

| MISSION DATA CARD |            |          |  |                    |     |             |     |
|-------------------|------------|----------|--|--------------------|-----|-------------|-----|
| OPORD             |            | Callsign |  | Mission            |     | Date/Time   |     |
| 1054/2022         |            | Cougar 1 |  | Training           |     | 182000JUL22 |     |
| Task              |            |          |  |                    |     | Freq        |     |
| AO                |            |          |  |                    |     | 261.25      |     |
| Departure         |            |          |  | Recovery           |     |             |     |
| DREAM FOUR        |            |          |  | HI-TACAN Y RWY 21L |     |             |     |
| #                 | Callsign   | Pilot    |  | IFF                | TCN | LSR         | NET |
| -1                | Cougar 1-1 | Bane/Uta |  | 1111               | 21Y | 1561        |     |

| LOADOUT |  |  |      |
|---------|--|--|------|
| A/A     |  |  | GUN  |
| A/G     |  |  | CHF  |
| POD     |  |  | FLR  |
| TKS     |  |  | FUEL |

| TOLD |         |        |       |       |      |
|------|---------|--------|-------|-------|------|
|      | Takeoff | Target | Joker | Bingo | Land |
| FUEL | 16200   |        |       |       |      |

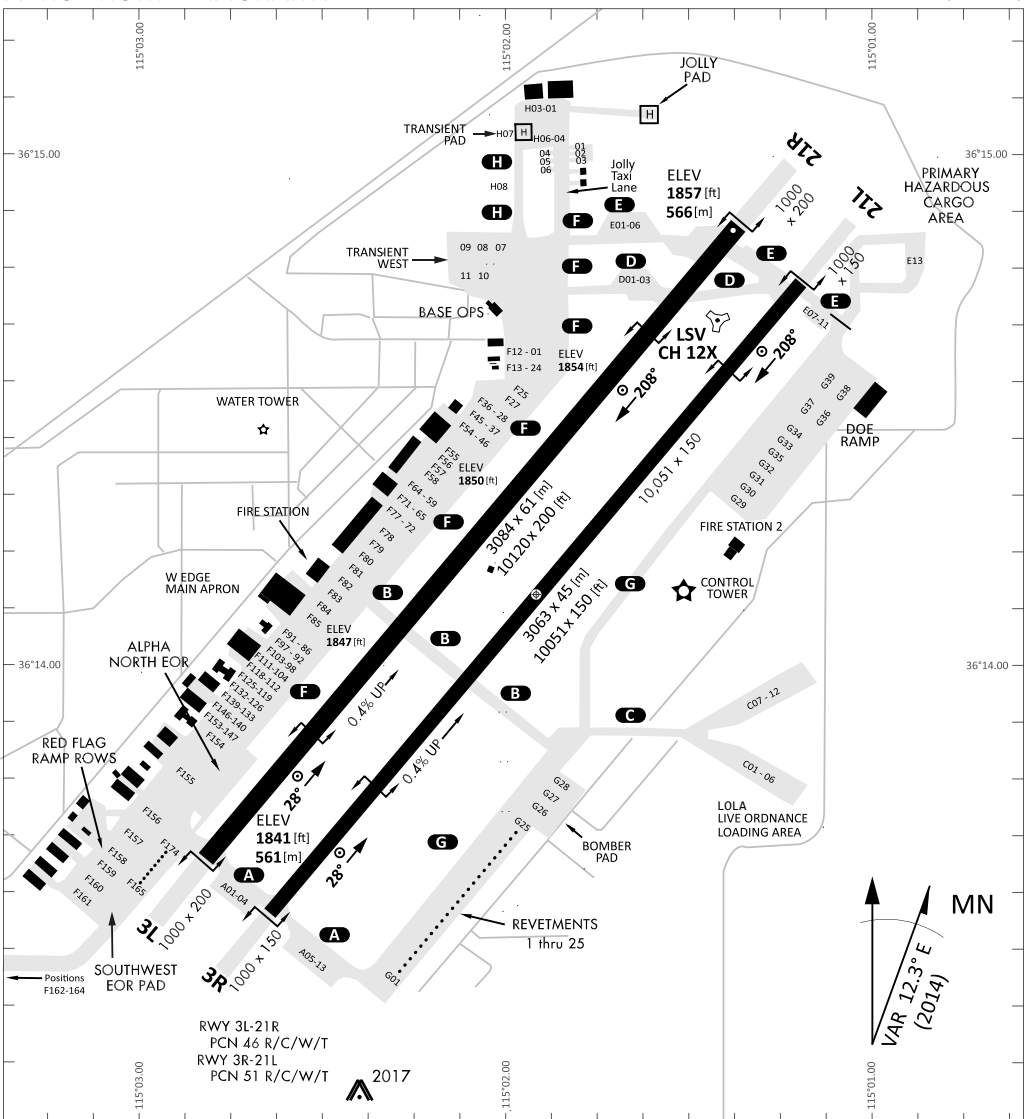
| AIRBASES |            |     |       |       |       |     |      |       |
|----------|------------|-----|-------|-------|-------|-----|------|-------|
|          | Name       | TCN | ATIS  | GND   | TWR   | RWY | Elev | ILS   |
| Dep      | Nellis AFB | 12X | 270.1 | 275.8 | 327.0 | 21L | 1850 | 109.1 |
| Arr      | Nellis AFB | 12X | 270.1 | 275.8 | 327.0 | 21L | 1850 | 109.1 |
| Div      | Nellis AFB | 12X | 270.1 | 275.8 | 327.0 | 21L | 1850 | 109.1 |

