| Flight Procedure Tracking Form | Action: FLIGHT CHECK | Task Type: SID | Date Open: 05/12/2011 | Task #: 2007031308467301002 | Request #: 20070313084673 |
|---|---|---|---|---|---|
| Procedure: SID HSKEL (RNAV) ONE PORTLAND ME KPWM | | Airport ID: KPWM | Airport: PORTLAND INTL JETPORT | | Reimbursable #: |
| City: PORTLAND | ST: ME | GPS #: | | Estimated Chart Date: 07/26/2012 | FICO #: |
| Fac ID: | Fac. Type: Proc D | Specialist: PETER GUIMOND | | | |

## Procedure Review

| | Rec'd | Rel'd | Full Name | Comments |
|---|---|---|---|---|
| Lead: | 01/17/2012 | 04/06/2012 | DONALD SMITH | |
| QA: | 04/06/2012 | 04/06/2012 | DAVID PUGLISI | |
| Liaison: | 04/06/2012 | | Alfonso | DME/DME |

DME / DME

P1

ESV REQUEST INCLUDED

**Procedure Comments:** ENROUTE

**Remark Type:** INFORMATION

pkg 1 of 6

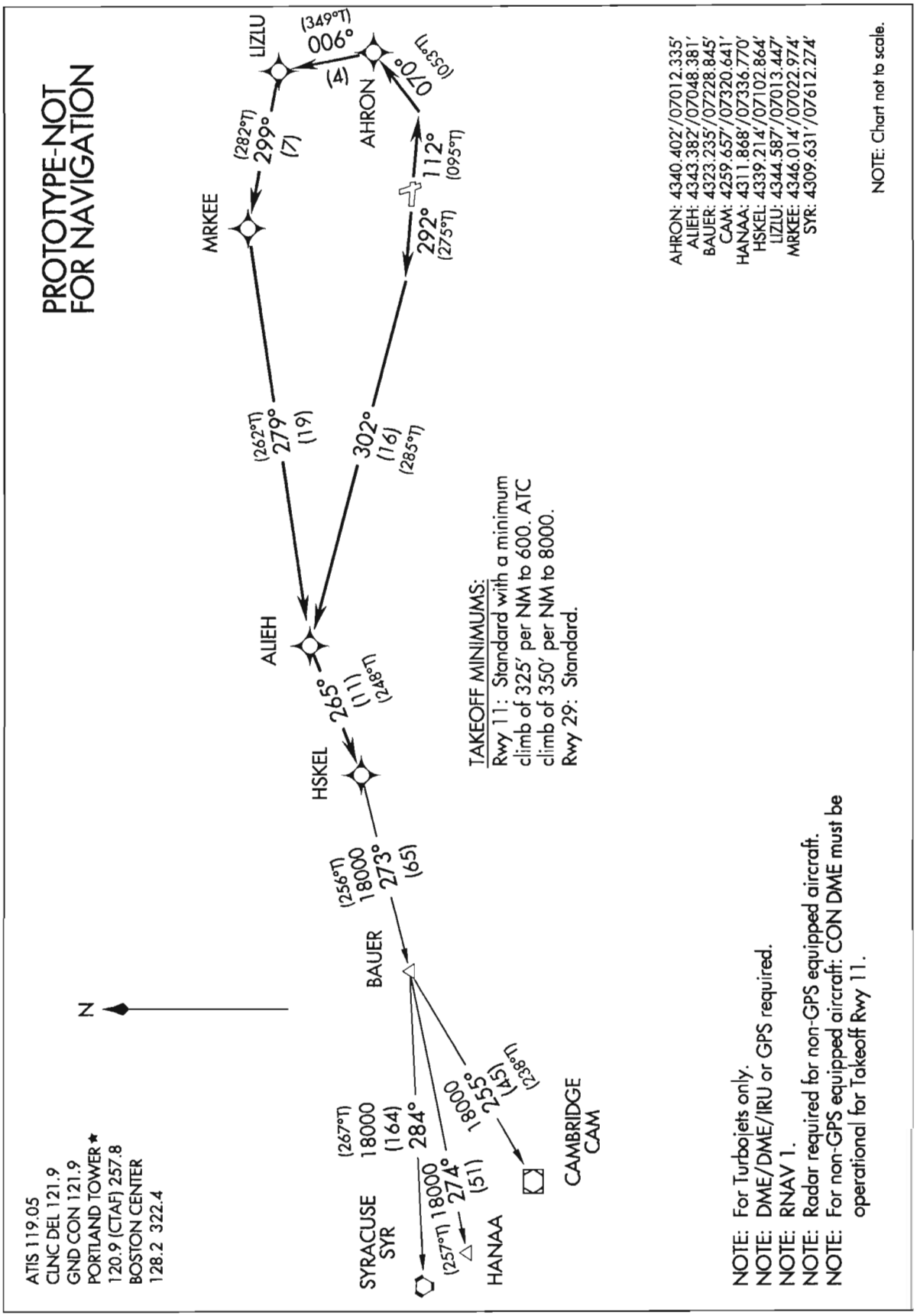
PORTLAND, ME PORTLAND INTL JETPORT (KPWM) HSKEL ONE (RNAV) (SID) ENROUTE-YES FC: 5.29.12 PUB: 7.26.12

ATTACHED FORMS: ESV REPORTS; 8260-13B; 8260-15C; 8260-2(S): AHRON, ORIG; ALIEH, ORIG; BAUER-INT, REV 2; HANAA, REV 4; HSKEL, ORIG; LIZLU, ORIG; MRKEE, ORIG; SYRACUSE (SYR) VTAC, REV 13; (INFO ONLY) CAMBRIDGE (CAM) VDME, REV 15.

CONTACT: DON SMITH, AJV-352 LEAD, 405 954.1036:

# HSKEL ONE DEPARTURE (RNAV)





# PROTOTYPE-NOT FOR NAVIGATION

## DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 11: Climb heading 112° to intercept course 070° to AHRON, then on depicted route to HSKEL, thence....
TAKEOFF RUNWAY 29: Climb heading 292° to intercept course 302° to ALIEH, then on depicted route to HSKEL, thence....

....Maintain 3000 or as assigned by ATC (5000 when tower closed, contact Boston Center). Expect clearance to filed altitude five (5) minutes after departure.

BAUER TRANSITION (HSKEL1.BAUER)
CAMBRIDGE TRANSITION (HSKEL1.CAM)
HANAA TRANSITION (HSKEL1.HANAA)
SYRACUSE TRANSITION (HSKEL1.SYR)

LOST COMMUNICATIONS: If radio contact is not established within 2 minutes after departure, proceed on course via HSKEL RNAV route to requested altitude or 10000, whichever is lower.

TAKEOFF OBSTACLES:
Rwy 11: Trees beginning 983′ from DER, 418′ left of centerline, up to 59′ AGL/73′ MSL.
Trees beginning 428′ from DER, 280′ right of centerline, up to 32′ AGL/69′ MSL.
Trees 6037′ from DER, 1744′ left of centerline, up to 79′ AGL/248′ MSL. Trees 1.0 NM from DER, 1778′ left of centerline, up to 75′ AGL/242′ MSL.
Rwy 29: Trees beginning 2952′ from DER, 1066′ left of centerline, up to 85′ AGL/200′ MSL.
Trees beginning 1319′ from DER, 509′ right of centerline, up to 81′ AGL/178′ MSL.

## ESV Details

| | | | |
|---|---|---|---|
| Originating Office : | Airspace Docket Number : | Request Type : Establish | |
| **Facility Data** | | | |
| Chart Name : BOSTON | City : BOSTON | Ident : BOS | State : MA |
| Type/Class : DMER | Frequency : M1161 | Reference No.: 12018543 | |

**Expanded Service Volume Data: (Requesting Officer)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude |
|---|---|---|---|---|---|
| FAA 701360-013 | 28 | 33 | 71 | 48 | 190 |

Requirement: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SID

| | | |
|---|---|---|
| Signature: COOK DAVE | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-013 | 28 | 33 | 71 | 48 | 190 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: Cassella Charles | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (Super FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-013 | 28 | 33 | 71 | 48 | 190 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: CHRISTEIN THOMAS | Routing Symbol: | Date: 01/19/2012 |

**Expanded Service Volume Data: (FIFO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-013 | 28 | 33 | | | | |

Requirement/Remarks:

| | | |
|---|---|---|
| Signature: | Routing Symbol: | Date: |

## ESV Details

| | | | |
|---|---|---|---|
| Originating Office : | Airspace Docket Number : | Request Type : Establish | |
| **Facility Data** | | | |
| Chart Name : BOSTON | City : BOSTON | Ident : BOS | State : MA |
| Type/Class : DMER | Frequency : M1161 | Reference No.: 12018544 | |

**Expanded Service Volume Data: (Requesting Officer)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude |
|---|---|---|---|---|---|
| FAA 701360-014 | 36 | 44 | 77 | 53 | 190 |

Requirement: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SID

| | | |
|---|---|---|
| Signature: COOK DAVE | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-014 | 36 | 44 | 77 | 53 | 190 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: Cassella Charles | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (Super FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-014 | 36 | 44 | 77 | 53 | 190 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR, NUBLE SID AND HSKEL SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: CHRISTEIN THOMAS | Routing Symbol: | Date: 01/19/2012 |

**Expanded Service Volume Data: (FIFO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 701360-014 | 36 | 44 | | | | |

Requirement/Remarks:

| | | |
|---|---|---|
| Signature: | Routing Symbol: | Date: |

## ESV Details

| | | | |
|---|---|---|---|
| Originating Office : | Airspace Docket Number : | Request Type : Establish | |
| **Facility Data** | | | |
| Chart Name : MANCHESTER | City : MANCHESTER | Ident : MHT | State : NH |
| Type/Class : DMER | Frequency : M1178 | Reference No.: 12018538 | |

**Expanded Service Volume Data: (Requesting Officer)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude |
|---|---|---|---|---|---|
| FAA 780514-006 | 30 | 70 | 66 | 35 | 120 |

Requirement: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR AND NUBLE SID

| | | |
|---|---|---|
| Signature: COOK DAVE | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 780514-006 | 30 | 70 | 66 | 35 | 120 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR AND NUBLE SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: Cassella Charles | Routing Symbol: | Date: 01/23/2012 |

**Expanded Service Volume Data: (Super FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 780514-006 | 30 | 70 | 66 | 35 | 120 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR, SCOGS STAR AND NUBLE SIDAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: CHRISTEIN THOMAS | Routing Symbol: | Date: 01/24/2012 |

**Expanded Service Volume Data: (FIFO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 780514-006 | 30 | 70 | | | | |

Requirement/Remarks:

| | | |
|---|---|---|
| Signature: | Routing Symbol: | Date: |

## ESV Details

| | | | |
|---|---|---|---|
| Originating Office : | Airspace Docket Number : | Request Type : Establish | |
| **Facility Data** | | | |
| Chart Name : CONCORD | City : CONCORD | Ident : CON | State : NH |
| Type/Class : TACR | Frequency : M1163 | Reference No.: 12018540 | |

**Expanded Service Volume Data: (Requesting Officer)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude |
|---|---|---|---|---|---|
| FAA 698138-005 | 54 | 105 | 63 | 40 | 170 |

Requirement: MITIGATE CRITICAL DME ON CDOGG STAR AND SCOGS STAR

| | | |
|---|---|---|
| Signature: COOK DAVE | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 698138-005 | 54 | 105 | 63 | 40 | 170 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR AND SCOGS STARAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

| | | |
|---|---|---|
| Signature: Cassella Charles | Routing Symbol: | Date: 01/18/2012 |

**Expanded Service Volume Data: (Super FMO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 698138-005 | 54 | 105 | 63 | 40 | 170 | APPROVE |

Requirement/Remarks: MITIGATE CRITICAL DME ON CDOGG STAR AND SCOGS STARAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

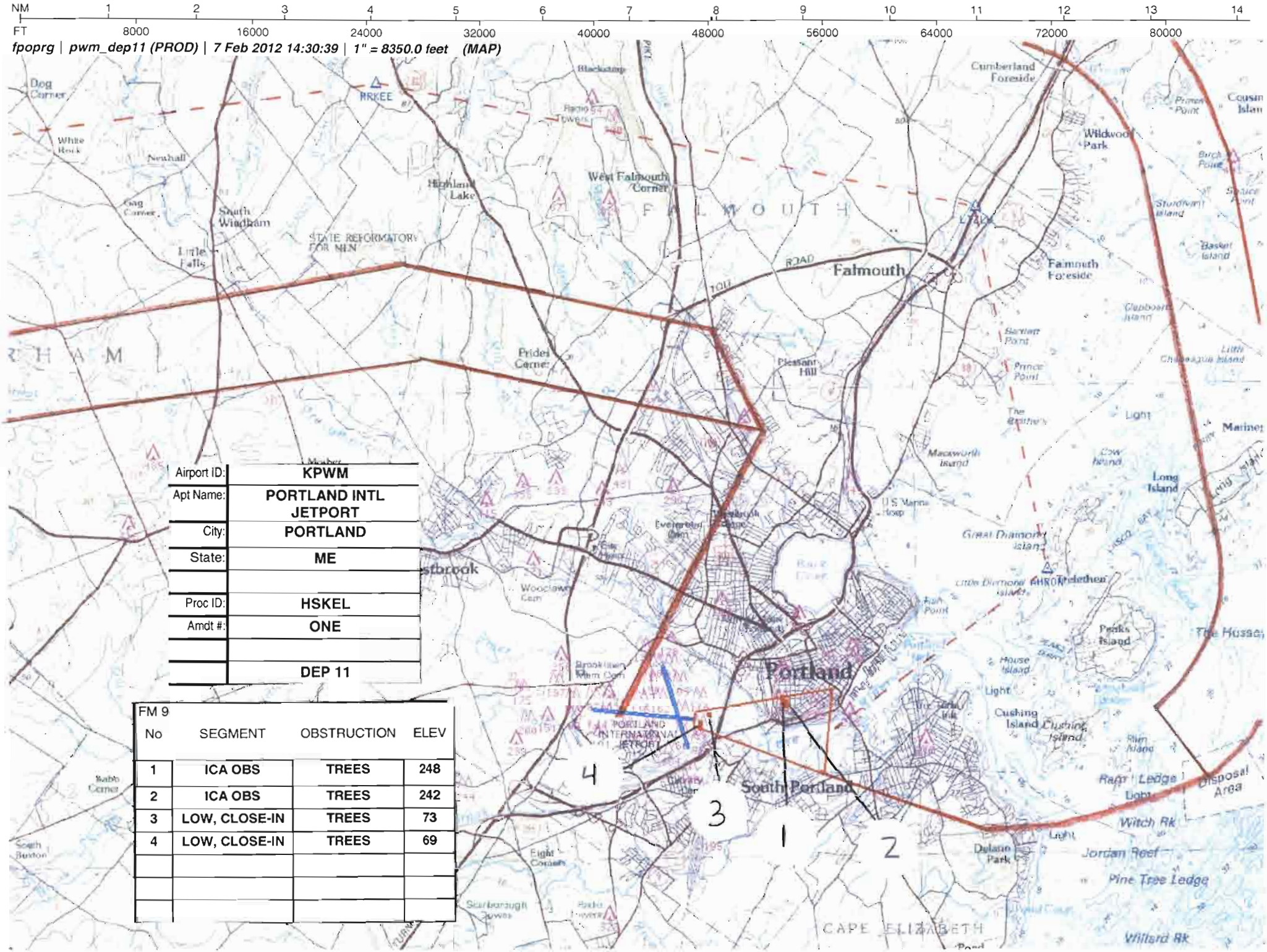
| | | |
|---|---|---|
| Signature: CHRISTEIN THOMAS | Routing Symbol: | Date: 01/19/2012 |

**Expanded Service Volume Data: (FIFO)**

| ESV ID | Radial 1 | Radial 2 | Distance | Minimum Altitude | Maximum Altitude | Action Type |
|---|---|---|---|---|---|---|
| FAA 698138-005 | 54 | 105 | | | | |

Requirement/Remarks:

| | | |
|---|---|---|
| Signature: | Routing Symbol: | Date: |




| | |
|---|---|
| Airport ID: | KPWM |
| Apt Name: | PORTLAND INTL JETPORT |
| City: | PORTLAND |
| State: | ME |
| | |
| Proc ID: | HSKEL |
| Amdt #: | ONE |
| | |
| | DEP 11 |

FM 9

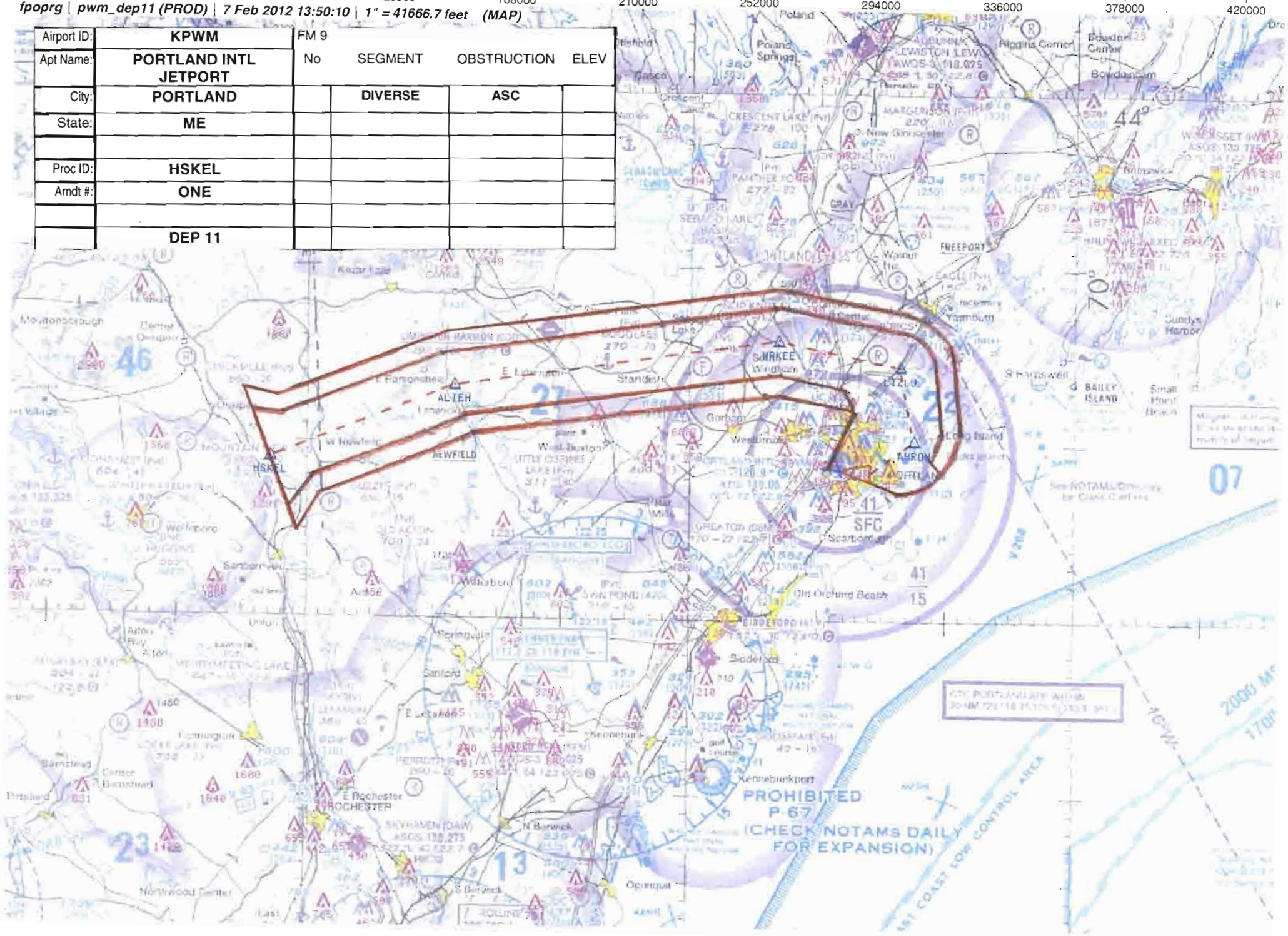
| No | SEGMENT | OBSTRUCTION | ELEV |
|---|---|---|---|
| 1 | ICA OBS | TREES | 248 |
| 2 | ICA OBS | TREES | 242 |
| 3 | LOW, CLOSE-IN | TREES | 73 |
| 4 | LOW, CLOSE-IN | TREES | 69 |
| | | | |
| | | | |
| | | | |

