Public Notice

U.S. Army Corps of Engineers Honolulu District	Public Notice No. POH-2006-133	Date: **March 15, 2007**
	Reply to: Regulatory Branch (CEPOH-EC-R) U.S. Army Engineer District, Honolulu Building 230 Fort Shafter, Hawaii 96858-5440	Respond by: **April 15, 2007**

POH-2006-133

APPLICATION OF DEPARTMENT OF THE ARMY PERMIT FOR MATUU FLOOD MANAGEMENT PROJECT AT AFUELO STREAM, MATUU, TUTUILA, AMERICAN SAMOA

1. **APPLICANT:** Department of Public Works, American Samoa Government, Executive Office Building, 2nd Floor, Pago Pago, American Samoa 96799

2. **AGENT:** None

3. **APPLICABLE STATUTORY AUTHORITY:** Section 404 of the Clean Water Act (33 U.S.C. 1344)

4. **LOCATION OF PROPOSED ACTIVITY:** The project site encompasses non-tidal portions of Afuelo Stream at Matuu Village, Tutuila, American Samoa (Sheet T-1).

5. **PURPOSE AND DESCRIPTION OF PROJECT:**

The purpose of the project is to prevent future flood damages to homes and roadways bordering Afuelo Stream. To provide the desired protection, the applicant proposes to construct improvements to eight portions of the Afuelo Stream channel. The proposed improvements would involve excavation of the existing stream bed, construction of poured-in-place reinforced concrete flood walls, and lining of the excavated stream bed with armor rocks. The Federal Emergency Management Agency (FEMA) issued a draft environmental assessment (EA) for the project on June 27, 2006, and a final EA on July 19, 2006. As described below, the applicant proposes to utilize a layer of armor rock to line the channel rather than the gabion baskets proposed in the EA.

The planned improvements would follow the design shown in the attached drawings (Sheets C-1, C-2, and D-1). A total of approximately 1,350 CY of soil and rocks would be excavated from eight sites (reaches) of the Afuelo Stream bed, including 968 cubic yards (CY) for the armor rock lining and 759 CY for construction of the new flood walls. The total area of excavation would

be approximately 1,257 square yards (SY), including 968 SY for the armor rock lining and 572 SY for the new flood walls. If dewatering of the dredged material is needed, it would be accomplished so as to avoid direct return flow to the stream. The new reinforced concrete flood walls approximately 6 feet high and 10 inches thick would be poured in place at both sides of the excavated channel. A single layer of large rocks (1,000 to 1,700 pounds) rocks excavated from the stream or (plus additional rocks obtained as needed from an approved quarry) would be used to line the space between the new flood walls. Excavated materials would be used to backfill the flood walls, with unused material disposed of at an approved disposal site. The total area of fill in waters of the United States would be approximately 1,257 SY, including 968 SY for the armor rocks and 289 SY for the concrete flood walls. The estimated volume of fill would be approximately 1,350 CY, including 968 CY of armor rocks and 328 CY of reinforced concrete.

The applicant has considered other design alternatives, such as use of gabion baskets, but has determined that their use would take up too much land, considering the limited space at the project site, and would trap trash. The applicant has also determined that relocating homes away from the stream is not feasible because it would be too lengthy and costly.

6. IMPACTS OF PROPOSED ACTIVITIES IF AUTHORIZED:

The stream bed consists of soil and rock, and the estimated median stream flow during the period 1973-1990 was 0.3 cubic feet per second (American Samoa Watershed Protection Plan, Watershed 26, Matuu). Construction activities have the potential to cause a temporary increase in downstream turbidity and potential effects on the marine environment, but these potential impacts are expected to be minimized due to the applicant's planned scheduling of the work during dry weather and the applicant's requirement that the contractor implement a site-specific best management practices (BMPs) plan. The plan may include installation of turbidity barriers, silt fences, berms, or other measures as needed to control sediments (Sheet T-2). The applicant notes that for work that takes place in the stream, a silt fence is required at the (lower) end of construction. With implementation of appropriate BMPs, downstream movement of materials and their effects on the aquatic environment, including the marine environment, can be avoided or minimized. Stream organisms would be disrupted by construction activities, but the completed rock lining (in contrast to a smooth concrete lining) may provide new interstitial habitat for stream organisms. Project construction may cause temporary, localized increases in dust and noise.

The proposed project is expected to help reduce future soil erosion and downstream transport of sediments during flood events. It is intended to improve flood protection, and is not expected to have any significant long-term adverse impacts. The proposed project is designed to address the specific flood hazard conditions at Matuu Village and cumulative effects are not considered to be significant.

7. IMPACT ON HISTORIC PROPERTIES:

The American Samoa Historic Preservation Office (ASHPO), by letter to FEMA dated February 17, 2006, concurred with that agency's February 6, 2006 determination that the project (HMGP 1506-6: Department of Public Works (DPW) Matu'u Stream Flood Mitigation) would have "no effect" on historic properties. The Area of Potential Effect (APE) of the present project, which

incorporates an armor rock lining rather than the previously proposed gabion baskets, closely approximates that of the previously reviewed project and it appears that the revised undertaking would similarly have "no effect" on historic properties. This notice has been sent to the American Samoa Historic Preservation Office (ASHPO). Any additional comments ASHPO may have concerning archaeological or historic resources that may be lost or destroyed by work under the present project will be considered before a final decision is made on the permit application.

