APPENDIX D - Critical Facility Analysis

A new critical facility was not available for the 2014 plan update. The existing data (used in previous plan updates) was used for this effort. However, the planning team did work to identify potential sites of concern during the planning process. New sites are noted in the table below. Data was not available to determine if specific buildings resided in hazard areas for all hazards. Hazards that were analyzed include:

- Sea level rise (SLR)
- Flood plains A/AE 100-year/1.0-percent annual chance flood & V/VE zones
- Landslide
- Earthquake
- Tsunami
- Coastal erosion.

Refer to Chapter 4: Risk Assessment, for a complete description of the methodology and data sources used for each hazards. The table below lists the critical facilities and indicates whether or not the critical facility is at risk to hazards.

Tutuila Critical Facilities

Tutuila critical facilities have a combined estimated value of $1,225,730,003.

Table 1 Tutuila Critical Facility Analysis

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Critical Facilities													
Church/Shelter	CCCAS Hall	Aasu		$360,000							X		
Church/Shelter	CCCAS Hall	Aasu		$360,000							X		
Church/Shelter	CCCAS Hall	Afono		$288,000				X			X	X	
Church/Shelter	Catholic Hall	Alao		$580,000				X			X	X	
Church/Shelter	Catholic Hall	Alao		$580,000				X			X	X	
Church/Shelter	CCCAS	Amanave		$480,000				X				X	X
Church/Shelter	CCCAS	Amanave		$480,000				X				X	X
Church/Shelter	CCCAS	Amanave		$480,000				X				X	X
Church/Shelter	CCCAS Hall	Amaua		$616,000				X			X	X	X
Church/Shelter	CCCAS Hall	Amaua		$616,000				X			X	X	X
Church/Shelter	CCCAS Hall	Amouli		$560,000				X			X	X	X
Church/Shelter	CCCAS Hall	Aoa		$781,500				X			X	X	
Church/Shelter	CCCAS Hall	Aoa		$781,500				X			X	X	
Church/Shelter	CCCAS Hall	Aoloau		$792,000							X		
Church/Shelter	CCCAS Hall	Aoloau		$792,000							X		
Church/Shelter	CCCAS Hall	Aoloau		$792,000							X		

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Church/Shelter	CCCAS	Asili		$760,000							X	X	X
Church/Shelter	CCCAS	Asili		$760,000							X	X	X
Church/Shelter	CCCAS Hall	Auasi		$318,000				X			X	X	
Church/Shelter	CCCAS Hall	Auasi		$318,000				X			X	X	
Church/Shelter	LDS Church	Auto		$210,000				X			X	X	X
Church/Shelter	CCCAS Hall	Fagaalu		$360,000				X			X	X	
Church/Shelter	CCCAS Church	Fagamalo		$572,000				X			X	X	
Church/Shelter	CCCAS Church	Fagamalo		$572,000				X			X	X	
Church/Shelter	CCCAS Hall	Fagasa		$784,000				X			X	X	
Church/Shelter	CCCAS Hall	Fagasa		$784,000							X	X	
Church/Shelter	CCCAS Hall	Fagatogo		$288,000							X	X	
Church/Shelter	Methodist Hall	Fagatogo		$712,500				X			X	X	
Church/Shelter	CCCAS Hall	Malaeloa		$861,000							X	X	
Church/Shelter	CCCAS Hall	Malaeloa		$861,000							X	X	
Church/Shelter	LDS Church	Mapusaga		$966,000							X		
Church/Shelter	LDS Church	Mapusaga		$966,000							X		
Church/Shelter	CCCAS Hall	Masausi		$120,000				X			X	X	
Church/Shelter	Methodist Hall	Nuuuli-tai		$303,900				X			X	X	
Church/Shelter	CCCAS Hall	Onenoa		$162,000				X			X	X	
Church/Shelter	CCCAS Hall	Sailele		$486,000				X			X	X	
Church/Shelter	CCCAS Maota Tina	Tafuna		$714,000							X	X	
Church/Shelter	CCCAS Hall	Taputimu		$852,000							X	X	
Church/Shelter	CCCAS Hall	Taputimu		$852,000							X	X	
Church/Shelter	CCCAS Hall	Tula		$594,000				X			X	X	
Church/Shelter	CCCAS Hall	Tula		$594,000				X			X	X	
Church/Shelter	CCCAS Hall	Tula		$594,000							X	X	
Church/Shelter	CCCAS Hall	Tula		$594,000							X	X	
Church/Shelter	CCCAS Hall	Utumea		$560,000				X			X	X	
Church/Shelter	CCCAS Hall	Vailoatai		$460,000							X	X	
Church/Shelter	CCCAS Hall	Vaitogi		$528,000							X	X	
Church/Shelter	CCCAS Hall	Vaitogi		$528,000							X	X	
Church/Shelter	CCCAS Hall	Vatia		$360,000				X			X	X	X
Commercial	VCS Samoa Packing Co	Atuu		$16,382,320				X			X	X	
Commercial	Star Kist Samoa Co.	Satala		$17,909,360				X			X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Commercial	Star Kist Samoa Co.	Satala		$17,909,360							X	X	
Communications	KSBS Radio Station	Fagaalu	A. Sene	$384,000							X	X	
Communications	American Samoa Telec	Fagatogo	ASG	$960,000				X			X	X	
Communications	KVZK-TV	Fagatogo	ASG	$650,000							X	X	
Communications	KKHJ Radio Station	Pago Pago				X	X	X			X	X	
Communications	Blue Sky Company	Tafuna		$400,000							X	X	
Fire	Sub-station East	Fagaitua	ASG	$288,000				X			X	X	X
Fire	DPS Fire Division	Fagatogo	ASG	$150,000				X			X	X	
Fire	DPS Fire Division	Fagatogo	ASG	$150,000				X			X	X	
Fire	Fire Station	Tualatai/ Leone			X						X		
Fire	Fire Station	Tualauta/ Nu'uuli			X						X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Fuel Storage	Airport Tank Farm	PPG Airport		$7,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	ASG Gov.'t Bldgs.	Fagatogo	ASG	$14,000,000				X			X	X	
Government	Governors House	Fagatogo										X	
Government	High Court	Fagatogo		$1,452,328				X			X	X	
Government	District Court	Pago Pago		$54,349			X	X			X	X	
Government	New District Court	Pago Pago						X				X	
Government	Temco and DMV	Tafuna		$349,080				X			X	X	
Government	Dept of Education	Utulei									X	X	
Government	Faletusi Library	Utulei		$960,000							X	X	
Government	LT Gov House	Utulei						X			X	X	
Government	Samoan Affairs	Utulei		$550,000							X	X	
Hospital	LBJ Tropical Medical	Fagaalu	ASG	$18,836,193							X	X	
Hospital	LBJ Tropical Medical	Fagaalu	ASG	$18,836,193							X	X	
Hospital	LBJ Tropical Medical	Fagaalu	ASG	$18,836,193							X	X	
Hospital	LBJ Tropical Medical	Fagaalu	ASG	$18,836,193							X	X	
Hospital 2	Hospital	Saole			X						X	X	X
Police	Faqaitua Sub-station	Fagaitua	ASG	$144,000				X			X	X	X
Police	DPS Central Station	Fagatogo	ASG	$770,414				X			X	X	
Processing Site	Samoa Packing	Atuu		$16,382,320				X			X	X	
Processing Site	Star Kist Samoa	Atuu		$17,909,360				X			X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Processing Site	Samoa Seiner Suppls	Container Dock										X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Alofau Elementary	Alofau	ASG	$745,000							X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000				X			X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000				X			X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000				X			X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000				X			X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000				X			X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000							X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000							X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000							X	X	
School/Shelter	Aua Elementary	Aua	ASG	$1,500,000							X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	X
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Faqaitua High	Fagaitua	ASG	$1,750,000				X			X	X	
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Illiili Elementary	Iliili	ASG	$1,250,000							X		
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000				X			X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000				X			X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000							X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000							X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000							X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000							X	X	
School/Shelter	Laulii Elementary	Laulii	ASG	$545,000							X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Leone High	Leone	ASG	$1,960,000							X		
School/Shelter	Leone High	Leone	ASG	$1,960,000							X		
School/Shelter	Leone High	Leone	ASG	$1,960,000							X		
School/Shelter	Masefau Elementary	Masefau	ASG	$675,000			X	X			X	X	X
School/Shelter	Masefau Elementary	Masefau	ASG	$675,000			X	X			X	X	X
School/Shelter	Masefau Elementary	Masefau	ASG	$675,000			X	X			X	X	X
School/Shelter	Masefau Elementary	Masefau	ASG	$675,000				X			X		X
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Manulele Elementary	Nuuuli-uta	ASG	$940,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pago Pago Elementary	Pago Pago	ASG	$1,400,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Pavaiai Elementary	Pavaiai	ASG	$2,650,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000				X			X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000				X			X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	X
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Seetaqa Elementary	Seetaga	ASG	$520,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Samoana High	Utulei	ASG	$1,055,000							X	X	
Transportation	Container Dock	Fagatogo	ASG	$18,131,380				X			X	X	
Transportation	InterIsland Ferry T.	Fagatogo	ASG	$400,000				X			X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Transportation	PPG Intern. Airport	Tafuna	ASG	$69,080,080							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
Utilities	ASPA Tafuna Plant	Tafuna	ASG	$18,000,000							X	X	
ASTCA INFRASTRUCTURE													
50 Ft Pole	Afono Mafa Site	Afono			X					X			
50 Ft Pole	Airport Site	Tafuna			X						X	X	
60 Ft	Alofau	Alofau			X					X	X	X	
N/A	Alofau	Alofau			X					X	X	X	

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Bldg	Alofau	Alofau			X					X	X	X	
DCO Bldg	Alofau	Alofau			X					X	X	X	
DCO Bldg	Alofau	Aolofau			X					X	X	X	
60 Ft	Alofau	Alofau			X					X	X	X	
50 Ft Pole	Aoa Mafa Site	Aoa			X					X	X	X	
DCO Bldg	Aunuu	Aunuu			X			X				X	
110 Ft	Aunuu	Aunuu			X			X				X	
DCO Bldg	Aunuu	Aunuu			X			X				X	
110 Ft	Aunuu	Aunuu			X			X				X	
110 Ft	Breakers Point	Laulii			X							X	X
110 Ft	Breakers Point	Laulii			X							X	X
DCO Bldg	Breakers Point	Laulii			X							X	X
DCO Bldg	Breakers Point	Laulii			X							X	X
40 Ft	Fagaitua	Fagaitua			X			X			X	X	
DCO Bldg	Fagaitua	Fagaitua			X			X			X	X	
50 Ft Pole	Fagasa Mafa Site	Fagasa			X								
30 Ft	Fagatogo	Fagatogo			X						X	X	
DCO Bldg	Fagatogo	Fagatogo			X						X	X	
50 Ft	Fagatogo	Fagatogo			X						X	X	
50 Ft	Fagatogo	Fagatogo			X						X	X	
N/A	Fagatogo	Fagatogo			X			X			X	X	
BTS Bldg	Fagatogo 5e	Fagatogo			X					X	X	X	
50 Ft Pole	Faleniu Site	Faleniu			X			X			X	X	
100ft	Fitiuta	Fitiuta			X							X	
140 Ft	Iliili	Iliili			X						X	X	
35 Ft	Iliili	Iliili			X						X	X	
140 Ft	Iliili	Iliili			X						X	X	
DCO Bldg	Iliili	Iliili			X						X	X	
DCO Bldg	Iliili	Iliili			X						X	X	
50 Ft	Leone	Leone			X						X	X	
25 Ft Pole	Matuu Site	Matuu			X			X		X		X	X
DCO Bldg	New Leone	Leone			X						X		
DCO Bldg	New Leone	Leone			X						X		
N/A	New Leone	Leone			X						X		
N/A	New Leone	Leone			X						X		
N/A	Nuuuli	Nuuuli			X			X			X	X	
50 Ft	Olotele	Aoloau			X						X		
110 Ft	Olotele	Aoloau			X						X		
50 Ft	Olotele	Aoloau			X						X		
40 Ft	Olotele	Aoloau			X						X		

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
25 Ft	Olotele	Aoloau			X						X		
30 Ft	Olotele	Aoloau			X						X		
50 Ft Pole	Onenoa Tank Site	Onenoa			X					X	X	X	
50 Ft Pole	Poloa Tank Site	Poloa			X								
110 Ft	Satala	Satala			X						X	X	
110 Ft	Satala	Satala			X						X	X	
DCO Bldg	Satala	Satala			X						X	X	
DCO Bldg	Satala	Satala			X						X	X	
110 Ft	Tafuna	Nuuuli			X						X	X	
DCO Bldg	Tafuna	Nuuuli			X						X	X	
DCO Bldg	Tafuna	Nuuuli			X						X	X	
110 Ft	Tafuna	Nuuuli			X						X	X	
N/A	Tafuna	Tafuna			X						X	X	
N/A	Tafuna	Tafuna			X						X	X	
N/A	Tafuna	Tafuna			X						X	X	
40 Ft	Taputimu	Taputimu			X						X	X	
140 Ft	Taputimu	Taputimu			X						X	X	
DCO Bldg	Taputimu	Taputimu			X						X	X	
DCO Bldg	Taputimu	Taputimu			X						X	X	
140 Ft	Taputimu	Taputimu			X						X	X	
50 Ft Pole	Utulei Print Shop Site	Utulei			X			X			X	X	
Assembly Areas													
1	1	Pago Pago			X					X	X	X	
2	2	Pago Pago			X					X	X	X	
3	3	Pago Pago			X					X	X	X	
4	4	Fagatogo			X					X	X	X	
5	5	Anua			X					X	X	X	
6	6	Atuu			X					X		X	
7	7	Fagatogo			X					X		X	
8	8	Fagaalu			X					X		X	
9	9	Fagaalu			X					X		X	
10	10	Utulei			X					X	X	X	
11	11	Aua			X					X	X	X	
12	12	Laulii			X					X		X	X
13	13	Fatumafuti			X							X	
14	14	Leone			X			X			X	X	
15	15	Leone			X							X	
16	16	Amaluia			X							X	X
17	17	Amaluia			X							X	X

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
18	18	Asili			X							X	
19	19	Afao			X						X	X	
20	20	Afao			X					X		X	X
21	21	Utumea West			X					X		X	X
22	22	Amanave			X					X		X	
23	23	Poloa			X							X	
24	24	Fagalii			X							X	
25	25	Maloata			X							X	
26	26	Fagamalo			X					X		X	
Tsunami Sirens													
1	1	Leloaloa			X						X	X	X
2	2	Laulii			X							X	X
3	3	Auto			X							X	
4	4	Pago Pago			X		X				X	X	
5	5	Utulei			X						X	X	
6	6	Fagaalu			X						X	X	
7	7	Faganeanea			X					X		X	X
8	8	Nu'uuli			X						X	X	X
9	9	Nu'uuli			X						X	X	
10	10	Fagatogo			X						X	X	X
11	11	Aumi			X					X		X	X
12	12	Alofau			X						X	X	X
13	13	Amouli			X						X	X	X
14	14	Alao			X						X	X	
15	15	Tula			X						X	X	
16	16	Onenoa			X						X	X	
17	17	Aoa			X						X	X	
18	18	Saiele			X						X	X	
19	19	Masefau			X		X				X	X	
20	20	Vatia			X						X	X	X
21	21	Afona			X						X	X	
22	22	Fagasa			X						X	X	
23	23	Tafuna			X						X	X	
24	24	Tafuna			X						X	X	
25	25	Leone			X						X		
26	26	Leone			X						X	X	
27	27	Leone			X						X	X	
28	28	Amaluia			X						X	X	X
29	29	Asili			X						X	X	X
30	30	Afao			X						X	X	X

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
31	31	Nua			X						X	X	X
32	32	Agugulu			X						X	X	
33	33	Amanave			X						X	X	X
34	34	Poloa			X					X		X	X
35	35	Fagalii			X							X	
36	36	Fagamalo			X						X	X	
43	43	Vaitogi			X						X	X	
Safe Zones													
1		East Tutuila			X	X	X						
2		Nua/Afao			X	X	X						
3		Maloata			X	X	X						
4		Fagamalo			X	X	X						

Ta'u Critical Facilities

Ta'u critical facilities did not include value estimates.

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Critical Facilities													
Church/Shelter	Church	Luma							X				
Church/Shelter	Church	Luma				X			X				
Church/Shelter	LMS Church	Leusoalii							X				
Church/Shelter	LMS Church	Luma				X			X				
Commercial	Amerika Samoa Bank	Maia							X				
Commercial	Niumata Hotel	Luma				X			X				
Commercial	Pay-n-Save Retail and Grocery Store	Luma				X			X				
Commercial	Salisa Store	Luma				X			X				
Commercial	Store	Maia							X				
Commercial	Store	Luma				X			X				
Commercial	Store	Luma				X			X				
Commercial	Store	Luma				X			X				
Commercial	U'u Gaoa Store	Luma				X							
Fuel Tank	ASPA Tanks	Faleasao					X		X				
Government	ASPA	Faleasao				X			X				
Government	ASPA	Faleasao				X	X		X				
Government	ASPA	Faleasao					X		X				
Government	DPW	Siufaga				X	X		X				
Government	DPW	Faleasao					X		X				
Government	Manuatele Criminal Justice Planning Agency	Luma											
Government	United States Post Office & Store	Faleasao							X				
Hospital	Hospital	Luma				X			X				
School/Shelter	Early Childhood Education	Luma				X			X				
School/Shelter	Faleasao Elementary School	Faleasao				X			X				

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
School/Shelter	Faleasao Elementary School	Faleasao							X				
School/Shelter	Faleasao Elementary School	Faleasao							X				
School/Shelter	Faleasao Elementary School	Faleasao							X				
School/Shelter	Faleasao Elementary School	Faleasao				X	X		X				
School/Shelter	Faleasao Elementary School	Faleasao				X			X				
School/Shelter	Manu'a High School	Luma											
School/Shelter	Manu'a High School	Luma											
School/Shelter	Manu'a High School	Luma											
School/Shelter	Manu'a High School	Luma											
School/Shelter	Manu'a High School	Luma											
School/Shelter	Manu'a High School Gymnasium	Luma											
School/Shelter	Manu'a High School Locker Room	Luma											
School/Shelter	Matasaua School	Leusoalii							X				
School/Shelter	Matasaua School	Leusoalii							X				
School/Shelter	Matasaua School	Leusoalii							X				
School/Shelter	Matasaua School	Leusoalii							X				
Transportation	Aiport Terminal	Maia							X				

Facility Type	Name	Village	Ownership	Value (Est.)	New for 2014	1ft SLR	3ft SLR	A/AE FP	V/VE FP	High Landlide Risk	High Earthquake Risk	Tsunami Risk	Coastal Erosion
Unknown	Unknown	Luma				X			X				
Tsunami Sirens													
37	37	Siufaga (Ta'u)	X						X				
38	38	Luma (Ta'u)	X				X		X				
39	39	Faleasao (Ta'u)	X						X				
40	40	Leusoalii (Ta'u)	X										
41	41	Olosega	X										
42	42	Ofu	X						X				
ASTCA Infrastructure													
130 Ft	Tau	Tau	X						X				
130 Ft	Tau	Tau	X						X				
DCO Bldg	Tau	Tau	X						X				
DCO Bldg	Tau	Tau	X						X				
60 Ft	Ofu	Ofu	X						X				
DCO Bldg	Ofu	Ofu	X						X				
DCO Bldg	Ofu	Ofu	X						X				
60 Ft	Ofu	Ofu	X						X				
40 Ft Pole	Ofu Site	Ofu	X						X				
30 Ft Pole	Olosega Site	Olosega	X										

6/30/2014

American Samoa Power Authority

American Samoa Power Authority

FEMA Hazard Mitigation 2014 Proposed Projects
Hazard Mitigation Council Briefing
June 19, 2014

American Samoa Power Authority

List of ASPA HM 2014 Proposed Projects

Project Title	Project Costs
1. Fagaalu Water Booster Station (#18)	$ 200,000
2. Pago Pago Water Booster Station (#19)	$ 200,000
3. Weather Proof Sewage Lift Stations (#20)	$ 300,000
4. Tafuna Wastewater Treatment Plant (#21)	$ 450,000
5. Water Wells Mitigation (#22)	$ 1,000,000
6. Water Tanks Mitigation (#23) A. Tramway Tank B. Aua Tank C. Blunts Point Tank D. Pava'ia'i #1 Tank E. Pava'ia'i #2 Tank	$ 10,000,000

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Overview of ASPA Water Booster Station Mitigation

Fagaalu & Pago Booster Stations:
Located in the flood zone that will be impacted by a Tsunami.
Flood waters will result in:
- Loss of electrical controls and equipment
- Disruption of water supply to hospital & residents
- Disruption of water supply to the canneries
  - shutting down cannery operation
  - further impacting already fragile economy
- Disruption of water supply to the eastern side of Tutuila -
  - Residents affected will resort to untreated water
  - Increase risk of diseases from untreated water sources

Mitigation Proposal to Reduce Damage & Down Time:
Additional Protective Barrier Wall
Standby Generator

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ASPA Fagaalu & Pago Water Booster Stations

6/30/2014

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Overview of ASPA Wastewater Lift Station Mitigation

Nine (9) Wastewater Lift Stations:
Located in the flood zone that will be impacted by Tsunami
(Atu'u, Satala, Korea, Malaloa, Matafao Elem., Fagaalu Hospital, Fatu ma Futi, Coconut Point #1, #2, #3, Freddies Beach)

Flood waters will result in:
- Loss of electrical controls and equipment
- Result in lift stations & collection system not functioning
- Will cause sewage to flow into the streets & backup into houses after flood water recede
- Increase risk of spreading diseases following a natural disaster

Mitigation Proposal to Redce Damage & Down Time:
Weather Proof Lift Stations – Barrier Wall
Standby Generators

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Overview of Tafuna Wastewater Treatment Plant Mitigation

Tafuna Wastewater Treatment Plant:
Structural Reinforcement and Refurbishment:
- Cat walks and structures are critical elements of the system
- Cat walks are made of wood & rotting, posing safety danger

Location poses risk to tsunami disaster:
- 2009 Tsunami caused $60,000 damages
- Proven risk of posing damages with sewer spillage

Mitigation Proposal to Reduce Damage & Safety Risks :
Refurbish and reinforce cat walks to safety standard
Construct barrier wall preventing tsunami danger
Construct barrier wall retaining sewer spillage

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Overview of ASPA Water Wells Mitigation

Water Wells:
56 wells in operation: 48 in Tutuila & 8 in Manu'a islands
Electrical source is from power grid
Loss of electricity during a natural disaster will result in:
- Disruption to steady supply of potable water
- Disruption to business operation in affected areas
- Increased health and safety risks in affected areas

Mitigation Proposal to Reduce Down Time & Risks:
Provide on-site generators for backup power supply

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ASPA Water Tanks – Critical System Component

6/30/2014

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Overview of ASPA Water Tanks Mitigation

ASPA's 10 Water Tanks:

- Welded steel tanks - critical components of water system
- Capacities ranging from 750,000 to 1,000,000 gallons
- Replacement cost for 1 tank estimated at $1.5-2 million
- Majority were designed and built by Chicago Bridge and Iron Company in the 1970's (same as Guam tank)
- In advanced stage of corrosion (Pago & Pavaiai Tank photos)
  - Need to repair or replace
  - Risk of catastrophic failure > flooding, extensive damage, potential loss of life to residents downhill of the tanks

Mitigation Proposal to Meet Safety Standards & Reduce Risks:

Replacement or repair of deteriorating tanks

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Steel Tank Repairs or Replacement

Cost Estimate & Impact

Tank	Type	Capacity gallons	Estimated Cost of Repair*	Estimated Cost of Replacement	Priority Rank	Pop. Served	Other Impacts
Tramway	Steel welded	1,000,000	$ 344,000	$ 2,000,000	1	2,421	Governors Mansion, EOB, Fono, Market, Businesses, Residents
Aua	Steel welded	1,000,000	$ 212,000	$ 2,000,000	2	1,900	Schools, Businesses, Residents
Mount Point	Steel welded	1,000,000	$ 182,000	$ 2,000,000	3	900	Hospital, Cemeteries, Schools, Businesses, Residents
Pava'ia'i #1	Steel welded	750,000	$ 175,000	$ 1,500,000	4	1,500	Schools, Businesses, Residents
Pava'ia'i #2	Steel welded	1,000,000	$ 171,000	$ 2,000,000	5	1,000	Schools, Businesses, Residents
Nuuuli	Steel welded	1,000,000	$ 147,000	$ 2,000,000	6	3,500	Cemeteries, Schools, Businesses, Residents
Futiga	Steel welded	1,000,000	$ 126,000	$ 2,000,000	7	2,800	Schools, Businesses, Residents

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Tramway and Aua Tanks

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Pago Pago and Pava'ia'i Tanks

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Guam Tank - Potential Risk & Damages

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ASPA requests to keep existing Hazard Mitigation projects from past years on the Hazard Mitigation Project Plan

Fa'afetai Tele
from ASPA

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7/13/2014

American Samoa Government
Department of Homeland Security
(ASDHS)

American Samoa Hazard
Mitigation Council Meeting

2014 Hazard Mitigation Project
Proposal

What is the project?

