

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
GRAPHIC DEPARTURE PROCEDURES (DP)**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

| <u>DP NAME</u> | <u>NUMBER</u> | <u>DP COMPUTER CODE</u> | <u>SUPERSEDED NUMBER</u> | <u>DATED</u> | <u>EFFECTIVE DATE</u> |
|----------------|---------------|-------------------------|--------------------------|--------------|-----------------------|
| ASTORIA | THREE | AST3.AST | TWO | 10/10/2016 | 07/19/2018 |

| <u>TYPE:</u> | <u>OBSTACLE</u> | <u>COPTER</u> | <u>SID</u> | <u>SPECIAL</u> | <u>RNAV</u> |
|--------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

DP ROUTE DESCRIPTION:

TAKEOFF RWY 8: CLIMB HEADING 080.49 TO 1000 THEN CLIMBING LEFT TURN, THENCE...

TAKEOFF RWY 14: CLIMB HEADING 138.61 TO 600 THEN CLIMBING RIGHT TURN, THENCE...

TAKEOFF RWY 26: CLIMBING RIGHT TURN, THENCE...

TAKEOFF RWY 32: CLIMBING LEFT TURN, THENCE...

...INTERCEPT THE AST VOR/DME R-294 WESTBOUND. AIRCRAFT NORTHWEST BOUND INTERCEPT V112 AND CONTINUE CLIMB ON COURSE. ALL OTHER AIRCRAFT CLIMB TO 2000 OR ABOVE THEN TURN LEFT DIRECT AST VOR/DME AND CONTINUE CLIMBING ON COURSE.

VCOA RWY 8, 14, 26: OBTAIN ATC APPROVAL FOR VCOA WHEN REQUESTING IFR CLEARANCE. CLIMB IN VISUAL CONDITIONS TO CROSS ASTORIA RGNL AIRPORT AT OR ABOVE 2300 BEFORE PROCEEDING ON COURSE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

| <u>TRANSITION NAME</u> | <u>TRANSITION COMPUTER CODE</u> | <u>FROM FIX/NAVAID</u> | <u>TO FIX/NAVAID</u> | <u>COURSE</u> | <u>DISTANCE</u> | <u>MEA</u> | <u>MOCA</u> | <u>CROSSING ALTITUDE/FIXES</u> |
|------------------------|-------------------------------------|----------------------------|--------------------------|---------------|-----------------|------------|-------------|------------------------------------|
|------------------------|-------------------------------------|----------------------------|--------------------------|---------------|-----------------|------------|-------------|------------------------------------|

PROCEDURAL DATA NOTES:

TAKEOFF MINIMUMS:

RWY 32: STANDARD.

RWY 8: STANDARD WITH A MINIMUM CLIMB OF 218 FT PER NM TO 800, OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS.

RWY 14: 600-3 WITH A MINIMUM CLIMB GRADIENT OF 239 FT PER NM TO 800, OR STANDARD WITH A MINIMUM CLIMB OF 285 FT PER NM TO 600 OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS.

RWY 26: 300-1 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 234 FT PER NM TO 300 OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1800 FT PRIOR TO DER, OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS.

TAKEOFF OBSTACLES NOTES:

NOTE: RWY 8, BUSH 57 FT FROM DER, 120 FT LEFT OF CENTERLINE, 14 FT MSL. FENCE, BUSHES, TREES BEGINNING 65 FT FROM DER, 102 FT LEFT OF CENTERLINE, UP TO 17 FT AGL/27 FT MSL. FENCE, BUSH, TREES, BEGINNING 70 FT FROM DER, 215 FT RIGHT OF CENTERLINE, UP TO 22 FT MSL. TREES, BUILDING BEGINNING 151 FT FROM DER, 76 FT RIGHT OF CENTERLINE, UP TO 36 FT MSL. TREES BEGINNING 207 FT RIGHT OF CENTERLINE, UP TO 41 FT MSL. TREES BEGINNING 510 FT FROM DER, 79 FT LEFT OF CENTERLINE, UP TO 34 FT MSL. TREES BEGINNING 668 FT FROM DER, 281 FT RIGHT OF CENTERLINE, UP TO 43 FT MSL. TREES BEGINNING 815 FT FROM DER, 336 FT RIGHT OF CENTERLINE, UP TO 52 FT MSL. TREE 1112 FT FROM DER, 453 FT RIGHT OF CENTERLINE, 58 FT MSL. TREES BEGINNING 3167 FT FROM DER, 1145 FT RIGHT OF CENTERLINE, UP TO 119 FT AGL/124 FT MSL.