8. IMPACT ON ENDANGERED SPECIES:

No federally protected species is known to occur within the project site, which consists of non-tidal portions of Afuelo Stream. However, federally protected sea turtles are known to occur in the marine waters surrounding American Samoa. The U.S. Fish and Wildlife Service (USFWS), in its letter to FEMA dated May 9, 2006, stated that the endangered leatherback sea turtle (*Dermochelys coriacea*), endangered hawksbill sea turtle (*Eretmochelys imbricata*), threatened loggerhead sea turtle (*Caretta caretta*), and threatened green sea turtle (*Chelonia mydas*) may occur in the project area. In their letter, the USFWS letter agreed with FEMA that there is no turtle nesting habitat near the outlet of the stream and, although the proposed project (as proposed, with the gabion basket design) may cause minimal temporary disturbance to foraging opportunities for sea turtles due to erosion and sedimentation from Afuelo Stream, this potential effect would only last during construction activities. The USFWS also noted that the project would apply best management practices (BMPs) such as installing silt fences, to minimize any impacts. Because there is no turtle nesting habitat near the outlet of the stream and the project may only cause minimal temporary disturbance to foraging opportunities, the USFWS concurred with FEMA's determination that the project (with gabion basket design) is not likely to adversely affect any federally listed species under the ESA.

The currently proposed project, which incorporates an armor-rock lining in lieu of the gabion baskets, would potentially have similar downstream sedimentation effects during construction and would incorporate similar BMPs to minimize these effects. By controlling future erosion of the stream bed and banks, the completed project may reduce the long-term sedimentation of the marine environment. Based on the location and nature of the proposed work, the lack of turtle nesting habitat near the outlet of the stream, and the potential for only minimal disturbance to sea turtle foraging opportunities, it appears the project "may affect, but is not likely to adversely affect" sea turtles or other species listed as threatened or endangered under the Endangered Species Act. This notice has been sent to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in accordance with Section 7 of the Endangered Species Act. Any comments they have on endangered or threatened species, or their critical habitat, will be considered before a final decision is made on the permit.

9. IMPACT ON ESSENTIAL FISH HABITAT (EFH):

The project site, consisting of eight non-tidal reaches of Afuelo Stream, does not include any designaated EFH. Although the biological resources of Afuelo Stream have not been documented, it may be inhabited by at least some of the same diadromous species of fishes, mollusks, and crustaceans which have been found in other Tutuila streams, as reported in the American Samoa Stream Inventory (USACE, July 1981). Although the project reaches of the

stream would be disrupted during construction, the completed new rock lining would be un-grouted and is expected to be compatible with the long-term need to maintain the normal movement (migration) requirements of diadromous species, as well as providing rock surfaces upon which algae and other food organisms may settle.

Although the project site itself does not include any designated EFH, the marine environment lying seaward of the stream mouth includes coral reef EFH, consisting of typical fringing reef components which contribute to maintenance of fisheries. The magnitude of potential impacts of the proposed project on EFH are thus dependent on the degree of downstream movement of sediments or other materials disturbed during project construction. The applicant would require the contractor to incorporate best management practices (BMPs) (see section 6 above) to minimize effects of the work. With the incorporation of suitable BMPs to control downstream effects of the construction, the proposed project is not expected to adversely affect any Essential Fish Habitat (EFH) identified pursuant to the Magnuson-Stevens Fishery and Management Act.

10. OTHER GOVERNMENT AUTHORIZATIONS/CERTIFICATIONS:

Before a DA permit can be issued, the applicant must first obtain an American Samoa Coastal Management Program federal consistency certification issued by the Department of Commerce and a Section 401 Water Quality Certification issued by the American Samoa Environmental Protection Agency.

11. EVALUATION FACTORS:

The decision whether to issue the requested permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof: among these are conservation, economics, aesthetics, general environmental concerns, wetlands, historic values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

12. COMMENTS AND INQUIRIES:

Interested parties may submit in writing any comments that they have on the proposed permit. Comments should be forwarded so as to reach this District no later than the response date indicated on the first page of this notice. Mailed comments should cite this notice and should be sent to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440. Alternatively, comments may be transmitted via e-mail to *CEPOH-EC-R@usace.army.mil* or faxed to (808) 438-4060. If needed, further information may be obtained from Peter Galloway via telephone at (808) 438-8416. This notice is also available at the Honolulu District web site (*www.poh.usace.army.mil*).

13. REQUEST FOR PUBLIC HEARING:

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the proposed permit. Requests for public hearing shall specifically state the reasons for holding a public hearing.

