Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: AWSEG	Date Open: 07/06/2012	Task #: 2012070629720001001	Request #: 20120706297200
Procedure: V 86 WHITEHALL (HIA) VOR/DME MT TO LIVINGSTON (LVM) VOR/DME MT AMDT Y		Airport ID: MT	Airport:		Reimbursable #:
City:	ST: MT	GPS #:		Estimated Chart Date: 01/10/2013	FICO #:
Fac ID:	Fac. Type: Proc R	Specialist: STEVE VANCAMP(Contractor)			

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	07/18/2012	08/01/2012	TOBY HUFF	.
QA:	08/01/2012	09/25/2012	ERIC GREEN	
Liaison:	09/25/2012		Spurlin	

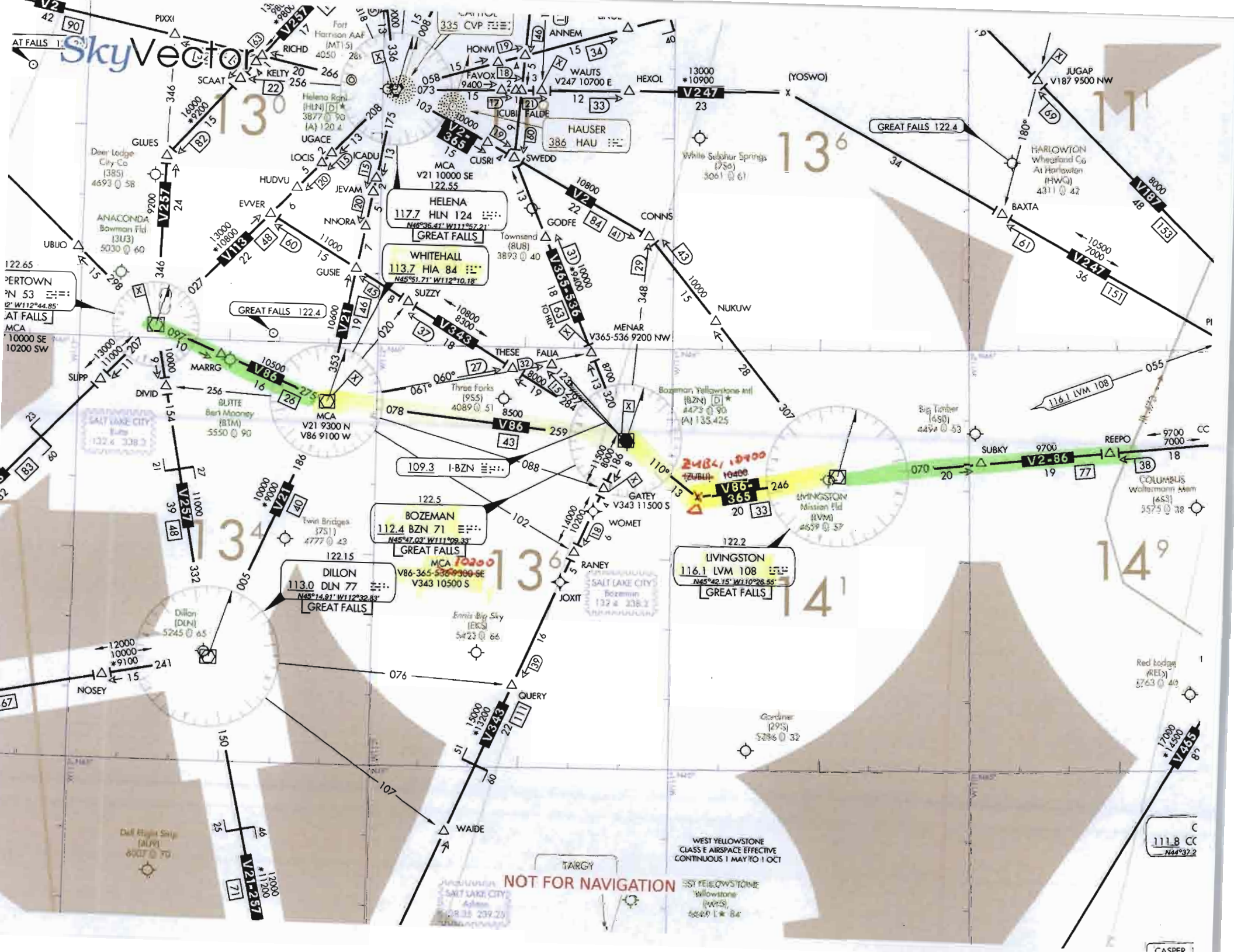
Procedure Comments: ENROUTE **Remark Type:** INFORMATION