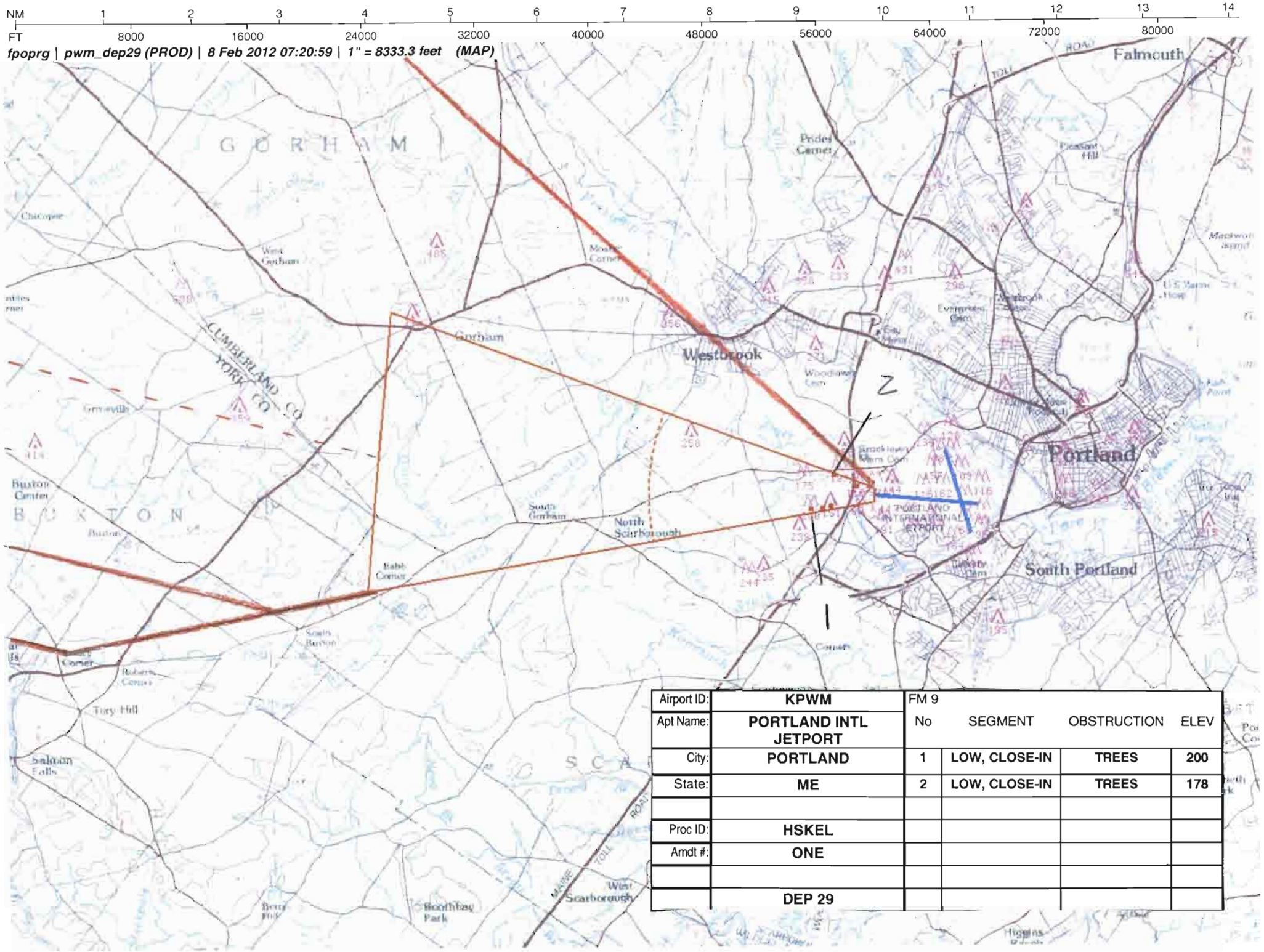
NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

*fpoprg | pwm_dep11 (PROD) | 7 Feb 2012 13:50:10 | 1" = 41666.7 feet (MAP)*

| Airport ID: | KPWM | FM 9 | | | |
|---|---|---|---|---|---|
| Apt Name: | PORTLAND INTL JETPORT | No | SEGMENT | OBSTRUCTION | ELEV |
| City: | PORTLAND | | DIVERSE | ASC | |
| State: | ME | | | | |
| | | | | | |
| Proc ID: | HSKEL | | | | |
| Amdt #: | ONE | | | | |
| | | | | | |
| | DEP 11 | | | | |





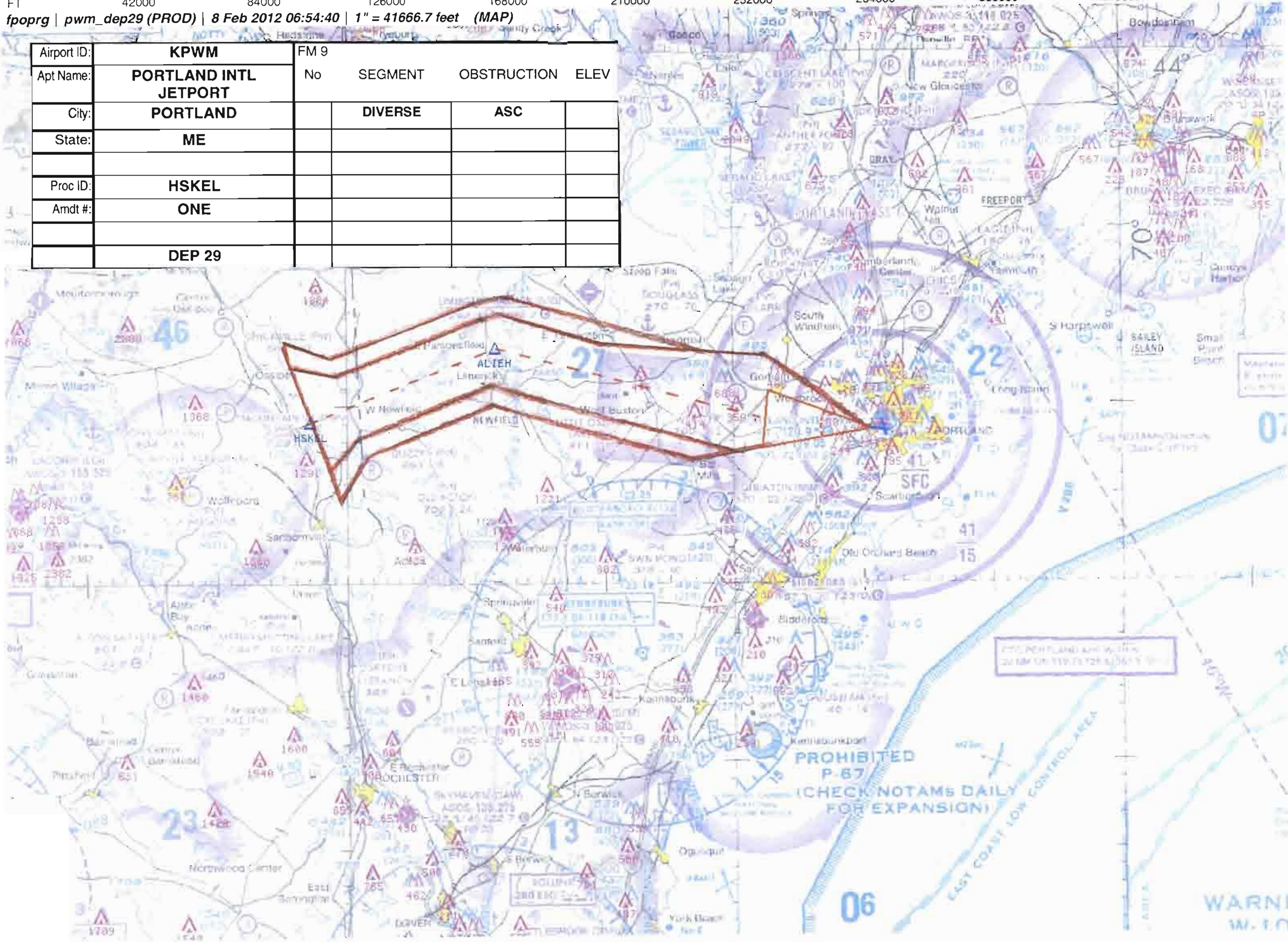

| Airport ID: | KPWM | FM 9 | | | |
|---|---|---|---|---|---|
| Apt Name: | PORTLAND INTL JETPORT | No | SEGMENT | OBSTRUCTION | ELEV |
| City: | PORTLAND | 1 | LOW, CLOSE-IN | TREES | 200 |
| State: | ME | 2 | LOW, CLOSE-IN | TREES | 178 |
| | | | | | |
| Proc ID: | HSKEL | | | | |
| Amdt #: | ONE | | | | |
| | | | | | |
| | DEP 29 | | | | |

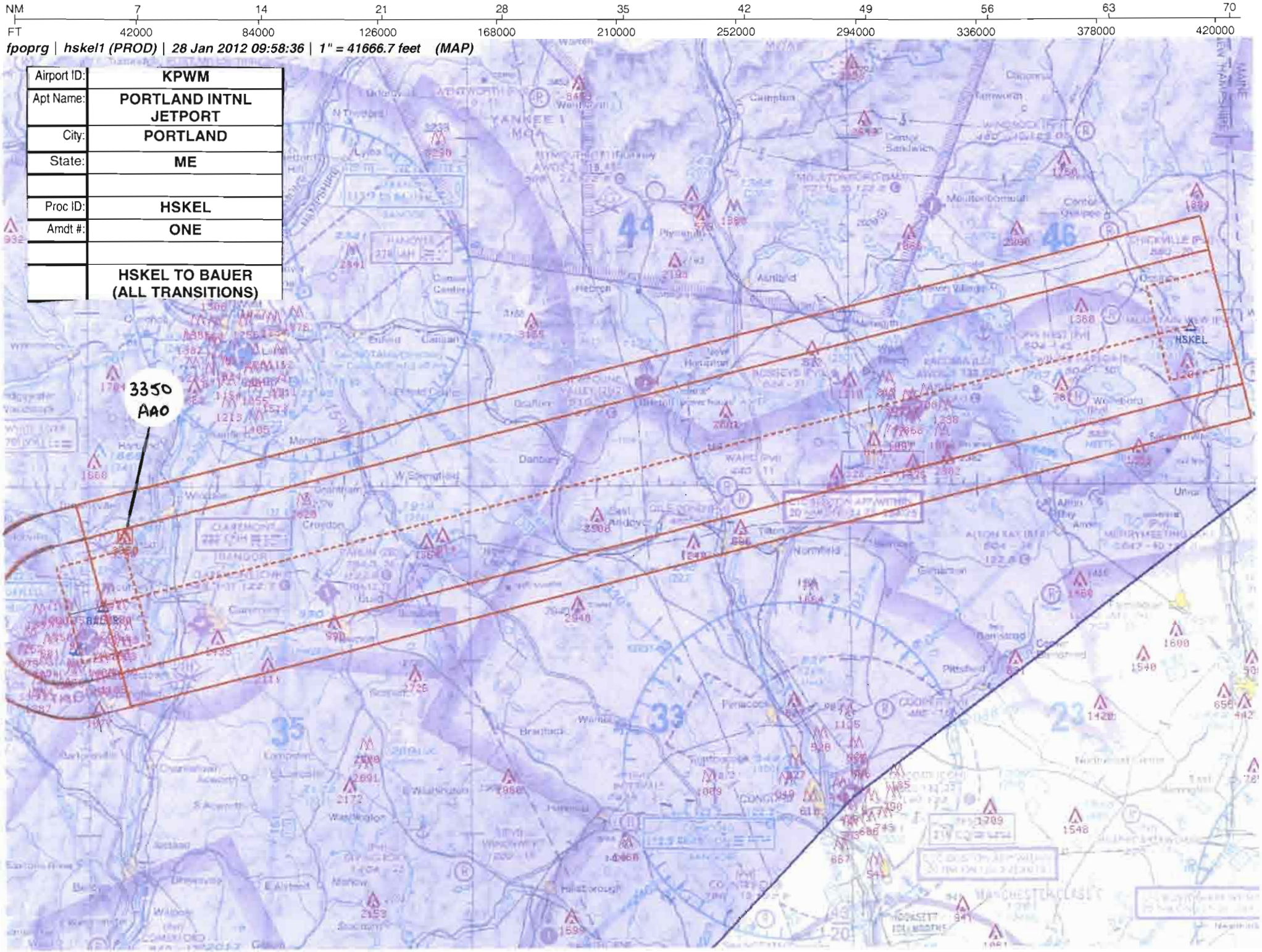
NM 7 14 21 28 35 42 49 56 63 70

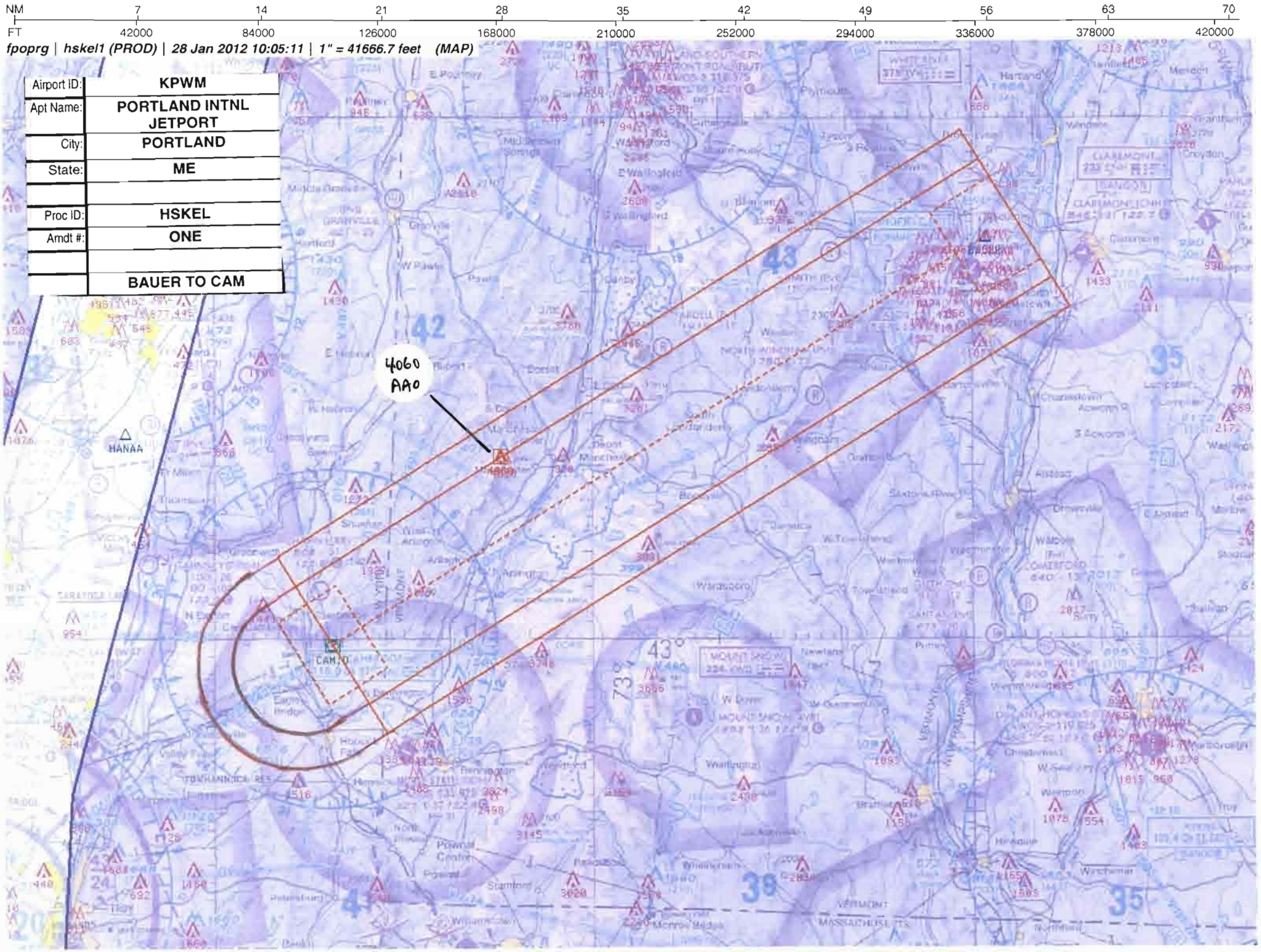
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

*fpoprg | pwm_dep29 (PROD) | 8 Feb 2012 06:54:40 | 1" = 41666.7 feet (MAP)*

| | | FM 9 | | | |
|---|---|---|---|---|---|
| Airport ID: | KPWM | | | | |
| Apt Name: | PORTLAND INTL JETPORT | No | SEGMENT | OBSTRUCTION | ELEV |
| City: | PORTLAND | | DIVERSE | ASC | |
| State: | ME | | | | |
| | | | | | |
| Proc ID: | HSKEL | | | | |
| Amdt #: | ONE | | | | |
| | | | | | |
| | DEP 29 | | | | |




NM 7 14 21 28 35 42 49 56 63 70
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000
fpoprg | hskel1 (PROD) | 28 Jan 2012 09:58:36 | 1" = 41666.7 feet (MAP)
Airport ID: KPWM
Apt Name: PORTLAND INTNL JETPORT
City: PORTLAND
State: ME
Proc ID: HSKEL
Amdt #: ONE
HSKEL TO BAUER (ALL TRANSITIONS)
3350 AAO
HSKEL

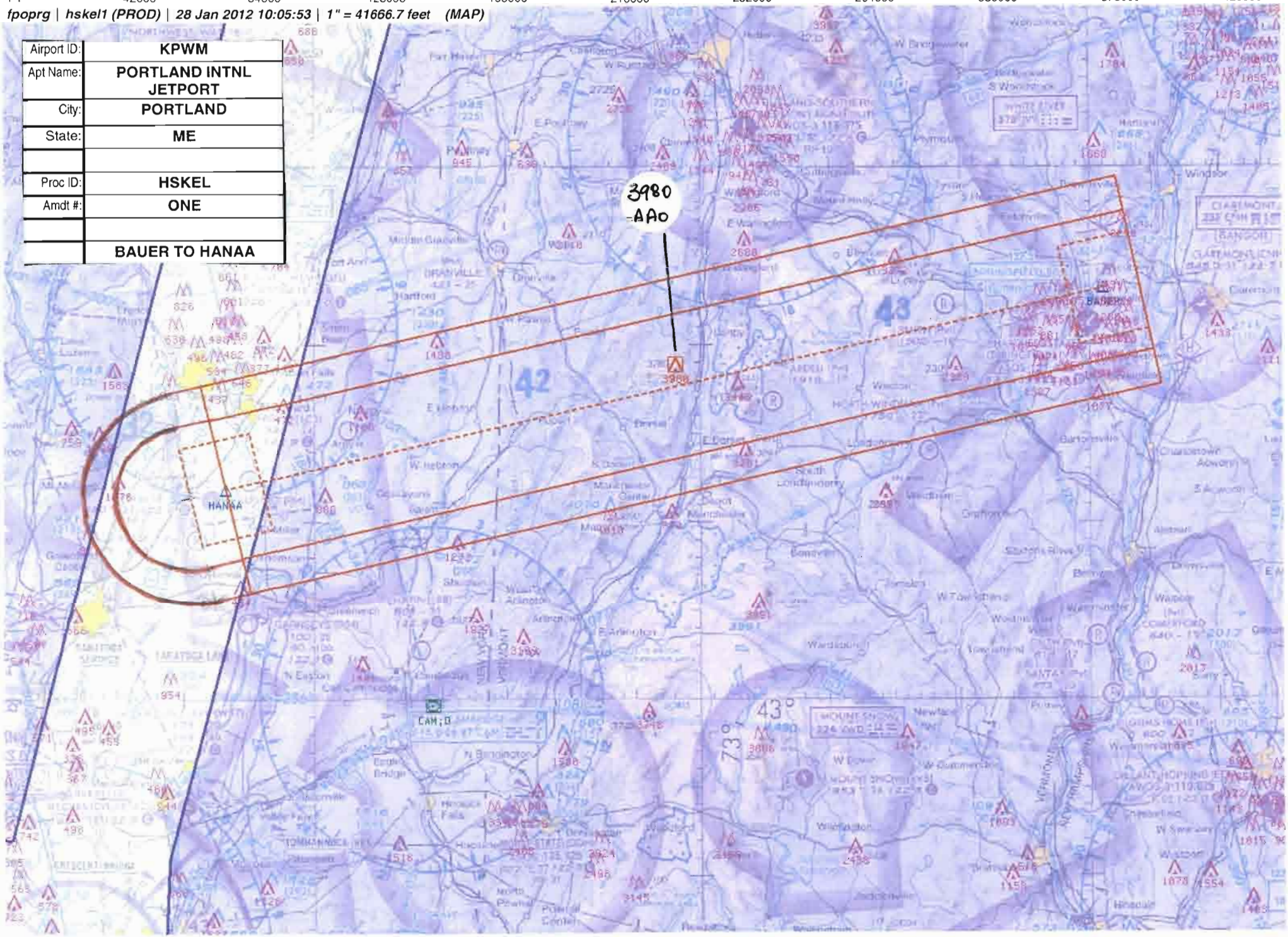

NM 7 14 21 28 35 42 49 56 63 70
FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000
fpoprg | hskel1 (PROD) | 28 Jan 2012 10:05:11 | 1" = 41666.7 feet (MAP)
Airport ID: KPWM
Apt Name: PORTLAND INTNL JETPORT
City: PORTLAND
State: ME
Proc ID: HSKEL
Amdt #: ONE
BAUER TO CAM
4060
AAO
HANAA
CAM

NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

*fpoprg | hskel1 (PROD) | 28 Jan 2012 10:05:53 | 1" = 41666.7 feet (MAP)*

| | |
|---|---|
| Airport ID: | **KPWM** |
| Apt Name: | **PORTLAND INTNL JETPORT** |
| City: | **PORTLAND** |
| State: | **ME** |
| | |
| Proc ID: | **HSKEL** |
| Amdt #: | **ONE** |
| | |
| | **BAUER TO HANAA** |

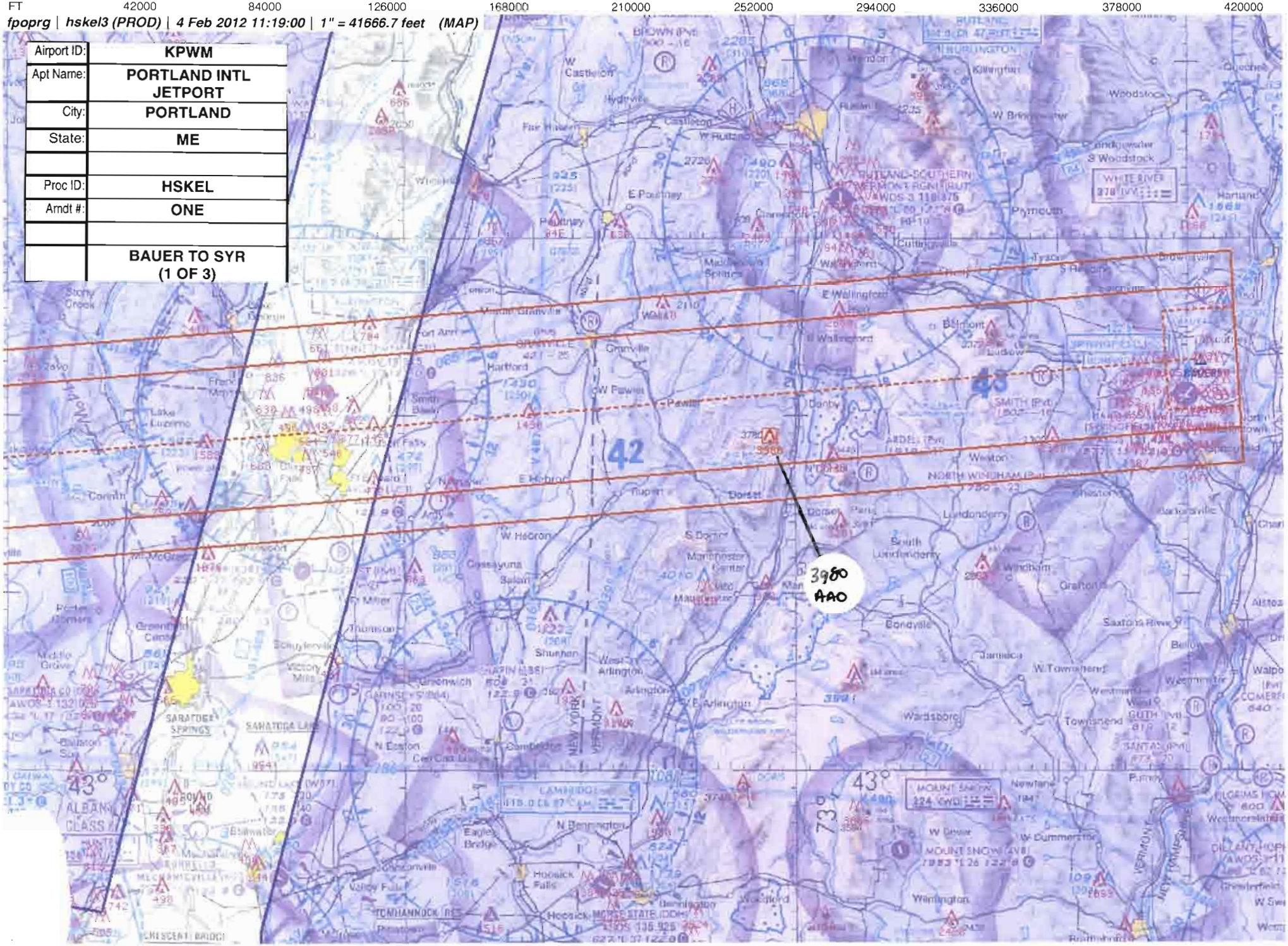


NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

*fpoprg | hskel3 (PROD) | 4 Feb 2012 11:19:00 | 1" = 41666.7 feet (MAP)*

| | |
|---|---|
| Airport ID: | **KPWM** |
| Apt Name: | **PORTLAND INTL JETPORT** |
| City: | **PORTLAND** |
| State: | **ME** |
| | |
| Proc ID: | **HSKEL** |
| Amdt #: | **ONE** |
| | |
| | **BAUER TO SYR (1 OF 3)** |

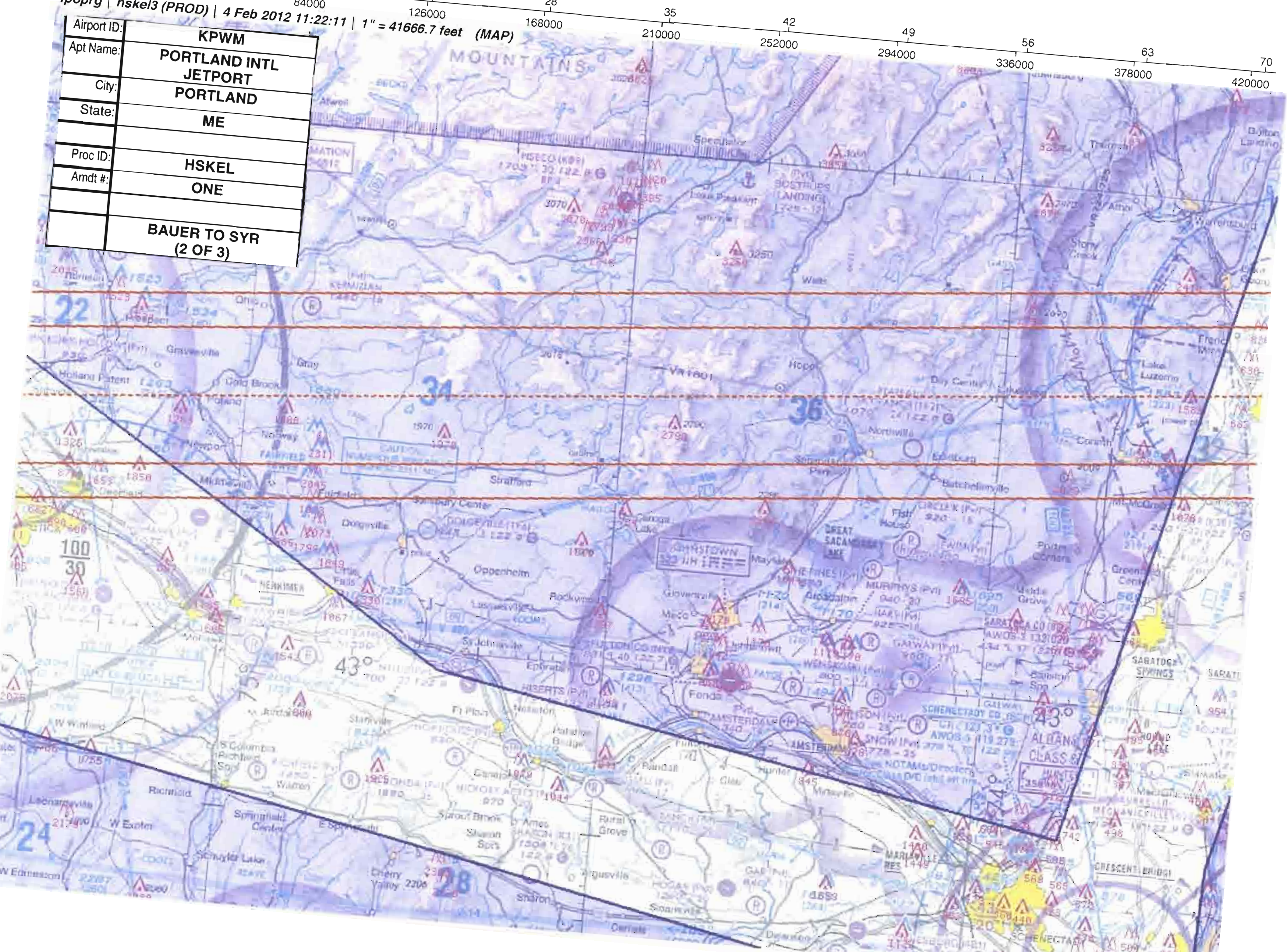


NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

*fpoprg | hskel3 (PROD) | 4 Feb 2012 11:22:11 | 1" = 41666.7 feet (MAP)*

| | |
|---|---|
| Airport ID: | KPWM |
| Apt Name: | PORTLAND INTL JETPORT |
| City: | PORTLAND |
| State: | ME |
| | |
| Proc ID: | HSKEL |
| Amdt #: | ONE |
| | |
| | BAUER TO SYR (2 OF 3) |

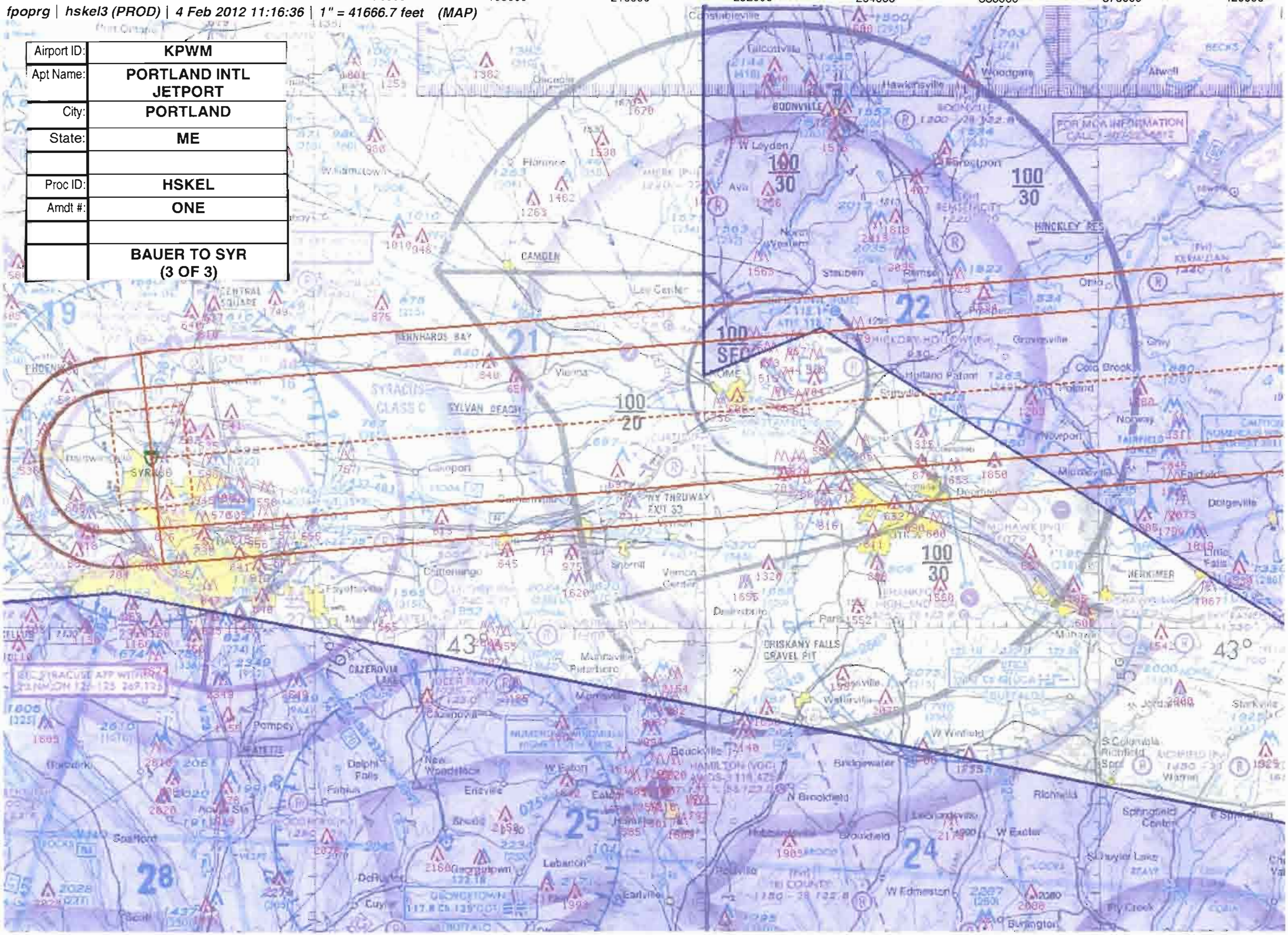


NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000



| | |
|---|---|
| Airport ID: | **KPWM** |
| Apt Name: | **PORTLAND INTL JETPORT** |
| City: | **PORTLAND** |
| State: | **ME** |
| | |
| Proc ID: | **HSKEL** |
| Amdt #: | **ONE** |
| | |
| | **BAUER TO SYR (3 OF 3)** |



U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

# GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation 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. Graphic depictions attached.

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| **HSKEL** | **ONE** | **HSKEL1.HSKEL** | **NONE** | | |

**TYPE:** RNAV SID

**DP ROUTE DESCRIPTION:**

**TAKEOFF RWY 11:** CLIMB HEADING 112.30 TO INTERCEPT COURSE 069.97 TO AHRON, THEN ON DEPICTED ROUTE TO HSKEL, THENCE...

**TAKEOFF RWY 29:** CLIMB HEADING 292.32 TO INTERCEPT COURSE 302.24 TO ALIEH, THEN ON DEPICTED ROUTE TO HSKEL, THENCE...

...MAINTAIN 3000 OR AS ASSIGNED BY ATC (5000 WHEN TOWER CLOSED, CONTACT BOSTON CENTER). EXPECT CLEARANCE TO FILED ALTITUDE FIVE (5) MINUTES AFTER DEPARTURE.

**TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):**

| Transition Name | Transition Computer Codes | From FIX/NAVAID | To FIX/NAVAID | Course | Distance | MEA | MOCA | Crossing Altitudes/Fixes |
|---|---|---|---|---|---|---|---|---|
| BAUER | HSKEL1.BAUER | HSKEL | BAUER | TRACK 273.17 | 64.56 | 18000 | | |
| CAMBRIDGE | HSKEL1.CAM | HSKEL | BAUER | TRACK 273.17 | 64.56 | 18000 | | |
| | | BAUER | CAM VOR/DME | TRACK 255.41 | 44.63 | 18000 | | |
| HANAA | HSKEL1.HANAA | HSKEL | BAUER | TRACK 273.17 | 64.56 | 18000 | | |
| | | BAUER | HANAA | TRACK 274.49 | 50.89 | 18000 | | |
| SYRACUSE | HSKEL1.SYR | HSKEL | BAUER | TRACK 273.17 | 64.56 | 18000 | | |
| | | BAUER | SYR VORTAC | TRACK 283.52 | 163.87 | 18000 | | |

**PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:**

**NOTE:** FOR TURBOJETS ONLY.
**NOTE:** DME/DME/IRU OR GPS REQUIRED.
**NOTE:** RNAV 1.
**NOTE:** RADAR REQUIRED FOR NON-GPS EQUIPPED AIRCRAFT.
**NOTE:** FOR NON-GPS EQUIPPED AIRCRAFT: CON DME MUST BE OPERATIONAL FOR TAKEOFF RWY 11.

**TAKEOFF MINIMUMS:**
**RWY 11,** STANDARD WITH MINIMUM CLIMB OF 325 FT PER NM TO 600. ATC CLIMB OF 350 FT PER NM TO 8000.
**RWY 29,** STANDARD.

QUALITY CHECKED

# GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation 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. Graphic depictions attached.

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| **HSKEL** | **ONE** | **HSKEL1.HSKEL** | **NONE** | | |

## TAKEOFF OBSTACLES NOTES:

**NOTE: RWY 11,** TREES BEGINNING 983 FT FROM DER, 418 FT LEFT OF CENTERLINE, UP TO 59 FT AGL/73 FT MSL. TREES BEGINNING 428 FT FROM DER, 280 FT RIGHT OF CENTERLINE, UP TO 32 FT AGL/69 FT MSL. TREES 6037 FT FROM DER, 1744 FT LEFT OF CENTERLINE, UP TO 79 FT AGL/248 FT MSL. TREES 1.0 NM FROM DER, 1778 FT LEFT OF CENTERLINE, UP TO 75 FT AGL/242 FT MSL.
**NOTE: RWY 29,** TREES BEGINNING 2952 FT FROM DER, 1066 FT LEFT OF CENTERLINE, UP TO 85 FT AGL/200 FT MSL. TREES BEGINNING 1319 FT FROM DER, 509 FT RIGHT OF CENTERLINE, UP TO 81 FT AGL/178 FT MSL.

## CONTROLLING OBSTACLES:

**RWY 11:** 248 FT MSL TREES 433850.16N/0701632.42W. 242 FT MSL TREES 433850.27N/0701629.07W.

## LOST COMMUNICATIONS PROCEDURES:

IF RADIO CONTACT NOT ESTABLISHED WITHIN 2 MINUTES AFTER DEPARTURE, PROCEED ON COURSE VIA HSKEL RNAV ROUTE TO REQUESTED ALTITUDE OR 10000, WHICHEVER IS LOWER.

## ADDITIONAL FLIGHT DATA:

**REFERENCE MAG VAR:** KPWM 17W EPOCH YEAR: 95. DME/DME ASSESSMENT: SAT (RNP 2.0).
**RECOMMENDED NAVAID:** ENE VORTAC (17W).

## AIRPORTS SERVED:

PORTLAND INTL JETPORT — PORTLAND, ME

## COMMUNICATIONS:

ATIS, CLEARANCE DELIVERY, GROUND CONTROL, TOWER, PWM DEP CON, ZBW

## FIXES AND/OR NAVAIDS:

LIZLU, MRKEE

QUALITY CHECKED

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION

# GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation 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. Graphic depictions attached.

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| **HSKEL** | **ONE** | **HSKEL1.HSKEL** | **NONE** | | |

**REMARKS:**

RWY 11 CLIMB GRADIENT ESTABLISHED TO ENSURE OBSTACLE CLEARANCE, ENSURE AIRCRAFT REACH MINIMUM RNAV ENGAGEMENT ALTITUDE, AND SUPPORT MINIMUM DME/DME/IRU RECEPTION ALTITUDE OF 1208 MSL AT AHRON.

**FLIGHT INSPECTED BY:**

**REQUIRED EFFECTIVE DATE:**

ROUTINE

**DEVELOPED BY:**

PETER GUIMOND AJV-352 2/11/2012

**APPROVED BY:**

DARRYEL ADAMS AJV-352

**COORDINATED WITH:**

ATA, ALPA, APA, AOPA, NBAA, ZBW, PWM APP CON, PWM ATCT, ARPT MGR

**CHANGES:**

ORIGINAL.

**REASONS:**

EASTERN FPT REQUEST.

