

Portland Public Heliport Study

for

**Portland Development Commission
222 NW Fifth Avenue
Portland, Oregon 97209**

by

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December 19, 2008

PORTLAND PUBLIC HELIPORT STUDY

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1. Background: Provide a background summary about why the heliport was created, and who the intended users were expected to be.

The Portland Public Heliport was constructed 19 years ago, after completing a 5 year process to find an acceptable heliport site in the downtown area. A prior public heliport created by the City of Portland on the rooftop of their public parking garage at SW Jefferson, Madison, 1st, and 2nd Avenues had been surrounded by tall buildings and become unsafe for helicopter use. An initial plan had attempted to place the new heliport in the Willamette River on the east bank, between the Morrison and Hawthorne Bridges. However, after being opposed by 1000 Friends of Oregon, Friends of the Willamette Greenway, League of Women Voters, and the Buckman Neighborhood Association, a new site search began. Members of the new site selection committee were: Bob Stacey, Betsy Johnson, Bill Wyatt, Phillipa Harrison, and Ted Millar. In the end an alternative site was found by teaming with the Naito Family and NW Natural Gas in sharing the costs of a new parking garage at NW Front and Davis. The new site was “as close as one could get to the river without being in the greenway” and it provided a location that could join two transportation modes.

The \$1.8 million project was constructed with a \$1.6 million FAA grant plus \$200,000 of donated money from private sector aviation companies. Of the \$1.8 million, \$300,000 was transferred to the garage fund to pay for a proportional share of the land, foundations, and elevator costs of the actual garage beneath the top deck heliport.

The intent of the heliport was to provide a place for helicopter direct service to downtown Portland for both public and private interests. It was to provide for the fundamental public benefits of: emergency medical and public safety, disaster response, economic development, and an alternative transportation mode. A more general intent was to potentially limit the need for future other private heliports to be developed around the city, thus to attempt to eliminate helicopter noise and safety concerns by providing a public place that was well suited in this regard. This later led to the City of Portland rewriting its heliport ordinance and including language which required a proposer to indicate why they couldn't use the public heliport to meet their needs as an approval criteria.

Some facts about the heliport that have probably been forgotten by the public are as follows:

- The city never put any cash into creating the heliport. It was paid for by a 90% grant from the FAA and the 10% matching funds were raised by Betsy Johnson (then President of Transwestern Helicopters, now State Senator) from the larger helicopter community.
- The heliport grant and matching funds paid for 20% (one of 5 floors) of the land, footings, elevator, site development, and engineering costs for those items.

- The aviation-related monitoring of the heliport (replacing light bulbs, reviewing tapes of landing operations made by a video monitor, dealing with noise issues, paying for insurance, and so forth) was for 19 years done almost solely by volunteers in the heliport and aviation community via the Northwest Rotorcraft Association (NWRA), an Oregon non-profit volunteer organization. NWRA volunteers during that same period also assisted with aviation planning, safety, noise, and maintenance issues that arose during the intervening years.
- The heliport is visited regularly by officials and transportation planners from around the US, from Japan, from Germany, and other countries to see how it works, because it is viewed by others as such a great success for providing helicopter access to a downtown area.
- The success of the heliport should not be primarily judged by the quantity of flights it receives. All of the news organizations regularly use it, so in that way it serves the entire Portland metro population that watches our local news stations. Emergency medical, Coast Guard, and other health, welfare, and safety groups use it, so that again is a general public benefit (what is the value of saving just one life - pretty large). And if one asked for testimonial flights, they would find many where the heliport played a significant role in a successful economic development or business transaction that benefited the region or Oregon more generally. Then there are also just normal corporate flights, normal personal flights, and flight training for new pilots - all of these perhaps being minor.
- In conclusion, the heliport has been a successful facility for Portland for the past 19 years. It is one that the city and public has benefited from with virtually no general public investment (FAA dollars are from a dedicated aviation fuel tax fund, not from public tax dollars) while the garage infrastructure benefited from a subsidy from the heliport grant.