pg 1 of 2

AIRWAY: V 86 WHITEHALL (HIA) VDME MT - LIVINGSTON (LVM) VDME MT ENROUTE-YES FC: 11.13.12 PUB: 1.10.13

ATTACHED FORMS: 8260-16; 8260-2(S): BOZEMAN (BZN) VDME, REV 16; WHITEHALL (HIA) VDME, REV 11; ZUBLI-INT, REV 1; (INFO ONLY) LIVINGSTON (LVM) VDME, REV 8.

CONTACT: RAYMOND K. NUSSEAR, ENROUTE MANAGER / TOBY HUFF, ENROUTE LEAD; 301.427.4826, 405.954.9954.

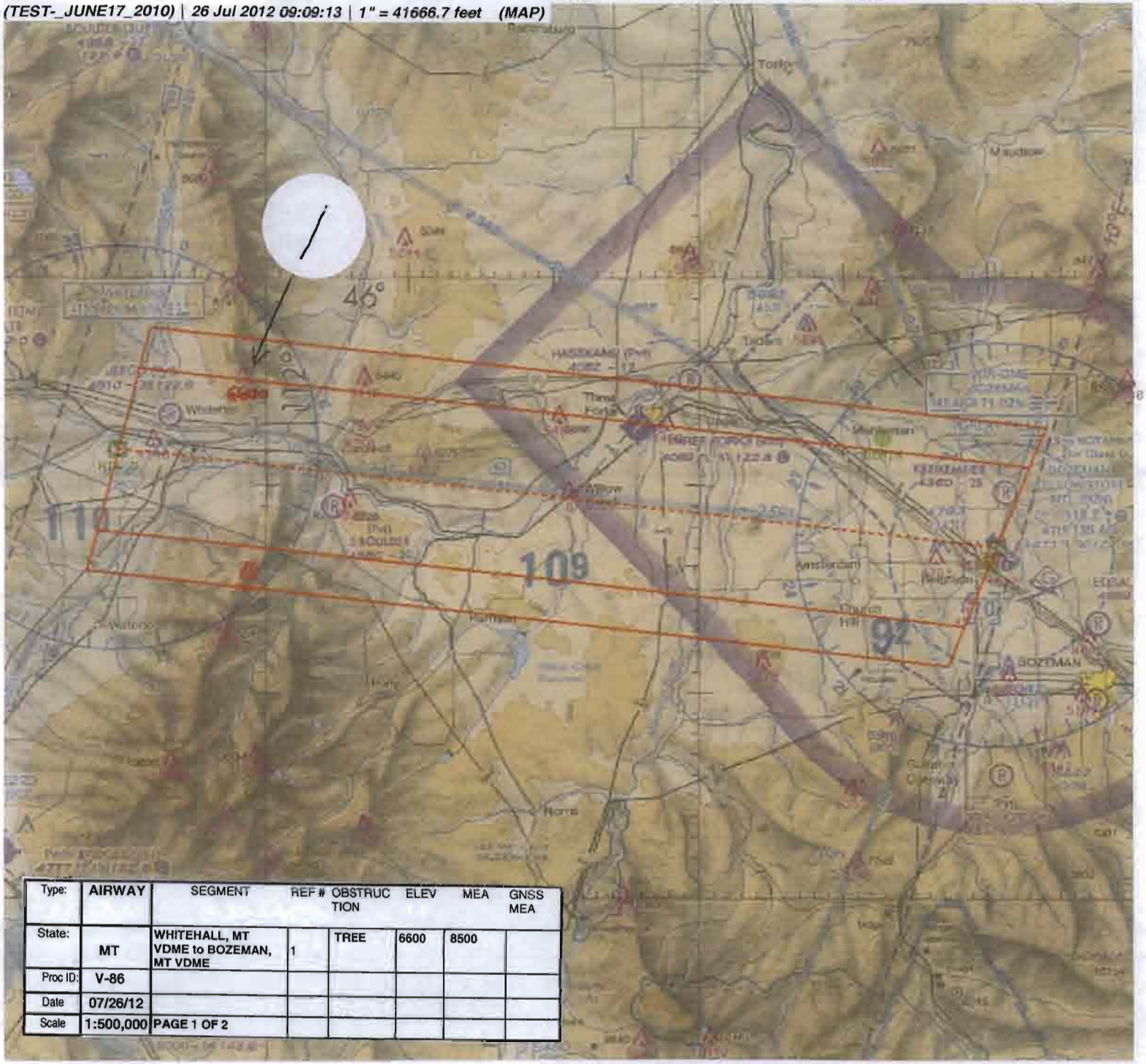

SkyVector
HELENA
117.7 HLN 124
N46°36.41' W111°57.21'
GREAT FALLS
WHITEHALL
113.7 HIA 84
N45°51.71' W112°10.18'
HAUSER
386 HAU
BOZEMAN
112.4 BZN 71
N45°47.03' W111°09.33'
GREAT FALLS
DILLON
113.0 DLN 77
N45°14.91' W112°32.83'
GREAT FALLS
LIVINGSTON
116.1 LVM 108
N45°42.15' W110°26.55'
GREAT FALLS
MCA
V21 10000 SE
122.55
MCA
V21 9300 N
V86 9100 W
MCA
V86-365-536 9300 SE
V343 10500 S
MENAR
V365-536 9200 NW
GREAT FALLS 122.4
109.3 I-BZN
116.1 LVM 108
WEST YELLOWSTONE
CLASS E AIRSPACE EFFECTIVE
CONTINUOUS 1 MAY TO 1 OCT
NOT FOR NAVIGATION
PIXXI
RICHD
KELTY
SCAAT
GLUES
