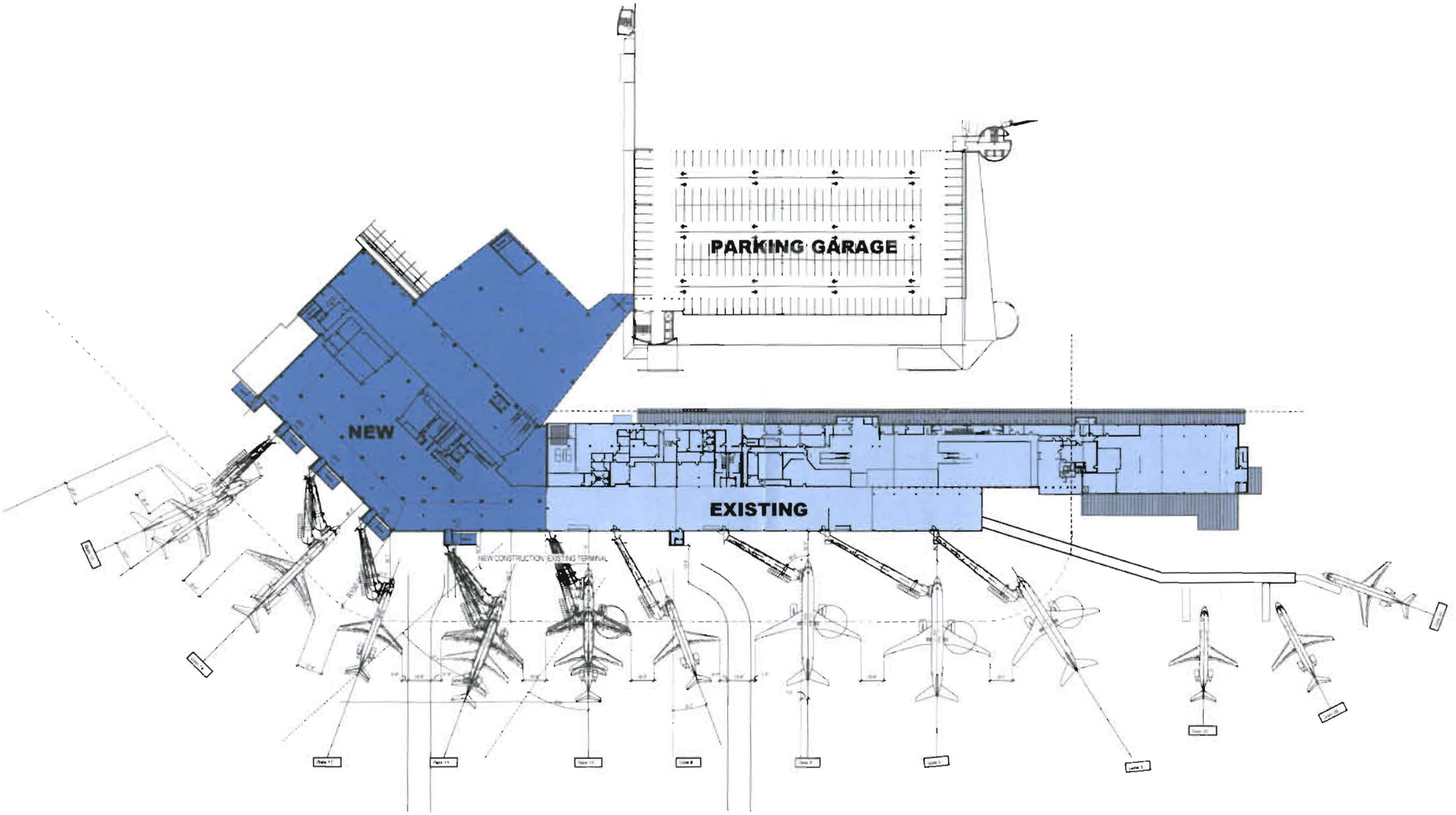
