



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway,
Kapolei, HI. 96707

TECHNICAL SPECIFICATIONS FOR BIDDING AND CONSTRUCTION

FOR
FURNISHING LABOR AND MATERIALS FOR

PRINCESS KAHANU ESTATES TRAFFIC CALMING MEASURES

Nanakuli, Island of Oahu, Hawaii

IFB No.: IFB-25-HHL-002

October 2024



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

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 4
 5 **“SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION**
 6 **CONTROL**

7
 8
 9 **209.01 Description.** This section describes the following:

10
 11 **(A)** Including detailed plans, diagrams, and written Site-Specific Best
 12 Management Practices (BMP); constructing, maintaining, and repairing
 13 temporary water pollution, dust, and erosion control measures at the project
 14 site, including local material sources, work areas and haul roads; removing
 15 and disposing hazardous wastes; control of fugitive dust (defined as
 16 uncontrolled emission of solid airborne particulate matter from any source
 17 other than combustion); and complying with applicable State and Federal
 18 permit conditions.

19
 20 **(B)** Work associated with construction stormwater, dewatering, and
 21 hydrotesting activities and complying with conditions of the National Pollutant
 22 Discharge Elimination System (NPDES) permit(s) authorizing discharges
 23 associated with construction stormwater, dewatering, and hydrotesting
 24 activities.

25
 26 **(C)** Potential pollutant identification and mitigation measures are listed in
 27 Appendix A for use in the development of the Contractor’s Site-Specific BMP.

28
 29 Requirements of this section also apply to construction support activities
 30 including concrete or asphalt batch plants, rock crushing plants, equipment
 31 staging yards/areas, material storage areas, excavated material disposal
 32 areas, and borrow areas located outside the State Right-of-Way. For areas
 33 serving multiple construction projects, or operating beyond the completion of
 34 the construction project in which it supports, the Contractor shall be
 35 responsible for securing the necessary permits, clearances, and documents,
 36 and following the conditions of the permits and clearances, at no cost to the
 37 State.

38
 39 **209.02 Materials.** Comply with applicable materials described in Chapters 2 and 3
 40 of the current HDOT “Construction Best Management Practices Field Manual”. In
 41 addition, the materials shall comply with the following:

42
 43 **(A) Grass.** Grass shall be a quick growing species such as rye grass,
 44 Italian rye grass, or cereal grasses. Grass shall be suitable to the area and
 45 provide a temporary cover that will not compete later with permanent cover.
 46 Alternative grasses are allowable if acceptable to the Engineer.

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

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

(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.

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 issuance of Notice to Proceed. Discuss sequence of work, plans and proposals for water pollution, dust, and erosion control.

(2) Water Pollution, Dust, and Erosion Control Submittals.

Submit a Site-Specific BMP Plan within 21 calendar days of date of award. Submission of complete and acceptable Site-Specific BMP Plan is the sole responsibility of the Contractor and additional contract time will not be issued for delays due to incompleteness. Include the following:

(a) Written description of activities to minimize water pollution and soil erosion into State waters, drainage or sewer systems. BMP shall include the following:

1. An identification of potential pollutants and their sources.
2. A list of all materials and heavy equipment to be used during construction.
3. Descriptions of the methods and devices used to minimize the discharge of pollutants into State waters, drainage or sewer systems.
4. Details of the procedures used for the maintenance and subsequent removal of any erosion or siltation control devices.
5. Methods of removing and disposing hazardous wastes encountered or generated during construction.
6. Methods of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydrodemolition water.
7. Spill Control and Prevention and Emergency Spill Response Plan.
8. Fugitive dust control, including dust from grinding, sweeping, or brooming off operations or combination thereof.
9. Methods of storing and handling of oils, paints and other products used for the project.
10. Material storage and handling areas, and other staging areas.
11. Concrete truck washouts.

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12. Concrete waste control.
 13. Fueling and maintenance of vehicles and other equipment.
 14. Tracking of sediment offsite from project entries and exits.
 15. Litter management.
 16. Toilet facilities.
 17. Other factors that may cause water pollution, dust and erosion control.
- (b) Provide plans indicating location of water pollution, dust and erosion control devices; provide plans and details of BMPs to be installed or utilized; show areas of soil disturbance in cut and fill, indicate areas used for construction staging and storage including items (1) through (17) above, storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking, and show areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include flow arrows. Include separate drawing for each phase of construction that alters drainage patterns. Indicate approximate date when device will be installed and removed.
- (c) Construction schedule.
- (d) Name(s) of specific individual(s) designated responsible for water pollution, dust, and erosion controls on the project site. Include home, cellular, and business telephone numbers, fax numbers, and e-mail addresses.
- (e) Description of fill material to be used.
- (f) For projects with an NPDES Permit for Construction Activities, submit information to address all sections in the Storm Water Pollution Prevention Plan (SWPPP).
- (g) For projects with an NPDES Permit, information required for compliance with the conditions of the Notice of General Permit Coverage (NGPC)/NPDES Permit.