| OTHER FLIGHTS |          |            |        |              |       |       |
|---------------|----------|------------|--------|--------------|-------|-------|
| Callsign      | Mission  | Airframe   | Freq   | TCN          | Grpld | Laser |
| Edelweiss 5   | Training | 4x F/A-18C | 264.55 | 21/84        | 5     | 175X  |
|               | AO       | Nellis     | Task   | VFR Training |       |       |

| RADIO CHANNELS |         |                                |
|----------------|---------|--------------------------------|
| #              | Freq    | Name                           |
| 1              |         | Flight/Squadron specific       |
| 2              | 289.4   | Nellis Clearance Delivery      |
| 3              | 275.8   | Nellis Ground                  |
| 4              | 327.0   | Nellis Tower                   |
| 5              | 385.4   | Nellis Approach/Departure West |
| 6              | 273.55  | Nellis Approach/Departure East |
| 7              | 317.525 | Nellis Control -- Sally        |
| 8              | 254.4   | Nellis Control-- Lee           |
| 9              | 305.6   | SOF Bullseye                   |
| 10             | 343.725 | EMERGENCY SINGLE FRQ           |
| 11             | 270.1   | Nellis ATIS                    |
| 12             | 360.625 | Creech AFB Tower               |
| 13             | 250.1   | HAVE QUICK 13                  |
| 14             | 251.1   | HAVE QUICK 14                  |
| 15             | 252.1   | HAVE QUICK 15                  |
| 16             | 377.8   | Blackjack                      |
| 17             | 265.0   | KC-135 AR-641A                 |
| 18             | 360.8   | KC-135MPRS AR-635              |
| 19             | 319.8   | KC-135MPRS AR-625              |
| 20             | 300.05  | KC-135 AR-231V                 |