NOTE: RWY 14, POLE 44 FT FROM DER, 224 FT LEFT OF CENTERLINE, 12 FT AGL/25 FT MSL. TREE 354 FT FROM DER, 381 FT LEFT OF CENTERLINE, 67 FT MSL. TREE 524 FT FROM DER, 316 FT RIGHT OF CENTERLINE, 33 FT MSL. TREES BEGINNING 571 FT FROM DER, 641 FT LEFT OF CENTERLINE, UP TO 87 FT MSL. TREE 666 FT FROM DER, 544 FT RIGHT OF CENTERLINE, 78 FT MSL. TREES BEGINNING 1255 FT FROM DER, 450 FT RIGHT OF CENTERLINE, UP TO 121 FT MSL. TREE 1792 FT FROM DER, 104 FT LEFT OF CENTERLINE, 89 FT MSL. TREE 2493 FT FROM DER, 280 FT LEFT OF CENTERLINE, 121 FT MSL. TREE 3291 FT FROM DER, 312 FT RIGHT OF CENTERLINE, 154 FT MSL. TREE 1.3 NM FROM DER, 2289 FT LEFT OF CENTERLINE, 100 FT AGL/249 FT MSL. TREE 1.5 NM FROM DER, 2813 FT LEFT OF CENTERLINE, 100 FT AGL/299 FT MSL. TREE 1.5 NM FROM DER, 2950 FT LEFT OF CENTERLINE, 100 FT AGL/349 FT MSL. TREE 2.1 NM FROM DER, 3088 FT LEFT OF CENTERLINE, 100 FT AGL/399 FT MSL. TREE 2.3 NM FROM DER, 2635 FT LEFT OF CENTERLINE, 100 FT AGL/449 FT MSL. TREE 2.3 NM FROM DER, 2875 FT LEFT OF CENTERLINE, UP TO 100 FT AGL/499 FT MSL.