- **Wind Shutters Mitigation Project**

Purpose of the project

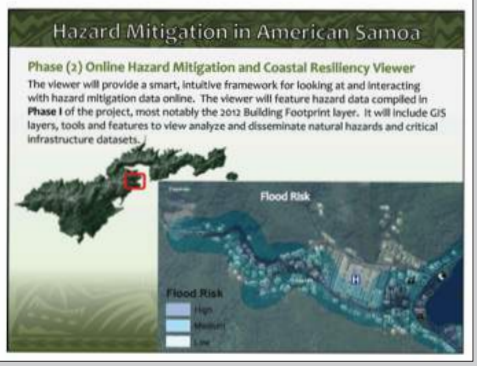
- Mitigation measure to protect the facility from strong/hurricane force winds.
- Facility is a ASG asset
  - 12,800 sq ft two story steel building enforced with concrete columns.
  - ASDHS
    - TEMCO
    - OVS
    - OTICIDE, etc.
  - Cost est. $1.5M

Project purpose cont…

- Protect Emergency Operations Center (EOC)
  - 24/7 watch center
  - Centralized Response effort coordination during emergency / disasters
  - Equipped with communication capabilities to communicate with First Responders and Federal counterparts

7/13/2014

7/13/2014



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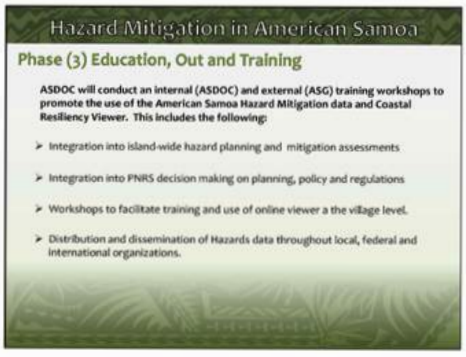

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Fa'afetai lava
For additional questions please contact:
Department of Commerce
American Samoa Government
A.P. Lutali Executive Office Bldg
Utulei, American Samoa 96799
684-633-5155

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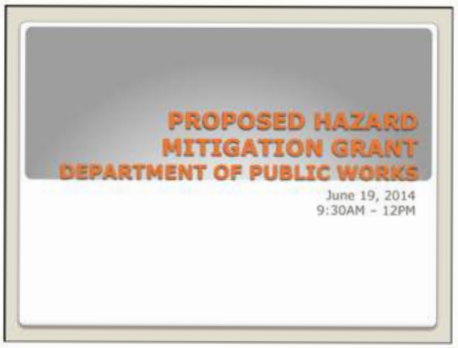

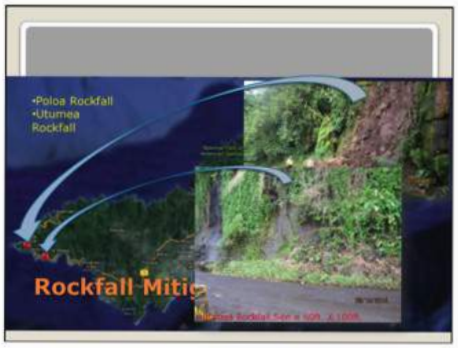

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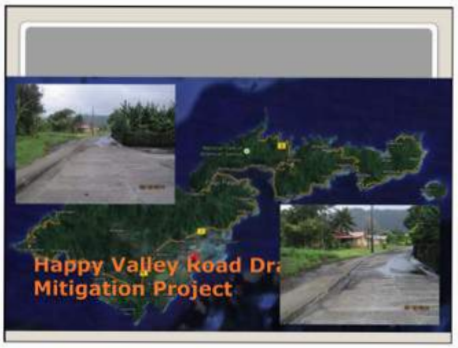

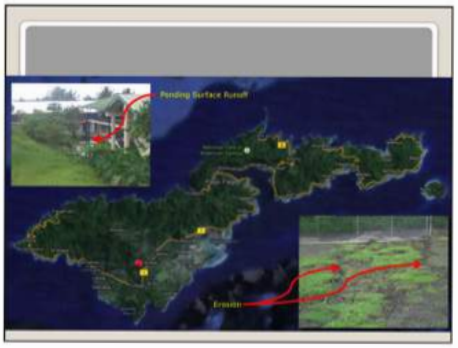

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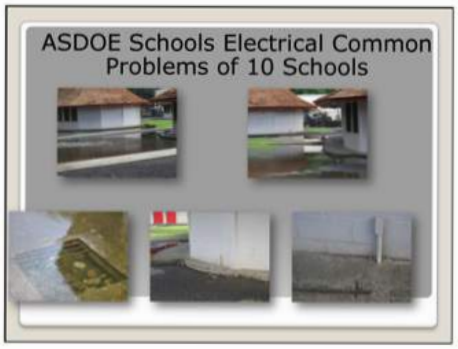
•Matafao Elementary
•Samoana High School
•Pago Pago Elementary
•Lauli Elementary
•Afono'tele Elementary
•Aiolau Elementary
ASDOE Schools Electric
Mitigation Project
•Manulele Elementary
•Lupelele Elementary


ASDOE Schools Electrical Common
Problems of 10 Schools

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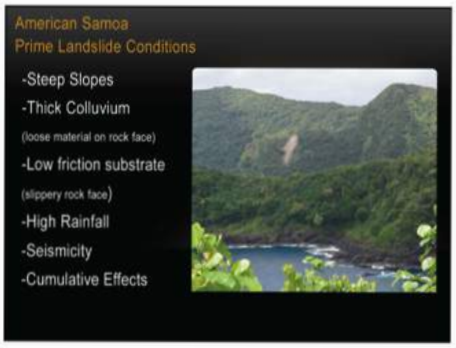

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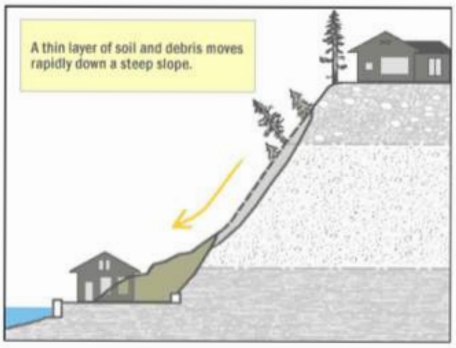

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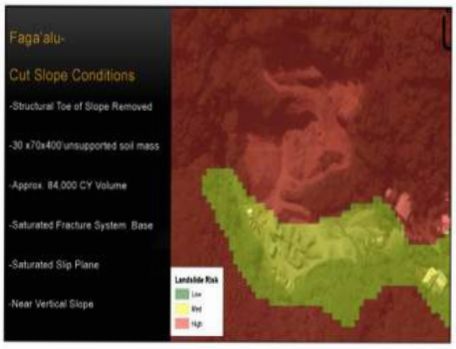
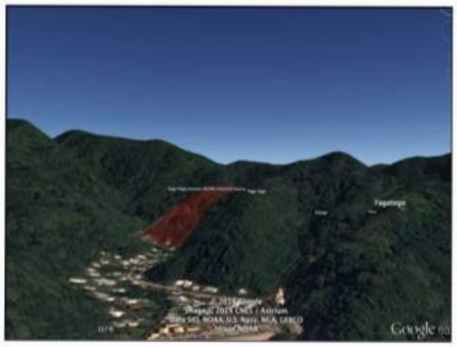
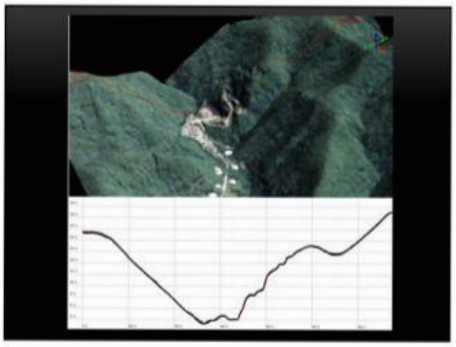
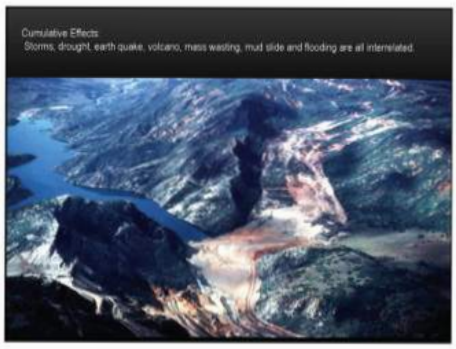
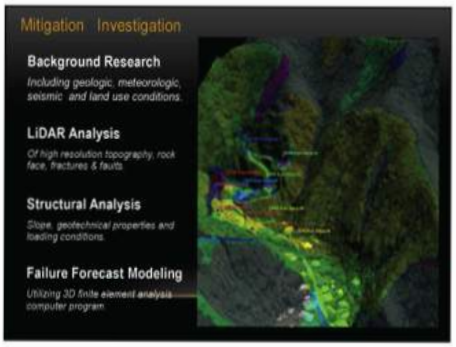




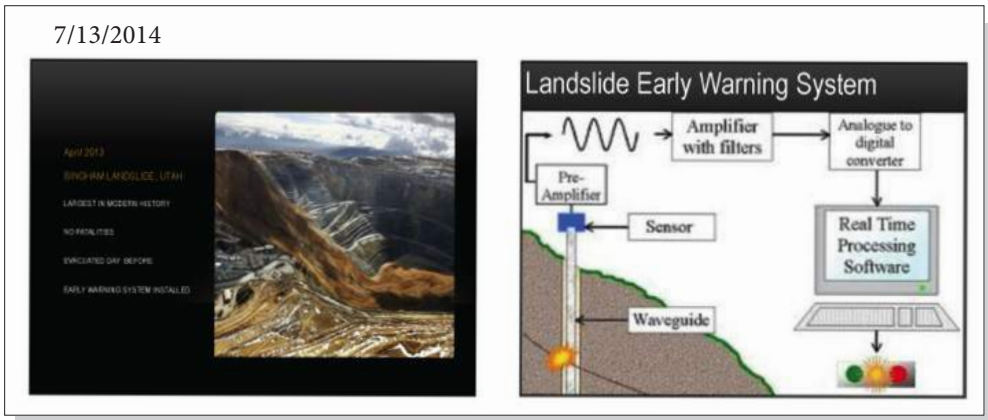


7/13/2014





7/13/2014
Mitigation Alternatives
Excavate Loose Material
Benching
Dewatering
Pile Columns
Rock Bolts
Retaining Walls
Cable Netting
Feasibility Analysis
Conceptual design
Rank by qualitative criteria
Cost estimates
Financial analysis
Cost vs Benefits
Preliminary Design Report
March 2014
Oslo Landslide, Washington
Moderate Size
41 Fatalities
Over 100 Blunt Force Injuries
No Early Warning System


7/13/2014
Landslide Early Warning System
Amplifier with filters
Analogue to digital converter
Pre-Amplifier
Sensor
Real Time Processing Software
Waveguide

American Samoa Power Authority

Fagaʻalu Booster Station

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Fagaalu Water Booster Station Mitigation			Contact Person:	Will Spitzenberg	
			Phone: 684-699-7430		
			e-mail: williams@aspower.com		
Hazard(s):	Tsunami				
Flood Zone:	Yes	Base Flood Elevation:	4'Above MSL	Erosion Rate:	

Critical Facility/Population/Asset at Risk: Yes, booster stations are required to maintain flow and pressure to canneries and eastern village customers

Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High	Medium X	Low	High X	Medium	Low
Estimated Cost of Project: $200,000			Project Period (duration): 24 months		
Value of Structure or Facility: $500,000			TMK:		
Estimated Value of Facility Contents: $0					
Sources of Financial Support: FEMA					
Project Objectives:					

- To weatherize/reinforce booster station structures to withstand Tsunami for the continued ability of ASPA to provide adequate water supply and pressure to the canneries and eastern village customers.

Project Description:

Install reinforcements for critical columns and structures and install berms and retaining walls so that the booster station can continue operating after a Tsunami.

Pago Water Booster Station Mitigation

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Pago Water Booster Station Mitigation			Contact Person:	Will Spitzenberg	
			Phone: 684-699-7430		
			e-mail: williams@aspower.com		
Hazard(s):	Tsunami				
Flood Zone:	Yes	Base Flood Elevation:	5'Above MSL	Erosion Rate:	
Critical Facility/Population/Asset at Risk: Yes, booster stations are required to maintain flow and pressure to canneries and eastern village customers					
Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High	Medium X	Low	High X	Medium	Low
Estimated Cost of Project: $200,000			Project Period (duration): 24 months		
Value of Structure or Facility: $500,000			TMK:		
Estimated Value of Facility Contents: $0					
Sources of Financial Support: FEMA					
Project Objectives:					
• To weatherize/reinforce booster station structures to withstand Tsunami for the continued ability of ASPA to provide adequate water supply and pressure to the canneries.					
Project Description:					
Install reinforcements for critical columns and structures and install berms and retaining walls so that the booster station can continue operating after a Tsunami.					

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Weather Proof Sewerage Lift Stations			Contact Person:	Steve Branz	
			Phone: 684-699-1462		
			e-mail: steveb@aspower.com		
Hazard(s):	Tsunami				
Flood Zone:	Yes	Base Flood Elevation:	5'Above MSL	Erosion Rate:	
Critical Facility/Population/Asset at Risk: Yes, sewerage lift stations are required to maintain wastewater treatment					
Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High X	Medium	Low	High X	Medium	Low
Estimated Cost of Project: $300,000			Project Period (duration): 24 months		
Value of Structure or Facility: $3,000,000			TMK:		
Estimated Value of Facility Contents: $0					
Sources of Financial Support: FEMA					
Project Objectives:					
• To weatherize computer controls to preclude critical electrical component loss during Tsunami.					
Project Description:					
Install and raise computerized controls above ground level and install in weather proof panels rated to weather Tsunami.					

Tafuna Wastewater Treatment Plant

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Tafuna Wastewater Treatment Plant Reinforcement			Contact Person:	Steve Branz	
			Phone: 684-699-1462		
			e-mail: steveb@aspower.com		
Hazard(s):	Tsunami				
Flood Zone:	Yes	Base Flood Elevation:	5'Above MSL	Erosion Rate:	
Critical Facility/Population/Asset at Risk:.Yes, wastewater treatment plants are required to maintain wastewater treatment					
Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High X	Medium	Low	High X	Medium	Low
Estimated Cost of Project: $450,000			Project Period (duration): 24 months		
Value of Structure or Facility: $6,000,000			TMK:		
Estimated Value of Facility Contents: $0					
Sources of Financial Support: FEMA					
Project Objectives:					
• To weatherize/reinforce wastewater treatment plant structures to withstand Tsunami for the continued • ability of ASPA to treat wastewater.					
Project Description:					
Install reinforcements for critical columns and structures and install berms and retaining walls so that the wastewater treatment plant can continue operating after a Tsunami.					

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Water Wells Mitigation			Contact Person:	Will Spitzenberg	
			Phone: 684-699-7430		
			e-mail: williams@aspower.com		
Hazard(s):	Earthquake, Hurricane				
Flood Zone:		Base Flood Elevation:	20'-200' Above MSL	Erosion Rate:	

Critical Facility/Population/Asset at Risk: Yes, water wells are required to supplywater and pressurize the entire water system to get water to the community.

Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High	Medium	LowX	High X	Medium	Low
Estimated Cost of Project: $1,000,000			Project Period (duration): 5 years		
Value of Structure or Facility: $2,000,000			TMK:		
Estimated Value of Facility Contents: $0					
Sources of Financial Support: FEMA					
Project Objectives:					

- To weatherize/reinforce over 50 water well structures to withstand strong winds during hurricanes and earth movement during earthquake for the continued ability of ASPA to provide adequate water supply to its customers and the community of American Samoa.

Project Description:

Install reinforcements for water wells and install weather proof enclosures to withstand strong winds and the elements.

2014 Hazard Mitigation Projects

Jurisdiction:	American Samoa		Agency/Organization:	ASPA	
Project Title: Water Tanks Mitigation			Contact Person:	Will Spitzenberg	
			Phone: 684-699-7430		
			e-mail: williams@aspower.com		
Hazard(s):	Earthquake, Hurricane				
Flood Zone:	No	Base Flood Elevation:	200-300'Above MSL	Erosion Rate:	

Critical Facility/Population/Asset at Risk: Yes, water tanks are required to maintain flow and pressurize the entire water system to supply water to the community.

Environmental Impact:			Historical Preservation Impact:		
High X	Medium	Low	High	Medium	Low X
Risk of Hazard Impact:			Importance to Protection of Life and Property and Recovery from Disaster:		
High X	Medium	Low	High X	Medium	Low

Estimated Cost of Project: $10,000,000	Project Period (duration): 5 years
Value of Structure or Facility: $20,000,000	TMK:
Estimated Value of Facility Contents: $0	
Sources of Financial Support: FEMA	
Project Objectives:	

- To weatherize/reinforce water tank structures to withstand strong winds during hurricanes and earth movement during earthquake for the continued ability of ASPA to provide adequate water supply and pressure to the canneries and eastern village customers.

Project Description:

Install reinforcements for water tanks and install berms and retaining walls so that the water tanks can continue operating after an earthquake or hurricane.

American Samoa Telecommunications Authority

Afono Pass to Blue Sky Tower U/G Communications Lines

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: ASTCA
Project Title: Afono Pass to Blue Sky Tower Underground Communications	Contact Person: James Taylor Sr. Phone: (684) 733-9054 e-mail: jtaylor@samoatelco.com /isakala100935@yahoo.com vani.atafua@astca.net / vatafua_83@yahoo.com
Hazard(s): Hurricane	
Flood Zone: VE	Base Flood Elevation: / Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Risk of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $916,546.40	Project Period (duration):
Value of Structure or Facility	TMK
Estimated Value of Facility Contents:	
Sources of Financial Support: Labor (ASTCA)	
Project Objectives: The main objective of this project is to mitigate communications infrastructure consisting of fiber and copper cable from hurricane hazard impact. During the hurricane disaster event, utility poles and cables are a target for destruction by heavy winds, wave action, debris impact, fallen trees, etc. By constructing underground communications and utilities, damage will be very minimal and not disrupt utilities during a hurricane or other natural disasters.	
Project Description: This is an ASTCA project to replace overhead utility poles and cable with underground conduits and vaults. The project location is from Afono pass to B/Sky tower. The length of the road project is 7,920 feet. The scope of work includes excavation of a 2-ft x 3-ft x 7,920 LFT deep trench, compaction of the subgrade, backfilling 6-inches of bedding, install 3no x 4-inch dia PVC conduits (schedule 40) side by side, place plastic spacers every 4-feet apart, imbedded in 3,000 psi concrete , backfill, and compact surface to existing top soil. Construct and install underground vaults every 500-feet apart of conduits.	

Hazard Mitigation Proposal Cost Estimate

Location: AFONO PASS TO BLUE SKY TOWER - 7,920 FT

THIS IS AN ESTIMATED COST FOR THE " AFONO PASS TO BLUE SKY TOWER "
TO CONSTRUCT A 2 EACH 4" PVC CONDUIT UNDERGROUND CABLE DUCT.

	Description	Unit		Unit Rate	Qty	Total
1	7,920 LF X 24" TRENCHING & BACKFILLING	LF	@	$ 53.30	7,920	$ 422,136.00
2	7,920 LF @ 3,000 PSI CONCRETE READY MIX	LF	@	$ 8.34	7,920	$ 66,052.80
3	15,840 LF 4" DIA PVC CONDUIT INSTALL IN PLACE	LF	@	$ 8.80	15,840	$ 139,392.00
4	14 EA. VAULT, CONCRETE BUILT/INSTALL IN PLACE	EA	@	$ 6,068.00	14	$ 84,952.00
5	15,840 LF. 4" X 20' SCHEDULE 40 PVC CONDUIT	LF	@	$ 1.93	15,840	$ 30,571.20
6	14 EACH MANHOLE FRAME/COVER-30" ID	EA	@	$ 550.00	14	$ 7,700.00
7	MISC. U.G SUPPLIES (GLUE, BURIAL TAPE, PULL STRING)	LS				$ 5,000.00
8	CLEARING & GRUBBING	LS				$ 10,000.00
9	TRAFFIC CONTROL	LS				$ 5,000.00
10	7,920 LF, FIBER OPTIC; 72RW5/SM	LF	@	$ 2.25	7,920	$ 17,820.00
11	MISCELLANEOUS CABLE SPLICING MATERIALS	LS				$ 5,000.00
12	ARCHEOLOGICAL SURVEY	LS	@	$ 5.00	7,920	$ 39,600.00
13	ENGINEERING 10%					$ 83,322.40
				TOTAL		$ 916,546.40

Amouli to Aoa U/G Communications Lines

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: ASTCA
Project Title: Amouli to Aoa Underground Communications	Contact Person: James Taylor Sr. Phone: (684) 733-9054 e-mail: jtaylor@samoatelco.com /isakala100935@yahoo.com vani.atafua@astca.net / vatafua_83@yahoo.com
Hazard(s): Hurricane	
Flood Zone: VE	Base Flood Elevation: / Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Risk of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $1,208,042.00	Project Period (duration):
Value of Structure or Facility	TMK
Estimated Value of Facility Contents:	
Sources of Financial Support: Labor (ASTCA)	

Project Objectives: The main objective of this project is to mitigate communications infrastructure consisting of fiber and copper cable from hurricane hazard impact. During the hurricane disaster event, utility poles and cables are a target for destruction by heavy winds, wave action, debris impact, fallen trees, etc. By constructing underground communications and utilities, damage will be very minimal and not disrupt utilities during a hurricane or other natural disasters.

