



## 209.02

48 requirements of Subsection 712.01 - Water. Installation and other  
49 requirements shall in accordance with portions of Section 641- Hydro-Mulch  
50 Seeding.

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52 **(F) Silt Fences.** Silt fences shall be synthetic filter fabric mounted on  
53 posts and embedded in compacted ground in accordance with contract  
54 documents, and shall be in compliance with ASTM D6462, Standard Practice  
55 for Silt Fence Installation.

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57 **(G) Berms.** Berms shall be gravel or sand wrapped with geotextile  
58 material. Alternate materials are allowable if acceptable to Engineer.

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

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## 63 209.03 Construction.

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65 **(A) Preconstruction Requirements.**

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67 **(1) Water Pollution, Dust, and Erosion Control Meeting.**  
68 Submit site specific BMP to Engineer. Schedule a water pollution,  
69 dust, and erosion control meeting with Engineer after site specific  
70 BMP is accepted in writing by Engineer. Meeting shall be scheduled  
71 14 days before start of construction work. Discuss sequence of work,  
72 plans and proposals for water pollution, dust, and erosion control.

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74 **(2) Water Pollution, Dust, and Erosion Control Submittals.**  
75 Submit the following:

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77 **(a)** Written site-specific BMP describing activities to  
78 minimize water pollution and soil erosion into State waters,  
79 drainage or sewer systems. BMP shall include the following:

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81 **1.** An identification of potential pollutants and their  
82 sources.

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84 **2.** A list of all materials and heavy equipment to be  
85 used during construction.

86

87 **3.** Descriptions of the methods and devices used to  
88 minimize the discharge of pollutants into State waters,  
89 drainage or sewer systems.

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91 **4.** Details of the procedures used for the  
92 maintenance and subsequent removal of any erosion or  
93 siltation control devices.

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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.
  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.
  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.

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**(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 storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or waste, and show areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include separate drawing for each phase of construction that alters drainage patterns. Indicate approximate date when device will be installed and removed.

142 (c) Construction schedule.

143

144 (d) Name(s) of specific individual(s) designated responsible  
145 for water pollution, dust, and erosion controls on the project  
146 site. Include home and business telephone numbers, fax  
147 numbers, and e-mail addresses.

148

149 (e) Description of fill material to be used.

150

151 Date and sign BMP. Keep accepted copy on site  
152 throughout duration of the project. Revisions to the BMP shall  
153 be included with original BMP. Modify contract documents to  
154 conform to revisions. Include actual date of installation and  
155 removal of BMP. Obtain written acceptance by Engineer  
156 before revising BMP.

157

158 Follow guidelines in the “Best Management Practices  
159 Manual for Construction Sites in Honolulu”, in developing,  
160 installing, and maintaining BMPs for all projects. Follow  
161 Honolulu’s City and County “Rules for Soil Erosion Standards  
162 and Guidelines” for all projects on Oahu. Use respective Soil  
163 Erosion Guidelines for Maui, Kauai and Hawaii projects.

164

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

168

169 Install, maintain, monitor, repair and replace site-specific BMP  
170 measures, such as for water pollution, dust and erosion control; installation,  
171 monitoring, and operation of hydrotesting activities; removal and disposal of  
172 hazardous waste indicated on plans, concrete cutting slurry, concrete curing  
173 water; or hydrodemolition water.

174

175 Furnish, install rain gage in a secure location for projects that require  
176 NPDES permit from the Department of Health prior to field work including  
177 installation of site-specific BMP. Provide rain gage with a tolerance of at  
178 least 0.05 inches of rainfall, and an opening of at least 1-inch diameter.  
179 Install rain gage on project site in an area that will not deter rainfall from  
180 entering the gate opening. Maintain rain gage and replace rain gage that is  
181 stolen, does not function properly or accurately, is worn out, or needs to be  
182 relocated. Do not begin field work until rain gauge is installed and site  
183 specific BMPs are in place. Do not begin field work until rain gauge is  
184 installed and site specific BMPs are in place.

185

186 Address all comments received from Engineer.

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188           Modify and resubmit plans and construction schedules to correct  
189 conditions that develop during construction which were unforeseen during the  
190 design and pre-construction stages.

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

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195           Limit maximum surface area of earth material exposed at any time to  
196 300,000 square feet. Do not expose or disturb surface area of earth material  
197 (including clearing and grubbing) until BMP measures are installed and  
198 accepted in writing by Engineer. Protect temporarily or permanently  
199 disturbed soil surface from rainfall impact, runoff and wind before end of  
200 workday.

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202           Protect exposed or disturbed surface area with mulches, grass seeds  
203 or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add  
204 tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate  
205 of 125 pounds per acre. For hydromulch use the ingredients and rates  
206 required for mulches and grass seeds.

207  
208           Apply fertilizer to mulches, grass seed or hydromulch at a rate of 450  
209 pounds per acre. Apply an additional 250 pounds per acre every 90 calendar  
210 days.

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212           Install velocity dissipation measures when exposing erodible surfaces  
213 greater than 15 feet in height.

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215           BMP measures shall be in place and operational (such as shaping the  
216 earthwork to control and directing the runoff) at the end of workday. Shaping  
217 earthwork may include constructing earth berms along the top edges of  
218 embankments if acceptable to Engineer.

219  
220           Install and maintain either or both stabilized construction entrances  
221 and wheel washes to minimize tracking of dirt and mud onto roadways.  
222 Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other  
223 material tracked onto the road immediately. Modify stabilized construction  
224 entrances to prevent mud from being tracked onto road. Stabilize entire  
225 access roads if necessary.

226  
227           Chemicals may be used as soil stabilizers for either or both erosion  
228 and dust control if acceptable to Engineer.