UGACE
LOCIS
ICADU
HUDVU
JEVAM
EVVER
NNORA
GUSIE
SUZZY
THESE
FALIA
MARRG
DIVID
SLIPP
UBUO
NOSEY
QUERY
WAIDE
JOXIT
RANEY
WOMET
GATEY
V343 11500 S
SWEDD
CUSRI
ICUBI
FALDE
FAVOX
HONVI
ANNEM
WAUTS
V247 10700 E
HEXOL
(YOSWO)
JUGAP
V187 9500 NW
BAXTA
CONNS
GODFE
NUKUW
SUBKY
REEPO
V2-86
V86-365
V2-365
V365-536
V343
V21
V86
V113
V257
V21-257
V2
V247
V187
V465
Fort Harrison AAF (MT15)
Helena Rgnl (HLN)
Deer Lodge City Co (38S)
ANACONDA Bowman Fld (3U3)
Townsend (8U8)
White Sulphur Springs (7S6)
HARLOWTON Wheatland Co At Harlowton (HWQ)
Three Forks (9S5)
Bozeman Yellowstone Intl (BZN)
Big Timber (6S0)
LIVINGSTON Mission Fld (LVM)
COLUMBUS Woltermann Mem (6S3)
Twin Bridges (7S1)
Dillon (DLN)
Ennis Big Sky (EKS)
Gardiner (29S)
Red Lodge (RED)
Dell Flight Strip (4U9)
SALT LAKE CITY
Bozeman
Aldrich
TARGY
SST YELLOWSTONE Yellowstone (WYS)
CASPER

NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fposmv | v86hiabzn (TEST-_JUNE17_2010) | 26 Jul 2012 09:09:13 | 1" = 41666.7 feet (MAP)

