

PACIFIC ISLANDS AREA ENGINEERING JOB APPROVAL AUTHORITY^{1/ 2/}

Employee Name:

Title:

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Delegated by:

Title:

Signature - Responsible Engineer

Date: _____

Concurred by:

Title:

Signature - Employee Supervisor

Date: _____

Received/reviewed by: _____
Signature - Employee

Date: _____

** EJAA must be reviewed annually for those in their present position less than 3 years, and at least every 3 years for all others.*

DEFINITIONS OF MAXIMUM APPROVAL LIMITS:

Inventory and Evaluation (I&E) – Onsite review of an exploratory nature and preparation of sound engineering alternative solutions of sufficient scope and intensity for the landowner to make treatment decisions. I&E may require assistance from engineers with higher engineering job approval authority for large or complex jobs.

Design – Designing and checking all aspects of supporting data, drawings, and specifications to ensure that the planned practice will meet the purpose for which it is installed. Also includes determining and setting any specific requirements for the site conditions.

Construction – Includes survey construction layout, inspections of construction materials, and construction inspection including performing required tests to determine that the job meets the requirements of the plans and specifications.

Standard Designs – Standard designs are developed to function satisfactorily based on a set of design parameters. The person responsible for design and approval shall verify that the standard design is adaptable to the site and the design limitations are not exceeded.

Hazard Class – All practices are limited to LOW hazard class, NEM Part 501.7C. The hazard classification of a dam is determined by the potential hazard from failure, not the criteria. Refer to NEM 520.21 for a more detailed explanation.

NOTES:

1/ Approval of engineering work within the limits of the engineering job approval authority places the full responsibility on the individual for planning, design, construction layout, and certification of the practice. Any engineering practice may involve complexities, such as geology or hydrology, with which the employee may be unfamiliar. Employees shall request assistance when complexities are encountered which exceed their expertise. The individual approving the engineering design, plans and specifications must be satisfied that (1) adequate field investigations have been performed; (2) the plans conform to NRCS standards and policy; (3) the layout is suitable; and (4) installations, if constructed in accordance with the plans and specifications, will function properly. The cover sheet of the plans shall clearly display the engineering job class. Each sheet of the engineering plans shall be signed and dated by the person approving the engineering plans. Refer to NEM Part 501 for additional details.

2/ NRCS assistance in the PIA cannot be provided where erosion is caused by wave action on the open and unprotected shores of the ocean fronts, NEM Part 501.51.

3/ For Irrigation Water Management (Code 449) and Waste Recycling (Code 633), requirements for implementation would often be included as O&M for the design of the system bringing water or nutrients to the plants. These can be annual practices and can be performed independent of an irrigation or waste transfer system installation. After one time planning and design, certification authority for annual implementation is governed by the "construction" EJAA column.

4/ Effective height of dam is the difference in elevation in feet between the lowest open channel auxiliary spillway crest and the lowest point in the original profile along the centerline of the dam. If there is no open channel auxiliary spillway, the top of the dam becomes the upper limit.

5/ Total head is measured from the crest of the auxiliary spillway to the elevation at the centerline of the pipe outlet.

6/ Not Allowed for Any Practice: 1) Embankments or structures over active faults, 2) Altering the visual resources of beaches or shorelines on oceans.