QUALITY CHECKED

# DEPARTURE (DATA RECORD)

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| HSKEL | ONE | HSKEL1.HSKEL | NONE | | |

| FIX/NAVAID | LAT/LONG | C | FO/FB | LEG TYPE | TC | DIST (NM) | ALTITUDE | SPEED | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| RW11 (AER) | 433845.10N/0701933.86W | N | - | - | - | - | | | |
| | 433829.88N/0701548.85W | - | - | VI | 095.30 | 2.73 | | | CG 325 FT/NM TO 600. ATC CG 350 FT/NM TO 8000. |
| AHRON | 434024.11N/0701220.12W | Y | FB | CF | 052.97 | 3.16 | | | RECOMMENDED NAVAID: ENE VORTAC |
| LIZLU | 434435.20N/0701326.82W | Y | FB | TF | 349.10 | 4.26 | | | |
| MRKEE | 434600.84N/0702258.43W | Y | FB | TF | 281.73 | 7.05 | | | |
| ALIEH | 434322.89N/0704822.88W | Y | FB | TF | 262.01 | 18.60 | | | |
| HSKEL | 433912.82N/0710251.86W | Y | FB | TF | 248.45 | 11.30 | | | |
| RW29 (AER) | 433838.52N/0701756.37W | N | - | - | - | - | | | |
| | 433916.70N/0702727.05W | - | - | VI | 275.32 | 6.93 | | | |
| ALIEH | 434322.89N/0704822.88W | Y | FB | CF | 285.24 | 15.73 | | | RECOMMENDED NAVAID: ENE VORTAC |
| HSKEL | 433912.82N/0710251.86W | Y | FB | TF | 248.45 | 11.30 | | | |
| HSKEL | 433912.82N/0710251.86W | Y | - | IF | - | - | | | HSKEL1.BAUER |
| BAUER | 432314.08N/0722850.62W | Y | FB | TF | 256.17 | 64.56 | | | |
| HSKEL | 433912.82N/0710251.86W | Y | - | IF | - | - | | | HSKEL1.CAM |
| BAUER | 432314.08N/0722850.62W | Y | FB | TF | 256.17 | 64.56 | | | |
| CAM VOR/DME | 425939.44N/0732038.47W | Y | FB | TF | 238.41 | 44.63 | | | |
| HSKEL | 433912.82N/0710251.86W | Y | - | IF | - | - | | | HSKEL1.HANAA |
| BAUER | 432314.08N/0722850.62W | Y | FB | TF | 256.17 | 64.56 | | | |
| HANAA | 431152.06N/0733646.17W | Y | FB | TF | 257.49 | 50.89 | | | |
| HSKEL | 433912.82N/0710251.86W | Y | - | IF | - | - | | | HSKEL1.SYR |
| BAUER | 432314.08N/0722850.62W | Y | FB | TF | 256.17 | 64.56 | | | |
| SYR VORTAC | 430937.87N/0761216.41W | Y | FB | TF | 266.52 | 163.87 | | | |

QUALITY CHECKED

# DEPARTURE (DATA RECORD)

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| HSKEL (RNAV) | ONE | HSKEL1.HSKEL | NONE | | |

ARINC PACKET - 424-18 - SID

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        CAM   K6011500VDLA N42593944W073203847    N42593944W073203847W0140014901     NARCAMBRIDGE
        SUSAD        ENE   K6011710VTH  N43253242W070364869    N43253242W070364869W0170001922     NARKENNEBUNK
        SUSAD        SYR   K6011700VTHA N43093787W076121641    N43093787W076121641W0110004532     NARSYRACUSE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   AHRON K60    W     N43402411W070122012                      W0158     NAR           AHRON
        SUSAEAENRT   ALIEH K60    W     N43432289W070482288                      W0156     NAR           ALIEH
        SUSAEAENRT   BAUER K60    C   L N43231408W072285062                      W0147     NAR           BAUER
        SUSAEAENRT   HANAA K60    W   B N43115206W073364617                      W0140     NAR           HANAA
        SUSAEAENRT   HSKEL K60    W     N43391282W071025186                      W0154     NAR           HSKEL
        SUSAEAENRT   LIZLU K60    W     N43443520W070132682                      W0158     NAR           LIZLU
        SUSAEAENRT   MRKEE K60    W     N43460084W070225843                      W0158     NAR           MRKEE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPWMK6APWM     0     072YHN43384620W070183340W017000076         1800018000C    MNAR    PORTLAND INTL JETPORT

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPWMK6DHSKEL14RW11  010         0        VI                        1123                      18000
        SUSAP KPWMK6DHSKEL14RW11  020AHRONK6EA0E    010CF ENE K6      0670023207000032D
        SUSAP KPWMK6DHSKEL14RW11  030LIZLUK6EA0E    010TF                     00610043
        SUSAP KPWMK6DHSKEL14RW11  040MRKEEK6EA0E    010TF                     29870071
        SUSAP KPWMK6DHSKEL14RW11  050ALIEHK6EA0E    010TF                     27900186
        SUSAP KPWMK6DHSKEL14RW11  060HSKELK6EA0EE   010TF                     26550113
        SUSAP KPWMK6DHSKEL14RW29  010         0        VI                        2923                      18000
        SUSAP KPWMK6DHSKEL14RW29  020ALIEHK6EA0E    010CF ENE K6      3518019730220157D
        SUSAP KPWMK6DHSKEL14RW29  030HSKELK6EA0EE   010TF                     26550113
        SUSAP KPWMK6DHSKEL16BAUER 010HSKELK6EA0E       IF                                                  18000
        SUSAP KPWMK6DHSKEL16BAUER 020BAUERK6EA0EE   010TF                     27320646
        SUSAP KPWMK6DHSKEL16CAM   010HSKELK6EA0E       IF                                                  18000
        SUSAP KPWMK6DHSKEL16CAM   020BAUERK6EA0E    010TF                     27320646
        SUSAP KPWMK6DHSKEL16CAM   030CAM  K6D 0VE   010TF                     25540446
        SUSAP KPWMK6DHSKEL16HANAA 010HSKELK6EA0E       IF                                                  18000
        SUSAP KPWMK6DHSKEL16HANAA 020BAUERK6EA0E    010TF                     27320646
        SUSAP KPWMK6DHSKEL16HANAA 030HANAAK6EA0EE   010TF                     27450509
        SUSAP KPWMK6DHSKEL16SYR   010HSKELK6EA0E       IF                                                  18000
```

QUALITY CHECKED 1

# DEPARTURE (DATA RECORD)

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| HSKEL (RNAV) | ONE | HSKEL1.HSKEL | NONE | | |