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NOTE: RWY 26, TERRAIN 25 FT FROM DER, 14 FT LEFT OF CENTERLINE, 13 FT MSL. BUSHES BEGINNING 38 FT FROM DER, 241 FT LEFT OF CENTERLINE, UP TO 16 FT MSL. TREES AND BUSH BEGINNING 42 FT FROM DER, 266 FT RIGHT OF CENTERLINE, UP TO 18 FT AGL/27 FT MSL. TRAVERSE WAY 226 FT FROM DER, 439 FT LEFT OF CENTERLINE, 24 FT MSL. TREES, BUSH BEGINNING 247 FT FROM DER, 372 FT RIGHT OF CENTERLINE, UP TO 30 FT MSL. TREES BEGINNING 695 FT FROM DER, 625 FT LEFT OF CENTERLINE, UP TO 54 FT MSL. TREE 736 FT FROM DER, 620 FT RIGHT OF CENTERLINE, 36 FT MSL. TREE 1380 FT FROM DER, 720 FT LEFT OF CENTERLINE, 58 FT MSL. TREE 1698 FT FROM DER, 702 FT LEFT OF CENTERLINE, 73 FT MSL. TREES BEGINNING 1975 FT FROM DER, 273 FT LEFT OF CENTERLINE, UP TO 92 FT MSL. SIGN 1982 FT FROM DER, 1010 FT RIGHT OF CENTERLINE, 64 FT MSL. TREE 2137 FT FROM DER, 490 FT LEFT OF CENTERLINE, 93 FT MSL. TREES BEGINNING 2239 FT FROM DER, 64 FT LEFT OF CENTERLINE, UP TO 102 FT AGL/107 FT MSL. TREE 3051 FT FROM DER, 1157 FT LEFT OF CENTERLINE, 116 FT MSL. TREE 3089 FT FROM DER, 849 FT LEFT OF CENTERLINE, 122 FT MSL. TREE 3140 FT FROM DER, 699 FT LEFT OF CENTERLINE, 124 FT MSL. TREES BEGINNING 3194 FT FROM DER, 248 FT LEFT OF CENTERLINE, UP TO 131 FT AGL/139 FT MSL. TREES BEGINNING 4022 FT FROM DER, 879 FT RIGHT OF CENTERLINE, UP TO 130 FT MSL. TREES BEGINNING 4103 FT FROM DER, 273 FT RIGHT OF CENTERLINE, UP TO 145 FT MSL. TREES BEGINNING 4206 FT FROM DER, 150 FT RIGHT OF CENTERLINE, UP TO 141 FT AGL/148 FT MSL. TREES BEGINNING 4250 FT FROM DER, 229 FT LEFT OF CENTERLINE, UP TO 146 FT MSL. TREES BEGINNING 4690 FT FROM DER, 1267 FT LEFT OF CENTERLINE, UP TO 149 FT MSL. TREE 4744 FT FROM DER, 1488 FT LEFT OF CENTERLINE, 150 FT MSL. TREES BEGINNING 4821 FT FROM DER, 218 FT LEFT OF CENTERLINE, UP TO 164 FT MSL. TREE 5241 FT FROM DER, 1316 FT LEFT OF CENTERLINE, 165 FT MSL. TREES BEGINNING 5434 FT FROM DER, 1603 FT LEFT OF CENTERLINE, UP TO 171 FT MSL. TREE 5893 FT FROM DER, 1752 FT LEFT OF CENTERLINE, 173 FT MSL. TREES BEGINNING 6051 FT FROM DER, 1803 FT LEFT OF CENTERLINE, UP TO 174 FT AGL/182 FT MSL. ANTENNA 1 NM FROM DER, 1558 FT RIGHT OF CENTERLINE, 164 FT AGL/173 FT MSL.

NOTE: RWY 32, VEHICLES, TREES, FENCE BEGINNING 2 FT FROM DER, 231 FT LEFT OF CENTERLINE, UP TO 46 FT MSL.

CONTROLLING OBSTACLES:

RWY 8: 600 FT MSL AAO 460945.58N/1234650.15W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 860 FT AAO 461057.85N/1234746.29 (CLIMB-TO ALTITUDE).

RWY 14: 349 FT MSL TREE 460753.72N/1235052.46W (285 FT PER NM CLIMB GRADIENT), 499 FT MSL TREE 460710.71N/1235024.07W (285 FT PER NM CLIMB GRADIENT TERMINATION ALTITUDE), 600 FT MSL AAO 460621.77N/1234943.62W (238 FT PER NM CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 449 FT MSL TREE 460648.13N/1235041.60W (CEILING/VISIBILITY).

RWY 26: 171 FT MSL TREE (41-029780) 460924.27N/1235442.16W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 182 FT MSL TREE (41-029649) 460923.49N/1235452.68W (CEILING), 172 FT MSL TREE (41-029650) 460922.89N/1235454.14W (VISIBILITY).

VCOA RWY 8, 14, 26: 873 FT MSL AAO 873 461100.00N/1234739.00W (VISUAL CLIMB AREA), 3483 FT MSL AAO 455808.00N/1234107.00W (CLIMB-TO ALTITUDE).

OBSTACLES MANDATING ODP ROUTE DEVELOPMENT: RWY 8, 14, 26: 3483 FT MSL AAO 455808.00N/1234107.00W.

RWY 32: 1368 FT MSL AAO 461542.00N/1235318.00W.

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KASH 15E EPOCH YR: 2020.

