

OCCUPANCY

DESIGN OCCUPANT LOADS FOR EGRESS SYSTEMS DESIGN
Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 5- Mezzanine elevation 102.15'
Mechanical (no roof) Mechanical A-3 Incidental 7,410 300 25
Totals 25 2 exits required

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 4- PAX Security Screening elevation 86.15'
Mechanical Mechanical A-3 Incidental 7,574 300 26
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs 552 0.30 166 2 stairs @ 48", 1 stair @ 92" 180
Doors 552 0.20 110 2 doors @ 32", 1 paired doors @ 68" 132

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 3- Hold Rooms elevation 73.0'
Hold Rooms Assembly A-3 8,310 15 554
Hold Room Circulation Assembly A-3 3,730 100 38
Concession Type 1 Restaurant A-2 1,733 15 116
Kitchen commercial Kitchen A-2 Incidental 966 200 5
Concessions Type 2 Merchandise M 1,000 60 17
Concession Seating Assembly A-3 3,095 15 207
Concession Seating Circulation Assembly A-3 4,383 100 44
Concessions Storage Storage S-1 410 300 2
Electrical Tel.Comm. Closets Elec.IT A-3 Incidental 510 300 2
Totals 1091 Minimum of 4 exits required
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs 1,091 0.30 327 1 stair @ 48", 4 stairs @ 72" 338
Doors 1,091 0.20 218 1 door @ 32", 4 doors @ 48" 224

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 2- Curbside Main Electrical Room elevation 62.0'
Electrical Room Electrical A-3 Incidental 1,292 300 5
Totals 5 Minimum of 2 exits required
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs (Not required, Exit Doors only on grade) 5 0.70 4 n/a n/a
Doors 5 0.40 2 2 doors @ 32" 64

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 2- Ticketing elevation 62.0'
Ticketing Queue Assembly A-3 3,562 15 238
Ticketing Circulation Assembly A-3 12,980 100 130
Ticket Counters Actual n/a n/a 44
Airline Ticketing Offices (Spaces A & B) Business B 5,768 100 58
Totals 470 Minimum of 2 exits required
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs (Not required, Exit Doors only on grade) 470 0.30 n/a n/a
Doors 470 0.20 94 4 doors @ 32" 128

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 2- Loading Dock Area elevation 62.0'
Shipping/Receiving Office Business B 62 100 1
Concessions Storage Storage S-1 1,780 300 6
Totals 7 Not applicable. One paired door at each Storage Room.
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs (Not required, Exit Doors only on grade) 7 0.30 2 n/a n/a
Doors (Not applicable, see note above) 7 0.20 2 n/a n/a

Table with columns: Space, Occupancy Use, Occupancy Classification, Area, SF per occupant, No. of Occupants, Remarks.
Level 1- EDS/Bag Make-up elevation 57.5'
Airline Ticketing Office (Space C) Business B 617 100 7
EDS Factory Industrial F-1 16,441 300 20
Bag Make-up Factory Industrial F-1 18,494 300 16
Totals 43 Minimum of 2 exits required
Exit Element No. of Occupants Width per occupant Inches required Provision (Clear Dimensions) Inches provided
Stairs 43 0.30 13 n/a n/a
Doors 43 0.20 9 2 doors @ 32" 64

GENERAL NOTES:
1. NFPA 101 AND IBC 2003 CODE REQUIREMENTS ARE COMPARED. THE MORE RESTRICTIVE REQUIREMENTS APPLY.
2. NEW CONSTRUCTION IS PROTECTED THROUGHOUT BY AN APPROVED, SUPERVISED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 101, SECTION 9.7
3. THE OCCUPANCY USES AND CLASSIFICATIONS ARE DETERMINED BASED ON IBC 2003, SECTION 302.
4. THE OCCUPANT LOADS ARE DETERMINED BASED ON TABLE 1004.1.2.: MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT.
5. EXIT ACCESS TRAVEL DISTANCES ARE DETERMINED PER IBC 2003 TABLE 1015.1
6. EGRESS WIDTHS FOR STAIRS AND DOORS ARE DETERMINED BASED ON THE MORE STRINGENT CODE REQUIREMENT. IN THIS CASE, NFPA 101, TABLE 7.3.3.1. CAPACITY FACTORS: STAIRS: 0.3 in. WIDTH/PERSON; DOORS: 0.2 in. WIDTH/PERSON.

