2012 Construction General Permit (CGP) – Fact Sheet

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I. Background

Congress passed the Federal Water Pollution Control Act of 1972 (Public Law 92-500, October 18, 1972) (hereinafter the Clean Water Act or CWA), 33 U.S.C. 1251 et seq., with the stated objectives to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 101(a), 33 U.S.C. 1251(a). To achieve this goal, the CWA provides that "the discharge of any pollutant by any person shall be unlawful" except in compliance with other provisions of the statute. CWA section 301(a). 33 U.S.C. 1311. The CWA defines "discharge of a pollutant" broadly to include "any addition of any pollutant to navigable waters from any point source." CWA section 502(12). 33 U.S.C. 1362(12). EPA is authorized under CWA section 402(a) to issue a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant from a point source. These NPDES permits are issued by EPA regional offices or NPDES authorized state or tribal agencies. Since 1972, EPA and the authorized states have issued NPDES permits to thousands of dischargers, both industrial (e.g., manufacturing, energy and mining facilities) and municipal (e.g., sewage treatment plants). As required under Title III of the CWA, EPA has promulgated Effluent Limitations Guidelines (ELGs) and New Source Performance Standards (NSPS) for many industrial point source categories, and these requirements are incorporated into NPDES permits. The Water Quality Act (WQA) of 1987 (Public Law 100-4, February 4, 1987) amended the CWA, adding CWA section 402(p), requiring implementation of a comprehensive program for addressing stormwater discharges. 33 U.S.C. 1342(p).

Clean Water Act Stormwater Program.

Prior to the Water Quality Act of 1987, there were numerous questions regarding the appropriate means of regulating stormwater discharges within the NPDES program due to the serious water quality impacts of stormwater discharges, the variable nature of stormwater, and the large number of stormwater point sources. EPA undertook numerous regulatory actions in an attempt to address these unique discharges. Congress, with the addition of section 402(p), established a structured and phased approach to address stormwater discharges and fundamentally altered the way stormwater is addressed under the CWA as compared with other point source discharges of pollutants. Section 402(p)(1) created a temporary moratorium on NPDES permits for point source stormwater discharges, except for those listed in section 402(p)(2), including dischargers already required to have a permit and discharges associated with industrial activity. In 1990, pursuant to section 402(p)(4), EPA promulgated the Phase I stormwater regulations for those stormwater discharges listed in 402(p)(2). See 55 FR 47990 (November 16, 1990). The Phase I regulations required NPDES permit coverage for discharges associated with industrial activity and from "large" and "medium" municipal separate storm sewer systems (MS4s). CWA section 402(p)(2). As part of that rulemaking, the Agency interpreted stormwater "discharges associated with industrial activity" to include stormwater discharges associated with "construction activity" as defined at 40 CFR 122.26(b)(14)(x). See 55 FR 48033-34. As described in the Phase I regulations, dischargers must apply for and obtain authorization to discharge (or "permit coverage"), and a permit is required for discharges associated with construction activity, including clearing, grading, and excavation, if the construction activity:

- will result in the disturbance of five acres or greater; or
- will result in the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or greater.

See 40 CFR 122.26(b)(14)(x) and (c)(1). These discharges associated with "large" construction activity are one of the categories of stormwater dischargers EPA defined as associated with industrial activity. See 40 CFR 122.26(b)(14).

Section 402(p)(6) establishes a process for EPA to evaluate potential sources of stormwater discharges not included in the Phase I regulations and to designate those discharges for regulation in order to protect water quality. Section 402(p)(6) instructs EPA to "issue regulations…which designate stormwater discharges, other than those discharges described in [section 402(p)(2)], to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources." In 1999, pursuant to the broad discretion granted to the Agency under section 402(p)(6), EPA promulgated the Phase II stormwater regulations that designated discharges associated with "small" construction activity and "small" MS4s. 64 FR 68722 (December 8, 1999). An NPDES permit is required for discharges associated with "small" construction activity, including clearing, grading, and excavation, if the construction activity:

- will result in land disturbance of equal to or greater than one acre and less than five acres; or
- will result in disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.

See 40 CFR 122.26(b)(15).

EPA continues to have the authority to use section 402(p)(6) to designate additional stormwater discharges for regulation under the CWA in order to protect water quality. See 40 CFR 122.26(a)(9)(i)(C)-(D); see also *Envt Defense Ctr. v. EPA*, 344 F.3d 832, 873-76 (9th Cir. 2003).

NPDES Permits for Stormwater Discharges Associated With Construction Activity.

The NPDES regulations provide two options for obtaining authorization to discharge or "permit coverage": general permits and individual permits. A brief description of these types of permits as they apply to C&D sites follows.

(a) General NPDES Permits.

The vast majority of discharges associated with construction activity are covered under NPDES general permits. EPA, states, and tribes use general permits to cover a group of similar dischargers under one permit. See 40 CFR 122.28. General permits simplify the process for dischargers to obtain authorization to discharge, provide permit requirements for any discharger that files a notice of intent to be covered, and reduce the administrative workload for NPDES permitting authorities. General permits, including the fact sheet describing the rationale for permit conditions, are issued by NPDES permitting authorities after an opportunity for public review of the proposed general permit. Typically, to obtain authorization to discharge under a construction general permit, a discharger (any owners and operators of the construction site; typically, a developer, builder, and/or contractor) submits to the permitting authority a Notice of Intent (NOI) to be covered under the general permit. An NOI is not a permit or a permit application (see *Texas Independent Producers and Royalty Owners Ass'n v. EPA*, 410 F.3d 964, 977-78 (7th Cir. 2005)), but by submitting the NOI, the discharger acknowledges that it is eligible for coverage under the general permit and that it agrees to the conditions in the published general permit. Discharges associated with the construction activity are authorized consistent with the terms and conditions established in the general permit.

After reviewing information regarding permit eligibility contained in the NOI, EPA, states and tribes have the authority to notify a construction site operator that it is required to apply for an individual permit on a case-by-case basis if the permitting authority determines that the operator does not meet the conditions for coverage. Examples of situations that might trigger such a determination are when the proposed discharges has the reasonable potential to cause or contribute to an exceedance of applicable water quality standards, or when it may adversely affect a Federally listed threatened or endangered species. In some cases, the permitting authority may allow the operator to proceed with coverage under the general permit provided additional control measures designed to address the specific issue at hand are adopted. Additionally, operators always have the option to apply for an individual permit. See 40 CFR 122.28(b)(3). Individual permits are discussed in Section VI.4.5.

(b) EPA Construction General Permit (CGP).

Since 1992, EPA has issued a series of Construction General Permits (CGPs) that cover areas where EPA is the NPDES permitting authority. At present, EPA is the permitting authority in four states (Idaho, Massachusetts, New Hampshire, and New Mexico), the District of Columbia, Puerto Rico, all other U.S. territories with the exception of the Virgin Islands, construction projects undertaken by Federal Operators in four states (Colorado, Delaware, Vermont, and Washington), most Indian Country lands and a couple of other specifically designated activities in specific states (e.g., oil and gas activities in Texas and Oklahoma). See Appendix B for a complete list of areas covered by EPA's CGP. The 2008 CGP became effective on June 30, 2008 (see 74 FR 40338), and expired on February 15, 2012. The 2012 CGP replaces the 2008 CGP as well as the 2003 CGP, for construction sites still covered under those administratively continued permits.

(c) Individual NPDES Permits.

A permitting authority may require any construction site to apply for an individual permit rather than using the general permit. Likewise, any discharger may request to be covered under an individual permit rather than seek coverage under an otherwise applicable general permit. See 40 CFR 122.28(b)(3). Unlike a general permit, an individual permit is intended to be issued to one permittee, or a few co-permittees. Individual permits for stormwater discharges from construction sites are rarely used, but when they are, are most often used for very large projects or projects located in sensitive watersheds. EPA estimates that less than one half of one percent (< 0.5%) of all construction sites in the country are covered under individual permits.