| RAMROD     |      |     |     |    |    |     |    |    |    |    |
|------------|------|-----|-----|----|----|-----|----|----|----|----|
| 0          | 1    | 2   | 3   | 4  | 5  | 6   | 7  | 8  | 9  |    |
| S          | L    | A   | T   | H  | E  | R   | I  | N  | G  |    |
| KTC 1400 C |      |     |     |    |    |     |    |    |    |    |
|            | 0    | 1   | 2   | 3  | 4  | 5   | 6  | 7  | 8  | 9  |
| A          | WKYJ | EAL | VNI | FM | TX | DCO | SQ | UH | GR | BP |
| B          | FWLJ | TNY | AXK | US | DQ | RHM | CV | OE | GP | BI |
| C          | KAWR | BFG | LHD | TY | ME | USJ | IV | OX | PQ | NC |
| D          | GANS | XRP | MTW | JH | OU | LEI | BF | QV | DC | YK |
| E          | FMNL | SIR | KUO | VC | XE | BTG | JY | AW | DH | QP |
| F          | DLFM | PYT | OCX | SB | AW | RGE | IN | HJ | UK | VQ |
| G          | BDRS | TEU | GKV | JH | QI | LXP | AF | ON | CM | YW |
| H          | KWXP | VYJ | SNT | GB | DH | CQI | OF | LU | RM | EA |
| I          | VHDJ | WQS | UXN | EF | RI | GPC | AL | BM | YK | TO |
| J          | MLYE | HCX | ODI | QB | KP | NVR | WG | FA | SU | TJ |
| K          | MOXH | RQN | GBK | FI | WU | ADV | LJ | YP | CT | ES |
| L          | UDOK | AMQ | IPB | HC | WX | YLG | FV | EJ | RS | TN |
| M          | WCDJ | FEL | XSQ | IH | MG | NTB | PY | RO | UK | AV |
| N          | UTXB | QDR | ALY | VH | WF | NGC | IM | SO | PK | JE |
| O          | GDOI | RTK | UAN | EM | VC | XYS | LP | JF | QB | HW |
| P          | IWAP | TOH | NKG | LB | YM | VXE | DS | JC | FR | UQ |
| Q          | BMUP | VXN | OSG | QA | HR | EFI | TW | CY | KD | LJ |
| R          | KSMF | GAO | DLC | TI | RB | YXP | UH | VJ | NW | EQ |
| S          | BHDQ | TSY | PUE | NI | LA | WMC | XR | OG | KJ | FV |
| T          | FIOA | SXK | GTW | EU | RQ | PMV | LB | DJ | HY | CN |
| U          | VPIS | HCD | XJL | AF | UB | YEQ | TK | NG | WM | RO |
| V          | BJMU | TOG | WKA | SX | CN | FEQ | IY | LV | DH | PR |
| W          | OCEX | IGY | LVK | TH | RS | UFA | BN | QP | WJ | DM |
| X          | MDXG | NOS | YVB | LI | QP | FEC | WK | RH | TJ | UA |
| Y          | IDNS | TLO | MAV | PH | QC | EGX | YK | JW | BU | RF |

| NAVAIDS |               |         |                    |           |
|---------|---------------|---------|--------------------|-----------|
| Id      | Name          | Channel | Position           | Elevation |
| BCE     | Bryce Canyon  | 75      | N3741.35 W11218.23 | 9040      |
| BIH     | Bishop        | 33      | N3722.62 W11821.99 | 4114      |
| BLD     | Boulder       | 114     | N3559.75 W11451.82 | 3650      |
| BTY     | Beatty        | 94      | N3648.54 W11644.86 | 2925      |
| CDC     | Cedar City    | 120     | N3747.24 W11304.90 | 5463      |
| DAG     | Daggett       | 79      | N3457.75 W11634.69 | 1760      |
| EED     | Needles       | 99      | N3445.96 W11428.43 | 650       |
| GFS     | Goffs         | 91      | N3507.87 W11510.59 | 4019      |
| GRL     | Groom Lake    | 18      | N3713.91 W11548.16 | 4475      |
| HEC     | Hector        | 74      | N3447.83 W11627.78 | 1854      |
| ILC     | Wilson Creek  | 110     | N3815.02 W11423.65 | 9318      |
| INS     | Creech AFB    | 87      | N3635.20 W11540.12 | 3101      |
| LAS     | McCarran Intl | 116     | N3604.78 W11509.59 | 2142      |
| LSV     | Nellis        | 12      | N3614.68 W11501.50 | 1864      |
| MLF     | Milford       | 58      | N3821.62 W11300.79 | 4977      |
| MMM     | Mormon Mesa   | 90      | N3646.16 W11416.65 | 2120      |
| MVA     | Mina          | 98      | N3833.92 W11801.97 | 7860      |
| OAL     | Coale Dale    | 124     | N3800.20 W11746.23 | 4800      |
| PGS     | Peach Springs | 57      | N3537.48 W11332.67 | 4754      |
| TPH     | Tonopah Muni  | 119     | N3801.84 W11702.01 | 5330      |
| TQQ     | Silverbow     | 77      | N3748.00 W11647.00 | 5500      |
| UTI     | St George     | 23      | N3705.29 W11335.53 | 2871      |