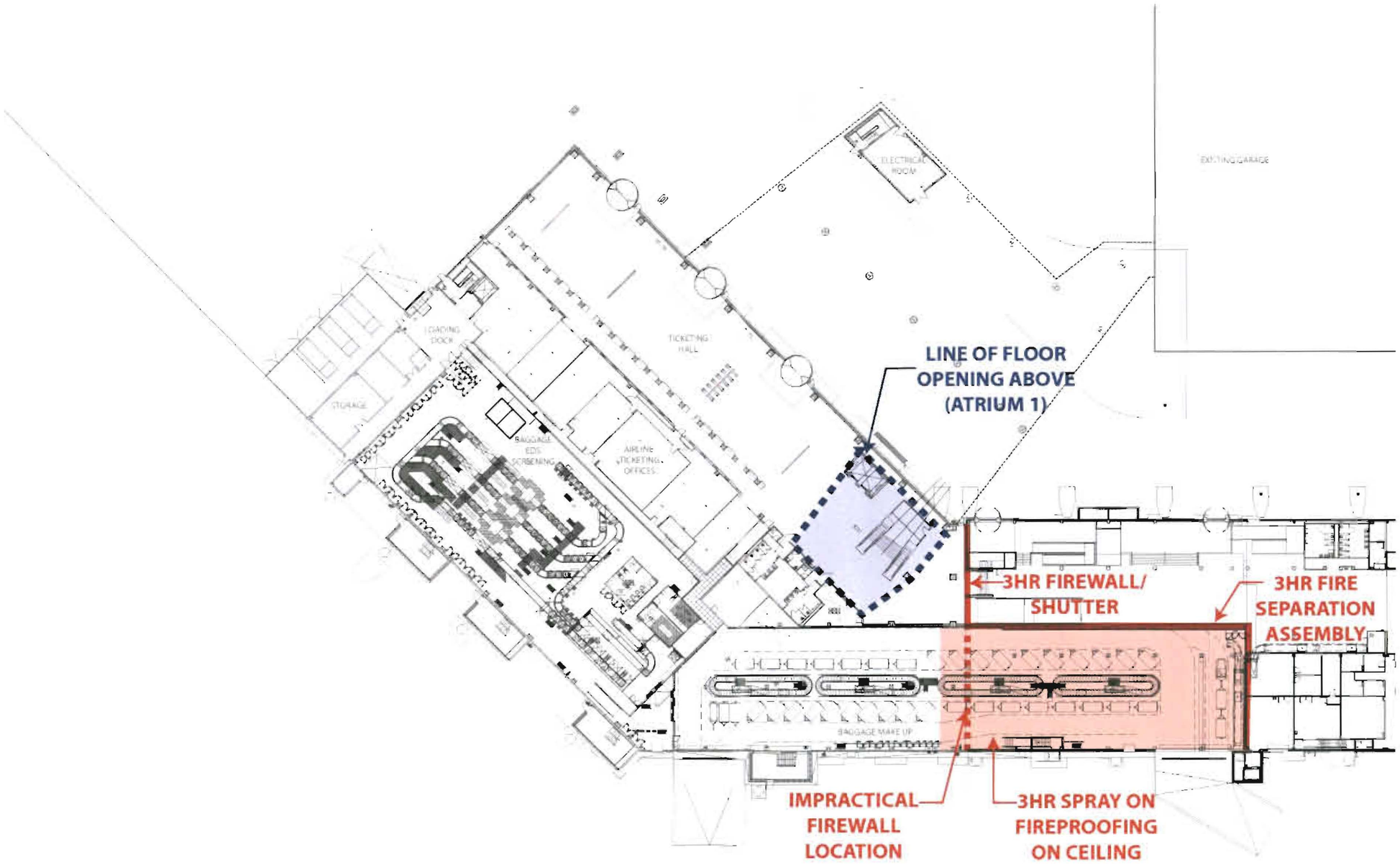
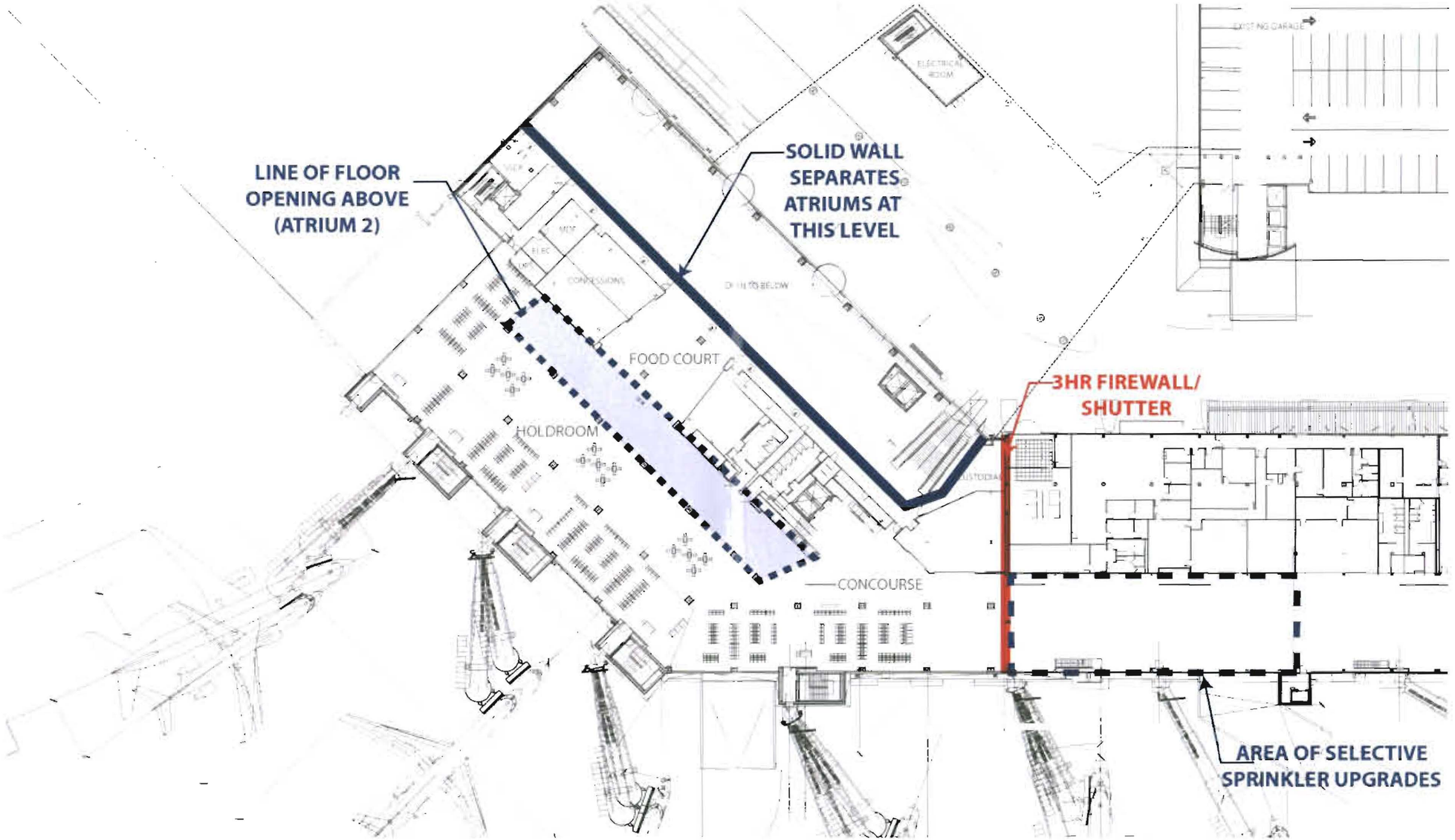
View of Terminal Addition from West