2. Actual Users: Summarize who the actual users of the heliport are and their estimated frequency of use.

The principal groups using the heliport are:

- News: Helicopters for TV stations related to aerial photography and reporting, including for KGW 8, KATU 2, and KOIN 6.
- Emergency Medical: LifeFlight (to avoid having two helicopters at Legacy Emanuel Hospital the second helicopter is at times stationed at the public heliport)
- Flight Training: Hillsboro Aviation Inc. uses the public heliport for rooftop landings in its internationally recognized training program (they have contracts with the governments of China and Japan for training programs)

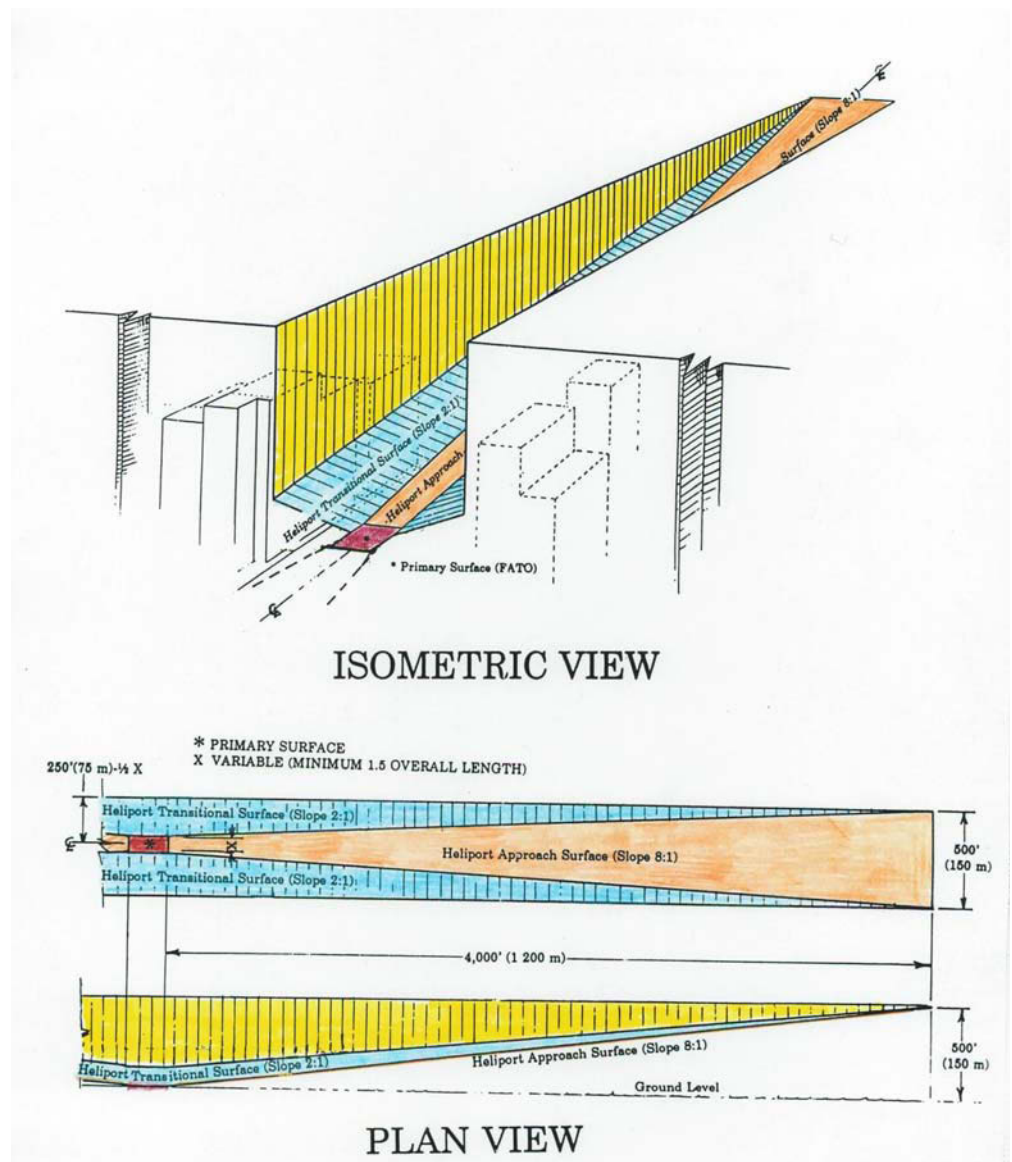
- Corporate: Lumber, utility, restaurant, nursery, fire fighting companies, and other corporations that own or use helicopters make regular use of the heliport.
- Military: Military and Coast Guard helicopters make occasional use of the public heliport.