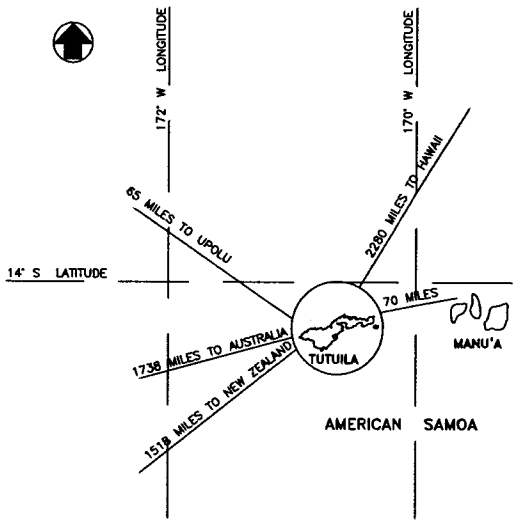
Attachments:
Sheet T-1. Location map
Sheets C-1, C-2. Layout plan (proposed project)
Sheet D-1. Typical section
Sheet T-2. Suggested best management practices

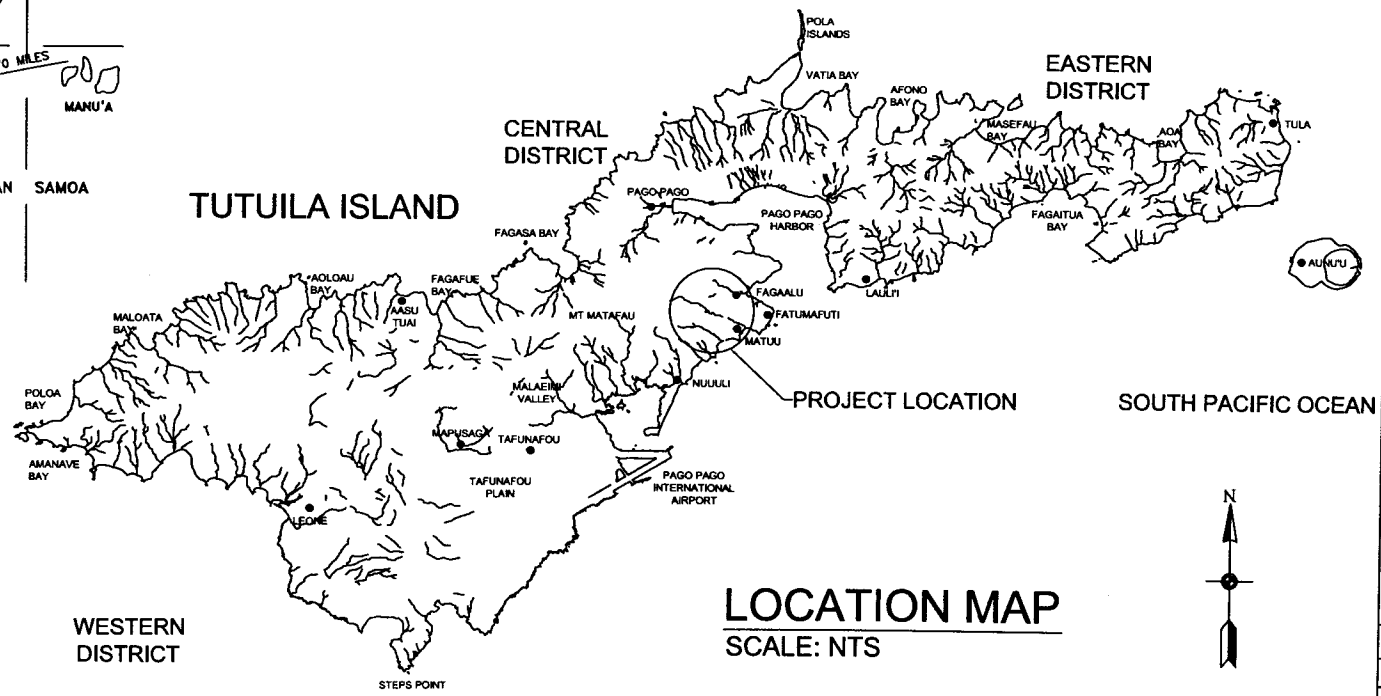
MATUU STREAM FLOOD MANAGEMENT

MATUU

TUTUILA, AMERICAN SAMOA

FEMA FUNDED PROJECT





LOCATION MAP

SCALE: NTS

NO.	REVISIONS	DATE

DRAWN BY: CIVIL/HIGHWAY DIVISION
REVIEWED BY: CIVIL/HIGHWAY DIVISION
CHECKED BY: FEMA
PROJECT ENGINEER:
ASST. DIR. C/H DIV.: Faleasiu Voigt
DIRECTOR: Tuaolei Pulaafi Tiaf