181 (h) Site-Specific BMP Review Checklist. The checklist may
182 be downloaded from HDOT's Stormwater Management website
183 at <http://stormwaterhawaii.com>.
184

185 Date and sign Site-Specific BMP Plan. Keep accepted
186 copy on site or at an accessible location so that it can be made
187 available at the time of an on-site inspection or upon request by
188 the Engineer, HDOT Third-Party Inspector, and/or DOH/EPA
189 Representative. Amendments to the Site-Specific BMP Plan
190 shall be included with original Site-Specific BMP Plan. Modify
191 SWPPP if necessary to conform to revisions. Include date of
192 installation and removal of Site-Specific BMP measures. Obtain
193 written acceptance by the Engineer before implementing revised
194 Site-Specific BMPs in the field.
195

196 Follow the guidelines in the current HDOT "Construction
197 Best Management Practices Field Manual", in developing,
198 installing, and maintaining Site-Specific BMPs for all projects.
199 For any conflicting requirements between the Manual and
200 applicable bid documents, the applicable bid documents will
201 govern. Should a requirement not be clearly described within
202 the applicable bid documents, notify the Engineer immediately
203 for interpretation. For the purposes of clarification "applicable
204 bid documents" include the construction plans, standard
205 specifications, special provisions, Permits, and the SWPPP
206 when applicable.
207

208 Follow Honolulu's City and County "Rules for Soil Erosion
209 Standards and Guidelines" for all projects on Oahu. Use
210 respective Soil Erosion Guidelines for Maui, Kauai and Hawaii
211 projects.
212

213 **(B) Construction Requirements.** Do not begin work until submittals
214 detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion
215 Control Submittals are completed and accepted in writing by the Engineer.
216

217 Install, maintain, monitor, repair and replace site-specific BMP
218 measures, such as for water pollution, dust and erosion control; installation,
219 monitoring, and operation of hydrotesting activities; removal and disposal of
220 hazardous waste indicated on plans, concrete cutting slurry, concrete curing
221 water; or hydrodemolition water. Site-Specific BMP measures shall be in
222 place, functional and accepted by HDOT personnel prior to initiating any
223 ground disturbing activities.
224

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

235
236 Address all comments received from the Engineer.

237
238 Modify and resubmit plans and construction schedules to correct
239 conditions that develop during construction which were unforeseen during the
240 design and pre-construction stages.

241
242 Coordinate temporary control provisions with permanent control
243 features throughout the construction and post-construction period.

244
245 Limit maximum surface area of earth material exposed at any time to
246 300,000 square feet. Do not expose or disturb surface area of earth material
247 (including clearing and grubbing) until BMP measures are installed and
248 accepted in writing by the Engineer. Protect temporarily or permanently
249 disturbed soil surface from rainfall impact, runoff and wind before end of the
250 work day.

251
252 Immediately initiate stabilizing exposed soil areas upon completion of
253 earth disturbing activities for areas permanently or temporarily ceased on any
254 portion of the site. Earth-disturbing activities have permanently ceased when
255 clearing and excavation within any area of the construction site that will not
256 include permanent structures has been completed. Earth-disturbing activities
257 have temporarily ceased when clearing, grading, and excavation within any
258 area of the site that will not include permanent structures will not resume for a
259 period of 14 or more calendar days, but such activities will resume in the
260 future. The term "immediately" is used in this section to define the deadline for
261 initiating stabilization measures. "Immediately" means as soon as practicable,
262 but no later than the end of the next work day, following the day when the
263 earth-disturbing activities have temporarily or permanently ceased.

264
265 For projects with an NPDES Permit for Construction activities:

266
267 **(1)** For construction areas discharging into waters not impaired for
268 nutrients or sediments, complete initial stabilization within 14 calendar
269 days after the temporary or permanent cessation of earth-disturbing
270 activities.

271 (2) For construction areas discharging into nutrient or sediment
 272 impaired waters, complete initial stabilization within 7 calendar days
 273 after the temporary or permanent cessation of earth-disturbing
 274 activities.

275
 276 For projects without an NPDES Permit for Construction activities,
 277 complete initial stabilization within 14 calendar days after the temporary or
 278 permanent cessation of earth-disturbing activities.

279
 280 Any of the following types of activities constitutes initiation of
 281 stabilization:

282
 283 (1) Prepping the soil for vegetative or non-vegetative stabilization;
 284

285 (2) Applying mulch or other non-vegetative product to the exposed
 286 area;

287
 288 (3) Seeding or planting the exposed area;

289
 290 (4) Starting any of the activities in items (1) – (3) above on a portion
 291 of the area to be stabilized, but not on the entire area; and

292
 293 (5) Finalizing arrangements to have stabilization product fully
 294 installed in compliance with the deadline for completing initial
 295 stabilization activities.

296
 297 Any of the following types of activities constitutes completion of initial
 298 stabilization activities:

299
 300 (1) For vegetative stabilization, all activities necessary to initially
 301 seed or plant the area to be stabilized; and/or

302
 303 (2) For non-vegetative stabilization, the installation or application of
 304 all such non-vegetative measures.

305
 306 If the Contractor is unable to meet the deadlines above due to
 307 circumstances beyond the Contractor's control, and the Contractor is using
 308 vegetative cover for temporary or permanent stabilization, the Contractor may
 309 comply with the following stabilization deadlines instead as agreed to by the
 310 Engineer:

311
 312 (1) Immediately initiate, and complete within the timeframe shown
 313 above, the installation of temporary non-vegetative stabilization
 314 measures to prevent erosion;

315

316 (2) Complete all soil conditioning, seeding, watering or irrigation
317 installation, mulching, and other required activities related to the
318 planting and initial establishment of vegetation as soon as conditions or
319 circumstances allow it on the site; and

320
321 (3) Notify and provide documentation to the Engineer the
322 circumstances that prevent the Contractor from meeting the deadlines
323 above for stabilization and the schedule the Contractor will follow for
324 initiating and completing initial stabilization and as agreed to by the
325 Engineer.

326
327 Follow the applicable requirements of the specifications and special
328 provisions including Section 619 Planting and Section 641 Hydro-Mulch
329 Seeding.