It is estimated that the public heliport receives 3 to 10 landings per day. Regular users come from: Nevada, California, and Southern Oregon. However the majority of use is by Hillsboro Aviation, the news helicopters, and other local helicopter companies.

3. Flight Paths: Examine the flight paths shown on the FAA approved Heliport Layout Plan documents relative to proposed raising of the zoning height limit for parcels to the south of the heliport. Discuss potential impacts on safety as to any conflicts with that document. Provide a diagram of the flight paths to allow visualization of their location.

Airspace clearance standards for approach and departure to heliports are shown on the diagram below, from FAA Advisory Circular 150/5390. It consists of an 8:1 horizontal to vertical slope (orange color in the attached diagram) that is 4000 feet long, starting at the heliport landing pad size of approximately 60 feet and widening to 500 feet at the outer end. To the side of this surface are 2:1 sloped surfaces (blue in the attached drawing) which widen out to 500 feet for the full 4000 feet of the approach surface.

For the Portland Public Heliport, the specific designated approach clear paths are shown on the attached page Drawing H1. Generally the approach clear paths follow the river and freeways which helps



to ensure that tall buildings are not constructed into their space.

The attached Drawing H2 shows a close-up of how the approach from the southeast puts some limits on the usability of the airspace above the property to the south of the heliport. Specifically it is the transitional 2:1 intersects with the potentially upper northeast portion of the property.

The FAA recommendation would most likely be to avoid construction which intersects the approach clear space. Small incursions into transitional surfaces are sometimes permitted to exist with the addition of obstruction lights added to the structure where it penetrates the clear area.

4. Periodic Review: Determine whether the heliport falls under the Airport Planning Rule requirements and if so what impacts that rule would have on future plans for the heliport and surrounding lands.

The Portland Public Heliport has never had any based aircraft. Therefore it is not subject to the rules of 836.610 since subsection (1)(a) requires that the airport must have three or more based aircraft.

836.610 Local government land use plans and regulations to accommodate airport zones and uses; funding; rules. (1) *Local governments shall amend their comprehensive plan and land use regulations consistent with the rules for airports adopted by the Land Conservation and Development Commission under ORS 836.616 and 836.619. Airports subject to the rules shall include:*

(a) Publicly owned airports registered, licensed or otherwise recognized by the Department of Transportation on or before December 31, 1994, that in 1994 were the base for three or more aircraft; and

(b) Privately owned public-use airports specifically identified in administrative rules of the Oregon Department of Aviation that:

(A) Provide important links in air traffic in this state;

(B) Provide essential safety or emergency services; or

(C) Are of economic importance to the county where the airport is located.

(2)(a) Local governments shall amend their comprehensive plan and land use regulations as required under subsection (1) of this section not later than the first periodic review, as described in ORS 197.628 to 197.650, conducted after the date of the adoption of a list of airports by the Oregon Department of Aviation under subsection (3) of this section.

(b) A state agency or other person may provide funding to a local government to accomplish the planning requirements of this section earlier than otherwise required under this subsection.

