Amend Section 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION
 CONTROL to read as follows:
 3

"SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL

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209.01 Description. This section describes the following:

(A) Including detailed plans, diagrams, and written Site-Specific Best Management Practices (BMP); constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site, including local material sources, work areas and haul roads; removing and disposing hazardous wastes; control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion); and complying with applicable State and Federal permit conditions.

- (B) Work associated with construction stormwater, dewatering, and
 hydrotesting activities and complying with conditions of the National Pollutant
 Discharge Elimination System (NPDES) permit(s) authorizing discharges
 associated with construction stormwater, dewatering, and hydrotesting
 activities.
- (C) Potential pollutant identification and mitigation measures are listed in
 Appendix A for use in the development of the Contractor's Site-Specific BMP.
- 29 Requirements of this section also apply to construction support 30 activities including concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material 31 disposal areas, and borrow areas located outside the State Right-of-Way. 32 For areas serving multiple construction projects, or operating beyond the 33 34 completion of the construction project in which it supports, the Contractor 35 shall be responsible for securing the necessary permits, clearances, and documents, and following the conditions of the permits and clearances, at no 36 37 cost to the State. 38
- 39 209.02 Materials. Comply with applicable materials described in Chapters 2 and
 40 3 of the current HDOT "Construction Best Management Practices Field Manual". In
 41 addition, the materials shall comply with the following:
- 42

(A) Grass. Grass shall be a quick growing species such as rye grass,
Italian rye grass, or cereal grasses. Grass shall be suitable to the area and
provide a temporary cover that will not compete later with permanent cover.
Alternative grasses are allowable if acceptable to the Engineer.

47 (B) Fertilizer and Soil Conditioners. Fertilizer and soil conditioners shall
 48 be a standard commercial grade acceptable to the Engineer. Fertilizer shall
 49 conform to Subsection 619.02(H)(1) - Commercial Fertilizer.

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Hydro-mulching. Hydro-mulching used as a temporary vegetative 51 (C) 52 stabilization measure shall consist of materials in Subsections 209.02(A) -53 Grass, and 209.02(B) – Fertilizer and Soil Conditioners. Mulches shall be 54 recycled materials including bagasse, hay, straw, wood cellulose bark, wood 55 chips, or other material acceptable to the Engineer. Mulches shall be clean 56 and free of noxious weeds and deleterious materials. Potable water shall 57 meet the requirements of Subsection 712.01 - Water. Submit alternate 58 sources of irrigation water for the Engineer's acceptance if deviating from 59 712.01 - Water. Installation and other requirements shall be in accordance with portions of Section 641- Hydro-Mulch Seeding including 641.02(D) - Soil 60 and Mulch Tackifier, 641.03(A) – Seeding, and 641.03(B) - Planting Period. 61 62 Install non-vegetative controls including mulch or rolled erosion control products while the vegetation is being established. Water and fertilize grass. 63 Apply fertilizer as recommended by the manufacturer. Replace grass the 64 Engineer considers unsuitable or sick. Remove and dispose of trash and 65 66 debris. Remove invasive species. Mow as needed to prevent site or signage obstructions, fire hazard, or nuisance to the public. Do not remove down 67 stream sediment control measures until the vegetation is uniformly 68 69 established, including no large bare areas, and provides 70 percent of the density of pre-disturbance vegetation. Temporary vegetative stabilization 70 71 shall not be used longer than one year.

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(D) Silt Fences. Comply with ASTM D6462, Standard Practice for Silt Fence Installation.

Alternative materials or methods to control, prevent, remove and dispose pollution are allowable if acceptable to the Engineer.

7879 209.03 Construction.

(A) **Preconstruction Requirements.**

(1) Water Pollution, Dust, and Erosion Control Meeting. Schedule a water pollution, dust, and erosion control meeting with the Engineer after Site-Specific BMP is accepted in writing by the Engineer. Meeting shall be scheduled a minimum of 7 calendar days prior to the Start Work Date. Discuss sequence of work, plans and proposals for water pollution, dust, and erosion control.

90	(2) Water	Pollution, Dust, and Erosion Control Submittals.
91	• •	e-Specific BMP Plan within 21 calendar days of date of
92		mission of complete and acceptable Site-Specific BMP
93		ble responsibility of the Contractor and additional contract
94		be issued for delays due to incompleteness. Include the
95	following:	
96	ionowing.	
97	(a)	Written description of activities to minimize water
98	· · ·	on and soil erosion into State waters, drainage or sewer
98 99		ns. BMP shall include the following:
100	393101	
101		1. An identification of potential pollutants and their
101		· · ·
		sources.
103		2 A list of all materials and beauty aquinment to be
104		2. A list of all materials and heavy equipment to be
105		used during construction.
106		
107		3. Descriptions of the methods and devices used to
108		minimize the discharge of pollutants into State waters,
109		drainage or sewer systems.
110		
111		4. Details of the procedures used for the
112		maintenance and subsequent removal of any erosion or
113		siltation control devices.
114		
115		5. Methods of removing and disposing hazardous
116		wastes encountered or generated during construction.
117		
118		6. Methods of removing and disposing concrete and
119		asphalt pavement cutting slurry, concrete curing water,
120		and hydrodemolition water.
121		
122		7. Spill Control and Prevention and Emergency Spill
123		Response Plan.
124		·
125		8. Fugitive dust control, including dust from grinding,
126		sweeping, or brooming off operations or combination
127		thereof.
128		
129		9. Methods of storing and handling of oils, paints
130		and other products used for the project.
130		
131		10. Material storage and handling areas, and other
132		
135		staging areas.
		11 Concrete truck weekoute
135		11. Concrete truck washouts.