Technology-Based Effluent Limitations Guidelines and Standards in NPDES Permits.

Effluent limitations guidelines (ELGs) and new source performance standards (NSPSs) are technology-based effluent limitations required by CWA sections 301 and 306 for categories of point source discharges. These effluent limitations, which can be either numeric or non-numeric, along with water quality-based effluent limitations, if necessary, are incorporated into NPDES permits. ELGs and NSPSs are based on the degree of control that can be achieved using various levels of pollutant control technology as defined in Title III of the CWA and summarized as follows:

1. Best Practicable Control Technology Currently Available (BPT) - The CWA requires EPA to specify BPT effluent limitations guidelines for conventional, toxic, and nonconventional pollutants. In doing so, EPA is required to determine what level of control is technologically available and economically practicable. CWA section 301(b)(1)(A). In specifying BPT, the CWA requires EPA to look at a number of factors. EPA considers the total cost of application of technology in relation to the effluent reduction benefits to be

achieved from such application. The Agency also considers the age of the equipment and facilities, the process employed and any required process changes, engineering aspects of the application of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the Administrator deems appropriate. CWA section 304(b)(1)(B).

2. Best Available Technology Economically Achievable (BAT) - BAT effluent limitations guidelines are applicable to toxic (priority) and nonconventional pollutants. EPA has identified 65 pollutants and classes of pollutants as toxic pollutants, of which 126 specific pollutants have been designated priority toxic pollutants. See 40 CFR 401.15 and 40 CFR part 423, Appendix A. In general, BAT represents the best available performance of facilities through application of the best control measures and practices economically achievable including treatment techniques, process and procedure innovations, operating methods, and other alternatives within the point source category. CWA section 304(b)(2)(A). The factors EPA considers in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the processes employed, the engineering aspects of the control technology, potential process changes, non-water quality environmental impacts (including energy requirements), and such factors as the Administrator deems appropriate. CWA section 304(b)(2)(B).
3. Best Conventional Pollutant Control Technology (BCT) - The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with BCT technology for discharges from existing point sources. BCT is not an additional limitation, but replaces Best Available Technology (BAT) for control of conventional pollutants. In addition to other factors specified in CWA section 304(b)(4)(B), the Act requires that EPA establish BCT limitations after consideration of a two- part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in July 1986. 51 FR 24974 (July 9, 1986). Section 304(a)(4) designates the following as conventional pollutants: biochemical oxygen demand (BOD_5), total suspended solids (TSS), fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. See 40 CFR 401.16. The Administrator designated oil and grease as an additional conventional pollutant. 44 FR 44501 (July 30, 1979). CWA section 304(b)(4)(B).
4. Best Available Demonstrated Control Technology (BADT) for New Source Performance Standards (NSPS) - NSPS apply to all pollutants and reflect effluent reductions that are achievable based on the BADT. New sources, as defined in CWA section 306, have the opportunity to install the best and most efficient production processes and wastewater treatment technologies. As a result, NSPS should represent the greatest degree of effluent reduction attainable through the application of the best available demonstrated control technology. In establishing NSPS, CWA section 306 directs EPA to take into consideration similar factors that EPA considers when establishing BAT, namely the cost of achieving the effluent reduction and any non-water quality, environmental impacts and energy requirements. CWA section 306(1)(B).

NPDES permits issued for construction stormwater discharges are required under Section 402(a)(1) of the CWA to include conditions for meeting technology-based effluent limitations guidelines established under Section 301 and, where applicable, any new source performance standard established under Section 306. Once an effluent limitations guideline or new source performance standard is promulgated in accordance with these sections, NPDES permits are required to incorporate limits based on such limitations and standards. See 40 CFR 122.44(a)(1). Prior to the promulgation of national effluent limitation guidelines and standards, permitting

authorities incorporate technology-based effluent limitations on a best professional judgment basis. See CWA section 402(a)(1)(B); 125.3(a)(2)(ii)(B).

EPA's Construction and Development Effluent Limitations Guidelines and New Source Performance Standards

On December 1, 2009, EPA promulgated effluent limitations guidelines (ELGs) and new source performance standards (NSPS) to control the discharge of pollutants from construction sites. See 74 Fed. Reg. 62996, and 40 CFR 450.21. These requirements, known as the "Construction and Development Rule" or "C&D rule", became effective on February 1, 2010. Because the 2012 CGP is being issued after the effective date of the C&D rule, EPA is required to incorporate the C&D rule requirements into this permit. For this reason, the 2012 CGP includes significant modifications to the 2008 CGP to reflect these requirements. A summary of the C&D rule requirement is included in Section II below.

II. Summary of C&D Rule Requirements

The C&D rule requirements include (1) non-numeric effluent limitations that apply to all permitted discharges from construction sites (40 CFR 450.21), and (2) a numeric effluent limit for turbidity (which is the subject of an indefinite stay) that applies to certain larger sites (40 CFR 450.22 - .24). Because the numeric effluent limit for turbidity is stayed, it is not included in the 2012 CGP. This section summarizes both types of the C&D rule's effluent limits.

Non-Numeric Effluent Limits.

The C&D rule's non-numeric effluent limitations are structured to require construction operators to first prevent the discharge of sediment and other pollutants through the use of effective planning and erosion control measures; and second, to control discharges that do occur through the use of effective sediment control measures. Permittees are also required to implement a range of pollution prevention measures to limit or prevent discharges of pollutants including those from dry weather discharges.

The non-numeric effluent limitations are designed to prevent the mobilization and stormwater discharge of sediment and sediment-bound pollutants, such as metals and nutrients, and to prevent or minimize exposure of stormwater to construction materials, debris and other sources of pollutants on construction sites. In addition, these non-numeric effluent limitations limit the generation of dissolved pollutants, such as nutrients, organics, pesticides, herbicides and metals that may be present naturally in the soil on construction sites, such as arsenic or selenium, or may have been contributed by previous activities on the site such as agriculture or industrial. These pollutants, once mobilized by rainfall and stormwater, can detach from the soil particles and become dissolved pollutants. Once dissolved, these pollutants would not be removed by down-slope sediment controls. Source control through minimization of soil erosion is therefore the most effective way of controlling the discharge of these pollutants.

The C&D rule's non-numeric effluent limits are as follows (see 40 CFR 450.21):

a. Erosion and Sediment Controls: Permittees are required to design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed and maintained to:

i. Control stormwater volume and velocity within the site to minimize soil erosion;

ii. Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;

iii. Minimize the amount of soil exposed during construction activity;

iv. Minimize the disturbance of steep slopes;

v. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater discharge, and soil characteristics, including the range of soil particle sizes expected to be present on the site;

vi. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible; and

vii. Minimize soil compaction and, unless infeasible, preserve topsoil.

b. Soil Stabilization Requirements: Permittees are required to, at a minimum, initiate soil stabilization measures immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the permitting authority. In arid, semi-arid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, vegetative stabilization measures must be initiated as soon as practicable.

c. Dewatering Requirements: Permittees are required to minimize the discharge of pollutants from dewatering trenches and excavations. Discharges are prohibited unless managed by appropriate controls.

d. Pollution Prevention Measures: Permittees are required to design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

i. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

ii. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and

iii. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. Prohibited Discharges: The following discharges from C&D sites are prohibited:

i. Wastewater from washout of concrete, unless managed by an appropriate control;

ii. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and

iv. Soaps or solvents used in vehicle and equipment washing.

f. Surface Outlets: When discharging from basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible.

This Fact Sheet will detail how EPA has incorporated these requirements into its 2012 CGP in the sections below. The discussion will include a summary of each provision, the Agency's rationale for articulating the provision in this way, and, where applicable, a comparison between the provision and the requirements of the 2008 CGP. EPA notes that a number of the 2008 CGP's provisions are retained in the 2012 CGP.

Numeric Effluent Limit.

