

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
ILS STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.29**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

| | | | | | | |
|----------------------------------|--|--|---|----------------------------|-----------------------|---------------------------|
| <u>AIRPORT ID</u> KHLN | <u>PROCEDURE NAME</u> ILS OR LOC Y RWY 27 | <u>ORIGINAL/AMENDMENT</u> 3D | <u>CITY</u> HELENA | <u>STATE</u> MT | | |
| <u>AIRPORT ELEVATION</u> 3877 | <u>TDZE</u> 3852 | <u>SUPERSEDED</u> ILS OR LOC Y RWY 27 | <u>ORIGINAL/AMENDMENT</u> 3C | <u>DATED</u> 07/16/2020 | <u>MAG VAR</u> 16E | <u>EPOCH YEAR</u> 1990 |
| <u>FACILITY</u> I-HLN | <u>COORDINATES OF FACILITIES</u> | <u>ACTUAL EFFECTIVE DATE</u> | <u>REQUIRED EFFECTIVE DATE</u> ROUTINE | <u>CANCEL/SUSPEND</u> | | |

TERMINAL ROUTES

| <u>FROM</u> | <u>FIX TYPE</u> | <u>TO</u> | <u>FIX TYPE</u> | <u>LEG TYPE</u> | <u>FO/FB</u> | <u>RNP</u> | <u>COURSE</u> | <u>DISTANCE</u> | <u>ALTITUDE</u> |
|---------------------|-----------------|---------------------|-----------------|-----------------|--------------|------------|---------------|-----------------|-----------------|
| HLN VORTAC | | HAU NDB | | | | | 089.65 | 8.40 | 9700 |
| FALDE INT | | HAU NDB | | | | | 239.24 | 10.02 | 9600 |
| SWEDD INT | | HAU NDB | | | | | 292.96 | 11.37 | 9900 |
| JUVGO/HLN 22.00 DME | IAF | DOOKR/HLN 20.00 DME | NOPT | | | | 266.71 | 2.00 (I-HLN) | 10200 |
| DOOKR/HLN 20.00 DME | | YERUT/HLN 16.40 DME | | | | | 266.71 | 3.60 (I-HLN) | 9000 |
| YERUT/HLN 16.40 DME | IF | GELEY/HLN 10.67 DME | PFAF | | | | 266.71 | 5.73 (I-HLN) | 7400 |
| YERUT/HLN 16.40 DME | IF | HAU NDB | | | | | 266.71 | 8.01 (I-HLN) | 7100* |

MISSED APPROACH

MAP:

ILS: DA
LOC: 8.72 NM AFTER HAU NDB

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 4700 THEN CLIMBING RIGHT TURN TO 9000 ON HEADING 021 AND HLN VORTAC R-336 TO WOKEN INT AND HOLD, CONTINUE CLIMB-IN-HOLD TO 9000.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)

2. HOLD E HAU NDB, RT, 266.71 INBOUND, 7400 FT. IN LIEU OF PT (IAF), MAX 14000.

3. FAC: 266.71 FAF: HAU NDB PFAF: GELEY/HLN 10.67 DME DIST FAF TO MAP: 8.72 DIST FAF TO THLD: 8.72

4. MIN ALT: HAU NDB 7100*, FERRI OM/4.42 DME 5620*

5. DIST TO THLD FROM OM: 4.73 MM: IM: 150 HAT: GS ANT: 1019

6. MIN GS INCPT: 7400 GS ALT AT : GELEY/HLN 10.67 DME 7400 OM: 5427 MM: IM:

7. GP ANGLE: 3.00 34:1: 20:1: TCH: 54.5

8. MSA FROM: HAU NDB 045-225 10800, 225-315 10000, 315-045 9200

EQUIPMENT REQUIREMENTS NOTES:

ADF OR DME REQUIRED.

NOTES:

CHART NOTE: CIRCLING NA TO RWYS 10 AND 28.

CHART NOTE: CIRCLING RWY 5, 23, 35 NA AT NIGHT.

*LOC ONLY

CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO S-LOC 27 CATS C/D/E, FERRI FIX MINIMUMS S-LOC 27 CATS A/B. FOR INOPERATIVE ALS, INCREASE S-ILS 27 ALL CATS VISIBILITY TO 1 5/8 SM, S-LOC 27: CAT A VISIBILITY TO 1 1/4 SM, FERRI FIX MINIMUMS: S-LOC 27 CAT C/D/E VISIBILITY TO 2 SM.

CHART NOTE: HOLDING AT HAU NDB AUTHORIZED FOR CATEGORY A AND B AIRCRAFT ONLY.