Project Description: This is an ASTCA project to replace overhead utility poles and cable with underground conduits and vaults. The project location is from Leone DCO to Poloa. The length of the road project is 10,560 feet. The scope of work includes excavation of a 2-ft x 3-ft x 10,560 LFT deep trench, compaction of the subgrade, backfilling 6-inches of bedding, install 3no x 4-inch dia PVC conduits (schedule 40) side by side, place plastic spacers every 4-feet apart, imbedded in 3,000 psi concrete , backfill, and compact surface to existing top soil. Construct and install underground vaults every 500-feet apart of conduits.

Hazard Mitigation Proposal Cost Estimate

Location: AMOULI TO AOA - 10,560 LF

THIS IS AN ESTIMATED COST FOR THE " AMOULI TO AOA "
TO CONSTRUCT A 2 EACH 4" PVC CONDUIT UNDERGROUND CABLE DUCT.

	Description	Unit		Unit Rate	Qty	Total
1	10,560 LF X 24" TRENCHING & BACKFILLING	LF	@	$ 53.30	10,560	$ 562,848.00
2	10,560 LF @ 3,000 PSI CONCRETE READY MIX	LF	@	$ 8.34	10,560	$ 88,070.40
3	21,120 LF 4" DIA PVC CONDUIT INSTALL IN PLACE	LF	@	$ 8.80	21,120	$ 185,856.00
4	18 EA. VAULT, CONCRETE BUILT/INSTALL IN PLACE	EA	@	$ 6,068.00	18	$ 109,224.00
5	21,120 LF. 4" X 20' SCHEDULE 40 PVC CONDUIT	LF	@	$ 1.93	21,120	$ 40,761.60
6	18 EACH MANHOLE FRAME/COVER-30" ID	EA	@	$ 550.00	18	$ 9,900.00
7	MISC. U.G SUPPLIES (GLUE, BURIAL TAPE, PULL STRING)	LS				$ 5,000.00
8	CLEARING & GRUBBING	LS				$ 10,000.00
9	TRAFFIC CONTROL	LS				$ 5,000.00
10	10,560 LF, FIBER OPTIC; 72RW5/SM	LF	@	$ 2.25	10,560	$ 23,760.00
11	MISCELLANEOUS CABLE SPLICING MATERIALS	LS				$ 5,000.00
12	ARCHEOLOGICAL SURVEY	LS	@	$ 5.00	10,560	$ 52,800.00
13	ENGINEERING 10%					$ 109,822.00
				TOTAL		$ 1,208,042.00

Fagaitua,Masefau,Masausi,Sailele U/G Comm. Lines

2014 Hazard Mitigation Projects

Jurisdiction:		Agency/Organization:	ASTCA
Project Title:	Fagaitua to Masefau, Masausi, & Sailele Underground Communications	Contact Person:	James Taylor Sr.
		Phone:	(684) 733-9054
		e-mail:	jtaylor@samoatelco.com /isakala100935@yahoo.com
			vani.atafua@astca.net / vatafua_83@yahoo.com
Hazard(s): Hurricane			
Flood Zone: VE	Base Flood Elevation:		Erosion Rate:
Critical Facility/Population/Asset at Risk:			
Environmental Impact: High Medium Low		Historical Preservation Impact: High Medium Low	
Risk of Hazard Impact: High Medium Low		Importance to Protection of Life and Property and Recovery from Disaster High Medium Low	
Estimated Cost of Project: $2,149,563.68		Project Period (duration):	
Value of Structure or Facility		TMK	
Estimated Value of Facility Contents:			
Sources of Financial Support: Labor (ASTCA)			

Project Objectives: The main objective of this project is to mitigate communications infrastructure consisting of fiber and copper cable from hurricane hazard impact. During the hurricane disaster event, utility poles and cables are a target for destruction by heavy winds, wave action, debris impact, fallen trees, etc. By constructing underground communications and utilities, damage will be very minimal and not disrupt utilities during a hurricane or other natural disasters.

Project Description: This is an ASTCA project to replace overhead utility poles and cable with underground conduits and vaults. The project location is from Leone DCO to Poloa. The length of the road project is 19,008 feet. The scope of work includes excavation of a 2-ft x 3-ft x 19,008 LFT deep trench, compaction of the subgrade, backfilling 6-inches of bedding, install 3no x 4-inch dia PVC conduits (schedule 40) side by side, place plastic spacers every 4-feet apart, imbedded in 3,000 psi concrete , backfill, and compact surface to existing top soil. Construct and install underground vaults every 500-feet apart of conduits.

Hazard Mitigation Proposal Cost Estimate

Location: FAGAITUA TO MASEFAU, MASAUSI AND SAILELE - 19,008 LF

THIS IS AN ESTIMATED COST FOR THE " FAGAITUA TO MASEFAU, MASAUSI AND SAILELE "
TO CONSTRUCT A 2 EACH 4" PVC CONDUIT UNDERGROUND CABLE DUCT.

	Description	Unit		Unit Rate	Qty	Total
1	19,008 LF X 24" TRENCHING & BACKFILLING	LF	@	$ 53.30	19,008	$ 1,013,126.40
2	19,008 LF @ 3,000 PSI CONCRETE READY MIX	LF	@	$ 8.34	19,008	$ 158,526.72
3	38,016 LF 4" DIA PVC CONDUIT INSTALL IN PLACE	LF	@	$ 8.80	38,016	$ 334,540.80
4	49 EA. VAULT, CONCRETE BUILT/INSTALL IN PLACE	EA	@	$ 6,068.00	32	$ 194,176.00
5	38,016 LF. 4" X 20' SCHEDULE 40 PVC CONDUIT	LF	@	$ 1.93	38,016	$ 73,370.88
6	49 EACH MANHOLE FRAME/COVER-30" ID	EA	@	$ 550.00	32	$ 17,600.00
7	MISC. U.G SUPPLIES (GLUE, BURIAL TAPE, PULL STRING)	LS				$ 5,000.00
8	CLEARING & GRUBBING	LS				$ 10,000.00
9	TRAFFIC CONTROL	LS				$ 5,000.00
10	19,008 LF, FIBER OPTIC; 72RW5/SM	LF	@	$ 2.25	19,008	$ 42,768.00
11	MISCELLANEOUS CABLE SPLICING MATERIALS	LS				$ 5,000.00
12	ARCHEOLOGICAL SURVEY	LS	@	$ 5.00	19,008	$ 95,040.00
13	ENGINEERING 10%					$ 195,414.88
				TOTAL:		$ 2,149,563.68

Leone to Poloa U/G Communications Lines

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: ASTCA
Project Title: Leone to Poloa Underground Communications	Contact Person: James Taylor Sr. Phone: (684) 733-9054 e-mail: jtaylor@samoatelco.com /isakala100935@yahoo.com vani.atafua@astca.net / vatafua_83@yahoo.com
Hazard(s): Hurricane	
Flood Zone: VE	Base Flood Elevation: / Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Risk of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $3,270,350.60	Project Period (duration):
Value of Structure or Facility	TMK
Estimated Value of Facility Contents:	
Sources of Financial Support: Labor (ASTCA)	

Project Objectives: The main objective of this project is to mitigate communications infrastructure consisting of fiber and copper cable from hurricane hazard impact. During the hurricane disaster event, utility poles and cables are a target for destruction by heavy winds, wave acton, debris impact, fallen trees, etc. By constructing underground communications and utilities, damage will be very minimal and not disrupt utilities during a hurricane or other natural disasters.

Project Description: This is an ASTCA project to replace overhead utility poles and cable with underground conduits and vaults. The project location is from Leone DCO to Poloa. The length of the road project is 29,040 feet. The scope of work includes excavation of a 2-ft x 3-ft x 29,040 LFT deep trench, compaction of the subgrade, backfilling 6-inches of bedding, install 3no x 4-inch dia PVC conduits (schedule 40) side by side, place plastic spacers every 4-feet apart, imbedded in 3,000 psi concrete , backfill, and compact surface to existing top soil. Construct and install underground vaults every 500-feet apart of conduits.

Hazard Mitigation Proposal Cost Estimate

Location: Leone to Poloa - 29,040 FT

THIS IS AN ESTIMATED COST FOR THE " LEONE TO POLOA"
TO CONSTRUCT A 2 EACH 4" PVC CONDUIT UNDERGROUND CABLE DUCT.

	Description	Unit		Unit Rate	Qty	Total
1	29,040 LF X 24" TRENCHING & BACKFILLING	LF	@	$ 53.30	29,040	$ 1,547,832.00
2	29,040 LF @ 3,000 PSI CONCRETE READY MIX	LF	@	$ 8.34	29,040	$ 242,193.60
3	58,080 LF 4" DIA PVC CONDUIT INSTALL IN PLACE	LF	@	$ 8.80	58,080	$ 511,104.00
4	49 EA. VAULT, CONCRETE BUILT/INSTALL IN PLACE	EA	@	$ 6,068.00	49	$ 297,332.00
5	58,080 LF. 4" X 20' SCHEDULE 40 PVC CONDUIT	LF	@	$ 1.93	58,080	$ 112,094.40
6	49 EACH MANHOLE FRAME/COVER-30" ID	EA	@	$ 550.00	49	$ 26,950.00
7	MISC. U.G SUPPLIES (GLUE, BURIAL TAPE, PULL STRING)	LS				$ 5,000.00
8	CLEARING & GRUBBING	LS				$ 10,000.00
9	TRAFFIC CONTROL	LS				$ 5,000.00
10	29,040 LF, FIBER OPTIC; 72RW5/SM	LF	@	$ 2.25	29,040	$ 65,340.00
11	MISCELLANEOUS CABLE SPLICING MATERIALS	LS				$ 5,000.00
12	ARCHEOLOGICAL SURVEY	LS	@	$ 5.00	29,040	$ 145,200.00
13	ENGINEERING 10%					$ 297,304.60
				TOTAL		$ 3,270,350.60

Aunu'u Tower Replacement Parts

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization ASTCA
Project Title: Aunu'u Tower replacement parts	Contact Person: James Taylor Sr.
	Phone: (684) 733-9054
	e-mail: jtaylor@samoatelco.com/isakala100935@yahoo.con
	vani.atafua@astca.net / vatafua_83@yahoo.com
Hazard(s) Hurricane, Earthquake	
Flood Zone / Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Ris of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $ 44,127.00	Project Period (duration):
Value of Structure or Facility $ 60,000.00	TMK
Estimated Value of Facility Contents:	
Sources of Financial Support	
Project Objectives: The tower was installed in 1984, and due to the environmental deteriorating (weather condition), the tower needs replacement tower parts.	
Project Description: This is an ASTCA project to replace deffective parts of the Aunu'u tower due to deteriorating parts from weather conditions.	

AMERICN SAMOA TELECOMMUNICATIONS AUTHORITY
Hazard Mitigation Proposal Cost Estimate

Location: Aunu'u

THIS IS AN ESTIMATED COST FOR THE " AUNU'U " TOWER

	Description	Unit Rate	Qty		Total
1	140' SELF-SUPPORTING TOWER	$ 27,627.00	1	$	27,627.00

Model 72-L940, 140' Series Self - supporting tower constructed of tubular steel members.
16' center to center distance between legs at the base & 6' at the top with the top 40' a vertical section; 3-leg construction.
Anchor nolts
Hot dipped galvanized sections and components
Tubular construction of tower sections
Hot dipped galvanized tower assembly hardware
Inside climbing ladder in one tower corner
Vertical (9-run) waveguide ladder - leg clamps on one tower leg
13' rotatable top platform with (9) antenna mounting pipes
(2) microwave mounts for 8' dishes at the 120' level
(2) side strut brackets
Safety climb cable system for 140' tower
Safety climb cable sleeve
1/2" x 4' lighting rod copper
Minimum EIA-F grounding kit for 3-leg tower

2	FOUNDATION DESIGN BASED ON CUSTOMER FURNISHED SOILS SUPPORT		1	$	600.00
3	STRUCTURAL ANALYSIS CERTIFIED BY A REGISTERED PROFFESIONAL ENGINEER LICENSED IN THE STATE OF OREGON		1	$	400.00
4	FREIGHT			$	15,500.00
				$	44,127.00

Lauli'I/Breaker's Point Tower Replacement Parts

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization ASTCA
Project Title: Laulii / Breakers Point Tower replacement parts	Contact Person: James Taylor Sr.
	Phone: (684) 733-9054
	e-mail: jtaylor@samoatelco.com/isakala100935@yahoo.con
	vani.atafua@astca.net / vatafua_83@yahoo.com

Hazard(s) Hurricane, Earthquake

Flood Zone	Base Flood Elevation:	Erosion Rate:

Critical Facility/Population/Asset at Risk:

Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Rls of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $ 44,127.00	Project Period (duration):
Value of Structure or Facility $ 60,000.00	TMK

Estimated Value of Facility Contents:

Sources of Financial Support

Project Objectives: The tower was installed in 1984, and due to the environmental deteriorating (weather condition), the tower needs replacement tower parts.

Project Description: This is an ASTCA project to replace deffective parts of the Breakers Point tower due to deteriorating parts from weather conditions.

AMERICN SAMOA TELECOMMUNICATIONS AUTHORITY
Hazard Mitigation Proposal Cost Estimate

Location: Laulii / Breakers Point

THIS IS AN ESTIMATED COST FOR THE " LAULII / BREAKERS POINT " TOWER.

	Description	Unit Rate	Qty		Total
1	140' SELF-SUPPORTING TOWER	$ 27,627.00	1	$	27,627.00
	Model 72-L940, 140' Series Self - supporting tower constructed of tubular steel members.				
	16' center to center distance between legs at the base & 6' at the top with the top 40' a vertical section; 3-leg construction.				
	Anchor nolts				
	Hot dipped galvanized sections and components				
	Tubular construction of tower sections				
	Hot dipped galvanized tower assembly hardware				
	Inside climbing ladder in one tower corner				
	Vertical (9-run) waveguide ladder - leg clamps on one tower leg				
	13' rotatable top platform with (9) antenna mounting pipes				
	(2) microwave mounts for 8' dishes at the 120' level				
	(2) side strut brackets				
	Safety climb cable system for 140' tower				
	Safety climb cable sleeve				
	1/2" x 4' lighting rod copper				
	Minimum EIA-F grounding kit for 3-leg tower				
2	FOUNDATION DESIGN BASED ON CUSTOMER FURNISHED SOILS SUPPORT		1	$	600.00
3	STRUCTURAL ANALYSIS CERTIFIED BY A REGISTERED PROFFESIONAL ENGINEER LICENSED IN THE STATE OF OREGON		1	$	400.00
4	FREIGHT			$	15,500.00
				$	44,127.00

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization ASTCA
Project Title: Manu'a Islands Underground Communications	Contact Person: James Taylor Sr. Phone: (684) 733-9014, 699-9025 e-mail: jtaylor@samoatelco.com, isakala100935@yahoo.com vani.atafua@astca.net, vatafua_83@yahoo.com
Hazard(s) Hurricane	
Flood Zone / Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High Medium Low	Historical Preservation Impact: High Medium Low
Ris of Hazard Impact: High Medium Low	Importance to Protection of Life and Property and Recovery from Disaster High Medium Low
Estimated Cost of Project: $6,842,532.48	Project Period (duration):
Value of Structure or Facility	TMK
Estimated Value of Facility Contents:	
Sources of Financial Support	

Project Objectives: To minimize and maintain uninterrupted Communication services at various key facilities in Manu'a:
1. High Schools 2. Elementry Schools 3. Medical Dispensaries 4. ASG Buildings 5.ASTCA Digital Exchanges 6.Private Sectors 7. All Residents 8. Disaster Shelters

Project Description: This is an ASTCA project to replace overhead utility poles and cable with underground conduits and vaults. The project location is for Ta'u and Ofu Manu'a. The length of the road project is 52,800 feet. The scope of work includes excavation of a 2-ft x 3-ft x 52,800 LFT deep trench, compaction of the subgrade, backfilling 6-inches of bedding, install 2no x 4-inch dia PVC conduits (schedule 40) side by side, place plastic spacers every 4-feet apart, imbedded in 3,000 psi concrete , backfill, and compact surface to existing top soil. Construct and install underground vaults every 500-feet apart of conduits.

Hazard Mitigation Proposal Cost Estimate

Location Manu'a Islands

THIS IS AN ESTIMATED COST FOR THE " MANU'A ISLANDS "
TO CONSTRUCT A 2 EACH 4" PVC CONDUIT UNDERGROUND CABLE DUCT.

	Description	Unit		Unit Rate	Qty	Total
1	52,800 LF X 36" TRENCHING & BACKFILLING	LF	@	$ 53.30	52,800	$ 2,814,240.00
2	52,800 LF @ 3,000 PSI CONCRETE READY MIX	LF	@	$ 8.34	52,800	$ 440,352.00
3	105,600 LF 4" DIA PVC CONDUIT INSTALL IN PLACE	LF	@	$ 8.80	116,160	$ 1,022,208.00
4	176 EA. VAULT, CONCRETE BUILT/INSTALL IN PLACE	EA	@	$ 6,068.00	176	$ 1,067,968.00
5	105,600 LF. 4" X 20' SCHEDULE 40 PVC CONDUIT	LF	@	$ 1.93	116,160	$ 224,188.80
6	176 EACH MANHOLE FRAME/COVER-30" ID	EA	@	$ 550.00	176	$ 96,800.00
7	MISC. U.G SUPPLIES (GLUE, BURIAL TAPE, PULL STRING)	LS				$ 5,000.00
8	CLEARING & GRUBBING	LS				$ 10,000.00
9	TRAFFIC CONTROL	LS				$ 5,000.00
10	52,800 LF, FIBER OPTIC; 72RW5/SM	LF	@	$ 2.25	52,800	$ 118,800.00
11	MISCELLANEOUS CABLE SPLICING MATERIALS	LS				$ 5,000.00
12	ARCHEOLOGICAL SURVEY	LS	@	$ 5.00	52,800	$ 264,000.00
13	ENGINEERING 10%					$ 607,335.68
14	TRANSPORTATION: SEA / AIR	LS				$ 124,200.00
15	LABOR / PER DIEM	LS				$ 37,440.00
				TOTAL		$ 6,842,532.48

AMERICAN SAMOA DEPARTMENT OF HOMELAND SECURITY

WIND SHUTTERS EOC PROJECT

SCOPE OF WORK

The proposed shutter project will consist of a shutter system that can be manually operated from left to right or meet in the middle. These shutters do not have electronic motors and are dependent on staff to operate. There is no need for power or electricity. The existing building that houses American Samoa Department of Homeland Security (ASDHS), Territorial Emergency Management Coordinating Office (TEMCO) and the Emergency Operations Center (EOC). There is only one American Samoa government recognized EOC and this is housed in this enclosed building with an Importance Factor of 1.5 and Saffir-Simpson Hurricane wind scale of Category 3 (111-129 mph). Its occupancy category is 4. The building structure was built with intention that it can withstand wind force up to 120 mph but its physical location with an open parking lot leave all glass windows and doors unprotected from positive or negative wind pressures of wind speed up to 120 mph. All windows and doors on both ground and top level need protection from wind borne debris when threatened with strong enough winds that can be damaging. This shutter project will decrease the damages to the buildings from strong winds within Category 3 wind speeds and partial damages to winds in higher categories 4 and 5.

PROBLEM DESCRIPTION and PROPOSED SOLUTION

At the proposed project site for the shutters project, wind hazard potential and past damages have occurred at the project location from hurricanes and tropical storms. This is a list of past cyclones; Tropical Cyclone Percy that was a Category 3 when reached American Samoa on February 23, 2005 and Tropical Cyclone Olaf that reached Category 5 on February 18, 2005. Tropical Cyclone Wilma was in 2011 and damages were estimated at $2mil dollars. There were no reported damages to the building structure but it's situated in open space that can be prone to damages to the exposed windows. Most openings to the building structure are large and without current shutters program. A list of significant cyclone events is attached.

The wind design of the building is up to 120 mph or category 3 and the building code at the time of construction is that of the International Building Code 2007.

The building is located in the village of Tafuna and about 2 miles from the coastline. It is not located in the FEMA Special Flood Hazard Area (SFHA) as reflected on Map 12 of the FEMA approved American Samoa Hazard Mitigation Plan (ASHMP) dated August 2011. The longitude is -170.728279 and latitude of -14.337780. Please see attached map and geographic location map.

Proposed Solution

The proposed solution is the accordion shutter system that can protect the windows and doors to the building from strong winds up to Category 5, as experienced in the past with Tropical Cyclones Heta and Olaf. The installation of shutters will further protect building contents especially all

communication and state of art equipment that's critical during disaster events for response coordination with first responders community. Acquirement of the shutter system can prevent downtime to emergency operations and the huge amount of money in repair costs. The replacement costs provided by Lively Architects in Honolulu to the building itself is attached. This assessment does not include contents of the building.

DESCRIPTION OF EXISTING CONDITIONS

The shutter system is a proposed mitigation project to safeguard the ASDHS-TEMCO-EOC building. This is an office building belonging to the American Samoa government ASDHS which serves all 55,000 people of this Territory especially during emergencies. This 2010 Census population for the Territory was disputed by former statistician as should've been higher. For the purposes of this application, we will use the number officially recorded by the 2010 Census count.

This building is the new location for the main ASHDS office building centralizing all of its formerly separate office locations. ASDHS-TEMCO is the designated emergency management office that coordinates response efforts in the untimely event of a disaster whether manmade or natural. The building was formerly used as the Joint Field Office (JFO) by FEMA during the 2009 Samoa Earthquake and Tsunami recovery efforts in 2010. The building is also in compliance with the American Disability Act (ADA) with a lift on the side of the building for the physically disabled to walk up to the second floor.

Because this is a huge two story building with 12,800 sq feet for both top and ground level, it can serve as a shelter for employees who live farther away from the EOC. In addition to ASDHS employees, there are also first response liaison members and representatives from the Governor's office that can be on site to offer assistance during EOC activations and use it as a shelter in the meantime. But, currently, the building lacks a shutter system and this does not qualify it or allow it to meet the American Red Cross Standards for hurricane evacuation shelters (ARC 4496).

According to an independent architectural firm from Honolulu Hawaii, namely Lively Architects, the replacement costs for this ASDHS building is from $1.7 to $2 million and an annual operating budget for maintenance and office operations of about $450,000. The building is a steel building reinforced with concrete columns with TEMCO, Information Technology, Logistics and Special Projects sections and EOC office downstairs. The top level is where the Director, Deputy Director, Grants and Finance sections as well as OTICIDE office. OTICIDE operation includes these systems: Federal Bureau of Investigations (FBI) National Crime Information Center (NCIC), National Law Enforcement Telecommunications Systems (NLETS) to name a few. It also has the INTERPOL I24/7 network sharing wanted and information notices for wanted, trace and locate, watch, advisories for ocean going vessels and individuals of interest.