330
331 Immediately after seeding or planting the area to be vegetatively
332 stabilized, to the extent necessary to prevent erosion on the seeded or planted
333 area, select, design, and install non-vegetative erosion controls that provide
334 cover (e.g., mulch, rolled erosion control products) to the area while vegetation
335 is becoming established.

336
337 Protect exposed or disturbed surface area with mulches, grass seeds or
338 hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier
339 to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125
340 pounds per acre. For hydromulch, use the ingredients and rates required for
341 mulches and grass seeds. Submit recommendations from a licensed
342 Landscape Architect when deviating from the application rates above.

343
344 Apply fertilizer to mulches, grass seed or hydromulch per
345 manufacturer's recommendations. Submit recommendations from a licensed
346 Landscape Architect when deviating from the manufacturer's
347 recommendations.

348
349 Install velocity dissipation measures when exposing erodible surfaces
350 greater than 15 feet in height.

351
352 BMP measures shall be in place and operational at the end of work day
353 or as required by Section 209.03(B) Construction Requirements.

354
355 Install and maintain either or both stabilized construction entrances and
356 wheel washes to minimize tracking of dirt and mud onto roadways. Restrict
357 traffic to stabilized construction areas only. Clean dirt, mud, or other material
358 tracked onto the road, sidewalk, or other paved area by the end of the same
359 day in which the track-out occurs. Modify stabilized construction entrances to
360 prevent mud from being tracked onto road. Stabilize entire access roads if
361 necessary.

362 Chemicals may be used as soil stabilizers for either or both erosion and
 363 dust control if acceptable to the Engineer.

364
 365 Provide temporary slope drains of rigid or flexible conduits to carry
 366 runoff from cuts and embankments. Provide portable flume at the entrance.
 367 Shorten or extend temporary slope drains to ensure proper function.

368
 369 Protect ditches, channels, and other drainageways leading away from
 370 cuts and fills at all times by either:

- 371
 372 **(1)** Hydro-mulching the lower region of embankments in the
 373 immediate area.
 374
 375 **(2)** Installing check dams and siltation control devices.
 376
 377 **(3)** Other methods acceptable to the Engineer.

378
 379 Provide for controlled discharge of waters impounded, directed, or
 380 controlled by project activities or erosion control measures.

381
 382 Cover exposed surface of materials completely with tarpaulin or similar
 383 device when transporting aggregate, soil, excavated material or material that
 384 may be source of fugitive dust.

385
 386 Cleanup and remove any pollutant that can be attributed to the
 387 Contractor.

388
 389 Install or modify Site-Specific BMP measures due to change in the
 390 Contractor's means and methods, or for omitted condition that should have
 391 been allowed for in the accepted Site-Specific BMP or a Site-Specific BMP that
 392 replaces an accepted Site-Specific BMP that is not satisfactorily performing.
 393 Modifications to Site-Specific BMP measures shall be accepted in writing by
 394 the Engineer prior to implementation.

395
 396 Properly maintain all Site-Specific BMP measures.

397
 398 For projects with an NPDES Permit for Construction Activities:

399
 400 **(1)** For construction areas discharging into nutrient or sediment
 401 impaired waters, inspect, prepare a written report, and make repairs to
 402 BMP measures at the following intervals:

403
 404 **(a)** Weekly.

405
 406 **(b)** Within 24 hours of any rainfall of 0.25 inch or greater
 407 which occurs in a 24-hour period.

408
 409 (c) When existing erosion control measures are damaged or
 410 not operating properly as required by Site-Specific BMP.
 411

412 (2) For construction areas discharging to waters not impaired for
 413 nutrients or sediments, inspect, prepare a written report, and make
 414 repairs to BMP measures at the following intervals:
 415

416 (a) Weekly.
 417

418 (b) When existing erosion control measures are damaged or
 419 not operating properly as required by Site-Specific BMP.
 420

421 For projects without an NPDES Permit for Construction activities,
 422 inspect, prepare a written report, and make repairs to BMP measures at the
 423 following intervals:
 424

425 (a) Weekly.
 426

427 (b) When existing erosion control measures are damaged or
 428 not operating properly as required by Site-Specific BMP.
 429

430 Temporarily remove, replace or relocate any Site-Specific BMP that
 431 must be removed, replaced or relocated due to potential or actual flooding, or
 432 potential danger or damage to project or public.
 433

434 Maintain records of inspections of Site-Specific BMP work. Keep
 435 continuous records for duration of the project. Submit copy of Inspection
 436 Report to the Engineer within 24 hours after each inspection.
 437

438 The Contractor's designated representative specified in Subsection
 439 209.03(A)(2)(d) shall address any Site-Specific BMP deficiencies brought up
 440 by the Engineer immediately, including weekends and holidays, and complete
 441 work to fix the deficiencies by the close of the next work day if the problem
 442 does not require significant repair or replacement, or if the problem can be
 443 corrected through routine maintenance. Address any Site-Specific BMP
 444 deficiencies brought up by the State's Third-Party Inspector in the timeframe
 445 above or as specified in the Consent Decree or MS4 NPDES Permit,
 446 whichever is more stringent. The Consent Decree timeframe requirement
 447 applies statewide. The MS4 NPDES Permit only applies to Oahu. In this
 448 section, "immediately" means the Contractor shall take all reasonable
 449 measures to minimize or prevent discharge of pollutants until a permanent
 450 solution is installed and made operational. If a problem is identified at a time in
 451 the day in which it is too late to initiate repair, initiation of repair shall begin on
 452 the following work day. When installation of a new pollution prevention control
 453 or a significant repair is needed, complete installation or repair no later than

