

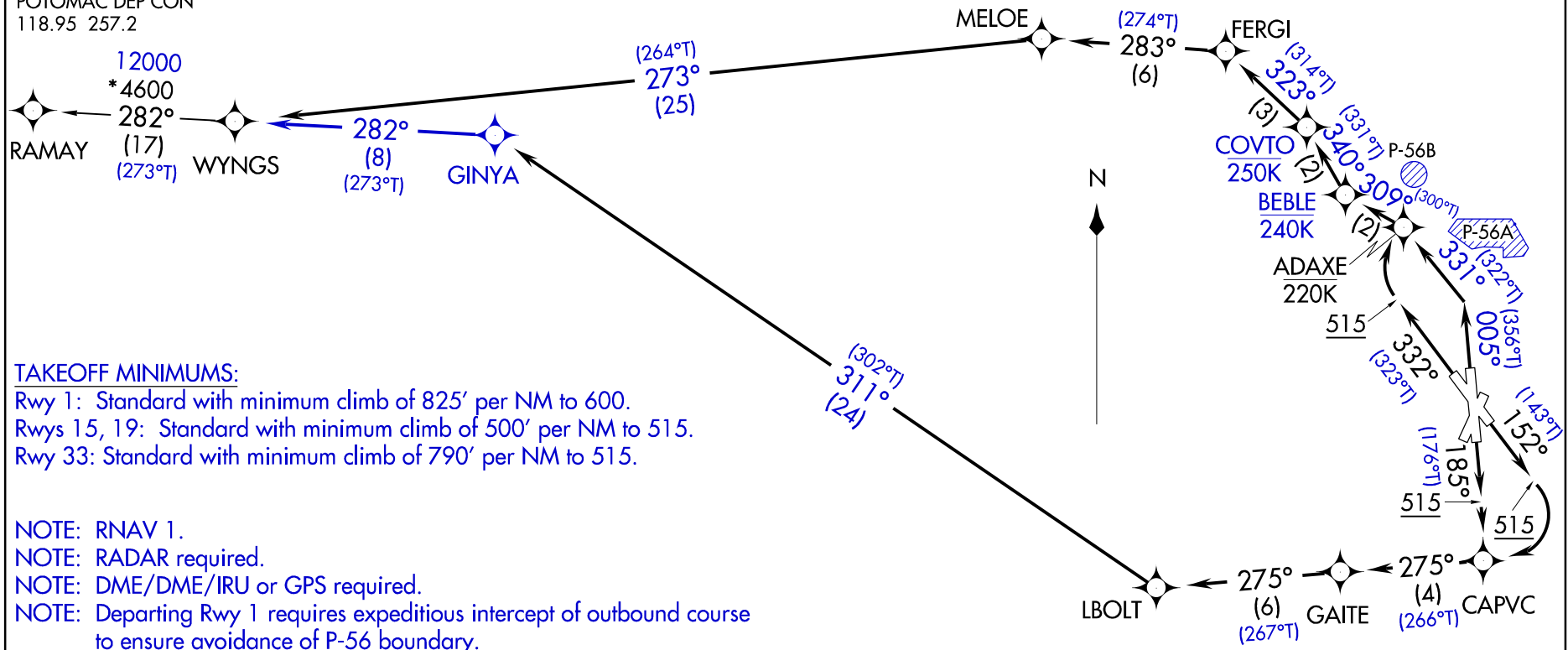
<b>Flight Procedure Tracking Form</b>		<b>Action:</b> FLIGHT CHECK	<b>Task Type:</b> SID	<b>Date Open:</b> 12/23/2015	<b>Task #:</b> 2015121814410301008	<b>Request #:</b> 20151218144103
<b>Procedure:</b> SID WYNGS (RNAV) FOUR WASHINGTON DC KDCA			<b>Airport ID:</b> KDCA	<b>Airport:</b> RONALD REAGAN WASHINGTON NATIONAL		<b>Reimbursable #:</b> NO
<b>City:</b> WASHINGTON	<b>ST:</b> DC	<b>GPS #:</b>	<b>Estimated Chart Date:</b> 11/10/2016		<b>FICO #:</b>	
<b>Fac ID:</b> N/A		<b>Fac. Type:</b>			<b>Specialist:</b> PETER GUIMOND	
<b>Procedure Review</b>						
	<b>Rec'd</b>	<b>Rel'd</b>	<b>Full Name</b>	<b>Comments</b>		
<b>Lead:</b>	02/01/2016			<div style="border: 2px solid green; padding: 5px; text-align: center;"> <b>APPROVED</b>  <i>By Eugene J Newton at 12:20 pm, May 25, 2016</i> </div>		
<b>QA:</b>						
<b>Liaison:</b>						
<b>Procedure Comments:</b>			ENROUTE	<b>Remark Type:</b>	INFORMATION	
AFS APPROVAL LETTER: CLIMB GRADIENT EXCEEDS 500 FEET PER NM, 8260.46F, PARA 2-1-1D(2).  CONTACT: JULIE MORGAN, AJV-5410 LEAD, 405.954.8568.						

ATIS  
 132.65  
 CLNC DEL  
 128.25  
 GND CON  
 121.7 257.6  
 WASHINGTON TOWER  
 119.1 257.6  
 POTOMAC DEP CON  
 118.95 257.2

**NEW**

**PROTOTYPE - NOT FOR NAVIGATION**

**TOP ALTITUDE:  
5000**



**TAKEOFF MINIMUMS:**  
 Rwy 1: Standard with minimum climb of 825' per NM to 600.  
 Rwy 15, 19: Standard with minimum climb of 500' per NM to 515.  
 Rwy 33: Standard with minimum climb of 790' per NM to 515.

NOTE: RNAV 1.  
 NOTE: RADAR required.  
 NOTE: DME/DME/IRU or GPS required.  
 NOTE: Departing Rwy 1 requires expeditious intercept of outbound course to ensure avoidance of P-56 boundary.  
 NOTE: Rwy 1 departures remain clear of P-56, climb heading 005°, turn left as soon as practical to intercept course 331° to ADAXE.  
 NOTE: Pilots shall comply with Ronald Reagan Washington National airport noise abatement and prohibited area (P-56) avoidance procedures as defined in chart supplement special notices.

(NARRATIVE ON FOLLOWING PAGE)  
 (NOTES CONTINUED ON FOLLOWING PAGE)

NOTE: Chart not to scale.

**NEW**

## DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1: Climb heading 005° to intercept course 331° to ADAXE, then on depicted route to WYNGS, thence . . .

TAKEOFF RUNWAY 15: Climb heading 152° to 515, then right turn direct CAPVC, then on depicted route to WYNGS, thence . . .

TAKEOFF RUNWAY 19: Climb heading 185° to 515, then direct CAPVC, then on depicted route to WYNGS, thence . . .