NOTES:
a. NUMBER OF EXITS DETERMINED BY NFPA 101 SECTION 7.12.1
b. PASSENGER SCREENING AREA: TSA PUT-THROUGH RATE AT THE SECURITY CHECKPOINT AREA IS 150 PERSONS/HOUR, AVERAGED TO 2.5 PERSONS/MINUTE. AN ASSUMED NORMAL OCCUPANT LOAD IS AS FOLLOWS: TYPICALLY 4 TSA OFFICERS AND 3 PASSENGERS. A TOTAL OF 7 OCCUPANTS WILL BE PRESENT AT ANY ONE POINT ALONG A SECURITY CHECKPOINT LANE, MULTIPLY BY 8 LANES = 56 OCCUPANTS.
c. NUMBER OF EXITS DETERMINED BY IBC 2003 TABLE 1018.1: MINIMUM NUMBER OF EXITS FOR OCCUPANT
d. 1 AGENT BEHIND EACH TICKETING COUNTER. 44 COUNTERS IN TOTAL.
e. ONLY 50% OF THE 68" PAIRED DOOR ARE REQUIRED FOR EGRESS. BASED ON IBC 2003 SECTION 1005.1, THE LOSS OF THIS MEANS OF EGRESS SHALL NOT REDUCE THE OVERALL CAPACITY TO LESS THAN 50 PERCENT.
f. ACTUAL NUMBER OF OCCUPANTS: MAXIMUM OF 20 OCCUPANTS WILL BE PRESENT IN THE OSR, ETD, BHS CONTROL AND SERVER ROOMS. THE MAJORITY OF THE TIME, THE EDS AREA WILL NOT BE OCCUPIED OTHER THAN THE OCCASIONAL MAINTENANCE STAFF.
g. ACTUAL NUMBER OF OCCUPANTS: MAXIMUM OF 16 OCCUPANTS WILL BE PRESENT AT ANY ONE POINT AROUND THE BAGGAGE CAROUSELS. MAXIMUM OF 2 BAGGAGE TUGS WITH 2 RAMP CREW PERSONNEL AT EACH CAROUSEL.

APPLICABLE CODES/GUIDELINES

ARCHITECTURAL
INTERNATIONAL BUILDING CODE (IBC), 2003 EDITION
AMERICANS WITH DISABILITIES ACT (ADA) AND ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES, 1994 EDITION
ANSI A117.1
MAINE ACCESSIBILITY CODE
NFPA 101: LIFE SAFETY CODE, 2006 EDITION
FAA ADVISORY CIRCULAR 150/360.13: PLANNING AND DESIGN GUIDELINES FOR AIRPORT TERMINAL FACILITIES
NFPA 415 - CONSTRUCTION AND PROTECTION OF AIRPORT TERMINAL BUILDINGS

CIVIL - STORM DRAINAGE
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP) STORMWATER LAW
MDEP EROSION AND SEDIMENT CONTROL BMPs
MDEP STORMWATER MANAGEMENT BMPs
CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS
MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD SPECIFICATIONS

CIVIL - SANITARY SEWER
CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS

CIVIL - WATER
AMERICAN WATER WORKS ASSOCIATION (AWWA)
PORTLAND WATER DISTRICT STANDARDS AND SPECIFICATIONS
AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)
CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS
MAINE STATE FIRE MARSHAL'S OFFICE
NATIONAL FIRE PROTECTION ASSOCIATION