CHART NOTE: CIRCLING NA SOUTH OF RWY 9-27 FOR CATS D AND E.

CHART NOTE: DME FROM HLN VORTAC, SIMULTANEOUS RECEPTION OF I-HLN AND HLN DME REQUIRED.

ADDITIONAL FLIGHT DATA:

CHART: 175K ICON AT HAU NDB

CHART: ARRIVAL HOLDING AT JUVGO: HOLD E, RT, 266.71 INBOUND, 11,100. (DME REQUIRED).

HOLD SW, RT, 026.00 INBOUND.

FAS OBST: 4319 AAO 463425N/1115053W.

CHART CIRCLING ICON.

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ ILS: STANDARD - NA WHEN CONTROL TOWER CLOSED.; LOC: CAT A, B 1800-2, CAT C, D, E 2100-3, NA WHEN CONTROL TOWER CLOSED.

| CATEGORY: | A | | | B | | | C | | | D | | | E | | |
|---------------------|---------------|------------|----------------|---------------|------------|----------------|---------------|------------|----------------|---------------|------------|----------------|---------------|------------|----------------|
| FINAL TYPE | DA/MDA | VIS | HAT/HAA | DA/MDA | VIS | HAT/HAA | DA/MDA | VIS | HAT/HAA | DA/MDA | VIS | HAT/HAA | DA/MDA | VIS | HAT/HAA |
| S-ILS 27 | 4409 | 1 1/8 | 557 | 4409 | 1 1/8 | 557 | 4409 | 1 1/8 | 557 | 4409 | 1 1/8 | 557 | 4409 | 1 1/8 | 557 |
| S-LOC 27 | 5620 | 1 | 1768 | 5620 | 1 | 1768 | 5620 | 3 | 1768 | 5620 | 3 | 1768 | 5620 | 3 | 1768 |
| CIRCLING | 5620 | 1 1/4 | 1743 | 5620 | 1 1/2 | 1743 | 5920 | 3 | 2043 | 5920 | 3 | 2043 | 5920 | 3 | 2043 |
| FERRI FIX MINIMUMS* | | | | | | | | | | | | | | | |
| S-LOC 27 | 4580 | 1 | 728 | 4580 | 1 | 728 | 4580 | 1 5/8 | 728 | 4580 | 1 5/8 | 728 | 4580 | 1 5/8 | 728 |
| CIRCLING | 4640 | 1 | 763 | 4800 | 1 1/4 | 923 | 5920 | 3 | 2043 | 5920 | 3 | 2043 | 5920 | 3 | 2043 |

CHANGES - REASONS

1. INCORPORATED P-NOTAMS 4/8888 3B, 0/2461 3C.- 8260.19I, 8-3-4.
2. "CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO S-LOC 27 ALL CATS. FOR INOPERATIVE MALSR, INCREASE S-ILS 27 ALL CATS VISIBILITY TO 1 7/8 MILES, FERRI FIX MINIMUMS: S-LOC 27 CAT C,D AND E VISIBILITY TO 2 MILES" CHANGED TO "CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO S-LOC 27 CATS C/D/E, FERRI FIX MINIMUMS S-LOC 27 CATS A/B. FOR INOPERATIVE ALS, INCREASE S-ILS 27 ALL CATS VISIBILITY TO 1 5/8 SM, S-LOC 27: CAT A VISIBILITY TO 1 1/4 SM, FERRI FIX MINIMUMS: S-LOC 27 CAT C/D/E VISIBILITY TO 2 SM".- UPDATED VISCHECK RESULTS.
3. REMOVED "CHART NOTE: WHEN VGSI INOP, CIRCLING TO RWY 34 NA AT NIGHT".- INCORPORATED INTO "CHART NOTE: CIRCLING RWY 5, 23, 35 NA AT NIGHT".
4. REMOVED "CHART PLANVIEW NOTE: ADF OR DME REQUIRED" AND MOVED IT TO EQUIPMENT REQUIREMENTS NOTES - NEW CRITERIA REQUIREMENT.
5. VISIBILITY: S-ILS 27 ALL CATS CHANGED FROM 1 3/8 SM TO 1 1/8 SM, S-LOC 27 CATS A/B CHANGED FROM 1 1/4/1 1/2 TO 1/1, FERRI FIX S-LOC 27 CATS A/B CHANGED FROM 1/2 TO 1.- UPDATED VISCHECK RESULTS.
6. ADDED CHART NOTE: CIRCLING NA TO RWYS 10 AND 28. - RUNWAY 10 AND 28 IDENTIFIED AS TURF RUNWAYS.