The prime location of this building with 16 parking lot spaces at the intersection on main Airport Road presents a higher risk to being damaged by strong forced winds or wind borne debris. This critical infrastructure faces the main road and is widely open without other huge structures to block the wind forces in order to minimize potential damages. The enclosed building also has standby generator with a 100 kW that can accommodate the huge need of electricity in the event of a

power outage. Even on good days, the electricity necessary to hold all personnel and office is quite tremendous in dollar figures.
As for the feasibility of this proposed shutter project, the value of the building itself based on the appraisal performed by Blue Pacific Management Corporation on the Square Foot Appraisal Form Total Indicated Value as $1,456,920. The total market value as defined of the Real Property that is subject of this attached report to be $1,350,000. (See attached) These figures were established as of July 26, 2012 by Mr. James L. McGuire. The acquisition of shutters for this building will further safeguard this investment as it was fully funded by USDHS/FEMA. Protecting this asset from potential damages caused by strong winds is not only ideal but proper considering how much money and effort were committed to receive this critical infrastructure to assist the people of American Samoa.

WORK SCHEDULE

The anticipated shutter system project work schedule is detailed below. This is for the ASDHS-TEMCO-EOC building. The project is expected to take as long as 12 months. Management and staff will be notified ahead of time for the scheduled installation of shutters to minimize disruptions in their daily work duties and responsibilities.

Proposed Work Schedule

Task Description	Phase	Time Duration
Request for Bids and Award Site Inspection	1	1 month
Contract Routing / P.O. Issued Permits Routing and Acquisition	2	2.5 months
Time to Ship and Deliver Goods	3	2.5 months (longer shipping time)
Site Preparation	3	.5 month
Construction / Installation	4	3 months
Completion and Final Payment	5	.5 month
Room for unexpected miscellaneous		2 months
	TOTAL:	12 months

COST ESTIMATES WIND SHUTTERS

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT	SOURCE

On hurricaneshutters.com, a resource in providing ICC code-approved shutters for local Floridians, a chart is provided averaging shutter prices at $12.00 per square footage not including shipping or installation costs. Please see attached. The following was calculated:
Measurements for doors:
(4) Double doors at 7' x 10' = $12.00 x 80 ft.^2 = $840.00 per door
(3) Single doors at 3.5' x 6.5' = $12.00 x 26 ft.^2 = $312.00 per door
(9) Glass windows at 6' x 4' = $12.00 x 24 ft.^2 = $288.00 per window
(4) Ventilation access points at 2' x 2' = $12.00 x 4 ft.^2 = $48.00 per vent

Double Doors:
$840.00 x (4) = $3360.00

Single Doors:
$312.00 x (3) = $936.00

Glass Windows:
$288.00 x (9) = $2592.00

Vents:
$48.00 x (4) = $192.00

SUBTOTAL

Double Doors:	$3360.00
Single Doors:	$936.00
Glass Windows:	$2592.00
Vents:	$192.00
	$7080.00

In determining installation costs, an estimation of $1500.00 per double door, $500.00 per single door, $310.00 per window and $126.00 per ventilation point was made known.
Shipping costs was estimated as follows:

Double doors:	$614.00 per door
Single Doors:	$328.00 per door
Glass Windows:	$326.00 per window
Vents:	$62.00 per vent

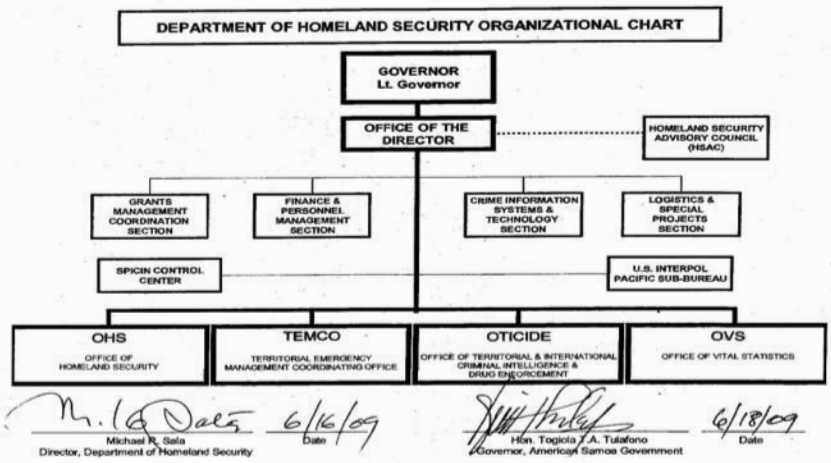
Grand Total:

Product -	$7,080.00
Installation -	$25,794.00
Shipping -	$10,622.00
TOTAL:	**$43,496.00**

NARRATIVE

Lying in the South Pacific Ocean, American Samoa is remotely located in the halfway point between New Zealand and Hawaii. Of the 5 islands; Manu'a, Swains, Aunu'u and Rose, structuring this unincorporated territory of the United States, Tutuila is the largest and most populous. The American Samoa Government (ASG) was promulgated by the AS Constitution in 1967 forming the existing two tier government with federal frameworks mainly influencing funding sources and agency regulations.

The American Samoa Department of Homeland Security (ASDHS) was created by the Civil Defense Act of 2008 that became effective on January 5, 2009. ASDHS consists of four offices; Office of Homeland Security (OHS), Territorial Emergency Management Coordinating Office (TEMCO), Office of Vital Statistics (OVS) and Office of Territorial and International Criminal Intelligence and Drug Enforcement (OTICIDE). Federal grant funding allocations from USDHS/FEMA has significantly enhanced first response community capabilities to effectively prepare, protect, respond to and recover from emergencies. Below is the organizational chart:



Department of Commerce

Mapping Project

2014 Hazard Mitigation Projects

Jurisdiction: Territory of American Samoa		Agency/Organization:	American Samoa Department of Commerce
Project Title: The American Samoa Hazard Mitigation Mapping Project		Contact Person:	Sandra Lutu
		Phone:	684-633-5155
		e-mail: sandra.lutu@doc.as	
Hazard(s): Tsunamis, sea level rise, flood inundation, and mass slumping			
Flood Zone:	Base Flood Elevation:		Erosion Rate:
Critical Facility/Population/Asset at Risk: Building Footprints			
Environmental Impact: **High** Medium Low		Historical Preservation Impact: High **Medium** Low	
Risk of Hazard Impact: **High** Medium Low		Importance to Protection of Life and Property and Recovery from Disaster: **High** Medium Low	
Estimated Cost of Project: $50,000		Project Period (duration): FY2014 - FY2015	
Value of Structure or Facility:		TMK:	
Estimated Value of Facility Contents:			
Sources of Financial Support: ASCMP is currently seeking appropriations from NOAA Sea Grant to collect compile data, and conduct participatory mapping, outreach and training in regards to coastal resiliency in American Samoa.			
Project Objectives: • American Samoa Hazards Geodatabase • American Samoa Buildings Footprint layer • American Samoa Hazard Mitigation and Resiliency Online Viewer • Training Sessions for ASDOC and ASG			
Project Description: ASCMP is proposing the development of hazard data, online tools and analysis to support the territories Hazard Mitigation Plan and provide a rapid analysis tool for decision makers. The project will achieve this goal through the following three components: **Phase (1) Data Assessment and Development** **American Samoa Building Footprint**: ASCMP will produce a new building footprint GIS layer from a 2012 Aerial Imagery and Light Detection and Ranging (LiDAR). The update of the territories building footprint layer is crucial for hazard analyses in the territory. The building footprint layer currently in use was derived from 2005 imagery and does not			

include infrastructure changes since 2005.
The project will also leverage off island data sources including natural hazard datasets developed by the University of Hawaii and NOAA Coastal Services Center (CSC). These include tsunami impact modeling and sea level rise/inundation datasets. ASCMP is currently in possession of the sea level rise data and will be seeking permission to include the tsunami data developed at the University of Hawaii.
Participatory Mapping: ASCMP staff has worked closely with NOAA programs to facilitate participatory mapping workshops in the Fagaloa region of Tutuila. These workshops have focused on the collection of coastal and marine data for watershed mapping and analysis. Funding for this project will support future participatory mapping efforts to collect additional data in support of coastal hazard identification. These efforts greatly supplement current hazard data and engage local communities in the data development process. Most importantly, these workshops raise aware of natural hazards and help efforts to foster resilient communities.
Hazards Geodatabase: ASCMP GIS is in possession of a variety of natural hazard GIS layers including landslide, flooding, tsunami and volcanism data. The metadata and sources of these datasets will be revisited and examined to determine the data integrity and applicability to hazard mitigation planning in the territory. A needs assessment of the data will be produce to assist in the planning and development of future datasets. All developed and reviewed GIS layers will be compiled into a centralized geodatabase hosted on ASCMP servers. Final GIS layers will include FGDC metadata and will available in a geodatabase format as outlined in the ASCMP annual data management plan.

(2) ArcGIS Online Mapping: Hazard Mitigation and Coastal Resiliency Viewer
ASCMP will launch and host an online mapping service through ArcGIS Viewer for Flex. The viewer will provide a smart, intuitive framework for looking at and interacting with hazard mitigation data online. The viewer will feature hazard data compiled in Phase one of the project, most notably the 2012 Building Footprint layer. It will include tools, widgets and features to view analyze and disseminate data pertaining to natural hazards relation to infrastructure.
The tool would follow similar workflows as developed for the Land Use Web Portal system currently in place on ASDOC servers (http://portal.gis.doc.as/Landuse/) and will include a report generation tool with similar functionality. The report generation tool will prompt users to choose an area of interest such as a single building footprint, a highlighted area of interest (multiple building footprints), and or a selection based up an attribute of a boundary layer e.g., a village or district. Upon selecting the area of interest, the user can then generate a report detailing the proximity of the area of interest to different hazards.
The American Samoa Hazard Mitigation and Coastal Resiliency Viewer will be hosted on ASDOC servers and continually updated as data becomes available. The viewer will be hosted on the ASDOCs and ASCMP web portal homepages.

(3) Education, Outreach and Training
ASCMP will conduct an internal (ASDOC) and external (ASG) training workshops to provide training on use of the American Samoa Hazard Mitigation and Coastal Resiliency Viewer. Training will help promote use and facilitate the use of the tools and data throughout the territory. Additionally, ASCMP distribute the geodatabase throughout the territory through the GIS users' group meetings.

Department of Parks and Recreation

This project was proposed in 2011. It has yet to be completed and has been resubmitted for 2014.

Vaipito stream revetment: Existing revetment 100ft in from stream mouth up to behind Pago Plaza

Jurisdiction: **American Samoa**	***Agency/Organization:*** **Department of Parks and Recreation**	
Project Title: Summary 4 **Vaipito stream revetment: Existing revetment 100ft in from stream mouth up to behind Pago Plaza**	***Contact Person:*** **Samana Semo Veavea, Jr. – Director** ***Phone:*** **684-699-9513** ***e-mail:*** **semo_veavea@yahoo.com**	
Hazard(s): **Tsunami, tropical cyclone (hurricanes), high winds, storm surge, flooding**		
Flood Zone ***high/ extensive***	***Base Flood Elevation:*** ***High/ extensive***	***Erosion Rate:*** ***high/ extensive***
Critical Facility/Population/Asset at Risk: ***Facilities:*** Pago Pago village road and bridge, Pago Plaza Business Center, businesses, family homes, FFAS soccer field and building, and TAO office, shoreline seawall ***Population: Up to 5,000 in Pago Pago village.***		
Environmental Impact: ***[High] Medium Low***	***Historical Preservation Impact:*** ***[High] Medium Low***	
Risk of Hazard Impact: ***[High] Medium Low***	***Importance to Protection of Life and Property and Recovery from Disaster: [High] Medium Low***	
Estimated Cost of Project: $448,000 Approximately 1280LF x ($350 per Linear Foot)	***Project Period (duration)*** ***180 days***	
Value of Structure or Facility:	***TMK #:***	
Estimated Value of Facility Contents: Approximately $10million homes and business furnishings and property.		
Sources of Financial Support: American Samoa Government		

Project Objectives:

1) Complete revetment at Vaipito Stream from 100ft in at mouth to behind Pago Plaza.

Project Description:

Summary 4 – Vaipito Stream Revetment: From Existing Revetment to Behind Pago Plaza

During the 9/29 Tsunami, waves washed out the improved park land causing damages to the shoreline of Fagaalu Park. Community concern after the 9/29 Tsunami was brought forward in regards to Pago Pago village where Vaipito stream is not protected from erosion, flooding, storm surge waves, and tsunami.

The stream area to be protected in this project is from the existing rock revetment at the mouth of Vaipito stream to behind Pago Plaza. This project proposal is based on the model for and cost per linear foot at 7ft height and 5ft width. The scope of work consists of the repair work and stabilization of stream embankment, identified under the jurisdiction of the Department of Park and Recreation. Project revetment includes 1280 LF . All work would be in accordance with the typical section attached. (Attached 1)

Department of Public Works

#1 Rockfall: Rte.009 (Utumea, Poloa, Amanave)

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Public Works	
Project Title: Rockfall Mitigation Project	Contact Person: Faleosina Voigt	
	Phone: 699-9921	
	e-mail: faleosina@asgdpw.org	
Hazard(s): Rockfall		
Flood Zone:	Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:		
Environmental Impact: High X Medium Low	Historical Preservation Impact: High Medium Low X	
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low	
Estimated Cost of Project: $2,400,000.00	Project Period (duration): 10 months	
Value of Structure or Facility:	TMK:	
Estimated Value of Facility Contents:		
Sources of Financial Support:		
Project Objectives: To minimize the danger of approaching traffic due to rockfall that occurs during heavy-longer rains on the following sites; 1. Utumea Village - Route 009 (between Seetaga and Agugulu Villages) 2. Boundary of Poloa and Amanave Villages - Route 09		
Project Description: The proposed project is a permanent stabilization of higher ground adjacent to the road by removing the loose rocks that are potentially dangerous to the approaching traffic and reduce the severity of damages in some cases that cannot be avoided. Securing these areas to the slope so it will prevent rocks falling to the road during heavy-longer rains and saturates the higher ground. The proposed improvement also includes sheltering the area with earthen berms and fences/nets and installed signs to warn approaching traffic on potential rockfall sites.		

#3 Amouli Stream Mitigation Project Ofu, Manu'a

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Public Works
Project Title: Amouli Stream MitigationProject Ofu, Manua, American Samoa	Contact Person: Faleosina Voigt
	Phone: 699-9921
	e-mail: faleosina@asgdpw.org

Hazard(s): Flood		
Flood Zone:	Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:		

Environmental Impact: High X Medium Low	Historical Preservation Impact: High Medium Low X
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low
Estimated Cost of Project: $300,000.00	Project Period (duration): 10 months
Value of Structure or Facility:	TMK:
Estimated Value of Facility Contents:	
Sources of Financial Support:	

Project Objectives:
The proposed project objective is to protect life and property adjacent to the stream. Residents along the stream always suffered flooding because of the existing stream low capacity.

Project Description:
The proposed project is to improve stream flow capacity to prevent flooding on the residents within the area. The proposed improvement is consist of bankline stabilization to prevent soil erosion that would lower the flow capacity of the stream. The proposed improvement would lower the frequency of stream flow overflowing to the stream banks and floods the residents living adjacent to the stream.

#2 Landslide: Rte.6 (Afono,Masefau), Rte.1 (Matuu,Gataivai)

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Public Works	
Project Title: Landslide Mitigation Project	Contact Person: Faleosina Voigt	
	Phone: 699-9921	
	e-mail: faleosina@asgdpw.org	
Hazard(s): Landslide		
Flood Zone:	Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:		
Environmental Impact: High X Medium Low	Historical Preservation Impact: High Medium Low X	
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low	
Estimated Cost of Project: $4,000,000.00	Project Period (duration): 10 months	
Value of Structure or Facility:	TMK:	
Estimated Value of Facility Contents:		
Sources of Financial Support:		

Project Objectives:
To minimize the danger of approaching traffic due to landslide that occurs during heavy-longer rains on the following sites;

1. Afono Pass - Afono Village, Route 006
2. Masefau Landslide - Masefau Village, Route 006
3. Fatu ma Futi - Matu'u Village, Route 001
4. Blunt's Point - Gatavai Village, Route 001

Project Description:
The proposed project is a permanent stabilization of higher grounds adjacent to the road by removing the loose rocks and soil that are potentially dangerous to the approaching traffic and reduce the severity of damages in some cases that cannot be avoided. Securing these areas to the slope so it will prevent sliding during heavy-longer rains and sheltering the improvement with earthen berms and fences/nets and installed signs to warn approaching traffic on potential sliding sites.

#4 Leone Village Road

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Public Works
Project Title: Leone Village Mitigation Project, Tutuila, American Samoa	Contact Person: Faleosina Voigt
	Phone: 699-9921
	e-mail: faleosina@asgdpw.org
Hazard(s): Flood	
Flood Zone:	Base Flood Elevation: / Erosion Rate:
Critical Facility/Population/Asset at Risk:	
Environmental Impact: High X Medium Low	Historical Preservation Impact: High Medium Low X
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low
Estimated Cost of Project: $2,200,000.00	Project Period (duration): 10 months
Value of Structure or Facility:	TMK:
Estimated Value of Facility Contents:	
Sources of Financial Support:	
Project Objectives: The proposed project is to protect life and properties of the people residing along the stream. Village residents suffers flooding every time during heavy rainfall due to stream runoff overflow to the road and residential areas. The insufficient capacity of the existing culverts and the lack of drainage structures on the village road made difficult for the public to access their homes because of the flooding on the road. Due to the insufficient capacity of these existing culverts, low stream banklines and lack of drainage structures on the road, vehicles including emergency vehicles need to wait to let the flooding subsides before this village road can be accessed.	
Project Description: The proposed project is to remove and replace all existing insufficient capacity culverts on this stream and construct drainage structures on the road to convey surface and stream overflow runoff to the outfall including reconstruction of the existing badly damage village road. The improvement will also include stream bank stabilization to selected areas where the existing stream bank is low and became a hazard to the residents due to overbanking of stream runoff. These improvements will enhance the village access road and protect life and properties within the area.	

#5 Happy Valley Road Drainage

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Public Works
Project Title: Petesa Mitigation Project Tutuila, American Samoa	Contact Person: Faleosina Voigt
	Phone: 699-9921
	e-mail: faleosina@asgdpw.org

Hazard(s): Flood		
Flood Zone:	Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk:		

Environmental Impact: High X Medium Low	Historical Preservation Impact: High Medium Low X
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low
Estimated Cost of Project: $220,000.00	Project Period (duration): 8 months
Value of Structure or Facility:	TMK:

Estimated Value of Facility Contents:

Sources of Financial Support:

Project Objectives:
The proposed project objective is to protect property and health of the residents living within the area especially to school children. The proposed project is to mitigate the direct effect to the health of the school children walking to and from school because the area is natural low and runoff ponds for days during heavy rainfall. The proposed project is to avoid runoff from adjacent properties to sits on this low area of the road and prevent the area to be a mosquito breeding ground with foul smell due to decaying insects and small animals.

Project Description:
The proposed project is to construct approximately 100 ft. L x 15 ft. W x 8 ft. D runoff trap structure at the low point within the area. The proposed runoff trap would mitigate the runoff from adjacent properties to ponds for days on the low point of the road. The proposed structure will also enhance infiltration and recharge to ground.

#6 Pava'ia'I Elementary

2014 Hazard Mitigation Projects

Jurisdiction:	**Agency/Organization:** ASG/Department of Public Works – School Maintenance Division
Project Title: **Pavaiai Elementary School Lower Campus Grounds Drainage Upgrade, Restoration, Renovations of Finish Ground Cover(Pervious Concrete Pavement).** To include a Concrete Driveway Apron at Gated entryway, with 2 additional soak pits to capture the over run-off of flash flooding water.	**Contact Person:** Don McMullin – G.M. DPW/School Maint. Div. **Phone:** 699-9921 733-1641cell **e-mail:** djmcmullin@hotmail.com

Hazard(s):		
Flood Zone:	**Base Flood Elevation:**	**Erosion Rate:**

Critical Facility/Population/Asset at Risk: Flash flood water run-off erosion to 3 Classroom Building walkways and Building foundations with complete washout of cinder fill to areas between buildings,will displace the existing walkways, creating hazard for student and staff population. Affected area is also main entry and drop-off area for School Bus transporting students, and accessway for staff vehicles, as well as parking area for vehicles. Constant grounds wash-out during Storm weather creates hazards for all vehicle andpedestrian traffic as well. Problems originating on the school campus grounds wash out off campus creating the same hazards with the addition of heavy pooling/flooding water to the immediate neighborhood residences, causing property damage to these residents, and all wash-out debris spread out over the concrete road.

Environmental Impact: High Medium Low	**Historical Preservation Impact:** High Medium Low
Risk of Hazard Impact: High Medium Low	**Importance to Protection of Life and Property and Recovery from Disaster:** High Medium Low
Estimated Cost of Project: $310,000.00 for the proposed work to improve, upgrade, & satisfactorily alleviate the problems originating on the School grounds only. Additional upgrades & corrective action outside the Campus grounds will require additional funding to supplement the entire project needs.	**Project Period (duration):**
Value of Structure or Facility:	**TMK:**

Estimated Value of Facility Contents:

Sources of Financial Support:
Requesting possible - Hazard Mitigation 2014
Funding & DOI/CIP Funding

Project Objectives:

Alleviate the overflow of accumulating run-off water originating from the fall and run-off of water from the Pavaiai Elementary Upper Campus grounds and (4) 2-Story Classroom Bldg. Structures at the lower Campus, causing major ground erosion to the affected lower campus grounds, washing away the finish top cinder grade and washing out the entire area between the bldgs., and running out side of the campus ground to the village back road, Flooding the area with cinder debris and floodwaters washing over from the concrete roadway and pooling at various areas affecting the more immediately located residential structures around this side of the school.

Project Description:

- Propose to upgrade the entire lower campus affected area with a engineered finish ground sloped run-off to redirect the storm water run-off to the designed lanes and upgraded soak pits strategically located to capture the immediate run-off volume, with the sloping graded areas between (3) of the (4) buildings paved via Pervious concrete which should allow for some additional drainage/seepage of the water run-off as it passes over, thereby decreasing the volume of run-off to the soak pits, and spill-over to the outside areas off the campus grounds.
- Construction of a properly designed Concrete Driveway entry apron at the entrance/exit Gateway with redesigned soak pits at both sides of the driveway to capture run-off water from the high area run.
- Installation of Rain Gutters on the (4) 2-Story Classroom Buildings to capture run-off from the building roofs and control the fall from the roof to the ground area, to prevent the erosion of the fill material from the base of the buildings and building foundation.

American Samoa Government
Department of Public Works
Tafuna Industrial Park, DPW Complex
Pago Pago, American Samoa 96799
Tel: (684) 699-9921 FAX: (684) 699-9913
SCHOOL MAINTENANCE DIVISION

PROJECT PROPOSAL :

ELECTRICAL UPGRADING & CAMPUS GROUNDS DRAINAGE UPGRADING
(10 ASDOE school locations)

Project Narrative:

Flash flooding storm water run-off on the campus grounds of ten school locations has contributed to the deterioration of the electrical power distribution systems underground line feeds, affecting the electrical power needs of all facilities tied into the system.
The ASDOE have a number of school sites which require a long overdue upgrading of their existing electrical distribution systems. Most specifically are the schools still utilizing the older "Fale" type classroom buildings, which were built in the early 1960's some 50 plus years ago.
These schools electrical distribution are still being served from a main panel and power entry at one point(Fale/Kitchen bldg.) and distributes to the various other "Fale" and other classroom buildings on site with underground service feed wires running from the main to each individual building.
These underground wire feeds are not contained within PVC conduits. They are set directly into the ground. Over the years, most notably during the storm weather seasons erosion of the campus grounds have resulted in exposure of the insulated wire feeds, and signs of deteriorating insulation and exposed wire are common. The load demands of many buildings are exceeding the load capacity of the wire as well.
We have over the past 10 years been experiencing problems with these schools and have discovered the need to upgrade the distribution system with new properly rated wire in PVC conduit and installed to meet all present day NEIS and IBC Electrical standards, and to ensure the safety of our student and general public.