CIVIL - NATURAL GAS
NATIONAL FIRE PROTECTION ASSOCIATION
AMERICAN GAS ASSOCIATION
CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS
NORTHERN UTILITIES STANDARDS AND SPECIFICATIONS

CIVIL - ROADWAY DESIGN
ASHUTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS
MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS

STRUCTURAL
INTERNATIONAL BUILDING CODE (IBC), 2003 EDITION
NFPA 415 - CONSTRUCTION AND PROTECTION OF AIRPORT TERMINAL BUILDINGS
AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-02)
AMERICAN INSTITUTE FOR STEEL CONSTRUCTION, ASD 9TH EDITION
STEEL JOIST INSTITUTE STANDARD SPECIFICATION FOR JOISTS AND JOIST GIRDER W/ 1994 REVISION
STEEL DECK INSTITUTE

MECHANICAL
INTERNATIONAL BUILDING CODE (IBC), 2003 EDITION
NFPA 415 - CONSTRUCTION AND PROTECTION OF AIRPORT TERMINAL BUILDINGS
BOCA MECHANICAL CODE 1980 ED.
INTERNATIONAL ENERGY CONSERVATION CODE 2003 ED.
ASHRAE 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BLDGS 2001 ED.
ASHRAE STANDARD 55 THERMAL ENVIRONMENTAL CONDITIONS FOR HUMAN OCCUPANCY 2004 ED.
ASHRAE STANDARD 62.1 VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY 2004 ED.
ASHRAE 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS 2001 ED.
MAINE UNIFORM BUILDING AND ENERGY CODE (SIGNED INTO LAW APRIL 24, 2008)

PLUMBING / FIRE PROTECTION
INTERNATIONAL BUILDING CODE (IBC), 2003 EDITION
NFPA 415 - CONSTRUCTION AND PROTECTION OF AIRPORT TERMINAL BUILDINGS
MAINE STATE INTERNAL PLUMBING CODE 2005 ED.
BOCA MECHANICAL CODE 1980 ED.
NFPA 54 NATIONAL FUEL GAS CODE
ASHRAE 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BLDGS 2001 ED.
NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS

ELECTRICAL
AMERICANS WITH DISABILITIES ACT / MAINE ACCESSIBILITY CODE
NFPA 415 - CONSTRUCTION AND PROTECTION OF AIRPORT TERMINAL BUILDINGS
FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULARS FOR AIRPORTS
ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA: LIGHTING HANDBOOK
INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
NATIONAL ELECTRIC CONTRACTORS ASSOCIATION (NECA)
NATIONAL ELECTRICAL MANUFACTURERS ASSOC. (NEMA)
NATIONAL FIRE PROTECTION ASSOC. (NFPA)
NATIONAL ELECTRIC CODE (NEC) 2008
NATIONAL ELECTRIC SAFETY CODE
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
UNDERWRITERS LABORATORIES, INC. (UL) STANDARD
AMERICAN NATIONAL STANDARDS INSTITUTE

BUILDING CODE ANALYSIS

THE FOLLOWING ANALYSIS IS BASED ON INTERNATIONAL BUILDING CODE (IBC), 2003 EDITION
SEPARATION BETWEEN NEW CONSTRUCTION AND EXISTING TERMINAL
NEW TERMINAL CONSTRUCTION AND EXISTING TERMINAL WILL BE SEPARATED BY A 3 HOUR RATED FIRE WALL PER IBC TABLE 705.4 AND WILL BE CONSIDERED SEPARATE BUILDINGS ACCORDING TO IBC. FIRE SEPARATION ON ASSEMBLY AT LEVEL 1 ROOM 1500 UNDER REVIEW BY CITY OF PORTLAND.

RENOVATED TERMINAL AREAS
3403.1. ADDITIONS OR ALTERATIONS TO ANY BUILDING OR STRUCTURE SHALL CONFORM TO THE REQUIREMENTS OF THE CODE FOR NEW CONSTRUCTION.