229  
230           Provide temporary slope drains of rigid or flexible conduits to carry  
231 runoff from cuts and embankments. Provide portable flume at the entrance.  
232 Shorten or extend temporary slope drains to ensure proper function.

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234           Protect ditches, channels, and other drainageways leading away from  
235 cuts and fills at all times by either:

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(1) Hydro-mulching the lower region of embankments in the immediate area.

(2) Placing an 8- to 15-inch layer of excavated rock, if available on-site, without reducing the cross section of the drainageway. Rocks shall be less than four inches in diameter.

(3) Installing check dams and salutation control devices.

(4) Other methods acceptable to Engineer.

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

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.

Cleanup and remove any pollutant that can be attributed to Contractor.

Install or modify BMP measures due to change in Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted site specific BMP or a BMP that replaces an accepted site specific BMP that is not satisfactorily performing.

Properly maintain all BMP features. Inspect, prepare a written report, and make repairs to BMP measures at following intervals:

(1) Weekly during dry periods.

(2) Within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period.

(3) Daily during periods of prolonged rainfall.

(4) When existing erosion control measures are damaged or not operating properly as required by site specific BMP.

Remove, destroy, replace or relocate any BMP that must be removed, destroyed, replaced or relocated due to potential or actual flooding, or potential danger or damage to project or public.

279 Maintain records of inspections of BMP work. Keep continuous  
280 records for duration of the project. Submit weekly copy of records to  
281 Engineer.

282  
283 In addition to weekly reports, submit to Engineer all amounts spent  
284 initializing and maintaining BMP during previous week. Amount spent  
285 includes, but is not limited to: purchases of erosion control material,  
286 construction of storage areas, and installation of water pollution, erosion and  
287 dust control measures. Submit report weekly along with site inspection  
288 report.

289  
290 Protect finished and previously seeded areas from damage and from  
291 spillover materials placed in upper lifts of embankment.

292  
293 The Contractor's designated representative specified in Subsection  
294 209.03(A)(2)(d) shall address any BMP concerns brought up by Engineer  
295 within 24 hours of notification, including weekends and holidays. Failure to  
296 satisfactorily address these concerns, Engineer reserves the right to employ  
297 outside assistance or use Engineer's own labor forces to provide necessary  
298 corrective measures. Engineer will charge Contractor such incurred costs  
299 plus any associated project engineering costs. Engineer will make  
300 appropriate deductions from Contractor's monthly progress estimate. Failure  
301 to apply BMP measures shall result in either or both the establishment and  
302 increase in the amount of retainage due to unsatisfactory progress or  
303 withholding of monthly progress payment. Continued failure to apply BMP  
304 measures may result in one or more of the following: assessment of  
305 liquidated damages, suspension, or cancellation of Contract with Contractor  
306 being fully responsible for all additional costs incurred by State.

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308 **(C) Hydrotesting Activities.** If work includes removing, relocation or  
309 installing waterlines, and Contractor elects to flush waterline or discharge  
310 hydrotesting effluent into State waters or drainage systems, obtain an  
311 NPDES Hydrotesting Waters Permit from Department of Health, Clean Water  
312 Branch (DOH-CWB).

313  
314 Do not begin hydrotesting activities until the DOH-CWB has issued a  
315 Notice of General Permit Coverage (NGPC). Hydrotesting operations shall  
316 be in accordance with conditions in NGPC. Submit a copy of the NPDES  
317 Hydrotesting Waters Application and Permit to Engineer.

318  
319 **(D) Dewatering Activities.** If excavation of backfilling operations require  
320 dewatering, and Contractor elects to discharge dewatering effluent into State  
321 waters or existing drainage systems, obtain NPDES General Permit  
322 Coverage authorizing discharges associated with construction activity

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323 dewatering from Department of Health, Clean Water Branch (DOH-CWB). If  
324 permit is required, prepare and submit permit application (CWB-NOI Form G)  
325 to DOH-CWB.

326  
327 Do not begin dewatering activities until DOH-CWB has issued Notice  
328 of General Permit Coverage (NGPC). Conduct dewatering operations in  
329 accordance with conditions in NGPC. Submit copy of NPDES Hydrotesting  
330 Waters Application and Permit to Engineer.

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**209.04 Measurement.**

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

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

341

342 **209.05 Payment.** Engineer will pay for accepted pay items listed below at  
343 contract price per pay unit, as shown in the proposal schedule. Payment will be full  
344 compensation for work prescribed in this section and contract documents.

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346 Engineer will pay for each of the following pay items when included in  
347 proposal schedule:

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Pay Item	Pay Unit
Installation, Maintenance, Monitoring, and Removal of BMP	Lump Sum
Additional Water Pollution, Dust, and Erosion Control	Force Account

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353 An estimated amount for force account is allocated in proposal schedule  
354 under 'Additional Water Pollution, Dust, and Erosion Control', but actual amount to  
355 be paid will be the sum shown on accepted force account records, whether this sum  
356 be more or less than estimated amount allocated in proposal schedule. Engineer  
357 will pay for BMP measures requested by Engineer that are beyond scope of  
358 accepted site specific BMP and for litter management due to rubbish created by the  
359 public on a force account basis.

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363 No progress payment will be authorized until Engineer accepts in writing site-  
364 specific BMP or when Contractor fails to maintain project site in accordance with  
365 accepted BMP.

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367 For all citations or fines received by the Department for non-compliance with  
368 Notice of General Permit Coverage (NGPC), the Contractor shall reimburse State

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369 within 30 days for full amount of outstanding cost State has incurred, or Engineer will  
370 deduct cost from progress payment.

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

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**END OF SECTION 209**