454 seven calendar days from the time of notification/Contractor discovery. Notify
455 the Engineer and document why it is infeasible to complete the installation or
456 repair within seven calendar days and complete the work as soon as
457 practicable and as agreed to by the Engineer. Address Site-Specific BMP
458 deficiencies discovered by the Contractor within the timeframe above. The
459 Contractor's failure to satisfactorily address these Site-Specific BMP
460 deficiencies, the Engineer reserves the right to employ outside assistance or
461 use the Engineer's own labor forces to provide necessary corrective
462 measures. The Engineer will charge the Contractor such incurred costs plus
463 any associated project engineering costs. The Engineer will make appropriate
464 deductions from the Contractor's monthly progress estimate. Failure to apply
465 Site-Specific BMP measures may result in one or more of the following:
466 assessment of liquidated damages, suspension, or cancellation of Contract
467 with the Contractor being fully responsible for all additional costs incurred by
468 the State.

469
470 **(C) Discharges of Storm Water Associated with Construction**
471 **Activities.** If work includes disturbance of one acre or more, an NPDES
472 Permit authorizing Discharges of Storm Water Associated with Construction
473 Activity (CWB-NOI Form C) or Individual Permit authorizing storm water
474 discharges associated with construction activity is required from the
475 Department of Health Clean Water Branch (DOH-CWB).

476
477 Do not begin construction activities until all required conditions of the
478 permit are met and submittals detailed in Subsection 209.03(A)(2) – Water
479 Pollution, Dust, and Erosion Control Submittals are completed and accepted in
480 writing by the Engineer.

481
482 **(D) Discharges Associated with Hydrotesting Activities.** If hydrotesting
483 activities require effluent discharge into State waters or drainage systems, an
484 NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or Individual Permit
485 authorizing discharges associated with hydrotesting from DOH-CWB is
486 required from the DOH-CWB.

487
488 Do not begin hydrotesting activities until the DOH-CWB has issued an
489 Individual NPDES Permit or Notice of General Permit Coverage (NGPC).
490 Conduct Hydrotesting operations in accordance with the conditions of the
491 permit or NGPC.

492
493 **(E) Discharges Associated with Dewatering Activities.** If dewatering
494 activities require effluent discharge into State waters or drainage systems, an
495 NPDES Dewatering Permit (CWB-NOI Form G) or Individual Permit
496 authorizing discharges associated with dewatering from DOH-CWB is required
497 from the DOH-CWB.

498

209.05

499 Do not begin dewatering activities until the DOH-CWB has issued an
500 Individual NPDES Permit or Notice of General Permit Coverage (NGPC).
501 Conduct dewatering operations in accordance with the conditions of the
502 permit or NGPC.

503
504 **(F) Solid Waste.** Submit the Solid Waste Disclosure Form for Construction
505 Sites to the Engineer within 21 calendar days of date of award. Provide a copy
506 of all the disposal receipts from the facility permitted by the Department of
507 Health to receive solid waste to the Engineer monthly. This should also
508 include documentation from any intermediary facility where solid waste is
509 handled or processed, or as directed by the Engineer.

510
511 **(G) Construction BMP Training.** The Contractor’s representative
512 responsible for development of the Site-Specific BMP Plan and implementation
513 of Site-Specific BMPs in the field shall attend the State’s Construction Best
514 Management Practices Training. The Contractor shall keep training logs
515 updated and readily available.

516
517 **209.04 Measurement.**

518
519 **(A)** Installation, maintenance, monitoring, and removal of BMP will be paid
520 on a lump sum basis. Measurement for payment will not apply.

521
522 **(B)** The Engineer will only measure additional water pollution, dust and
523 erosion control required and requested by the Engineer on a force account
524 basis in accordance with Subsection 109.06 – Force Account Provisions and
525 Compensation.

526
527 **209.05 Payment.** The Engineer will pay for accepted pay items listed below at
528 contract price per pay unit, as shown in the proposal schedule. Payment will be full
529 compensation for work prescribed in this section and contract documents.

530
531 The Engineer will pay for each of the following pay items when included in
532 proposal schedule:

	Pay Item	Pay Unit
534	Environmental Pollution Control and Maintenance of Environmental Pollution Control; In Place Complete	Lump Sum
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No progress payment will be authorized until the Engineer accepts in writing Site-Specific BMP or when the Contractor fails to maintain project site in accordance with accepted BMP.

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

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

553 **Appendix A**

554

555 The following list identifies potential pollutant sources and corresponding
556 BMPs used to mitigate the pollutants. Each BMP is referenced to the
557 corresponding section of the current HDOT Construction Best Management
558 Practices Field Manual or appropriate Supplemental Sheets. The Manual may be
559 obtained from the HDOT Statewide Stormwater Management Program Website at
560 <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/> under
561 Construction Best Management Practices Field Manual. Supplemental BMP
562 sheets are located at [http://www.stormwaterhawaii.com/resources/contractors-
563 and-consultants/storm-water-pollution-prevention-plan-swppp/](http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/) under Concrete
564 Curing and Irrigation Water.
565