TAKEOFF RUNWAY 33: Climb heading 332° to 515, then right turn direct ADAXE, then on depicted route to WYNGS, thence . . .

. . . on RAMAY transition. Maintain 5000. Expect clearance to filed altitude within ten (10) minutes after departure.

RAMAY TRANSITION (WYNG4.RAMAY)

**PROTOTYPE - NOT  
FOR NAVIGATION**

TAKEOFF OBSTACLE NOTES:

Rwy 1: Fence and buildings beginning 118' from DER, 332' right of centerline, up to 21' AGL/22' MSL. Light pole and trees beginning 995' from DER, 476' left of centerline, up to 47' AGL/49' MSL. Trees beginning 1008' from DER, 152' left of centerline, up to 71' AGL/72' MSL. Monument 1.6 NM from DER, 1785' right of centerline, 556' AGL/595' MSL.

Rwy 15: Electrical systems beginning 178' from DER, 288' right of centerline, 10' AGL/19' MSL. Trees 1.2 NM from DER, 2418' left of centerline, 100' AGL/211' MSL. Trees 1.2 NM from DER, 2502' left of centerline, 93' AGL/212' MSL. Trees 1.2 NM from DER, 2353' left of centerline, 99' AGL/222' MSL. Trees beginning 1.3 NM from DER, 1546' left of centerline, up to 69' AGL/223' MSL. Trees beginning 1.3 NM from DER, 1290' left of centerline, up to 72' AGL/228' MSL. Trees beginning 1.3 NM from DER, 1143' left of centerline, up to 79' AGL/230' MSL. Trees 1.4 NM from DER, 1297' left of centerline, 75' AGL/234' MSL. Trees beginning 1.4 NM from DER, 55' left of centerline, up to 237' MSL. Trees 1.4 NM from DER, 13' right of centerline, 94' AGL/245' MSL. Trees 1.5 NM from DER, 520' right of centerline, 80' AGL/239' MSL.

Rwy 19: Trees 3434' from DER, 1135' right of centerline, 105' MSL. Building 1.1 NM from DER, 1891' right of centerline, 171' AGL/189' MSL.

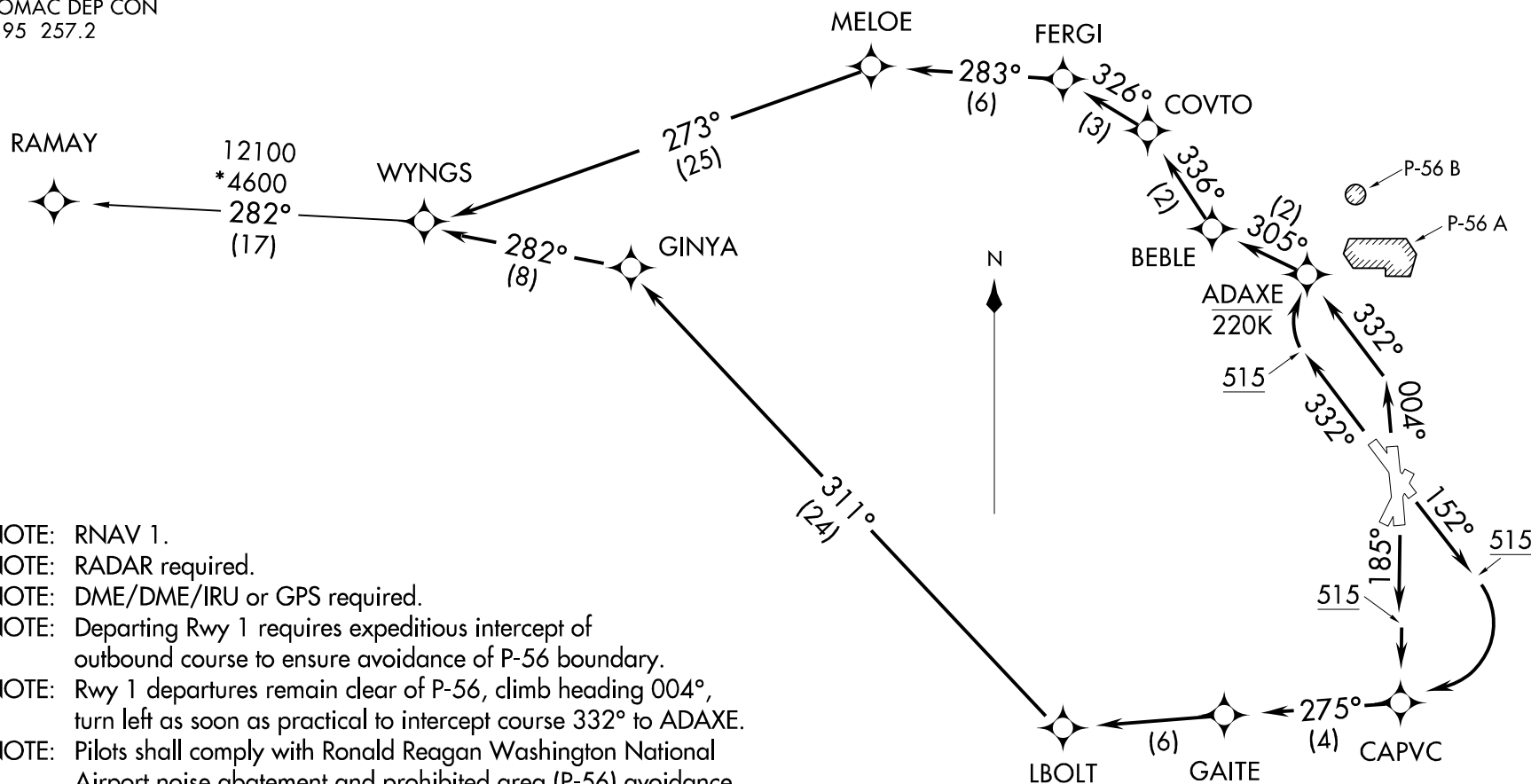
Rwy 33: Sign 18' from DER, 191' left of centerline, 3' AGL/15' MSL. Fence 27' from DER, 332' right of centerline, 8' AGL/18' MSL. Pole 93' from DER, 423' right of centerline, 18' AGL/28' MSL. Trees, vehicles on road, and light pole beginning 365' from DER, 101' left of centerline, up to 70' MSL. Trees beginning 882' from DER, 349' left of centerline, up to 84' AGL/93' MSL. Pole, cranes, and trees beginning 1389' from DER, 78' right of centerline, up to 82' AGL/95' MSL. Building and trees beginning 1777' from DER, 868' left of centerline, up to 127' AGL/144' MSL. Vent on building, light pole, and antenna beginning 1946' from DER, 246' left of centerline, up to 124' AGL/145' MSL. Antennas beginning 4608' from DER, 277' left of centerline, up to 115' AGL/151' MSL. Pole 1.7 NM from DER, 2115' left of centerline, 100' AGL/307' MSL. Trees beginning 1.8 NM from DER, 1912' left of centerline, up to 311' MSL. Tower and buildings beginning 2.2 NM from DER, 1375' right of centerline, up to 330' AGL/394' MSL. Crane, spire, and buildings beginning 2.4 NM from DER, 154' left of centerline, up to 387' AGL/470' MSL. Satellite dish 2.5 NM from DER, 2456' left of centerline, 189' AGL/418' MSL.