COORDINATION APPROVALS

MATUU STREAM FLOOD MANAGEMENT

TITLE SHEET

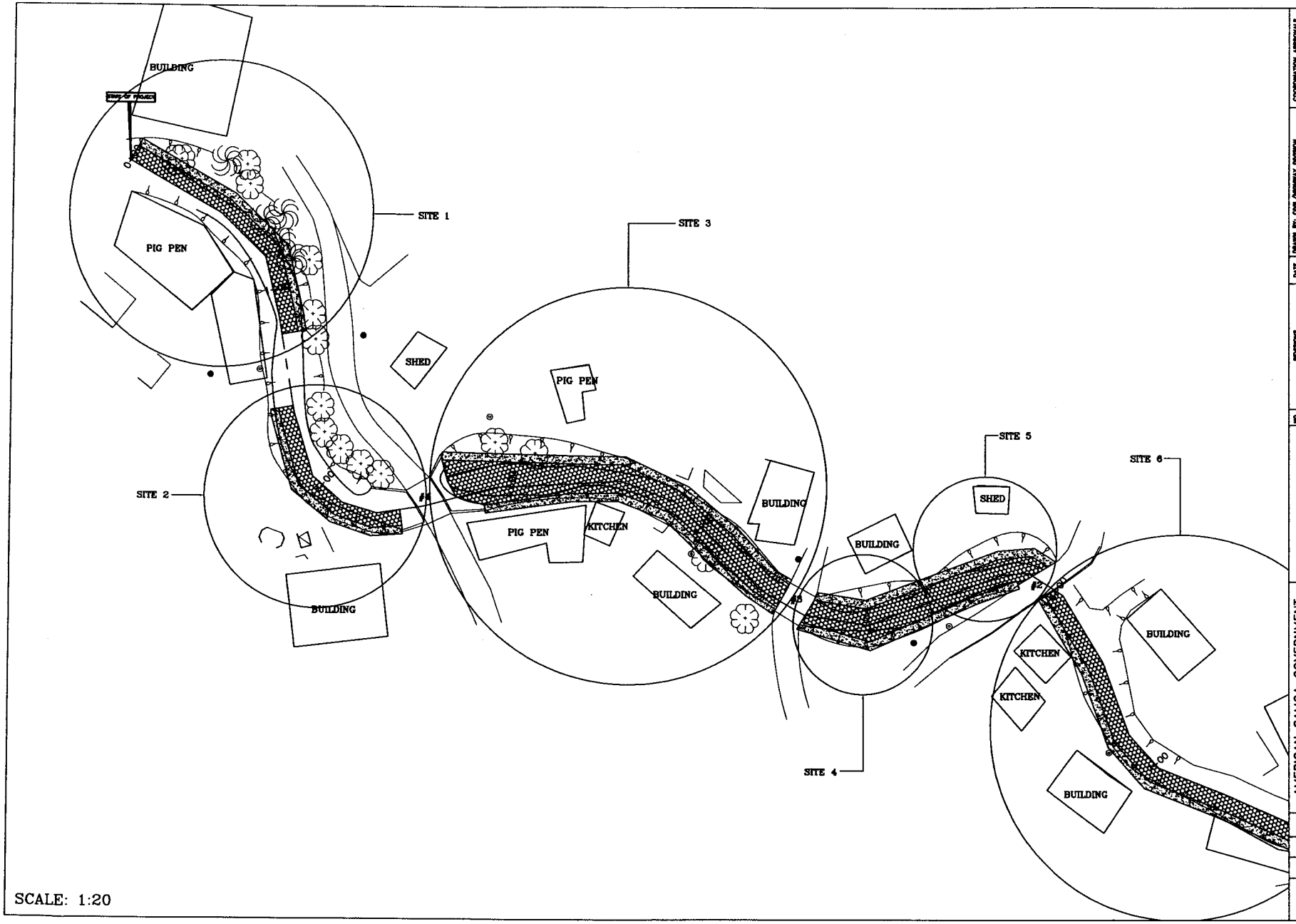
AMERICAN SAMOA GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
CIVIL HIGHWAY DIVISION
PAGO PAGO, AMERICAN SAMOA

DRAWING NO.

PROJECT NO.

DATE

SHEET NO.
T-1
SHEET ... OF ...