(3) The Oregon Department of Aviation by rule shall adopt a list of airports described in subsection (1) of this section. The rules shall be reviewed and updated periodically to add or remove airports from the list. An airport may be removed from the list only upon request of the airport owner or upon closure of the airport for a period of more than three years.

[1995 c.285 §4; 1997 c.859 §2]

The Airport Planning Rule specifically was not intended for airports that did not have at least three based aircraft; in addition the Airport Planning Rule was not intended for airports that had a control tower. Those provisions were established deliberately through the legislative process.

5. FAA Form 7460 Issues: Discuss the applicability of FAA Form 7460 to properties around the heliport and provide instructions as to how they should be filed, if applicable.

As concerns the Portland Public Heliport, Federal Aviation Regulations (FAR) Section 77.13 requires that FAA Form 7460-1 titled “Notice of Proposed Construction or Alteration” shall be filed for any project that meets the following conditions:

1. The construction project will be more than 200 feet above ground level (this applies to all projects irrespective of closeness to an airport) [FAR Section 77.13 (a)(1)];
2. Any construction project is within 5000 feet of the Portland Public Heliport and intersects a 25 (horizontal) to 1 (vertical) slope from the heliport.[FAR Section 77.13 (a)(2)(iii)]
3. No notice of 1 or 2 above are required if the construction project is shielded by an existing structure, natural terrain, or topographic features of equal or greater height. [FAR Section 77.15].
4. A copy of the form and instructions for where to file it can be obtained at <http://forms.faa.gov/forms/faa7460-1.pdf>

A copy of form 7460-1 is shown on the following page.

The area around the heliport to be monitored for filing of the form, as described in paragraph 2 above, is shown in the attached Drawing H3 on the following pages. These kind of areas are around all airports, including PDX. In practice local building and zoning departments do not monitor these areas very closely, so it is usually left to the airport management to watch for projects which may obstruct airport approaches.

As a practical matter, it is believed that the FAA only wants submittal of forms for projects that have potential to impact helicopters approaching and departing the Portland Public Heliport. Most areas within the circle in the diagram above are shielded by existing buildings and thus meet the exception criteria listed in paragraph 3 above. The FAA would especially expect that forms be filed for any construction on properties adjacent to the heliport or near the approach paths shown on the heliport airspace diagram.