**TOP ALTITUDE:  
5000**TAKEOFF MINIMUMS:

Rwy 1: Standard with minimum climb of 825' per NM to 600.  
 Rwy 15, 19: Standard with minimum climb of 500' per NM to 515.  
 Rwy 33: Standard with minimum climb of 540' per NM to 640.

**OLD**

ATIS  
 132.65  
 CLNC DEL  
 128.25  
 GND CON  
 121.7 257.6  
 WASHINGTON TOWER  
 119.1 257.6  
 POTOMAC DEP CON  
 118.95 257.2



- NOTE: RNAV 1.  
 NOTE: RADAR required.  
 NOTE: DME/DME/IRU or GPS required.  
 NOTE: Departing Rwy 1 requires expeditious intercept of outbound course to ensure avoidance of P-56 boundary.  
 NOTE: Rwy 1 departures remain clear of P-56, climb heading 004°, turn left as soon as practical to intercept course 332° to ADAXE.  
 NOTE: Pilots shall comply with Ronald Reagan Washington National Airport noise abatement and prohibited area (P-56) avoidance procedures as defined in the Chart Supplement Special Notices.

(NOTES CONTINUED ON FOLLOWING PAGE)  
 (NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

**OLD**

## DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 1: Climb heading 004° to intercept course 332° to ADAXE, then on depicted route to WYNGS, thence . . . .

TAKEOFF RWY 15: Climb heading 152° to 515, then right turn direct CAPVC, then on depicted route to WYNGS, thence . . . .

TAKEOFF RWY 19: Climb heading 185° to 515, then direct CAPVC, then on depicted route to WYNGS, thence . . . .

TAKEOFF RWY 33: Climb heading 332° to 515, then right turn direct ADAXE, then on depicted route to WYNGS, thence . . . .

. . . . on RAMAY transition. Maintain 5000. Expect clearance to filed altitude within ten (10) minutes after departure.

RAMAY TRANSITION (WYNGS3.RAMAY)TAKEOFF OBSTACLE NOTES:

- Rwy 1: Buildings beginning 118' from DER, 332' right of centerline, up to 10' AGL/22' MSL.  
Fence 261' from DER, 514' left of centerline, 9' AGL/19' MSL. Light pole and trees beginning 995' from DER, 210' left of centerline, up to 47' AGL/49' MSL.  
Trees beginning 1008' from DER, 499' left of centerline, up to 71' AGL/72' MSL.  
Trees 1365' from DER, 333' right of centerline, up to 50' AGL/51' MSL.  
Trees beginning 1744' from DER, 152' left of centerline, up to 70' AGL/71' MSL.  
Monument 1.7 NM from DER, 1787' right of centerline, 556' AGL/595' MSL.
- Rwy 15: Electrical systems beginning 178' from DER, 288' right of centerline, up to 10' AGL/19' MSL.  
Trees 1.4 NM from DER, 13' right of centerline, up to 94' AGL/245' MSL.  
Trees 1.5 NM from DER, 520' right of centerline, up to 80' AGL/235' MSL.
- Rwy 19: Trees 3434' from DER, 1135' right of centerline, up to 96' AGL/105' MSL.  
Building 1.1 NM from DER, 1891' right of centerline, 171' AGL/189' MSL.
- Rwy 33: Sign 18' from DER, 191' left of centerline, 3' AGL/15' MSL.  
Fence and pole beginning 27' from DER, 332' right of centerline, up to 18' AGL/28' MSL.  
Vehicles on road and trees beginning 365' from DER, 344' left of centerline, up to 51' AGL/70' MSL.  
Trees beginning 533' from DER, 101' left of centerline, up to 37' AGL/39' MSL.  
Poles and trees beginning 641' from DER, 165' right of centerline, up to 56' AGL/60' MSL.  
Cranes and trees beginning 882' from DER, 289' left of centerline, up to 82' AGL/95' MSL.  
Trees beginning 1603' from DER, 78' right of centerline, up to 79' AGL/83' MSL.  
Poles and buildings beginning 1777' from DER, 868' left of centerline, up to 124' AGL/145' MSL.  
Poles beginning 2917' from DER, 511' right of centerline, up to 78' AGL/105' MSL.  
Buildings and antennas beginning 4379' from DER, 246' left of centerline, up to 115' AGL/151' MSL.



# Federal Aviation Administration

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## Memorandum

Date:

To: Bruce DeCleene, Manager, Flight Technologies and Procedures Division  
THRU: Danny E. Hamilton, Manager, Flight Procedure Implementation & Oversight Branch

From: Jose Alfonso, Manager, Production Strategy and Planning Team, AJV-5310

Subject: **ACTION:** Approval Request

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### WYNGS DEPARTURE (RNAV)

Takeoff Rwy 1 and Rwy 33, Ronald Reagan Washington National, Washington, DC (KDCA).

Climb gradient exceeds 500 feet per NM, 8260.46F, para 2-1-1d(2).

Rwy 1: Request approval for an 825 FT per NM climb gradient to 600 and a left turn as soon as practical to enable aircraft to intercept a 331 course to ADAXE to avoid P-56 and to ensure obstacle clearance from a 595 MSL Monument (11-000021).

Rwy 33: Request approval for a 790 FT per NM climb gradient to 515 (minimum RNAV engagement altitude) so a VA-DF leg to ADAXE can be constructed and minimize overflight of the Pentagon (only late turners could potentially overfly) and avoid Arlington National Cemetery.

If unable to perform the required climb gradient, aircraft can utilize the Textual ODP or the National Departure.

This approval letter supersedes all others for this procedure.

Attachments



# Federal Aviation Administration

INFO

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## Memorandum

Date:

To: Manager, Production Integration Team, AJV-5310

From: Manager, Flight Technologies and Procedures Division, AFS-400

Prepared by: Flight Procedure Implementation & Oversight Branch, AFS-460

Subject: Waiver Request; AJV-5310 Memorandum Dated 03/19/2015

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 **Danny Hamilton**  
Signed By: Danny Hamilton  
2015 03 19 09:54:23 GMT-0500 (Central Daylight Time)

SIGN HERE

The attached waiver for the “WYNGS (RNAV) ONE DEPARTURE” at Ronald Reagan Washington National, Washington, DC is approved and forwarded for your action.