NON-RENOVATED TERMINAL 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.

ACCESSIBILITY FOR EXISTING BUILDINGS:
3409.4. ADDITIONS, PROVISIONS FOR NEW CONSTRUCTION SHALL APPLY TO ADDITIONS
3409.5. ALTERATIONS SHALL COMPLY WITH APPLICABLE PROVISIONS IN CHAPTER 11 AND ICC A117.1 UNLESS TECHNICALLY INFEASIBLE.

BUILDING USE AND CLASSIFICATION (NEW CONSTRUCTION)
302.3.1. NON-SEPARATED USE
303.1 ASSEMBLY (A-3) MOST RESTRICTIVE FOR MAXIMUM ALLOWABLE HEIGHT AND AREA.

OCCUPANCY SEPARATION (NEW CONSTRUCTION)
TABLE 302.1.1. INCIDENTAL USES:
NO SEPARATIONS REQUIRED DUE TO AUTOMATIC SPRINKLER SYSTEM, EXCEPT AS REQUIRED BY OTHER PROVISIONS

CONSTRUCTION CLASSIFICATION (NEW CONSTRUCTION)
602.2. TYPE II (NONCOMBUSTIBLE PROTECTED)

MAXIMUM ALLOWABLE STORIES (NEW CONSTRUCTION)
TABLE 503: 180 FEET / 12 STORIES

MAXIMUM ALLOWABLE AREA (NEW CONSTRUCTION)
TABLE 503: UNLIMITED

FIRE RESISTIVE RATINGS (NEW CONSTRUCTION)
EXTERIOR BEARING WALLS: 2 HRS
EXTERIOR NON-BEARING WALLS: 0 HRS

EXTERIOR DOORS AND WINDOWS:
DOORS:
DOORS AT 3 HR RATED WALLS 3 HRS
DOORS AT 2 HR RATED WALLS 1-1/2 HR
DOORS AT 1 HR RATED WALLS 3/4 HR

WINDOWS:
WINDOWS AT > 1 HR RATED WALLS 1 1/2 HR
WINDOWS AT 1 HR RATED WALLS 3/4 HR

INTERIOR BEARING WALLS:
SUPPORTING A FLOOR
SUPPORTING A ROOF ONLY 2 HRS
1 HR

INTERIOR NON-BEARING WALLS: 0 HRS***

SHAFT ENCLOSURES: 1 HR**

FLOOR CONSTRUCTION: 2 HRS

ROOF CONSTRUCTION ASSEMBLY: 1 HR*

STRUCTURAL FRAME:
COLUMNS, GIRDERS, TRUSSES, BEAMS, SPANDRELS (MEMBERS CONNECTED TO COLUMNS) & BRACING FOR GRAVITY LOADS 2 HRS

SUPPORTING A ROOF ONLY - COLUMNS, GIRDERS, TRUSSES, BEAMS, SPANDRELS (MEMBERS CONNECTED TO COLUMNS) & BRACING FOR GRAVITY LOADS 1 HR

OCCUPANCY SEPARATION WALLS: 0 HRS

EXIT STAIR ENCLOSURES: 1 HR**

CORRIDORS: 0 HRS

* 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.
** CONNECTING LESS THAN 4 STORIES
*** BUT NOT LESS THAN FIRE RESISTANCE RATING REQUIRED BY OTHER AREAS OF THE CODE.