V86
1/A-BZN



Type:	AIRWAY	SEGMENT	REF #	OBSTRUCTION	ELEV	MEA	GNSS MEA
State:	MT	WHITEHALL, MT VDME to BOZEMAN, MT VDME	1	TREE	6600	8500	
Proc ID:	V-86						
Date	07/26/12						
Scale	1:500,000	PAGE 1 OF 2					

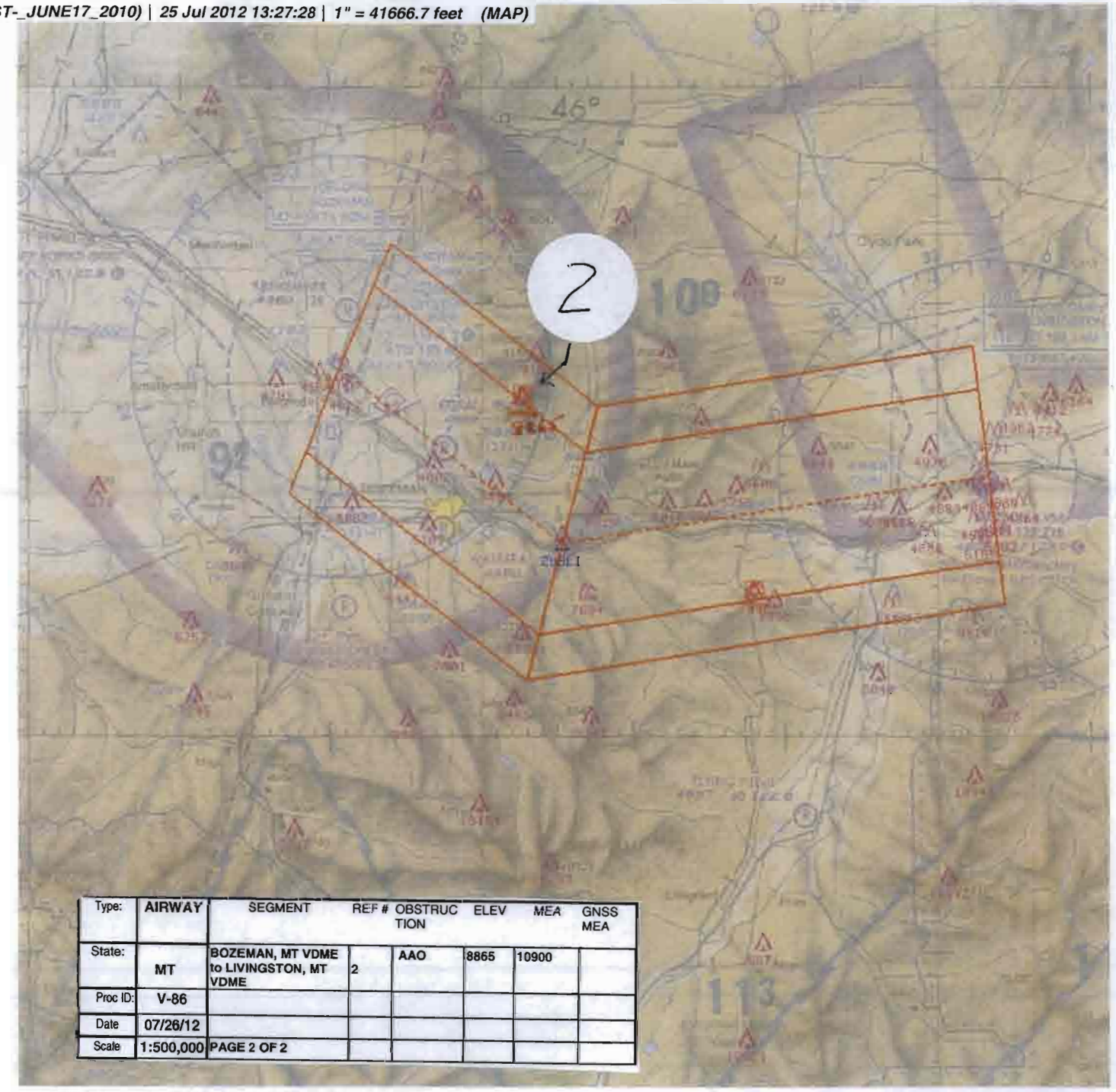
NM 7 14 21 28 35 42 49 56 63 70

FT 42000 84000 126000 168000 210000 252000 294000 336000 378000 420000

fposmv | v086bznlvm (TEST-_JUNE17_2010) | 25 Jul 2012 13:27:28 | 1" = 41666.7 feet (MAP)