PARKING GARAGE
NEW
EXISTING
NEW CONSTRUCTION EXISTING TERMINAL

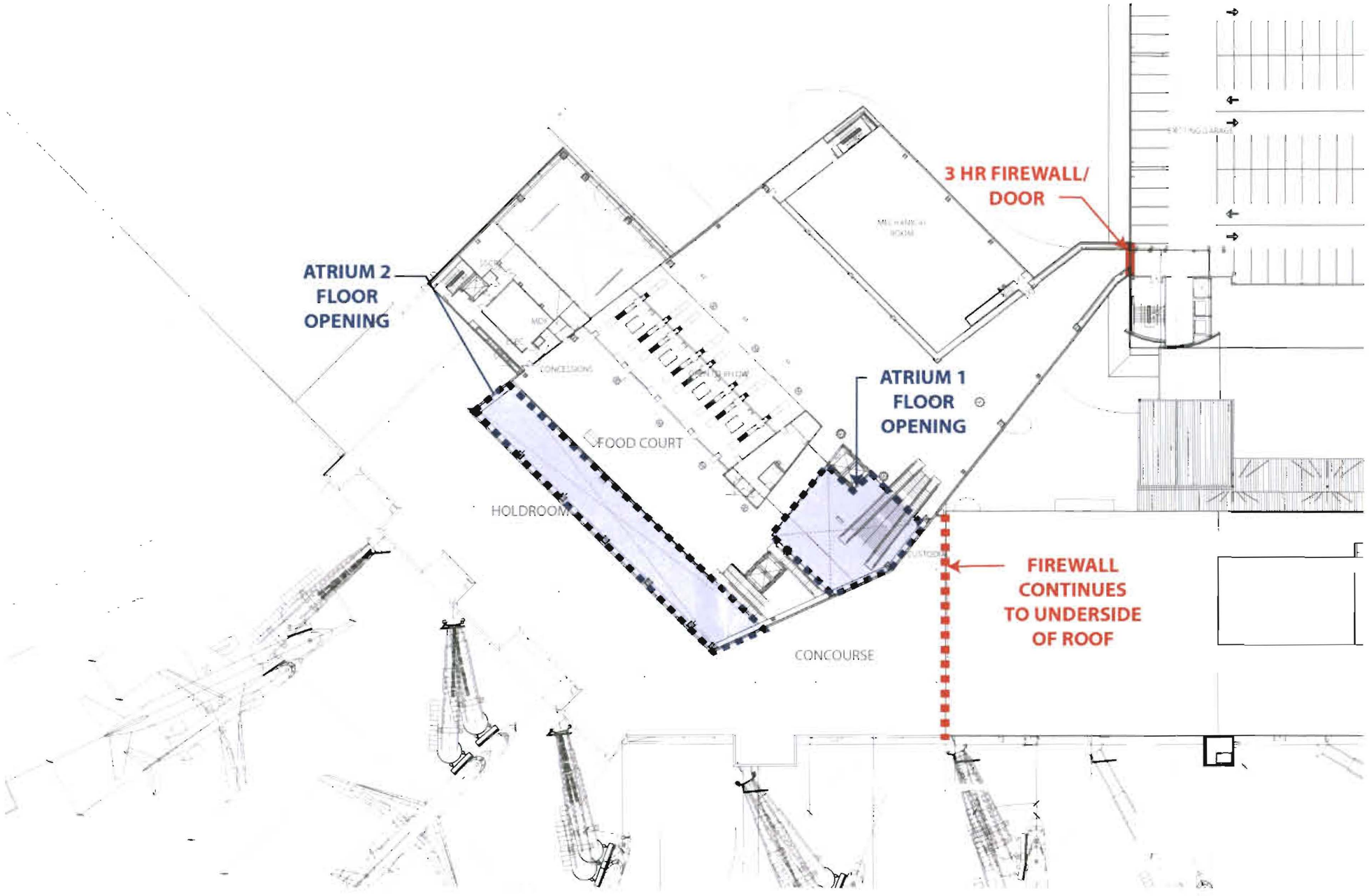
Site Plan



Level 2 Plan (Ticketing Hall and Baggage Make-up Room)