Reason for Waiver: Ronald Reagan Washington National Airport was petitioned by operators using DCA and a coalition of citizens from the surrounding communities to develop an Area Navigation (RNAV) departure procedure from RWY 1 to enhance departure efficiency, avoid P-56, and reduce the DCA noise footprint. A VI leg of .608 NM is required to provide sufficient buffer to avoid the boundary of P-56.

Please direct all inquiries to Sherri Hubbard, AFS-460, at (405) 954-9359.

Attachment

cc:

AJV-5310

AEA-220

AFS-400/410/420/440/460/470

**1. FLIGHT PROCEDURE IDENTIFICATION:**

Ronald Reagan Washington National  
Washington, DC (DCA)  
WYNGS Departure (RNAV)

INFO

**2. WAIVER REQUIRED AND APPLICABLE STANDARD:**

FAAO 8260.58, Vol 3, para 3.10. The VI leg may be designed to the greater of 1 NM from DER or the distance required to climb to 500 ft above the airport elevation.

**3. REASON FOR WAIVER (JUSTIFICATION FOR NONSTANDARD TREATMENT):**

Ronald Reagan Washington National Airport was petitioned by operators using DCA and a coalition of citizens from the surrounding communities to develop an Area Navigation (RNAV) departure procedure from Rwy 1 to enhance departure efficiency, avoid P-56, and reduce the DCA noise footprint. A VI leg of .608 NM is required to provide sufficient buffer to avoid the boundary of P-56.

**4. EQUIVALENT LEVEL OF SAFETY PROVIDED:**

1. Detailed analysis of 92,935 departures show that 99 percent of aircraft reach 500 ft above airport elevation within 0.52 NM of DER (see attached ATC Memo)
2. Detailed assessment of aircraft climb performance was conducted by MITRE (see attached report dated Dec 2011).
3. Initial departure route is currently being utilized on the LAZIR Departure (RNAV).

**5. ALTERNATIVE ACTIONS DEEMED NOT FEASIBLE:**

Criteria does not exist that will authorize takeoff from Rwy 1 without penetrating the boundary of P-56.

**6. COORDINATION WITH USER ORGANIZATIONS (SPECIFY):**

AJV 5410 \_\_\_\_\_

**7. SUBMITTED BY:**

DATE	OFFICE IDENTIFICATION	TITLE
	AJV-54	Manager

**SIGNATURE**

GEORGE E. DAVIS  
*Digitally signed by*

**MARLON J ROBINSON**

Jun 15, 2015

**8. AFS ACTIONS:**

☒ **APPROVED** ☐ **DISAPPROVED** ☐ **NOT REQUIRED**

**COMMENTS:**

Approved Based on the Equivalent Level of Safety in Block 4.

DATE	ROUTING SYMBOL	SIGNATURE
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Danny Hamilton

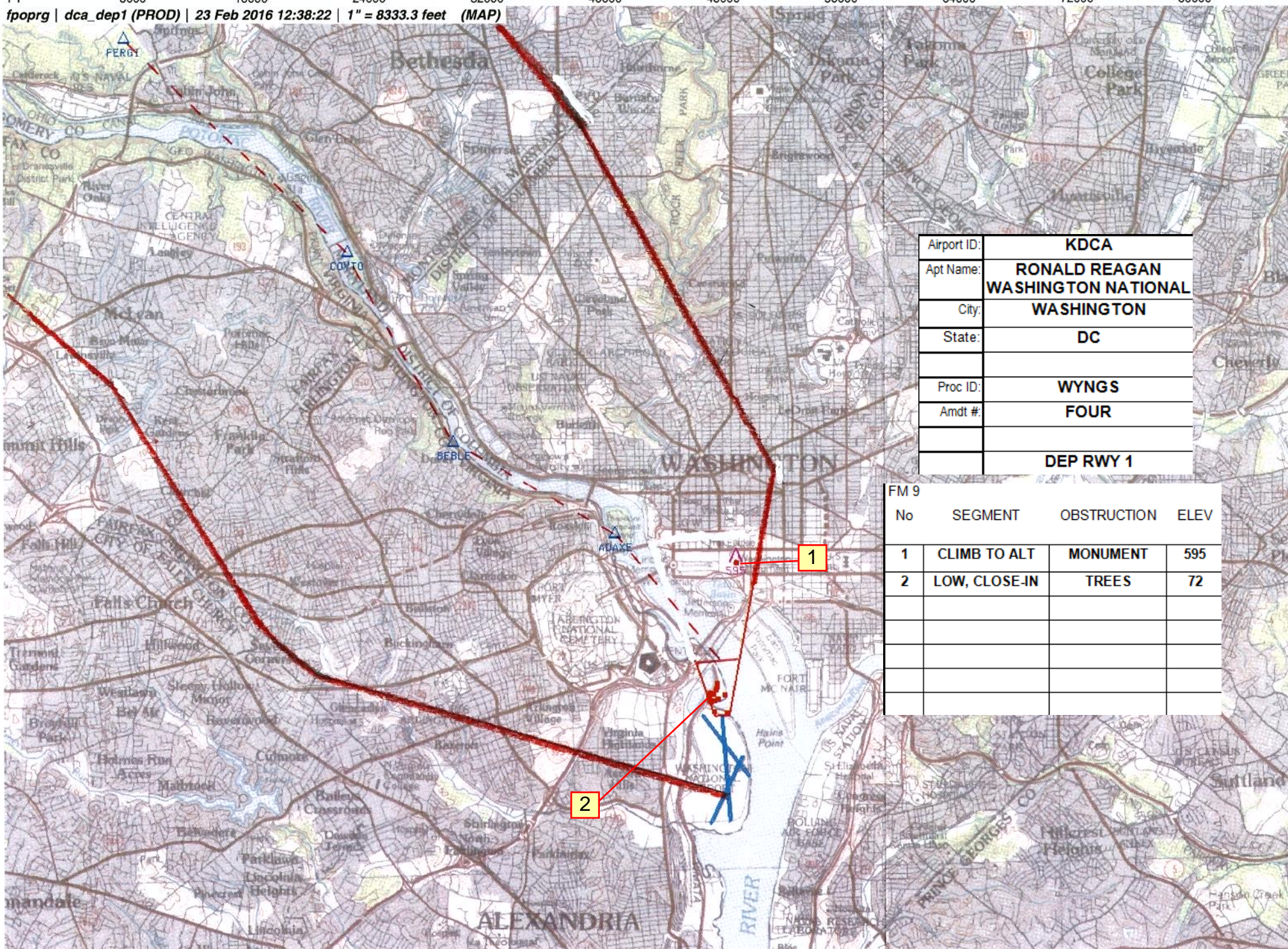
Signed By: Danny Hamilton  
Wed Jul 15 2015 09:54:29 GMT-0500 (Central Daylight Time)