|     | RWY | CAT     | MINIMA                             |                              | ARP<br><br>36° 14.060' N<br><br>115° 01.058' W | ELEV<br><br>1857 [ft]<br><br>566 [m] | Scale 1:35'500 |      |      |      |      |           |
|-----|-----|---------|------------------------------------|------------------------------|------------------------------------------------|--------------------------------------|----------------|------|------|------|------|-----------|
| PAR | 21L | A B D E | 2057 - 0.8 200 (200-0.8/1.6) GS 3° |                              |                                                |                                      | 0              | 300  | 600  | 900  | 1200 | 1500 [m]  |
|     | 3R  | A B D E | 2057 - 0.8 200 (200-0.8/1.6) GS 3° |                              |                                                |                                      | 0              | 1000 | 2000 | 3000 | 4000 | 5000 [ft] |
|     | SRA | 21R     | A C D E                            | 2257 - 1.2 350 (350-1.2/1.6) |                                                |                                      |                |      |      |      |      |           |
|     | 3L  | A C D E | 2257 - 1.2 350 (350-1.2/1.6)       |                              |                                                |                                      |                |      |      |      |      |           |

| RWY | TORA       |          | TODA       |          | ASDA       |          | LDA        |          | PSN THR     |              | ALS                                                                                 |
|-----|------------|----------|------------|----------|------------|----------|------------|----------|-------------|--------------|-------------------------------------------------------------------------------------|
| 21L | 10051 [ft] | 3063 [m] | 11051 [ft] | 3368 [m] | 11051 [ft] | 3368 [m] | 10051 [ft] | 3063 [m] | 36°14.043'N | 115°01.018'W |  |
| 3R  | 10120 [ft] | 3084 [m] | 11120 [ft] | 3398 [m] | 11120 [ft] | 3398 [m] | 10120 [ft] | 3084 [m] | 36°13.029'N | 115°02.038'W |                                                                                     |
|     |            |          |            |          |            |          |            |          |             |              |                                                                                     |
|     |            |          |            |          |            |          |            |          |             |              |                                                                                     |

| ATIS        | NELLIS GROUND     | NELLIS TOWER     | NELLIS CONTROL | TACAN   | ILS RWY 21L | NELLIS EAST | NELLIS WEST |
|-------------|-------------------|------------------|----------------|---------|-------------|-------------|-------------|
| 270.100 Mhz | 275.800   121.800 | 327.000   132.55 | 317.525        | LSV 12X | 109.10 Mhz  | 384.400     | 385.000     |

ATIS  
270.100  
NELLIS GROUND  
275.800  
NELLIS TOWER  
327.000  
NELLIS CONTROL  
317.525  
NELLIS DEP/APP EAST  
384.400  
BLACKJACK  
377.800

DREAM  
N3710.34  
W11459.53

MINTT  
LAS 351/38  
17,000

| Rwy        | Knots    | 60  | 120 | 180  | 240  | 300  | 360  |
|------------|----------|-----|-----|------|------|------|------|
| * 3 L (a)  | V/V(fpm) | 269 | 538 | 807  | 1076 | 1345 | 1614 |
| * 3 R (b)  | V/V(fpm) | 245 | 490 | 735  | 980  | 1225 | 1470 |
| † 3 L (c)  | V/V(fpm) | 498 | 996 | 1494 | 1992 | 2490 | 2988 |
| † 3 R (c)  | V/V(fpm) | 496 | 992 | 1488 | 1984 | 2480 | 2976 |
| * 21 L (d) | V/V(fpm) | 389 | 778 | 1167 | 1556 | 1945 | 2334 |
| * 21 R (d) | V/V(fpm) | 395 | 790 | 1185 | 1580 | 1975 | 2370 |
| † 21 L (c) | V/V(fpm) | 453 | 906 | 1359 | 1812 | 2265 | 2718 |
| † 21 R (c) | V/V(fpm) | 457 | 914 | 1371 | 1828 | 2285 | 2742 |