EPA also promulgated as part of the C&D rule a numeric limit for turbidity that applies to sites disturbing 10 or more acres at a time. As noted above, this limit is indefinitely stayed and is not included in this permit, however the Agency is providing the following status report to provide context for the current permit and future CGPs. The numeric effluent limit as written into the C&D rule at 40 CFR 450.22 states as follows:

a. Beginning no later than August 1, 2011 during construction activity that disturbs 20 or more acres of land at one time, including non-contiguous land disturbances that take place at the same time and are part of a larger common plan of development or sale; and no later than February 2, 2014 during construction activity that disturbs ten or more acres of land area at one time, including non-contiguous land disturbances that take place at the same time and are part of a larger common plan of development or sale, the following requirements apply:

(1) Except as provided by paragraph (b) of this section, the average turbidity of any discharge for any day must not exceed the value listed in the following table:

Pollutant	Daily Maximum Value (NTU)[1]
Turbidity	280

[1]Nephelometric turbidity units.

(2) Conduct monitoring consistent with requirements established by the permitting authority. Each sample must be analyzed for turbidity in accordance with methods specified by the permitting authority.

b. If stormwater discharges in any day occur as a result of a storm event in that same day that is larger than the local 2-year, 24-hour storm, the effluent limitation in paragraph (a)(1) of this section does not apply for that day.

EPA's Stay of the Numeric Turbidity Limit / Effects on EPA's CGP

EPA notes that since the promulgation of the C&D rule, EPA discovered that the data used to calculate the numeric limit for turbidity were misinterpreted, and that the record is insufficient to support the numeric limit for turbidity that was promulgated in December of 2009. On August 12, 2010, EPA filed a motion with the U.S. Court of Appeals for the Seventh Circuit, requesting the Court issue an order vacating and remanding to the Agency limited portions of the final C&D rule regulation. To address the specific issues raised by petitioners, the motion also provided that EPA:

- "may address (and if necessary take further regulatory action on) certain impacts of the final rule specific to linear gas and electricity utility projects."

- will "solicit site specific information regarding the applicability of a numeric limit" to cold weather sites and to small sites that are part of a larger plan of development that is subject to the numeric limit.

On August 24, 2010 the U.S. Court of Appeals for the Seventh Circuit remanded the matter to EPA but did not vacate the 280 NTU numeric limit. On September 9, 2010, the National Association of Home Builders (NAHB) filed a motion for clarification (which EPA did not oppose) asking the court to (1) vacate the limit and (2) hold the case in abeyance instead of remanding the case to EPA. On September 20, 2010, the Court granted the motion in part by ruling to hold the matter in abeyance pending EPA consideration of the numeric limit and the other remand issues, but the Court did not vacate the 280 NTU limit. Instead, the Court stated that "EPA may make any changes to the limit it deems appropriate, as authorized by law."

EPA finalized a stay, effective January 4, 2011, of the numeric limitation of 280 NTU that was published in the December 1, 2009, Construction and Development Effluent Limitation Guideline, resulting in an indefinite postponement of the implementation of the 280 NTU limit. Since the numeric portion of the rule was stayed, states are no longer required to incorporate the numeric turbidity limitation and monitoring requirements found at §450.22(a) and §450.22(b). However, the remainder of the regulation, including the non-numeric effluent limitations described above, is still in effect and must be incorporated into newly issued permits.

The final CGP is directly affected by the stay in that, due to the stay, the permit does not need to include the numeric turbidity limit. When EPA issued the draft permit for public comment, the Agency was uncertain whether its work to complete the recalculation of the numeric turbidity limit would be completed in time to incorporate into the final permit. To be able to implement the yet to be promulgated turbidity limit in the final permit, EPA included in the draft permit a placeholder for the effluent limit, as well as proposed implementation requirements such as turbidity monitoring and reporting protocols. Because EPA is still in the process of collecting data to support the recalculation of the numeric turbidity limit, and therefore a final numeric turbidity limit is not yet available to implement, the Agency has finalized the 2012 CGP without the numeric limit and related monitoring and reporting requirements. EPA has, however, implemented the remaining portion of the C&D rule that was not affected by the stay of the numeric limit.

III. Summary of Significant Changes to the CGP

The final permit includes a number of new or modified requirements, many of which are related to the implementation of the new C&D rule effluent limits, and thus differ from the 2008 CGP. The following list summarizes the changes to the CGP:

Structure/Appearance of Permit

EPA attempted to restructure its CGP so that it would be better organized to present requirements in a generally more readable manner. It is EPA's hope that this structure will enhance the permittees' understanding of and compliance with the permit's requirements. For instance, the permit's stormwater control requirements are organized into distinct and related categories, such as erosion and sediment control requirements, stabilization requirements, and pollution prevention requirements.

Eligibility for Emergency-Related Construction

EPA provides immediate authorization for construction activities required for response to public emergencies (e.g., natural disaster such as a tornado or hurricane, widespread disruption in essential public services). Immediate authorization will enable work that is necessary to avoid

imminent endangerment to human health or the environment, or to reestablish essential public services, to proceed without administrative delay. The construction operator must submit an NOI and develop a stormwater pollution prevention plan (SWPPP) within 30 calendar days after commencing earth-disturbing activities, whereas typically operators must submit NOIs 14 days prior to commencing earth-disturbing activities.

Eligibility for Use of Treatment Chemicals

EPA authorizes the use of polymers, flocculants, or other treatment chemicals at sites provided operators using treatment chemicals comply with the requirements in Part 2.1.3.3 of the permit. The use of cationic treatment chemicals is not eligible for permit coverage unless the applicable EPA Regional Office specifically approves its use together with any additional controls necessary to ensure that the use of such chemicals does not result in an exceedance of applicable water quality standards.

Endangered Species and Historic Properties Requirements

Construction operators are required to follow the procedures for determining eligibility related to the protection of listed endangered or threatened species and their critical habitat and to the consideration of impacts to historic properties. See Appendices D and E, respectively.

Authorization Process / NOIs

EPA has increased the "waiting period" from 7 days to 14 days for construction site operators seeking coverage under this permit. This new 14-day timeframe is intended to better reflect the endangered species-related reviews that must take place prior to authorization. EPA also is hoping to maximize the use of its electronic NOI, or eNOI, process for authorizing construction discharges by requiring that construction operators seek coverage using the eNOI system. A "paper NOI" will still be allowed in cases where filing an eNOI is not feasible, but approval by the applicable EPA Region is necessary.

Sediment and Erosion Controls

The final permit includes specific requirements that implement the C&D rule's sediment and erosion control limits. While some of these requirements are already included in the 2008 CGP, the final permit includes more detail and additional requirements in order to more closely track the language and organization of the C&D rule. The following is a list of requirements that can be considered significant modifications to the 2008 CGP:

1. Installation of Sediment Controls Prior to Construction – By the time earth-disturbing activities in any given portion of the site have begun, operators must install and make operational any downgradient sediment controls for the initial site clearing, grading, excavating, and other land-disturbing activities, unless infeasible. Following the installation of these initial controls, all other stormwater controls described in the SWPPP must be installed and made operational as soon as conditions allow.
2. General Maintenance Requirements – The final permit includes requirements for initiating work to fix problems on the same day that they are found and completing such work by the close of the next work day if the problem does not require significant repair or replacement, or if problem can be corrected through routine maintenance.
3. Buffer Compliance Alternatives – To implement the C&D rule requirement to provide and maintain natural buffers around surface waters, unless infeasible, sites must ensure that any discharges flowing through the area between the disturbed portions of the property and any surface waters located on or within 50 feet of the property on which the construction activities will occur are treated by an area of undisturbed natural

vegetation and/or additional erosion and sediment controls to achieve a reduction in sediment loads equivalent to that achieved by 50 feet of undisturbed natural vegetation. Certain exemptions to this requirement based on feasibility considerations are also provided. Appendix G of the final permit has been added to provide guidance to operators in complying with this requirement.