136 137		12.	Concrete waste control.
138		13.	Fueling and maintenance of vehicles and other
139		equipr	.
140		oquipi	
141		14.	Tracking of sediment offsite from project entries
142		and ex	
143			
144		15.	Litter management.
145			
146		16.	Toilet facilities.
147			
148		17.	Other factors that may cause water pollution, dust
149		and er	rosion control.
150			
151	(b)	Provid	le plans indicating location of water pollution, dust
152			control devices; provide plans and details of BMPs
153	to be i	nstalle	d or utilized; show areas of soil disturbance in cut
154			cate areas used for construction staging and
155			uding items (1) through (17) above, storage of
156			idicate type of aggregate), asphalt cold mix, soil or
157			equipment and vehicle parking, and show areas
158		•	ative practices are to be implemented. Indicate
159			inage pattern on plans. Include flow arrows.
160			rate drawing for each phase of construction that
161			ge patterns. Indicate approximate date when
162	device	WIII DE	e installed and removed.
163	(-)	0	
164	(c)	Const	ruction schedule.
165	(d)	Nomo	(a) of an acific individual(a) designated reasonable
166			(s) of specific individual(s) designated responsible
167 168			llution, dust, and erosion controls on the project home, cellular, and business telephone numbers,
169			and e-mail addresses.
170		mbers,	
170	(e)	Descri	iption of fill material to be used.
172	(6)	DC3CI	
172	(f)	For p	rojects with an NPDES Permit for Construction
174	• •	•	bmit information to address all sections in the
175		•	Pollution Prevention Plan (SWPPP).
176	•••••	. alor	
177	(g)	For pr	ojects with an NPDES Permit, information required
178			ce with the conditions of the Notice of General
179		•	rage (NGPC)/NPDES Permit.
180			,

(h) Site-Specific BMP Review Checklist. The checklist may be downloaded from HDOT's Stormwater Management website at http://stormwaterhawaii.com.

Date and sign Site-Specific BMP Plan. Keep accepted copy on site or at an accessible location so that it can be made available at the time of an on-site inspection or upon request by the Engineer, HDOT Third-Party Inspector, and/or DOH/EPA Representative. Amendments to the Site-Specific BMP Plan shall be included with original Site-Specific BMP Plan. Modify SWPPP if necessary to conform to revisions. Include date of installation and removal of Site-Specific BMP measures. Obtain written acceptance by the Engineer before implementing revised Site-Specific BMPs in the field.

Follow the guidelines in the current HDOT "Construction Best Management Practices Field Manual", in developing, installing, and maintaining Site-Specific BMPs for all projects. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, notify the Engineer immediately for interpretation. For the purposes of clarification "applicable bid documents" include the construction plans, standard specifications, special provisions, Permits, and the SWPPP when applicable.

> Follow Honolulu's City and County "Rules for Soil Erosion Standards and Guidelines" for all projects on Oahu. Use respective Soil Erosion Guidelines for Maui, Kauai and Hawaii projects.

(B) Construction Requirements. Do not begin work until submittals detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Engineer.

Install, maintain, monitor, repair and replace site-specific BMP
 measures, such as for water pollution, dust and erosion control; installation,
 monitoring, and operation of hydrotesting activities; removal and disposal of
 hazardous waste indicated on plans, concrete cutting slurry, concrete curing
 water; or hydrodemolition water. Site-Specific BMP measures shall be in
 place, functional and accepted by HDOT personnel prior to initiating any
 ground disturbing activities.

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225 If necessary, furnish and install rain gage in a secure location prior to field 226 work including installation of site-specific BMP. Provide rain gage with a tolerance of at least 0.05 inches of rainfall. Install rain gage on project site in 227 228 an area that will not deter rainfall from entering the gate opening. Do not install in a location where rain water may splash into rain gage. The rain 229 230 gage installation shall be stable and plumbed. Maintain rain gage and 231 replace rain gage that is stolen, does not function properly or accurately, is 232 worn out, or needs to be relocated. Do not begin field work until rain gage is installed and Site-Specific BMPs are in place. Rain gage data logs shall be 233 234 readily available. Submit rain gage data logs weekly to the Engineer.