\* Minimum † ATC Climb Rate

- (a) to 3600  
(b) to 3100  
(c) to 17,000  
(d) to 8500
- \*\* Lead DME:  
ATALF - LSV 9.5  
HEREM - LSV 8.8

- ① 12.24 NM from Rwy 21R  
② 12.40 NM from Rwy 21L  
③ 5.67 NM from Rwy 3L  
④ 5.85 NM from Rwy 3R

NOT FOR CIVIL USE

CAUTION: If unable to comply with restrictions advise ATC prior to departure.

LAS VEGAS  
116.9 LAS  
Chan 116

NELLIS  
Chan 12 LSV

BOULDER CITY  
116.7 BLD  
Chan 114

VAR 12.3°E

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RWY 3L

- Fly runway heading to intercept the LSV TACAN R-028 then direct ATALF, intercept the BLD VORTAC R-346 then direct JUNNO, cross JUNNO at or above 17,000, then via assigned route.

TAKE-OFF RWY 3R

- Fly runway heading to intercept the LSV TACAN R-031 then direct HEREM, intercept the BLD VORTAC R-346 then direct JUNNO, cross JUNNO at or above 17,000, then via assigned route.

TAKE-OFF RWY 21L/R

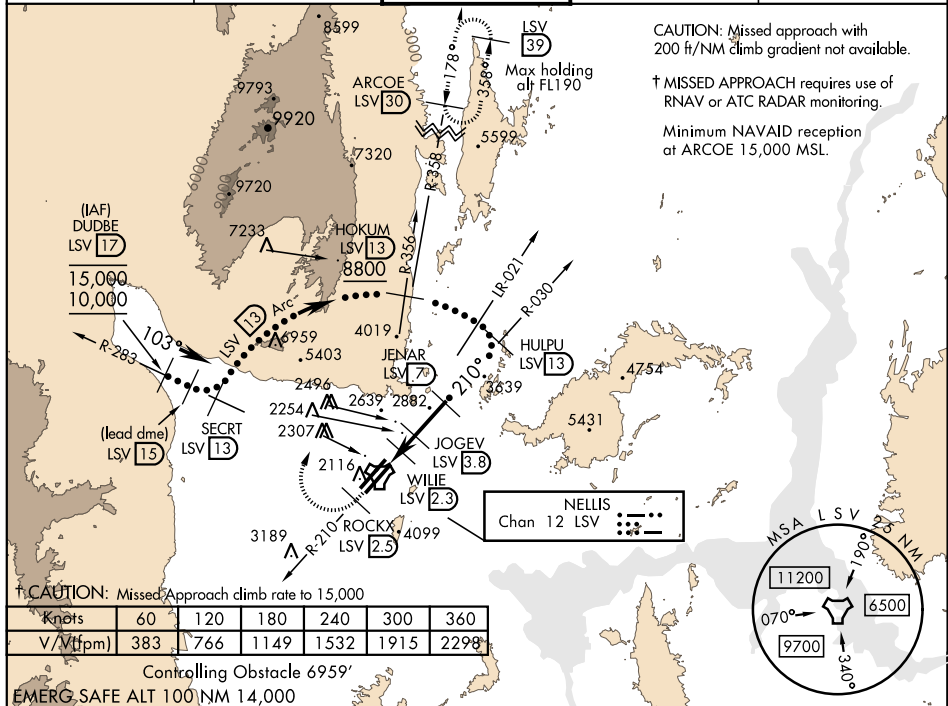
- Turn right to intercept LAS VORTAC R-351 outbound. Remain North of LAS 7.5 DME turning Northbound. Intercept LAS R-351 between 5000 and 6000, do not proceed West of LAS R-351. Cross MINTT at or above 17,000, then via assigned route.