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Construction debris, green waste, general litter</i>	<ul style="list-style-type: none"> • <i>Separate contaminated clean up materials from construction and demolition (C&D) wastes.</i> • <i>Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes.</i> • <i>Inspect construction waste and recycling areas regularly.</i> • <i>Schedule solid waste collection regularly.</i> • <i>Schedule recycling activities based on construction/demolition phases.</i> • <i>Empty waste containers weekly or when they are two-thirds full, whichever is sooner.</i> • <i>Do not allow containers to overflow. Clean up immediately if they do.</i> • <i>On work days, clean up and dispose of waste in designated waste containers.</i> • <i>See Solid Waste Management Section SM-6 for additional requirements.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i> 	<i>See Solid Waste Management Section SM-6. Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.</i>
<i>Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage</i>	<ul style="list-style-type: none"> • <i>Use off-site wash racks, repair and maintenance facilities, and fueling sites when practical.</i> • <i>Designate bermed wash area if cleaning on site is necessary.</i> • <i>Place drip pans or drop cloths under vehicles and equipment to absorb spills or leaks.</i> • <i>Provide an ample supply of readily available spill cleanup materials.</i> • <i>Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.</i> • <i>Do not clean surfaces or spills by hosing the area down.</i> • <i>Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.</i> • <i>Inspect on-site vehicles and equipment regularly and immediately repair leaks.</i> • <i>Regularly inspect fueling areas and storage tanks.</i> 	<i>See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13, and Material Delivery, Storage and Material Use Sections SM-2 and SM-3, and Spill Prevention and Control SM-10.</i>

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	<ul style="list-style-type: none"> • <i>Train employees on proper maintenance and spill practices and procedures and fueling and cleanup procedures.</i> • <i>Store diesel fuel, oil, hydraulic fluid, or other petroleum products or other chemicals in water-tight containers and provide cover or secondary containment.</i> • <i>Do not remove original product labels and comply with manufacturer’s labels for proper disposal.</i> • <i>Dispose of containers only after all the product has been used.</i> • <i>Dispose of or recycle oil or oily wastes according to Federal, State, and Local requirements.</i> • <i>Store soaps, detergents, or solvents under cover or other means to prevent contact with rainwater.</i> • <i>See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13 and Material Use Section SM-3 for additional requirements.</i> 	

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Soil erosion from the disturbed areas	<ul style="list-style-type: none"> • Provide Soil Stabilization, Slope Protection, Storm Drain Inlet Protection SC-2, Perimeter Controls and Sediment Barriers, Sediment Basins and Detention Ponds, Check Dams SC-9 ,Level Spreader SC-10, Paving Operations SM-19, Construction Road Stabilization EC-1, Controlling Storm Water Flowing Onto and Through the Project, Post-Construction BMPs, and Non-Structural BMPs (Employee Training SM-1, Scheduling SM-14, Location of Potential Sources of Sediment SM-15, Preservation of Existing Vegetation SM-16). • Delineate, and clearly mark off, with flags, tape, or other similar marking device all natural buffer areas defined in the SWPPP. • Preserve native topsoil where practicable. • In areas where vegetative stabilization will occur, restrict vehicle/equipment use in areas to avoid soil compaction or condition soil to promote vegetative growth. • For Storm Drain Inlet Protection, clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. • Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same day in which it is found or by the end of the following work day if removal by the same day is not feasible. • Sediment basins shall be designed and maintained in accordance with HAR 11-55. • Minimize disturbance on steep slopes (Greater than 15% in grade). • If disturbance of steep slopes are unavoidable, phase disturbances and use stabilization techniques designed for steep grades. • For temporary drains and swales use velocity dissipation devices within and at the outlet to minimize erosive flow velocities. 	<p>Soil Stabilization</p> <ol style="list-style-type: none"> 1. SM-21 Topsoil Management 2. EC-5 Seeding and Planting 3. EC-6 Mulching 4. EC-7 Geotextiles and Mats <p>Slope Protection</p> <ol style="list-style-type: none"> 1. EC-5 Seeding and Planting 2. EC-6 Mulching 3. EC-7 Geotextiles and Mats 4. EC-9 Slope Roughening, Terracing, and Rounding 5. SC-11 Slope Drains and Subsurface Drains 6. SC-12 Top and Toe of Slope Diversion Ditches and Berms <p>SC-2 Storm Drain Inlet Protection</p>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
		<p><i>Perimeter Controls and Sediment Barriers</i></p> <ol style="list-style-type: none"> 1. SC-1 Silt Fence 2. SC-5 Vegetated Filter Strips and Buffers 3. SC-8 Compost Filter Berm 4. SC-13 Sandbag Barrier 5. SC-14 Brush or Rock Filter <p><i>Sediment Basins and Detention Ponds</i></p> <ol style="list-style-type: none"> 1. SC-15 Sediment Trap 2. SC-16 Sediment Basin <p><i>SC-9 Check Dams</i></p> <p><i>SC-10 Level Spreader</i></p> <p><i>SM-19 Paving Operations</i></p> <p><i>EC-1 Construction Road Stabilization</i></p>

571

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
		<p><i>Controlling Storm Water Flowing onto and Through the Project</i></p> <ol style="list-style-type: none"> 1. <i>EC-8 Run-On Diversion</i> 2. <i>SC-6 Earth Dike</i> 3. <i>SC-7 Temporary Drains and Swales</i> <p><i>Post Construction BMPs</i></p> <ol style="list-style-type: none"> 1. <i>EC-4 Flared Culvert End Sections</i> 2. <i>SC-3 Rip-Rap and Gabion Inflow Protection</i> 3. <i>SC-4 Outlet Protection and Velocity Dissipation Devices</i> 4. <i>SM-21 Topsoil Management</i>

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
		<i>Non-Structural BMPs</i> 1. <i>SM-1 Employee Training</i> 2. <i>SM-14 Scheduling</i> 3. <i>SM-15 Location of Potential Sources of Sediment</i> 4. <i>SM-16 Preservation of Existing Vegetation</i>

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment from soil stockpiles	<ul style="list-style-type: none"> • 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 Protection of Stockpiles Section SM-4 for additional requirements. 	See Protection of Stockpiles Section SM-4. Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.
Emulsified asphalt or prime/tack coat	<ul style="list-style-type: none"> • 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 Delivery and Storage Section SM-2 and Paving Operations Section SM-19 for additional requirements. • Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. 	See Material Delivery and Storage Section SM-2 and Material Use Section SM-3, Paving Operations Section SM-19, Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.