EGRESS REQUIREMENTS (NEW CONSTRUCTION)
MAXIMUM EXIT ACCESS TRAVEL DISTANCE FOR OCCUPANCY CLASSIFICATIONS A, F, M AND S-1: 250 FEET WITH SPRINKLER SYSTEM; FOR OCCUPANCY CLASSIFICATION B: 300 FEET
MAXIMUM COMMON PATH OF EGRESS TRAVEL FOR OCCUPANCY CLASSIFICATIONS A AND M: 75 FEET; FOR OCCUPANCY CLASSIFICATIONS B, F AND S: 100 FEET
MAXIMUM DEAD END CORRIDOR LENGTH: 20 FEET
MINIMUM CORRIDOR WIDTH: 44 INCHES (OR) 0.15 INCHES PER OCCUPANT SERVED WHICHEVER IS GREATER

EXIT STAIRWAYS (NEW CONSTRUCTION)
UNIT OF EXIT WIDTH: 0.2 INCHES PER OCCUPANT
MINIMUM STAIR WIDTH: 44 INCHES (OR) 0.2 INCHES PER OCCUPANT SERVED WHICHEVER IS GREATER
MAXIMUM VERTICAL DISTANCE BETWEEN LANDINGS: 12 FEET
MINIMUM HEADROOM: 80 INCHES
RISER DIMENSIONS: 7 INCHES MAX / 4 INCHES MIN
TREAD DIMENSIONS: 11 INCHES MINIMUM

INTERIOR FINISHES (NEW CONSTRUCTION)
WALL AND CEILING FINISH FLAME SPREAD RATINGS (BASED ON SPRINKLERED A-3 OCCUPANCY)
EXITS: C IN BUILDINGS LESS THAN 3 STORIES IN HEIGHT
EXIT ACCESS: B
ROOMS AND ENCLOSED SPACES: C

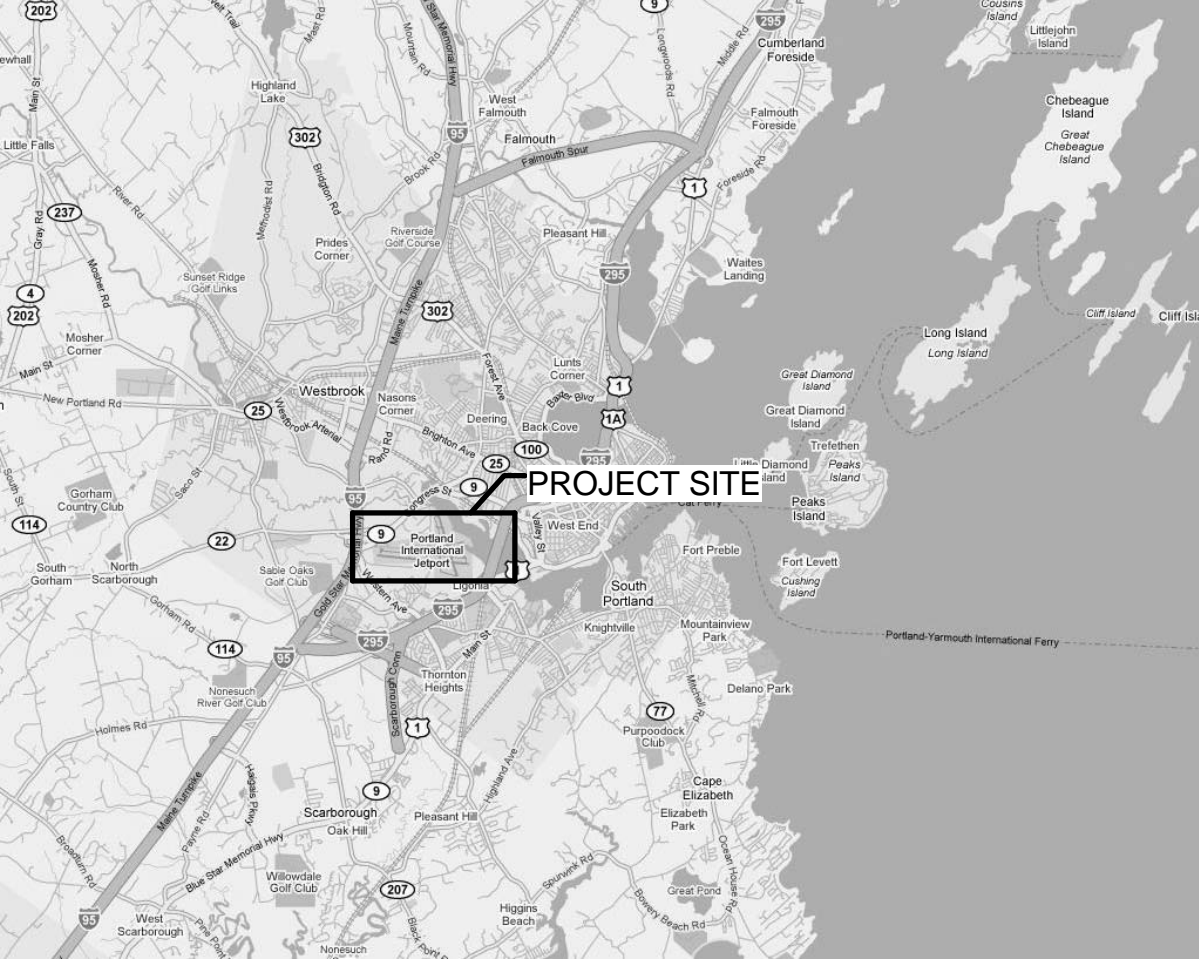
FIRE PROTECTION (NEW CONSTRUCTION)
SPACES WILL BE FULLY SPRINKLERED.
PUBLIC TERMINAL SPACES: ORDINARY HAZARD GROUP 1 OR 2.