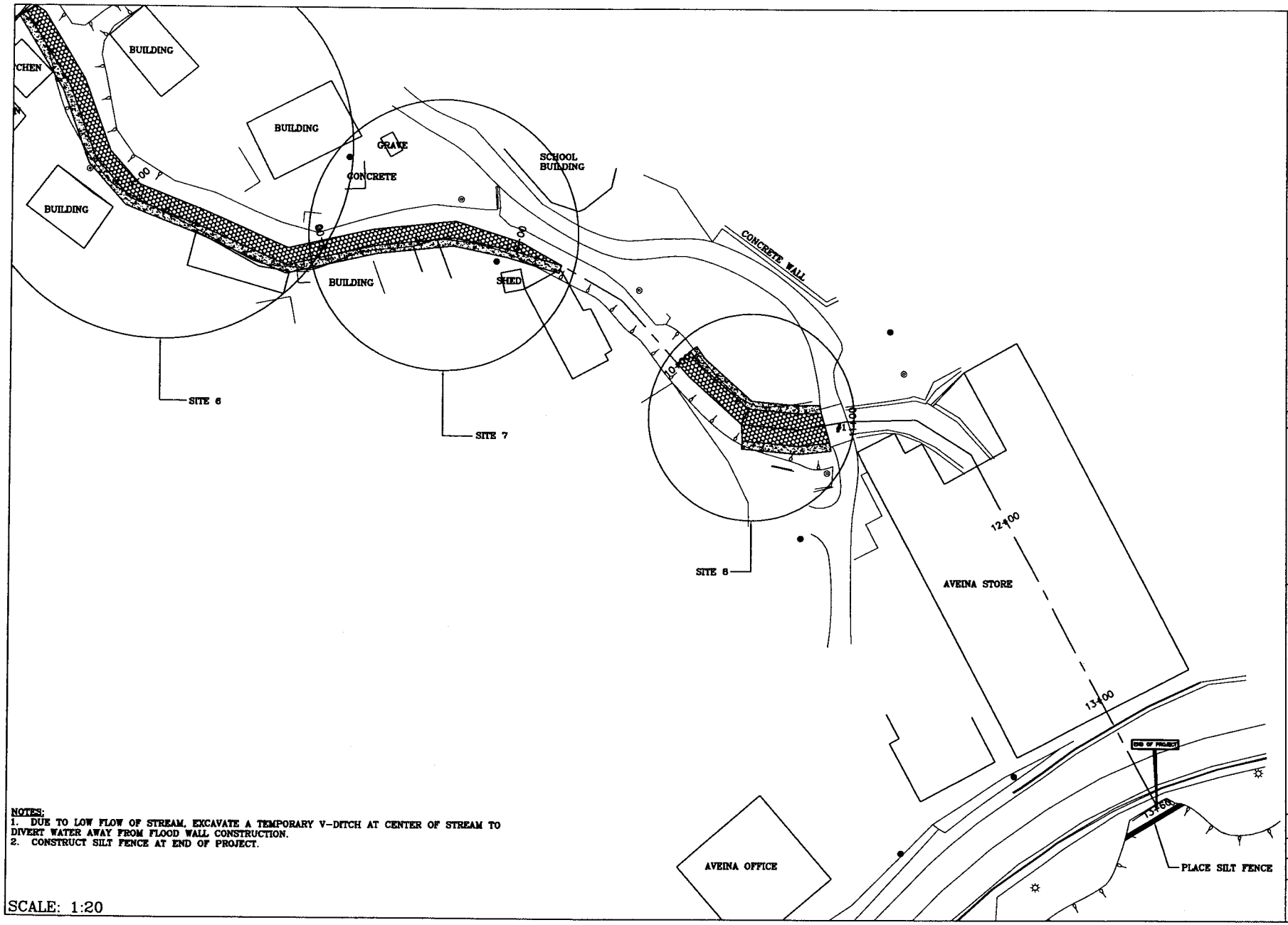


NO.	REVISIONS	DATE	DRAWN BY: CIVIL/HIGHWAY DIVISION	COORDINATION APPROVALS
			DESIGNED BY: CIVIL/HIGHWAY DIVISION	
			CHECKED BY: FHWA	
			PROJECT ENGINEER:	
			DEPTY DIR. CIVIL/HWY DIV.: Falcasina Veigi	
			DIRECTOR: Tesoriel Pensela Tilal	

MATUU STREAM
FLOOD MANAGEMENT
PLAN
STA. 0+00.00 - 7+00.00

AMERICAN SAMOA GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
CIVIL HIGHWAY DIVISION
PAGO PAGO, AMERICAN SAMOA

DRAWING NO.
PROJECT NO.
DATE
SHEET NO.
C-1
SHEET _ OF _



NOTES:
1. DUE TO LOW FLOW OF STREAM, EXCAVATE A TEMPORARY V-DITCH AT CENTER OF STREAM TO DIVERT WATER AWAY FROM FLOOD WALL CONSTRUCTION.
2. CONSTRUCT SILT FENCE AT END OF PROJECT.

SCALE: 1:20

NO.	REVISIONS	DATE	DRAWN BY: CIVIL/HIGHWAY DIVISION	COORDINATION APPROVALS
			DESIGNED BY: CIVIL/HIGHWAY DIVISION	
			CHECKED BY: FIVeA	
			PROJECT ENGINEER:	
			DEPTY DIR. CIVIL/HWY DIV.: Falaosina Valgi	
			DIRECTOR: Tuscolul Punsefo Tilal	