576

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<p>Materials associated with painting, such as paint and paint wash solvent</p>	<ul style="list-style-type: none"> • 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 complies with regulations. • 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 Delivery and Storage Section SM-2, Material Use SM-3, Waste Management, Hazardous Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-20 for additional requirements. • Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. 	<p>See Material Delivery and Storage Section SM-2, Material Use Section SM-3, Hazardous Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-20, Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.</p>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<p><i>Industrial chemicals, fertilizers, and/or pesticides</i></p>	<ul style="list-style-type: none"> • <i>Hazardous chemicals shall be well-labeled and stored in original containers.</i> • <i>Keep ample supply of cleanup materials on site.</i> • <i>Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.</i> • <i>Do not clean surfaces or spills by hosing the area down.</i> • <i>Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.</i> • <i>Dispose container only after all of the product has been used.</i> • <i>Retain a complete set of material safety data sheets on site.</i> • <i>Store industrial chemicals in water-tight containers and provide either cover or secondary containment.</i> • <i>Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater.</i> • <i>Restrict amount of pesticide prepared to quantity necessary for the current application.</i> • <i>Do not apply fertilizers or pesticides during or just before a rain event.</i> • <i>Do not apply to stormwater conveyance channels with flowing water.</i> • <i>Comply with fertilizer and pesticide manufacturer's recommended usage instructions.</i> • <i>Follow federal, state, and local laws regarding fertilizer application.</i> • <i>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.</i> • <i>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.</i> • <i>See Material Delivery and Storage Section SM2, Material Use SM-3, and Waste Management, Hazardous Waste Management Section SM-9 for additional requirements.</i> 	<p><i>See Material Delivery and Storage Section SM-2, Material Use Section SM-3, and Hazardous Waste Management Section SM-9, and Spill Prevention and Control SM-10</i></p>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<p>Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)</p>	<ul style="list-style-type: none"> • 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. • 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 Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements. 	<p>See Hazardous Waste Management Section SM-9 and Vehicle and Equipment Maintenance SM-12</p>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Metals and Building Materials</i>	<ul style="list-style-type: none"> • <i>Inspect construction waste and recycling areas regularly.</i> • <i>Schedule solid waste collection regularly.</i> • <i>If building materials or metals are stored on site (such as rebar or galvanized poles) store under cover under tarps or in containers.</i> • <i>Minimize the amount of material stored on site.</i> • <i>Do not stockpile uncovered metals or other building materials in close proximity to discharge points.</i> • <i>See Solid Waste Management Section SM-6 for additional requirements.</i> 	<i>See Solid Waste Management Section SM-6</i>
<i>Contaminated Soil</i>	<ul style="list-style-type: none"> • <i>See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Waste Management Section SM-9 for additional requirements.</i> • <i>At minimum contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheets.</i> 	<i>See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Waste Management Section SM-9</i>
<i>Dust Control Water</i>	<ul style="list-style-type: none"> • <i>Do not over spray water for dust control purposes which will result in runoff from the area.</i> • <i>Apply water as conditions require.</i> • <i>Washing down of debris or dirt into drainage, sewage systems, or State waters is not allowed.</i> • <i>See Dust Control Section SM-18 for additional requirements.</i> 	<i>See Dust Control Section SM-18</i>
<i>Concrete Truck Wash Water</i>	<ul style="list-style-type: none"> • <i>Disposal of concrete truck wash water via percolation is prohibited.</i> • <i>Wash concrete-coated vehicles or equipment off-site or in the designated wash area.</i> • <i>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.</i> • <i>Runoff from the on-site concrete wash area shall be contained in a temporary pit or level bermed area where the concrete can set.</i> • <i>Design the area so that no overflow can occur due to inadequate wash area sizing or precipitation.</i> 	<i>See Waste Management, Concrete Waste Management Section SM-5</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	<ul style="list-style-type: none"> • <i>The temporary pit shall be lined with plastic to prevent seepage of wash water into the ground.</i> • <i>Allow wash water to evaporate or collect wash water and all concrete debris in a concrete washout system bin.</i> • <i>Do not dump liquid wastes into storm drainage system.</i> • <i>Dispose of liquid and solid concrete wastes in compliance with federal, state, and local standards.</i> • <i>See Waste Management, Concrete Waste Management Section SM-5 for additional requirements.</i> 	
<p><i>Sediment Track-Out</i></p>	<ul style="list-style-type: none"> • <i>Include Stabilized Construction Entrance at all points that exit onto paved roads.</i> • <i>A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit.</i> • <i>The pavement shall not be cleaned by washing down the street.</i> • <i>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.</i> • <i>Use BMPs for adjacent drainage structures.</i> • <i>Remove sediment tracked onto the street by the end of the day in which the track-out occurs.</i> • <i>Restrict vehicle use to properly designated exit points.</i> • <i>Include additional BMPs which remove sediment prior to exit when minimum dimensions can not be met.</i> • <i>See Stabilized Construction Entrance Section EC-2 for additional requirements.</i> 	<p><i>See Stabilized Construction Entrance Section EC-2</i></p>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Irrigation Water	<ul style="list-style-type: none"> • 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-5 and California Stormwater BMP Handbook SD-12 Efficient Irrigation at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/ under Irrigation Water for additional requirements. 	See Seeding and Planting Section EC-5 and California Stormwater BMP Handbook SD-12 Efficient Irrigation
Hydrotesting Effluent	<ul style="list-style-type: none"> • 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.
Dewatering Effluent	<ul style="list-style-type: none"> • 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-17 for additional requirements. 	See Dewatering Operations SM-17. Site-Specific BMPs will be included in the NOI/NPDES Permit Form G submittal.