COORDINATED WITH:A4A ☐ ALPA ☒ AOPA ☒ APA ☐ HAI ☐ NBAA ☒ **OTHER:** ZLC ARTCC, HLN APP CON, AMGR, HLN ATCT**FLIGHT CHECKED BY**PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJF-10) MEMO, APRIL 29, 2020, SUBJECT:
FLIGHT INSPECTION REVIEW NOT REQUIRED**OFFICE****DATE****DEVELOPED BY**

DONALD H. LANIER (TIA FERONTI)

Digitally signed by

DONALD H LANIER

Mar 01, 2021

DONALD H LANIER

Mar 01, 2021

OFFICE

AJV-A431

DATE

12/15/2020

APPROVED BY

LONNIE EVERHART

Digitally signed by

DONALD H LANIER

Mar 01, 2021

OFFICE

AJV-A430

DATE**TITLE**
MANAGER

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

| | | | | | | |
|---------------------------|--|-----------------------|-----------------------|--------------------|----------------------------------|--------------------------|
| <u>AIRPORT ID</u> KHLN | <u>PROCEDURE NAME</u> ILS OR LOC Y RWY 27 | <u>AMDT NO.</u> 3D | <u>CITY</u> HELENA | <u>STATE</u> MT | <u>AIRPORT ELEVATION</u> 3877 | <u>FACILITY</u> I-HLN |
|---------------------------|--|-----------------------|-----------------------|--------------------|----------------------------------|--------------------------|

PART A: OBSTRUCTION DATA SEGMENTS

FEEDER

FROM
HLN VORTAC

TO
HAU NDB

| <u>RNP</u> | <u>DISTANCE</u> 8.40 | <u>PAT</u> | <u>MAP</u> | <u>HAT</u> | <u>HMAS</u> | | | | | | | <u>OBSTRUCTION</u> | <u>COORDINATES</u> | <u>ELEV MSL</u> | <u>HORZ</u> | <u>VERT</u> | <u>AC</u> | <u>ROC</u> | <u>OCS</u> | <u>CG</u> | <u>CGTA</u> | <u>ADJUSTMENTS</u> | <u>MIN ALT</u> |
|------------|-------------------------|------------|------------|------------|-------------|--|--|--|--|--|--|--------------------|------------------------|-----------------|-------------|-------------|-----------|------------|------------|-----------|-------------|--------------------|----------------|
| | | | | | | | | | | | | AAO | 462551.00N/1114909.00W | 8547 | 164 | 98 | 4E | 2000 | | | | SA-900 | 9700 |
| | | | | | | | | | | | | TERRAIN | 463018.00N/1114857.00W | 6542 (6500) | | | | | | | | AS1500 | 8000 |

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FEEDER

FROM
FALDE INT

TO
HAU NDB

| <u>RNP</u> | <u>DISTANCE</u> 10.02 | <u>PAT</u> | <u>MAP</u> | <u>HAT</u> | <u>HMAS</u> | | | | | | | <u>OBSTRUCTION</u> | <u>COORDINATES</u> | <u>ELEV MSL</u> | <u>HORZ</u> | <u>VERT</u> | <u>AC</u> | <u>ROC</u> | <u>OCS</u> | <u>CG</u> | <u>CGTA</u> | <u>ADJUSTMENTS</u> | <u>MIN ALT</u> |
|------------|--------------------------|------------|------------|------------|-------------|--|--|--|--|--|--|--------------------|------------------------|-----------------|-------------|-------------|-----------|------------|------------|-----------|-------------|--------------------|----------------|
| | | | | | | | | | | | | AAO | 463951.00N/1112803.00W | 7592 | 164 | 98 | 4E | 2000 | | | | | 9600 |
| | | | | | | | | | | | | TERRAIN | 464012.00N/1113554.00W | 6191 (6200) | | | | | | | | AS1500 | 7700 |

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



FEEDER

FROM
SWEDD INT

TO
HAU NDB

| RNP | DISTANCE 11.37 | PAT | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 462251.00N/1114448.00W | | 8790 | 164 | 98 | 4E | 2000 | | | | SA-900 | 9900 |
| TERRAIN | 463003.00N/1114809.00W | | 6470 (6500) | | | | | | | | AS1500 | 8000 |

| COMPUTATIONS | | | | | | | | | | | | |
|--------------|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|--|
| ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE | |

SEGMENT REMARKS:

INITIAL

FROM
JUVGO/HLN 22.00 DME

TO
DOOKR/HLN 20.00 DME

| RNP | DISTANCE 2.00 | PAT | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463357.00N/1112421.00W | | 6700 | 164 | 98 | 4E | 1000 | | | | AT2500 | 10200 |
| TERRAIN | 463518.00N/1112748.00W | | 6004 (6000) | | | | | | | | AS1500 | 7500 |

| COMPUTATIONS | | | | | | | | | | | | |
|--------------|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|--|
| ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE | |

SEGMENT REMARKS:



INITIAL: STEPDOWN

FROM
DOOKR/HLN 20.00 DME

TO
YERUT/HLN 16.40 DME

| RNP | DISTANCE 3.60 | PAT | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463524.00N/1112751.00W | | 6211 | 164 | 98 | 4E | 1000 | | | | AT1789 | 9000 |
| TERRAIN | 463524.00N/1112751.00W | | 6011 (6000) | | | | | | | | AS1500 | 7500 |

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INTERMEDIATE: ILS

FROM
YERUT/HLN 16.40 DME (IF/IAF)

TO
GELEY/HLN 10.67 DME

| RNP | DISTANCE 5.73 | PAT | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463238.00N/1114243.00W | | 5717 | 50 | 20 | 2C | 500 | | | | AT1183 | 7400 |
| TERRAIN | 463238.00N/1114243.00W | | 5517 (5500) | | | | | | | | AS1500 | 7000 |

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



INTERMEDIATE: LOC

FROM
YERUT/HLN 16.40 DME (IF/IAF)

TO
HAU NDB

| RNP | DISTANCE 8.01 | PAT | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463238.00N/1114243.00W | | 5717 | 50 | 20 | 2C | 500 | | | | AT883 | 7100 |
| TERRAIN | 463238.00N/1114243.00W | | 5517 (5500) | | | | | | | | AS1500 | 7000 |

| COMPUTATIONS | ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE |
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|

SEGMENT REMARKS:

FINAL: ILS

FROM
GELEY/HLN 10.67 DME

TO
RW27

| RNP | DISTANCE 10.99 | PAT | MAP DA | HAT 557 | | | HMAS | | | | | |
|-------------|-------------------|-----|-----------|------------|------|----|------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| | | | | | | | | ASC | | | XP7 MA357 | 4409 |

| COMPUTATIONS | ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE |
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|

SEGMENT REMARKS:

XP7 USED TO MAINTAIN PREVIOUS MINIMUMS



FINAL: LOC

FROM
HAU NDB

TO
FERRI OM/4.42 DME

| RNP | DISTANCE 3.98 | PAT | MAP | HAT 1768 | HMAS | | | | | | | |
|-------------|------------------------|-----|----------|-------------|------|----|-----|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463516.59N/1114509.62W | | 4499 | 50 | 20 | 2C | 250 | | | | XL136 DG735 | 5620 |

COMPUTATIONS

| | | | | | | | | | | | |
|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|
| ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE |
|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|

SEGMENT REMARKS:

FINAL: LOC STEPDOWN

FROM
FERRI OM/4.42 DME

TO
8.72 NM AFTER HAU NDB

| RNP | DISTANCE 4.73 | PAT | MAP 8.72 NM AFTER HAU NDB | HAT 728 | HMAS | | | | | | | |
|-------------|------------------------|-----|------------------------------|------------|------|----|-----|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 463425.14N/1115052.65W | | 4319 | 50 | 20 | 2C | 250 | | | | SA-14 MA4 | 4580 |

COMPUTATIONS

| | | | | | | | | | | | |
|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|
| ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE |
|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|

SEGMENT REMARKS:



HOLD-IN-LIEU OF PT

FROM
HAU NDB

TO
P-4

| RNP | DISTANCE | PAT P-4 | MAP | HAT | | | HMAS | | | | | |
|-------------|------------------------|------------|-------------|------|------|----|------|-----|----|------|--------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 462945.00N/1114833.00W | | 7094 | 164 | 98 | 4E | 1000 | | | | SA-875 PR151 | 7400 |
| TERRAIN | 463238.00N/1114243.00W | | 5517 (5500) | | | | | | | | AS1500 | 7000 |

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

175K HOLDING AT HAUSER REQUIRED FOR P-4.