MATUU STREAM
FLOOD MANAGEMENT
PLAN
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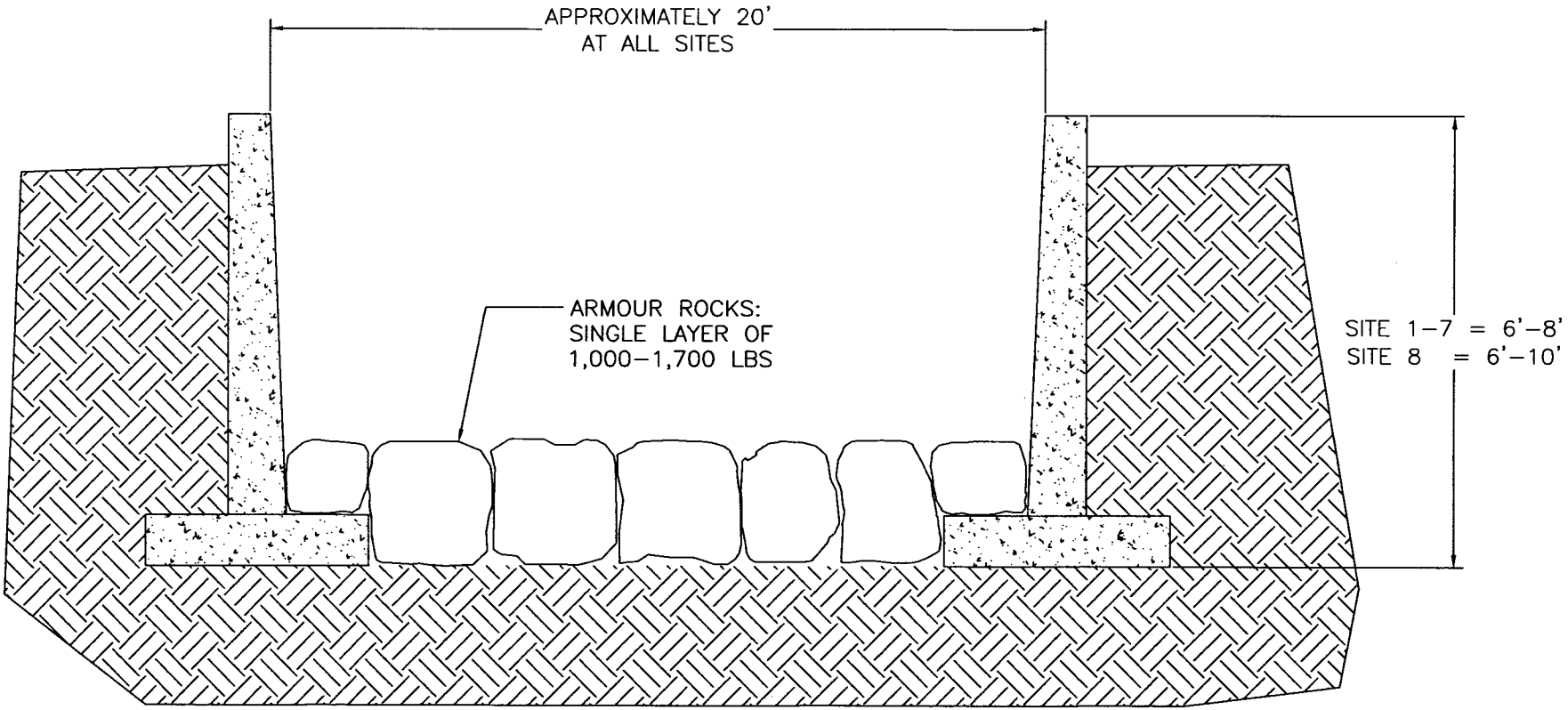
AMERICAN SAMOA GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
CIVIL HIGHWAY DIVISION
PAGO PAGO, AMERICAN SAMOA

DRAWING NO.
PROJECT NO.
DATE
SHEET NO.
C-2
SHEET _ OF _



SCALE: NOT TO SCALE

NO.	REVISIONS	DATE

DRAWN BY: CIVIL/HIGHWAY DIVISION
DESIGNED BY: CIVIL/HIGHWAY DIVISION
CHECKED BY: FHwA
PROJECT ENGINEER:
DEPTY DIR. CIVIL/HWY DIV.: Falcosina Voigt
DIRECTOR: Tacoatal Panaofo Tiot

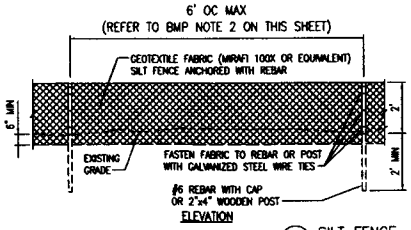
COORDINATION APPROVALS

MATUU STREAM
FLOOD MANAGEMENT

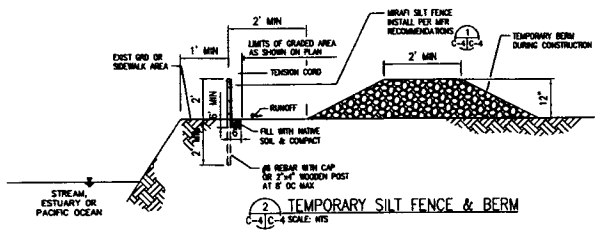
TYPICAL SECTION
FLOOD WALL & ARMOUR ROCK

AMERICAN SAMOA GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
CIVIL HIGHWAY DIVISION
PAGO PAGO, AMERICAN SAMOA

DRAWING NO.
PROJECT NO.
DATE
SHEET NO.
D-1
SHEET _ OF _



1 SILT FENCE
C-4 C-4 SCALE: NTS



2 TEMPORARY SILT FENCE & BERM
C-4 C-4 SCALE: NTS

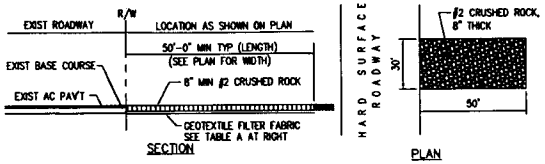
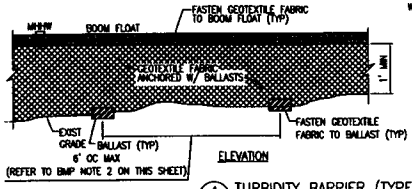
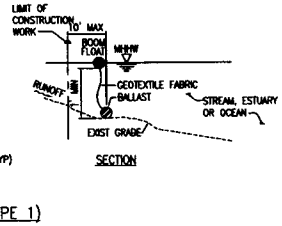