**SIGN HERE**



NM 1 2 3 4 5 6 7 8 9 10 11 12 13 14

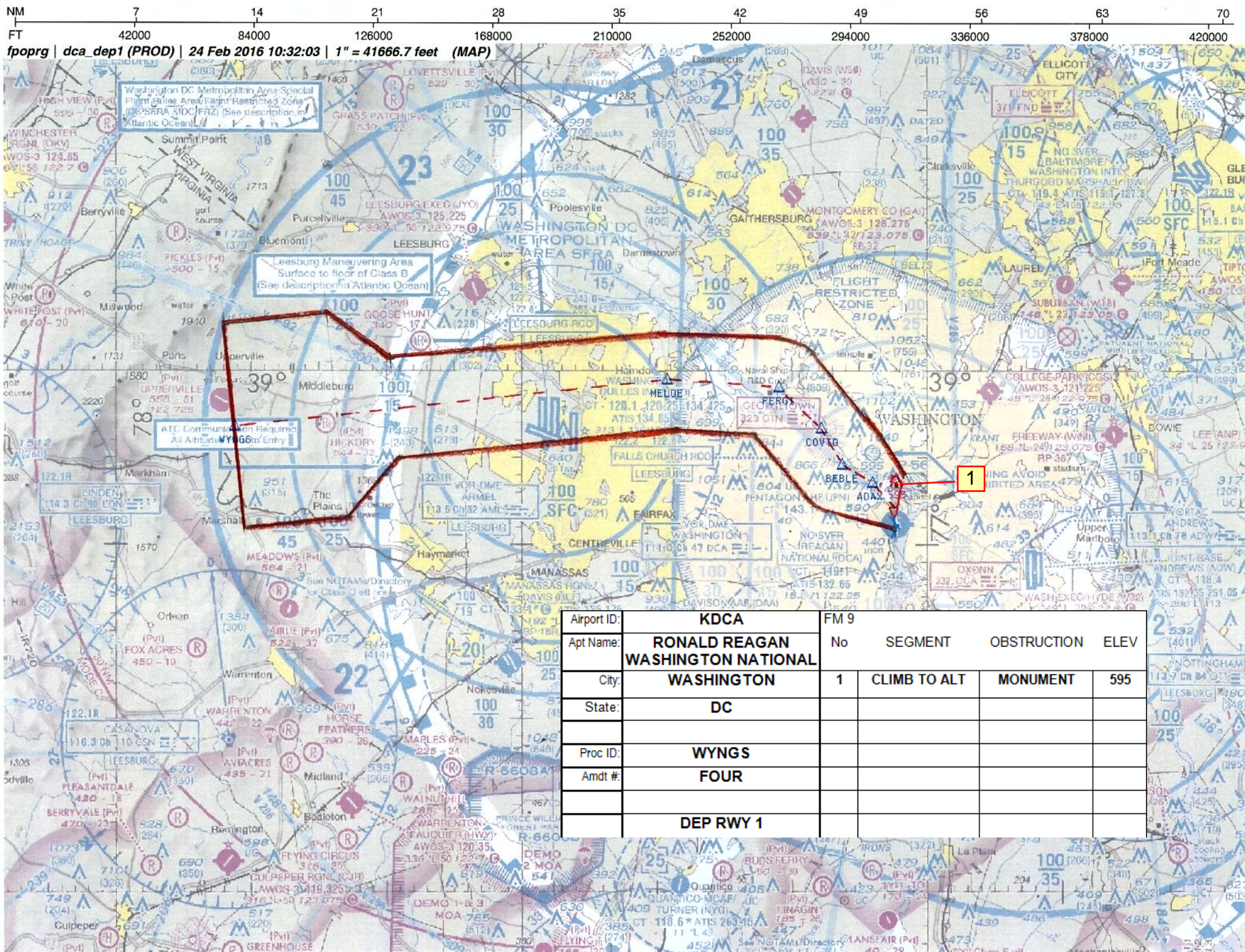
FT 8000 16000 24000 32000 40000 48000 56000 64000 72000 80000  
fpoprgr | dca\_dep1 (PROD) | 23 Feb 2016 12:38:22 | 1" = 8333.3 feet (MAP)



Airport ID:	KDCA
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL
City:	WASHINGTON
State:	DC
Proc ID:	WYNGS
Amdt #:	FOUR
	DEP RWY 1

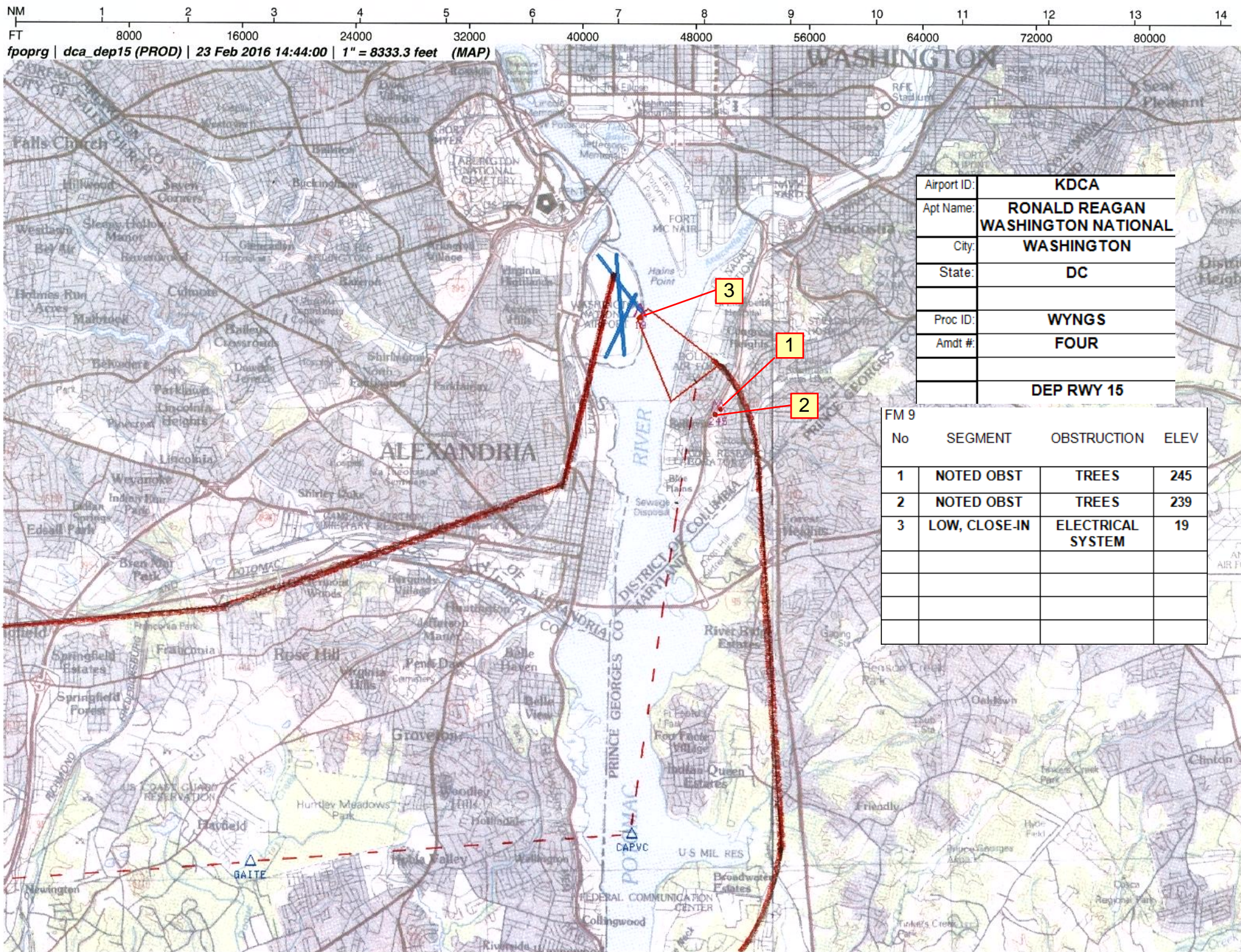
FM 9			
No	SEGMENT	OBSTRUCTION	ELEV
1	CLIMB TO ALT	MONUMENT	595
2	LOW, CLOSE-IN	TREES	72