```
        SUSAP KPWMK6DHSKEL16SYR   020BAUERK6EA0E    010TF                    27320646
        SUSAP KPWMK6DHSKEL16SYR   030SYR  K6D 0VE   010TF                    28351639
                  1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KPWMK6GRW11    0072001123 N43384510W070193386-0500    -0003200076000059150IIPWM3
        SUSAP KPWMK6GRW29    0072002923 N43383852W070175637+0500    -0013300042000050150IIGCS1
```

QUALITY CHECKED

# DEPARTURE (DATA RECORD)

| DP Name | Number | DP Computer Code | Superseded Number | Dated | Effective Date |
|---|---|---|---|---|---|
| HSKEL (RNAV) | ONE | HSKEL1.HSKEL | NONE | | |

ARINC SUMMARY - 424-18 - SID

| ROUTES | TRANSITION | FIX | SEQ | USE | PATH | TURN | FO/FB | RNP | MAG(TRUE) | DISTANCE | ALTITUDE | SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RW11 | | 010 | | VI | | FB | | 112.3() | | | |
| | RW11 | AHRON | 020 | | CF | | FB | 1.0 | 070.0() | 003.2 | | |
| | RW11 | LIZLU | 030 | | TF | | FB | 1.0 | 006.1() | 004.3 | | |
| | RW11 | MRKEE | 040 | | TF | | FB | 1.0 | 298.7() | 007.1 | | |
| | RW11 | ALIEH | 050 | | TF | | FB | 1.0 | 279.0() | 018.6 | | |
| | RW11 | HSKEL | 060 | | TF | | FB | 1.0 | 265.5() | 011.3 | | |
| | RW29 | | 010 | | VI | | FB | | 292.3() | | | |
| | RW29 | ALIEH | 020 | | CF | | FB | 1.0 | 302.2() | 015.7 | | |
| | RW29 | HSKEL | 030 | | TF | | FB | 1.0 | 265.5() | 011.3 | | |
| | BAUER | HSKEL | 010 | | IF | | FB | | | | | |
| | BAUER | BAUER | 020 | | TF | | FB | 1.0 | 273.2() | 064.6 | | |
| | CAM | HSKEL | 010 | | IF | | FB | | | | | |
| | CAM | BAUER | 020 | | TF | | FB | 1.0 | 273.2() | 064.6 | | |
| | CAM | CAM | 030 | | TF | | FB | 1.0 | 255.4() | 044.6 | | |
| | HANAA | HSKEL | 010 | | IF | | FB | | | | | |
| | HANAA | BAUER | 020 | | TF | | FB | 1.0 | 273.2() | 064.6 | | |
| | HANAA | HANAA | 030 | | TF | | FB | 1.0 | 274.5() | 050.9 | | |
| | SYR | HSKEL | 010 | | IF | | FB | | | | | |
| | SYR | BAUER | 020 | | TF | | FB | 1.0 | 273.2() | 064.6 | | |
| | SYR | SYR | 030 | | TF | | FB | 1.0 | 283.5() | 163.9 | | |

POINT DATA

| WAYPOINT | LAT IN SECS | LONG IN SECS | LAT IN MINS | LONG IN MINS |
|---|---|---|---|---|
| CAM | N425939.44 | W0732038.47 | N4259.657 | W07320.641 |
| ENE | N432532.42 | W0703648.69 | N4325.540 | W07036.812 |
| SYR | N430937.87 | W0761216.41 | N4309.631 | W07612.274 |
| AHRON | N434024.11 | W0701220.12 | N4340.402 | W07012.335 |
| ALIEH | N434322.89 | W0704822.88 | N4343.382 | W07048.381 |
| BAUER | N432314.08 | W0722850.62 | N4323.235 | W07228.844 |
| HANAA | N431152.06 | W0733646.17 | N4311.868 | W07336.770 |
| HSKEL | N433912.82 | W0710251.86 | N4339.214 | W07102.864 |
| LIZLU | N434435.20 | W0701326.82 | N4344.587 | W07013.447 |
| MRKEE | N434600.84 | W0702258.43 | N4346.014 | W07022.974 |
| RW11 | N433845.10 | W0701933.86 | N4338.752 | W07019.564 |
| RW29 | N433838.52 | W0701756.37 | N4338.642 | W07017.940 |

RUNWAY DATA

| RWY | THRESHOLD ELEVATION | TCH |
|---|---|---|
| RW11 | 00076 | 59 |
| RW29 | 00042 | 50 |

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** AHRON **STATE:** ME **COUNTRY:** US

**LATITUDE/LONGITUDE:** 434024.11N/0701220.12W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |
| DP | NUBLE (RNAV) | | | KPWM | PORTLAND | ME (US) |

**REQUIRED CHARTING:** DP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 07/26/2012

**DEVELOPED BY:** **DATE:** 01/26/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** ALIEH **STATE:** ME **COUNTRY:** US

**LATITUDE/LONGITUDE:** 434322.89N/0704822.88W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |

**REQUIRED CHARTING:** DP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 07/26/2012

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** BAUER **STATE:** VT **COUNTRY:** US

**LATITUDE/LONGITUDE:** 432314.08N/0722850.62W **TYPE:** WP, INT, DME

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** MODIFY

**FIX MAKE-UP FACILITIES:**

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM FAC NM | DIST FROM FAC FEET | MRA | MAA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LEBANON | LEB | VOR/DME | L | 228.53 | 213.53 | 20.96 | 20.96 | | 5000 | 17500 |
| 2 | WHITE RIVER | IVV | NDB | MH | 199.64 | 183.64 | | 10.39 | | 5000 | 17500 |
| 3 | CONCORD | CON | VORTAC | L | 299.52 | 284.52 | | 40.91 | | 5000 | 17500 |

**EXPANDED SERVICE VOLUME (ESV):**

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|---|---|---|---|---|---|
| CON | VORTAC | R-300 | 41 | 5000 | 17500 |

**HOLDING:** **HOLDING TYPE OF ACTION:** NO CHANGE

**REMARKS:**
CONCORD (FAC 3) AND LEBANON (FAC 1) USED TO ESTABLISH FIX COORDINATES

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |
| DP | WHITE RIVER | 1, 2, 3 | | KLEB | LEBANON | NH (US) |
| EN ROUTE | V542 | 1, 2 | | | | (US) |

**REQUIRED CHARTING:** DP, CONTROLLER, EN ROUTE LOW

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 2 **DATE OF REVISION:** 07/26/2012

**REASON FOR REVISION:**
1. ADDED WP TO FIX TYPE.
2. ADDED DIST FROM FAC TO FAC 1 AND FAC 2.
3. AMENDED DME DIST OF FAC 1 FROM 20.97 TO 20.96 NM.
4. AMENDED FAC 2 BEARING FROM 199.66 TO 199.64.
5. INCREASED FAC 1 AND FAC 2 MEA FROM 4000 TO 5000.
6. ADDED FAC 3 TO SUPPORT WHITE RIVER SID.
7. POPULATED ESV DATA FOR CON VORTAC (APPROVED IN ESVMS).
8. UPDATED FIX USE.

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** HANAA **STATE:** NY **COUNTRY:** US

**LATITUDE/LONGITUDE:** 431152.06N/0733646.17W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** MODIFY

**HOLDING:** **HOLDING TYPE OF ACTION:** NO CHANGE

**PATTERNS:**

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME | LEG LENGTH DME | HOLDING ALTITUDES MIN | HOLDING ALTITUDES MAX | TEMPLATES MIN | TEMPLATES MAX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NE | | WP | 047.00 | 227.00 | R | | 10 | 18000 | 38000 | 17 | 27 |
| 2 | NE | | WP | 030.30 | 210.30 | R | | 10 | 17000 | 38000 | 17 | 27 |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|---|---|---|---|---|---|
| 2 | 265 | AAO | 433624.00N/0733154.00W | 2851 | 4E |

**HOLDING RESTRICTIONS:**
HOLDING LIMITED TO ESTABLISHED PATTERNS.

**REMARKS:**
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |
| EN ROUTE | NATIONAL CHOKE POINT RELIEF POINT | | 1 | | | (US) |
| STAR | FLOSI (RNAV) | | 2 | KEWR | NEWARK | NJ (US) |
| STAR | SHAFF | | 2 | KEWR | NEWARK | NJ (US) |

**REQUIRED CHARTING:** DP, STAR, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 4 **DATE OF REVISION:** 07/26/2012

**REASON FOR REVISION:**
1. ADDED DP TO REQUIRED CHARTING.
2. UPDATED FIX USE.

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** HSKEL **STATE:** NH **COUNTRY:** US

**LATITUDE/LONGITUDE:** 433912.82N/0710251.86W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |

**REQUIRED CHARTING:** DP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 07/26/2012

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** LIZLU **STATE:** ME **COUNTRY:** US

**LATITUDE/LONGITUDE:** 434435.20N/0701326.82W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |

**REQUIRED CHARTING:** DP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 07/26/2012

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** MRKEE **STATE:** ME **COUNTRY:** US

**LATITUDE/LONGITUDE:** 434600.84N/0702258.43W **TYPE:** WP

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |

**REQUIRED CHARTING:** DP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 07/26/2012

**DEVELOPED BY:** **DATE:** 01/28/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** PWM APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** SYRACUSE VORTAC **STATE:** NY **COUNTRY:** US

**LATITUDE/LONGITUDE:** 430937.87N/0761216.41W **TYPE:**

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** MODIFY

**FIX MAKE-UP FACILITIES:**

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM FAC NM | FAC FEET | MRA | MAA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SYRACUSE | SYR | VORTAC | H | | | | | | | 45000 |

**HOLDING:** **HOLDING TYPE OF ACTION:** NO CHANGE

**PATTERNS:**

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME | LEG LENGTH DME | HOLDING ALTITUDES MIN | HOLDING ALTITUDES MAX | TEMPLATES MIN | TEMPLATES MAX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NW | SYR | VORTAC | 311.30 | 131.30 | R | 1 | | 2000 | 10000 | 5 | 9 |
| 2 | NW | SYR | VORTAC | 294.00 | 114.00 | L | 1 | | 3000 | 10000 | 6 | 13 |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|---|---|---|---|---|---|
| 1 | 265 | TOWER (36-001250) | 431251.00N/0762343.00W | 960 | 5D |
| 2 | 265 | TOWER (36-001250) | 431251.00N/0762343.00W | 960 | 5D |
| 2 | 310 | AAO | 430418.00N/0762230.00W | 1021 | 4E |

**REASON FOR NONSTANDARD HOLDING:**
PAT 2 AIR TRAFFIC REQUEST AND NOISE ABATEMENT

**HOLDING RESTRICTIONS:**
HOLDING LIMITED TO ESTABLISHED PATTERNS.

**PROCEDURES REQUIRING CLIMB-IN-HOLD:**

| PAT | PROCEDURE TITLE | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|
| 2 | ILS OR LOC RWY 28 | KSYR | SYRACUSE | NY (US) |
| 2 | ILS RWY 28 (SA CAT I) | KSYR | SYRACUSE | NY (US) |
| 2 | ILS RWY 28 (CAT II) | KSYR | SYRACUSE | NY (US) |

**REMARKS:**
PRECIPITIUS TERRAIN EVALUATION COMPLETED.

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | BANGOR | | | KBGR | BANGOR | ME (US) |
| DP | CASCO | | | KPWM | PORTLAND | ME (US) |
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |
| DP | PORTLAND | | | KPWM | PORTLAND | ME (US) |
| DP | ALBANY | | | KALB | ALBANY | NY (US) |
| DP | BUFFALO | | | KBUF | BUFFALO | NY (US) |
| DP | XEROX | | | KROC | ROCHESTER | NY (US) |
| DP | BURLINGTON | | | KBTV | BURLINGTON | VT (US) |
| EN ROUTE | J29 | | | | | (US) |
| EN ROUTE | J547 | | | | | (US) |
| EN ROUTE | J559 | | | | | (US) |
| EN ROUTE | J59 | | | | | (US) |
| EN ROUTE | J63 | | | | | (US) |
| EN ROUTE | V153 | | | | | (US) |
| EN ROUTE | V2 | | | | | (US) |
| EN ROUTE | V273 | | | | | (US) |
| EN ROUTE | V29 | | | | | (US) |
| EN ROUTE | V35 | | | | | (US) |
| EN ROUTE | V423 | | | | | (US) |
| EN ROUTE | V483 | | | | | (US) |
| EN ROUTE | V84 | | | | | (US) |
| IAP | ILS OR LOC RWY 5 | | | KBUF | BUFFALO | NY (US) |
| IAP | ILS OR LOC RWY 33 | | | KFZY | FULTON | NY (US) |
| IAP | RNAV (GPS) Y RWY 17 | | | KVGC | HAMILTON | NY (US) |
| IAP | RNAV (GPS) RWY 15 | | | KRME | ROME | NY (US) |
| IAP | VOR/DME RWY 15 | | | KRME | ROME | NY (US) |
| IAP | VOR OR GPS-A | | | K6B9 | SKANEATELES | NY (US) |
| IAP | ILS OR LOC RWY 10 | | | KSYR | SYRACUSE | NY (US) |
| IAP | ILS OR LOC RWY 28 | | 2 | KSYR | SYRACUSE | NY (US) |
| IAP | ILS RWY 28 (CAT II) | | 2 | KSYR | SYRACUSE | NY (US) |
| IAP | ILS RWY 28 (SA CAT I) | | 2 | KSYR | SYRACUSE | NY (US) |
| IAP | TACAN RWY 33 | | | KSYR | SYRACUSE | NY (US) |
| IAP | VOR RWY 15 | | 1 | KSYR | SYRACUSE | NY (US) |
| IAP | ILS OR LOC RWY 7 | | | KART | WATERTOWN | NY (US) |
| IAP | VOR RWY 7 | | | KART | WATERTOWN | NY (US) |
| IAP | VOR-A | | | KB16 | WEEDSPORT | NY (US) |
| STAR | STELA | | | KBDL | WINDSOR LOCKS | CT (US) |
| STAR | HELON | | | KEWR | NEWARK | NJ (US) |

QUALITY CHECKED

STAR SHAFF KEWR NEWARK NJ (US)

**REQUIRED CHARTING:** DP, STAR, MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 13 **DATE OF REVISION:** 07/26/2012

**REASON FOR REVISION:**
1. MOVED FIX 3.76 FEET TO PENDING AVNIS COORDINATES.
2. DELETED PAT 2 (WAS ATTACHED TO KFZY VOR RWY 33 WHICH HAS BEEN CANCELLED).
3. RENUMBERED CURRENT PAT 3 TO PAT 2.
4. UPDATED FIX USE.

**DEVELOPED BY:** **DATE:** 02/04/2012 **OFFICE:** AJV-352 **NAME:** PETER GUIMOND

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:** **NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** SYR APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

**NAME:** CAMBRIDGE VOR/DME **STATE:** NY **COUNTRY:** US

**LATITUDE/LONGITUDE:** 425939.44N/0732038.47W **TYPE:**

EFF CHART: 4/5/12

**AIRSPACE DOCKET:** **FIX TYPE OF ACTION:** NO CHANGE

**FIX MAKE-UP FACILITIES:**

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM FAC NM | FEET | MRA | MAA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CAMBRIDGE | CAM | VOR/DME | L | | | | | | | 17500 |

**FIX RESTRICTIONS:**
MCA V123 4500 NORTHBOUND

**HOLDING:** **HOLDING TYPE OF ACTION:** NO CHANGE

**PATTERNS:**

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME | DME | HOLDING ALTITUDES MIN | MAX | TEMPLATES MIN | MAX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | N | CAM | VOR/DME | 016.00 | 196.00 | R | 1-1 1/2 | | 4000 | 17500 | 4 | 16 |