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PORTLAND DOWNTOWN PUBLIC HELIPORT
APPROACH PATHS
PORTLAND, OREGON

APPROACH PATHS

DATE: 9/2/08
COMPUTER NAME:
PORTLAND HELIPORT FLIGHT PATHS
DRAWN BY:
AF
CHECKED BY:
AF

NO.	DATE	DESCRIPTION

EAST (I-84) PATH

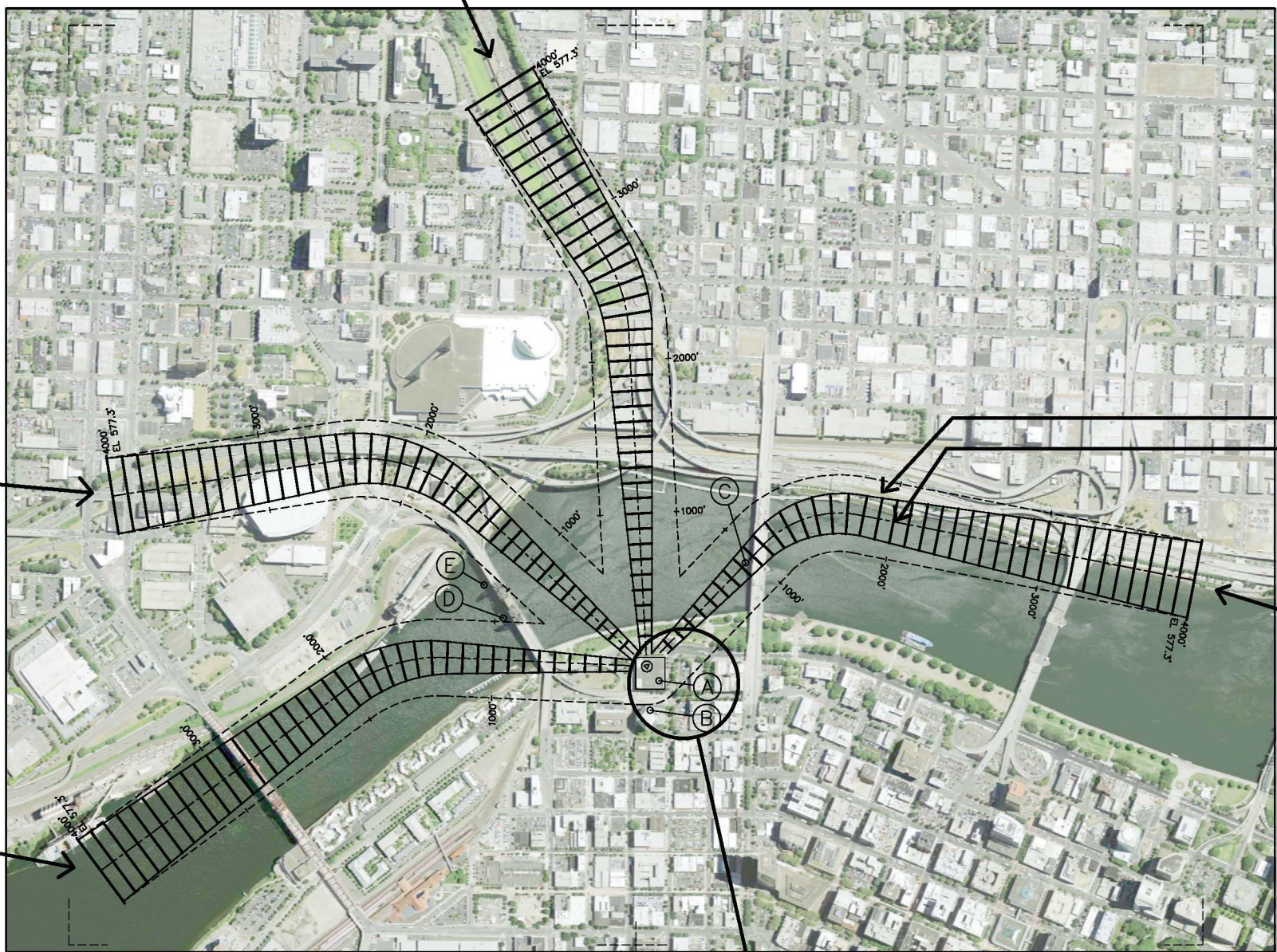
NORTHEAST (I-5)
PATH

NORTH (WILLAMETTE
RIVER) PATH

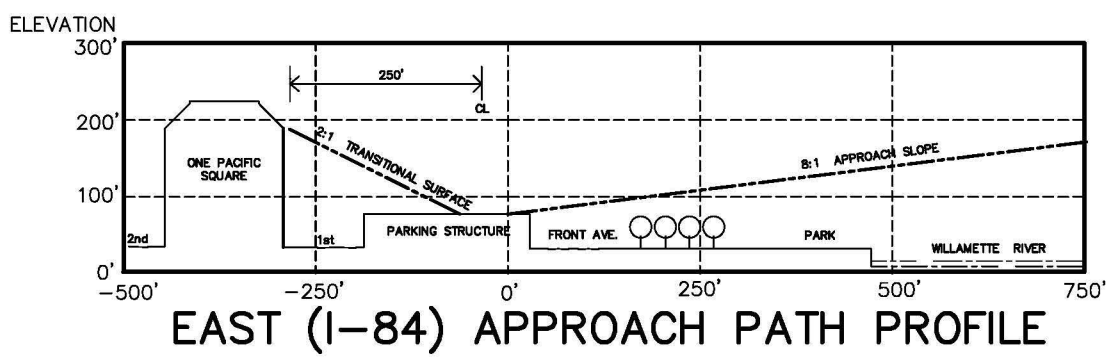
- FLIGHT PATH ELEVATION NOTES
- (A) HELIPORT DECK EL 77.3'
 - (B) ONE PACIFIC SQUARE PERIMETER EL 189.0'; BUILDING TOP EL 220.9'; FLIGHT PATHS TO EAST, CLEAR OF BUILDING.
 - (C) BURNSIDE BRIDGE IN UP POSITION IS AT EL 190.4'; FLIGHT PATH AT EL 192.9'
 - (D) STEEL BRIDGE WEST TOWER APPROX EL 273'; FLIGHT PATH ON WEST, CLEAR OF TOWER.
 - (E) STEEL BRIDGE EAST TOWER APPROX EL 273'; FLIGHT PATH ON EAST, CLEAR OF TOWER.
 - (F) APPROACH & TRANS SURFACE MAX ELEVATIONS:
 @ 0' - APPR 77.3'; TRANS 184.0'
 @ 1000' - APPR 202.3'; TRANS 282.4'
 @ 2000' - APPR 327.3'; TRANS 380.7'
 @ 3000' - APPR 452.3'; TRANS 479.0'
 @ 4000' - APPR 577.3'; TRANS 577.3'
 - (G) DEPARTURE PATH FLIGHT DIRECTIONS:
 N (WILLAMETTE RIVER NORTH) - 342' MC
 NE (I-5) - 24' MC
 E (I-84) - 68' MC
 SE (WILLAMETTE RIVER SOUTH) - 115' MC