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Saw-cutting Slurry</i>	<ul style="list-style-type: none"> • <i>Saw cut slurry shall be removed from the site by vacuuming.</i> • <i>Provide storm drain protection during saw cutting. See Paving Operations Section SM-19 for additional requirements.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i> 	<i>See Paving Operations Section SM-19, Storm Drain Inlet Protection SC-2, Perimeter sediment controls where applicable</i>
<i>Concrete Curing Water</i>	<ul style="list-style-type: none"> • <i>Avoid overspraying of curing compounds.</i> • <i>Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.</i> • <i>See California Stormwater BMP Handbook NS-12 Concrete Curing at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/ under Concrete Curing for additional requirements.</i> 	<i>See California Stormwater BMP Handbook NS-12 Concrete Curing</i>
<i>Plaster Waste Water</i>	<ul style="list-style-type: none"> • <i>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.</i> • <i>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.</i> • <i>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.</i> • <i>Plaster waste water shall not be allowed to flow into drainage structures or State waters.</i> • <i>See Material Delivery and Storage Section SM-2, Material Use SM-3, and Hazardous Waste Management Section SM-9 for additional requirements.</i> 	<i>See Material Delivery and Storage Section SM-2, Material Use Section SM-3, and Hazardous Waste Management Section SM-9</i>

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Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Water-Jet Wash Water</i>	<ul style="list-style-type: none"> • <i>For Water-Jet Wash Water used to clean vehicles, use off site wash racks or commercial washing facilities when practical.</i> • <i>See Vehicle and Equipment Cleaning Section SM-11 for additional information.</i> • <i>For Water-Jet Wash Water used to clean impervious surfaces, the runoff shall not be allowed to flow into drainage structures or State Waters.</i> 	<i>See Vehicle and Equipment Cleaning Section SM-11</i>
<i>Sanitary/Septic Waste</i>	<ul style="list-style-type: none"> • <i>Locate Sanitary facilities in a convenient place away from drainage facilities.</i> • <i>Position sanitary facilities so they are secure and will not be tipped over or knocked down.</i> • <i>Wastewater shall not be discharged to the ground or buried.</i> • <i>A licensed service provider shall maintain sanitary/septic facilities in good working order.</i> • <i>Schedule regular waste collection by a licensed transporter.</i> • <i>See Sanitary/Septic Waste Section SM-7 for additional requirements.</i> 	<i>See Sanitary/Septic Waste Section SM-7.</i>

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END OF SECTION 209

- 46 (1) Blaw-Knox bituminous pavers shall be
47 equipped with the Blaw-Knox Materials
48 Management Kit (MMK).
49
50 (2) Cedarapids bituminous pavers shall be those
51 that were manufactured in 1989 or later.
52
53 (3) Barber-Green/Caterpillar bituminous pavers
54 shall be equipped with deflector plates as
55 identified in the December 2000 Service
56 Magazine entitled "New Asphalt Deflector Kit
57 {6630, 6631, 6640}".

58
59 Prior to the start of using the paver for placing plant
60 mix, the Contractor shall submit for approval a full
61 description in writing of the means and methodologies that
62 will be used to prevent bituminous paver segregation. Use of
63 the paver shall not commence prior to receiving approval
64 from the Engineer.
65

66 The Contractor shall supply a Certificate of
67 Compliance that verifies that the approved means and
68 methods used to prevent bituminous paver segregation have
69 been implemented on all pavers used on the project and is
70 working in accordance with the manufacturer's
71 requirements."
72

73 **(VI) Amend Section 401.03(F)(1) HMA Pavement Courses One and a**
74 **Half Inches Thick Or Greater**, from lines 499 to 505 to read as follows:
75

76 **"(1) HMA Pavement Courses One and a Half Inches Thick Or**
77 **Greater.** Where HMA pavement compacted thickness indicated
78 in the contract documents is 1-1/2 inches or greater, compact to not
79 less than 92.0 percent nor greater than 97.0 percent of the
80 maximum specific gravity determined in accordance with AASHTO
81 T 209, modified by deletion of Supplemental Procedure for Mixtures
82 Containing Porous Aggregate."
83

84 **(VII) Amend Section 401.04 Measurement**, from lines 597 to 603 to read as
85 follows:
86

87 **"401.04 Measurement.**
88

89 **(A)** The Engineer will measure asphalt concrete payment for the speed
90 humps per each in accordance with the contract documents.
91

92 (VIII) Amend **Section 401.05 Payment**, from lines 605 to 635, to read as
93 follows:

94
95 **“401.05 Payment.** The Engineer will pay for the accepted pay items
96 listed below at the contract price per pay unit, as shown in the proposal schedule.
97 Payment will be full compensation for the work prescribed in this section and the
98 contract documents.