| 2 | E | CAM | VOR/DME | 108.28 | 288.28 | R | 1-1 1/2 | | 6000 | 17500 | 5 | 16 |
| 3 | N | CAM | VOR/DME | 340.19 | 160.19 | R | 1-1 1/2 | | 3400 | 17500 | 4 | 16 |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|---|---|---|---|---|---|
| 1 | 200 | AAO | 430308.80N/0731340.80W | 3309 | 6C |
| 2 | 200 | AAO | 425830.00N/0730709.00W | 3606 | 4E |
| 3 | 200 | AAO | 430121.00N/0731633.00W | 1962 | 4E |
| 3 | 230 | AAO | 430308.80N/0731340.80W | 3309 | 6C |
| 3 | 310 | AAO | 430308.80N/0731340.80W | 3309 | 6C |

**HOLDING RESTRICTIONS:**
PATTERNS 1 AND 2 FOR ATC USE ONLY.
PATTERN 3 UTILIZES 175 KIAS RESTRICTION FOR CIH ON KDDH TAKEOFF MINIMUMS. 175 KIAS ICON NOT CHARTED ON ENROUTE LOW TO PREVENT CONFUSION WITH OTHER PROCEDURES.
HOLDING LIMITED TO ESTABLISHED PATTERNS

**PROCEDURES REQUIRING CLIMB-IN-HOLD:**

| PAT | PROCEDURE TITLE | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|
| 3 | TAKE-OFF MINIMUMS | KDDH | BENNINGTON | VT (US) |

**REMARKS:**
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| DP | BANGOR | | | KBGR | BANGOR | ME (US) |
| DP | HSKEL (RNAV) | | | KPWM | PORTLAND | ME (US) |
| DP | PORTLAND | | | KPWM | PORTLAND | ME (US) |
| DP | WHITE RIVER | | | KLEB | LEBANON | NH (US) |
| DP | MANCHESTER | | | KMHT | MANCHESTER | NH (US) |
| DP | PEASE | | | KPSM | PORTSMOUTH | NH (US) |
| DP | TANKER | | | KPSM | PORTSMOUTH | NH (US) |
| DP | TAKE-OFF MINIMUMS | | 3 | KDDH | BENNINGTON | VT (US) |
| DP | BURLINGTON | | | KBTV | BURLINGTON | VT (US) |
| EN ROUTE | J222 | | | | | (US) |
| EN ROUTE | J547 | | | | | (US) |
| EN ROUTE | V123 | | 3 | | | (US) |
| EN ROUTE | V447 | | | | | (US) |
| EN ROUTE | V487 | | | | | (US) |
| EN ROUTE | V490 | | | | | (US) |
| EN ROUTE | V542 | | | | | (US) |
| EN ROUTE | V72 | | | | | (US) |
| IAP | LOC RWY 26 | | | KPSF | PITTSFIELD | MA (US) |
| IAP | RNAV (GPS) RWY 26 | | | KPSF | PITTSFIELD | MA (US) |
| IAP | ILS OR LOC RWY 1 | | 3 | KALB | ALBANY | NY (US) |
| IAP | ILS OR LOC RWY 19 | | 3 | KALB | ALBANY | NY (US) |
| IAP | ILS RWY 01 (SA CAT II) | | 3 | KALB | ALBANY | NY (US) |
| IAP | RNAV (GPS) RWY 28 | | | KALB | ALBANY | NY (US) |
| IAP | RNAV (GPS) Y RWY 19 | | | KALB | ALBANY | NY (US) |
| IAP | ILS OR LOC RWY 1 | | 3 | KGFL | GLENS FALLS | NY (US) |
| IAP | RNAV (GPS) RWY 23 | | | K5B2 | SARATOGA SPRINGS | NY (US) |
| IAP | VOR/DME-A | | | K5B2 | SARATOGA SPRINGS | NY (US) |
| IAP | RNAV (GPS) RWY 22 | | | KSCH | SCHENECTADY | NY (US) |
| IAP | VOR RWY 13 | | 3 | KDDH | BENNINGTON | VT (US) |
| IAP | LOC Y RWY 19 | | | KRUT | RUTLAND | VT (US) |
| IAP | LOC Z RWY 19 | | | KRUT | RUTLAND | VT (US) |
| IAP | RNAV (GPS) RWY 1 | | | KRUT | RUTLAND | VT (US) |
| IAP | VOR/DME RWY 1 | | | KRUT | RUTLAND | VT (US) |
| IAP | VOR/DME RWY 19 | | | KRUT | RUTLAND | VT (US) |
| IAP | NDB RWY 1 | | | K4V8 | WEST DOVER | VT (US) |

QUALITY CHECKED

| | | | | |
|---|---|---|---|---|
| IAP | RNAV (GPS) RWY 1 | K4V8 | WEST DOVER | VT (US) |
| STAR | STELA | KHFD | HARTFORD | CT (US) |
| STAR | STELA | KBDL | WINDSOR LOCKS | CT (US) |
| STAR | STELA | KCEF | SPRINGFIELD/CHICOPEE | MA (US) |
| STAR | STELA | KBAF | WESTFIELD/SPRINGFIELD | MA (US) |
| STAR | STELA | KORH | WORCESTER | MA (US) |
| STAR | CDOGG (RNAV) | KPWM | PORTLAND | ME (US) |
| STAR | SCOGS (RNAV) | KPWM | PORTLAND | ME (US) |
| STAR | POPPP | KMHT | MANCHESTER | NH (US) |

**REQUIRED CHARTING:** DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 15 **DATE OF REVISION:** 04/05/2012

**REASON FOR REVISION:**
1. CHANGED PAT 1 AND 3 (230K AND 310K) CONTROLLING OBSTRUCTION ACCURACY CODE FROM 4E/6A TO 6C.
2. DELETED REMARK, CHART PAT 3 ENROUTE LOW.
3. UPDATED FIX USE.

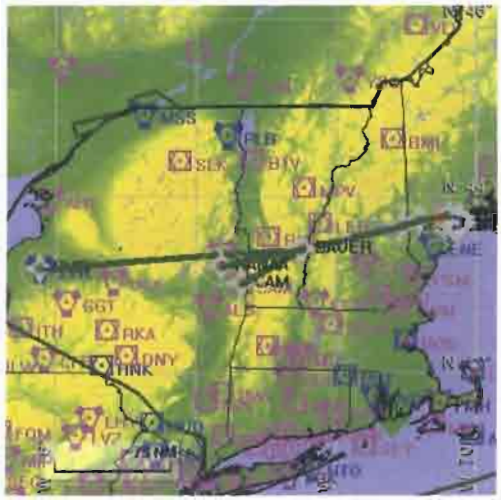
**DEVELOPED BY:** **DATE:** 08/23/2011 **OFFICE:** AJV-352 **NAME:** DONALD SMITH (DAVID SAUER)

**APPROVED BY:** **DATE:** **OFFICE:** AJV-352 **NAME:** DARRYEL ADAMS

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** EST
**ARTCC:** ZBW
**ATC FACILITY:** ALB APP CON
**OTHER:**

QUALITY CHECKED



| | |
|---|---|
| **Name:** | DAVE COOK |
| **Project Name:** | KPWM HSKEL1 SID ALL TRANSITIONS 20120120 |
| **Software:** | RNAV-Pro™ |
| **Version:** | 2.35l |
| **Date/Time:** | 1/20/2012 12:43:46 PM |
| **Input File:** | KPWM HSKEL1 SID RW29... |
| **Databases:** | AVNIS Date: 08/26/2011 |
| | NFD Date: 07/02/2009 |
| | DTED® (MAX) Date: 2002 |

## Results Summary:

| | | |
|---|---|---|
| **Flyability** | ✔ | **Please Check Flyability Results** |
| **DME/DME** | ✔ | |
| **Radars** | ✔ | |
| **Comms** | ? | |
| **TERPS** | ? | |

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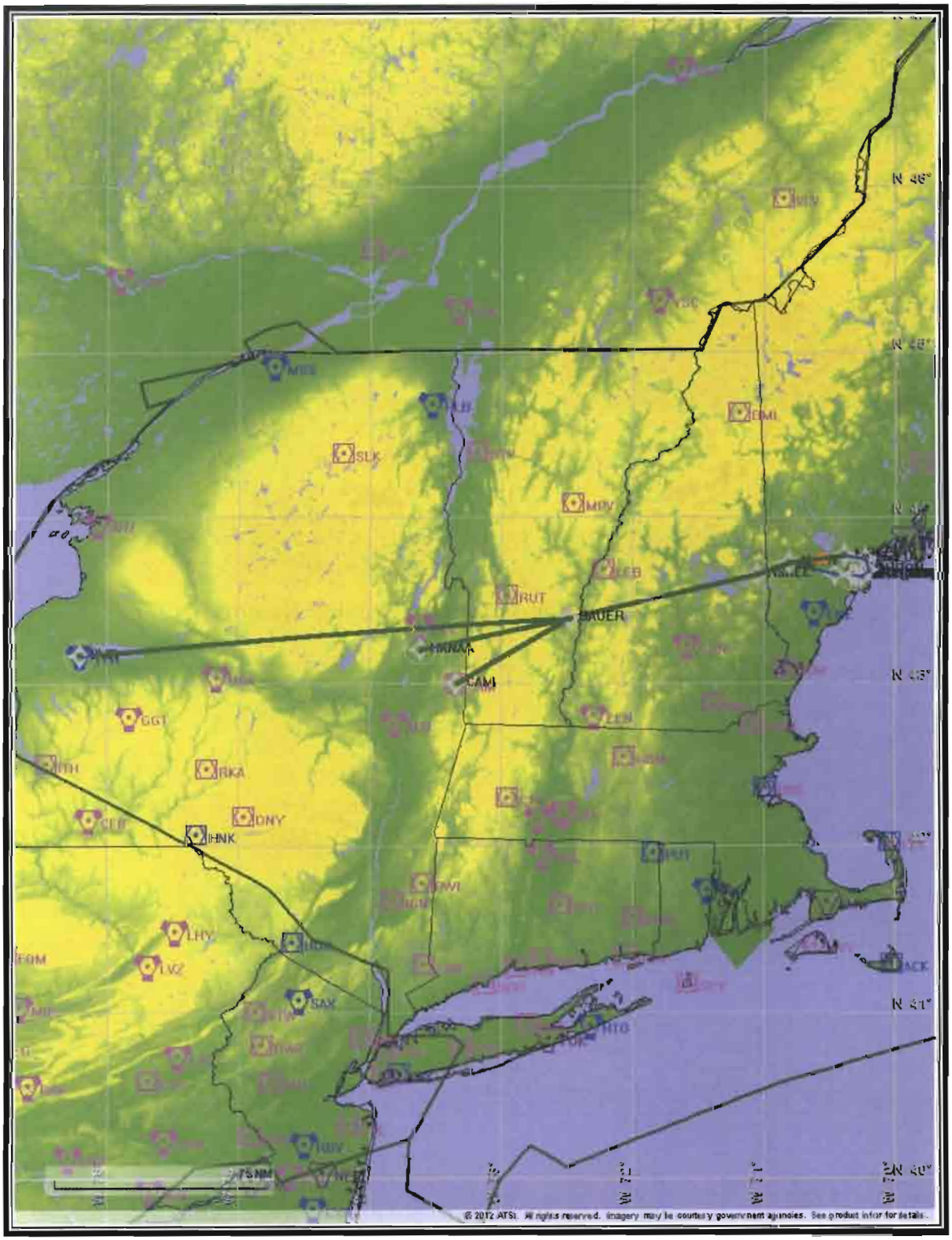
N 46°
N 45°
N 44°
N 43°
N 42°
N 41°
N 40°
SLK
MDV
LEB
IRUT
BAUER
CAM
GGT
RKA
DNY
IHNK
LHY
SAX
ACK
75 NM
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## Flight Plan

Return To Summary

| Name | Type | Lat/Lon | Alt [Ft] | VNAV Mode | IAS [Kts] | Turn Type | Leg Type |
|---|---|---|---|---|---|---|---|
| RW29(A... | WP | N 43° 38' 38.52" W 70° 17' 56.37" | 42.2 | VNAV | 0.0 | Fly By | TF |
| RW11(D... | WP | N 43° 38' 45.10" W 70° 19' 33.86" | 110.6 | VNAV | 130.0 | Fly Over | VI |
| GH29: | WP | N 43° 39' 16.52" W 70° 27' 26.41" | 575.0 | VNAV | 145.0 | Fly By | CF - 285.0° |
| ALIEH | WP | N 43° 43' 22.89" W 70° 48' 22.88" | 3722.9 | VNAV | 180.0 | Fly By | TF |
| HSKEL | WP | N 43° 39' 12.82" W 71° 2' 51.86" | 5983.9 | VNAV | 180.0 | Fly Over | TF |

## Flyability

Return To Summary

**Settings:**

**Flight Type:** Departure
**Selected Airport:** KPWM
**Aircraft Category:** Cat D
**Climb Gradient:**

Table:
**300.0 Ft/NM** up to **6500.0 Ft MSL**
**250.0 Ft/NM** up to **10000.0 Ft MSL**

**Ground Speeds:**
Departure: **120.0 Kts** out to **10.0 NM**
Table:
**200.0 Kts** up to **11000.0 Ft.**
**240.0 Kts** up to **18000.0 Ft.**
**260.0 Kts** up to **24000.0 Ft.**
**340.0 Kts** up to **99900.0 Ft.**

**Wind Settings:** *None assigned*
**Descent During a Turn:** Allowed
**VNAV Mode:** Flight Plan

ALTITUDE at Fly-By WP GH29: too high.

ALTITUDE at Fly-By WP ALIEH too high.

ALTITUDE at Fly-Over WP HSKEL too high.

Flight Track comes into contact with terrain. Minimum AGL along route was -60.17 Ft.
Flight Track contacted terrain (DTED lvl 0 max) between AER and DER or within 2/3 NM of DER.

## DME/DME

Return To Summary

**Settings:**

**RNP:** 2.0
**Flight Mode:** Manual
**Line of Sight (DTED Level 0 Max):** Evaluated
**DME Restrictions:** Evaluated
**Inertial Drift:** Enabled
**Initial Drift:** 0.165 NM
**INS Drift Rate:** 8.000 NM/Hour
**Range Mode:** OSV
**Co-Frequencies:** Evaluated
**RNP Edges:** Evaluated
**Min DME Range:** 3.0 NM
**Allowed Gap Length:** 4.0 NM
**DME Types:** VOR/DME , VORTAC , TACAN , and User
**DME Include Angles:** 30 to 150
**Critical DMEs:** Allowed
**DoD Facilities:** Not included
**Foreign Facilities:** Not included
**Low & Terminal DMEs:** Included
**Flight Check DMEs:** Selected
**Higher Altitudes:** Evaluated
**Near Maximum Altitude:** Evaluated
**Minimum MSL DMEs Avail:** 4005 Ft.

**Total Number of DMEs Used:** 3

Maximum DME Error: 1.125 NM.

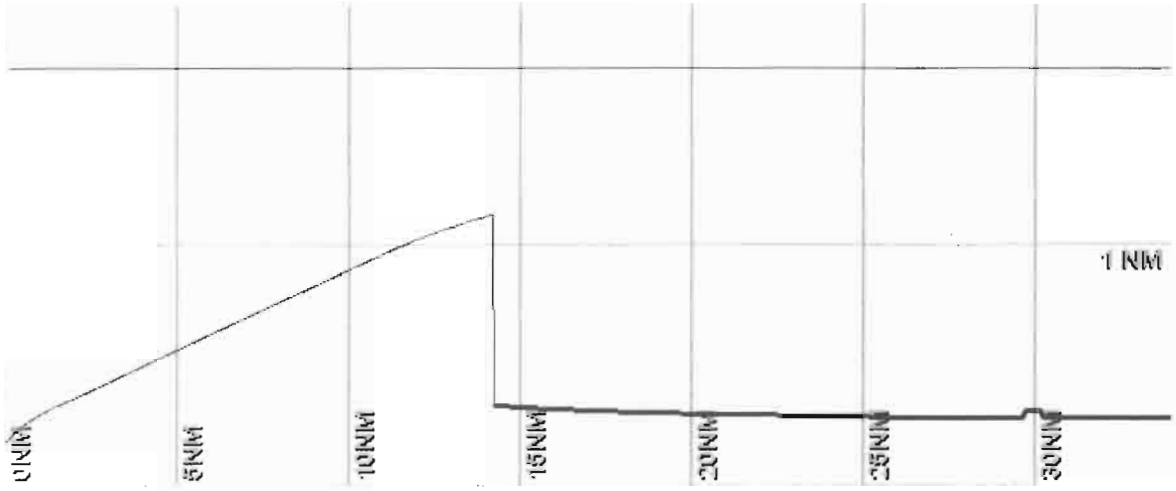
No Critical DMEs were found.

**Available DMEs:** ENE, PSM, LWM, CON, MHT

**Foreign DMEs within range:** VLV, YFC, YJN, YQB, YQI, YSC, YSJ, YUL, YOW

## DME/DME (Continued.)

Return To Summary



# DME/DME (Continued.)

Return To Summary

## DMEs Used

| # | Name | Lat/Lon | Range | Source | Critical | Err. [NM] | Status | Time | Distance |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CON | N 43° 13' 11.23"<br>W 71° 34' 31.63" | L + ESV | User | NO | 1.187 | Enabled | 43.9 % | 56.7 % |
| 2 | ENE | N 43° 25' 32.42"<br>W 70° 36' 48.69" | H | Database | NO | 1.125 | Enabled | 45.1 % | 58.2 % |
| 3 | MHT | N 42° 52' 6.70"<br>W 71° 22' 10.31" | L + ESV | User | NO | 1.125 | Enabled | 1.1 % | 1.5 % |

## Flight Check DME Selection

| Distance [NM] | Selected DMEs | | | | | Alternate |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | |
| 1.2 | ENE | | | | | |
| 6.8 | ENE | CON | PSM | MHT | LWM | |
| 22.0 | ENE | CON | PSM | MHT | LWM | |

## Inertial Drift Segments

| # | Start Location | End Location | Length [NM] |
|---|---|---|---|
| 1 | N 43° 38' 38.52" W 70° 17' 56.37" | N 43° 41' 10.08" W 70° 37' 4.64" | 14.2 |
| | VOR: ENE | Available from N 43° 38' 38.52" W 70° 17' 56.37" to N 43° 41' 10.08" W 70° 37' 4.64" | |
| | VOR: PSM | Available from N 43° 38' 48.72" W 70° 20' 28.07" to N 43° 41' 10.08" W 70° 37' 4.64" | |

## User DMEs

| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 1 | MHT | N 42° 52' 6.70"<br>W 71° 22' 10.31" | L | 470.5 | 114.40 | MHT | Used |
| | | ESV: Bearing [True]: 15.0° to 55.0°<br>Bearing [Mag]: 30.0° to 70.0° | | | Arc Distance: Out to 66.0 NM<br>Altitude: 3500.0 to 12000.0 Ft. | | |
| 2 | LFV | N 42° 1' 1.88"<br>W 70° 2' 14.04" | H | 150.8 | 114.70 | LFV | Not Used |
| | | ESV: Bearing [True]: 330.0° to 1.0°<br>Bearing [Mag]: 346.0° to 17.0° | | | Arc Distance: Out to 95.0 NM<br>Altitude: 6000.0 to 18000.0 Ft. | | |

## DME/DME (Continued.)

Return To Summary

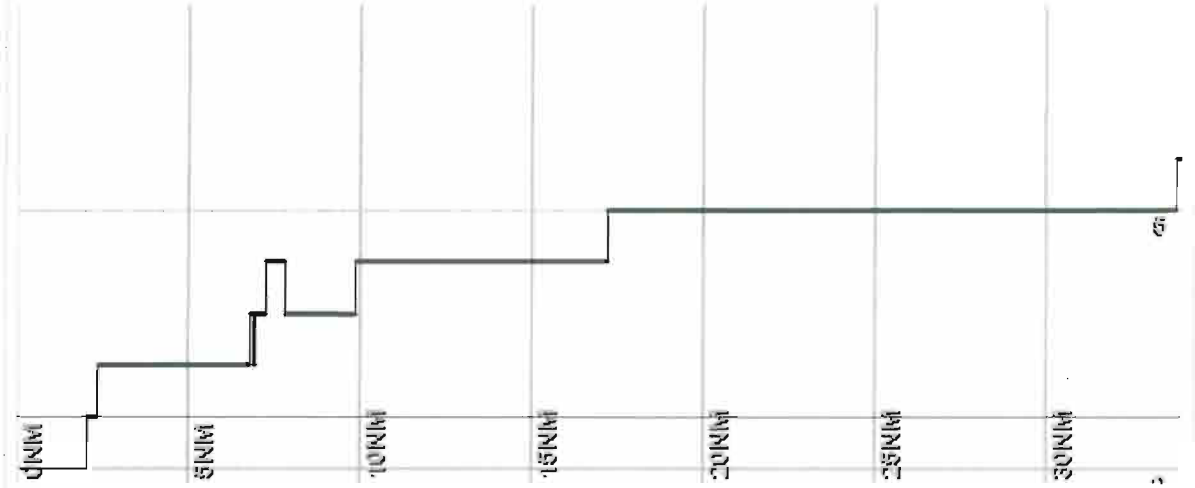
### *User DMEs (Continued.)*

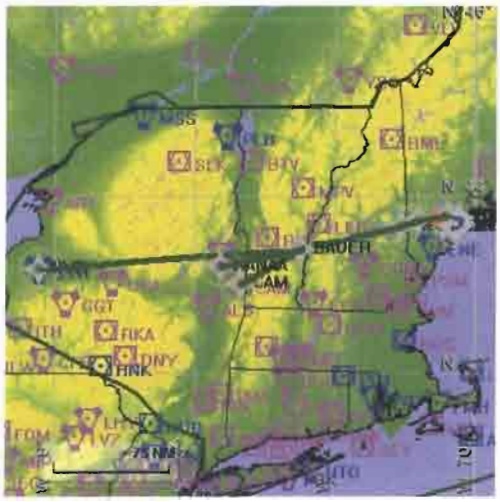
| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 3 | CON | N 43° 13' 11.23"<br>W 71° 34' 31.63" | L | 714.5 | 112.90 | CON | Used |
| | | Restriction: Bearing [True]: 175.0° to 195.0°<br>Bearing [Mag]: 190.0° to 210.0° | | | Distance: Beyond 12.0 NM<br>Altitude: Below 4000.0 Ft. | | |
| | | Restriction: Bearing [True]: 303.0° to 311.0°<br>Bearing [Mag]: 318.0° to 326.0° | | | Distance: Beyond 30.0 NM<br>Altitude: Below 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 39.0° to 90.0°<br>Bearing [Mag]: 54.0° to 105.0° | | | Arc Distance: Out to 63.0 NM<br>Altitude: 4000.0 to 17000.0 Ft. | | |
| 4 | LWM | N 42° 44' 25.50"<br>W 71° 5' 41.43" | L | 302.2 | 112.50 | LWM | Not Used |
| | | ESV: Bearing [True]: 21.0° to 42.0°<br>Bearing [Mag]: 36.0° to 57.0° | | | Arc Distance: Out to 66.0 NM<br>Altitude: 3500.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 5.0° to 26.0°<br>Bearing [Mag]: 20.0° to 41.0° | | | Arc Distance: Out to 70.0 NM<br>Altitude: 5000.0 to 19000.0 Ft. | | |
| 5 | BOS | N 42° 21' 26.82"<br>W 70° 59' 22.37" | H | 20.0 | 112.70 | BOS | Not Used |
| | | Restriction: Bearing [True]: 261.0° to 8.0°<br>Bearing [Mag]: 277.0° to 24.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 12.0° to 17.0°<br>Bearing [Mag]: 28.0° to 33.0° | | | Arc Distance: Out to 71.0 NM<br>Altitude: 4800.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 28.0°<br>Bearing [Mag]: 36.0° to 44.0° | | | Arc Distance: Out to 77.0 NM<br>Altitude: 5300.0 to 19000.0 Ft. | | |
| 6 | PSM | N 43° 5' 4.06"<br>W 70° 49' 55.15" | L | 99.3 | 116.50 | PSM | Not Used |
| | | Restriction: Bearing [True]: 13.0° to 55.0°<br>Bearing [Mag]: 29.0° to 71.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 64.0° to 69.0°<br>Bearing [Mag]: 80.0° to 85.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 99.0° to 104.0°<br>Bearing [Mag]: 115.0° to 120.0° | | | Distance: Beyond 37.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 174.0° to 189.0°<br>Bearing [Mag]: 190.0° to 205.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 209.0° to 224.0°<br>Bearing [Mag]: 225.0° to 240.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 53.0°<br>Bearing [Mag]: 36.0° to 69.0° | | | Arc Distance: Out to 51.0 NM<br>Altitude: 2700.0 to 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 340.0° to 25.0°<br>Bearing [Mag]: 356.0° to 41.0° | | | Arc Distance: Out to 46.0 NM<br>Altitude: 4000.0 to 19000.0 Ft. | | |

## Radar Analysis

Return To Summary

**Settings:** **Radar Types:** ARSR and ASR






| | |
|---|---|
| **Name:** | DAVE COOK |
| **Project Name:** | KPWM HSKEL1 SID ALL TRANSITIONS 20120120 |
| **Software:** | RNAV-Pro™ |
| **Version:** | 2.35l |
| **Date/Time:** | 1/20/2012 12:44:02 PM |
| **Input File:** | KPWM HSKEL1 SID RW11... |
| **Databases:** | AVNIS Date: 08/26/2011 |
| | NFD Date: 07/02/2009 |
| | DTED® (MAX) Date: 2002 |

## Results Summary:

| | | |
|---|---|---|
| **Flyability** | ✔ | **Please Check Flyability Results** |
| **DME/DME** | ✔ | |
| **Radars** | ✔ | |
| **Comms** | | |
| **TERPS** | | |

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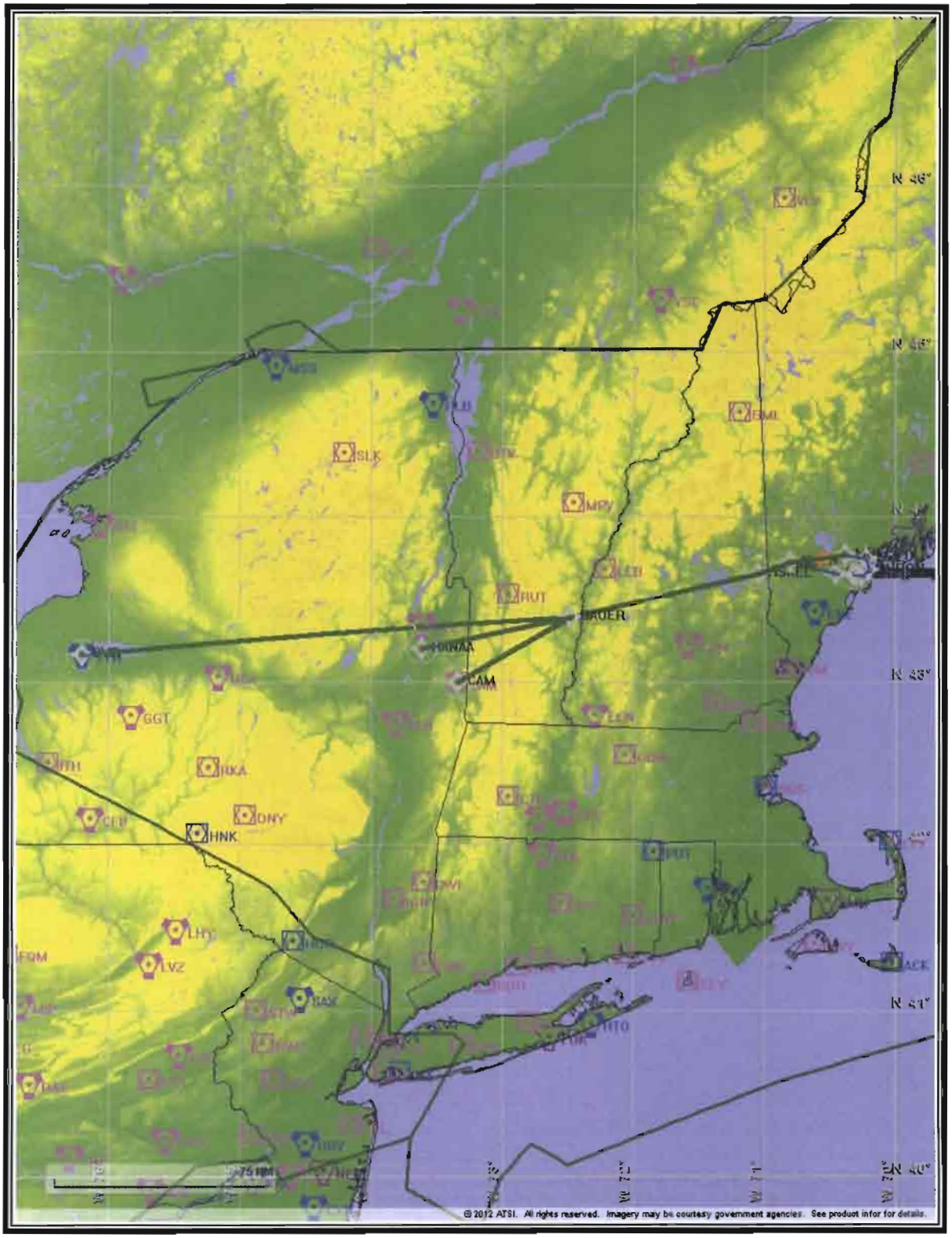
N 46°
N 45°
N 44°
N 43°
N 42°
N 41°
N 40°
SLK
MPV
RUT
BGER
CAM
GGT
RKA
ONY
HNK
PUT
ACK
HTO
LVZ
FRM
75 NM
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## Flight Plan

