Date		Punaluu Beach	Survey Dates											
first used		OPUU 1-1	8/6/1994	1/18/1995	9/12/1995	3/9/1996	8/23/1996	2/23/1997	8/6/1997	12/29/1997	7/21/1998	12/17/1998	7/27/1999	
8/6/1994	RP#1	Shower main (top, center)	RP1	RP1	FRP	FRP	FRP	FRP	FRP	FRP	-	RP1	FRP?	
8/6/1994	RP#2 * **	Bath/shower walkway	RP2	GPS2	*RP2	RP2	SRP	SRP	SRP	SRP	-	-	-	
8/6/1994	RP#3 ***	Palm 15' from road (2 palms form "U")	RP3	RP3	BRP	MRP	BRP	BRP	BRP	BRP	BRP	RP3	BRP?	
8/6/1994	RP#4	Palm by road (offline)	RP4	-	-	-	-	-	-	-	RP4	RP4	-	
	RP#5	Telephone pole	RP5	-	-	-	-	-	-	-	-	-	-	
	RP#6	Water meter	RP6	RP6	-	-	-	-	-	-	-	-	-	
8/6/1994	RP#7	Top of corner fence post (mauka road)	RP7	RP7	RP7	BRP	-	-	-	-	-	-	-	
1/18/1995	RP#8	Bath/road walkway (GPS 1)	-	GPS1	RP8	RP8	-	-	-	-	-	-	-	
	Start of Line Bearing		base.RP7	swd.rd	Indwd.rd	swd.rd	swd.wht.ln	swd.rd	Indwd.rd	swd.rd	swd.rd	AT.BRP	wrd.edge.showe	
			16°	-	16°	-	21°	18°	30°	-	34°			
* = new PK nail or other marker														
Location:	n: Punalu'u Beach Park just east of bath house, and across Hwy. and west of #53-280 & #53-270.													
Line-up:	LINE UP: Defined by shower main and base of west palm of 2 forming "U".													
	Top, center of shower main on east side of bath house.													
	Nail in intersecting seam of concrete path from shower and bath house platform. (Nail replaced 9/95; lost 7/98-crack regrouted)													
	Seaward-facing nail in palm approx. 35 cm above base. West palm of 2 forming "U".													
	Nail 35cm above sand flush with trunk on palm leaning toward road in group of 4 palms approx. 10m east of line near Hwy.													
	Nail at base of telephone pole on seaward side of Hwy. across from mailboxes #53-270, 53-270A, 53-280 & 53-280A.													
	West seaward cement corner of water meter on landward side of road, west of mailboxes and in front of east end of cyclone fence.													
	Top of cyclone fence post. Cyclone fence parallel to Hwy, behind water meter, east of bath house. West corner of fence post.													
RP#8	PK at crack of bath house path and parking along road.													
		PUU1 = RP8; Location questionable; original data sheets are missing												
	PUU2 = RP	PUU2 = RP2; Location questionable; original data sheets are missing												
NOTES:														
		SPS Survey. No GPS data sheets; GPS locations undefined; PUU2 makai of PUU1												
7/27/99	No RP numb	o RP number identified for 7/99 survey												

Preliminary GPS Positions (no final adjustment)

Elevation (meters above local tidal datum)

Longitude Latitude -157.88176 21.576704 PUU1 PUU2 -157.881607 21.576752

1.737 2.126

<sup>\*</sup> Primary GPS for elevation control; RP2/GPS2 = 2.126

\*\* Primary vertical reference point 8/94 - 12/97 RP2/GPS2 = 2.126

\*\*\*Primary vertical reference point 12/97 to 7/99: RP3/BRP = 2.192 (from 7/97)