NOISE ABATMENT PROCEDURES: Fly acc. Nellis Noise Abatement instructions

HI-TACAN Y RWY 21L

|                                                                                                                      |             |                  |                                                                                                                                                                                                                                                                                                                                                |                                               |                |                   |
|----------------------------------------------------------------------------------------------------------------------|-------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------|-------------------|
| TACAN<br>Chan 12                                                                                                     | LSV<br>210° | APCH CRS<br>210° | Rwy ldg 21L <b>10,051</b><br>TDZE <b>1865</b><br>Arpt Elev <b>1869</b>                                                                                                                                                                                                                                                                         | Rwy ldg 21R <b>10,120</b><br>TDZE <b>1869</b> | JAL-227 [USAF] | NELLIS AFB (KLSV) |
| <p>▼ * When ALS inop, increase CAT CDE vis to 1¾ miles.<br/>         ** Circling not authorized E of Rwy 3R-21L.</p> |             |                  | <p>ALSF-1<br/>          † MISSED APPROACH: Climb to 15,000, intercept LSV TACAN R-210 to 2.5 DME (ROCKX), then climbing right turn heading 020° to join LSV R-358 to ARCOE and hold, continue climb in hold to 15,000. Missed approach not for civil use.</p> |                                               |                |                   |

|               |                                 |                              |                        |                         |
|---------------|---------------------------------|------------------------------|------------------------|-------------------------|
| ATIS<br>270.1 | NELLIS APP CON<br>124.95 273.55 | NELLIS TOWER<br>132.55 327.0 | GND CON<br>121.8 275.8 | CLNC DEL<br>120.9 289.4 |
|---------------|---------------------------------|------------------------------|------------------------|-------------------------|



VGSI and descent angles not coincident  
(VGSI angle 3.00/TCH 54).

15,000 LSV R-210      ROCKX LSV 2.5      hdg 020°      ARCOE R-358 30

ELEV 1869      TDZE 21L 1865      TDZE 21R 1869

| CATEGORY     | C                             | D                      | E                       |
|--------------|-------------------------------|------------------------|-------------------------|
| S-21L *      | 2460-1 1/4                    | 595 (600-1 1/4)        |                         |
| SIDESTEP 21R | 2460-1                        | 591 (600-1)            |                         |
| CIRCLING **  | 2620-2 1/4<br>751 (800-2 1/4) | 2840-3<br>971 (1000-3) | 3040-3<br>1171 (1200-3) |