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Code	Practice Name	Controlling Factors	Units	Engineering Job Class					Approval Limits		
				I	II	III	IV	V	I&E	Des	Cons
-	Cooperator Assistance	Government Agencies	---	Village/Town	Island/Cnty	State/Terr/CW	Country	All	-	-	-
		Refer to Dams & Structures Section for Limits on Applicable Components									
560	Access Road	Surface Treatment	Mat	Soil	Gravel	Asphalt	Concrete	All	-	-	-
		Length of Road	Ft	300	1,000	5,000	10,000	All	-	-	-
		Maximum Grade	%	3	6	10	15	All	-	-	-
309	Agrichemical Handling Facility	Tank Storage Volume	Gal	250	500	1,000	2,500	5,000	-	-	-
366	Anaerobic Digester	Liquid Volume	CF	100	200	400	1,000	All	-	-	-
		Animal Unit (1000 lb)	AU	2	5	10	20	All	-	-	-
575	Animal Trails and Walkways	Surface Treatment	Mat	Soil	Gravel	Asphalt	Concrete	All	-	-	-
		Length of Trail	Ft	100	500	2,000	5,000	All	-	-	-
397	Aquaculture Ponds	Refer to Dams & Structures Section for Limits on Applicable Components									
		Surface Area	Acres	1	3	5	10	20	-	-	-
326	Clearing & Snagging	Length of Reach	Ft	200	500	1,000	2,000	All	-	-	-
		Low Bank Channel Depth	Ft	3	6	9	12	All	-	-	-
317	Composting Facility	Design Capacity	CF	100	1,000	3,000	5,000	All	-	-	-
656	Constructed Wetlands	Refer to Dams & Structures Section for Limits on Applicable Components									
		Area	Acres	1	2	3	5	All	-	-	-
402	Dam	Refer to Dams & Structures Section for Limits on Applicable Components									
356	Dike (Hazard Class III Only)	Water Height	Ft	2	4	6	8	12	-	-	-
362	Diversion	Capacity	CFS	25	100	300	500	All	-	-	-
		Drainage Area	Acres	5	20	40	100	All	-	-	-
374	Farmstead Energy Improvement	Pre-Audit Peak Monthly Energy Use	kW-h	5,000	10,000	25,000	50,000	All	-	-	-
410	Grade Stabilization Structure	Refer to Dams & Structures Section for Limits on Applicable Components									
412	Grassed Waterway	Capacity	CFS	20	50	100	300	All	-	-	-
561	Heavy Use Area Protection	Area Treated	SF	250	1,000	2,500	10,000	All	-	-	-
		Surface Treatment	Mat	Gravel	Asphalt	Concrete	Pavers	All	-	-	-
423	Hillside Ditch	Total Length of System	Ft	100	500	1,000	3,000	All	-	-	-
464	Irrigation Land Leveling	Irrigated Area	Acres	1	5	10	50	All	-	-	-
430	Irrigation Pipeline	Capacity (All Pressures)	GPM	50	250	750	2,000	3,500	-	-	-
436	Irrigation Reservoir	Refer to Dams & Structures Section for Limits on Applicable Components									
		Storage Capacity	Gal	5,000	25,000	200,000	1,000,000	5,000,000	-	-	-
441	Irrigation System, Microirrigation	Area Served	Acres	1	5	20	50	All	-	-	-
		Slope	%	3	6	9	12	All	-	-	-
442	Irrigation System, Sprinkler	System Area	Acres	5	20	50	100	All	-	-	-
		Slope	%	3	6	9	12	All	-	-	-
449	Irrigation Water Management ^{3/}	Area Irrigated	Acres	1	10	40	160	All	-	-	-
460	Land Clearing	Area Treated	Acres	1	5	20	50	All	-	-	-
466	Land Smoothing	Area Treated	Acres	1	5	20	50	All	-	-	-
		Area	Acres	0.2	0.4	0.6	0.8	1	-	-	-
453	Landslide Treatment	Depth	Ft	2	4	6	8	10	-	-	-
		Slope	%	10	20	30	40	50	-	-	-

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Code	Practice Name	Controlling Factors	Units	Engineering Job Class					Approval Limits			
				I	II	III	IV	V	I&E	Des	Cons	
468	Lined Waterway or Outlet	Design Capacity	CFS	10	50	200	500	All	-	-	-	
590	Nutrient Management	Area Treated	Acres	1	5	10	25	All	-	-	-	
500	Obstruction Removal	Moderate to High	Acres	0.25	1	5	10	All	-	-	-	
582	Open Channel	Capacity	CFS	50	200	350	750	1,000	-	-	-	
		Velocity	F/S	4	5	6	8	10	-	-	-	
516	Pipeline	Length	Ft	1,000	2,000	5,000	15,000	All	-	-	-	
		Inside Diameter	In	0.5	1	2	4	All	-	-	-	
		Operating Pressure	PSI	50	100	150	225	300	-	-	-	
378	Pond	Refer to Dams & Structures Section for Limits on Applicable Components										
521A	Pond Sealing or Lining, Flex Mem	Area Treated	Acres	0.25	0.5	1	3	All	-	-	-	
462	Precision Land Forming	Area Treated	Acres	0.5	5	20	50	All	-	-	-	
533	Pumping Plant	Axial Flow Pump Capacity	GPM	500	2,500	10,000	30,000	50,000	-	-	-	
		Centrifugal & Turbine Pump Capacity	GPM	50	200	500	1,500	3,500	-	-	-	
		Centrifugal Pump Static Head	Ft	50	100	200	250	350	-	-	-	
		Turbine Pump Static Head	Ft	50	100	200	300	500	-	-	-	
555	Rock Barrier	Area Treated	Acres	0.25	1	5	10	All	-	-	-	
558	Roof Runoff Structure	Roof Area	SF	500	2,000	5,000	10,000	All	-	-	-	
367	Roofs and Covers	Roof Area	SF	100	2,500	5,000	10,000	All	-	-	-	
350	Sediment Basin	Refer to Dams & Structures Section for Limits on Applicable Components										
632	Sol/Liq Waste Separation Facility	Settling Area	SF	100	500	2,000	10,000	All	-	-	-	
574	Spring Development	Capacity	GPH	2	5	10	20	All	-	-	-	
578	Stream Crossing	Refer to Dams & Structures Section for Limits on Applicable Components										
		Bankfull Flow	CFS	25	50	100	300	All	-	-	-	
		Ford	Mat	Concrete	Grouted Rock	Rock	Geocell	All	-	-	-	
580	Streambank and Shoreline Protection	Bankfull Capacity	CFS	100	500	1,000	2,000	5,000	-	-	-	
		Bankfull Velocity	F/S	4	5	6	8	10	-	-	-	
		Water Height Above Shoreline	Ft	1	1.5	2	2.5	3	-	-	-	
587	Structure for Water Control	Refer to Dams & Structures Section for Limits on Applicable Components										
607	Surface Drainage, Field Ditch	Area Drained	Acres	2	5	10	40	All	-	-	-	
608	Surface Drainage, Main or Lateral	Design Capacity	CFS	20	100	200	500	1000	-	-	-	
		Design Velocity	F/S	4	5	6	8	10	-	-	-	
600	Terrace	Drainage Area of System	Acres	1	5	10	50	All	-	-	-	
		Storage Type - Channel Depth	Ft	1	2	3	5	All	-	-	-	
		Gradient Type - Discharge	CFS	10	25	50	100	All	-	-	-	
568	Trails and Walkways	Length	Ft	100	500	2,000	5,000	All	-	-	-	
620	Underground Outlet	Pipe Diameter	In	6	12	18	24	All	-	-	-	
633	Waste Recycling ^{3/}	Area Treatment	Acres	5	10	20	30	All	-	-	-	
313	Waste Storage Facility	Refer to Dams & Structures Section for Limits on Applicable Components										
		Storage Capacity	CF	200	2,000	20,000	200,000	2,000,000	-	-	-	