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Address all comments received from the Engineer.

238 Modify and resubmit plans and construction schedules to correct 239 conditions that develop during construction which were unforeseen during 240 the design and pre-construction stages.

Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

Limit maximum surface area of earth material exposed at any time to 300,000 square feet. Do not expose or disturb surface area of earth material (including clearing and grubbing) until BMP measures are installed and accepted in writing by the Engineer. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff and wind before end of the work day.

Immediately initiate stabilizing exposed soil areas upon completion of 252 earth disturbing activities for areas permanently or temporarily ceased on any 253 portion of the site. Earth-disturbing activities have permanently ceased when 254 clearing and excavation within any area of the construction site that will not 255 include permanent structures has been completed. 256 Earth-disturbing 257 activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not 258 259 resume for a period of 14 or more calendar days, but such activities will resume in the future. The term "immediately" is used in this section to define 260 the deadline for initiating stabilization measures. "Immediately" means as 261 soon as practicable, but no later than the end of the next work day, following 262 263 the day when the earth-disturbing activities have temporarily or permanently 264 ceased. 265

266 267 For projects with an NPDES Permit for Construction activities:

5600-02-23M 209-6a 268 For construction areas discharging into waters not impaired for (1) 269 nutrients or sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing 270 271 activities. 272 273 For construction areas discharging into nutrient or sediment (2) 274 impaired waters, complete initial stabilization within 7 calendar days 275 after the temporary or permanent cessation of earth-disturbing 276 activities. 277 278 For projects without an NPDES Permit for Construction activities, complete initial stabilization within 14 calendar days after the temporary or 279 permanent cessation of earth-disturbing activities. 280 281 Any of the following types of activities constitutes initiation of 282 stabilization: 283 284 285 (1) Prepping the soil for vegetative or non-vegetative stabilization; 286 287 (2) Applying mulch or other non-vegetative product to the exposed area: 288 289 290 Seeding or planting the exposed area; (3) 291 292 Starting any of the activities in items (1) - (3) above on a portion (4) of the area to be stabilized, but not on the entire area; and 293 294 295 (5) Finalizing arrangements to have stabilization product fully 296 installed in compliance with the deadline for completing initial stabilization activities. 297 298 299 Any of the following types of activities constitutes completion of initial stabilization activities: 300 301 302 For vegetative stabilization, all activities necessary to initially (1) 303 seed or plant the area to be stabilized; and/or 304 305 For non-vegetative stabilization, the installation or application (2) 306 of all such non-vegetative measures. 307 308 If the Contractor is unable to meet the deadlines above due to 309 circumstances beyond the Contractor's control, and the Contractor is using vegetative cover for temporary or permanent stabilization, the Contractor 310 may comply with the following stabilization deadlines instead as agreed to by 311 312 the Engineer: 313

314 (1) Immediately initiate, and complete within the timeframe shown
 315 above, the installation of temporary non-vegetative stabilization
 316 measures to prevent erosion;
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- (2) Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on the site; and
 - (3) Notify and provide documentation to the Engineer the circumstances that prevent the Contractor from meeting the deadlines above for stabilization and the schedule the Contractor will follow for initiating and completing initial stabilization and as agreed to by the Engineer.
- Follow the applicable requirements of the specifications and special provisions including Section 619 Planting and Section 641 Hydro-Mulch Seeding.

Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, select, design, and install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.

- Protect exposed or disturbed surface area with mulches, grass seeds or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125 pounds per acre. For hydromulch, use the ingredients and rates required for mulches and grass seeds. Submit recommendations from a licensed Landscape Architect when deviating from the application rates above.
- Apply fertilizer to mulches, grass seed or hydromulch per
 manufacturer's recommendations. Submit recommendations from a licensed
 Landscape Architect when deviating from the manufacturer's
 recommendations.
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Install velocity dissipation measures when exposing erodible surfaces greater than 15 feet in height.

BMP measures shall be in place and operational at the end of work
 day or as required by Section 209.03(B) Construction Requirements.

5600-02-23M 209-8a

358 359 360 361 362 363 364 365	Install and maintain either or both stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. Modify stabilized construction entrances to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.
365 366 367 368	Chemicals may be used as soil stabilizers for either or both erosion and dust control if acceptable to the Engineer.
369 370 371 372	Provide temporary slope drains of rigid or flexible conduits to carry runoff from cuts and embankments. Provide portable flume at the entrance. Shorten or extend temporary slope drains to ensure proper function.
372 373 374 375	Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by either:
376 377 378	(1) Hydro-mulching the lower region of embankments in the immediate area.
379 380	(2) Installing check dams and siltation control devices.
381 382	(3) Other methods acceptable to the Engineer.
383 384 385	Provide for controlled discharge of waters impounded, directed, or controlled by project activities or erosion control measures.
386 387 388 389	Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material or material that may be source of fugitive dust.
390 391 392	Cleanup and remove any pollutant that can be attributed to the Contractor.
393 394 395 396 397 398 399	Install or modify Site-Specific BMP measures due to change in the Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted Site-Specific BMP or a Site-Specific BMP that replaces an accepted Site-Specific BMP that is not satisfactorily performing. Modifications to Site-Specific BMP measures shall be accepted in writing by the Engineer prior to implementation.
400 401 402 403	Properly maintain all Site-Specific BMP measures. For projects with an NPDES Permit for Construction Activities:

404	(1)		onstruction areas discharging into nutrient or sediment	
405		impaired waters, inspect, prepare a written report, and make repairs		
406	to BM	P mea	sures at the following intervals:	
407 408		(a)	Weekly.	
409		4.		
410		(b)	Within 24 hours of any rainfall of 0.25 inch or greater	
411		wnich	occurs in a 24-hour period.	
412 413		(\mathbf{a})	When existing erasion control measures are demaged	
413		(c)	When existing erosion control measures are damaged to perating properly as required by Site-Specific BMP.	
414			operating property as required by Site-Specific DMF.	
415	(2)	For c	onstruction areas discharging to waters not impaired for	
417	• • •		sediments, inspect, prepare a written report, and make	
418			MP measures at the following intervals:	
419	ropun		in medeales at the following intervals.	
420		(a)	Weekly.	
421		(4)	Weekly.	
422		(b)	When existing erosion control measures are damaged	
423		• •	t operating properly as required by Site-Specific BMP.	
424				
425	For p	rojects	without an NPDES Permit for Construction activities,	
426		-	written report, and make repairs to BMP measures at the	
427	following inte	ervals:		
428	-			
429		(a)	Weekly.	
430				
431		(b)	When existing erosion control measures are damaged	
432		or not	t operating properly as required by Site-Specific BMP.	
433				
434			remove, replace or relocate any Site-Specific BMP that	
435		•	replaced or relocated due to potential or actual flooding,	
436	or potential of	langer	or damage to project or public.	
437	N 4 - i - 4		and of increations of Oits One sitis DMD words. Know	
438			cords of inspections of Site-Specific BMP work. Keep	
439			s for duration of the project. Submit copy of Inspection	
440	Report to the	e Engir	neer within 24 hours after each inspection.	
441 442	The (Control	stor's designated representative encoified in Subsection	
442			ctor's designated representative specified in Subsection	
44 <i>3</i> 444			all address any Site-Specific BMP deficiencies brought up immediately, including weekends and holidays, and	
444	, ,	•	x the deficiencies by the close of the next work day if the	
446			equire significant repair or replacement, or if the problem	
447	•		hrough routine maintenance. Address any Site-Specific	
448			brought up by the State's Third-Party Inspector in the	
449			or as specified in the Consent Decree or MS4 NPDES	
-			· · · · · · · · · · · · · · · · · · ·	

450 Permit, whichever is more stringent. The Consent Decree timeframe 451 requirement applies statewide. The MS4 NPDES Permit only applies to Oahu. In this section, "immediately" means the Contractor shall take all 452 453 reasonable measures to minimize or prevent discharge of pollutants until a 454 permanent solution is installed and made operational. If a problem is 455 identified at a time in the day in which it is too late to initiate repair, initiation 456 of repair shall begin on the following work day. When installation of a new 457 pollution prevention control or a significant repair is needed, complete installation or repair no later than 7 calendar days from the time of 458 459 notification/Contractor discovery. Notify the Engineer and document why it is infeasible to complete the installation or repair within 7 calendar days and 460 complete the work as soon as practicable and as agreed to by the Engineer. 461 462 Address Site-Specific BMP deficiencies discovered by the Contractor within the timeframe above. The Contractor's failure to satisfactorily address these 463 464 Site-Specific BMP deficiencies, the Engineer reserves the right to employ 465 outside assistance or use the Engineer's own labor forces to provide 466 necessary corrective measures. The Engineer will charge the Contractor 467 such incurred costs plus any associated project engineering costs. The Engineer will make appropriate deductions from the Contractor's monthly 468 469 progress estimate. Failure to apply Site-Specific BMP measures may result in one or more of the following: assessment of liquidated damages, 470 suspension, or cancellation of Contract with the Contractor being fully 471 472 responsible for all additional costs incurred by the State.

474 (C) Discharges of Storm Water Associated with Construction
475 Activities. If work includes disturbance of one acre or more, an NPDES
476 Permit authorizing Discharges of Storm Water Associated with Construction
477 Activity (CWB-NOI Form C) or Individual Permit authorizing storm water
478 discharges associated with construction activity is required from the
479 Department of Health Clean Water Branch (DOH-CWB).