The Projects will require two (2) Phases to Upgrade and Develop.

PHASE I : Electrical Upgrade: The assessment and Design of a properly approved (NEIS,IBC Electrical Standards) Electrical system for each individual school.

PHASE II (A) Electrical Uprade : The Solicitation, selection and contract award to a qualified Electrical Contractor via RFQ – RFB, to Supply and Perform the work required as per plan and scope provided by Phase One (1) of the projects.

PHASE II (B): Upgrading and Development of the Campus Grounds Drainage System

The following Scope of Work serves as Phase I to solicit the services of a qualified Electrical Engineer and as a basic design idea for the work it will require to upgrade our schools (in need) to a standard of proper electrical load capacity distribution, and will include the upgrade also of the Main service entry, Main Safety, Main Panel board and Circuit breakers, and all subpanels, breakers, and re-wiring, as may be required. for the following list of schools:

1. Lupelele Elementary
2. Manulele Elementary
3. Pavaiai Elementary
4. Pago Pago Elementary
5. Lauli'i Elementary
6. Alofau Elementary
7. Matafao Elementary
8. Leone High School
9. Samoana High School
10. Afonotele Elementary

PHASE ONE: ELECTRICAL UPGRADE ASSESSMENT & DEVELOPMENT

Scope of Work :

Retain the services of a Qualified Licensed Electrical Engineer to assess all existing electrical systems, distribution and metering, and to provide all the upgrading design plans and Scope of Work required for the **supply and performance of the work** for the schools listed above, and described in the scope of work as follows :

- All new layout plans for excavation and installation of new PVC conduit and wire feed from point of beginning to all other facilities within the distribution design.
- All new layout for excavation, fabrication, and installation of new manhole/pull boxes as required via new distribution design.
- Design plans to include all necessary and relevant detail drawings and specifications to clearly define the specifics of the new installations. (e.g. – detail of type conduit, and the wire, at the point of exit from the ground to the point of entry into the building. And all above ground, and surface mounting of conduits to facilities,.....)
- Provide all specifications of materials (conduits, wire gauge and type, all metering devices /equipment, and accessories as per proposed design.
- Provide follow up and consulting services for all designed work for the various project locations.
- Participate in all Pre-bid meetings with prospective bidders.
- Provide any additional relevant addendums to the projects scope of work.
- Assist with the Project Management and inspections as needed, and requested by the DPW Project Manager for the project.
- Provide the As-built Plan drawings upon completion of all work.

Contractor/Engineer will combine all data as per scope of work to develop and provide the Scope of Work, Detail Plans, Layout plans, and all specifications and general notes required for Phase II; the solicitation of qualified Electrical Contractors to provide their Bid Proposals for the projects.

PHASE II (A): ELECTRICAL UPGRADE
Solicitation, selection and contracting qualified contractors to supply and perform the project SOW designs developed from Phase I for each of the (10) school locations.

PROPOSED BUDGET REQUEST

#	SCHOOL / LOCATION	BUDGET PROPOSAL
A 1	**PHASE ONE – ELECTRICAL ENGINEER CONTRACTOR** (Assess, Develop & define the SOW for all (10) school locations)	$85,000.00/annual
2	PROJECT VEHICLE	$35,000.00
B	**PHASE II (A) – ELECTRICAL UPGRADES CONTRACTUAL SERVICES**	**Cost Estimates per School**
1	LUPELELE ELEMENTARY / ILI'ILI	$168,000.00
2	MANULELE ELEMENTARY / FAGAIMA NUUULI	$144,000.00
3	PAVAIAI ELEMENTARY / PAVAIAI	$156,000.00
4	PAGO PAGO ELEMENTARY / PAGO PAGO	$168,000.00
5	LAULII ELEMENTARY / LAULII	$108,000.00
6	ALOFAU ELEMENTARY / ALOFAU	$132,000.00
7	MATAFAO ELEMENTARY / FAGAALU	$180,000.00
8	LEONE HIGH SCHOOL / LEONE	$156,000.00
9	SAMOANA HIGH SCHOOL / UTULEI	$120,000.00
10	AFONOTELE ELEMENTARY / AFONO	$96,000.00
	TOTAL PROPOSAL – COST ESTIMATE	$1,633,000.00
		$1,635,000.00

PHASE II (B) CAMPUS GROUNDS DRAINAGE SYSTEM UPGRADE & DEVELOPMENT

2

PROPOSED BUDGET

C	PHASE II (B) - CAMPUS GROUNDS / DRAINAGE UPGRADE	
1	LUPELELE ELEMENTARY	
2	MANULELE ELEMENTARY	
3	PAVAIAI ELEMENTARY	
4	PAGO PAGO ELEMENTARY	
5	LAULII ELEMENTARY	
6	ALOFAU ELEMENTARY	
7	MATAFAO ELEMENTARY	
8	LEONE HIGH SCHOOL	
9	SAMOANA HIGH SCHOOL	
10	AFONOTELE ELEMENTARY	

#8 Ugrading of DPW-M&O Building

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization:	DPW
Project Title: Upgrading of DPW-M&O Building	Contact Person:	Faleosina Voigt
	Phone: 633-9921	
	e-mail: Faleosina@yahoo.com	
Hazard(s): Tropical Cyclone, Fire		
Flood Zone:	Base Flood Elevation:	Erosion Rate:
Critical Facility/Population/Asset at Risk: ASG-DPW Facility		
Environmental Impact: High Medium X Low	Historical Preservation Impact: High Medium Low X	
Risk of Hazard Impact: High X Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High X Medium Low	
Estimated Cost of Project: $400,000.00	Project Period (duration): 5 months	
Value of Structure or Facility: $ 2,500,000.00	TMK:	
Estimated Value of Facility Contents: $ 10,000,000.00		
Sources of Financial Support: FEMA		
Project Objectives: • The proposed activity will reduce and/or eliminate the impact of damages caused by hurricane, tropical cyclones, and other windstorms and local fire by upgrading the building and installation fire protection system. This will allow the building to remain operational, safe and secure. The building serves as DPW base of operation during disaster response.		
Project Description: The M&O Building is a 120'x400' steel portal frame structure and now serves as the main office the Department of Public Work. The intended occupancy and use of the building was altered wherein offices were built-in for the different divisions of DPW. The proposed project will involve repairs of its metal roof and cladding for leaks and damaged from previous tropical cyclone, structural strengthening and upgrading of itswindows to withstand 120 miles wind. Install fire sprinkler system to keep the building safe from local fire.		

Environmental Protection Agency

Landslide Early Warning System - Faga'alu Pilot Project

2014 Hazard Mitigation Projects

Jurisdiction: American Samoa	Agency/Organization: AS EPA
Project Title: Landslide Early Warning System –Faga'alu Pilot Project	Contact Person: Fa'amao Asalele Alt. Timothy Bodell, PE Phone: 252 7700 email: tbodell@gmail.com
Hazard(s): Landslide, mud flow, blocked stream, mass wasting and rock fall hazards	

Flood Zone: Fagaalu	Base Flood Elevation: Sea Level	Erosion Rate: tons/hour

Critical Facility/Population/Asset at Risk: LBJ Hospital, Residential Community, critical infrastructure, priority watershed, critical habitat, coral reef and marine resources

Environmental Impact: ***High*** Medium Low	Historical Preservation Impact: ***High*** Medium Low
Risk of Hazard Impact: ***High*** Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: ***High*** Medium Low
Estimated Cost of Project: $486,000	Project Period (duration): January through Decemeber 2105
Value of Structure or Facility: $18 Million	TMK: ?

Estimated Value of Facility Contents:
$6 Million

Sources of Financial Support:	Sole Source Grant Application plus work in kind by professional staff, computer and surveying equipment

Project Objectives:

- To perform geotechnical investigation of the landslide risk area to current professional standards.
- To research and deploy a state of the art landslide early warning system to protect Faga'alu as a pilot project establishing training and developing local capacity to be used throughout American Samoa.

Project Description:

Due to recent excavation of cut slopes of a primary stabilizing geologic feature a critical risk for landslide hazard above the Faga'alu Quarry in near or long term is apparent. Current technology is available to provide early warning of the conditions precursory to slope failure and save many lives. The proposed project will analyze the Faga'alu Quarry Landslide risk conditions, procure specialized equipment, deploy an early warning system and train local specialist to apply the early warning system at critical sites throughout American Samoa. LiDAR and field investigation of the slope above the high risk quarry cut slope will be performed to current professional standards.

Faga'alu Landslide Early Warning System (FLEWS) Project

2014 Pre-Hazard Mitigation Grant Application - proposed by ASEPA

Landslides around the world kill over 8000 people and cost over $2 Billion every year. Over the last decade advances in landslide analysis, remote sensing and geophysical instrumentation established effective Landslide Early Warning Systems (LEWS).

LEWS are proven effective to save lives by monitoring precursory conditions of movement, pressure and acoustical indications prior to landslide slope failure. By installing sensors at critical points within potential landslide anatomy and connecting them via satellite, cell phone and internet, warnings are reported many hours before critical mass failure. LEWS are currently saving lives all over the world for example:

Case Study No LEW

March 2014

Oslo Valley Landslide

Moderate Size

41 Fatalities

Over 150 Blunt Force Injuries

No Early Warning System

No Site Evacuation

Case Study with LEW

April 2013

Bingham Canyon Slide

Largest in Modern History

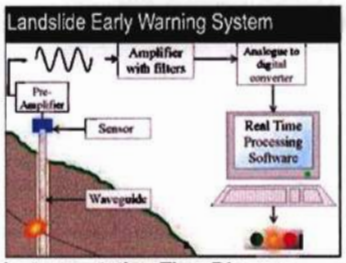
Zero Fatalities

Zero Injuries

Early Warning System

Site Evacuation 7 Hours Prio

Instrument Installation USGS 2011)

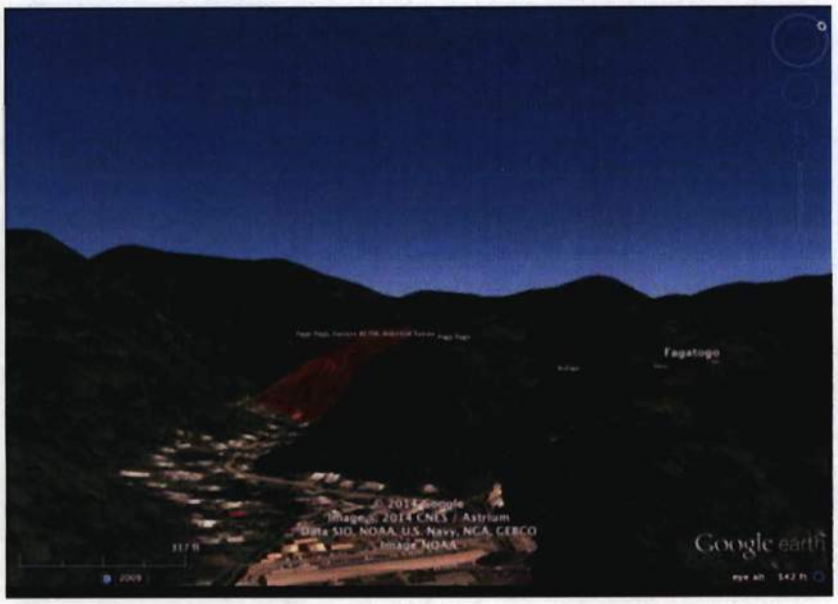


Instrumentation Flow Diagram

American Samoa Environmental Protection Agency

May 2014

Faga'alu Landslide Early Warning System (FLEWS) Project



American Samoa has prime conditions for rock fall, cut slope failure, hillside mass wasting and catastrophic flank collapse landslide hazards. Excavation activities above Faga'alu Village have removed a dominant geologic structure leaving an elevated mass of earth in an apparent landslide condition. Cumulative effects of the landslide event may include unintentional stream blockage, renegade dam break, flooding and mud flows. Without an early warning system the village center, hospital, infrastructure, priority watershed, coastal habitat, residential and commercial structures may be exposed to unacceptable risk levels of a pending natural hazard.

The objectives of the proposed project include:

-Collection of high resolution LiDAR and Multispectral data sets of the study area.
-Research and analysis of local geology, topography, rainfall and seismic information.
-Field mapping of stratigraphy, faults, fissures, orientation and subsidence conditions.
-3D GIS analysis of data sets to model and forecast critical slope failure conditions.
-Procurement of survey equipment, sensors, connectivity hardware and software.
-Installation of sensors, instrumentation, IT programming and WWW interface.
-Integration of alarms into community hazard warning alert system.
-Maintenance and operation of all system components.
-Training of local technicians to install and maintain components for future deployments.

American Samoa Environmental Protection Agency May 2014

High Court

High Court Building Elevation

This project was proposed in 2011. It is resubmitted for 2014. However, instead of relocating the building, the High Court recommends that the building be elevated.

Jurisdiction: Fagatogo, American Samoa		Agency/Organization:	Judicial Branch-ASG
Project Title: High Court and District Court Relocation		Contact Person:	SANDY ILAOA
		Phone:	684-633-4156
		e-mail:	sandyilaoa@gmail.com
Hazard(s): Flood, Hurricane, Cyclone, Tsunami, Storm Surge, Heavy Rainfall			
Flood Zone: VE	Base Flood Elevation: 7-8 ft		Erosion Rate:
Critical Facility/Population/Asset at Risk: ASG- DISTRICT COURT, HIGH COURT, AMERICAN SAMOA TELECOMMUNICATIONS AUTHORITY Public Facilities-CCCAS OF FAGATOGO, Businesses-Numerous Retail and Convenience Stores. The Church is a critical facility as it serves as shelter during times of disaster.			
Environmental Impact: High x Medium Low		Historical Preservation Impact: High x Medium Low	
Risk of Hazard Impact: High x Medium Low		Importance to Protection of Life and Property and Recovery from Disaster: High x Medium Low	

Estimated Cost of Project: $2,750,000.00	Project Period (duration): 3 YEARS
Value of Structure or Facility:	TMK:
Estimated Value of Facility Contents:	
Sources of Financial Support:	
Project Objectives: • Mitigate damages caused by future disasters. • Avoid impairment following disaster. • Preservation of significant legal and historic documents. • Secure a safe and secure structure and location to accommodate the needs and requirements of the High Court and District Court to maintain fair and just services without variance.	
Project Description: Relocate court operations.	

Office of Public Information

Public Information Building Hardening and Renovations

This project was previously submitted for the 2011 Mitigation Plan update. It has been resubmitted for consideration 2014.

Jurisdiction: Utulei, American Samoa		Agency/Organization:	DEPT OF PUBLIC INFORMATION
Project Title: PUBLIC INFORMATIONS BUILDING HARDENING AND RENOVATIONS		Contact Person:	JEFF ALWIN
		Phone:	684-633-4191
		e-mail:	alwin@samoatelco.com
Hazard(s): Flood, Hurricane, Cyclone, Tsunami, Storm Surge, Heavy Rainfall			
Flood Zone:	Base Flood Elevation:		Erosion Rate:
Critical Facility/Population/Asset at Risk: ASG- DEPT OF PUBLIC INFORMATION (KVZK TV STATION), DEPT OF EDUCATION, REX E. LEE AUDITORIUM, LT. GOVERNOR'S RESIDENCE. Public Facilities-SAMOANA HIGH SCHOOL, SADIE'S BY THE SEA HOTEL Businesses-SADIE'S BY THE SEA HOTEL & RESTAURANT The High School is a critical facility as it serves as shelter during times of disaster.			
Environmental Impact: High Medium x Low		Historical Preservation Impact: High x Medium Low	

Risk of Hazard Impact: High x Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: High x Medium Low
Estimated Cost of Project: $4,500,000.00	Project Period (duration): 4 YEARS
Value of Structure or Facility:	TMK:
$2,904,000.00	
Estimated Value of Facility Contents: $2,000,000.00	
Sources of Financial Support:	
Project Objectives: • Mitigate damages caused by future disasters. • Avoid impairment following disaster. • Preservation of significant historical contents. • Secure a safe and secure structure and location to accommodate the communication needs to the public.	
Project Description: • Dismantle and uninstall existing television equipment and move to safe storage facility; construct Temporary MCR. • Move all contents to temporary location. • Repair Building, Harden walls, and Restructure interior of building to accommodate. • Reinstall all dismantled equipment.	

Department of Port Administration Projects

Fuel Farm Relocation

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Port Administration
Project Title: Protection of Critical Facility: Pago Pago International Airport: Aviation Fuel Farm Relocation	Contact Person: Chris Soti Phone: (684) 733 4548 Email: chrissoti@yahoo.com
Hazard(s): Tropical Cyclones and Strong Winds and Fire	

Flood Zone:	Base Flood Elevation: 0 -5ft	Erosion Rate:

Critical Facility/Population/Asset at Risk:
Facilities: 1) Airport Terminal and Administration/Operations, 2) Airlines Offices, 3) Customs, 4) Airport Shops, 5) Immigration, 6) Aircraft Hangars, 7) Airport Users, 8) NOAA

Population: All Airport Users/Operators and the Public

Assets: 1) Airport Terminal and Facilities, 2) Ramp/Apron , 3)Aircraft, 4) Runways

Environmental Impact: (High) Medium Low	Historical Preservation Impact: (High) Medium Low
Risk of Hazard Impact: (High) Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: (High) Medium Low
Estimated Cost of Project: $5,500,000.00	Project Period (duration): 18 Months
Value of Structure or Facility: Est. >$20M	TMK:
Estimated Value of Facility Contents: To Be Assessed	
Sources of Financial Support: FEMA/ASG	

Project Objectives:

To relocate the existing Aviation Fuel Farm and associated pipelines etc. to the new proposed site near Pala Lagoon inside the Airport Operations Area (AOA). This is to ensure that airport users and the public are safe from the high hazard of the existing location of the existing Aviation Fuel Farm poses when cyclones or natural disasters occur.

Project Description:
A new Aviation Fuel Farm will be constructed on the other side of Runway 8-26, further away from the public and airport users thus the Airport terminal and car park. A new fuel pipeline will run from this new site to the fuel pits on the Apron/Ramp area . The existing Aviation Fuel Farm which is so close to the airport car park and terminal, will be demolished and relocated. This old site will be cleaned up for expansion of the Airport Carpark.

Runway Shoreline Protection

2014 Hazard Mitigation Projects

Jurisdiction:	Agency/Organization: Department of Port Administration
Project Title: Protection of Critical Facility: Pago Pago International Airport: Runway Shoreline Protection	Contact Person: Chris Soti Phone: (684) 733 4548 Email: chrissoti@yahoo.com

Hazard(s): Tropical Cyclones and Strong Winds and Wave Action

Flood Zone:	Base Flood Elevation: 0 -5ft	Erosion Rate:

Critical Facility/Population/Asset at Risk:
Facilities: 1) Airport and its operations

Population: All Airport Users/Operators, Passengers and the Public

Assets: 1) Runway 8-26 and Runway 5-23, 2) Security Perimeter Fence , 3)Aircraft, 4) Security Perimeter Road

Environmental Impact: (High) Medium Low	Historical Preservation Impact: (High) Medium Low
Risk of Hazard Impact: (High) Medium Low	Importance to Protection of Life and Property and Recovery from Disaster: (High) Medium Low
Estimated Cost of Project: $5,000,000.00	Project Period (duration): 12 Months
Value of Structure or Facility: Est. >$20M	TMK:

Estimated Value of Facility Contents: To Be Assessed

Sources of Financial Support: FEMA/ASG

Project Objectives:
To protect the Runways, Security Perimeter Fence and Road from strong wave action, flooding and erosion occurring along the Airport shoreline and coastline.

Allow the Runways and Airport to remain operational, safe and secure after cyclones and storms to allow urgent relief aid and assistance to arrive via air quickly.

Project Description:

Proposed rock seawall/revetment will be designed and constructed along the Airport's shorelines to protect the Runways and Security Perimeter Fence and Road from wave action from cyclones or natural disasters.

Total length of the Airport shoreline to be protected is 6350 LF.

Satala Power Plant

FEMA comes through with additional funding for new Satala power plant **4/2/14 By Fili Sagapolutele**

fili@samoanews.com
The Federal Emergency Management will award more than $25 million to the American Samoa Power Authority as part of additional funding to rebuild the Satala Plant destroyed by the 2009 tsunami, but ASPA's chief executive officer Utu Abe Malae says the challenge for the government is coming up with the 10% local share for the multi million dollar project. In a news release sent yesterday by his office, Congressman Faleomavaega Eni announced that FEMA will award $25.27 million in additional federal funding for the Satala power plant project. The funds will assist in replacing the power plant building and purchasing 23 megawatts of generating equipment (diesel generator sets), switch gear, transformers, radiators, tie-lines, and fuel tanks, according to the release. Prior to this additional grant award, FEMA previously obligated $6.60 million towards this project, which has a cost of $52.19 million and is partly covered through insurance proceeds — $17.50 million — with the remainder funded by a 90% federal share and 10% local share, it says. "Financially, the biggest challenge is the 10% matching from ASG" but that is being addressed by the Territorial Office of Fiscal Reforms (TOFR), Treasury Department, and the Capital Improvement Project leadership, Utu said yesterday responding to media questions. He also says funding is processed locally through TOFR and the Lieutenant Governor's Office. Utu said the engines for the project are already purchased and in storage in Wisconsin. (In its FY 2014 first quarter performance report, ASPA said all seven diesel engines for the Satala power plant were shipped to Darien, Wisconsin after engine tests were successfully completed last December.) According to Utu, the building and facilities have been awarded to a stateside company, Louis Berger, and the project will begin "very soon". Last June, the Morristown, New Jersey-based Louis Berger announced it has won a $36 million contract to help rebuild the Satala Power Plant. The company said it will provide the engineering and plant design, equipment procurement, and installation and commissioning of the power generation and ancillary electrical equipment. The major equipment will include seven primary generators, two emergency back-up generators, switchgear assembly, two station transformers and motor control centers, according to a company news release. There were concerns raised in the Fono last year from ASPA's residential neighbors in Satala about the possibility of loud noise coming from the power plant when it is fully operational again. "In order for ASPA to be a better neighbor than at present or before, there will be cleaner emissions from more fuel efficient engines; the plant will be quieter; an acoustic wall installed and noise emission will actually be further from neighbors," Utu said. "We will make accessibility easier for our neighbors as the plans include improving the present road." In his news release, Faleomavaega said this "crucial federal funding from FEMA... will restore American Samoa's ability to meet our energy demands" and that the replacement of the power plant, is a "monumental victory for our people that will help us move even further beyond the memory of this tragedy". He called the project a "significant undertaking" and thanked FEMA for working hand-in-hand with the Lolo administration and ASPA to provide the assistance and expertise required. Utu said "FEMA has been very responsive to our needs and it is sad that some of those responsible for that assistance are moving on to other opportunities in the near future. We will miss them." Click on attachment below to download a copy of the final federal Environmental Assessment notice for the ASPA project.