4. Perimeter Controls – Operators are required to install sediment controls along those perimeter areas of the site that will receive stormwater from earth-disturbing activities.
5. Exit Points – Operators are required to minimize track-out of sediment onto streets and other paved areas from vehicles exiting the construction site. To comply with this requirement, the operator must (1) restrict vehicle use to properly designated exit points, (2) use appropriate stabilization techniques and other controls, as necessary, at all points that exist onto paved roads, (3) where necessary, use additional controls to remove sediment from vehicle tires prior to exit and (4) remove tracked-out sediment from paved surfaces by the end of the work day in which the track out occurs or by the end of the next work day if track-out occurs on a non-work day.
6. Storm Drain Inlets – Controls must be installed and maintained to remove sediment from the discharge prior to entry into any storm drain inlets that carry stormwater flow directly from the site to a surface water and that are accessible to the operator.
7. Dewatering Practices – Specific controls and discharge restrictions apply to sites that will discharge ground water or accumulated stormwater removed from excavations, trenches, foundations, vaults, or other similar points of accumulation.

Stabilization Requirements

The permit includes modified stabilization requirements that define more specifically what EPA requires for temporary and final stabilization.

Pollution Prevention

Beyond adopting the specific C&D rule requirements for pollution prevention and the prohibition of certain discharges, the final permit includes specific control requirements that ensure pollutant discharges are eliminated or minimized, depending on the source. The pollution prevention requirements restrict the discharge of a wide range of construction-related chemicals and materials, including fertilizers, at construction sites.

Water Quality-Based Effluent Limits

In addition to general requirements that protect water quality in all receiving waters, the final permit includes specific requirements that apply to sites discharging to waters impaired for common pollutants associated with construction activities, such as sediment and nutrients, and to sites discharging to high quality waters. For such sites, construction activities are subject to additional requirements, including tighter stabilization deadlines (complete stabilization within 7 calendar days of the temporary or permanent cessation of construction activities) and more frequent site inspections. The permit also includes additional requirements for waters identified as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes.

Site Inspections

The frequency of inspections generally is increased relative to the 2008 CGP. EPA believes that inspections are a cost-effective means of ensuring that controls are operating properly and thus protecting water quality. The storm event size that triggers site inspections for those using a storm-based schedules is also decreased from a 0.5 inch storm event to a 0.25 inch storm event. EPA has found that most storm events of 0.25 inches or greater do lead to discharges, so that inspection is warranted if the operator is using a storm-based inspection

schedule. For multi-day storms, EPA has also clarified that an inspection is required both during or after the first day of the event and after the end of the event. As in the 2008 CGP, operators may also choose a fixed inspections schedule that is not storm dependent. EPA makes explicit the requirement for permittees to visually assess the quality of the discharge (e.g., color, odor, floating, settled, or suspended solids) if the site inspection occurs during a discharge-generating rain event.

Corrective Actions

Although the 2008 CGP required corrective action, it did not include specific requirements instructing the permittee as to what conditions trigger specific corrective actions and what deadlines apply. The final permit includes specific triggering conditions for corrective action as well as deadlines to fix such problems and document what was done.

Stormwater Pollution Prevention Plan (SWPPP)

The SWPPP requirements are modified in accordance with the changes discussed above. In general, the requirements are more specific than, but consistent with the 2008 CGP.

Notice of Termination

EPA includes additional requirements that affect when a site may terminate coverage under the CGP. For instance, beyond enabling sites to terminate coverage when earth-disturbing activities have stopped and the site is stabilized, the permit requires the removal of all temporary stormwater controls and construction materials, waste, and waste handling devices.

IV. Geographic Coverage of the Permit

This permit provides coverage for stormwater discharges associated with construction activities that occur in areas not covered by an approved State NPDES program. The areas of geographic coverage of this permit are listed in Appendix B, and include the states of Idaho, Massachusetts, New Hampshire, and New Mexico as well as all Indian Country lands, and construction projects undertaken by Federal Operators in selected states. Permit coverage is also provided in the District of Columbia, Puerto Rico, and all other U.S. territories with the exception of the Virgin Islands. The only changes to the 2008 CGP's area of coverage is that Indian Country lands in Region 4 and the Denali National Park and Preserve in Region 10 are now added to the permit's area of coverage. In addition, construction sites within the State of Alaska are no longer covered under EPA's CGP due to the delegation of NPDES program responsibilities to the state.

V. Categories of Facilities That Can Be Covered Under This Permit

The final permit provides coverage for stormwater discharges associated with construction activities located in one of the areas identified in Appendix B, which disturb 1 or more acres of land, or will disturb less than one acre, but are part of a common plan of development or sale that will ultimately disturb 1 acre or more. See 40 CFR 122.26(b)(14)(x) and (15), and Part 1.1 of the permit. Table 1 summarizes which construction activities are covered by this permit:

Table 1 Categories of facilities that can be covered under this permit.

Examples of Affected Entities	North American Industry Classification System (NAICS) Code
Construction site operators disturbing 1 or more acres of land, or less than 1 acre but part of a larger common plan of development or sale if the larger common plan will ultimately disturb 1 acre or more, and performing the following activities:	
Building, Developing and General Contracting	236
Heavy Construction	237

Note that this list of NAICS codes covers those industry segments most likely to make use of this permit, but any construction operator that meets the eligibility requirements laid out for coverage is eligible. Eligibility for coverage by the permit is available to "new projects", "existing projects", "new operators of new projects or existing projects", and operators of "emergency-related projects", as discussed in Part 1.2 and defined in Appendix A.

VI. How to Obtain Permit Coverage Under the CGP (Part 1)

Part 1 of the CGP details the requirements that must be met to obtain coverage under the permit. Although this section has been reorganized from prior permits, many of the requirements for coverage and the process to be followed for seeking coverage remain unchanged.

VI.1 Eligibility Conditions for All Projects (Part 1.1)

Part 1.1 includes the eligibility conditions for coverage under the CGP. The following conditions must be met in order to be eligible for permit coverage:

1. The applicant is an operator of the construction project for which discharges will be covered under this permit;

   For the purposes of this permit, an "operator" is any party associated with a construction project that meets either of the following two criteria:

   - *The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or*
   - *The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit).*

   EPA notes that subcontractors are generally not considered operators for the purposes of this permit.

Part 1.1 specifies that when there are multiple operators associated with the same project, all operators are required to obtain permit coverage. If one operator has control over plans and specifications and a different operator has control over activities at the project site, they may divide responsibility for compliance with the terms of this permit as long as they develop a group SWPPP, which documents which operator has responsibility for each requirement of the permit. If an operator only has operational control over a portion of larger project (e.g., one of four homebuilders in a subdivision), the operator is responsible for compliance with all applicable effluent limits, terms, and conditions of this permit as it relates to the activities on their portion of the construction site, including protection of endangered species, critical habitat, and historic properties, and implementation of control measures described in the SWPPP. The operator must also ensure either directly or through coordination with other permittees that their activities do not render another party's stormwater controls ineffective. Part 1.1 also specifies that if the operator of a "construction support activity" (see Part 1.3.c) is different from the operator of the main construction site, that operator is also required to obtain permit coverage.

2. The project will disturb 1 or more acres, or will disturb less than 1 acre but is part of a common plan of development or sale that will ultimately disturb 1 or more acres, or the project's discharges have been designated by EPA as needing a permit under § 122.26(a)(1)(v) or § 122.26(b)(15)(ii).
3. The construction project is located in an area where EPA is the permitting authority. For a list of such areas, see Appendix B.
4. Discharges from the project are not:
    a. Already covered by a different NPDES stormwater permit for the same discharge. Note that this does not include sites currently covered under the 2003 or 2008 CGPs; or
    b. In the process of having coverage under another NPDES stormwater permit denied, terminated, or revoked. Note that this does not include the following: (1) sites currently covered under the 2003 or 2008 CGPs, which are in the process of obtaining coverage under this permit, and (2) sites covered under this permit, which are transferring coverage to a different operator.