AIRPORTS SERVED:

| <u>AIRPORT NAME</u> | <u>CITY</u> | <u>STATE</u> |
|---------------------|-------------|--------------|
| ASTORIA RGNL | ASTORIA | OR |

COMMUNICATIONS:

ZSE, MVV FSS.

FIXES AND/OR NAVAIDS:



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|----------------|---------------|-------------------------|--------------------------|--------------|-----------------------|
| ASTORIA | THREE | AST3.AST | TWO | 10/10/2016 | 07/19/2018 |

REMARKS:

FLIGHT INSPECTED BY:

PENDING

Digitally signed by
DAVID TEFFETELLER
May 29, 2018

OFFICE SYMBOL: **DATE:**

DEVELOPED BY:

DAVID TEFFETELLER (KWEKU DONKOR)

Digitally signed by
DAVID TEFFETELLER
May 29, 2018

OFFICE SYMBOL: **DATE:**
AJV-5433 04/09/2018

APPROVED BY:

PATRICK MULQUEEN

Digitally signed by
DAVID TEFFETELLER
May 29, 2018

OFFICE SYMBOL: **DATE:**
AJV-5430

REQUIRED EFFECTIVE DATE:

07/19/18

COORDINATED WITH:

| | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| A4A | ALPA | AOPA | APA | HAI | NBAA |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

OTHER:

ZSE, AMGR, OREGON AERO DIV

CHANGES - REASONS:

1. TAKEOFF MINIMUMS CHANGED FROM "RWY 31: STANDARD" TO "RWY 32: STANDARD" - RUNWAY NUMBER UPDATE.
2. TAKEOFF MINIMUMS CHANGED FROM "RWY 13: 600-2 3/4 OR STANDARD WITH A MINIMUM CLIMB OF 270 FT PER NM TO 800" TO "**RWY 14:** 600-3 WITH A MINIMUM CLIMB GRADIENT OF 239 FT PER NM TO 800, OR STANDARD WITH A MINIMUM CLIMB OF 285 FT PER NM TO 600 OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS" - RUNWAY NUMBER UPDATE, NEW OBSTACLE EVALUATION, VCOA ADDED.
3. TAKE OFF MINIMUMS CHANGED FROM "RWY 26: 300-1 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 231 FT PER NM TO 300 OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1700 FT PRIOR TO DER" TO "RWY 26: 300-1 1/4 OR STANDARD WITH A MINIMUM CLIMB OF 234 FT PER NM TO 300 OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FT PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 1800 FT PRIOR TO DER, OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS" - NEW OBSTACLE EVALUATION, VCOA ADDED.
4. TAKEOFF MINIMUMS CHANGED FROM "RWY 8: STANDARD" TO "RWY 8: STANDARD WITH A MINIMUM CLIMB OF 218 FT PER NM TO 800, OR 2300-3 FOR CLIMB IN VISUAL CONDITIONS" - NEW OBSTACLE EVALUATION, VCOA ADDED.
5. CONTROLLING OBSTACLES UPDATE: ADDED "RWY 8: 600 FT MSL AAO 460945.58N/1234650.15W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 860 FT AAO 461057.85N/1234746.29 (CLIMB-TO ALTITUDE)" - NEW OBSTACLE EVALUATION.
6. CONTROLLING OBSTACLE CHANGED FROM "RWY 13: 499 FT MSL TREE 460711.09N-1235022.45W (CLIMB GRADIENT, CEILING, VISIBILITY). 549 FT MSL TREE 460656.02N/1235349.76W (CLIMB-TO ALTITUDE)" TO "RWY 26: 171 FT MSL TREE (41-029780) 460924.27N/1235442.16W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 182 FT MSL TREE (41-029649) 460923.49N/1235452.68W (CEILING), 172 FT MSL TREE (41-029650) 460922.89N/1235454.14W (VISIBILITY)" - RUNWAY NUMBER UPDATE, NEW OBSTACLE EVALUATION.
7. CONTROLLING OBSTACLE CHANGED FROM "RWY 26: 165 FT MSL TREE 460927.41N-1235439.98W (CLIMB GRADIENT, CLIMB-TO ALTITUDE). 182 FT MSL TREE 460923.49N-1235452.68W (CEILING, VISIBILITY)" TO "RWY 26: 171 FT MSL TREE (41-029780) 460924.27N/1235442.16W (CLIMB GRADIENT/CLIMB GRADIENT TERMINATION ALTITUDE), 182 FT MSL TREE (41-029649) 460923.49N/1235452.68W (CEILING), 172 FT MSL TREE (41-029650) 460922.89N/1235454.14W (VISIBILITY)" - NEW OBSTACLE EVALUATION.
8. OBSTACLES MANDATING ODP ROUTE DEVELOPMENT CHANGED FROM "RWY 31, 26: 1249 FT MSL TOWER 461544.00N-1235318.60W. RWY 8: 752 FT MSL TOWER 461053.00N-1234824.00W. RWY 13: 549 FT MSL TREE 460656.02N-1235349.76W" TO "RWY 8, 14, 26: 3483 FT MSL AAO 455808.00N/1234107.00W, RWY 32: 1368 FT MSL AAO 461542.00N/1235318.00W" - NEW OBSTACLE EVALUATION, RUNWAY NUMBER UPDATE.