- See more at: http://www.samoanews.com/content/en/fema-comes-through-additional-funding-new-satala-power-plant#sthash.5QTq0ahW.dpuf

Faga'itua students wade through floodwaters

12/10/13 By B. Chen
blue@samoanews.com
Faga'itua High School students ere released early yesterday after their campus was flooded following heavy rains during the morning hours. FHS vice principal Suaese "Pooch" Taase told Samoa News yesterday that it only took 30 minutes for the water to accumulate and because there was so much debris that had piled up, the waterway was blocked and everything started backing up. "The rain was pouring hard, causing an overflow," Taase reported, adding that flooding is not a common occurrence on their campus. Another FHS official explained that debris including banana leaves and coconuts had piled up overtime and by 9:30 a.m. yesterday, the campus was flooded, both outside and in some of the ground level classrooms. The debris was cleared by school janitors, teachers, and FHS staff with the help of several students. The student body was instructed to gather in the gym, which is at a higher elevation, to await a decision on whether or not they were to return to class or go home. Per protocol, Taase said he had to file an incident report with the DOE main office and they had to await approval from the DOE's secondary division before releasing the students. He said once the approval was granted, they had to contact the school bus drivers so the students can be transported home. "We didn't want to release the kids and have them standing around on the road in the rain," he said. According to Taase, one of the buildings that flooded (Bldg. D) will be torn down and rebuilt, at a higher elevation.

- See more at:
http://www.samoanews.com/node/79550?quicktabs_3=0#sthash.zMOpNb1J.dpuf

*Projects Completed but not part of the 2011 Mitigation Plan

Route 009-Leone

Another Road Project Completed by Department of Public Works. . .

Thursday, 08 November 2012

(Leone: Thusday, November 8, 2012) - A dedication ceremony was held today to celebrate the completion of the route 009-Leone including Auma village road project.

The Route 009 project consists of an armor stone revetment, 200 linear feet of crib retaining wall, road widening including curb and gutter and or swales with guardrails, 750 linear feet of asphalt pavement, and additional 940 linear feet of on-going construction of asphalt pavement with drainage improvement along route 001 near Sogi's junction as well as the California Mart locations.

Project contractor is McConnel Dowell Ltd for the original amount of $365,373.63. Revised amount is $779,323.64 due to additional change orders throughout the duration of project.

Project was funded by U.S. DOT-Federal Highway Administration (FHwA). Project engineer is Fa'alava'i Ta'ase CE and Project Inspector is Alofa Tanuvasa—both from the Department of Public Works.

Director of Public Works Taeaotui Punaofo Tilei, thanks Governor Togiola for his support, FHwA for funding, but especially the villages of Leone and Auma for their patience while the contractor and government worked on completing the project.

Airport Road Reconstruction and Intersection Improvement Project is Approved and Ready to Start

Thursday, 27 September 2012

(TAFUNA: Thursday, September 27, 2012) - The drive from the Tafuna intersection towards the airport seems so long, when you have to drive 1 mile per hour-- just so the tires on your vehicle do not break off all at once, from driving into a pothole the size of a mini swimming pool.

The ground breaking ceremony for the airport road reconstruction and intersection improvement project was held today, in Tafuna—and it was a momentous occasion for the Department of Public Works under the direction of Director Taeaotui Punaofo Tilei and the whole Government of American Samoa.

"The project is anticipated to be completed within 6 years. . ." said Taeaotui, during his remarks in describing the project. According to Taeaotui, the contract amount is approximately $7,997,885.00, and it has been awarded to an American Samoan contractor, Whitehorn Constructions Inc. He explained funding was approved and given by the U.S. Department of Transportation and The Federal Highway Administration, and he is thrilled to finally announce that the airport road is ready to be reconstructed with improvements.

The project includes the reconstruction of 8,700-linear feet for Route 014-Airport Road (from intersection with Route 001 extending just past the intersection with Route 106 at the police substation including intersection improvements. The new structure that will be constructed include: Sidewalks, bike lanes, medians, buffer areas, curb and gutters, pavement markings, drainages, roundabouts at 4 intersections and street lights with 35kW Photo Voltic.

Federal Highway Administration representative, John Nickelson and Honorable Governor Togiola T.A. Tulafono also gave remarks, both of which were encouraging and filled with gratitude for the airport road project to finally undergo its reconstruction and repairs.

CCCAS of Aua Reverend, Viliamu Leilua blessed the project site and the honors of turning the soil were given to Governor Togiola, FHA Rep. John Nickelson, Cabinet members and Fono Representatives that were present.

The Department of Public Works credits the architectural portion and designs of the project to Department Deputy Director Faleosina Voight and her staff: Design Engineer, Estela P. Rubin, Project Engineer, Reuben R. Siatu'u, and Project Inspector, Alofa Tanuvasa.

---americansamoa.gov---

Road projects a go says DPW head, but no dates provided

Local News Show in Skybox

Sat, 09/22/2012 - 8:48am | Category: Local News Show in Skybox - See more at:
http://www.samoanews.com/node/8988?quicktabs_1=0&quicktabs_3=1#sthash.LSGwPguj.dpuf

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By Samoa News staff

reporters@samoanews.com

After numerous delays government has announced several road projects should be starting soon.

Public Works Department director Taeaotui Punaofo Tilei told a House committee hearing on Wednesday, the bond review for reconstruction of the Airport Road project is now complete and the ground breaking will be held within the next couple of days, but was unable to confirm a date.

Whitehorn Construction, based in Lake Elsinore, Calif., was awarded the Airport Road project on Aug. 23 after submitting a bid which was $3.04 million lower than McConnell Dowell's bid of $11.03 million.

Whitehorn's local office was set up several months ago and was required to submit a performance bond.

Samoa News understands the legal review, conducted by the Attorney General's Office, was completed last week. It is also understood the contractor is prepared to move forward with the groundbreaking followed by the mobilization of its crew to the construction site.

Prior to the Airport Road project's completion, Taeaotui said government would start working on reconstruction of the road from Lauli'i to the area called Vista - also part of Lauli'i - but an area that needs fixing. From Vista, work will continue eastward to Alofau village.

Taeaotui says other projects such as seawalls for Aua and Nu'uuli, as well as the Leone bridge project, should also be starting soon. Again, no dates were provided.

The Leone bridge project, delayed for several months now, is overseen by the US Army Corp of Engineers. ASG has blamed the Army Corps as the cause of the delay, but federal officials told lawmakers that all federal

requirements must be met before moving the project forward. Among the issues that have since been addressed is a secondary temporary road for traffic use during construction work on the new bridge.

The bridge was destroyed by the 2009 tsunami and funding for the bridge project was part of American Samoa's total award of $49.34 million in 2010, under the federal Emergency Relief (ER) program, allocating funds to assist in repairing damages to federal-aid highways, damaged by the 2009 earthquake and tsunami.

McConnell Dowell was awarded the $3.80 million "design-build" contract last year.

Next week Saturday, on Sept. 29, the territory will mark the three year anniversary of the earthquake and tsunami that killed 34 residents.

- See more at:
http://www.samoanews.com/?q=node/8988#sthash.4FXKD5Xo.dpuf

http://www.asbar.org/index.php?option=com_content&view=article&id=10434&catid=228&Itemid=172

7.1444.5 Loan to American Samoa Government—Renovations of Capital Improvements and Projects.

Cite as [A.S.C.A. § 7.1444.5]

(a) In accordance with the provisions of section 7.1444(g)(3), which limits any investment in obligations or other instruments issued or guaranteed by the government to no more than seventeen and one-half percent of Fund assets at cost, the Governor, on behalf of the American Samoa Government (ASG), and the Board of Directors of the American Samoa Government Employees' Retirement Fund (ASGERF) are authorized to enter into a loan agreement whereby the ASGERF will lend and ASG will borrow an amount not to exceed $20,000,000.

(b) The Governor is authorized to utilize the $20,000,000 loan amount in financing the costs of acquiring, improving, equipping or renovating all or a portion of the following capital projects: harbor dredging projects in Tutuila and Manu'a, port office/fire department buildings, port tug boat, KVZK antennae, customs bond warehouse, executive office building-annex (Territorial Energy Office, Election Office and the Office of Protection and Advocacy for the Disable), executive office building-tax office extension, executive office building-roof, territorial registrar's office, library extension, immigration office building, procurement warehouse, airport hangar, Airport terminal and jet-way, seawalls, animal pound and veterinary clinic, Fono building, funding the Pacific Arts Festival, fiber optic cable, Lee Auditorium, stream realignment, bridge and soil stabilization/retaining wall, purchase of ten school buses, capital projects for the American Samoa Districts, and repairs to and refurbishment of the MV Sili. Unless a specific amount is appropriated for a particular project, improvement or acquisition, the Governor shall determine the application of available loan proceeds as between the various improvements set forth in this section (the "Improvements") so as to accomplish, as nearly as may be, all of such Improvements. If an amount is specifically appropriated for an Improvement, said amount shall act as a ceiling for expenditures on that particular Improvement. If the Governor shall determine that it has become impractical to

accomplish any of such Improvements or portions thereof for any reason, including changed conditions, lack of funding or costs substantially in excess of those estimated, the Governor shall not be required to finance all of such Improvements. Any remaining proceeds of the loan amount may be used to finance additional capital projects as approved by the Legislature.

(c) Such loan shall be general obligation of American Samoa Government and the Governor is authorized to pledge the full faith and credit of American Samoa Government to the full and prompt payment of the principal of and interest on such loan. The Governor, and/or his designee(s), are authorized to negotiate the terms of the loan, including an interest rate, repayment terms and such other terms and conditions as may be required, except that the interest rate shall be fixed at seven and one-half percent (7.5%). The Governor and the ASGERF Board are further authorized to execute all instruments and documents necessary to conclude the transaction, including promissory notes which evidence the indebtedness of ASG. The Governor is authorized to pledge the Full Faith and Credit of ASG as well as to provide collateral as required by the ASGERF Board to secure the loan.

(d) Interest and principal payments on the loan authorized in this section shall be amortized over a ten-year term and payments made quarterly.

(e) There is appropriated such sums from the Government's general funds necessary for repayment of the loan authorized in this section, in order to finance the costs of acquiring, improving, equipping or renovating all or a portion of the following capital projects: harbor dredging projects in Tutuila and Manu'a, port office/fire department buildings, port tug boat, KVZK antennae, customs bond warehouse, executive office building-annex (Territorial Energy Office, Election Office and the Office of Protection and Advocacy for the Disabled), executive office building-tax office extension, executive office building-roof, territorial registrar's office, library extension, immigration office building, procurement warehouse, airport hangar, Airport terminal and jet-way, seawalls, animal pound and veterinary clinic, Fono building, for funding the Pacific Arts Festival, fiber optic cable, Lee Auditorium, stream realignment, bridge and soil stabilization/retaining wall, purchase of ten school buses, capital projects for the American Samoa Districts, and repairs to and refurbishment of the MV Sili.

(f) Funds shall be made available from the following sources as identified below, for repayment of the loan authorized in this section to finance the costs of acquiring, improving, equipping or renovating all or a portion of the following capital projects: harbor dredging projects in Tutuila and Manu'a, port office/fire department buildings, port tug boat, KVZK antennae, customs bond warehouse, executive office building-annex (Territorial Energy Office, Election Office and the Office of Protection and Advocacy for the Disabled), executive office building-tax office extension, executive office building-roof, territorial registrar's office, library extension, immigration office building, procurement warehouse, airport hangar, Airport terminal and jet-way, seawalls, animal pound and veterinary clinic, Fono building, for funding the Pacific Arts Festival, fiber optic cable, Lee Auditorium, stream realignment, bridge and soil stabilization/retaining wall, purchase of ten school buses, capital projects for the American Samoa Districts, and repairs to and refurbishment of the MV Sili: (1) Forty percent (40%) of the excise taxes collected on beer and malt extracts as imposed pursuant to A.S.C.A., section 11.1002(a)(1)(A).
(2) Twelve and one-half percent (12.5%) of the excise taxes collected on alcoholic beverages as imposed pursuant to A.S.C.A., Section 11.1002(a)(1)(B).
(3) Twenty percent (20%) of the excise taxes collected on tobacco products as imposed pursuant to A.S.C.A., section 11.1002(a)(1)(C).
(4) All of the revenues collected from the Customs Entry Declaration Forms Processing Fee as imposed pursuant to A.S.C.A., section 27.1014(a)(5).
History: *2007, PL 30-5, 2008, PL 30-14, 2008, PL 30-29; 2008, PL 30-34.*

PAGO PAGO, AMERICAN SAMOA (April 10, 2012)—SunWize Technologies, Inc., a leading provider of sustainable energy solutions, recently completed the largest solar installation on the island of American Samoa in the South Pacific.

Backed by the United States Department of Energy and the American Samoa Power Authority (ASPA), the new 1.75-MW solar electric system took over five months to install. The installation marks a new beginning for the ASPA and the people it serves. American Samoa was completely dependent on diesel generators for all electrical power, but the new PV solar installation will help alleviate that dependency by providing a much-needed 'green' energy resource. ASPA is still working to obtain additional funding to install more of these clean, renewable energy sources in the near future."

The ASPA's PV system consists of 7,308 Sharp solar panels in a fixed, ground-mount system—one of the largest of its kind anywhere in the South Pacific. Because land is at a premium in American Samoa, the new system was installed near the airport on a 3.93-acre site and 1.3 overflow site.

The ASPA project faced challenges in addition to the island's remote location. Because the installation site is located a mere 1,100 feet from the ocean, SunWize had to engineer a custom, hot-dip galvanized racking system to withstand the extremely corrosive ocean air. The potential for 150-mile-per-hour typhoon-force winds required SunWize to secure this racking system with special footings that could be installed even with the island's volcanic rock soil and limited concrete resources. During the project's installation phase, SunWize hired a number of local subcontractors, employing 50 Samoans to assist with a variety of tasks.

Even though they had to manage a number of complex situations, the Sunwize team knew that the project's eventual results would be extremely positive. American Samoa's location near the equator receives over 1000 watts per square meter at peak hours of the day, an amount that's ideal for solar. The availability of solar energy may also lower American Samoa's electrical rates in the future. Residents and business owners currently pay around $0.40 per kilowatt; however, 75 percent of that amount goes toward a fuel surcharge that the ASPA must pay its diesel suppliers.

"The two power plants operated in parallel until September 29, 2009, when a devastating tsunami destroyed the Satala power plant located inside Pago Pago harbor, taking out about 60% of ASPA's generation capacity. A temporary power station is now in place at Satala providing power from containerized generators. The ASPA through assistance from FEMA is planning the construction of a new replacement Satala power plant. The Tafuna plant and the temporary Satala plant are still operating independently until a planned Tie-line system for Satala is installed; this will allow the two plants to once again operate in parallel.

In April 2012, ASPA commissioned its Photovoltaic (PV) Solar Powered Systems located at two sites at the Pago Pago International Airport. The total PV system capacity is 1.754MW-DC, or 1.527MW-AC. The total project cost was $9M USD, and was fully funded from the American Recovery and Reinvestment Act (ARRA) of 2009. The PV system is expected to generate about 2% of ASPA's annual energy. The PV system is connected to the Tafuna Power Plant Grid System, which supplies power from the Central district to the Western district of Tutuila island. (Read the full Article. .PV SYSTEM WRITE UP forUtu NZ March 20 2013 v3)" [1]

Samoa's first grid-connected solar project nearing completion[2]

Posted date: February 16, 2014 | No comment

Press Release – Samoa's first grid connected Solar Photovoltaic project to generate and supply electricity to EPC electricity network is nearing completion.

The project which is financed through a 4million grant from the Japanese Government under the auspices of the Pacific Environment Community Fund will be owned and operated by the Electric Power Corporation.

The 546kW project is being built on land belonging to the Electric Power Corporation and is split amongst three sites – Tanugamanono, Vaitele and Salelologa.

The first ground mounted 150kW system at Tanugamanono was completed last year and has been generating and supplying clean power from the sun into the EPC power network since December 20th 2013.

Vaitele site consists of a ground mounted and a roof mounted system with a total capacity of 246kW. This system is now operational and began generating and feeding power into the network this week.

The last of the systems is being built at EPC's Salelologa compound with a total capacity of 150kW. Work is almost completed on this site and is expected to be operational by the end of February.

When completed, the project is expected to generate and supply 800,000 units of electricity (kWh) per year which is equivalent to the electricity demand of 800 homes per annum. It will also save about 190,000 liters of diesel fuel or approximately SAT$570,000 per year. The systems have an expected lifespan of at least 20 years.

1 American Samoa Power Authority: 1.75MW Photovoltaic Solar Power System. (2013). American Samoa Delegation. Retrieved August 8, 2014 from http://www.asrec.net/wp-content/uploads/2013/08/PV-SYSTEM-WRITE-UP-forUtu-NZ-March-20-2013-v3.pdf

2 Ugapo, Palemia. (2014). "Samoa's first grid-connected solar project nearing completion." Savali. Retrieved August 8, 2014 from http://www.savalinews.com/2014/02/16/samoas-first-grid-connected-solar-project-nearing-completion/

EPC's Acting General Manager Taule'ale'ausumai Aumalaga Tiotio says "while this project is small in size, it is a significant step towards the implementation of EPC's proposed renewable energy projects which aim to reduce the reliance of the corporation on imported fossil fuels and ultimately provide affordable and reliable electricity for Samoa".

EPC already owns and operates another solar system on Apolima Island with a battery backup. There are other similar renewable energy projects currently in the pipeline, which will continue to replace use of diesel fuel for electricity generation.

APPENDIX J - Summary of Significant Flooding Events

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses($)[1]
MANU'A					
11/23/1999	Flood	Ta'u	Scattered thunderstorms over the territory with rainfall totals of 2.92 inches for the day. Flooding of low-lying areas and overflow of streams was widespread across the islands.	0/0	None reported
1/19/2000	Flood	Ta'u	Widespread Flood	0/0	$27,600
10/11/2000	Flood	Manu'a	Widespread flooding of low lying areas and overflow most of the streams across the territory. Some mud and landslides were also reported by the Territorial emergency Management Coordinating Office (TEMCO).	0/0	None reported
1/19/2000	Flash Flood	Ta'u	Heavy rain associated with a stationary trough of low pressure associated with a tropical disturbance west of Tutuila and eastward across the Manu'a Islands caused widespread flooding across the territory.	0/0	None reported
11/20/2000	Flood	Manu'a	None reported	0/0	None reported
12/26/2001	Flood	Manu'a	Various tropical systems developed north of American Samoa and began spreading showers over the territory on Christmas day with heavier showers arriving on the 26th. Overtopped streams and heavy runoff flooded roads and low-lying areas across the territory. Total rainfall from this tropical depression was 3.61 inches.	0/0	None reported
5/26/2002	Flood	Ta'u	Residences of Ta'u reported heavy runoffs and landslide at the Auauuli due to heavy showers.	0/0	None reported

1 Inflated to 2014 dollars.

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
5/24/2005	Flash Flood	Manu'a	An active trough associated with heavy rain and thunderstorms resulted in 4 inches of rain across the Islands. Over-flow of small streams and street ponding created traffic congestion for motorists.	0/0	None reported
8/17/2005	Flash Flood	Manu'a	A stationary trough near the Islands was associated produced heavy rain near mountainous areas caused flash flooding and made driving difficult for motorists. Some residents were overwhelmed with puddles of water in their homes. A total precipitation amount of 2.45 inches was reported.	0/0	None reported
12/7/2005	Flash Flood	Manu'a	The Weather Service Office (WSO) recorded between 2 to 3 inches of rainfall for this event. Residents along low-lying villages reported runoff and increasing flow of water along small streams. Roads were covered with water and residential yards experienced ponding.	0/0	None reported
12/26/2005	Flood	Manu'a	A convection in the vicinity of the Islands increased immensely in the early hours which produced over 3 inches across the islands. Flooding of roadways, especially in villages prone to flooding, was reported. Rising water near small streams surprised several residents as in-flow of water swept through their homes. The Weather Service Office received a total of 3.14 inches of rain for this episode.	0/0	None reported
2/6/2006	Heavy Rain	Manu'a	--	--	None reported
2/7/2007	Flash Flood	Ofu	The Weather Service Office recorded between 2 to 3 inches of rainfall for this event. Residents along low-lying villages reported run-off and increasing flow of water along small streams. Roads were covered with water and residential yards were left with puddle of water.	0/0	None reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
2/22/2007	Flash Flood	Ta'u	Locally heavy rainfall swathed some village grounds with runoff along small streams. A flash flood warning was issued and 1-3 inches of rainfall was reported.	0/0	None reported
TUTUILA					
10/9/1967*	Flood	Tutuila	Flooding, landslides, electrical power failures. Damaged roads, culverts, and homes. 7.5 inches of rain was reported at Pago Pago Airport.	0/0	None reported
12/26/1969*	Flood	Tutuila	Roads blocked	0/0	$162,000 to clear roads
11/9/1979*	Flood	Tutuila, Manu'a	None reported. Disaster Declaration.	0/0	None reported
5/3/1985*	Flood	Tutuila	Major damage to Pago Pago. Thirteen residences, five businesses, and several public facilities were flooded, causing $60,000 in public damages, and $40,000 of damage to businesses. The local Red Cross chapter provided assistance to a number of families during this event.	0/0	$132,650 in public damage, $88,000 to businesses
6/30/1994	Flash Flood	Tutuila	Flooding of low lying areas especially along the east side of the island of Tutuila. Some homes were damaged due to minor flooding.	--	$8,000
7/10/1994	Flash Flood	Tutuila	Minor flooding due to isolated heavy showers on Tutuila.	--	None reported
7/13/1994	Flash Flood	Tutuila	Minor flooding due to heavy showers on Tutuila.	--	None reported
11/12/1994	Heavy Rain	Tutuila (western villages)	Western parts of American Samoa received nearly 7 inches of rain in 6 hours. Minor flooding was reported.	0/0	None reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
9/25/1998	Flood	Tutuila	Heavy storms brought floods to several villages island wide, especially homes near stream. A large number of underground water wells were shut down because of high salt content, but two desalination machines-to make the water drinkable-were acquired with support from the federal government. The rainfall recorded for this month was 4.30 in. at WSO-Pago Pago, where the normal for September is 6.61 in.	0	0
5/3/1985*	Flood	Tutuila	Major damage to Pago Pago. Thirteen residences, five businesses, and several public facilities were flooded, causing $60,000 in public damages, and $40,000 of damage to businesses. The local Red Cross chapter provided assistance to a number of families during this event.	0/0	$132,650 in public damage, $88,000 to businesses
6/30/1994	Flash Flood	Tutuila	Flooding of low lying areas especially along the east side of the island of Tutuila. Some homes were damaged due to minor flooding.	--	$8,000
7/10/1994	Flash Flood	Tutuila	Minor flooding due to isolated heavy showers on Tutuila.	--	None reported
7/13/1994	Flash Flood	Tutuila	Minor flooding due to heavy showers on Tutuila.	--	None reported
11/12/1994	Heavy Rain	Tutuila (western villages)	Western parts of American Samoa received nearly 7 inches of rain in 6 hours. Minor flooding was reported.	0/0	None reported
9/25/1998	Flood	Tutuila	Heavy storms brought floods to several villages island wide, especially homes near stream. A large number of underground water wells were shut down because of high salt content, but two desalination machines-to make the water drinkable-were acquired with support from the federal government. The rainfall recorded for this month was 4.30 in. at WSO-Pago Pago, where the normal for September is 6.61 in.	0	0