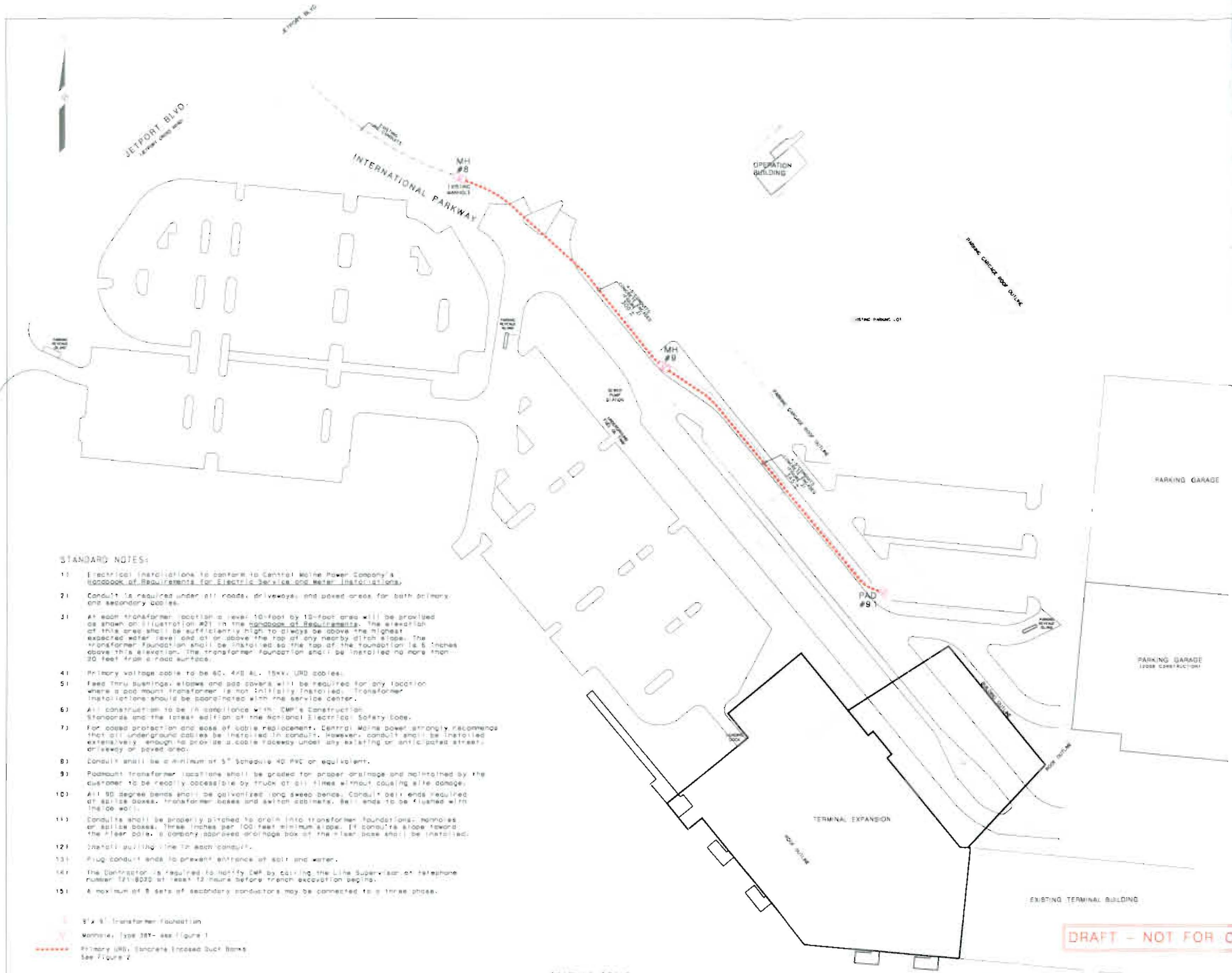
Level 3 Plan (Departures Lounges and Concessions)

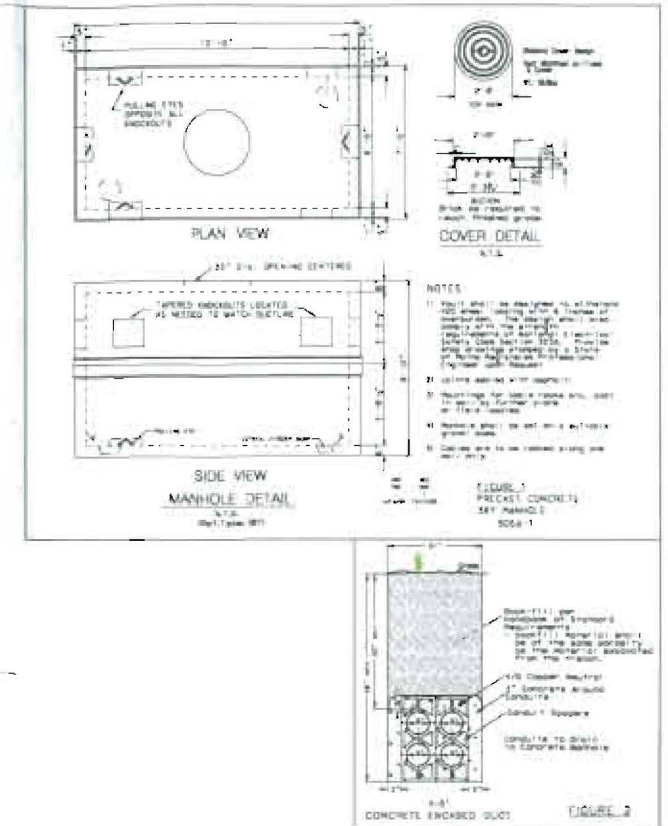


Level 4 Plan (Passenger Security Screening)

Atrium 1 viewed from Level 2

Atrium 2 viewed from Level 3





STANDARD NOTES:

1) Electrical installations to conform to Central Maine Power Company's Handbook of Requirements for Electric Service and Meter Installations.