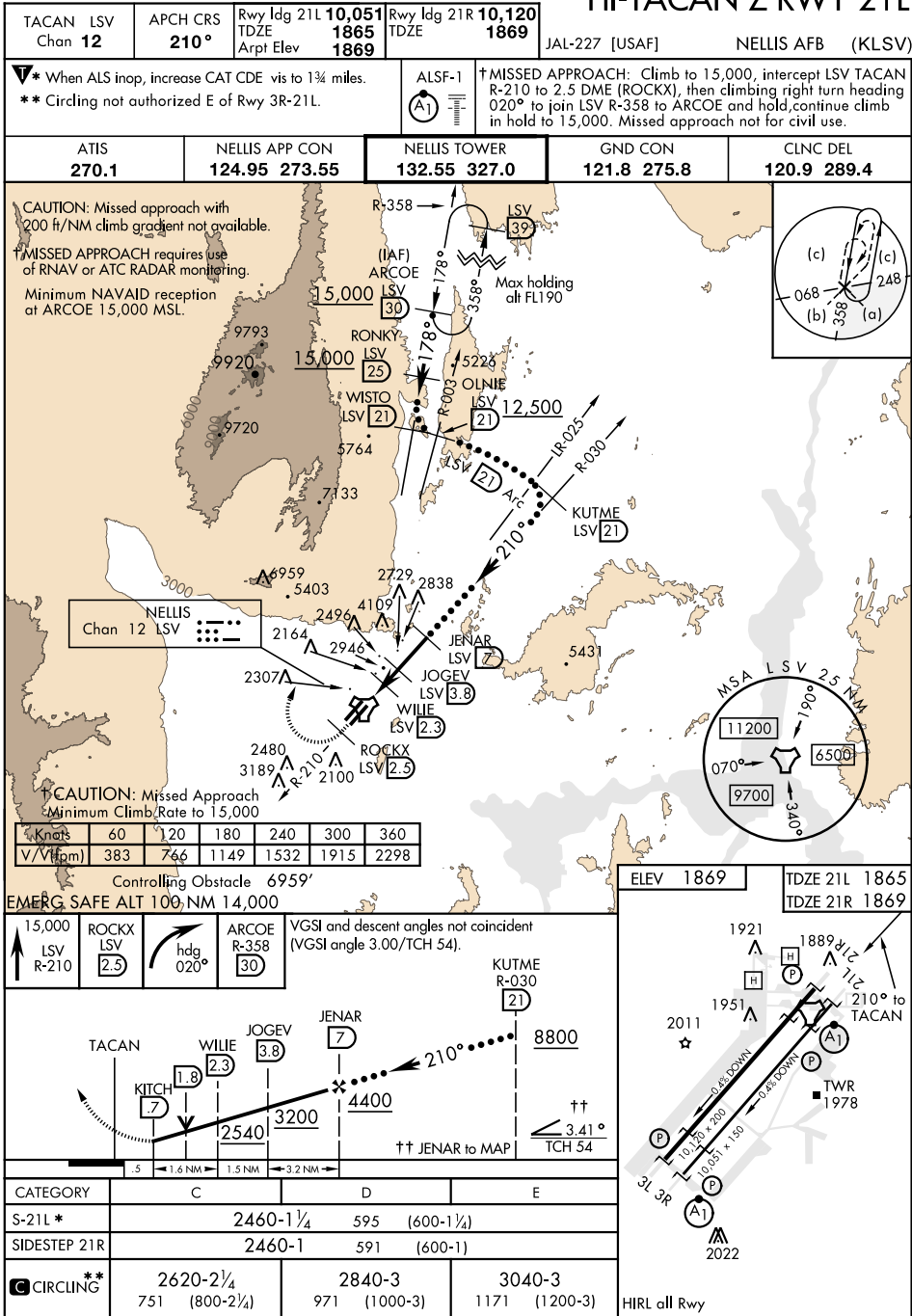
HIRL all Rwy

HI-TACAN Y RWY 21L

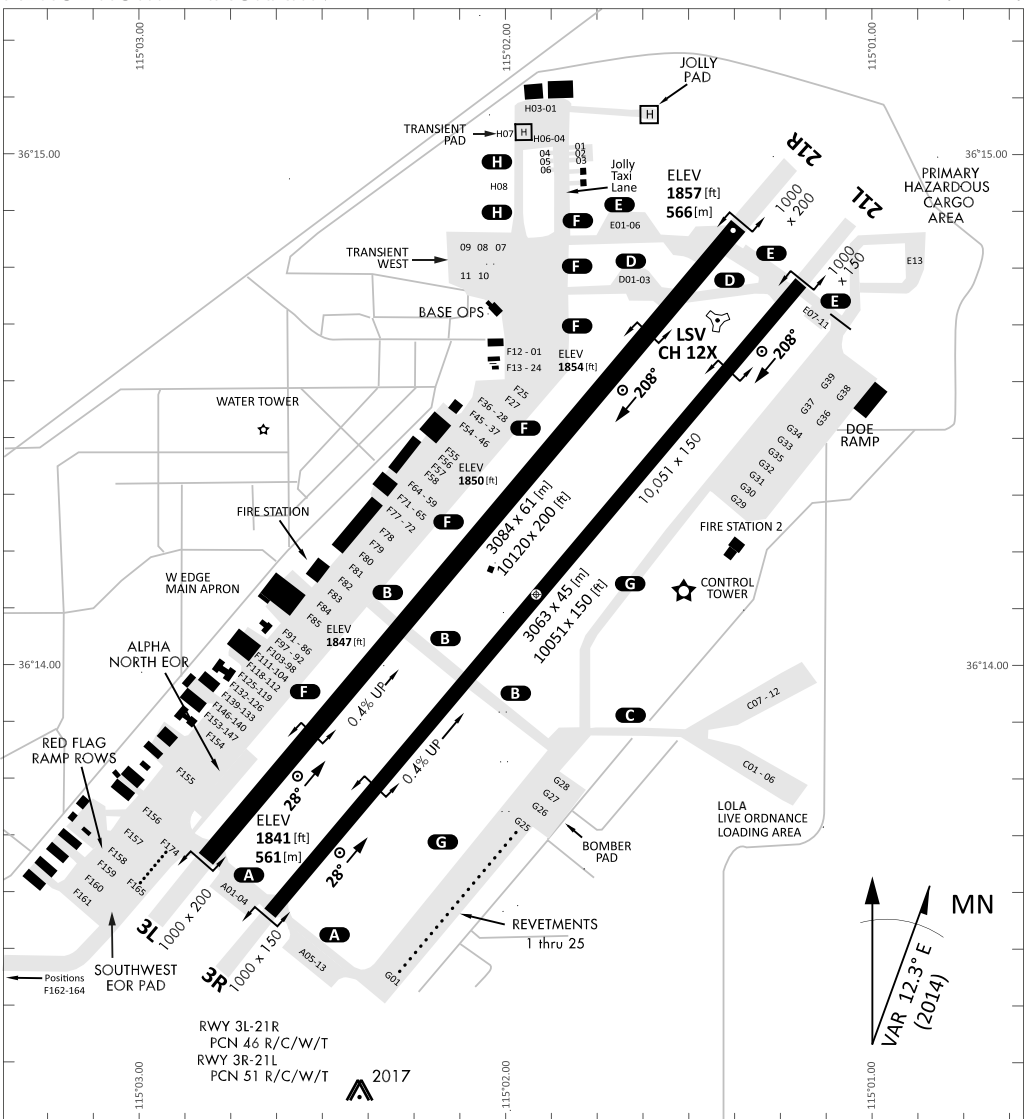
SW-4, 05 DEC 2019 to 02 JAN 2020

SW-4. 05 DEC 2019 to 02 JAN 2020

HI-TACAN Z RWY 21L



HI-TACAN Z RWY 21L



|     | RWY | CAT     | MINIMA                             |                              | ARP<br><br>36° 14.060' N<br><br>115° 01.058' W | ELEV<br><br>1857 [ft]<br><br>566 [m] | Scale 1:35'500 |      |      |      |      |           |
|-----|-----|---------|------------------------------------|------------------------------|------------------------------------------------|--------------------------------------|----------------|------|------|------|------|-----------|
| PAR | 21L | A B D E | 2057 - 0.8 200 (200-0.8/1.6) GS 3° |                              |                                                |                                      | 0              | 300  | 600  | 900  | 1200 | 1500 [m]  |
|     | 3R  | A B D E | 2057 - 0.8 200 (200-0.8/1.6) GS 3° |                              |                                                |                                      | 0              | 1000 | 2000 | 3000 | 4000 | 5000 [ft] |
|     | SRA | 21R     | A C D E                            | 2257 - 1.2 350 (350-1.2/1.6) |                                                |                                      |                |      |      |      |      |           |
|     | 3L  | A C D E | 2257 - 1.2 350 (350-1.2/1.6)       |                              |                                                |                                      |                |      |      |      |      |           |

| RWY | TORA       |          | TODA       |          | ASDA       |          | LDA        |          | PSN THR     |              | ALS                                                                                 |
|-----|------------|----------|------------|----------|------------|----------|------------|----------|-------------|--------------|-------------------------------------------------------------------------------------|
| 21L | 10051 [ft] | 3063 [m] | 11051 [ft] | 3368 [m] | 11051 [ft] | 3368 [m] | 10051 [ft] | 3063 [m] | 36°14.043'N | 115°01.018'W |  |
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|     |            |          |            |          |            |          |            |          |             |              |                                                                                     |
|     |            |          |            |          |            |          |            |          |             |              |                                                                                     |

| ATIS        | NELLIS GROUND     | NELLIS TOWER     | NELLIS CONTROL | TACAN   | ILS RWY 21L | NELLIS EAST | NELLIS WEST |
|-------------|-------------------|------------------|----------------|---------|-------------|-------------|-------------|
| 270.100 Mhz | 275.800   121.800 | 327.000   132.55 | 317.525        | LSV 12X | 109.10 Mhz  | 384.400     | 385.000     |