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
7/12/1999	Flood	Tutuila	None reported	0/0	0
8/19/1999	Flash Flood	Tutuila	Heavy showers caused by a trough of low pressure over Samoa dumped 2 inches of rainfall between 2000 and 2300 causing flooding of low lying areas across the territory.	0/0	None reported
9/15/1999	Flood	Tutuila	The heavy showers associated with a stationary trough flooded and overflow many of the streams. Mud and landslides occurred at Poloa and Fagamalo causing temporary blockage of the road. Moreover heavy showers added on already saturated grounds again caused mud and land slide along the Poloa-Fagamalo road and widespread flooding of low lying areas as well as overflow of streams.	0/0	$114,000
11/23/1999	Flood	Tutuila	An active trough of low pressure that extends onto the islands from the southwest spread heavy showers with scattered thunderstorms over the territory with rainfall totals of 2.92 inches for the day. Flooding of low-lying areas and overflow of streams was widespread across the islands.	0	None reported
12/2/1999	Flood	Pago Pago	None reported	0	None reported
12/28/1999	Flood	Tutuila	None reported	0	None reported
1/19/2000	Flash Flood	Tutuila	Heavy rain associated with a stationary trough of low pressure that extends from a tropical disturbance northwest of Tutuila caused widespread flooding across the territory.	0	$27,000

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
2/27/2000	Flash Flood	Tutuila	Heavy rain associated with a tropical disturbance near Samoa dumbed 6.65 inches of rainfall in 7 hours. Several families were evacuated from Tula village in the eastern tip of Tutuila because of flooding. TEMCO reported many other families with homes being flooded across the territory because of the heavy rain. A man just escaped injury as his car was smashed by a large rock at the Laauli'i lookout because of a landslide, one of the various land and mudslides being reported by TEMCO across the territory.	0	$552,000
3/5/2000	Flood	Tutuila	Heavy showers associated with a tropical depression far south of Samoa fell across the territory Sunday afternoon to Monday morning. The Weather Station Office at Tafuna Airport recorded 8.18 inches of rainfall from Sunday afternoon to Monday afternoon. Numerous small streams were overflow with widespread flooding of low-lying areas as well as mud and police and TEMCO reported landslides across Tutuila Sunday and Monday.	0	None reported
3/25/2000	Flood	Tutuila	Heavy showers associated with a trough of low pressure dumbed almost 2 inches of rainfall as recorded at the airport in 2 hours. The heavy showers caused widespread flooding of low lying areas, small streams to over flow and numerous mudslides over western Tutuila.	0	None reported
10/11/2000	Flood	Tutuila	None reported	0	--

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
11/20/2000	Flood	Tutuila	A stationary trough of low pressure over American Samoa spread heavy showers over the territory causing localized flooding of low lying areas and overflow streams ditches. Debris was washed onto the road creating hazardous driving conditions.	0	None reported
1/7/2001	Flood	Tutuila	Heavy showers in the afternoon dumbed more than 2 inches of rainfall in 4 hours as an upper level trough of low pressure moved over the islands. Minor flooding in Pago Pago with various small streams being overflowed, washing debris over roads and walkways. No major damages were reported.	0	None reported
2/14/2001	Flood	Tutuila	An active trough of low-pressure southwest of Samoa occasionally spread heavy showers over Tutuila. Minor flooding of streams and low-lying areas along the roadways due to both heavy showers and heavy runoffs. No major damages were reported apart from debris washed onto the roads public parks.	0	None reported
3/23/2001	Flood	Tutuila	Heavy showers and thunderstorms associated with an active trough of low pressure just south of Samoa caused widespread flooding of low lying areas as well as overflowing of small streams and caused bonding of streets and roadways across Tutuila. The police reported various mud and landslides west of Poloa.	0	None reported
3/26/2001	Flood	Tutuila	An active trough of low pressure became nearly stationary across the Samoan Island for several days. These heavy showers and heavy runoff caused flooding of low lying areas, overflow of small streams and mud and landslides across the Tutuila.	0	None reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
5/13/2001	Flood	Central Portion	A convective cell over central Tutuila dumped heavy showers over the area causing flooding of low lying areas and overflow streams from Nu'uuli to Aua. Heavy runoffs and the overflow of streams washed debris onto the road causing traffic jams in Pago Pago from Pago Park. Suspended road construction work for 24 hours. Except for clean-up work and the temporary suspension of road construction no major damages were reported.	0	None reported
7/14/2001	Flood	Tutuila	Heavy showers fell over Tutuila dumping more than 2 inches of rainfall in 4 hours. These heavy showers were associated with a trough of low pressure that moved over the islands. Widespread flooding of low lying areas and small streams. Ponding of streets as well as heavy runoffs were noted at Nu'uuli and the Bay area.	0	None reported
11/4/2001	Flood	Tutuila	Minor flooding reported from Nu'uuli to Pago Pago. No major damages were reported except for some debris being washed onto the roads in Tafuna and Nu'uuli.	0	None reported
11/10/2001	Flood	Tutuila	An upper level trough of low pressure moving over the territory from the north dump heavy showers over Tutuila causing flooding of low lying areas and overflow of steams. The heavy showers and runoffs plus saturated grounds caused mud and landslides at Poloa and at Avau Point.	0	None reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
12/25/2001	Flood	Tutuila	An active trough of low pressure was oriented northwest to southeast about 200-300 miles to the north of Samoa through the last 10 days. Various tropical systems developed within this rough, with the first of these tropical depressions began spreading showers over the territory on Christmas day with heavier showers arriving on the 26th. The thunderstorms with heavy showers caused flooding of streams. 'The overflow streams and heavy runoff flooded roads and low lying areas across the territory. Total rainfall from this tropical depression was 3.61 inches.	0	None reported
3/20/2002	Flood	Tutuila	Heavy showers associated with a stationary trough of low pressure over Samoa dumped 2 inches of rainfall in 24 hours causing flooding of low lying areas in the afternoon and into the evenings. Heavy runoffs continued to overflow small streams and caused some minor landslides as grounds has been saturated as it was raining on and off for the last two days. No major damages were reported.	0	None reported
4/19/2002	Flood	Tutuila	Heavy showers caused widespread flooding across the territory marking one of the wettest Flag Day in recent memories. More than two inches of rainfall fell in 2 hours during an activity packed Flag Day celebration. With the heavy runoff and showers, numerous land and mudslides occurred across Tutuila. The Weather Service at Tafuna recorded 6.56 inches of rainfall in three days.	0	$66,000

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
5/26/2002	Flood	Tutuila	Heavy showers dumped 2.09 inches of rainfall in less than 4 hours causing flooding of low-lying areas and streets. The heavy showers and runoffs caused overflow of streams and flooding of streets. Except for debris being washed onto the streets, no major damages were reported.	0	--
10/6/2002	Flood	Tutuila	Heavy showers caused flooding of low-lying areas and heavy runoffs washed debris onto the roads across the island. Land and mudslides were reported along many mountainous areas and along the public highway due to heavy showers and runoffs. Except for cleanup work no major damages were reported across the territory.	0	--
11/15/2002	Flood	Tutuila	Heavy showers dumped more than 3 inches of rainfall in less than 3 hours causing overrun of streams and overflow ditches. Widespread flooding of low-lying areas and streets. Some land and mudslides were reported with debris decorating much of the island. Very little damage was reported except for usual cleanup.	0	--
4/10/2003	Flood	Tutuila	An active convective band of thundershowers dumped 2.72 inches of rainfall in less than 3 hours.	0	--

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
5/19/2003	Flash Flood	Tutuila	A flash flood occurred across Tutuila from Nu'uuli Uta to Pago Pago many communities near mountains and valleys. The main stream in Pago Pago rapidly overflowed and flooded many homes and businesses along the stream and all of lower Pago Pago. Over ten landslides were reported. A major landslide buried and killed 3 young men from the age of 18 to 23 years old in Pago Pago as two other men narrowly escaped this same landslide. One of these men was med-vac to Honolulu for treatment as the Hospital at Fagaalu was 90% out of business as the whole hospital was flooded. A lady in her early 40s was killed by a landslide in Fagatogo that buried the Langkilde Business Center. Another young men in his 20s was rescued and was med-vac to Honolulu on the same flight with gentleman from Pago Pago. Torrential rainfall and excessive runoff flooded Pago Pago, Fagatogo, Lower Utulei, and Fagaalu where the hospital is located. The whole village of Matu'u was flooded so as the inland and valley side of Nu'uuli. Numerous families were evacuated and had taken up shelters at temporary shelters set up by the Territorial Emergency Management Coordinating Office TEMCO. FEMA and TEMCO are currently providing assistance to families who were affected by the floods and landslides. President Bush had declared American Samoa a disaster area due to the flash floods and landslides. 10.68 inches of rain was reported. (An additional death has since been reported.)	5/6	$65M property; $1.2M crop damage

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
6/13/2003	Flood	Tutuila	Heavy showers fell on the territory from an active trough of low pressure over Samoa. More than 2 inches of rain fell between 330 pm and 430pm which caused rapid flooding of low lying areas and triggered some landslides in areas previously affected by the heavy rain of May 19, 2003.	0/0	$64,000
12/22/2003	Heavy Rain	Tutuila	An active upper level trough of low pressure, which moved over, the islands Monday evening dumped almost 3 inches of rainfall in 6 hours. The heavy showers caused widespread flooding of low lying areas and overflow streams creating traffic jams in flooded streets.	0/0	None Reported
9/7/2004	Flood	Tutuila	Heavy rain caused street ponding and flooding in some villages. An unstable air mass aloft, well- associated with a trough connected to a strong gale southwest of Pago Pago, remained over the Samoan Islands within 24 hours. No damages or injuries reported.	0	None Reported
9/8/2004	Flash Flood	Tutuila	Heavy rain caused stream overflow and street flooding of over 2 feet across Tutuila. The Tafuna Office recorded about 3.30 inches of rain within the 24-hour period. Rocks and debris were spotted along the main-road. No injury or damages reported.	0	None Reported
5/24/2005	Flash Flood	Tutuila	Thunderstorms associated with a trough near the Islands brought a lot of rain over Tutuila and Manu'a. Several residents experienced flooding in their homes due to overflow of small streams and poor drainages in some areas on Tutuila Island. The Weather Service Office recorded a total precipitation of 5.21 inches during this period.	0	None Reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
6/30/2005	Flood	Tutuila	Less than 30 homes in Fagatogo village were tarnished with mud and debris due to overflow of small streams from heavy rain. Heavy rain over Tutuila caused street ponding and drainage issues across the Island.	0	None Reported
8/17/2005	Flash Flood	Tutuila	An active trough associated with heavy rain and thunderstorms dumped a lot of rain across the Islands. The Weather Service Office in Tafuna recorded about 4 inches from this event. Overflow of small streams and street ponding created traffic congestion for motorists. There were no reports of mudslides or injuries.	0	None Reported
12/7/2005	Flash Flood	Tutuila	A stationary trough near the Islands was associated with a lot of active weather producing a lot of rain across the Samoan Islands. Reports of heavy rain near mountainous areas caused flash flooding and made driving difficult for motorists. Some residents were overwhelmed with puddles of water in their homes. A 24-hour total of 2.45 inches was accumulated for the day's event.	0	None Reported
12/8/2005	Flood	Tutuila	A stationary trough near Samoan Islands produced widespread showers across Tutuila. The WSO recorded about 1.48 inches of rain for this event, but reports from across Tutuila Aunu'u and Manu'a were that roadways were flooded in several villages due to the overflow of small streams and poor drainage. A few flooded roads on Tutuila caused several small cars and sports vehicles to stall for hours. No injury reported.	0	None Reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
12/15/2005	Flash Flood	Tutuila	Heavy rain caused flash flooding and loss of control of water flow in a lot of villages on the Island of Tutuila. Flood-prone roads caused some small cars and vans to stall for hours, and reports of increasing water in small streams across the Island was noticeable throughout this event. An area of convective activity from the north of Tutuila produced a lot of rain and the Weather Service Office recorded about 2.46 inches of rain for this episode.	0	None Reported
12/17/2005	Flood	Tutuila	A nearly stationary trough in the vicinity of the Samoan Islands produced widespread showers across Tutuila Island. Thunderstorms were observed by the Weather Service Office in Pago Pago. Almost all roadways received at least 1 to 3 inches of ponding while other villages experienced overflow of small streams due to continuous downpour of rain for this event. The Weather Service Office recorded a total precipitation of 2.51 inches for this episode.	0	None Reported
12/21/2005	Flood	Tutuila	Occasional showers caused ponding along roadways and overflow of small streams near mountainous areas. A total precipitation of 3.06 inches was recorded at the Weather Service Office.	0	None Reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
12/26/2005	Flood	Tutuila	A convection in the vicinity of the Islands increased immensely which produced a lot of rain across Tutuila and Manu'a Islands. Flooding of roadways especially villages prone to flooding in Tutuila reported stalled vehicles and traffic congestion. Rising water near small streams surprised several residents as inflow of water swept through their homes. The Weather Service Office received a total of 3.14 inches of rain for this episode.	0	None Reported
1/31/2006	Flash Flood	Tutuila	Locally heavy rainfall across the Island of Tutuila caused an increase in rising waters and overflow of small streams, especially villages located to the West of the International Airport. Homes were swamped with water from 6 inches to 3 feet, and many personal properties were spoiled and damaged from this episode. Motorists experienced difficulties bypassing stalled sedans and trucks in some flooded areas in the village of Tafuna. Less than 50 people evacuated their homes. The Weather Service Office recorded a total precipitation of 5.68 inches for this event.	0	$118,000 in property; $18,000 in crop
2/1/2006	Flash Flood, Heavy Rain	Tutuila	Heavy rainfall flooded 50 percent of homes in the village of Tafuna. Personal properties, including household goods, were ruined by the increasing flow of water. Two families were "forced from their homes by the floodwaters" and no injury reported. Heavy rainfall impacted roads causing potholes and "in some cases becoming deeper, resulting in an overall traffic slowdown around the Island." The Weather Service Office recorded a total precipitation of 5.53 inches.	0	$59,000 in property; $2,000 in crop

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
2/6/2006	Heavy Rain	Tutuila	Heavy rainfall caused an increase in rising water in several villages across the Island of Tutuila. Some roads were flooded with at least 1 to 3 inches of water, causing traffic congestion in some areas. A total rainfall of 4.22 inches was recorded	0/0	None Reported
12/4/2006	Flash Flood	Pago Pago	Thunderstorms and heavy rainfall were associated with an active trough near the Islands. The Weather Service Office recorded about 4.72 inches of precipitation for this event; residents reported widespread flooding and landslides across the Island of Tutuila.	0	None Reported
2/2/2007	Flash Flood	Pago Pago	The Weather Service Office recorded between 2 to 3 inches of rainfall in 3 hours. Residents along low-lying villages reported run-off and increasing flow of water along small streams. Roads were covered with water and there was ponding in residential yards.	0	None Reported
2/22/2007	Flash Flood	Tutuila, Pago Pago	An intensified convection from the east expanded across Manu'a, Aunu'u and Tutuila Islands early Thursday morning. Locally heavy rainfall swathed some village grounds with runoff along small streams. The Weather Service replaced a Small Stream Flood Advisory with a Flash Flood Warning and recorded about 1 to 3 inches of rainfall for this event.	0	None Reported
9/3/2007	Flash Flood	Pago Pago	A Flash Flood Warning for Tutuila was issued. Debris washed onto the roads and mud and landslides occurred at Malota and Fagamalo. Three inches of rain in there hours were reported.	0	None Reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
12/7/2007	Flash Flood	Pago Pago	A monsoon trough that extends all the way from the Solomon Islands southeastward to just south of the Samoa Group spread heavy rain and thunderstorms across the islands over the weekend. The sat nearly stationary just to the south of the islands and caused widespread flooding across Tutuila. Flash Flooding was reported from the Malaeimi Valley to the Bay Area. Heavy showers and runoffs overflowed most streams from Faganeanea to Pago Pago and dumped lots of debris and rocks on the roads. The X-Ray room and part of the Surgical Ward at the LBJ Medical Center was flooded as the jammed and clogged up Fagaalu stream force all the water and mud onto the hospital parking lot into part of the hospital. Fortunately, the hospital had taken all necessary precautions avoiding a major disaster in protecting lives and properties. The National Weather Service had a Flash Flood Warning, which gave enough time for the public to prepare for the flooding.	0	$287,000 in property damage

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
12/8/2008	Flash Flood	Vaitogi	An active trough of low pressure developed northeast of the islands. The Pago Pago National Weather Service Office recorded 13.55 inches of rainfall total over 6 days. Furthermore, the Pago Pago NWS had issued small stream advisories for the islands during the period and a flash flood warning on the last day of the episode. The Department of Public Safety and the Department of the Public Works both reported roads inundated by the overflow of streams and major works due to drainage problems. No other major damages were reported. With a saturated ground from the previous days, a slow- moving trough poured 3.59 inches of rain over the islands on the 8th of December. The Pago Pago NWS issued the flash flood warning. The flash flood from the slow-moving trough produced heavy runoffs of streams and inundated low lying of the islands.	0	--
12/10/2009	Flash Flood	Pago Pago	Heavy rainfall caused runoff and flooded roadways. Two homes were flooded in the village of Tafuna due to poor drainages. The WSO received 6.41 inches of rainfall during this event.	0	None Reported
11/20/2010	Flash Flood	Tutuila, Vaitogi	Over 2 inches of rainfall caused small stream runoff and flooded roadways along villages with poor drainages on Tutuila and some parts of Aunu'u and Manu'a. No injury or damages reported.	0	None Reported
12/18/2010	Flash Flood	Tutuila, Vaitogi	Heavy rainfall caused runoff and overflow of small streams on Tutuila, Aunu'u and Manu'a, especially near poor drainage areas. The Weather Service Office received nearly 3 inches of rainfall during this episode.	0	None Reported

Event Name, Date	Event	Geographical Extent	Impacts	Deaths/ Injuries	Estimated Losses ($)
6/3/2011	Flash Flood	Tutuila, Vaitogi	On a late Friday morning, a slow moving Squall line or Mesoscale Convective System had inundated low-lying areas of Tutuila and Aunu'u. The National Weather Service Office in Pago Pago issued a Flash Flood Warning and later recorded rainfall totals of 2.17 inches in an hour period. Residents had reported inundations along poor drainage and low lying areas. The American Samoa Department of Homeland Security reported overflow of streams onto roads in which had created numerous counts of potholes on and along major roadways. No other damages were reported.	0	None Reported
11/21/2011	Flash Flood	Tutuila, Vaitogi	A nearly stationary trough to the southwest of the Samoan Islands has triggered heavy rainfall. Flash flooding, landslides, and heavy run-off were reported from across the Island of Tutuila. The Weather Service office received 2.56 inches of rainfall for this episode.	0/0	None Reported
7/29/2014	Flooding	All islands	July 29- August 3 flooding and storms that also spurred landslides. The events resulted in a disaster declaration. Over $5 million in damages including government buildings flooding (2 feet in the registrar's office) and 100 homes destroyed. One fatality was reported from a teenager swimming in a swollen creek. She was swept out to sea. Additional damage to agriculture was reported. Bananas were near maturation when the storms destroyed many of them. Additional information is reported below.	1/0	$5 million

*Reported from previous plan
(Source: National Climatic Data Center)

Eleven disaster Declarations potentially had flood impacts including all declarations from tropical storms and hurricanes. The following declarations specifically list flood as a hazard.

November 9, 1979: Flooding, Mudslides, Landslides (DR-610)
Unfortunately little information could be found on this event. It was the second declaration made in American Samoa and the first due to flooding.

May 19-21, 2003: Heavy Rainfall, Flooding, Landslides, and Mudslides (DR- 1473)
FEMA Disaster #1473. Between May 19-21, 2003, heavy rainfall caused flooding, landslides, and mudslides on the Island of Tutuila near Pago Pago, Fagatogo, Nu'uuli, Fagaalu, and Utulei, prompting the Territory to declare an emergency. Rainfall on May 19 at Pago-Pago totaled 10.68 inches. Widespread debris flows, rock falls, and slumps occurred due to the extremely heavy rains. Five people were killed in landslides, although much of the property damage was flood related. FEMA declared American Samoa a disaster area on June 6, 2003. Estimated FEMA assistance is $1.5 million for public building and nearly $9.6 million for individuals. NOAA's National Climatic Data Center estimated over $50 million (2003 dollars) in total damages.
The declaration covers damage to private and public property from heavy rains, flooding, and mud and landslides that occurred May 19-21.

After the declaration, FEMA designated the island of Tutuila eligible for federal aid to stricken residents that can include grants to help pay for temporary housing, home repairs and other serious disaster-related expenses. Low-interest loans from the U.S. Small Business Administration will also be available to cover residential and business losses not fully compensated by insurance.

In addition, FEMA said federal funds will be provided for the territory and affected local governments on the island of Tutuila to pay 75 percent of the approved costs for debris removal, emergency services related to the disaster, and the restoration of damaged public facilities.

Under the declaration, cost-shared funding will be available to the territorial government for approved projects that reduce future disaster risks, FEMA said. President Bush indicated that additional areas may be designated for aid later if requested by the Territory and warranted by the results of further damage assessments.

Over 1,300 residents have registered for disaster assistance since President Bush declared the disaster. Almost 1,900 residents have visited the Disaster Recovery Center (DRC) located at the Lee Auditorium. The rain and mudslides claimed four lives and left several other people severely injured.

September 29-October 6, 2009: Earthquake, Tsunami, and Flooding (DR- 1859)
NOTE: This event is also related to the 2009 Tsunami and will be detailed further in the tsunami profile section.

A series of waves from the tsunami disabled the local power plants; destroyed 248 homes and 28 rental units; and damaged another 2,750 dwellings. One school was destroyed and another four suffered substantial damage (over 50% destroyed). Roads, bridges, churches, and everything in the waves' paths were damaged to varying degrees. The small island and its 65,000 residents were left to rebuild their property and their lives.[1] Over $140 million in relief and rebuilding money was provided by FEMA and other federal agencies.

July 29-August 3, 2014: Severe Storms, Flooding and Landslides (DR- 4192)[2]

This event brought heavy rain, winds, flooding and landslides to the area. High surf of 14 to 16 feet impacted south facing shores and wind gusts of 50 miles per hour were reported. July was a particularly wet month for the territory. Typically it receives around 6 inches of rain but received over 18 inches in 2014, making it the second wettest July on record. Given the inundation of rain, the terrain was saturated making it highly susceptible to landslides.

Damage across Tutuila was extensive. Governor Lolo Matalasi Moliga requested (and was granted) a disaster declaration due to these events. In his letter, the governor said the flooding, associated runoff and resulting landslides produced serious and extensive damage to both public and private property, and directly caused injuries and one death. The fatality occurred in Fagaalu Bay, when a female high school student was swept out to sea while swimming in the heavy rains.

The weather events left many residents homeless. Dozens of people were required to evacuate to temporary shelters, and over 100 homes were destroyed. Three shelters were opened at Samoana High School, CCCAS Gataivai and the Catholic Hall, which accommodated over 100 displaced residents. Those housed at the two shelters are residents of both Utulei and Gataivai, where a landslide destroyed at least three homes and damaged the church.