99
100 The Engineer will pay for each of the following pay items when included in
101 the proposal schedule:

102	Pay Item	Pay Unit
103		
104		
105	Install New 5' x 12' Speed Hump;	Each
106	In Place Complete	
107		
108	Install New 6' x 12' Speed Hump;	Each
109	In Place Complete	

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END OF SECTION 401

SECTION 629 - PAVEMENT MARKINGS

Make the following amendments to said Section:

(I) Amend **Subsection 629.03(B) – Temporary Pavement Markings** by revising the third paragraph from line 62 to 63 to read:

“Maintain and replace temporary pavement markings, flexible delineators, and barricades. ”

(II) Amend **Table 629.03 – 1 – Temporary Pavement Markings** to read as follows:

“TABLE 629.03-1 TEMPORARY PAVEMENT MARKINGS	
TYPE	PAVEMENT MARKINGS
Passing Permitted - Both Sides	Single 4-inch yellow stripe 5 feet in length spaced 20 feet on center with Type D markers spaced 40 feet on center and located on center of 5-foot length of stripe.
Passing Prohibited - Both Sides	Double solid 4-inch yellow stripes with Type D markers placed 20 feet on center on one of 4-inch yellow stripes selected by the Engineer.
Passing Permitted - One Side Only	Single continuous 4-inch yellow stripe with Type D markers placed on stripe 20 feet on center on no-passing side and single 4-inch yellow stripes 5 feet in length spaced 20 feet on center on passing side.
Lane Lines - Lane Changing Permitted	Single 4-inch yellow or white stripe 5 feet in length spaced 20 feet on center with Type C or Type D markers spaced 40 feet on center.
Lane Lines - Lane Changing Prohibited	Double solid 4-inch white stripes with Type C markers placed 20 feet on center on one of the 4-inch white stripes selected by the Engineer.
Crosswalk	Two 12-inch white transverse lines spaced 8 feet on center or as ordered by the Engineer.
Stop Line	Single 12-inch white transverse line.
Note: Paint may be used for temporary markings in areas where final paving is not complete.”	

(III) Amend **629.04 – Measurement** by revising lines 292 to 294 to read as follows:

19 **“629.04 Measurement.**

20
21 (A) The Engineer will measure thermoplastic and preformed pavement
22 marking tape per linear foot or per each in accordance with the
23 contract documents. The longitudinal pavement markings will be
24 measured per linear foot for the width specified in the contract and in
25 the proposal.

26
27 The Contractor shall consider the work required for the removal of
28 pavement markings incidental to the various contract items, except as
29 provided in the proposal or elsewhere in the contract. If the contract
30 stipulates that the Engineer will make payment for the removal of
31 pavement markings, the Engineer will measure the removal of
32 pavement markings.

33
34 (B) The Engineer will measure the painted stripes that are twelve (12)
35 inches wide or less as a single stripe.

36
37 The Engineer will measure the longitudinal pavement markings by
38 the linear foot or per each according to the contract.”

39
40 (IV) Amend **629.05 – Payment** by revising lines 296 to 330 to read as follows:

41
42 **“629.05 Payment.**

43
44 (A) The Engineer will pay for thermoplastic and preformed pavement
45 marking tape at the contract price per linear foot or per each according
46 to the contract, complete in place, including primers.

47
48 The contract unit price paid shall be full compensation for furnishing
49 labors, materials, tools, equipment and incidentals and for doing the
50 work involved in furnishing and installing pavement markings complete
51 in place according to the contract.

52
53 The Engineer will not pay for the temporary pavement markings
54 including flexible delineator posts with reflector markers or Type I
55 Barricades and temporary signs installed for the longitudinal guidance
56 of public traffic over reconstructed areas, cold planed surfaces, newly
57 paved surfaces or other unmarked or scarified areas for payment if not
58 shown in the proposal separately. The Engineer will consider them
59 incidental to the various contract items.

60
61 If the contract specifies payment for temporary pavement markings
62 installed as ordered by the Engineer for special temporary traffic
63 patterns, the Engineer will pay from an allowance for “Temporary
64 Construction Zone Markings”.

66 The Engineer will compute the actual amount paid to the Contractor
67 for force account work according to Subsection 109.06 – Force
68 Account Provisions and Compensation.

69
70 If the contract specifies payment for removal of pavement markings
71 under unit price pay items, the Engineer will pay for the accepted
72 quantities at the contract unit prices bid. The prices shall be full
73 compensation for removing such items according to the contract.

74
75 (B) The Engineer will pay for painted pavement striping at the contract
76 price per linear foot or per each according to the contract.

77
78 The Engineer will pay for the following pay items when included in
79 the proposal schedule:

Pay Item	Pay Unit
4-Inch Double Yellow Pavement Markings; In Place Complete	Linear Foot
12-Inch White Speed Hump Advance Warning Pavement Markings; In Place Complete	Linear Foot
12-Inch White Speed Hump Pavement Markings; In Place Complete	Each

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END OF SECTION 629

48 Install New Speed Hump Sign Each
49 on New Post; In Place Complete

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51 Install New Speed Hump Sign and 15 Each
52 MPH Advisory Speed Plaque on New
53 Post; In Place Complete

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55

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END OF SECTION 631

1 **SECTION 755 – PAVEMENT MARKING MATERIALS**

2
3 Make the following amendments to said Section:

4
5 **(I)** Amend **Subsection 755.02 (C) Retroreflective Pavement Markers** by
6 revising lines 223 to 236 to read:

7
8 “Exterior surface of shell shall be smooth and contain one or two
9 retroreflective faces of specified color.”

10
11 **(II)** Amend **Subsection 755.05 (C)(1) Material Properties** by adding the
12 following after line 869:

13
14 **(f)** The glass spheres shall not contain more than 200 ppm (total)
15 arsenic, 200 ppm (total) antimony nor more than 200 ppm (total)
16 lead, when tested according to EPA Methods 3052 and 6010C.
17 Other suitable x-ray fluorescence spectrometry analysis methods
18 may be used to screen samples of glass spheres for arsenic and
19 lead content.”

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26
27 **END OF SECTION 755**