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				I	II	III	IV	V	I&E	Des	Cons	
		Refer to Dams & Structures Section for Limits on Applicable Components										
634	Waste Transfer	Capacity	GPM	100	250	400	600	All	-	-	-	
		Capacity	CF	500	1,000	20,000	50,000	All	-	-	-	
629	Waste Treatment	Animal Unit (1000 lb)	AU	1	10	100	500	All	-	-	-	
		Refer to Dams & Structures Section for Limits on Applicable Components							-	-	-	
359	Waste Treatment Lagoon	Aerobic - Surface Area	Acres	0.25	1	5	10	25	-	-	-	
		Anaerobic - Volume	MGal	0.01	1	2	5	14	-	-	-	
900	Water Facility, Solar Distiller	Total System Capacity	Gal/D	5	15	25	40	All	-	-	-	
		Refer to Dams & Structures Section for Limits on Applicable Components										
636	Water Harvesting Catchment	Catchment Area	SF	2,000	10,000	50,000	100,000	All	-	-	-	
		Storage Volume	Gal	750	4,000	20,000	40,000	All	-	-	-	
638	Water & Sediment Control Basin	Fill Height	Ft	3	6	9	12	15	-	-	-	
		Drainage Area	Acres	1	5	10	20	All	-	-	-	
614	Watering Facility	Capacity	Gal	500	3,000	15,000	25,000	All	-	-	-	
		Refer to Dams & Structures Section for Limits on Applicable Components										
658	Wetland Creation	Area	Acres	1	2	3	5	All	-	-	-	
		Refer to Dams & Structures Section for Limits on Applicable Components										
659	Wetland Enhancement	Area	Acres	1	2	3	5	All	-	-	-	
		Refer to Dams & Structures Section for Limits on Applicable Components										
657	Wetland Restoration	Area	Acres	1	2	3	5	All	-	-	-	

DAMS AND STRUCTURES

All Practices as Applicable	Embankments	Drainage Area	Acres	50	200	2,000	5,000	12,000	-	-	-
		Effective Height ^{4/}	Ft	5	10	15	25	35	-	-	-
		Storage Volume	Gal	5,000	25,000	200,000	1,000,000	5,000,000	-	-	-
	Open Channel Spillways	Design Capacity	CFS	50	200	350	750	1,000	-	-	-
		Velocity	F/S	4	6	8	10	12	-	-	-
	Permanent Pool	Volume	Ac-Ft	3	5	50	100	All	-	-	-
	Conduits, All Materials	Circular Pipe Inside Diameter	In	8	15	24	36	48	-	-	-
		Box Culvert Opening Area	SF	2.5	4	9	13	16	-	-	-
		Design Capacity	CFS	10	50	100	300	All	-	-	-
		Total Head ^{5/}	Ft	5	10	20	30	40	-	-	-
	Straight Drop, Box Drop & Chute Structures	Net Drop	Ft	3	6	9	12	15	-	-	-
		Weir Capacity	CFS	50	100	200	300	500	-	-	-
		Weir Depth	Ft	1	1.5	2	2.5	4	-	-	-
	Concrete or CMU Tanks	Std Des-Tank Span Above Ground	Ft	6	10	14	16	All	-	-	-
		Std Des-Tank Span Below Ground	Ft	6	10	14	16	All	-	-	-
		Non-Standard Design Volume	CF	5,000	10,000	25,000	50,000	All	-	-	-