    EPA notes that notwithstanding a project being made ineligible for coverage under this permit because it falls under the description of (a) or (b) above, EPA may waive the applicable restriction after specific review if it determines that coverage under this permit is appropriate.
5. Discharges from the site are not likely to adversely affect any species that are federally-listed as endangered or threatened under the Endangered Species Act (ESA) and will not result in the adverse modification or destruction of habitat that is federally-designated as "critical habitat" under the ESA. To demonstrate this, one of the criteria listed in Appendix D must be met, following the procedures set forth in that appendix;
6. The operator has completed the screening process in Appendix E with respect to the protection of historic properties and places; and
7. Any specific requirements for the construction project respecting eligibility as imposed by the applicable state, tribe, or territory and listed in Part 9 of this permit have been complied with.

Part 1 of the CGP also requires the operator to satisfy the conditions in Parts 1.2 through 1.5, if applicable, to obtain coverage under this permit.

- *Purpose:* The requirements in Part 1.1 describe all the conditions that must be met for the project to be eligible for coverage under this permit. Listing these eligibility conditions in Part 1.1 ensures that operators have verified that their particular construction project, and stormwater discharges from it, are eligible for coverage.

  The definition of "operator" in eligibility condition (1) above is a slightly modified version of the definition of "operator" that was included in the 2008 CGP. The party that meets the first part of the definition of "operator" (*the party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications)* in most cases will be the owner of the site. The party that meets the second part of the definition of "operator" (*the party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit))* in most cases will be the general contractor of the project. Where there are multiple operators associated with the same project, all parties meeting the definition of "operator" are required to obtain permit coverage. EPA clarifies that subcontractors do not meet the definition of "operator", and thus are not required to obtain permit coverage.

  Operators of construction support activities (as defined in Part 1.3.c) are also required to obtain permit coverage if they are not the same entity as the operator of the main construction site. For example, if a construction support activity for the project is owned by a separate owner, and if the separate owner meets the definition of "operator", that person would be required to obtain permit coverage for discharges from the site where the support activities are located. However, if the construction support activity is owned or operated by the site operator, then the support activity must be included in the site operator's permit coverage, including any documentation provided in the NOI and SWPPP.

  All of the eligibility requirements in Part 1.1 of the final permit were included in Part 1.3 of the 2008 CGP or elsewhere as conditions of coverage.

VI.2 Eligibility Conditions That Apply Depending on Type of Project (Part 1.2)

VI.2.1 Eligibility for Emergency-Related Construction Activity (Part 1.2.1)

Part 1.2.1 describes permit eligibility for earth-disturbances that occur in response to a public emergency (e.g., a natural disaster, widespread disruption in essential public services). If earth-disturbances require immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services, permit coverage for discharges associated with such earth-disturbances are authorized on the condition that a complete and accurate NOI is submitted within 30 calendar days after commencing earth-disturbing activities (see Table 1 of the permit). Part 1.2.1 also requires the operator to provide documentation in their SWPPP to substantiate the occurrence of a public emergency.

- *Purpose:* EPA recognizes that obtaining CGP coverage following the normal procedures is not feasible in situations requiring emergency-related construction. Although the eligibility provisions in Part 1.2.1 for emergency-related construction activity were not included in the 2008 CGP, EPA includes them in the 2012 CGP to ensure that the authorization process does not interfere with emergency-related construction projects

required to avoid endangerment to human health, public safety, or the environment. By providing the operators of these projects with the ability to immediately begin work, and to postpone the NOI submission and SWPPP completion deadlines for 30 calendar days, EPA intends that these projects may proceed without delay. Once the initial 30 calendar days has expired, however, it is the requirement of this permit that an NOI be submitted for permit coverage and that a SWPPP must be completed.

VI.2.2 Water Quality Standards - Eligibility for New Sources. (Part 1.2.2)

Part 1.2.2 describes permit eligibility with regard to new sources (as defined in Appendix A). If the project is a "new source", it is not eligible for discharges that EPA, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify the permittee that an individual permit application is necessary in accordance with Part 1.2.2. However, EPA may authorize coverage under this permit after the permittee has included appropriate controls and implementation procedures designed to bring the discharge into compliance with water quality standards. In the absence of information demonstrating otherwise, EPA expects that compliance with the stormwater control requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

- *Purpose:* The requirements in Part 1.2.2, which apply to new sources, are designed to comply with 40 CFR 122.4(i) requirements that address the issuance of permits to new sources to waterbodies not meeting instream water quality standards. The requirements in Part 1.3 are the same as the corresponding requirements in Part 1.3.C.4 of the 2008 CGP.

  EPA notes that while Part 1.2.2 is designed to specifically implement 40 CFR 122.4(i), other water quality based requirements apply to existing sources. Part 3 of the permit includes water quality based effluent limits applicable to all sources, which are designed to ensure that all discharges from all permittees are controlled as necessary to meet water quality standards.

VI.2.3 Discharging to Waters with High Water Quality – Eligibility for New Sources. (Part 1.2.3)

Part 1.2.3 includes the eligibility requirements for new sources discharging to a Tier 2, Tier 2.5, or Tier 3 water . Part 1.2.3 provides eligibility to operators whose sites will discharge to a Tier 2, Tier 2.5, or Tier 3 water only if their discharge will not lower the water quality of the applicable water. In the absence of information demonstrating otherwise, EPA expects that compliance with the stormwater control requirements of this permit, including the requirements applicable to such discharges in Part 3.3.2, will result in discharges that will not lower the water quality of the applicable water. EPA provides a list of Tier 2, Tier 2.5, and Tier 3 waters in Appendix F.

- *Purpose:* The purpose of the specific requirements in Part 1.2.3 for discharging to high quality waters is to ensure compliance with antidegradation requirements applicable to Tier 2, Tier 2.5, and Tier 3 waters.

  The requirements in Part 1.2.3 correspond to the requirements in Part 1.3.C.4 of the 2008 CGP, but include additional specificity by requiring permittees to determine first if they discharge to a Tier 2, Tier 2.5, or Tier 3 water, and if they do, to comply with specific requirements in the permit, which are intended to ensure that their discharges will not result in a lowering of water quality. The additional specificity makes clear to permittees

their requirements for complying with antidegradation requirements, and provides greater assurance that permittees will not cause or contribute to a lowering of water quality.

VI.2.4 Use of Cationic Treatment Chemicals. (Part 1.2.4)

If the operator plans to use cationic treatment chemicals (as defined in Appendix A), they are ineligible for coverage under this permit, unless they notify the applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after they have included appropriate controls and implementation procedures designed to ensure that their use of cationic treatment chemicals will not lead to a violation of water quality standards. In the absence of such authorization, to use cationic treatment chemicals at the site, the operator must apply for and receive coverage under an individual permit.

- *Purpose:* To clarify what operators electing to use cationic chemicals must do to be eligible for coverage under this permit and when they are ineligible for coverage, and therefore must seek coverage under an individual NPDES permit.

Background

A number of coagulants and flocculants, including polymers, are available on the market and are in wide use for the control of pollutants, not only on construction sites, but to reduce sediment from agricultural fields and to reduce pollutants in discharges from wastewater treatment plants to name a few (74 Fed. Reg. 63008). EPA had anticipated that, with the promulgation of a numeric turbidity limit in December 2009, the number of sites that would want to employ treatment chemicals would rise significantly. Although the use of treatment chemicals was not specifically required in the originally promulgated numeric effluent limit (which has since been stayed), the technology basis underlying the numeric limit was "passive treatment", which itself relied on the addition of polymers to enhance the sediment removal capabilities of standard erosion and sediment controls. Because the exceedance of the effluent limit would have been considered a permit violation, EPA expected that many site operators would have elected to use treatment chemicals in order to ensure a high rate of sediment removal and a better chance of compliance, as compared to strictly relying upon the use of standard sediment and erosion controls.