MISSSED APPROACH : ILS

FROM
DA

TO
WOKEN/HLN 22.71 DME

| RNP | DISTANCE | PAT | MAP | HAT | | | HMAS 4078 | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|--------------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 464035.15N/1120504.72W | | 5452 | 50 | 20 | 2C | | ASC | | | | 9000 |
| AAO | 465348.80N/1115911.80W | | 7000 | 1000 | 3 | 6A | 1000 | | | | | 8000 |
| TERRAIN | 465348.80N/1115911.80W | | 6800 (6800) | | | | | | | | AS1500 | 8300 |

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



MISSED APPROACH : LOC

FROM
8.72 NM AFTER HAU NDB

TO
WOKEN/HLN 22.71 DME

| RNP | DISTANCE | PAT | MAP | HAT | | | HMAS 4330 | | | | | |
|-------------|------------------------|-----|-------------|------|------|----|--------------|-----|----|------|-------------|---------|
| OBSTRUCTION | COORDINATES | | ELEV MSL | HORZ | VERT | AC | ROC | OCS | CG | CGTA | ADJUSTMENTS | MIN ALT |
| AAO | 464035.15N/1120504.72W | | 5452 | 50 | 20 | 2C | | ASC | | | | 9000 |
| AAO | 465348.80N/1115911.80W | | 7000 | 1000 | 3 | 6A | 1000 | | | | | 8000 |
| TERRAIN | 465348.80N/1115911.80W | | 6800 (6800) | | | | | | | | AS1500 | 8300 |

| COMPUTATIONS | ALT | KIAS | KTAS | HAA | VKTW | TR | BA | DTA | COURSE CHANGE | DVEB | VEB OCS | RF CENTER FIX/DISTANCE |
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|
|--------------|-----|------|------|-----|------|----|----|-----|---------------|------|---------|------------------------|

SEGMENT REMARKS:

CIRCLING

☒ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☒ CAT E

☐ NOT AUTHORIZED

| OBSTRUCTION | COORDINATES | RADIUS | HAA | ELEV MSL | HORZ | VERT | AC | ROC | OCS | ADJUSTMENTS | MIN ALT |
|-------------|------------------------|--------|-----------|----------|------|------|----|-----|-----|-------------|-----------|
| CATEGORY A | | | | | | | | | | | |
| TREE | 463454.00N/1115758.00W | 1.37 | 1743/763 | 4339 | 50 | 20 | 2C | 300 | | SI | 5620/4640 |
| CATEGORY B | | | | | | | | | | | |
| TREE | 463436.00N/1120106.00W | 1.95 | 1743/923 | 4489 | 50 | 20 | 2C | 300 | | SI | 5620/4800 |
| CATEGORY C | | | | | | | | | | | |
| TREE | 463330.00N/1120148.00W | 3.15 | 2043/2043 | 5609 | 50 | 20 | 2C | 300 | | | 5920/5920 |
| CATEGORY D | | | | | | | | | | | |
| TREE | 463330.00N/1120148.00W | 4.13 | 2043/2043 | 5609 | 50 | 20 | 2C | 300 | | | 5920/5920 |
| CATEGORY E | | | | | | | | | | | |
| TREE | 463330.00N/1120148.00W | 5.18 | 2043/2043 | 5609 | 50 | 20 | 2C | 300 | | | 5920/5920 |

CIRCLING REMARKS:



MSA

CENTER
HAU NDB

RADIUS
25

| SECTOR | OBSTRUCTION | COORDINATES | BEARING | DISTANCE | ELEV MSL | HORZ | VERT | AC | ROC | OCS | ADJUSTMENTS | MIN ALT |
|---------|-------------|------------------------|---------|----------|----------|------|------|----|------|-----|-------------|---------|
| 045-225 | AAO | 462554.40N/1111109.70W | 093 | 25.1 | 9720 | 1000 | 20 | 6C | 1000 | | | 10800 |
| 225-315 | AAO | 462026.00N/1121732.40W | 222 | 26.1 | 8952 | 1000 | 20 | 6C | 1000 | | | 10000 |
| 315-045 | AAO | 465329.50N/1114436.20W | 346 | 19.4 | 8200 | 1000 | 20 | 6C | 1000 | | | 9200 |

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

MISSED APPROACH HOLDING AT WOKEN - PR 295
ARRIVAL HOLDING AT JUVGO - PR 363
HAUSER NDB HOLDING - PR 151

100' VEGETATION HEIGHT USED PER PREVIOUS PROCEDURES.



PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH
HLN APP CON, HLN TOWER, ZLC ARTCC

| | | | | | | |
|---------------------------|-------------------------|----------------------------|---------------------------------|----------------------|-----------------------|-------------------------|
| <u>WX SERVICE</u> ASOS | <u>LOCATION</u> KHLN | <u>HRS OPERATION</u> 24 | <u>ALTIMETER SOURCE</u> KHLN | <u>DISTANCE</u> 0 | <u>SERVICE-A</u> Y | <u>ADJUSTMENTS</u> 0 |
| <u>BACK-UP WX SERVICE</u> | <u>LOCATION</u> | <u>HRS OPERATION</u> | <u>ALTIMETER SOURCE</u> | <u>DISTANCE</u> | <u>SERVICE-A</u> | <u>ADJUSTMENTS</u> |

WX REMARKS:

| | | | |
|---|----------------------------------|--|----------------------------|
| <u>PRIMARY NAVAID</u> I-HLN | <u>MONITOR POINT</u> HLN ATCT | <u>HRS OPERATION</u> @ ATCT OPEN @ ATCT CLOSED | <u>CAT</u> 1 3 |
| <u>APPROACH AND RUNWAY LIGHTING SYSTEM</u> | | <u>RUNWAY MARKINGS</u> | <u>RUNWAY VISUAL RANGE</u> |
| RW05 - MIRL (PCL), PAPI-2L | | BSC-G | |
| RW17 - MIRL (PCL), REIL | | BSC-G | |
| RW23 - MIRL (PCL), PAPI-2L | | BSC-G | |
| RW35 - MIRL (PCL), REIL | | BSC-G | |
| RW09 - HIRL (PCL), REIL (PCL), PAPI-4L (PCL) | | PIR-G | |
| RW27 - MALSR (PCL), HIRL (PCL), PAPI-4L (PCL) | | PIR-G | |

| | | | | | | |
|---------------------------------|-------------------------------------|--------------------|----------------------------------|----------------------------------|---------------------------|--------------------|
| <u>GLIDESLOPE ANGLE</u> 3.00 | <u>ELEV RWY THRESHOLD</u> 3844.8 | <u>TCH</u> 54.5 | <u>ELEV GS ANTENNA</u> 3841.3 | <u>DISTANCE FROM RWY</u> 1019 | <u>VGSI ANGLE</u> 3.00 | <u>TCH</u> 55.1 |
|---------------------------------|-------------------------------------|--------------------|----------------------------------|----------------------------------|---------------------------|--------------------|

FINAL APPROACH COURSE AIMING

| | | | |
|------------------|-------------------------------------|--------------------|------------------------------|
| RUNWAY THRESHOLD | <input checked="" type="checkbox"/> | FT FROM THRESHOLD | DISPLACED THRESHOLD DISTANCE |
| ON CENTERLINE | <input checked="" type="checkbox"/> | FT FROM CENTERLINE | |

CRITICAL TEMPERATURES

| | | | |
|---------------------|----------------------|------------|----------------|
| <u>CRITICAL LOW</u> | <u>CRITICAL HIGH</u> | <u>ACT</u> | <u>APT ISA</u> |
|---------------------|----------------------|------------|----------------|

CRITICAL TEMPERATURE REMARKS:

"VISUAL PORTION OF FINAL" PENETRATIONS



| AIRPORT ID KHLN | | PROCEDURE NAME ILS OR LOC Y RWY 27 | AMDT NO. 3D | CITY HELENA | STATE MT | AIRPORT ELEVATION 3877 | FACILITY I-HLN |
|--|-----------------|---------------------------------------|----------------|--|-------------|---------------------------|-------------------|
| Final Type | CIRCLING RWY 05 | | | | | | |
| 20:1 | | | | | | | |
| 3996 POLE (30-021053) 463607.25N/1120016.94W (18.95) | | | | 3905 BUILDING (30-021094) 463616.36N/1115955.52W (14.99) | | | |
| 3894 TRAVERSE_WAY (30-041429) 463620.91N/1115955.72W (12.63) | | | | 3903 TRAVERSE_WAY (30-039686) 463617.05N/1115956.17W (12.32) | | | |
| 3904 TRAVERSE_WAY (30-039685) 463616.14N/1115955.91W (12.29) | | | | 3902 TRAVERSE_WAY (30-039689) 463617.79N/1115956.39W (12.13) | | | |
| 3901 TRAVERSE_WAY (30-039691) 463618.49N/1115956.58W (11.95) | | | | 3903 TRAVERSE_WAY (30-039684) 463616.60N/1115956.02W (11.88) | | | |
| 3925 BUILDING (30-056858) 463613.86N/1120001.16W (11.87) | | | | 3900 TRAVERSE_WAY (30-056548) 463619.20N/1115956.79W (11.72) | | | |
| 3904 TRAVERSE_WAY (30-039974) 463616.28N/1115956.24W (11.52) | | | | 3894 TRAVERSE_WAY (30-041655) 463620.78N/1115955.99W (11.5) | | | |
| 3898 TRAVERSE_WAY (30-039975) 463620.39N/1115957.15W (11) | | | | 3904 TRAVERSE_WAY (30-041675) 463616.62N/1115956.73W (10.65) | | | |
| 3898 TRAVERSE_WAY (30-039972) 463619.91N/1115956.99W (10.53) | | | | 3897 TRAVERSE_WAY (30-039976) 463620.59N/1115957.19W (10.28) | | | |
| 3953 TREE (30-021049) 463615.41N/1120011.52W (9.92) | | | | 3907 TRAVERSE_WAY (30-040269) 463617.45N/1115958.55W (9.53) | | | |
| 3953 TREE (30-040515) 463614.62N/1120011.45W (8.53) | | | | 3908 TRAVERSE_WAY (30-056708) 463617.90N/1115959.51W (8.38) | | | |
| 3912 BUILDING (30-044141) 463614.94N/1115959.06W (7.78) | | | | 3906 TRAVERSE_WAY (30-040001) 463615.70N/1115957.75W (7.52) | | | |
| 3909 TRAVERSE_WAY (30-056710) 463618.29N/1120000.35W (7.49) | | | | 3904 TRAVERSE_WAY (30-040263) 463616.83N/1115958.26W (6.19) | | | |
| 3906 TRAVERSE_WAY (30-042372) 463617.46N/1115959.63W (5.1) | | | | 3908 TRAVERSE_WAY (30-045964) 463617.41N/1120000.33W (4.76) | | | |
| 3908 TRAVERSE_WAY (30-043935) 463618.71N/1120001.27W (4.41) | | | | 3884 TERRAIN (30-041190) 463617.44N/1115953.18W (3.67) | | | |
| 3882 TERRAIN (30-041405) 463618.36N/1115953.48W (2.59) | | | | 3952 TREE (30-042808) 463615.10N/1120013.40W (2.28) | | | |
| 3909 TRAVERSE_WAY (30-046536) 463617.30N/1120001.77W (0.93) | | | | 3915 TRAVERSE_WAY (30-046565) 463614.04N/1120001.61W (0.79) | | | |
| 3886 TERRAIN (30-056545) 463617.04N/1115954.56W (0.44) | | | | 3916 TRAVERSE_WAY (30-044477) 463614.03N/1120002.03W (0.43) | | | |
| 3934 POLE (30-021335) 463613.13N/1120007.09W (0.43) | | | | 3914 TRAVERSE_WAY (30-044219) 463614.25N/1120001.55W (0.41) | | | |
| 3906 TRAVERSE_WAY (30-056712) 463619.13N/1120002.17W (0.39) | | | | 3910 TRAVERSE_WAY (30-046540) 463616.34N/1120001.71W (0.17) | | | |
| 3884 TERRAIN (30-039300) 463617.89N/1115954.58W (0.11) | | | | | | | |
| Final Type | CIRCLING RWY 10 | | | | | | |
| 20:1 | | | | | | | |
| 3860 TERRAIN (30-040954) 463621.73N/1115935.13W (0.35) | | | | | | | |
| Final Type | CIRCLING RWY 23 | | | | | | |
| 20:1 | | | | | | | |
| 3821 TERRAIN (30-021514) 463638.42N/1115846.64W (1.27) | | | | | | | |
| Final Type | CIRCLING RWY 28 | | | | | | |