V086

BZN→LVM



Type:	AIRWAY	SEGMENT	REF #	OBSTRUCTION	ELEV	MEA	GNSS MEA
State:	MT	BOZEMAN, MT VDME to LIVINGSTON, MT VDME	2	AAO	8865	10900	
Proc ID:	V-86						
Date	07/26/12						
Scale	1:500,000	PAGE 2 OF 2					

TRANSMITTAL OF AIRWAYS / ROUTE DATA

AIRWAY NO. OR ROUTE	FROM / TO	ROUTINE OR DOCKET NO.	CONTROLLING @ TERRAIN/OBSTRUCTION AND COORDINATES	MRA / MOCA	MAA / MEA	GNSS MEA	CHANGE OVER POINT	FIX MRA/MCA	REMARKS	FLIGHT INSPECTION DATES
V86	WHITEHALL, MT VOR/DME		TREE 6600@ 455451.00N / 1120130.00W	8500	17500			*MCA 10200SE	MAINT PREV. MEA. INC. MCA. 300 MTN. ROC. RED.	PENDING
	*BOZEMAN, MT VOR/DME		TERRAIN 6500 455451.00N / 1120130.00W	-8300-	8500					
V86	BOZEMAN, MT VOR/DME		AAO 8865@ 454524.00N / 1105709.00W	10900	17500		DL ZUBLI		RAISE MEA/MOCA. MTNS. PRECIPITOUS. ADD DOG LEG FIX NAME ZUBLI.	PENDING
	LIVINGSTON, MT VOR/DME		TERRAIN 8665 454524.00N / 1105709.00W	-10900-	10900					
									CLEAR FDC NOTAM	

DATE	OFFICE	TITLE	SIGNATURE
	AJV-311	MANAGER	RAY NUSSEAR

APPROVED

FAA FORM 8260-16 / October 2002 (computer generated)

RADIO FIX AND HOLDING DATA RECORD

NAME: BOZEMAN VOR/DME **STATE:** MT **COUNTRY:** US

LATITUDE/LONGITUDE: 454702.04N/1110919.64W **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	DIST FROM FAC FEET	MRA	MAA
1	BOZEMAN	BZN	VOR/DME	H							45000

FIX RESTRICTIONS:
MCA V86-365 10200 SOUTHEAST BOUND
MCA V343 10500 SOUTHBOUND

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	W	BZN	VOR/DME	283.88	103.88	R	1-1 1/2		8000	17500	8	16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	454724.00N/1105857.00W	7874	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
HOLDING PATTERN PER ATC REQUEST.
CONTROLLING OBSTACLE IN SECONDARY AREA, PRIMARY EQ ELEVATION 6890.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BILLINGS	1		KBIL	BILLINGS	MT (US)
DP	BOZEMAN	1		KBZN	BOZEMAN	MT (US)
DP	TAKE-OFF MINIMUMS	1		KBZN	BOZEMAN	MT (US)
DP	STAKK	1		KHLN	HELENA	MT (US)
DP	LIVINGSTON	1		KLVM	LIVINGSTON	MT (US)
EN ROUTE	V343	1				(US)
EN ROUTE	V365	1				(US)
EN ROUTE	V536	1				(US)
EN ROUTE	V86	1				(US)
IAP	ILS OR LOC RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	RNAV (GPS) - A			KBZN	BOZEMAN	MT (US)
IAP	VOR RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	VOR/DME RWY 12	1		KBZN	BOZEMAN	MT (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: LOW

RECORD REVISION NUMBER: 16 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
DELETE V536 MCA SOUTHEAST BOUND.
RAISE MCA V86-365 TO 10200 SOUTHEAST BOUND.
UPDATED FIX RESTRICTIONS.

