APPENDIX D. CLEARANCE REQUIREMENTS FOR TAXIWAY ALPHA AND A PARALLEL TAXILANE

Figure D-1 shows the Object Free Zone (OFZ) and Object Free Area (OFA) clearance required from the runway centerline assuming Taxiway Alpha is used as runway for visual or non-precision landings of Group III aircraft. The existing conditions at Meacham and a proposed temporary taxilane 300 feet east of Taxiway Alpha will meet the requirements for keeping taxiing aircraft free of the Runway Obstacle Free Zone for both visual and non precision runways and will even meet the OFZ requirements for runways with lower than ¾ mile visibility minimums.

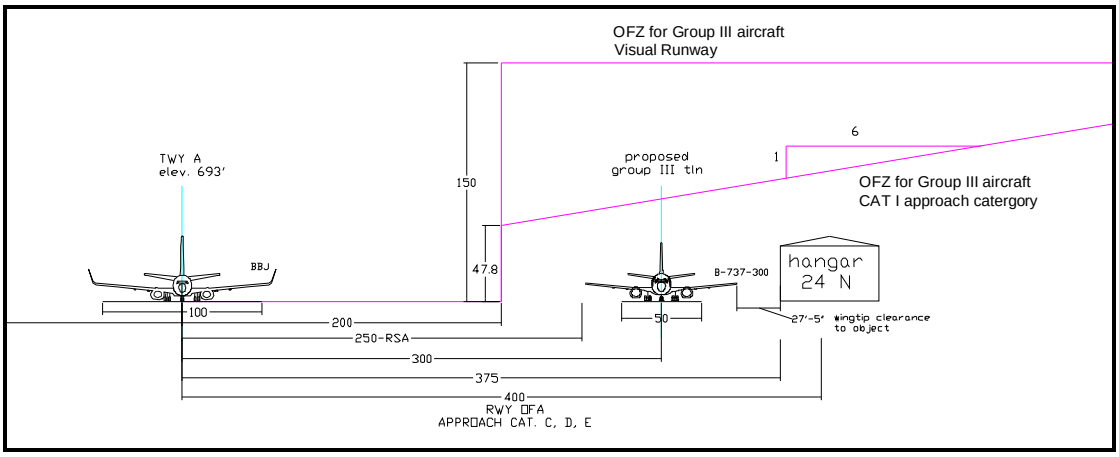

Figure D-1. Temporary Runway Clearance Requirements of Taxiway Alpha for Group III Aircraft.

However, the existing Hangar 24N is 375 feet east of the centerline of Taxiway Alpha and will not meet requirements for a Runway Object Free Area 400 feet east of centerline of Taxiway Alpha as temporary runway. The issue is that the Runway OFA is a design standard for construction of new runways but this application is operational considerations of a temporary runway. It is likely, but not documented, that operations could be permitted with Hangar 24N at 375 feet from the centerline of the temporary runway.

If a taxilane were used between Hangar 24 N offset 300 feet from the centerline of Taxiway Alpha used as a runway, aircraft up to 100 feet wingspan could use the taxilane while keeping their wingtips out of the RSA. However, the allowable clearance from Hangar 24N would be met as a taxilane for all aircraft with less than 100 foot wingspan but not as a taxiway. The taxilane wingtip clearance would be 0.1 times airplane wingspan plus 10 feet for a maximum of 20 feet for a 100-foot wingspan aircraft[34].

Table D-1 lists some of the Group III aircraft with these wingspans that use Meacham. Using this analysis aircraft up to and including the Global Express and B737-300 could use the temporary displaced taxilane and have taxilane wingtip clearance from Hangar 24N.

Table D-1. Design Group III Aircraft

Aircraft	Wingspan	Clearance from Building 24N	Meets taxilane requirement of 0.1 times wingspan plus 10 feet
BAE 146-300	86.4 feet	32.8 feet	YES
DHC-8 Dash 8	90.0 feet	30.0 feet	YES
B717/ DC-9-50	93.3 feet	28.35 feet	YES

[34] FAA Advisory Circular 150/5300-13, Table 4.3.

Aircraft	Wingspan	Clearance from Building 24N	Meets taxilane requirement of 0.1 times wingspan plus 10 feet
Gulfstream V	93.5 feet	28.25 feet	YES
Global Express	94 feet	28.0 feet	YES
B737-300	94.8 feet	27.6 feet	YES
MD-80	107.8 feet	21.1 feet	YES *
BBJ	117.4 feet	16.3 feet	NO

* MD-80 with wingspan greater than 100 feet would have wingtip in the RSA but enough clearance from 24N.

To preserve the use of Taxiway Alpha as a temporary runway, the OFZ, RSA and OFA design standards for a runway need to be preserved. The closest new hangar construction to the centerline of Taxiway Alpha would be 400 feet. Hangar 24N is already at 375 feet from Taxiway Alpha centerline. However, since Taxiway Alpha is a temporary runway, normal design standards for new runways do not apply. It most likely would be possible to operate Taxiway Alpha as a temporary runway without 400 feet of OFA. A building restriction line equal to 375 feet of the existing building 24N would permit a temporary taxilane offset 300 feet from Taxiway Alpha and accommodate aircraft up to 100 foot of wingspan with taxilane clearance from building 24N and keep the wingtip out of the RSA.

Table D-2 lists several possible combinations of proposed building restriction lines based upon different conditions of use of Taxiway Alpha and possible taxilanes. Assuming Taxiway Alpha is only used as a taxiway, buildings could be built as close as 160 feet east of the centerline of Taxiway Alpha. Assuming the preservation of Taxiway Alpha as a temporary runway and the design standard of a 800-foot width Runway OFA is considered as the controlling requirement, the building restriction line would be at 400 feet from the centerline of Taxiway Alpha and Hangar 24N would have to be treated as an obstruction.

Table D-2. Calculation of Building Restriction Line from Taxiway Alpha

Defining Condition	Building Restriction Line Set back from Taxiway Alpha centerline	Reference AC 150/5300-13
Taxiway Alpha as Group V Taxiway only	160 feet	Table 4-1
Taxiway Alpha as temporary Group II, III or IV runway landing C & D approach category aircraft	400 feet to remain clear of OFA 250 feet to remain clear of RSA	Table 3-3 Table 3-3
Taxiway Alpha as temporary Group III runway landing A & B approach category aircraft not lower than ¾ mile visibility	400 feet to remain clear of OFA 150 feet to remain clear of RSA 200 feet to remain clear of OFZ	Table 3-1 Table 3-1 Max height 150 feet
Taxiway Alpha as temporary Group III runway landing A & B approach category aircraft with lower than ¾ mile visibility	400 feet to remain clear of OFA 200 feet to remain clear of RSA 200 feet to remain clear of OFZ	Table 3-2 Table 3-2 Max height 47.8 feet
Taxiway Alpha as temporary Group III, runway landing C & D approach category, Taxilane clearance of Group III aircraft 118 foot wingspan	400 feet to remain clear of OFA 389 feet to provide 81 feet clearance from 309 foot displaced taxilane	Table 3-3 Calculation
Taxiway Alpha as temporary Group III runway landing C & D approach category aircraft, Taxilane clearance Group III aircraft with 100 foot wingspan	400 feet to remain clear of OFA 370 feet to provide 70 feet clearance from 300 foot displaced taxilane	Table 3-3 Calculation