QUALITY
22
CHECKED



| | |
|--|--|
| 20:1 | |
| 3852 TERRAIN (30-043096) 463617.87N/1115905.86W (0.27) | |
| Final Type | CIRCLING RWY 35 |
| 20:1 | |
| 3904 BUILDING (30-057704) 463607.11N/1115846.17W (14.98) | 3885 TRAVERSE_WAY (30-057703) 463610.18N/1115847.31W (11.58) |
| 3885 TRAVERSE_WAY (30-039325) 463610.07N/1115847.76W (11.04) | 3885 TRAVERSE_WAY (30-039321) 463609.96N/1115848.59W (10.51) |
| 3885 TRAVERSE_WAY (30-038946) 463609.84N/1115849.33W (9.94) | 3886 TRAVERSE_WAY (30-038936) 463609.57N/1115851.22W (9.64) |
| 3885 TRAVERSE_WAY (30-038939) 463609.75N/1115850.04W (9.51) | 3887 TRAVERSE_WAY (30-041215) 463609.29N/1115853.32W (9.31) |
| 3888 TRAVERSE_WAY (30-038934) 463609.02N/1115853.78W (8.96) | 3886 TRAVERSE_WAY (30-054768) 463609.39N/1115852.40W (8.78) |
| 3901 POLE (30-045989) 463606.24N/1115853.42W (7.87) | 3900 BUILDING (30-000362) 463606.00N/1115853.00W (5.63) |
| 3891 TRAVERSE_WAY (30-054776) 463607.77N/1115853.78W (5.63) | 3892 TRAVERSE_WAY (30-044427) 463607.49N/1115846.72W (4.93) |
| 3890 TRAVERSE_WAY (30-041462) 463607.78N/1115852.95W (4.65) | 3890 TRAVERSE_WAY (30-046474) 463607.79N/1115850.96W (4.62) |
| 3890 TRAVERSE_WAY (30-046468) 463607.78N/1115851.79W (4.6) | 3890 TRAVERSE_WAY (30-043691) 463607.79N/1115849.92W (4.58) |
| 3893 TRAVERSE_WAY (30-044668) 463607.09N/1115846.72W (3.9) | 3889 TRAVERSE_WAY (30-057706) 463607.82N/1115846.96W (3.61) |
| 3889 TRAVERSE_WAY (30-045982) 463607.81N/1115847.92W (3.6) | 3889 TRAVERSE_WAY (30-044401) 463607.80N/1115848.88W (3.59) |
| 3892 BUILDING (30-043692) 463607.01N/1115853.22W (2.76) | 3893 TRAVERSE_WAY (30-043694) 463606.80N/1115853.77W (2.72) |
| 3893 TRAVERSE_WAY (30-043698) 463606.80N/1115853.42W (2.7) | 3865 TERRAIN (30-021302) 463612.35N/1115850.22W (2.69) |
| 3867 TERRAIN (30-042764) 463611.83N/1115847.62W (1.95) | |

HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or
5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS

PENETRATIONS REMARKS:



PART C: GENERAL REMARKS:

VDP NOT ESTABLISHED - FINAL FACILITY DOES NOT HAVE DME.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

NO SUITABLE BACK-UP ALTIMETER AVAILABLE.

NO SUITABLE ALTERNATE MISSED APPROACH AVAILABLE.

SECONDARY NAVAID: HLN HOURS OPTN: CAT 1 24HRS

ILS UNMONITORED WHEN CONTROL TOWER CLOSED, SEE AFD FOR HOURS OF OPERATION.

ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.



| | | | | | | |
|--------------------------------|---|----------------------------|----------------------------|-------------------------|---------------------------------------|-------------------------------|
| <div>AIRPORT ID KHLN</div> | <div>PROCEDURE NAME ILS OR LOC Y RWY 27</div> | <div>AMDT NO. 3D</div> | <div>CITY HELENA</div> | <div>STATE MT</div> | <div>AIRPORT ELEVATION 3877</div> | <div>FACILITY I-HLN</div> |
|--------------------------------|---|----------------------------|----------------------------|-------------------------|---------------------------------------|-------------------------------|

PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

| | | | |
|-----------------|-------|---------------------------------|--------|
| DISTANCE FROM | THLD | TO 1000FT POINT | 4.40 |
| WIDTH OF | FINAL | SEGMENT AT 1000FT POINT | 1.17 |
| TRUE COURSE OF | FINAL | SEGMENT CONTAINING 1000FT POINT | 282.71 |
| HIGH TERRAIN IN | FINAL | SEGMENT CONTAINING 1000FT POINT | 4300 |
| DISTANCE FROM | THLD | TO 1500FT POINT | 7.81 |
| WIDTH OF | FINAL | SEGMENT AT 1500FT POINT | 1.90 |
| TRUE COURSE OF | FINAL | SEGMENT CONTAINING 1500FT POINT | 282.71 |
| HIGH TERRAIN IN | FINAL | SEGMENT CONTAINING 1500FT POINT | 4300 |

THRESHOLD
COORDINATES
(IF STR-IN)

463610.76N/1115745.96W

ARP COORDINATES

463624.20N/1115859.80W

RUNWAY APCH END
AND DIST FURTHEST
FROM ARP

RUNWAY 27 DISTANCE 0.86 NM

FAF
COORDINATES

463415.10N/1114526.67W

FIX NAME
COORDINATES

REMARKS

QUALITY
22
CHECKED

FAA Form 8260-9 / (11/16) Supersedes Previous Edition

Electronic Version

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FACILITY
I-HLN