DEVELOPED BY: **DATE:** 07/26/2012 **OFFICE:** AJV-311 **NAME:** TOBY HUFF (STEVE VANCAMP)

APPROVED BY: **DATE:** **OFFICE:** AJV-311 **NAME:** RAY NUSSEAR

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZLC
ATC FACILITY: BZN ATCT
OTHER: GTF FSS

OA B APPROVED

EFFECTIVE 11/15/2012

RADIO FIX AND HOLDING DATA RECORD

NAME: WHITEHALL VOR/DME **STATE:** MT **COUNTRY:** US

LATITUDE/LONGITUDE: 455142.44N/1121010.59W **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	WHITEHALL	HIA	VOR/DME	H							45000

FIX RESTRICTIONS:
MCA V21 9300 NORTHBOUND
MCA V86 9100 WESTBOUND

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

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	E	HIA	VOR/DME	077.90	257.90	R	1-1 1/2		9500	17500	9	16
2	E	HIA	VOR/DME	095.10	275.10	R	1-1 1/2		10500	17500	9	16
3	N		WP	010.52	190.52	R		7	10600	17500	10	17

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	455812.00N/1120051.00W	8042	4E
2	230	AAO	454530.00N/1122715.00W	9866	4E
3	230	AAO	460502.80N/1120344.70W	8809	6C

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	230	275
2	230	316
3	230	313

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
PAT 2 USED BY ZLC.
PAT 2 CONTROLLING OBS LOCATED 9597 FT INTO SECONDARY AREA. PRIMARY EQUIVALENT ELEV: 8489 FT.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BILLINGS	1		KBIL	BILLINGS	MT (US)
DP	BOZEMAN	1		KBZN	BOZEMAN	MT (US)
DP	TEERX (RNAV)			KBZN	BOZEMAN	MT (US)
DP	WHITEHALL	1		KBZN	BOZEMAN	MT (US)
EN ROUTE	J151	1				(US)
EN ROUTE	J16	1				(US)
EN ROUTE	V21	1				(US)
EN ROUTE	V86	1				(US)
IAP	VOR/DME OR GPS-A	1		K3U3	ANACONDA	MT (US)
IAP	ILS OR LOC RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	RNAV (GPS) Y RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	RNAV (RNP) RWY 30	1		KBZN	BOZEMAN	MT (US)
IAP	RNAV (RNP) Z RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	VOR RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	VOR/DME RWY 12	1		KBZN	BOZEMAN	MT (US)
IAP	ILS Y RWY 15	1		KBTM	BUTTE	MT (US)
IAP	ILS Z RWY 15 (SPECIAL)	1		KBTM	BUTTE	MT (US)
IAP	LOC/DME RWY 15	1		KBTM	BUTTE	MT (US)
IAP	VOR/DME OR GPS-A	1		KBTM	BUTTE	MT (US)
IAP	RNAV (GPS) RWY 17		3	KDLN	DILLON	MT (US)
IAP	RNAV (GPS) RWY 35		3	KDLN	DILLON	MT (US)
IAP	RNAV (RNP) Y RWY 27	1		KHLN	HELENA	MT (US)
IAP	RNAV (RNP) Z RWY 27	1		KHLN	HELENA	MT (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 11/15/2012

REASON FOR REVISION:

QA 8 APPROVED

ADDED PAT 3.
MOVED HOLDING LIMITED NOTE FROM REMARKS TO HOLDING RESTRICTIONS.
UPDATED FIX USE.
REMOVED "200'" FROM PAT 1, 2 OBSTRUCTIONS.
UPDATE PAT 2 CONTROLLING OBS.