Now that EPA has stayed numeric turbidity limit, and a recalculated limit has not yet been promulgated, this permit does not include a numeric limit for turbidity. In the absence of a specific turbidity limit, EPA does not expect there to be a significant increase in the of treatment chemicals at permitted construction sites. EPA is, however, aware that in some areas covered by this permit, operators are being required to meet end-of-pipe turbidity limits based on the applicable water quality criteria for the receiving stream. Where they are subject to such requirements, there already has been an expressed interest in using treatment chemicals to ensure that they are discharging in compliance with the receiving water turbidity limits. Because such permittees covered by this permit are likely to choose to utilize treatment chemicals at their sites, EPA needs to ensure that these chemicals are properly used.

In the context of the C&D rule, EPA found that with the right operator training and proper usage, chemicals can be used properly on sites to avoid risk to aquatic species. In that context, EPA's evaluation of passive treatment technologies included consideration of potential environmental risks of relying on chemical addition. The following is an excerpt from the C&D rule's discussion of these issues:

> "Knowledge from toxicity studies suggest that polymers are highly variable as to their toxic effects on aquatic organisms (see discussion of toxicity in the Environmental Assessment). … While EPA recognizes that there is the potential for problems due to improper application of polymers, EPA has determined that when properly used, environmental impacts from polymers or flocculants should not occur through the use of passive treatment systems. The dose ranges where polymers are utilized on construction sites are well below the chronic toxicity levels. The utilization of polymers on construction sites has occurred for a significant period of time and they are currently being used on construction sites throughout the nation. EPA recognizes the merits of ensuring that polymers or other chemical additives, if necessary, are properly used. Permitting authorities should carefully consider the appropriateness of usage of these materials where there are sensitive or protected aquatic organisms in the receiving waters, including threatened or endangered species and their critical habitat. NPDES permitting authorities may establish controls on dosage and usage, protocols for residual toxicity testing, require prior approval before the use of particular polymers, training requirements for site operators or other measures they deem appropriate." 74 Fed. Reg. 63008.

Therefore, while concluding that environmental risks would be minimized by ensuring that these chemical additives are properly used and that the permitting authority should play a lead role in determining what is deemed proper usage as a whole or in individual cases, EPA also recognized that there may be certain chemicals the use of which may require individualized review. In addition, EPA recognized that there may be instances where the use of chemicals would be inappropriate given the sensitivity of aquatic species, suggesting the importance of evaluating chemicals and determining if and under what circumstances they can be used.

EPA's proposed permit included a number of provisions related to the use of treatment chemicals. While the use of chemicals would have been authorized under the proposed permit, EPA proposed to prohibit the discharge of a specific class of chemicals (i.e., cationic treatment chemicals[1]), except in conformance with local and state requirements, and requested comment on the way in which these chemicals should be regulated. A common theme among the comments was that EPA should take extreme precaution when authorizing the use of these chemicals, especially in light of data suggesting that they are acutely toxic to aquatic species and the fact that the use of chemicals on construction sites is far different from the type of highly engineered systems used for water or wastewater treatment. In response to the comments received on the use of these chemicals, EPA conducted additional research regarding the relative toxicity of cationic chemicals for aquatic species. EPA confirmed that cationic chemicals have been found to be acutely toxic to some species. EPA's research is encapsulated in a memorandum entitled *Literature Survey of Polymer Toxicity for Construction General Permit (CGP) Work Group* (Office of Research & Development, November 2011), which is available in the docket for the final permit.

In addition to the public comments and the Agency's aquatic toxicity research, EPA also considered approaches that state permitting programs have taken to regulate cationic treatment chemicals. While states differ in the way their permits or related standards or guidance documents regulate these chemicals, EPA has found that where

[1] Cationic treatment chemicals are polymers, flocculants, or other chemicals that contain an overall positive charge. Among other things, they are used to reduce turbidity in stormwater discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Common examples of cationic treatment chemicals are chitosan and cationic PAM.

cationic chemicals are specifically addressed, the use of these chemicals is heavily regulated. In these states, the use of cationic treatment chemicals is either prohibited outright or subject to controls that other chemicals are not. These considerations have led EPA to the conclusion that use of cationic treatment chemicals at construction sites requires additional safeguards of the type that are generally included in the individual permit process. However, in recognition of the fact that some operators have successfully used cationic treatment chemicals to achieve significant reductions in sediment discharges and protection of water quality, EPA is open to such operators providing to their Regional EPA Office, in advance of submitting their NOI to EPA, an explanation of the controls and safeguards they will employ to ensure that use of such chemicals does not lead to toxic effects to aquatic organisms in the receiving waters. See discussion below regarding the type of information that will be relevant to EPA's evaluation of any requests to use cationic treatment chemicals. EPA emphasizes that the burden is on the operator to develop such controls and present them to the Regional EPA Office for consideration. EPA will review this information and evaluate whether it believes that such controls are sufficient to ensure that the use of cationic treatment chemicals will not result in a violation of water quality standards. EPA may determine that additional controls are necessary after such an evaluation, and the Agency may authorize the use of cationic chemicals under the permit subject to these additional controls. The Regional Office also may direct the operator to either not use cationic chemicals or seek coverage under an individual permit.

EPA's Rationale for Requiring Specific Authorization or Individual Permits for Cationic Treatment Chemicals

EPA took several factors into account in coming to the conclusion that the use of cationic treatment chemicals at regulated construction sites would be ineligible for coverage under the CGP, except in the circumstances described above. These include the following:

- EPA's anticipation in the C&D rule of specific polymers that may need to be approved on a case-by-case basis;
- The acute toxicity of cationic chemicals to aquatic species;
- Approaches taken by state NPDES permitting authorities;
- Feedback provided in public comments;
- Site-specific considerations necessary to determine proper dosage; and
- The effects of receiving water turbidity.

Each of these factors are discussed in detail below.

<u>C&D Rule</u>

EPA acknowledged in the C&D rule preamble that there may be some treatment chemicals that may require individualized review prior to their use on specific sites. For instance, in the context of discussing the importance of ensuring that polymers are properly used and to consider the appropriateness of using chemicals in areas where there are sensitive species, EPA stated "NPDES permitting authorities may establish controls on dosage and usage, protocols for residual toxicity testing, require prior approval before the use of particular polymers, training requirements for site operators or other measures they deem appropriate" (74 Fed. Reg. 63008). This statement points to the fact that EPA anticipated the need to potentially take additional precautions when

authorizing the use of some chemicals at permitted sites. These additional precautions include the possibility of requiring individual permits to review and approve the use of certain chemicals on a case-by-case basis.

Acute Toxicity

During the development of this final permit, EPA conducted further research into the relative toxicity of chemicals commonly used for treatment of construction stormwater discharges. This research was intended to supplement the aquatic toxicity data collected as part of the C&D rule promulgation, and to address comments received on the proposed CGP relating to toxicity. The research focused on different formulations of chitosan, a cationic compound, and both cationic and anionic polyacrylamide (PAM). In summary, the studies found significant toxicity resulting from use of chitosan and cationic PAM in laboratory conditions, and significantly less toxicity associated with using anionic PAM. For instance, one study found that after exposure to 0.75 ppm of acidified chitosan, 12 of 15 cultured rainbow trout died within 24 hours, while 6 of the 15 specimens died after exposure to 0.075 ppm. See Bullock et. al., *Toxicity of Acidified Chitosan for Cultured Rainbow Trout*, Aquaculture, Vol. 185 (2000), p. 273-280. In the same study, the lowest observed effect to rainbow trout was found at 0.038 ppm.

The lethality in fish species results when the positive charge of the cationic chemical binds to the negative charge of the fish gills. The adhesion of the cationic chemical to the gills interferes with oxygen uptake resulting in suffocation. The Agricultural Research Service (ARS), which has conducted significant research into the use of PAM for use in soil conservation, makes the following conclusions about cationic PAM:

> "It is important to emphasize the need to use anionic PAMs in these applications. Neutral PAMs and especially cationic PAMs have been shown to have LC_{50}s low enough for concern to certain aquatic organisms, whereas anionic PAMs have not. Cationics are attracted to the hemoglobin in fish gills. Suffocation occurs when fish are placed in otherwise clean waters that contain low levels of cationic PAM." See *PAM Primer: A Brief History of PAM and PAM-Related Issues*, R.E. Sojka and R.D. Lentz, http://www.ars.usda.gov/Research/docs.htm?docid=18876.