Airport ID:	KDCA	FM 9			
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WASHINGTON	1	CLIMB TO ALT	MONUMENT	595
State:	DC				
Proc ID:	WYNGS				
Amdt #:	FOUR				
	DEP RWY 1				

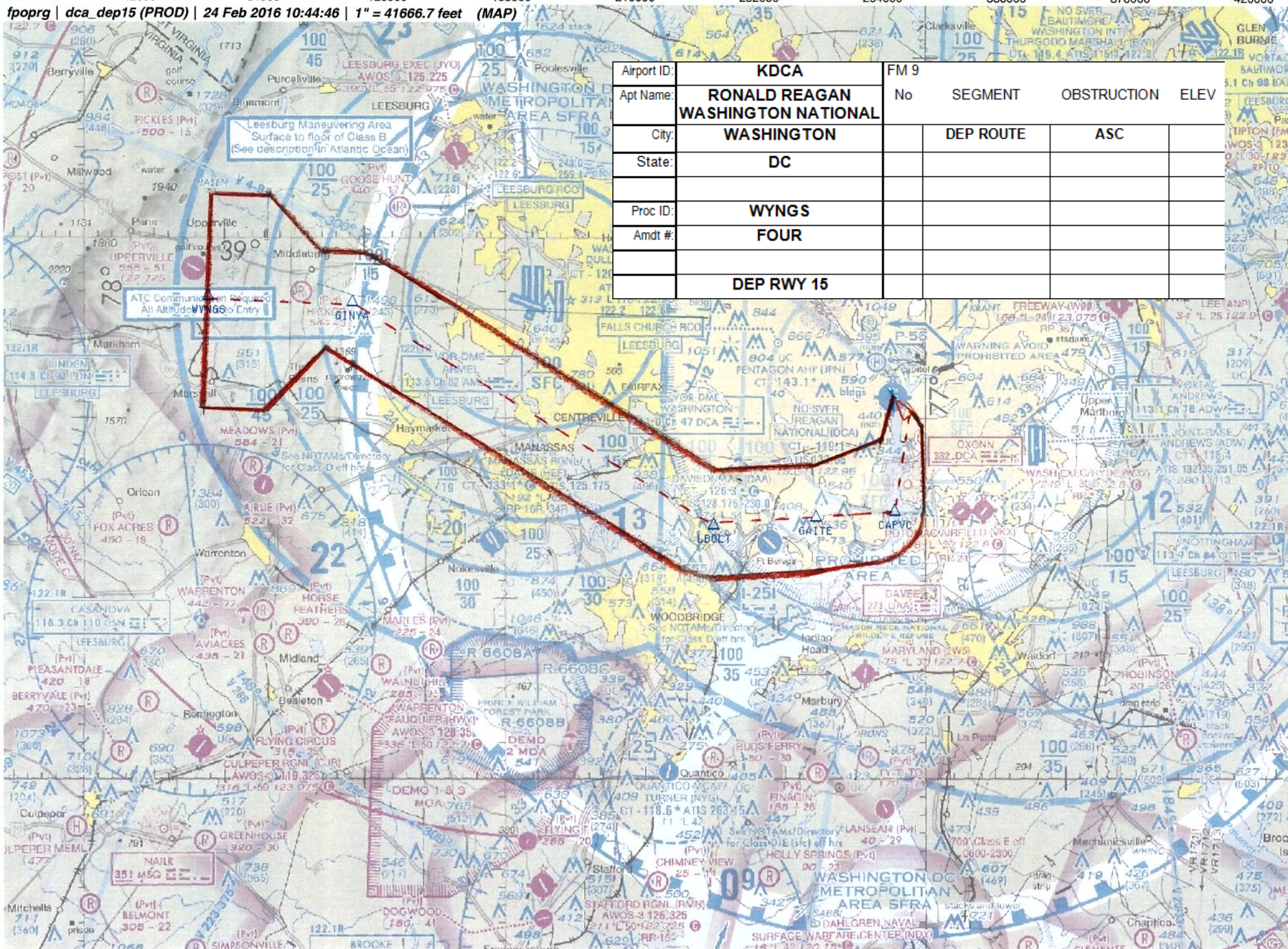






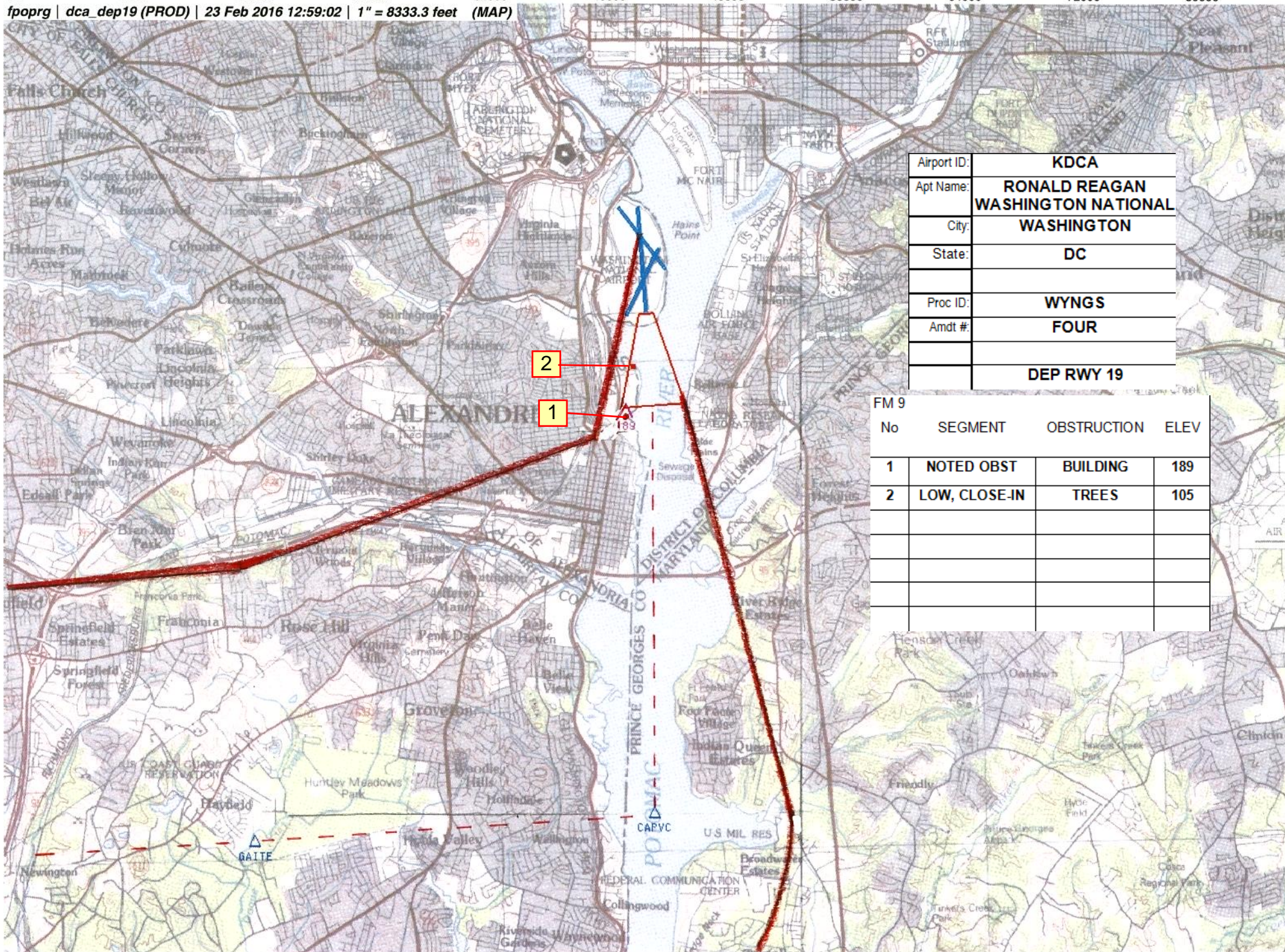
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FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpoprg | dca\_dep15 (PROD) | 24 Feb 2016 10:44:46 | 1" = 41666.7 feet (MAP)





fpoprg | dca\_dep19 (PROD) | 23 Feb 2016 12:59:02 | 1" = 8333.3 feet (MAP)



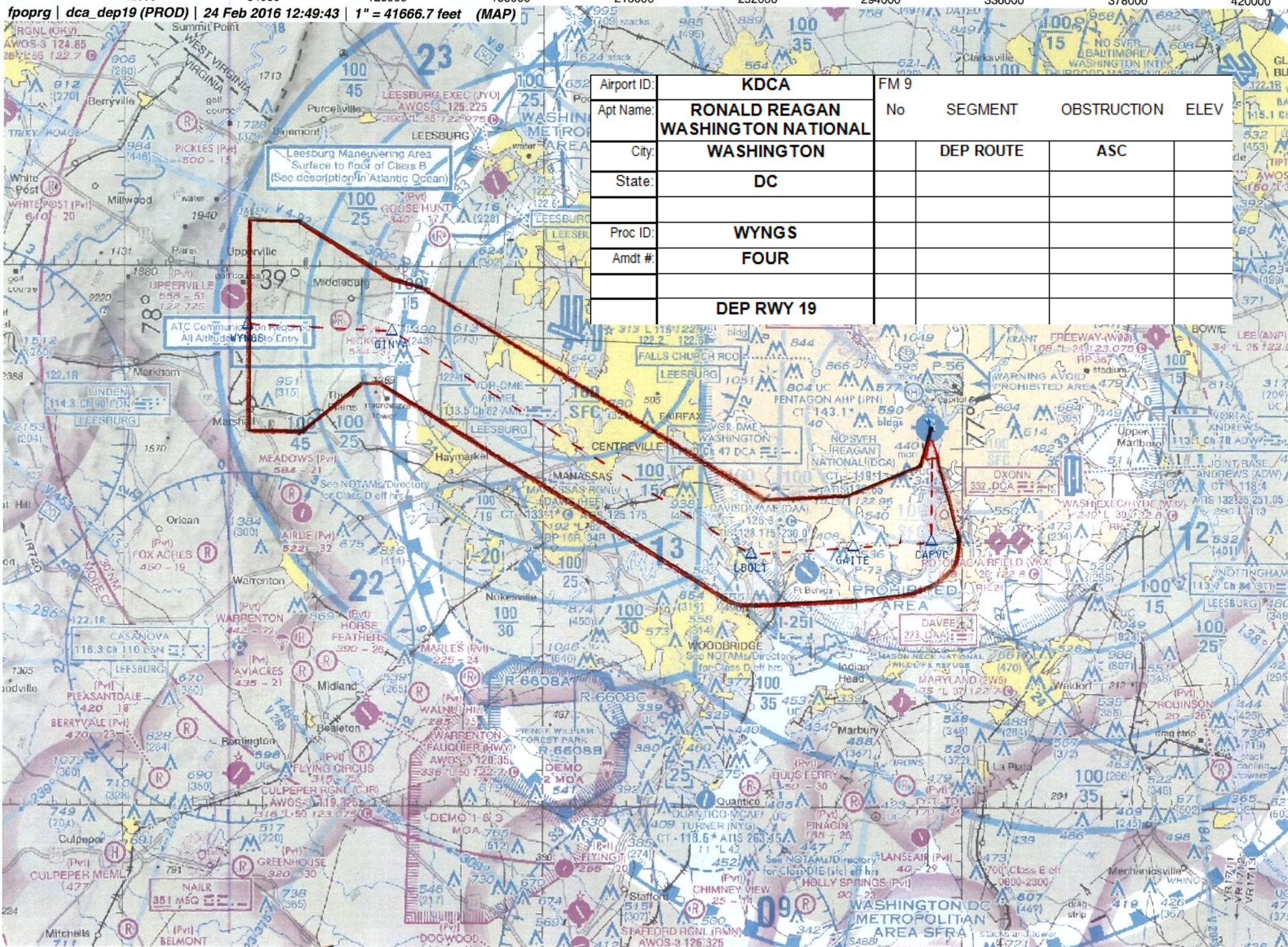
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Apt Name:	RONALD REAGAN WASHINGTON NATIONAL
City:	WASHINGTON
State:	DC
Proc ID:	WYNGS
Amdt #:	FOUR
	DEP RWY 19