DEVELOPED BY:	**DATE:** 11/02/2011	**OFFICE:** AJV-354	**NAME:** ADOLFO URRUTIA (THERON CYRUS)
APPROVED BY:	**DATE:**	**OFFICE:** AJV-354	**NAME:** DEZ SILAGYI
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZLC
ATC FACILITY:
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: ZUBLI **STATE:** MT **COUNTRY:** US

LATITUDE/LONGITUDE: 453858.24N/1105438.42W **TYPE:** INT

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	FEET	MRA	MAA
1	LIVINGSTON	LVM	VOR/DME	L	246.00	261.00		19.95		10900	17500
2	BOZEMAN	BZN	VOR/DME	H	110.00	128.00		13.07		10900	17500

REMARKS:
LIVINGSTON (FAC 1) AND BOZEMAN (FAC 2) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V365	1, 2				(US)
EN ROUTE	V86	1, 2				(US)

REQUIRED CHARTING: CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
UPDATE FIX TYPE.
FIX MOVED 3.15FT NW TO C/L OF AIRWAYS.
REMOVED "DATA PROVIDED BY NOS FOR ESTABLISHING NAMES AT DOGLEG AIRWAYS/ROUTES".
CHANGED FROM CNF TO AN INTERSECTION FIX.
ADDED FAC 1 AND FAC 2.
ADDED IN REMARKS "LIVINGSTON (FAC 1) AND BOZEMAN (FAC 2) USED TO ESTABLISH FIX COORDINATES".
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 07/25/2012 **OFFICE:** AJV-311 **NAME:** TOBY HUFF (STEVE VANCAMP)

APPROVED BY: **DATE:** **OFFICE:** AJV-311 **NAME:** RAY NUSSEAR

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZLC
ATC FACILITY:
OTHER:

Q.A. B APPROVED

RADIO FIX AND HOLDING DATA RECORD

NAME: LIVINGSTON VOR/DME **STATE:** MT **COUNTRY:** US

LATITUDE/LONGITUDE: 454208.93N/1102632.83W **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	DIST FROM FAC FEET	MRA	MAA
1	LIVINGSTON	LVM	VOR/DME	L							17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

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	E	LVM	VOR/DME	070.00	250.00	R	1-1 1/2		9900	17500	9	16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	AAO	453516.80N/1102734.30W	9519	6C

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
1	230	219

HOLDING RESTRICTIONS:
HOLDING IS LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PAT 1 HOLDING OBST 9514 FT AAO HAS 8606.01 PRIMARY EQUIVALENT ELEVATION
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BILLINGS			KBIL	BILLINGS	MT (US)
DP	BOBKT (RNAV)			KBZN	BOZEMAN	MT (US)
DP	STAKK			KHLN	HELENA	MT (US)
DP	LIVINGSTON			KLVM	LIVINGSTON	MT (US)
DP	TAKE-OFF MINIMUMS			KLVM	LIVINGSTON	MT (US)
EN ROUTE	V2	1				(US)
EN ROUTE	V365	1				(US)
EN ROUTE	V86	1				(US)
IAP	RNAV (GPS) Y RWY 12			KBZN	BOZEMAN	MT (US)
IAP	RNAV (GPS)-A			KBZN	BOZEMAN	MT (US)
IAP	RNAV (RNP) RWY 30			KBZN	BOZEMAN	MT (US)
IAP	RNAV (RNP) Z RWY 12			KBZN	BOZEMAN	MT (US)
IAP	GPS RWY 22			KLVM	LIVINGSTON	MT (US)
IAP	RNAV (GPS) RWY 22			KLVM	LIVINGSTON	MT (US)
IAP	VOR-A		1	KLVM	LIVINGSTON	MT (US)
IAP	VOR/DME-B		1	KLVM	LIVINGSTON	MT (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8 **DATE OF REVISION:** 06/30/2011

REASON FOR REVISION:
FAC LAT/LONG CORRECTED FROM 454208.90N/1102632.90W TO 454208.93N/1102632.83W
CHANGED HOLDING PAT OBST FROM 9519 AAO TO 9514 AAO AND PECIPITOUS TERRAIN ADJUSTMENT INCREASED FROM 215 TO 219
UPDATE FIX USE

DEVELOPED BY: **DATE:** 01/31/2011 **OFFICE:** AVN-130 **NAME:** CHARLES ERICKSON

APPROVED BY: **DATE:** 05/26/2011 **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZLC
ATC FACILITY: BZN ATCT
OTHER:

04 B APPROVED