2:1 TRANSITIONAL SURFACE, TYPICAL
8:1 APPROACH SURFACE, TYPICAL

SOUTH (WILLAMETTE RIVER) PATH

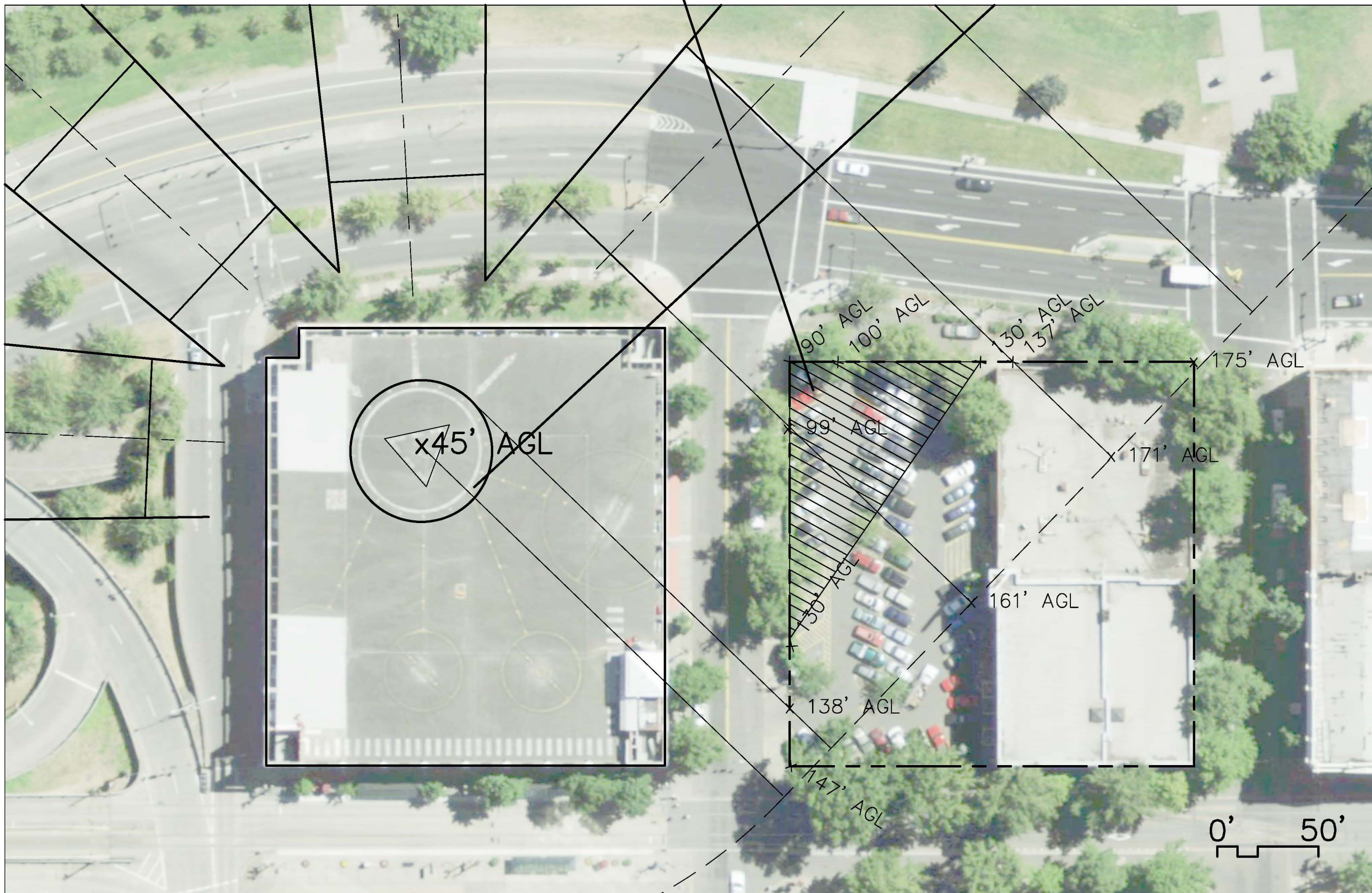


AREA IMPACTED
SEE SHEET H2



EAST (I-84) APPROACH PATH PROFILE

AREA IMPACTED



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PORTLAND DOWNTOWN PUBLIC HELPPORT

SOUTH APPROACH IMPACT ON
IMPORT PLAZA HEIGHT LIMIT

PORTLAND, OREGON

SOUTH APPROACH
IMPACT ON
IMPORT PLAZA
HEIGHT LIMIT

DATE: 9/2/08
COMPUTER NAME:
PORTLAND HELPPORT CLOSE-IN
DRAWN BY:
AF
CHECKED BY:
AF

NO.	DATE	DESCRIPTION



CIRCLE ENCLOSES
 AREA POTENTIALLY
 REQUIRING FAA
 FORM 7460-1
 SUBMITTAL FOR
 CONSTRUCTION
 PROJECTS

NOTE:
 AS A PRACTICAL MATTER, IT IS BELIEVED THAT THE FAA ONLY WANTS SUBMITTAL OF FORMS FOR PROJECTS THAT HAVE POTENTIAL TO IMPACT HELICOPTERS APPROACHING AND DEPARTING THE PORTLAND PUBLIC HELIPORT. MOST AREAS WITHIN THE CIRCLE IN THE DIAGRAM ARE SHIELDED BY EXISTING BUILDINGS AND THUS MEET THE EXCEPTION CRITERIA. THE FAA WOULD ESPECIALLY EXPECT THAT FORMS BE FILED FOR ANY CONSTRUCTION ON PROPERTIES ADJACENT TO THE HELIPORT OR NEAR THE APPROACH PATHS SHOWN ON THE HELIPORT AIRSPACE DIAGRAM.

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PORTLAND DOWNTOWN PUBLIC HELIPORT
POTENTIAL FORM 7460 AREA
 PORTLAND, OREGON

HELIPORT
 AREA 7460

DATE: 9/8/08
 COMPUTER NAME:
 PORTLAND HELIPORT AREA 7460
 DRAWN BY:
 AF
 CHECKED BY:
 AF

NO.	DATE	DESCRIPTION

PAGE:
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