2) Conduit is required under all roads, driveways, and paved areas for both primary and secondary cables.

3) At each transformer location a level 10-foot by 10-foot area will be provided as shown on illustration #21 in the Handbook of Requirements. The elevation of this area shall be sufficiently high to always be above the highest expected water level and at or above the top of any nearby ditch slope. The transformer foundation shall be installed so the top of the foundation is 6 inches above this elevation. The transformer foundation shall be installed no more than 30 feet from a road surface.

4) Primary voltage cable to be 6C, 4X0 AL, 15kV, URD cables.

5) Feed thru bushings, elbows and pad covers will be required for any location where a pad mount transformer is not initially installed. Transformer installations should be coordinated with the service center.

6) All construction to be in compliance with CMP's Construction Standards and the latest edition of the National Electrical Safety Code.

7) For added protection and ease of cable replacement, Central Maine power strongly recommends that all underground cables be installed in conduit. However, conduit shall be installed extensively enough to provide a cable raceway under any existing or anticipated street, driveway or paved area.

8) Conduit shall be a minimum of 5" Schedule 40 PVC or equivalent.

9) Padmount transformer locations shall be graded for proper drainage and maintained by the customer to be readily accessible by truck at all times without causing site damage.

10) All 90 degree bends shall be galvanized long sweep bends. Conduit bell ends required at splice boxes, transformer boxes and switch cabinets. Bell ends to be flushed with inside wall.

11) Conduits shall be properly pitched to drain into transformer foundations, manholes or splice boxes. Three inches per 100 feet minimum slope. If conduits slope toward the riser pole, a company approved drainage box at the riser base shall be installed.

12) Install pulling line in each conduit.

13) Plug conduit ends to prevent entrance of soil and water.

14) The Contractor is required to notify CMP by calling the Line Supervisor at telephone number 121-8030 at least 12 hours before trench excavation begins.

15) A maximum of 8 sets of secondary conductors may be connected to a three phase.

9' x 9' Transformer Foundation

Manhole, Type 3BY - see Figure 1

Primary URD, Concrete Incased Duct Banks
See Figure 2

Customer: PORTLAND INTERNATIONAL JETPORT
1001 WESTBROOK STREET
PORTLAND, MAINE

Site Plan Produced By: GENSLER
Address / Phone / EMail: 2020 K STREET, NW SUITE 700
WASHINGTON, DC 20006
(202) 721-5200

Site Plan Produced By: DELI
541 GORHAM ROAD
SOUTH PORTLAND, ME 04106
(207) 761-1770

Sheet Title: New Terminal Expansion
Site Layout & Utilities Plan, C02.01
Portland, Maine

Revision 1, Date: 7/11/2008 Drawn By: WJW

DRAFT – NOT FOR CONSTRUCTION

NO	REVISION	DATE	BY	CK	NO	REVISION	DATE	BY	CK

DESIGNED: JP
DRAWN: VS
CHECKED: AH
APPROVED:
REVIEWED

JETPORT
(TERMINAL BUILDING EXPANSION PROJECT)
INTERNATIONAL PARKWAY
PORTLAND, MAINE
UNDERGROUND ELECTRICAL LAYOUT

CENTRAL MAINE POWER COMPANY
DISTRIBUTION DEPARTMENT
SCALE 1" = 50' DATE 5/22/08

905-1673
SHEET 5

FILE NAME 905A1673.DGN SCANNED

SHEET NOTES

GENERAL NOTES

Portland International Jetport

1001 Westbrook Street
Portland, Maine 04102

Gensler

oest ASSOCIATES, INC

DEPT OF PLANNING & URBAN DEVELOPMENT
CITY OF PORTLAND
FEB 16 2009
RECEIVED

DEVELOPMENT REVIEW
02-16-09

C02.02