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- 481Do not begin construction activities until all required conditions of the482permit are met and submittals detailed in Subsection 209.03(A)(2) Water483Pollution, Dust, and Erosion Control Submittals are completed and accepted484in writing by the Engineer.
- (D) Discharges Associated with Hydrotesting Activities. If
 hydrotesting activities require effluent discharge into State waters or drainage
 systems, an NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or
 Individual Permit authorizing discharges associated with hydrotesting from
 DOH-CWB is required from the DOH-CWB.
- 492Do not begin hydrotesting activities until the DOH-CWB has issued an493Individual NPDES Permit or Notice of General Permit Coverage (NGPC).494Conduct Hydrotesting operations in accordance with the conditions of the495permit or NGPC.

- 496 **(E) Discharges Associated with Dewatering Activities.** If dewatering 497 activities require effluent discharge into State waters or drainage systems, an 498 NPDES Dewatering Permit (CWB-NOI Form G) or Individual Permit 499 authorizing discharges associated with dewatering from DOH-CWB is 500 required from the DOH-CWB.
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502 Do not begin dewatering activities until the DOH-CWB has issued an 503 Individual NPDES Permit or Notice of General Permit Coverage (NGPC). 504 Conduct dewatering operations in accordance with the conditions of the 505 permit or NGPC. 506

507 **(F) Solid Waste.** Submit the Solid Waste Disclosure Form for 508 Construction Sites to the Engineer within 21 calendar days of date of award. 509 Provide a copy of all the disposal receipts from the facility permitted by the 510 Department of Health to receive solid waste to the Engineer monthly. This 511 should also include documentation from any intermediary facility where solid 512 waste is handled or processed, or as directed by the Engineer. 513

(G) Construction BMP Training. The Contractor's representative
 responsible for development of the Site-Specific BMP Plan and
 implementation of Site-Specific BMPs in the field shall attend the State's
 Construction Best Management Practices Training. The Contractor shall
 keep training logs updated and readily available.

520 **209.04** Measurement.

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(A) Installation, maintenance, monitoring, and removal of BMP will be paid on a lump sum basis. Measurement for payment will not apply.

(B) The Engineer will only measure additional water pollution, dust and erosion control required and requested by the Engineer on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

209.05 Payment. The Engineer will pay for accepted pay items listed below at
 contract price per pay unit, as shown in the proposal schedule. Payment will be full
 compensation for work prescribed in this section and contract documents.

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534 The Engineer will pay for each of the following pay items when included in 535 proposal schedule: 536

530 537 538	Pay Item	Pay Unit
539	Installation, Maintenance, Monitoring, and Removal of BMP	Lump Sum
540 541 542	Additional Water Pollution, Dust, and Erosion Control	Force Account

543 An estimated amount for force account is allocated in proposal schedule 544 under 'Additional Water Pollution, Dust, and Erosion Control', but actual amount to 545 be paid will be the sum shown on accepted force account records, whether this sum 546 be more or less than estimated amount allocated in proposal schedule. The 547 Engineer will pay for BMP measures requested by the Engineer that are beyond 548 scope of accepted Site-Specific BMP on a force account basis.

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550 No progress payment will be authorized until the Engineer accepts in writing 551 Site-Specific BMP or when the Contractor fails to maintain project site in accordance 552 with accepted BMP.

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554 For all citations or fines received by the Department for non-compliance, 555 including compliance with NPDES Permit conditions, the Contractor shall reimburse 556 State within 30 calendar days for full amount of outstanding cost State has incurred, 557 or the Engineer will deduct cost from progress payment.

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559 The Engineer will assess liquidated damages up to \$27,500 per day for non-560 compliance of each BMP requirement and all other requirements in this section.

562 Appendix A

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564 The following list identifies potential pollutant sources and corresponding 565 BMPs used to mitigate the pollutants. Each BMP is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual 566 or appropriate Supplemental Sheets. The Manual may be obtained from the HDOT 567 568 Statewide Stormwater Management Program Website at 569 http://www.stormwaterhawaii.com/resources/contractors-and-consultants/ under Construction Best Management Practices Field Manual. Supplemental BMP sheets 570 571 located at http://www.stormwaterhawaii.com/resources/contractors-andare consultants/storm-water-pollution-prevention-plan-swppp/ under Concrete Curing 572 573 and Irrigation Water.

Pollutant	Appropriate Site-Specific BMP to be	BMP
Source	Implemented	Requirements
Construction debris, green waste, general litter	 Separate contaminated clean up materials from construction and demolition (C&D) wastes. Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes. Inspect construction waste and recycling areas regularly. Schedule solid waste collection regularly. Schedule recycling activities based on construction/demolition phases. Empty waste containers weekly or when they are two-thirds full, whichever is sooner. Do not allow containers to overflow. Clean up immediately if they do. On work days, clean up and dispose of waste in designated waste containers. See Solid Waste Management Section SM-6 for additional requirements. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. Collect and dispose of all waste materials in trash dumpsters. Place dumpsters, with secure watertight lids, away from storm water conveyances and drains, in a covered materials storage area. Dispose of construction and non- construction solid waste in accordance with State DOH regs. Load removed non- recyclable vegetation directly onto trucks; cover and transport to a licensed facility 	See Solid Waste Management Section SM-6. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.