Return To Summary

| Name | Type | Lat/Lon | Alt [Ft] | VNAV Mode | IAS [Kts] | Turn Type | Leg Type |
|---|---|---|---|---|---|---|---|
| RW11(A... | WP | N 43° 38' 45.10" W 70° 19' 33.86" | 75.6 | VNAV | 0.0 | Fly By | TF |
| RW29(D... | WP | N 43° 38' 38.52" W 70° 17' 56.37" | 77.2 | VNAV | 130.0 | Fly Over | VI |
| GH11: | WP | N 43° 38' 29.82" W 70° 15' 48.81" | 575.0 | VNAV | 145.0 | Fly By | CF - 53.0° |
| AHRON | WP | N 43° 40' 24.11" W 70° 12' 20.12" | 1207.7 | VNAV | 180.0 | Fly By | TF |
| LIZLU | WP | N 43° 44' 35.20" W 70° 13' 26.82" | 2059.9 | VNAV | 180.0 | Fly By | TF |
| MRKEE | WP | N 43° 46' 0.84" W 70° 22' 58.43" | 3470.1 | VNAV | 180.0 | Fly By | TF |
| ALIEH | WP | N 43° 43' 22.89" W 70° 48' 22.88" | 7191.0 | VNAV | 180.0 | Fly By | TF |
| HSKEL | WP | N 43° 39' 12.82" W 71° 2' 51.86" | 9451.9 | VNAV | 180.0 | Fly By | TF |
| BAUER | WP | N 43° 23' 14.08" W 72° 28' 50.62" | 18000.0 | VNAV | 240.0 | Fly By | TF |
| CAM | WP | N 42° 59' 39.44" W 73° 20' 38.47" | 18000.0 | VNAV | 240.0 | Fly Over | TF |

## Flyability

Return To Summary

**Settings:**

**Flight Type:** Departure
**Selected Airport:** KPWM
**Aircraft Category:** Cat D
**Climb Gradient:**

Table:
**300.0 Ft/NM** up to **6500.0 Ft MSL**
**250.0 Ft/NM** up to **10000.0 Ft MSL**

**Ground Speeds:**
Departure: **120.0 Kts** out to **10.0 NM**
Table:
**200.0 Kts** up to **11000.0 Ft.**
**240.0 Kts** up to **18000.0 Ft.**
**260.0 Kts** up to **24000.0 Ft.**
**340.0 Kts** up to **99900.0 Ft.**

**Wind Settings:** *None assigned*
**Descent During a Turn:** Allowed
**VNAV Mode:** Flight Plan

ALTITUDE at Fly-By WP AHRON too high.

ALTITUDE at Fly-By WP LIZLU too high.

ALTITUDE at Fly-By WP MRKEE too high.

ALTITUDE at Fly-By WP HSKEL too high.

Flight Track comes into contact with terrain. Minimum AGL along route was -45.79 Ft.
Flight Track contacted terrain (DTED lvl 0 max) between AER and DER or within 2/3 NM of DER.

## DME/DME

Return To Summary

**Settings:**

**RNP:** 2.0
**Flight Mode:** Manual
**Line of Sight (DTED Level 0 Max):** Evaluated
**DME Restrictions:** Evaluated
**Inertial Drift:** Enabled
**Initial Drift:** 0.165 NM
**INS Drift Rate:** 8.000 NM/Hour
**Range Mode:** OSV
**Co-Frequencies:** Evaluated
**RNP Edges:** Evaluated
**Min DME Range:** 3.0 NM
**Allowed Gap Length:** 4.0 NM
**DME Types:** VOR/DME , VORTAC , TACAN , and User
**DME Include Angles:** 30 to 150
**Critical DMEs:** Allowed
**DoD Facilities:** Not included
**Foreign Facilities:** Not included
**Low & Terminal DMEs:** Included
**Flight Check DMEs:** Selected
**Higher Altitudes:** Evaluated
**Near Maximum Altitude:** Evaluated
**Minimum MSL DMEs Avail:** 5006 Ft.

**Total Number of DMEs Used:** 10

Maximum DME Error: 1.261 NM.

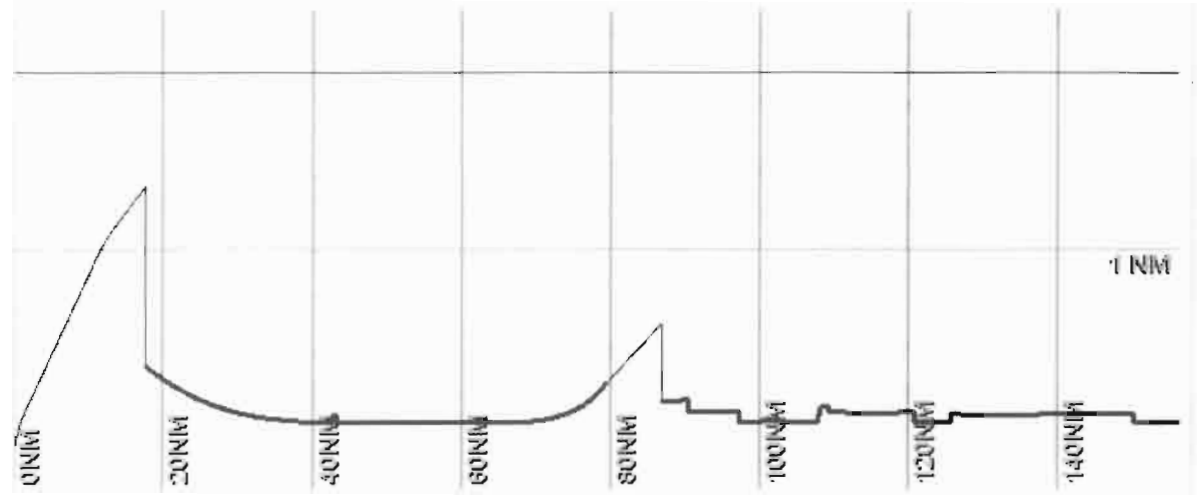
1 Critical DME was found.

**Available DMEs:** ENE, PSM, CON, LWM, MHT, LEB, BOS, PUT, PLB, EEN, CAM, GFL, ALB

**Foreign DMEs within range:** VLV, YFC, YJN, YQB, YQI, YSC, YSJ, YUL, YOW, UTR, YCF, YXI

## DME/DME (Continued.)

Return To Summary



## DME/DME (Continued.)

Return To Summary

### DMEs Used

| # | Name | Lat/Lon | Range | Source | Critical | Err. [NM] | Status | Time | Distance |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CON | N 43° 13' 11.23" W 71° 34' 31.63" | L + ESV | User | YES | Drift Time | Enabled | 42.4 % | 42.6 % |
| 2 | ENE | N 43° 25' 32.42" W 70° 36' 48.69" | H | Database | NO | 1.258 | Enabled | 41.4 % | 41.5 % |
| 3 | MHT | N 42° 52' 6.70" W 71° 22' 10.31" | L + ESV | User | NO | 1.261 | Enabled | 0.3 % | 0.3 % |
| 4 | LEB | N 43° 40' 43.88" W 72° 12' 57.87" | L | Database | NO | 1.261 | Enabled | 20.1 % | 23.1 % |
| 5 | BOS | N 42° 21' 26.82" W 70° 59' 22.37" | H + ESV | User | NO | 1.261 | Enabled | 8.2 % | 9.7 % |
| 6 | PUT | N 41° 57' 19.66" W 71° 50' 38.74" | H | Database | NO | 1.261 | Enabled | 17.5 % | 20.9 % |
| 7 | CAM | N 42° 59' 39.44" W 73° 20' 38.47" | L | Database | NO | 1.261 | Enabled | 10.9 % | 13.3 % |
| 8 | EEN | N 42° 47' 39.40" W 72° 17' 30.40" | L | Database | NO | 1.261 | Enabled | 2.5 % | 3.1 % |
| 9 | ALB | N 42° 44' 50.21" W 73° 48' 11.46" | L | Database | NO | 1.261 | Enabled | 7.6 % | 9.3 % |
| 10 | GFL | N 43° 20' 30.10" W 73° 36' 42.36" | L | Database | NO | 1.261 | Enabled | 3.2 % | 3.9 % |

### Flight Check DME Selection

| Distance [NM] | Selected DMEs | | | | | Alternate |
|---|---|---|---|---|---|---|
| 0.0 | | | | | | |
| 1.2 | | | | | | |
| 2.5 | ENE | | | | | |
| 5.5 | ENE | | | | | |
| 9.7 | ENE | PSM | | | | |
| 16.6 | ENE | PSM | CON | LWM | MHT | |
| 35.2 | ENE | PSM | CON | LWM | MHT | |
| 46.6 | ENE | PSM | CON | | | |
| 56.7 | ENE | LEB | CON | BOS | PUT | PLB |
| 110.9 | ENE | LEB | CAM | BOS | EEN | PUT |
| 122.0 | PUT | LEB | CAM | GFL | EEN | ENE |
| 133.3 | PUT | PLB | CAM | GFL | ALB | |

## DME/DME (Continued.)

Return To Summary

### *Inertial Drift Segments*

| # | Start Location | End Location | Length [NM] |
|---|---|---|---|
| 1 | N 43° 38' 45.10" W 70° 19' 33.86" | N 43° 45' 56.70" W 70° 23' 40.67" | 17.6 |
| | VOR: ENE | Available from N 43° 38' 45.10" W 70° 19' 33.86" to N 43° 45' 56.70" W 70° 23' 40.67" | |
| | VOR: AUG | Available from N 43° 43' 39.86" W 70° 13' 11.98" to N 43° 45' 4.77" W 70° 16' 42.21" | |
| 2 | N 43° 31' 21.38" W 71° 45' 58.52" | N 43° 29' 29.05" W 71° 56' 0.14" | 7.5 |
| | VOR: CON | Available from N 43° 31' 21.38" W 71° 45' 58.52" to N 43° 29' 29.05" W 71° 56' 0.14" | |
| | VOR: LEB | Available from N 43° 31' 21.38" W 71° 45' 58.52" to N 43° 29' 29.05" W 71° 56' 0.14" | |

### *User DMEs*

| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 1 | MHT | N 42° 52' 6.70" W 71° 22' 10.31" | L | 470.5 | 114.40 | MHT | Used |
| | | ESV: Bearing [True]: 15.0° to 55.0° Bearing [Mag]: 30.0° to 70.0° | | | Arc Distance: Out to 66.0 NM Altitude: 3500.0 to 12000.0 Ft. | | |
| 2 | LFV | N 42° 1' 1.88" W 70° 2' 14.04" | H | 150.8 | 114.70 | LFV | Not Used |
| | | ESV: Bearing [True]: 330.0° to 1.0° Bearing [Mag]: 346.0° to 17.0° | | | Arc Distance: Out to 95.0 NM Altitude: 6000.0 to 18000.0 Ft. | | |
| 3 | CON | N 43° 13' 11.23" W 71° 34' 31.63" | L | 714.5 | 112.90 | CON | Used |
| | | Restriction: Bearing [True]: 175.0° to 195.0° Bearing [Mag]: 190.0° to 210.0° | | | Distance: Beyond 12.0 NM Altitude: Below 4000.0 Ft. | | |
| | | Restriction: Bearing [True]: 303.0° to 311.0° Bearing [Mag]: 318.0° to 326.0° | | | Distance: Beyond 30.0 NM Altitude: Below 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 39.0° to 90.0° Bearing [Mag]: 54.0° to 105.0° | | | Arc Distance: Out to 63.0 NM Altitude: 4000.0 to 17000.0 Ft. | | |
| 4 | LWM | N 42° 44' 25.50" W 71° 5' 41.43" | L | 302.2 | 112.50 | LWM | Not Used |
| | | ESV: Bearing [True]: 21.0° to 42.0° Bearing [Mag]: 36.0° to 57.0° | | | Arc Distance: Out to 66.0 NM Altitude: 3500.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 5.0° to 26.0° Bearing [Mag]: 20.0° to 41.0° | | | Arc Distance: Out to 70.0 NM Altitude: 5000.0 to 19000.0 Ft. | | |

## DME/DME (Continued.)

Return To Summary

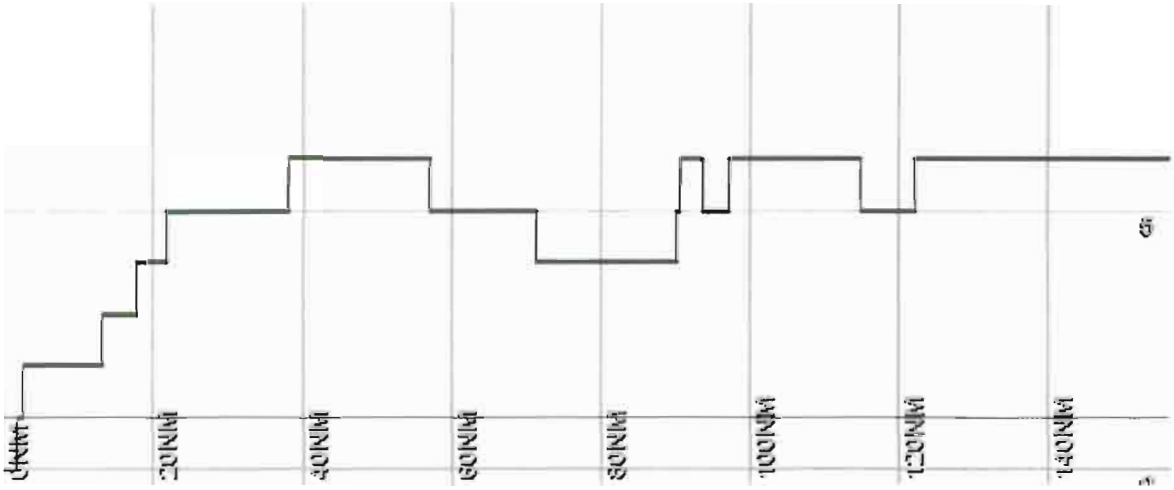
### *User DMEs (Continued.)*

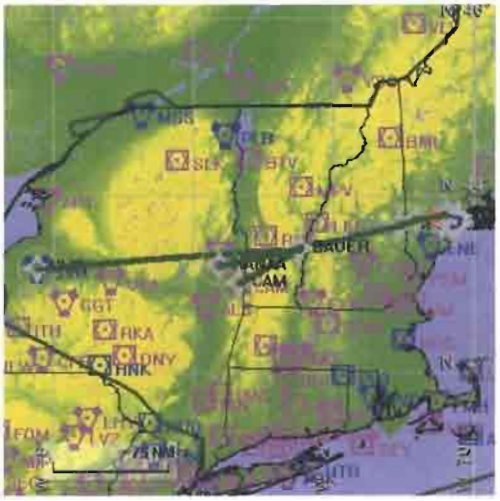
| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 5 | BOS | N 42° 21' 26.82"<br>W 70° 59' 22.37" | H | 20.0 | 112.70 | BOS | Used |
| | | Restriction: Bearing [True]: 261.0° to 8.0°<br>Bearing [Mag]: 277.0° to 24.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 12.0° to 17.0°<br>Bearing [Mag]: 28.0° to 33.0° | | | Arc Distance: Out to 71.0 NM<br>Altitude: 4800.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 28.0°<br>Bearing [Mag]: 36.0° to 44.0° | | | Arc Distance: Out to 77.0 NM<br>Altitude: 5300.0 to 19000.0 Ft. | | |
| 6 | PSM | N 43° 5' 4.06"<br>W 70° 49' 55.15" | L | 99.3 | 116.50 | PSM | Not Used |
| | | Restriction: Bearing [True]: 13.0° to 55.0°<br>Bearing [Mag]: 29.0° to 71.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 64.0° to 69.0°<br>Bearing [Mag]: 80.0° to 85.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 99.0° to 104.0°<br>Bearing [Mag]: 115.0° to 120.0° | | | Distance: Beyond 37.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 174.0° to 189.0°<br>Bearing [Mag]: 190.0° to 205.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 209.0° to 224.0°<br>Bearing [Mag]: 225.0° to 240.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 53.0°<br>Bearing [Mag]: 36.0° to 69.0° | | | Arc Distance: Out to 51.0 NM<br>Altitude: 2700.0 to 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 340.0° to 25.0°<br>Bearing [Mag]: 356.0° to 41.0° | | | Arc Distance: Out to 46.0 NM<br>Altitude: 4000.0 to 19000.0 Ft. | | |

## Radar Analysis

Return To Summary

**Settings:** **Radar Types:** ARSR and ASR






| | |
|---|---|
| **Name:** | DAVE COOK |
| **Project Name:** | KPWM HSKEL1 SID ALL TRANSITIONS 20120120 |
| **Software:** | RNAV-Pro™ |
| **Version:** | 2.35I |
| **Date/Time:** | 1/20/2012 12:44:34 PM |
| **Input File:** | KPWM HSKEL1 SID BAUE... |
| **Databases:** | AVNIS Date: 08/26/2011 |
| | NFD Date: 07/02/2009 |
| | DTED® (MAX) Date: 2002 |

## Results Summary:

| | |
|---|---|
| **Flyability** | ✔ |
| **DME/DME** | ✔ |
| **Radars** | ✔ |
| **Comms** | ? |
| **TERPS** | ? |

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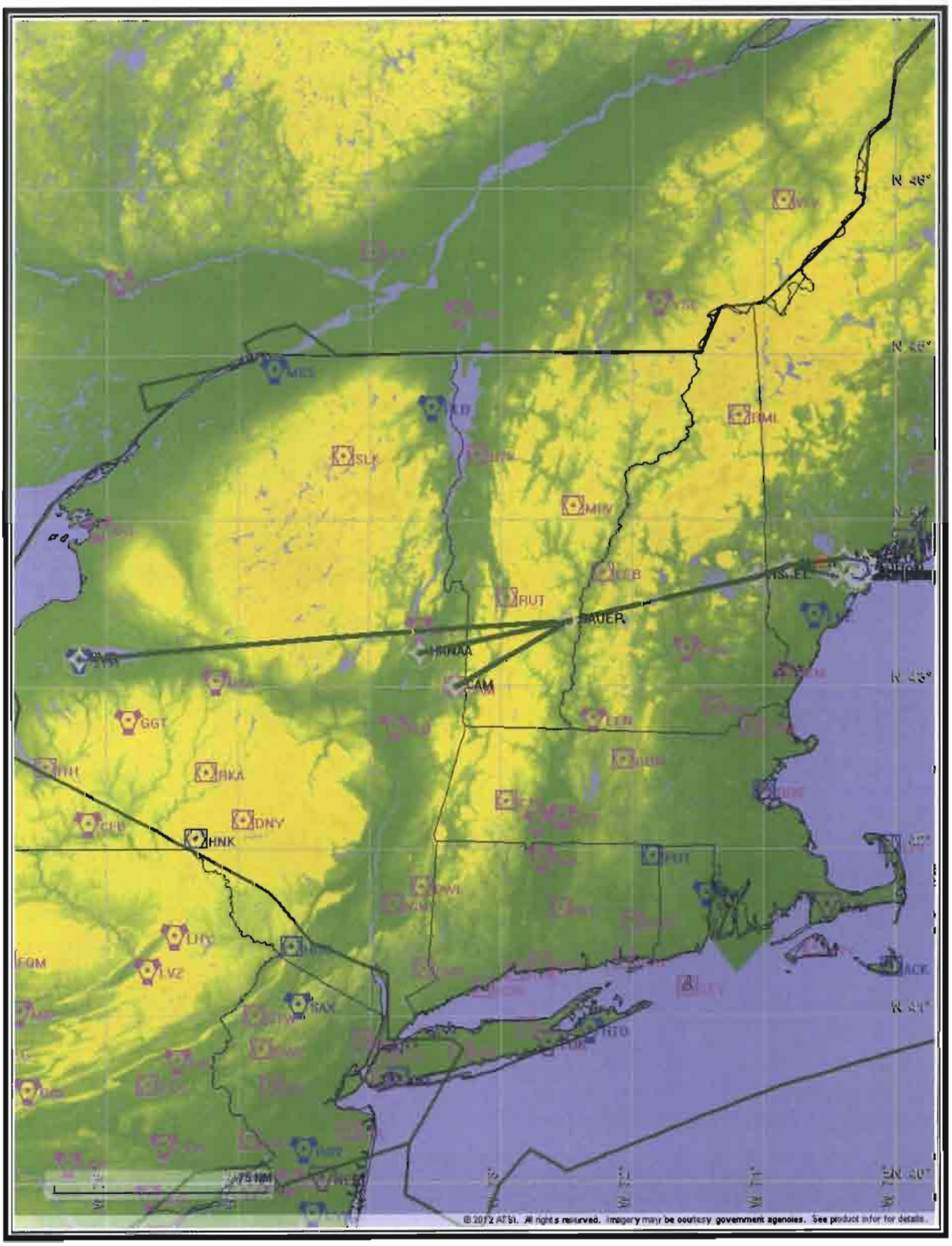
HSKEL
AUER
HNAA
CAM
HNK
RUT
MIV
SLK
GGT
RKA
DNY
LVZ
FOM
ACK
N 46°
N 45°
N 44°
N 43°
N 42°
N 41°
N 40°
75 NM
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## Flight Plan

Return To Summary

| Name | Type | Lat/Lon | Alt [Ft] | VNAV Mode | IAS [Kts] | Turn Type | Leg Type |
|---|---|---|---|---|---|---|---|
| BAUER | WP | N 43° 23' 14.08" W 72° 28' 50.62" | 18000.0 | VNAV | 240.0 | Fly By | TF |
| HANAA | WP | N 43° 11' 52.06" W 73° 36' 46.17" | 18000.0 | VNAV | 240.0 | Fly Over | TF |

## Flyability

Return To Summary

**Settings:**

**Flight Type:** EnRoute
**Selected Airport:** KPWM
**Aircraft Category:** Cat D
**Climb Gradient:**

Table:

**300.0 Ft/NM** up to **6500.0 Ft MSL**
**250.0 Ft/NM** up to **10000.0 Ft MSL**

**Ground Speeds:**

Table:

**200.0 Kts** up to **11000.0 Ft.**
**240.0 Kts** up to **18000.0 Ft.**
**260.0 Kts** up to **24000.0 Ft.**
**340.0 Kts** up to **99900.0 Ft.**

**Wind Settings:** *None assigned*
**Descent During a Turn:** Allowed
**VNAV Mode:** Flight Plan

Entire track is fly-able

## DME/DME

Return To Summary

**Settings:**

**RNP:** 2.0
**Flight Mode:** Manual
**Line of Sight (DTED Level 0 Max):** Evaluated
**DME Restrictions:** Evaluated
**Inertial Drift:** Enabled
**Initial Drift:** 0.558 NM
**INS Drift Rate:** 8.000 NM/Hour
**Range Mode:** OSV
**Co-Frequencies:** Evaluated
**RNP Edges:** Evaluated
**Min DME Range:** 3.0 NM
**Allowed Gap Length:** 4.0 NM
**DME Types:** VOR/DME , VORTAC , TACAN , and User
**DME Include Angles:** 30 to 150
**Critical DMEs:** Allowed
**DoD Facilities:** Not included
**Foreign Facilities:** Not included
**Low & Terminal DMEs:** Included
**Flight Check DMEs:** Selected
**Higher Altitudes:** Evaluated
**Near Maximum Altitude:** Evaluated

**Total Number of DMEs Used:** 6

Maximum DME Error: 0.584 NM.

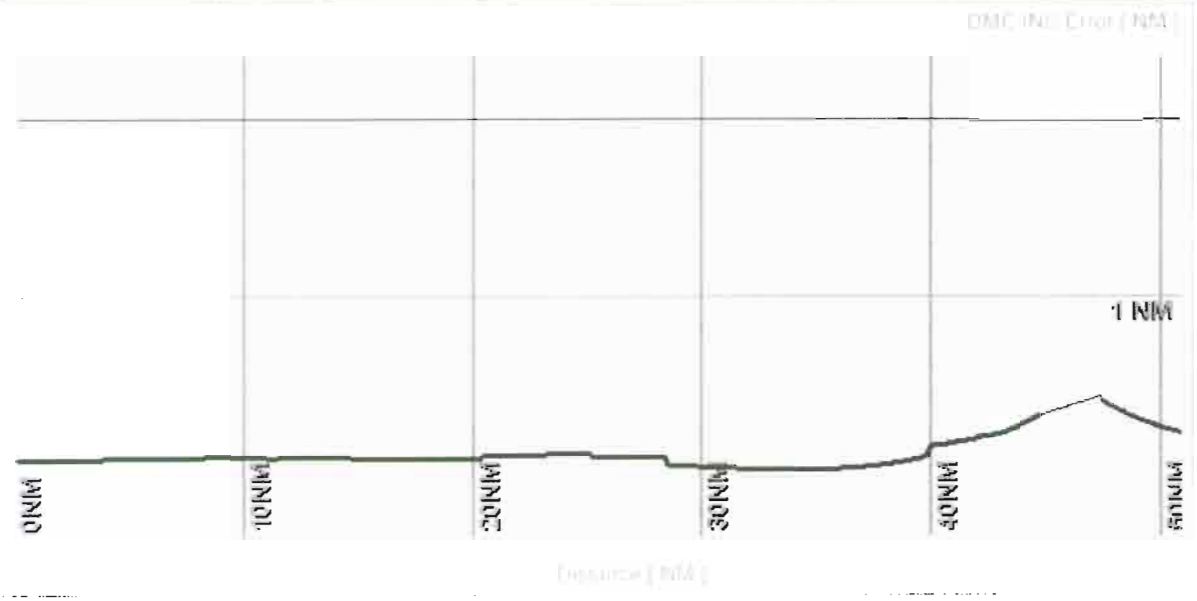
No Critical DMEs were found.

**Available DMEs:** BOS, ENE, LEB, PUT, CAM, GFL, PLB

**Foreign DMEs within range:** UTR, VLV, YCF, YJN, YOW, YQB, YSC, YUL, YXI

## DME/DME (Continued.)

Return To Summary



## DME/DME (Continued.)

Return To Summary

### DMEs Used

| # | Name | Lat/Lon | Range | Source | Critical | Err. [NM] | Status | Time | Distance |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BOS | N 42° 21' 26.82" W 70° 59' 22.37" | H + ESV | User | NO | 0.584 | Enabled | 21.6 % | 21.4 % |
| 2 | LEB | N 43° 40' 43.88" W 72° 12' 57.87" | L | Database | NO | 0.584 | Enabled | 35.0 % | 34.9 % |
| 3 | CAM | N 42° 59' 39.44" W 73° 20' 38.47" | L | Database | NO | 0.691 | Enabled | 43.7 % | 43.8 % |
| 4 | PUT | N 41° 57' 19.66" W 71° 50' 38.74" | H | Database | NO | 0.746 | Enabled | 27.8 % | 27.8 % |
| 5 | GFL | N 43° 20' 30.10" W 73° 36' 42.36" | L | Database | NO | 1.041 | Enabled | 38.4 % | 38.5 % |
| 6 | PLB | N 44° 41' 5.76" W 73° 31' 21.67" | H | Database | NO | 0.663 | Enabled | 22.7 % | 22.7 % |

### Flight Check DME Selection

| Distance [NM] | Selected DMEs | | | | | Alternate |
|---|---|---|---|---|---|---|
| 0.0 | CAM | LEB | ENE | PUT | BOS | GFL |
| 25.1 | CAM | PLB | GFL | | | |

### Inertial Drift Segments

| # | Start Location | End Location | Length [NM] |
|---|---|---|---|