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|---|---------------|-------------------------|--------------------------|--------------|-----------------------|
| ASTORIA | THREE | AST3.AST | TWO | 10/10/2016 | 07/19/2018 |
| 9. ADDED REFERENCE MAG VAR: KASH 15E EPOCH YR: 2020 TO ADDITIONAL FLIGHT DATA - IAW 8260.46F APPENDIX D SECTION 2(9). | | | | | |
| 10. DP ROUTE DESCRIPTION UPDATE: CHANGED TAKEOFF RWY 13 FROM "CLIMB HEADING 134.61 TO 800 THEN CLIMBING RIGHT TURN" TO "TAKEOFF RWY 14: CLIMB HEADING 138.61 TO 800 THEN CLIMBING RIGHT TURN" - RUNWAY CHANGED FROM 13 TO 14. | | | | | |
| 11. DP ROUTE DEVELOP CHANGED FROM "TAKEOFF RWY 8: CLIMB HEADING 76.49 TO 900 THEN CLIMBING LEFT TURN, THENCE..." TO "TAKEOFF RWY 8: CLIMB HEADING 080.49 TO 1000 THEN CLIMBING LEFT TURN, THENCE..." - OBSTACLE EVALUATION UPDATE, AST VOR/DME UPDATE. | | | | | |
| 12. UPDATED TAKEOFF MINIMUM NOTES - OBSTACLE EVALUATION UPDATE. | | | | | |
| 13. CHANGED "...INTERCEPT THE AST VOR/DME R-290 WESTBOUND, AIRCRAFT NORTHWEST BOUND CONTINUE CLIMB ON COURSE. ALL OTHER AIRCRAFT CLIMB TO 1500 OR ABOVE THEN TURN LEFT DIRECT AST VOR/DME AND CONTINUE CLIMBING ON COURSE" TO "...INTERCEPT THE AST VOR/DME R-294 WESTBOUND. AIRCRAFT NORTHWEST BOUND INTERCEPT V112 AND CONTINUE CLIMB ON COURSE. ALL OTHER AIRCRAFT CLIMB TO 2000 OR ABOVE THEN TURN LEFT DIRECT AST VOR/DME AND CONTINUE CLIMBING ON COURSE" - AST NAVAID MAG VAR CHANGED FROM 19E TO 15E. | | | | | |
| 14. ADDED "VCOA RWY 8, 14, 26: OBTAIN ATC APPROVAL FOR VCOA WHEN REQUESTING IFR CLEARANCE. CLIMB IN VISUAL CONDITIONS TO CROSS ASTORIA RGNL AIRPORT AT OR ABOVE 2300 BEFORE PROCEEDING ON COURSE" - IAW 8260.4F PARA 2-1-1B(11). | | | | | |