Pollutant	Appropriate Site-Specific BMP to be	BMP
Source	Implemented	Requirements
Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage	 Use off-site wash racks, repair and maintenance facilities, and fueling sites when practical. Designate bermed wash area if cleaning on site is necessary. Place drip pans or drop cloths under vehicles and equipment to absorb spills or leaks. Provide an ample supply of readily available spill cleanup materials. Clean up spills immediately, using dry cleanup methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge. Inspect on-site vehicles and equipment regularly inspect fueling areas and storage tanks. Train employees on proper maintenance and spill practices and provide cover or secondary containment. Do not remove original product labels and comply with manufacturer's labels for proper disposal. Dispose of containers only after all the product has been used. Dispose of or recycle oil or oily wastes according to Federal, State, and Local requirements. Store soaps, detergents, or solvents under cover or other means to prevent contact with rainwater. Store soaps, detergents, or solvents under cover or other means to prevent contact with rainwater. See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13 and Material Storage and Handling Section SM-2 for additional requirements. 	See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM- 11, SM-12, and SM-13, and Material Storage and Handling, Section SM-2, and Spill Prevention and Control SM-10.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Soil erosion	-	Soil
from the	Provide Soil Stabilization, Slope Protection, Storm Drain Inlet Protection SC-1, Perimeter	Stabilization
disturbed	Controls and Sediment Barriers, Sediment Basins	1. SM-22
areas	and Detention Ponds, Check Dams SC-3 ,Level	Topsoil
arcas	Spreader EC-6, Paving Operations SM-20,	Management
	Construction Roads and Parking Area	2. EC-12
	Stabilization SC-10, Controlling Storm Water	Seeding and
	Flowing Onto and Through the Project, Post-	Planting
	Construction BMPs, and Non-Structural BMPs	3. EC-14
	(Construction BMP Training SM-1, Scheduling	Mulching
	SM-14, Location of Potential Sources of Sediment	4. EC-11
	SM-15, Preservation of Existing Vegetation SM-	Geotextiles
	17).	and Mats
	• Delineate, and clearly mark off, with flags,	
	tape, or other similar marking device all natural	Slope
	buffer areas defined in the SWPPP.	Protection
	Preserve native topsoil where practicable.	1. EC-12
	In areas where vegetative stabilization will	Seeding and
	occur, restrict vehicle/equipment use in areas to	Planting
	avoid soil compaction or condition soil to promote	2. EC-14
	vegetative growth.	Mulching
	For Storm Drain Inlet Protection, clean, or	3. EC-11
	remove and replace, the protection measures as	Geotextiles
	sediment accumulates, the filter becomes	and Mats
	clogged, and/or performance is compromised.	4. EC-4
	Where there is evidence of sediment	Slope
	accumulation adjacent to the inlet protection	Roughening,
	measure, remove the deposited sediment by the	Terracing,
	end of the same day in which it is found or by the	and
	end of the following work day if removal by the	Rounding
	same day is not feasible.	5. EC-7
	 Sediment basins shall be designed and 	Slope Drains
	maintained in accordance with HAR Chapter 11-	and Subsurface
	55.	Drains
	• Minimize disturbance on steep slopes (Greater	6. EC-9
	than 15% in grade).	Slope
	• If disturbance of steep slopes are unavoidable,	Interceptor or
	phase disturbances and use stabilization	Diversion
	techniques designed for steep grades.	Ditches/Berms
	• For temporary drains and swales use velocity	SC-1 Storm
	dissipation devices within and at the outlet to	Drain Inlet
	minimize erosive flow velocities.	Protection

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
		Perimeter Controls and Sediment Barriers 1. SC-7 Silt Fence or Filter Fabric Fence 2. SC-2 Vegetated Filter Strips and Buffers 3. SC-6 Compost Filter Berm/Sock 4. SC-8 Sandbag Barrier 5. SC-9 Brush or Rock Filter
		Sediment Basins and Detention Ponds 1. SC-4 Sediment Trap 2. SC-5 Sediment Basin
		SC-3 Check Dams EC-6 Level Spreader SM-20 Paving Operations SC-10
		SC-10 Construction Roads and Parking Area Stabilization

Pollutant	Appropriate Site-Specific BMP to be	BMP
Source	Implemented	Requirements
		Controlling Storm Water Flowing onto and Through the Project 1. EC-3 Run-On
		Diversion 2. EC-5 Earth Dike, Swales and Ditches
		Post Construction BMPs 1. EC-2 Flared Culvert End Sections 2. EC-10 Rip- Rap and Gabion Inflow Protection 3. EC-8 Outlet Protection and Velocity Dissipation Devices 4. SM-22 Topsoil Management
		Non-Structural BMPs 1. SM-1 Construction BMP Training 2. SM-14 Scheduling
		3. SM-15 Location of Potential Sources of Sediment 4. SM-17
		Preservation of Existing Vegetation