| 1 | N 43° 13' 17.13" W 73° 28' 32.42" | N 43° 12' 40.45" W 73° 32' 5.87" | 2.7 |

VOR: ALB — Available from N 43° 13' 17.13" W 73° 28' 32.42" to N 43° 12' 40.45" W 73° 32' 5.87"

VOR: CAM — Available from N 43° 13' 17.13" W 73° 28' 32.42" to N 43° 12' 40.45" W 73° 32' 5.87"

VOR: GFL — Available from N 43° 13' 17.13" W 73° 28' 32.42" to N 43° 12' 40.45" W 73° 32' 5.87"

VOR: RUT — Available from N 43° 13' 17.13" W 73° 28' 32.42" to N 43° 12' 40.45" W 73° 32' 5.87"

## DME/DME (Continued.)

Return To Summary

### *User DMEs*

| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 1 | MHT | N 42° 52' 6.70"<br>W 71° 22' 10.31" | L | 470.5 | 114.40 | MHT | Not Used |
| | | ESV: Bearing [True]: 15.0° to 55.0°<br>Bearing [Mag]: 30.0° to 70.0° | | | Arc Distance: Out to 66.0 NM<br>Altitude: 3500.0 to 12000.0 Ft. | | |
| 2 | LFV | N 42° 1' 1.88"<br>W 70° 2' 14.04" | H | 150.8 | 114.70 | LFV | Not Used |
| | | ESV: Bearing [True]: 330.0° to 1.0°<br>Bearing [Mag]: 346.0° to 17.0° | | | Arc Distance: Out to 95.0 NM<br>Altitude: 6000.0 to 18000.0 Ft. | | |
| 3 | CON | N 43° 13' 11.23"<br>W 71° 34' 31.63" | L | 714.5 | 112.90 | CON | Not Used |
| | | Restriction: Bearing [True]: 175.0° to 195.0°<br>Bearing [Mag]: 190.0° to 210.0° | | | Distance: Beyond 12.0 NM<br>Altitude: Below 4000.0 Ft. | | |
| | | Restriction: Bearing [True]: 303.0° to 311.0°<br>Bearing [Mag]: 318.0° to 326.0° | | | Distance: Beyond 30.0 NM<br>Altitude: Below 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 39.0° to 90.0°<br>Bearing [Mag]: 54.0° to 105.0° | | | Arc Distance: Out to 63.0 NM<br>Altitude: 4000.0 to 17000.0 Ft. | | |
| 4 | LWM | N 42° 44' 25.50"<br>W 71° 5' 41.43" | L | 302.2 | 112.50 | LWM | Not Used |
| | | ESV: Bearing [True]: 21.0° to 42.0°<br>Bearing [Mag]: 36.0° to 57.0° | | | Arc Distance: Out to 66.0 NM<br>Altitude: 3500.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 5.0° to 26.0°<br>Bearing [Mag]: 20.0° to 41.0° | | | Arc Distance: Out to 70.0 NM<br>Altitude: 5000.0 to 19000.0 Ft. | | |
| 5 | BOS | N 42° 21' 26.82"<br>W 70° 59' 22.37" | H | 20.0 | 112.70 | BOS | Used |
| | | Restriction: Bearing [True]: 261.0° to 8.0°<br>Bearing [Mag]: 277.0° to 24.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 12.0° to 17.0°<br>Bearing [Mag]: 28.0° to 33.0° | | | Arc Distance: Out to 71.0 NM<br>Altitude: 4800.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 28.0°<br>Bearing [Mag]: 36.0° to 44.0° | | | Arc Distance: Out to 77.0 NM<br>Altitude: 5300.0 to 19000.0 Ft. | | |

## DME/DME (Continued.)

Return To Summary

### *User DMEs (Continued.)*

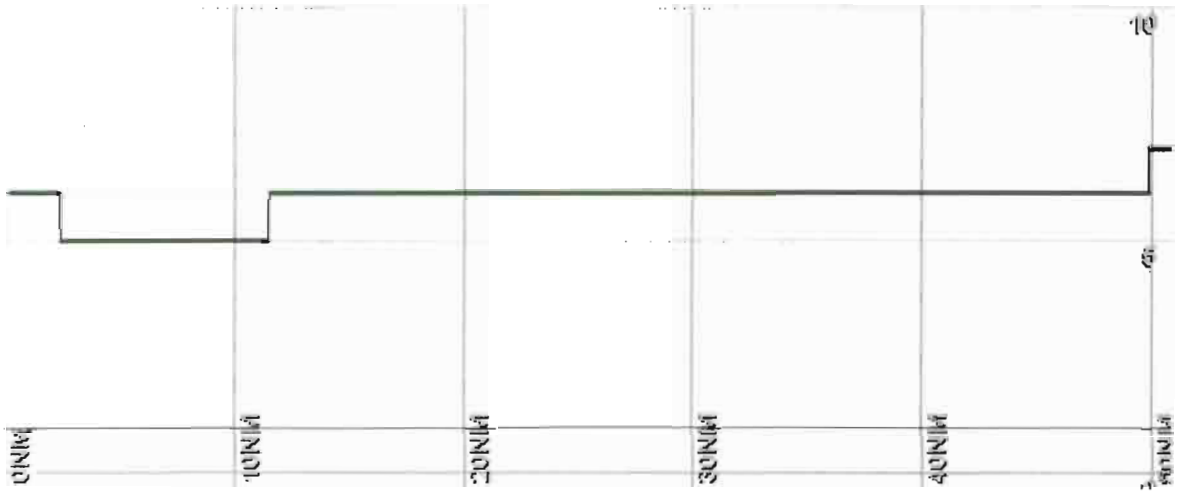
| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 6 | PSM | N 43° 5' 4.06"<br>W 70° 49' 55.15" | L | 99.3 | 116.50 | PSM | Not Used |

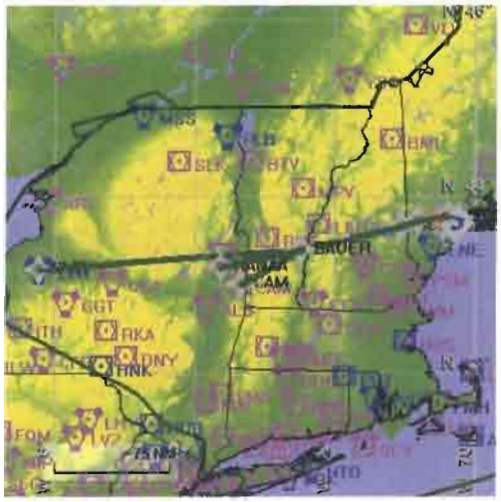
| | | |
|---|---|---|
| Restriction: | Bearing [True]: 13.0° to 55.0°<br>Bearing [Mag]: 29.0° to 71.0° | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. |
| Restriction: | Bearing [True]: 64.0° to 69.0°<br>Bearing [Mag]: 80.0° to 85.0° | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. |
| Restriction: | Bearing [True]: 99.0° to 104.0°<br>Bearing [Mag]: 115.0° to 120.0° | Distance: Beyond 37.0 NM<br>Altitude: Below 2500.0 Ft. |
| Restriction: | Bearing [True]: 174.0° to 189.0°<br>Bearing [Mag]: 190.0° to 205.0° | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. |
| Restriction: | Bearing [True]: 209.0° to 224.0°<br>Bearing [Mag]: 225.0° to 240.0° | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. |
| ESV: | Bearing [True]: 20.0° to 53.0°<br>Bearing [Mag]: 36.0° to 69.0° | Arc Distance: Out to 51.0 NM<br>Altitude: 2700.0 to 12000.0 Ft. |
| ESV: | Bearing [True]: 340.0° to 25.0°<br>Bearing [Mag]: 356.0° to 41.0° | Arc Distance: Out to 46.0 NM<br>Altitude: 4000.0 to 19000.0 Ft. |

## Radar Analysis

Return To Summary

**Settings:** **Radar Types:** ARSR and ASR






| | |
|---|---|
| **Name:** | DAVE COOK |
| **Project Name:** | KPWM HSKEL1 SID ALL TRANSITIONS 20120120 |
| **Software:** | RNAV-Pro™ |
| **Version:** | 2.35I |
| **Date/Time:** | 1/20/2012 12:44:18 PM |
| **Input File:** | KPWM HSKEL1 SID BAUE... |
| **Databases:** | AVNIS Date: 08/26/2011 |
| | NFD Date: 07/02/2009 |
| | DTED® (MAX) Date: 2002 |

## Results Summary:

| | |
|---|---|
| **Flyability** | ✔ |
| **DME/DME** | ✔ |
| **Radars** | ✔ |
| **Comms** | ? |
| **TERPS** | ? |

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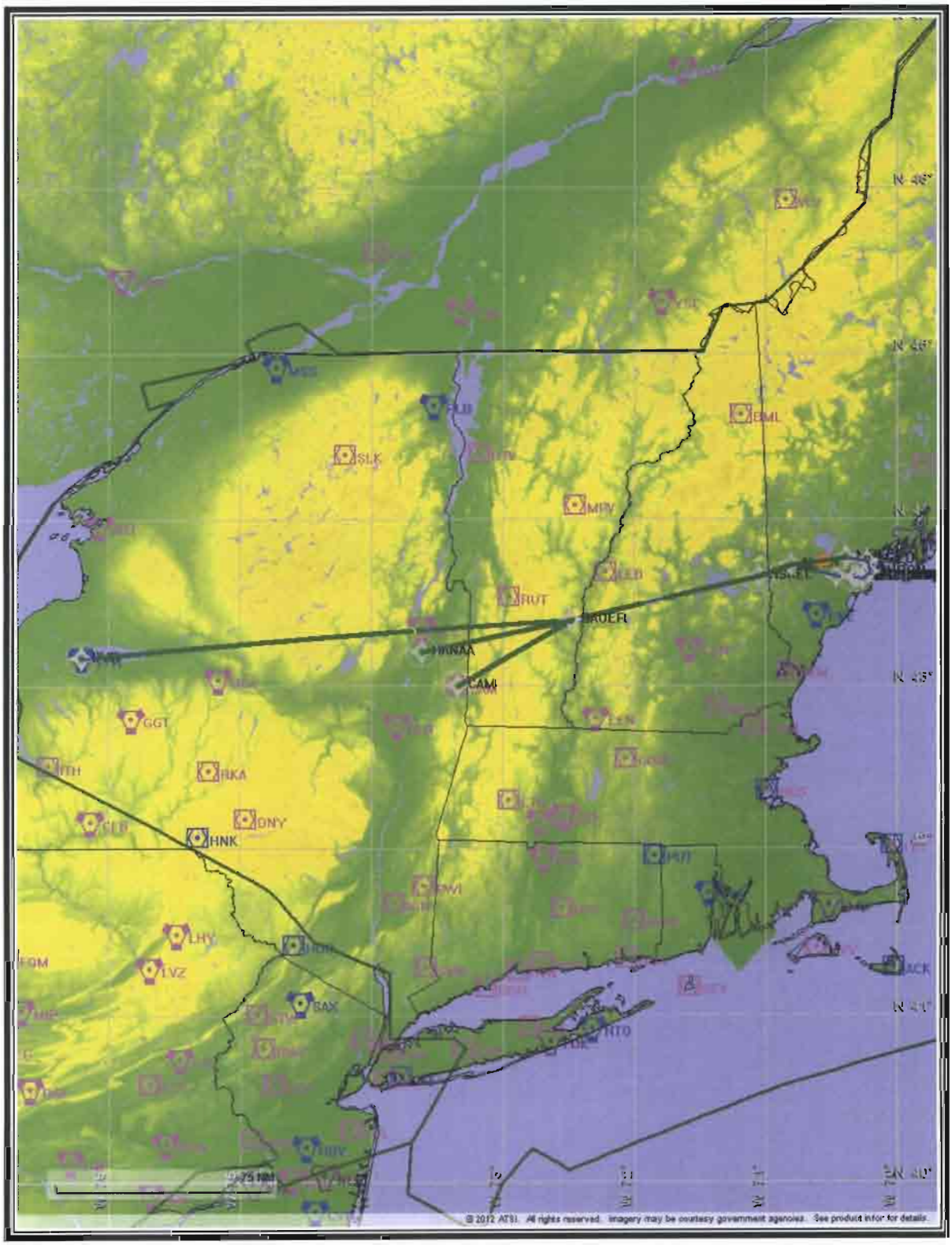
SLK
MPV
RUT
ROUEL
CAMI
GGT
RKA
DNY
HNK
LHY
VZ
BAX
EML
75 NM
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## Flight Plan

Return To Summary

| Name | Type | Lat/Lon | Alt [Ft] | VNAV Mode | IAS [Kts] | Turn Type | Leg Type |
|---|---|---|---|---|---|---|---|
| BAUER | WP | N 43° 23' 14.08"<br>W 72° 28' 50.62" | 18000.0 | VNAV | 240.0 | Fly By | TF |
| SYR | WP | N 43° 9' 37.90"<br>W 76° 12' 16.44" | 18000.0 | VNAV | 240.0 | Fly Over | TF |

## Flyability

Return To Summary

**Settings:**

**Flight Type:** EnRoute
**Selected Airport:** KPWM
**Aircraft Category:** Cat D
**Climb Gradient:**

Table:

**300.0 Ft/NM** up to **6500.0 Ft MSL**
**250.0 Ft/NM** up to **10000.0 Ft MSL**

**Ground Speeds:**

Table:

**200.0 Kts** up to **11000.0 Ft.**
**240.0 Kts** up to **18000.0 Ft.**
**260.0 Kts** up to **24000.0 Ft.**
**340.0 Kts** up to **99900.0 Ft.**

**Wind Settings:** *None assigned*
**Descent During a Turn:** Allowed
**VNAV Mode:** Flight Plan

Entire track is fly-able

## DME/DME

Return To Summary

**Settings:**

**RNP:** 2.0
**Flight Mode:** Manual
**Line of Sight (DTED Level 0 Max):** Evaluated
**DME Restrictions:** Evaluated
**Inertial Drift:** Enabled
**Initial Drift:** 0.558 NM
**INS Drift Rate:** 8.000 NM/Hour
**Range Mode:** OSV
**Co-Frequencies:** Evaluated
**RNP Edges:** Evaluated
**Min DME Range:** 3.0 NM
**Allowed Gap Length:** 4.0 NM
**DME Types:** VOR/DME , VORTAC , TACAN , and User
**DME Include Angles:** 30 to 150
**Critical DMEs:** Allowed
**DoD Facilities:** Not included
**Foreign Facilities:** Not included
**Low & Terminal DMEs:** Included
**Flight Check DMEs:** Selected
**Higher Altitudes:** Evaluated
**Near Maximum Altitude:** Evaluated

**Total Number of DMEs Used:** 11

Maximum DME Error: 0.466 NM.

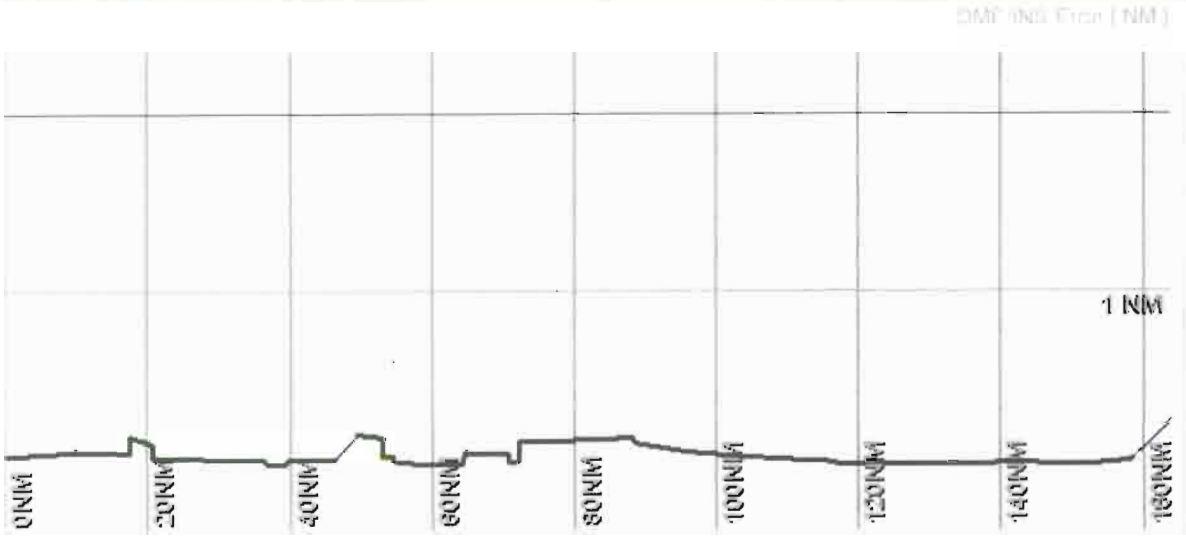
No Critical DMEs were found.

**Available DMEs:** BOS, ENE, LEB, PUT, CAM, GFL, PLB, ALB, HNK, SYR, UCA, GGT

**Foreign DMEs within range:** UTR, VLV, YCF, YJN, YOW, YQB, YSC, YUL, YXI, YYZ, YEE, YWT, YQO, YXU, UYB, YVV

## DME/DME (Continued.)

Return To Summary



## DME/DME (Continued.)

Return To Summary

### DMEs Used

| # | Name | Lat/Lon | Range | Source | Critical | Err. [NM] | Status | Time | Distance |
|---|---|---|---|---|---|---|---|---|---|
| 1 | BOS | N 42° 21' 26.82" W 70° 59' 22.37" | H + ESV | User | NO | 0.466 | Enabled | 6.0 % | 6.0 % |
| 2 | LEB | N 43° 40' 43.88" W 72° 12' 57.87" | L | Database | NO | 0.466 | Enabled | 10.8 % | 10.8 % |
| 3 | CAM | N 42° 59' 39.44" W 73° 20' 38.47" | L | Database | NO | 0.521 | Enabled | 10.3 % | 10.3 % |
| 4 | PUT | N 41° 57' 19.66" W 71° 50' 38.74" | H | Database | NO | 0.529 | Enabled | 4.7 % | 4.7 % |
| 5 | GFL | N 43° 20' 30.10" W 73° 36' 42.36" | L | Database | NO | 1.160 | Enabled | 24.9 % | 24.9 % |
| 6 | PLB | N 44° 41' 5.76" W 73° 31' 21.67" | H | Database | NO | 0.466 | Enabled | 24.5 % | 24.5 % |
| 7 | ALB | N 42° 44' 50.21" W 73° 48' 11.46" | L | Database | NO | 0.543 | Enabled | 9.4 % | 9.4 % |
| 8 | HNK | N 42° 3' 47.01" W 75° 18' 58.62" | H | Database | NO | 0.804 | Enabled | 35.5 % | 35.6 % |
| 9 | SYR | N 43° 9' 37.90" W 76° 12' 16.40" | H | Database | NO | 1.356 | Enabled | 52.6 % | 52.6 % |
| 10 | UCA | N 43° 1' 35.45" W 75° 9' 52.28" | L | Database | NO | 0.466 | Enabled | 2.8 % | 2.8 % |
| 11 | GGT | N 42° 47' 20.24" W 75° 49' 36.29" | L | Database | NO | 0.471 | Enabled | 8.2 % | 8.2 % |

### Flight Check DME Selection

| Distance [NM] | Selected DMEs | | | | | Alternate |
|---|---|---|---|---|---|---|
| 0.0 | BOS | LEB | CAM | PUT | ENE | GFL |
| 10.1 | GFL | LEB | CAM | PUT | ENE | |
| 20.6 | GFL | LEB | CAM | PLB | | |
| 49.1 | GFL | ALB | CAM | PLB | HNK | SYR |
| 72.2 | GFL | SYR | UCA | PLB | HNK | |
| 89.3 | HNK | SYR | UCA | GGT | | |

## DME/DME (Continued.)

Return To Summary

### *Inertial Drift Segments*

| # | Start Location | End Location | Length [NM] |
|---|---|---|---|
| 1 | N 43° 20' 8.28" W 73° 32' 4.15" | N 43° 19' 55.49" W 73° 36' 1.01" | 2.9 |
| | VOR: ALB | Available from N 43° 20' 8.28" W 73° 32' 4.15" to N 43° 19' 55.49" W 73° 36' 1.01" | |
| | VOR: CAM | Available from N 43° 20' 8.28" W 73° 32' 4.15" to N 43° 19' 55.49" W 73° 36' 1.01" | |
| | VOR: GFL | Available from N 43° 20' 8.28" W 73° 32' 4.15" to N 43° 19' 55.49" W 73° 36' 1.01" | |
| | VOR: RUT | Available from N 43° 20' 8.28" W 73° 32' 4.15" to N 43° 19' 55.49" W 73° 36' 1.01" | |
| 2 | N 43° 10' 12.22" W 76° 4' 50.94" | N 43° 9' 38.21" W 76° 12' 12.58" | 5.4 |
| | VOR: GGT | Available from N 43° 10' 12.22" W 76° 4' 50.94" to N 43° 9' 38.21" W 76° 12' 12.58" | |
| | VOR: SYR | Available from N 43° 10' 12.22" W 76° 4' 50.94" to N 43° 9' 38.21" W 76° 12' 12.58" | |

### *User DMEs*

| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 1 | MHT | N 42° 52' 6.70" W 71° 22' 10.31" | L | 470.5 | 114.40 | MHT | Not Used |
| | | ESV: Bearing [True]: 15.0° to 55.0° Bearing [Mag]: 30.0° to 70.0° | | | Arc Distance: Out to 66.0 NM Altitude: 3500.0 to 12000.0 Ft. | | |
| 2 | LFV | N 42° 1' 1.88" W 70° 2' 14.04" | H | 150.8 | 114.70 | LFV | Not Used |
| | | ESV: Bearing [True]: 330.0° to 1.0° Bearing [Mag]: 346.0° to 17.0° | | | Arc Distance: Out to 95.0 NM Altitude: 6000.0 to 18000.0 Ft. | | |
| 3 | CON | N 43° 13' 11.23" W 71° 34' 31.63" | L | 714.5 | 112.90 | CON | Not Used |
| | | Restriction: Bearing [True]: 175.0° to 195.0° Bearing [Mag]: 190.0° to 210.0° | | | Distance: Beyond 12.0 NM Altitude: Below 4000.0 Ft. | | |
| | | Restriction: Bearing [True]: 303.0° to 311.0° Bearing [Mag]: 318.0° to 326.0° | | | Distance: Beyond 30.0 NM Altitude: Below 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 39.0° to 90.0° Bearing [Mag]: 54.0° to 105.0° | | | Arc Distance: Out to 63.0 NM Altitude: 4000.0 to 17000.0 Ft. | | |

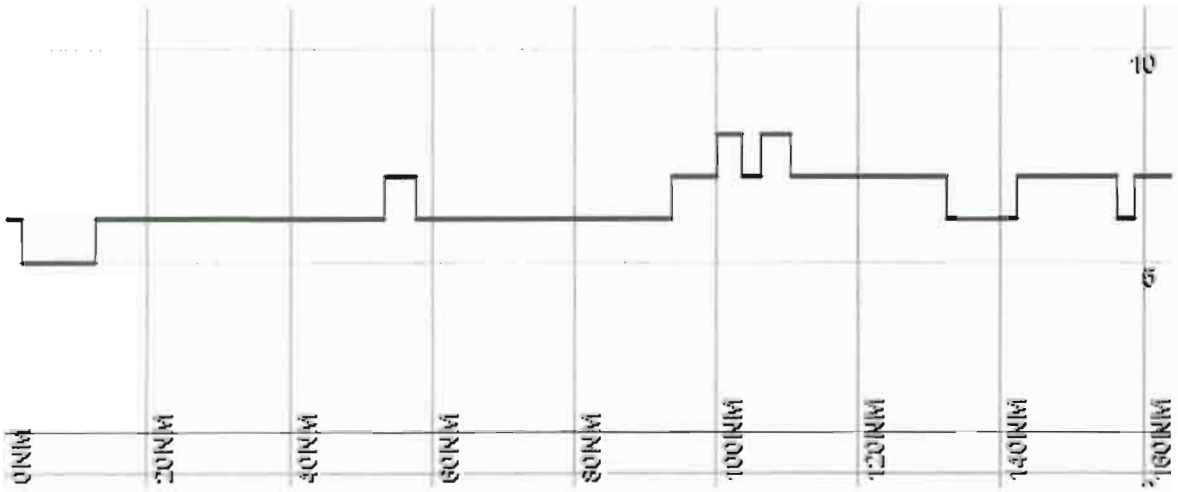
## DME/DME (Continued.)

Return To Summary

### *User DMEs (Continued.)*

| # | Name | Lat/Lon | Range | Elevation [Ft] | Frequency | Replaces: | Status |
|---|---|---|---|---|---|---|---|
| 4 | LWM | N 42° 44' 25.50"<br>W 71° 5' 41.43" | L | 302.2 | 112.50 | LWM | Not Used |
| | | ESV: Bearing [True]: 21.0° to 42.0°<br>Bearing [Mag]: 36.0° to 57.0° | | | Arc Distance: Out to 66.0 NM<br>Altitude: 3500.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 5.0° to 26.0°<br>Bearing [Mag]: 20.0° to 41.0° | | | Arc Distance: Out to 70.0 NM<br>Altitude: 5000.0 to 19000.0 Ft. | | |
| 5 | BOS | N 42° 21' 26.82"<br>W 70° 59' 22.37" | H | 20.0 | 112.70 | BOS | Used |
| | | Restriction: Bearing [True]: 261.0° to 8.0°<br>Bearing [Mag]: 277.0° to 24.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 12.0° to 17.0°<br>Bearing [Mag]: 28.0° to 33.0° | | | Arc Distance: Out to 71.0 NM<br>Altitude: 4800.0 to 19000.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 28.0°<br>Bearing [Mag]: 36.0° to 44.0° | | | Arc Distance: Out to 77.0 NM<br>Altitude: 5300.0 to 19000.0 Ft. | | |
| 6 | PSM | N 43° 5' 4.06"<br>W 70° 49' 55.15" | L | 99.3 | 116.50 | PSM | Not Used |
| | | Restriction: Bearing [True]: 13.0° to 55.0°<br>Bearing [Mag]: 29.0° to 71.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 64.0° to 69.0°<br>Bearing [Mag]: 80.0° to 85.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 99.0° to 104.0°<br>Bearing [Mag]: 115.0° to 120.0° | | | Distance: Beyond 37.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 174.0° to 189.0°<br>Bearing [Mag]: 190.0° to 205.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | Restriction: Bearing [True]: 209.0° to 224.0°<br>Bearing [Mag]: 225.0° to 240.0° | | | Distance: Beyond 35.0 NM<br>Altitude: Below 2500.0 Ft. | | |
| | | ESV: Bearing [True]: 20.0° to 53.0°<br>Bearing [Mag]: 36.0° to 69.0° | | | Arc Distance: Out to 51.0 NM<br>Altitude: 2700.0 to 12000.0 Ft. | | |
| | | ESV: Bearing [True]: 340.0° to 25.0°<br>Bearing [Mag]: 356.0° to 41.0° | | | Arc Distance: Out to 46.0 NM<br>Altitude: 4000.0 to 19000.0 Ft. | | |

## Radar Analysis

Return To Summary

**Settings:** **Radar Types:** ARSR and ASR