2014 Flooding[3]

Several government departments were also impacted by flooding including Territorial Registrar's office, the Department of Education, the E-Rate Office, and the Department of Public Safety. The Territorial Registrar saw water seep into the building and ordered staff to clear out cabinets to avoid damage to records. The building sustained nearly 2 feet of water but no records were impacted. The roof of the old Veteran's Affairs building was also partially torn off by strong winds.

1 Disaster Assitance in American Samoa Tops $33 million. FEMA. Retrieved August 8, 2014 from http://www.fema.gov/news-release/2010/03/17/disaster-assistance-american-samoa-tops-33-million

2 Sagapolutele, Fili. (2014). "Lolo asks for Presidential Disaster Declaration over flooding and landslides." Samoa News. Retrieved August 8, 2014 from http://www.samoanews.com/content/en/lolo-asks-presidential-disaster-declaration-over-flooding-and-landslides

3 Disaster declaration for American Samoa. Fiji One. Retrieved August 8, 2014 from http://fijione.tv/disaster-declaration-for-american-samoa/

In addition to structural damage, several banana trees were blown down. This was of particular concern as the bananas were near mature stage for picking and slated to be sold to schools. The photo below demonstrates some of the severe flooding experienced around the island.

APPENDIX L - Previous Occurrences of High Surf

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
ALL ISLANDS						
3/29/1999	High Surf	All (south-facing shores)	8-12	High surf of 8 to 12 feet along south shores of the islands.	0/0	None Reported
4/27/1999	High Surf	All (south-facing shores)	6-10	High surf of 6 to 10 feet along the south shores.	0	None Reported
5/12/1999	High Surf	All (south-facing shores)	8-12	Surf of 8 to 12 feet along south shores.	0	None Reported
10/12/2004	Heavy Surf/High Surf	All (south-facing shores)	8-12	High pressure far south of the Islands generated south to southeast swells of 4 to 6 feet, producing 8 to 12 feet surf along south shores of all Islands.	0	None Reported
10/22/2004	Heavy Surf/High Surf	All (south-facing shores)	10-12	A large area of trade wind swells was reinforced by a south swell of 4 to 6 feet. Large surf of 10 to 12 feet with occasional higher sets reached south shores of all Islands.	0	None Reported
10/30/2004	Heavy Surf/High Surf	All (south-facing shores)	5-7	Large south swells of 5 to 7 feet were generated by intense low pressure far south of the Islands.	0	None Reported
2/3/2005	Heavy Surf/High Surf	All (southeast-facing shores)	10-14	Southeast swells of 5 to 7 feet generated by Tropical Cyclone Meena far east of Tutuila produced surf heights of 10 to 14 feet along southeast facing shores of Tutuila and Manu'a.	0	None Reported
2/27/2005	Heavy Surf/High Surf	All (south-southwest facing shores)	not reported	Large swells generated by Tropical Cyclone Percy pummeled east and south facing shores of Tutuila and Manu'a Islands.	0	None Reported
6/1/2005	Heavy Surf/High Surf	All (south and southwest-facing shores)	5-6	South to southwest swells of 5 to 6 feet produced surf heights of 10 to 12 feet along south and southwest facing shores of Tutuila and Manu'a.	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
6/5/2005	Heavy Surf/High Surf	All (south-southwest facing shores)	10-14 (Manu'a& Tutuila);	An intense low pressure near New Zealand generated large south to southwest swells of 7 feet, producing surf heights of 12 to 14 feet with occasional higher sets along south shores of Tutuila and Manu'a. Swells of 4 to 5 feet from this trend reached Swains for a couple of days.	0	None Reported
7/1/2005	Heavy Surf/High Surf	All (south-facing shores)	10-14	Surf of 10 to 14 feet was generated by a south swell from a low-pressure area far south of Tutuila and Manu'a Islands.	0	None Reported
7/22/2005	Heavy Surf/High Surf	All (south-facing shores)	12	Large swells associated with an intense low pressure far south of the Islands reached Tutuila and Manu'a Islands, producing surf heights around 12 feet along south shores of the Islands.	0	None Reported
8/8/2005	Heavy Surf/High Surf	All (east and southeast-facing shores)	10-12	Large surf near 10 to 12 feet was generated by strong low pressure far south of the Samoan Islands. Coral debris were washed on-shore and near the street from this event.	0	None Reported
9/12/2005	Heavy Surf/High Surf	All (south-facing shores)	10-14	An intense low pressure far south of the Islands generated south swells of 5 to 7 feet, which produced surf heights of 10 to 14 feet along south facing shores of American Samoa.	0	None Reported
10/1/2005	Heavy Surf/High Surf	All (south-facing shores)	10-12	An intense low pressure far south of the Islands generated a south swell of 4 to 6 feet, which produced high surf of 10 to 12 feet along south facing shores of the Islands.	0	None Reported
11/1/2005	Heavy Surf/High Surf	All (south-facing shores)	8-12	The normal surf was generated by a very low intense pressure area far south of the island of Tutuila, Aunu'u and Manu'a. Surf swells 8 to 12 feet high in the islands.	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
6/23/2007	High Surf	All (south-facing shores)	8-12	High surf of 8 to 12 feet with occasional higher sets impacted much of south facing shores of Tutuila, Aunu'u and the Manu'a islands in the last week of the month. Higher than normal surf was generated from a gale low off of New Zealand. There were no significant damages.	0	None Reported
8/24/2007	High Surf	All (south-facing shores)	not reported	High Surf Advisories were posted for all south-facing shores of Tutuila from August 24th to August 31st. Result of heavy swell from an intense low-pressure area far south of the islands No significant damages were reported.	0	None Reported
9/1/2007	High Surf	All (south-facing shores)	8-12	High surf continued into September generated from a low far south of the islands September 1st to September 5th. No significant damages were reported.	0	--
9/14/2007	High Surf	All (south-facing shores)	8-14	Another intense low-pressure system far south of the islands generated heavy southerly swell across the Samoan Islands from September 14th to the 19th. Surf of 8 to 14 feet impacted most of south facing shores especially from Avau to Fatumafuti and from Lauli'i to Tula. No significant damages were reported.	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
6/1/2008	High Surf	All (south-facing shores)	8-14	A series of Low Pressure Systems moving eastward across New Zealand generated swells of 8 to 14 feet along south facing shores of Tutuila, Aunu'u, and Manu'a. This event occurred on the 1st to the 21st of June. During this period, high surf advisory where posted at major beaches of the islands, which caused less activities and beach goers to be seen at the beaches. Sea spray from breaking waves and wave crest were also observed. There were no reports of serious injuries or property damage.	0	None Reported
7/1/2008	High Surf	All (south-facing shores)	8-14	EPISODE NARRATIVE: Heavy swell from a series intense low pressure systems far south of American Samoa combined with strong trade wind surge generated surf of 8 to 14 feet with occasional higher sets. This high surf episode lasted from June 24th continuing towards July 23th. Some coastal flooding was reported during high tides from Pagai to Cape Matatula on the 14th of July. The rainfall recorded on this day was 1.78 inches, which was the highest rainfall for the month of July. In addition, high surf advisory was posted on major beaches and was announced on local media for public awareness. No significant damages were reported.	0	None Reported
9/5/2008	High Surf	All (south-facing shores)	10-14	A High Surf Advisory was issued on September 5 due to a series of Low Pressure Systems north of New Zealand, which produced moderate to strong swells. These Swells affected south facing shores of the islands of Tutuila, Aunu'u, and Manu'a	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
5/14-15/2014 [1]	High Surf	All	7-9	High Surf Advisory issued	--	--
6/1/2014	High Surf	All	7-9	High surf advisory (7 to 9 ft.)	--	None Reported
MANU'A						
2/15/2005	Heavy Surf/High Surf	Manu'a	--	A 68-foot vessel was afloat within 50 miles north of Manu'a, said to be "disabled with no steering wheel but had power." High swells generated by Hurricane Olaf. Crew members were not hurt. The Associated Press reported a vessel sank on February 16th in "50-foot waves and 120 mph winds about 95 miles north of American Samoa and the four rescued crew members were on a life raft when they were found." There were reports about other missing vessels based in Western Samoa, but were later found by Coast Guards and Rescue Team from New Zealand.	0/2	$10,000

1 High Surf Advisory. (2014). NOAA. Retrieved August 8, 2014 from http://alerts.weather.gov/cap/wwacapget.php?x=AS125154314360.HighSurfAdvisory.1251543EC210AS.STUCFWPPG.925ea42183e00926419895f300ded287

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
TUTUILA						
6/2/1998	High Surf	Tutuila	5-8	A surface high southwest of Samoa produced waves from 5 to 8 feet and a resulting high surf advisory was broadcasted from June 2-4. A police officer was killed at sea (because of high surf) on June 3, after he responded to a call about a teenager that was going to commit suicide at sea. The youngster was saved but the officer was later found on the 4th of June.	1/0	None Reported
4/6/2000	High Surf	Tutuila (south-facing shores)	8-14	High surf of 8-14 feet affected the south shores of Tutuila for 6 days, creating strong rip currents at most of the bays especially from Nu'uuli to Fagaalu. The high surf gave warnings were issued to swimmers and fishermen.	0	None Reported
4/28/2000	High Surf	Tutuila	--	--	0	None Reported
5/14/2000	High Surf	Tutuila (south-facing shores)	20	An intense low pressure are far south of Samoa generated high swell which created surf up to 20 ft. in some exposed areas along south shores of American Samoa. The extremely high surf combined with high tides caused some beach erosion. Many low-lying areas along the main road were blocked with debris, sand and rocks and needed cleanup. These were some of the highest surf observed in a non-Tropical Cyclone system.	0	$100,000

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
5/28/2000	High Surf	Tutuila (south-facing shores)	20-30	Another strong low pressure in a series of low-pressure systems which moved from west to east, south of Samoa, generated high swell with surf up to 20 feet. Surf up to 30 feet was reported from Vailoatai to Vaitogi. Some areas of road from Nu'uuli to Fagaalu were again overrun by the high surf during high tides, causing some traffic backups	0	None Reported
6/1/2000	High Surf	Tutuila (south-facing shores)	3-5	An intense low-pressure area south of Samoa, moving from west to east, generated high surf along south shores of American Samoa. Damaging wave action and strong rip currents associated with the extremely high surf were being observed all the way from Vaitogi to Vailoatai and from Nu'uuli to Fagaalu. Surf of 3 to 5 feet was also observed within the Bay Area, which is very rare. Sections of the Main road were washed off or overrun by surf spreading debris, sand and rocks from Vasaaiga to Fatumafuti.	0	$50,000
12/15/2000	High Surf Advisory	Tutuila (south-facing shores)	10-15	Surf of 10 to 15 feet bounded south shores of Tutuila over the weekend. These high surf were generated by an unusually strong low pressure are east of New Zealand at this time of the year. Some beaches were closed to the public due to strong rip currents especially during high tides. No major damages were reported through this episode.	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
12/3/2001	High Surf Advisory	Tutuila (south-facing shores)	--	High surf generated by an intense low-pressure area far south of Samoa washed out a temporary access road at Avau Point which cost about $200,000.00 to construct. The exceptionally high surf was reported throughout the south shores of the Tutuila. No other major damages were reported besides debris being washed onto the roads along lower coastal areas.	0	$200,000
12/26/2001	High Surf Advisory	Tutuila (north-facing shores)	--	High surf generated by Tropical Cyclone Waka affected the north shores of the territory. The high surf then came from the west and later from the south as Waka continued southward.	0	None Reported
1/1/2002	High Surf Advisory	Tutuila (south-facing shores)	--	High surf generated by Tropical Cyclone Waka continued along the south shores.	0	None Reported
8/19/2002	High Surf Advisory	Tutuila (south-facing shores)	--	High Surf Advisory was issued for south shores of Tutuila due to heavy swell generated by a low-pressure area far south of Samoa. No significant damages or injuries were reported during this high surf episode.	0	None Reported
5/1/2003	Heavy Surf/High Surf	Tutuila	--	None reported	0	None Reported

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
5/17/2003	Heavy Surf/High Surf	Tutuila	--	This high surf/heavy surf event, which lasted for over a week created many problems not only for the swimmers and fishermen but for the general public as well due to flash flooding. The high surf combined with exceptionally high tides blocked all streams from draining into the ocean that caused numerous flooding in all bridges from the Bay Area to Nu'uuli. Estimated damages to the bridges and coastal roads were in the millions. President Bush has declared American Samoa a disaster area because of the flash floods, which included coastal flooding.	0	$3,500,000
6/1/2003	Heavy Surf/High Surf	Tutuila (south-facing shores)	--	A semi-permanent ridge of high pressure, which was nearly stationary far south of the islands, produced strong trades and high surf that affected much of the south shores of Tutuila for more than a week.	0	None Reported
10/9/2003	Heavy Surf/High Surf	Tutuila (south-facing shores)	10+	Another strong ridge of high moved south of Samoa and generating heavy surf and swell in excess of 10 ft. Impacts from October 9th to October 12th. The high surf created strong rip currents from Nu'uuli to Fagaalu and from Lauli'i to Cape Matatula.	0	None Reported
9/8/2004	Heavy Surf/High Surf	Tutuila (south-facing shores)	0	Large south swells swept an alia to shore, near the Maliu Mai beach resort at Fogagogo. 4 fishermen, ranging in age from 17 to 40, were not seriously injured. "A huge wave turned their vessel upside down and the engine dropped off", reported the Samoa News. A high surf advisory was issued due to large south swells.	0/6	$5,000

Date	Event	Location	Mag	Details and Impacts	Deaths/ Injuries	Damage
8/20/2005	Heavy Surf/High Surf	Tutuila (south-facing shores)	4-6	A combination of south and southeast swells near 4 to 6 feet impacted south facing shores of the Islands. Corals were washed up along a few low-lying areas in Tutuila.	0	None Reported
10/17/2005	High Surf Advisory	Tutuila (south-facing shores)	10-18	An intense low-pressure area far south of Samoa generated heavy swell, which caused high surf of 10-18 feet that bounded the south shores of Tutuila for about a week. It provided excellent surfing conditions for the surfers but created some problems for marine patrols.	0	None Reported
2/7/2008	High Surf	Tutuila (south-facing shores)	--	High Surf Advisories were posted for all south-facing shores of the island of Tutuila for four days.	0	None Reported
5/20/2008	High Surf	Tutuila (south-facing shores)	10-20	Heavy surf impacted most of south facings shores of Tutuila but most especially from Avau to Matu'u and from Alao to Cape Matatula. Surf of 20 feet forced the closure of Avau Beach on the 24th and the 25th. Some coastal flooding was reported during high tides from Pagai to Cape Matatula. This high surf episode lasted from May 20th to the 26th.	0	None Reported

As American Samoa remembers tsunami tragedy, territory declared 'Tsunami Ready'[1]
9/29/12 By Joyetter Feagaimaalii-Luamanu
reporters@samoanews.com

Today American Samoa marks the third year anniversary of the disaster that claimed the lives of 34 people, causing millions of dollars in damage to homes and property. Appropriately yesterday, American Samoa received its first certification as a Tsunami Ready community by the National Oceanic Atmospheric Administration.

Details on the Tsunami Ready program were published in Friday's edition.

The ceremony held at the government's Fale Samoa at Utulei Beach Park, led off with an invocation by Rev. Dr. Fa'atauva'a Talamoni of the CCCAS in Pago Pago.

Addressing those gathered, Gov. Togiola Tulafono, said during the tsunami on September 29, 2009 the territory's preparation were not adequate, not good enough — and that makes today (Friday) just that much more special being told and being presented this blessing of readiness and preparedness — it should be comforting for all of us.

He thanked the National Oceanic & Atmospheric Administration and Federal Emergency Management Agency for being great partners and for all their efforts, which have enabled American Samoa to be certified Tsunami Ready.

The governor noted that before American Samoa was hit by the disaster, the NOAA office was trying to work with government to put in place a warning system.

"Everybody blamed everybody else in the world when the disaster struck. Unfortunately we concentrated only on the disaster and failed to recognize the efforts of NOAA and US Army that were conducted long before the disaster, and the efforts of Department of Homeland Security prior to the disaster, to help us get ready.

"There were a lot of wonderful and great efforts that were ignored when we lost lives. "No one else cared about anything — all the criticism was focused on why the lives lost, nobody wants to lose anybody… that's very clear, and if you listened to the news at that time, it makes it sound as if we didn't care. WE DID CARE," he said.

(Togiola is referring to the community's outrage that the siren system was not in place at the time of the 2009 disaster, despite the many years the Homeland Security office, which was under the governor's office at the time, had to plan and implement the system.)

1 Feagaimaalii-Luamanu. Joyetter. (2012). Samoa News - 9-29-2012. Retrived September 30, 2014 from http://www.samoanews.com/node/9927

The governor said works have been in place since the disaster and resulted in a great day such as this. He quoted a message by Rev. Dr. Talamoni that knowing is only half the battle, the other half God will help us.

However, he noted that while he was walking the villages in Manu'a during his campaign for office, High Talking Chief Malaepule from Manu'a told him, "God's blessings don't come for free, you must work for it."

The other half of the work is maintaining the systems so they are always ready. Togiola urged everyone to continue to be aware and prepared and to continue with the drills in the school, villages.

He added that we must never be a complacent community. "We have to keep up the vigilance. We can go from a tsunami ready community today and tsunami disasters tomorrow, very easily, don't let up the effort."

The governor acknowledged DHSS Director Mike Sala, Deputy Director Jacinta Brown and the DHSS employees.

He made special recognition of Brown noting that she been their brains and muscles throughout this project. Another person he acknowledged was Vinnie Atofau Jr. "These two are such hardworking smart individuals."

Togiola also received recognition — a commendation letter and Tsunami Ready street signs presented to him by Pacific Regional Director NOAA/National Weather Service Jeff Ladouce.

Ladouce told the governor that he should be proud of this accomplishment, noting that he's extremely pleased to be present to recognize the dedicated efforts of everyone, involved in achieving Tsunami Ready status. "Your demonstrated commitment to disaster preparation and to personnel safety is huge."

The regional director recognized, the US Army Corps of Engineers, DHSS, FEMA, US Geological Survey, the National Park, and the local weather office. He said that on February 2009 and later in July of that year they conducted training and outreach program that has been credited for saving thousands of lives just a couple of months later.

FEMA Region IX Administrator, Nancy Ward also gave remarks during the ceremony, noting that "while the pain of that day will be slow in receding for our fellow Americans who call Samoa home, the last 36 months have also brought some bittersweet progress that is as important to note as our collective losses."

She said that FEMA is proud to have provided funding and technical expertise.

"We are even prouder to be only one asset in the broad array of "Whole Community" organizations that have helped to reduce the tyranny of distance in American Samoa.

"So, on the third anniversary of a terrible chapter in American Samoa's history, let us share some pride along with our prayers knowing that we have truly honored the lost by making future generations safer," said Ward.

2003 Flood Mitigation Plan Recommendations

These are included for future references and were taken from the 2003 Flood Mitigation Plan.

Flood Mitigation Activities: Short-Term Recommendations

Short-term flood mitigation activities identified in the American Samoa Flood Mitigation Plan include general mitigation activities able to be implemented during in the first two years, given current resources and authorities.

1. Develop a sustained flood education and outreach program for American Samoa through the following actions:
   - Provide additional flood mitigation and flood insurance information, such as that developed by FEMA/NFIP, Flood Insurance Rate Maps (FIRMs), and information on flood-proofing methods to residents and businesses. For example, make information available on the Internet, at the public library, and in government offices.
   - Publicize the availability of flood information in existing local media, such as newsletters, radio, and television.
   - Develop a contact list of landowners, businesses (private architectural/engineering consultants), and local organizations that may have an interest in flood mitigation or flood response issues.
   - Participate in a flood mitigation and emergency response workshop in coordination with Department of Commerce (DOC) and Territorial Emergency Management Coordinating Office (TEMCO). Invite private sector businesses and organizations to participate.

2. Amend the Floodplain Management Regulations and Zoning Ordinances to include additional provisions:
   - Amend the Floodplain management regulations and zoning ordinances to better account for floodplain management.
   - Update Flood Insurance Rate Maps. The American Samoa Government can coordinate with FEMA and the U.S. Army Corps of Engineers to develop new FIRMs for the Territory.
   - Increase the base elevation requirement for new construction in the 100-year floodplain to at least one-foot above base flood elevation. An increased elevation standard is one activity to receive credit from the NFIP Community Ratings System Program.
   - Develop a digital Territory Hazards Map, overlaying building and land development with flood hazard overlay zones, delineated wetland areas, and special conservation areas. Flood and general grade elevation data should be shown on the map. Maps can then be made available as part of the site plan for the land use permit application.
   - Hire a Floodplain Administrator to oversee Floodplain Management Regulations.
   - Develop Storm Water Management Plan. Structural and non-structural techniques should be encouraged in public and private development projects.
   - Require storm water management practices for new proposed land development through the PNRS.
   - Enforce accepted storm water management practices in land use application reviews.

- Develop policies and regulations for better land use planning and subdivision in development of communal and privately owned land.
- Work with villages and individual owners to preserve undeveloped open space, wetlands, and lowland rain forests.
- Investigate incorporation of specific floodways within certain 100-year flood plain areas. Develop an interior drainage master plan of streams and their tributaries to identify stream flow paths, drainage improvements, and stream bank stabilization measures to provide drainage easements.
- Increase setback distances to floodways and streams in flood-prone areas to provide an additional buffer for preventing residential encroachment.
- Generate a rainfall intensity curve for American Samoa, to be used in storm water calculations necessary for drainage design of proposed land development projects.

3. Identify, prioritize, and mitigate properties at risk to flooding through the following actions:
   - Develop a list of improved structures within the Territory's floodplains using hazard assessment methods and other available data sources.
   - Develop criteria to prioritize the mitigation needs of improved structures in the floodplain. Possible criteria include:
     - Location in 100-year zone
     - Existence of elevation certificates
     - Available flood damage records
     - Historical flood levels and damages
   - Identify the mitigation activities appropriate for properties that are highest on the list of improved structures in the floodplain. Mitigation activities could include:
     - Elevation of structure
     - Acquisition/relocation
   - Improved flood insurance coverage
   - Identify and pursue funding for resource intensive mitigation activities (e.g., flood proofing, elevation, acquisition). Possible funding sources include the Flood Mitigation Assistance Program and Community Development Block Grants.
   - Implement mitigation activities for prioritized locations.

4. Advocate limiting the impact of new road networks on the Territory's floodplain. Coordinate with the Department of Public Works to identify flood mitigation needs that can be coordinated with future road improvements.

Flood Mitigation Activities: Long-Term Recommendations

Long-term flood mitigation activities recommended in the American Samoa Flood Mitigation Plan include activities likely to take more than two years to implement and that may require new or additional resources.

1. Reduce federal flood insurance premiums by pursuing a National Flood Insurance Program (NFIP) Community Ratings System (CRS) rating through the following recommended actions:
   - American Samoa Government staff should attend a CRS training workshop to learn the CRS administrative procedures. A weeklong CRS course for local officials is offered free at FEMA's Emergency Management Institute. Identify activities that Samoan government officials must take in order to obtain credits with the CRS. The four categories of activities are:
     - Public information
     - Mapping and regulations
     - Flood damage reduction
     - Flood preparedness

2. Link floodplain hazards to the Parks Master Plan, Wetlands Management Plan, and the Tualauta County Master Plan. Identify valuable wetlands and undeveloped parcels in the floodplain for possible acquisition as open space or conservation areas.