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment from soil stockpiles	 Locate stockpiles a minimum of 50 feet or as far as practicable from concentrated runoff or outside of any natural buffers identified on the SWPPP. Place bagged materials on pallets and under cover. Provide physical diversion to protect stockpiles from concentrated runoff. Cover stockpiles with plastic or comparable material when practicable. Place silt fence, fiber filtration tubes, or straw wattles around stockpiles. Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any storm water conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or state water. Unless infeasible, contain and securely protect stockpiles from the wind. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. See Stockpile Management Section SM-3 for additional requirements. 	See Stockpile Management Section SM-3. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.
Emulsified asphalt or prime/tack coat	 Provide training for employees and contractors on proper material delivery and storage practices and procedures. Restrict paving operations during wet weather to prevent paving materials from being discharged. Use asphalt emulsions such as prime coat when possible. Protect drain inlet structures and manholes during application of tack coat, seal coat, slurry seal, and fog seal. Keep ample supplies of drip pans and absorbent materials on site. Inspect inlet protection devices. See Material Storage and Handling Section SM-2 and Paving Operations Section SM-20 for additional requirements. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. 	See Material Storage and Handling Section SM-2, and Stockpile Management Section SM-3, Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.

Pollutant	Appropriate Site-Specific BMP to be	BMP
Source	Implemented	Requirements
Materials associated with painting, such as paint and paint wash solvent	 Hazardous chemicals shall be well-labeled and stored in original containers. Keep ample supply of cleanup materials on site. Dispose container only after all of the product has been used. Remove as much paint from brushes on painted surface. Rinse from water-based paints shall be discharged into the sanitary sewer system where possible. If not, direct all washwater into a leak- proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation. Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies. Do not dump liquid wastes into the storm drainage system. Filter and re-use solvents and thinners. Dispose of oil-based paints and residue as a hazardous waste. Ensure collection, removal, and disposal of hazardous waste. Immediately clean up spills and leaks. Properly store paints, solvents, and epoxy compounds. Properly store and dispose waste materials generated from painting and structure repair and construction activities. Mix paints in a covered and contained area, when possible, to minimize adverse impacts from spills. Do not apply traffic paint or thermoplastic if rain is forecasted. See Material Storage and Handling Use SM-2, Hazardous Materials and Waste Management Section SM-10, and Structure Construction and Painting Section SM-21 for additional requirements. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. 	See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, Hazardous Materials and Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-21, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.

Pollutant	Appropriate Site-Specific BMP to be	BMP
Source	Implemented	Requirements
Industrial chemicals, fertilizers, and/or pesticides	 Hazardous chemicals shall be well-labeled and stored in original containers. Keep ample supply of cleanup materials on site. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge. Dispose container only after all of the product has been used. Retain a complete set of safety data sheets (formerly MSDS) on site. Store industrial chemicals in water-tight containers and provide either cover or secondary containment. Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater. Restrict amount of pesticide prepared to quantity necessary for the current application. Do not apply fertilizer and pesticide manufacturer's recommended usage and disposal instructions. Document departures from manufacturer's specifications in Attachment J. Apply fertilizers at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Follow federal, state, and local laws regarding fertilizer application. Do not dispose of toxic liquid wastes (solvents, used oils, and paints) or chemicals (additives, acids, and curing compounds) in dumpsters allocated for construction debris. 	See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, and Hazardous Materials and Waste Management Section SM-9, and Spill Prevention and Control SM-10

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	• Ensure collection, removal, and disposal of hazardous waste complies with regulations. Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler. See Material Storage and Handling Use SM-2, and Hazardous Materials and Waste Management Section SM-9 for additional requirements.	
Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)	 Do not dispose of toxic materials in dumpsters allocated for construction debris. Ensure collection, removal, and disposal of hazardous waste complies with regulations. Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler. Segregate and recycle wastes from vehicle/equipment maintenance activities such as used oil or oil filters, greases, cleaning solutions, antifreeze, automotive batteries, and hydraulic and transmission fluids. Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, and local requirements. All containers stored outside shall be kept away from surface waters and within appropriately sized secondary containment (e.g., spill berms, decks, spill containment pallets). Provide cover if possible. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge. 	See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Maintenance SM-12

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	 Ensure collection, removal, and disposal of hazardous waste complies with manufacturer's recommendations and is in compliance with federal, state, and local requirements. See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements. 	
Metals and Building Materials	 Inspect construction waste and recycling areas regularly. Schedule solid waste collection regularly. If building materials or metals are stored on site (such as rebar or galvanized poles) store under cover under tarps or in containers. Minimize the amount of material stored on site. Do not stockpile uncovered metals or other building materials in close proximity to discharge points. See Solid Waste Management Section SM-6 for additional requirements. 	See Solid Waste Management Section SM-6
Contaminated Soil	 See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Materials and Waste Management Section SM-9 for additional requirements. At minimum contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheets. 	See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Materials and Waste Management Section SM-9