FIRE PROTECTION (RENOVATION IN EXISTING CONSTRUCTION)
SELECTIVE UPGRADES AS SHOWN ON DRAWINGS.

PROJECT INFORMATION

PROJECT: PORTLAND INTERNATIONAL JETPORT TERMINAL EXPANSION AND RENOVATION
OWNER: CITY OF PORTLAND, MAINE
ADDRESS: 1001 WESTBROOK STREET PORTLAND, MAINE 04102

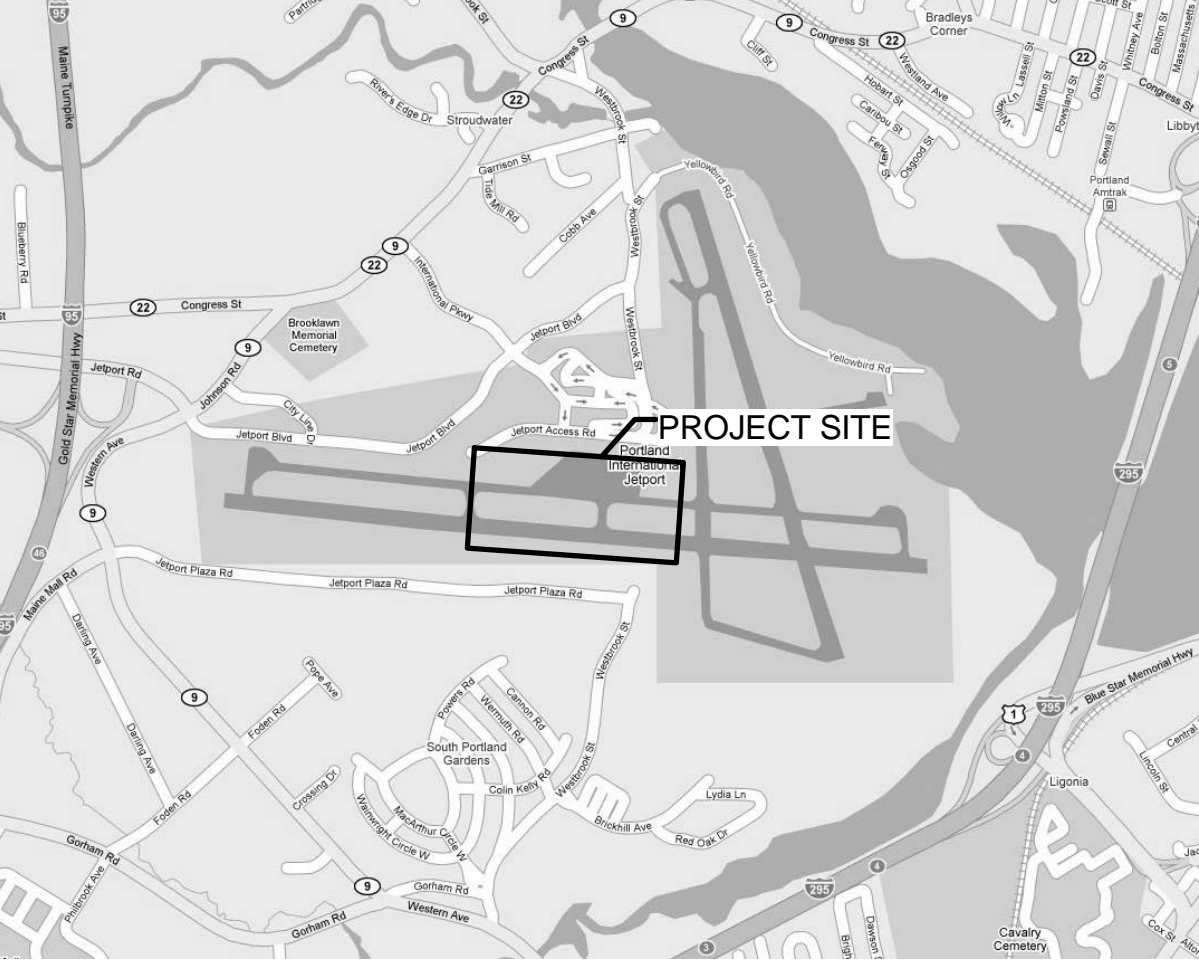
VICINITY PLAN



2020 K Street, Northwest Suite 200 Washington, DC 20006 Telephone 202.721.5200 Facsimile 202.872.8587

Gensler

LOCATION MAP



BUILDING AREA TABULATION

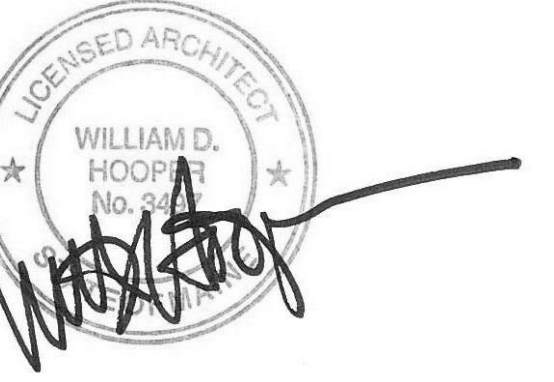
PROPOSED DESIGN (NEW CONSTRUCTION)
LEVEL AREA
LEVEL 1 36,507 GSF
LEVEL 2 37,644 GSF
LEVEL 3 43,243 GSF
LEVEL 4 43,610 GSF
LEVEL 5 7,513 GSF
TOTALS 168,523 GSF
PROPOSED DESIGN (RENOVATION IN EXISTING CONSTRUCTION)
LEVEL AREA
LEVEL 2 4,857 GSF
LEVEL 3 6,818 GSF
TOTALS 11,675 GSF

Portland International Jetport

1001 Westbrook Street Portland, Maine 04102

Table with columns: Date, Description
07/11/08: SCHEMATIC DESIGN
09/22/08: DESIGN DEVELOPMENT
12/03/08: 75% CONSTRUCTION DOCUMENTS
01/23/09: 95% CONSTRUCTION DOCUMENTS
10/26/09: ISSUED FOR PERMIT
11/12/09: ADDENDUM #2

Seal/Signature



Project Name: PWM Terminal Enhancement

Project Number: 09.6395.000

Description: BUILDING CODE ANALYSIS

Scale: 1:1

A00.10