In comparison to cationic chemicals, the use of non-oil based PAM has shown minimal toxicity even at 10 times the normal erosion control concentration, 10 ppm. See Weston et. al., *Toxicity of Anionic Polyacrylamide Formulations When Used for Erosion Control in Agriculture*, Journal of Environmental Quality, Vol. 38 (2009), p. 238-247. Refer to EPA's Office of Research & Development memorandum entitled *Survey of Polymer Toxicity for Construction General Permit (CGP) Work Group* (November 2011), which is downloadable from the docket for this permit.

State Permitting Programs

Where state permitting programs have specifically addressed cationic treatment chemicals, they have either prohibited their use outright (or advised against their use) or required that they be subject to controls that other chemicals are not. The following is a summary of approaches found in various state permitting documents regarding the use of cationic treatment chemicals:

State	Document	Requirement
California	CGP	Provides coverage under the general permit for Active Treatment Systems (ATS) which employ cationic chemicals. Permit requires permittee to conduct jar tests to determine proper chemical and dosage level, to meet a 10 NTU turbidity limit, and to conduct residual testing or toxicity testing in some cases.
Michigan	Technical Guidance for Use of PAM for Soil Erosion Control	Identifies only anionic PAM as being non-toxic.
Mississippi	CGP	Prohibits use of cationic chemicals.
New Hampshire	State regulations (Env-Wq 1506.12(f)(5))	Chemical flocculants required to be anionic.
Virginia	Erosion and Sediment Control Bulletin	Advises against use of cationic chemicals.
Washington	Technology Assessment Protocol – Ecology (TAPE Program)	Use of chemical flocculants required to be reviewed and approved under TAPE program. TAPE authorizes use of chitosan-enhanced sand infiltration, which requires permittees to meet maximum dosage requirements, to conduct regular jar tests to adjust dosage levels, to monitor influent and effluent for pH, turbidity, and flow, and to potentially conduct residual or aquatic testing.
Wisconsin	Construction Site Erosion & Sediment Control Tech. Standards (150)	Prohibits use of cationic chemicals.

EPA also notes that one Federal agency, the Natural Resources Conservation Service (NRCS), advises that PAM not be cationic. See NRCS Conservation Practice Standard (Code 450), Anionic PAM Application, downloadable at http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_026468.pdf and ARS' *PAM Primer, A Brief History of PAM and PAM-Related Issues* ("The specific PAM copolymer formulation should be anionic **(NOT cationic)"**), available at http://www.ars.usda.gov/Research/docs.htm?docid=18876.

Feedback from Public Comments

For the proposed CGP, EPA requested comment on a draft provision prohibiting the discharge of cationic polymers, except for chitosan, and whether the permit should include a maximum dosage level and residual testing requirements for chitosan. EPA heard from a number of commenters about their concerns with the use of chemicals in general. The following is a summary of some of the noteworthy comments EPA received:

- "Using a chemical (even a naturally occurring one) in a water treatment plant is far different than in a construction site. At the construction site, the water flow is highly variable, and even if the operator is sufficiently trained, there is a temptation to use more than necessary since the object is to keep the turbidity below permitted

release values. If not enough earns you a citation for too much turbidity, and too much earns you one for toxicity/fish kills, this approach may be more problematic than problem solving." Maryland Builders Association.

- "Allowable chemical treatment alternatives should be limited to those that are able to show zero or very low toxicity to fish and other aquatic life rather than requiring residual testing. Chemicals can do a great job in helping precipitate fine soils but if we are using toxic chemicals to assist in that effort, the risk to the environment would be less if we just capture the sediment that we can through strictly mechanical means and let the rest go." ETI Corporation.
- "Residual testing for polymers and dosage rates should be included in the Permit. EPA should include maximum dosage rates to prevent over application. Typically, construction workers or operators are not trained in the harmful effects of these substances on aquatic organism and over application may occur. The use of polymers, while providing a good sediment control system, must be monitored closely to reduce or eliminate the possible added pollution and environmental degradation it would cause if excess amounts are released into a receiving stream. It appears that EPA does not have enough data to determine what level of certain polymers (i.e. Chitosan) in the discharge can have an impact on plants and benthic organisms. Therefore, EPA should provide funding for the monitoring of the effects of polymers (i.e., Chitosan) on aquatic organisms." North Carolina Department of the Environment.
- "From an environmental perspective, the use of chemicals such as flocculants and polymers poses a risk to the environment and human health if used improperly. If chemicals are to be used for enhanced sediment removal, then an additional permit and residual testing should be required. Optionally, the operator could supply credentials such as training in the use of these chemicals and give a reason that the chemicals will be better suited for the treatment of the wastewater to warrant their use." Maryland Association of Industrial and Office Properties.

EPA also received comments that supported a more site-specific permitting approach to approving the use of treatment chemicals. The following are excerpts from these comments:

- "EPA should clarify this section to either allow chemical treatment on a site specific basis or provide exemptions if a site will otherwise be required to use chemicals to meet a specific requirement." National Association of Homebuilders.
- "… the levels of acceptable chitosan residuals should be established specific to the receiving water. There are many receiving waters where it is likely that low level chitosan residuals would present little or no likely harm to the environment." Leading Builders of America.
- "Attempting to dictate a specific dosing or maximum dosing given uniqueness of each project and application would be difficult. Suggest that operator should be required to follow manufacturer recommendations and that the permit not specify any specific or maximum dosage." City of Meridian.

Although the focus of these comments was not on the use of cationic treatment chemicals alone, they suggest that where the Agency finds there to be risks associated with chemicals released into the environment, the Agency should carefully consider what permitting approach would work best considering the potential toxicity and the types of sites being regulated.

Site-Specific Dosage Considerations

To manage the toxicity of cationic treatment chemicals and to avoid overapplication, agencies have recognized the importance of establishing maximum dosage rates and, in some instances, to require these rates to be adjusted where significant variables, such as soil type, flow rate, and turbidity change during construction. The following are some examples of how state agencies have incorporated dosage considerations in the regulation of cationic treatment chemicals:

- California CGP: Concerning treatment requirements for active treatment systems (ATS), which use cationic polymers, "1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003). 2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS. 3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics." (CA CGP, Attachment F, D.1-3, http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_att_f.pdf)
- Washington, Requirements for Chitosan-Enhanced Sand Infiltration Technologies: "The chitosan dose rate for water entering the filters shall not exceed 1 mg/L StormKlear™ LiquiFloc™ (as chitosan by weight). All calibration results must be recorded simultaneously with the flowrates and kept on site. … Jar tests will be conducted at startup to determine the dosage level of chitosan acetate solution. Additional jar tests will be conducted when influent turbidity changes by 20% or greater. Jar test results must be recorded in the daily operating log. If the results of the jar test indicate that the dose needs to be adjusted, the jar testing results and the indicated dose rate change shall be documented in the daily operating log." (WA Department of Ecology, *Use Designations Erosion and Sediment Control for Chitosan-Enhanced Sand Filtration Using StormKlear™ LiquiFloc™, January 2008,* http://www.ecy.wa.gov/programs/wq/stormwater/newtech/use_designations/LiquiFlocGUD012208.pdf)
- Wisconsin, Standards for Polymer Use: "Maximum application rates, per storm event, in pounds per acre-feet shall be the lesser of WDNR's use restriction multiplied by 1.35 or the manufacturer's recommended application rate (1.35 is a conversion factor that is used to change the use restriction from ppm to an application rate in pounds per acre-feet)." (WI Department of Natural Resources, Conservation Practice Standard, Interim Sediment Control – Water Application of Polymers (1051), Section VI.C, http://dnr.wi.gov/runoff/pdf/stormwater/techstds/erosion/dnr1050-polyacrylimide.pdf)

This suggests to EPA the need to examine the use of chemicals on a case-by-case basis to ensure that dosage is appropriately considered. EPA recommends that operators who wish to use cationic treatment chemicals consider the dosing and other technical requirements of a state agency that would be most applicable to their discharge as they prepare their site-specific control plans for consideration by the applicable EPA Regional Office. Alternately, they may use other technical publications, manufacturers specifications, and their own prior experience with the use of such chemicals, as appropriate.