FM 9			
No	SEGMENT	OBSTRUCTION	ELEV
1	NOTED OBST	BUILDING	189
2	LOW, CLOSE-IN	TREES	105



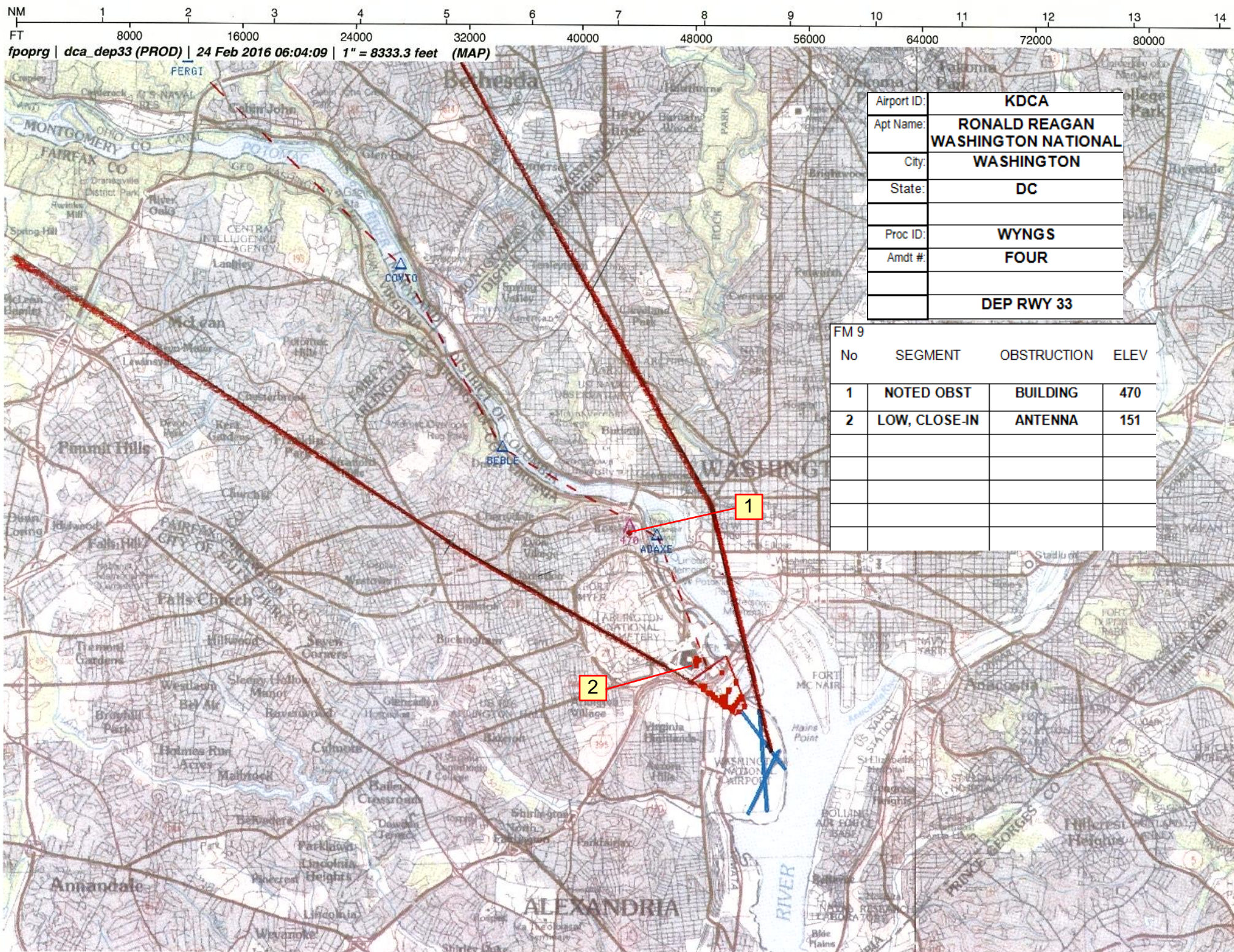
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FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpopr | dca\_dep19 (PROD) | 24 Feb 2016 12:49:43 | 1" = 41666.7 feet (MAP)



Airport ID:	KDCA	FM 9			
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WASHINGTON		DEP ROUTE	ASC	
State:	DC				
Proc ID:	WYNGS				
Amdt #:	FOUR				
	DEP RWY 19				





Airport ID:	KDCA
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL
City:	WASHINGTON
State:	DC
Proc ID:	WYNGS
Amdt #:	FOUR
	DEP RWY 33

FM 9			
No	SEGMENT	OBSTRUCTION	ELEV
1	NOTED OBST	BUILDING	470
2	LOW, CLOSE-IN	ANTENNA	151



Washington DC Metropolitan Area-Spatial Flight Rules Area/Light Restricted Zone (SFR) (See description in Atlantic Ocean)

Leesburg Maneuvering Area Surface to floor of Class B (See description in Atlantic Ocean)

ATC Communication Required All Altitudes 10000' Entry

Airport ID:	KDCA	FM 9
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL	No SEGMENT OBSTRUCTION ELEV
City:	WASHINGTON	ASC
State:	DC	
Proc ID:	WYNGS	
Amdt #:	FOUR	
	DEP RWY 33	

Airport ID:	KDCA	FM 9			
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WASHINGTON		ASC		
State:	DC				
Proc ID:	WYNGS				
Amdt #:	FOUR				
	DEP RWY 33				



NM 7 14 21 28 35 42 49 56 63 70  
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fpoprg | dca\_trans1 (PROD) | 11 Feb 2016 14:07:54 | 1" = 41666.7 feet (MAP)

Airport ID:	KDCA	FM 9			
Apt Name:	RONALD REAGAN WASHINGTON NATIONAL	No	SEGMENT	OBSTRUCTION	ELEV
City:	WASHINGTON		WYNGS-RAMAY	AAO	2553
State:	DC				
Proc ID:	WYNGS				
Amdt #:	FOUR				
	RAMAY TRANSITION				

2553  
AAO