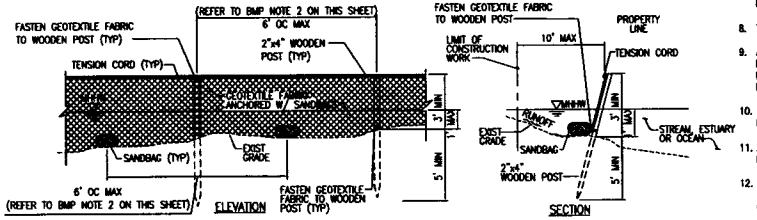
TABLE A	
GEOTEXTILE REQUIREMENTS	
PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LBS (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LBS (ASTM D3768)
PUNCTURE STRENGTH	125 LBS (ASTM D751) (MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (US STD SIEVE) (CW-02215)

3 STABILIZED CONSTRUCTION INGRESS/EGRESS
C-4 C-4 SCALE: NTS



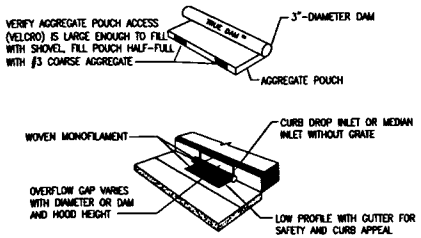


4 TURBIDITY BARRIER (TYPE 1)
C-4 C-4 SCALE: NTS



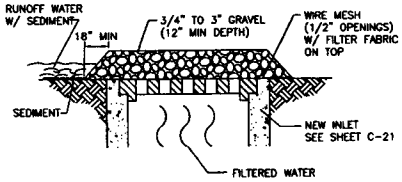
5 TURBIDITY BARRIER (TYPE 2)
C-4 C-4 SCALE: NTS

TURBIDITY BARRIER NOTE (TYPE 1 & 2):
ALLOW SUFFICIENT SLACK IN GEOTEXTILE FABRIC TO ACCOUNT FOR MARINE TIDAL FLUCTUATIONS AND WAVE ACTIVITY. IF INSTALLED WITHIN A STREAM OR AN ESTUARY, WEIGHT OF ANCHORING STRUCTURES (BALLASTS AND/OR SANDBAGS) SHALL BE SUFFICIENT TO OVERCOME DISPLACEMENT FROM CURRENTS AND FLOW.

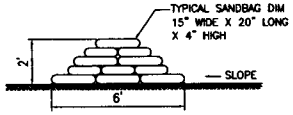


NOTE:
TRUE DAM IS MANUFACTURED BY DANDY PRODUCTS, INC., GROVE CITY, OHIO.

6 TRUE DAM™ FILTER FOR CURB DRAIN INLET
C-4 C-4 SCALE: NTS



7 GRATED DRAIN INLET PROTECTION
C-4 C-4 SCALE: NTS



ESTIMATED MATERIALS REQUIRED FOR 100 LF		
HEIGHT	SANDBAGS REQ'D	TONS OF SAND
2'	823	12.3 Tons

NOTES:

1. STACK SANDBAGS AS SHOWN.
2. STRIP VEGETATION AND DEBRIS BEFORE LAYING SANDBAGS.
3. SANDBAGS SHOULD BE FILLED ONE-HALF TO TWO-THIRDS FULL.
4. PLACE THE SUCCEEDING BAGS ON THE UNFILLED OR TIED PORTION OF THE PREVIOUSLY LAID BAG AND TAMP INTO PLACE TO ELIMINATE VOIDS AND FORM A TIGHT SEAL.
5. STAGGER THE JOINT CONNECTIONS WHEN MULTIPLE LAYERS ARE NECESSARY AND STACK THE SANDBAGS IN PYRAMID FASHION.
6. CONSTRUCT THE SANDBAG WALL BASE WIDTH THREE TIMES THE SANDBAG WALL HEIGHT.

8 SANDBAG DETAIL
C-4 C-4 SCALE: NTS

BEST MANAGEMENT PRACTICES NOTES:

1. BEST MANAGEMENT PRACTICES (BMPs) PRESENTED ON THIS SHEET ARE FOR SUGGESTION ONLY. THE CONTRACTOR SHALL DEVELOP A SITE-SPECIFIC BMP PLAN FOR THE PROJECT AND OBTAIN ITS APPROVAL BY BOTH THE CONTRACTING OFFICER AND AS-DPW PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. EROSION CONTROL SHALL BE IN COMPLIANCE WITH SPEC SECTIONS 157, 01356, 01430 AND 01900.
2. THE CONTRACTOR SHALL OBTAIN A LAND USE PERMIT FROM THE PNRS PRIOR TO CONSTRUCTION WORK. SEPARATE PERMITS SHALL BE ACQUIRED IF THE CONTRACTOR'S STAGING AREA IS LOCATED OUTSIDE THE PROJECT BOUNDARY.
3. THE CONTRACTOR SHALL INSTALL TURBIDITY BARRIERS, SILT FENCES, BERMS, SANDBAGS, DRAIN INLET PROTECTION, CATCH BASIN FILTERS, CONSTRUCTION INGRESS/EGRESS AND FINE MESH NETTING SUSPENDED BENEATH ENTIRE BOX CULVERT WORK AREA TO CATCH CONCRETE DEBRIS, AS REQUIRED, AS SOON AS PRACTICABLE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION WORK FOR SEDIMENT RUNOFF CONTROL. THE CONTRACTOR SHALL MAINTAIN THESE EROSION CONTROL MEASURES AS REQUIRED TO ENSURE THEIR EFFECTIVENESS.
4. THE CONTRACTOR SHALL ADJUST DISTANCES AS NECESSARY TO ENSURE EFFECTIVENESS OF BARRIERS.
5. THE CONTRACTOR SHALL PROVIDE SILT FENCE AND CONSTRUCTION ENTRANCE FOR EACH INGRESS/EGRESS. THE CONSTRUCTION INGRESS AND EGRESS SHALL HAVE AN 8"-THICK CRUSHED ROCK (#2) LAYER AND THE DIMENSIONS AS SHOWN IN DETAIL 3 ON THIS SHEET. SHOULD THE CONTRACTOR REQUIRE AN INGRESS AND EGRESS, OTHER THAN WHAT IS SHOWN IN DETAIL 3, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY APPROVALS, INCLUDING THAT FOR RELOCATION OF THE CRUSHED ROCK AREA AS REQUIRED.
6. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTHWORK IS INITIATED.
7. SLOPE AND EXPOSED AREAS SHALL BE WATERED, MULCHED, SODDED OR PLANTED AS SOON AS BACKFILL HAS BEEN ESTABLISHED TO PREVENT DUST, EROSION AND SEDIMENTATION. PLANTING SHALL NOT BE DELAYED UNTIL ALL BACKFILLING AND FINAL GRADING HAS BEEN COMPLETED. BACKFILLING SHALL BE CONTINUOUS AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED. UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS OR PROPOSAL, PAYMENT FOR PLANTING OR GRASSING REQUIRED UNDER THIS ITEM (OTHER THAN THAT SPECIFIED FOR LANDSCAPING) SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE PRICE BID FOR MASS GRADING.
8. THE CONTRACTOR SHALL NOT BACKFILL MORE THAN TEN (10) ACRES AT ONE TIME.
9. AT THE END OF EARTHWORK OPERATIONS, EXISTING CBs AND DMHs SURROUNDING THE PROJECT SITE SHALL BE INSPECTED AND ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE DRAIN STRUCTURES SHALL BE REMOVED. FLUSHING INTO THE CBs AND DMHs ARE PROHIBITED.
10. TEMPORARY BMPs SHALL NOT BE REMOVED UNTIL ALL PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.
11. ANY BACKFILLED AREA WHICH WILL BE LEFT IDLE FOR THIRTY (30) CALENDER DAYS OR MORE SHALL BE MULCHED.
12. WASHING DOWN OF CONSTRUCTION EQUIPMENT AND VEHICLES AND FROM CONCRETE TRUCK DRUMS AT SITE IS PROHIBITED. WASHWATER FROM WASHDOWNS SHALL NOT BE DISCHARGED INTO DRAINAGE SYSTEMS NOR WATER COURSES.
13. SHOULD THE CONTRACTOR CHOOSE TO HAVE AN ON-SITE MAINTENANCE/STORAGE/STOCKPILE AREA, THE CONTRACTOR SHALL INSTALL PROPER SECONDARY CONTAINMENT STRUCTURES, SUCH AS, GRAVEL BERMS AND SILT FENCES, AROUND THE DESIGNATED AREA TO PREVENT STORMWATER CARRYING CONTAMINANTS INTO DRAINAGE SYSTEMS AND GOVERNMENT WATERS. THE RAINWATER ACCUMULATED WITHIN THE DESIGNATED AREA SHALL BE NATURALLY EVAPORATED OR INFILTRATED INTO THE GROUND.
14. THE CONTRACTOR SHALL PROVIDE REQUIRED INFORMATION TO THE CONTRACTING OFFICER AND AMERICAN SAMOA GOVERNMENT (DPW) FOR DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY WITHIN THIRTY (30) DAYS BEFORE THE COMMENCEMENT OF CONSTRUCTION.
15. THE CONTRACTOR SHALL USE THE APPROPRIATE BMPS, AS REQUIRED, SHOWN ON THIS SHEET FOR HIS WORK TO THE APPROVAL OF THE CONTRACTING OFFICER AND AS-DPW.

REVISIONS
NO.

MATUU STREAM
FLOOD MANAGEMENT
BEST MANAGEMENT PRACTICES NOTES & DETAILS

AMERICAN SAMOA GOVERNMENT
DEPARTMENT OF PUBLIC WORKS
CIVIL HIGHWAY DIVISION
PAGO PAGO, AMERICAN SAMOA

DRAWING NO.
PROJECT NO.
DATE
SHEET NO.
T-2
SHEET _ OF _