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Fugitive Dust Control and Dust Control Water	 Do not over spray water for dust control purposes which will result in runoff from the area. Apply water as conditions require. Washing down of debris or dirt into drainage, sewage systems, or State waters is not allowed. Minimize exposed areas through the schedule of construction activities. Utilize vegetation, mulching, sprinkling, and stone/gravel layering to quickly stabilize exposed soil. Direct construction vehicle traffic to stabilized roadways. Cover dump trucks hauling material from the site with a tarpaulin. See Dust Control Section SM-19 for additional requirements. 	See Dust Control Section SM-19
Concrete Truck Wash Water	 Disposal of concrete truck wash water via percolation is prohibited. Wash concrete-coated vehicles or equipment off-site or in the designated wash area. Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies. Runoff from the on-site concrete wash area shall be contained in a temporary pit or level bermed area where the concrete can set. Design the area so that no overflow can occur due to inadequate wash area sizing or precipitation. The temporary pit shall be lined with plastic to prevent seepage of wash water into the ground. Allow wash water to evaporate or collect wash water and all concrete debris in a concrete washout system bin. Do not dump liquid wastes into storm drainage system. Dispose of liquid and solid concrete wastes in compliance with federal, state, and local standards. See Waste Management, Concrete Wash and Waste Management Section SM-4 for additional requirements. 	See Waste Management, Concrete Wash and Waste Management Section SM-4

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment Track-Out	 Include Stabilized Construction Entrance at all points that exit onto paved roads. A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit. The pavement shall not be cleaned by washing down the street. If sweeping is ineffective or it is necessary to wash the streets, wash water must be contained either by construction of a sump, diverting the water to an acceptable disposal area, or vacuuming the wash water. Use BMPs for adjacent drainage structures. Remove sediment tracked onto the street by the end of the day in which the track-out occurs. Restrict vehicle use to properly designated exit points. Include additional BMPs that remove sediment prior to exit when minimum dimensions cannot be met. See Stabilized Construction Entrance/Exit Section SC-11 for additional requirements. 	See Stabilized Construction Entrance/Exit Section SC-11
Irrigation Water	 Consider irrigation requirements. Where possible, avoid species which require irrigation. Design, timing and application methods of irrigation water to eliminate the runoff of excess irrigation water into the storm water drainage system. See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation included in SWPPP Attachment A for additional requirements. 	See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD- 12 Efficient Irrigation
Hydrotesting Effluent	• If work includes removing, relocation or installing waterlines, and Contractor elects to flush waterline or discharge hydrotesting effluent into State waters or drainage systems, the Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form F application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Hydrotesting Activities if necessary. Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.	Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Dewatering Effluent	If excavation or backfilling operations require dewatering, and Contractor elects to discharge dewatering effluent into State waters or existing drainage systems, Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form G application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Dewatering Activities if necessary. See Site Planning and General Practices, Dewatering Operations Section SM-18 for additional requirements.	See Dewatering Operations SM-18. Site specific BMPs will be included in the NOI/NPDES Permit Form G submittal.
Saw-cutting Slurry	 Saw cut slurry shall be removed from the site by vacuuming. Provide storm drain protection during saw cutting. See Paving Operations Section SM-20 for additional requirements. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. 	See Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, Perimeter sediment controls where applicable
Concrete Curing Water	 Avoid overspraying of curing compounds. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound. See California Stormwater BMP Handbook NS-12 Concrete Curing included in SWPPP Attachment A for additional requirements. 	See California Stormwater BMP Handbook NS- 12 Concrete Curing

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	 Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation. Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies. Any significant residual materials remaining on the ground after the completion of construction shall be removed and properly disposed. If the residual materials contaminate the soil, then the contaminated soil shall also be removed and properly disposed of. Plaster waste water shall not be allowed to flow into drainage structures or State waters. 	Requirements See Material, Storage and Handling Use Section SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9
	See Material, Storage and Handling Use SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9 for additional requirements. • For Water-Jet Wash Water used to clean	See Vehicle
Wash Water	 For Water-Set Wash Water used to clean vehicles, use off site wash racks or commercial washing facilities when practical. See Vehicle and Equipment Cleaning Section SM-11 for additional information. For Water-Jet Wash Water used to clean impervious surfaces, the runoff shall not be allowed to flow into drainage structures or State Waters. 	and Equipment Cleaning Section SM-11
Sanitary/Septic Waste	 Locate Sanitary facilities in a convenient place away from drainage facilities. Position sanitary facilities so they are secure and will not be tipped over or knocked down. Wastewater shall not be discharged to the ground or buried. A licensed service provider shall maintain sanitary/septic facilities in good working order. Schedule regular waste collection by a licensed transporter. See Sanitary Waste Section SM-7 for additional reguirements. 	See Sanitary Waste Section SM-7.

592

END OF SECTION 209