Effects of Receiving Water Turbidity

There is a strong electrostatic attraction between cationic polymers and the negative ionic charge of sediment particles that are suspended in the water column. Where free cationic chemical is discharged to surface waters that are relatively turbid (e.g., 1000 NTU), the sediment provides a buffer against the residual chemical.

(According to the Agricultural Research Service, when PAMs are introduced into waters containing sediments, humic acids, or other impurities, the effects of PAMs on biota are greatly buffered. See *PAM Primer, A Brief History of PAM and PAM-Related Issues* available at http://www.ars.usda.gov/Research/docs.htm?docid=18876.)

Once the cationic polymer binds to the sediment particles, they would be expected to stay bound, making them unavailable for binding to fish gills. In the same way, if residual chemical is discharged to a relatively non-turbid waters (e.g., 5 NTU), then the risk to fish species in the receiving water is higher due to the lack of buffering effect of sediment. Therefore, the level of turbidity in the receiving water, provides another site-specific variable that can be taken into account when evaluating the relative risk to aquatic species of using cationic treatment chemicals. However, because turbidity will vary from stream to stream, any consideration of turbidity in permitting cationic treatment chemicals will necessarily need to be on a case-by-case basis.

EPA believes that, at this time, the use of cationic chemicals at regulated construction sites, given their aquatic toxicity and the need to take into account site-specific factors to ensure proper use, requires a case-by-case type of permitting approach. It is for these reasons that EPA has decided to require individual permits or case-by-case authorization for sites that elect to use such chemicals.

Relevant Information to be Considered by EPA for Individual Requests for Authorization to Use Cationic Treatment Chemicals

EPA will need to individually evaluate requests by operators to be authorized under this permit to use cationic treatment chemicals. The operator should contact their applicable EPA Regional Office to determine what specific information they require to properly evaluate each individual request. As a general matter, some of the information that may be pertinent to this evaluation includes, but is not limited to, the following:

- **Soil types present at your site.** A list of the soil types likely to be exposed during construction in the areas of the project that will drain to chemical treatment systems that utilize cationic chemicals. Also, a listing of soil types expected to be found in fill material to be used in these areas, to the extent this information is available prior to construction.
- **Background conditions.** Data that describes background pH and turbidity found in surface waters at the point of discharge from locations on your site that will utilize cationic treatment chemicals. Background levels are be based on the levels found in the receiving water during dry weather conditions. Qualifying data for determining background levels of pH and turbidity includes information from a peer-reviewed publication or a local, state, or federal government publication, or the results of samples you collect yourself of ambient pH and turbidity levels in the receiving water during dry weather conditions.
- **Basis for use of cationic treatment chemical.** An explanation of why the use of cationic treatment chemical is necessary at the site *(e.g., necessary to meet a specific water quality criterion for turbidity);* and information to support why the particular chemicals chosen are appropriate for use in light of the specific soils present at your site and the background levels of pH and turbidity.
- **Specific chemical information.** The following information related to each of the cationic chemicals that will be used at the site:
  - A listing of all cationic treatment chemicals to be used at your site;
  - Copies of Material Safety Data Sheets (MSDS) for each cationic chemical listed in (a), above;
  - Toxicity data for each cationic chemical. This includes data provided by the supplier/provider of the chemical to be used;

- Jar test results for each cationic chemical; and
- Manufacturer specifications regarding the use or recommended dosage levels of each cationic chemical.

- **Site plan.** Supplementary information on the SWPPP site map related to your use of cationic treatment chemicals, such as:
  - Locations where cationic treatment chemicals will be applied and stored on site; and
  - Distance between these locations, and points of discharge.
- **Schematic drawings.** Schematic drawings showing the design of the chemical treatment systems *(e.g., chitosan-enhanced sand infiltration system, passive treatment systems)* to be used at the site.
- **Responsible personnel.** A list of personnel who will be responsible for operating the chemical treatment systems, application of the chemicals, and for compliance with any permit requirements specific to the use of cationic treatment chemicals.

EPA does not anticipate that providing such information to the EPA Regional Office in advance of NOI submission will entail significant burden, since operators would generally need to include such information in their SWPPP or other documentation in any case.

VI.3 Types of Discharges Authorized Under the CGP (Part 1.3)

Part 1.3 lists categories of stormwater discharges that are allowed under the CGP, provided that all applicable permit limits and conditions are met. This list includes the following discharges:

1. Stormwater discharges, including stormwater runoff, snowmelt runoff, and surface runoff and drainage, associated with construction activity;
2. Stormwater discharges designated by EPA as needing a permit under 40 CFR § 122.26(a)(1)(v) or § 122.26(b)(15)(ii);
3. Stormwater discharges from construction support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided;
   a. The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
   b. The support activity is not a commercial operation, nor does it serve multiple unrelated construction projects;
   c. The support activity does not continue to operate beyond the completion of the construction activity at the project it supports; and
   d. Stormwater controls are implemented in accordance with Part 2 and, if applicable, Part 3, for discharges from the support activity areas.
4. The following non-stormwater discharges from your construction activity, provided that, with the exception of water used to control dust and to irrigate areas to be vegetatively stabilized, these discharges are not routed to areas of exposed soil on the site and the permittee complies with any applicable requirements for these discharges in Part 2:
   a. Discharges from emergency fire-fighting activities;
   b. Fire hydrant flushings;
   c. Landscape irrigation;

d. Water used to wash vehicles and equipment , provided there is no discharge of soaps, solvents, or detergents used for such purposes;

e. Water used to control dust;

f. Potable water including uncontaminated water line flushings;

g. Routine external building wash down that does not use detergents;

h. Pavement wash waters provided spills or leaks of toxic or hazardous material have not occurred (unless all spill material has been removed) and where detergents are not used. The permittee is prohibited from directing pavement wash waters directly into any surface water, storm drain inlet, or stormwater conveyance, unless the conveyance is connected to a sediment basin, sediment trap, or similarly effective control;

i. Uncontaminated air conditioning or compressor condensate;

j. Uncontaminated, non-turbid discharges of ground water or spring water;

k. Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated ground water; and

l. Construction dewatering water that has been treated by an appropriate control under Part 2.1.3.4.

5. Discharges of stormwater listed above in (1), (2), and (3), or authorized non-stormwater discharges in (4), which commingles with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES permit authorization.

- *Purpose:* Part 1.3 of the CGP provides permittees with a comprehensive list of the types of discharges that are authorized once covered under this permit. This list makes permittees aware of allowed stormwater discharges, and of any additional requirements associated with those discharges to minimize the discharge of pollutants, and also makes permittees aware that any discharges not included on the list are prohibited from coverage under this permit.

  EPA notes the following changes from the 2008 CGP's list of authorized non-stormwater discharges:

  - In (c) above, added "landscape irrigation"
  - In (d) above, added "equipment"
  - In (h) above, added "provided these waters are not washed into any stormwater conveyance (unless it is connected to a sediment trap or sediment basin), storm drain inlet, or surface water"
  - In (j) above, added "non-turbid"
  - In (k) above, added "or contaminated ground water"
  - In (l) above, added "construction dewatering water that has been treated by an appropriate control under Part 2.1.3.4."

  These changes were made to ensure consistency with the corresponding erosion and sediment control requirements in Part 2 of the permit.

  EPA notes that "uncontaminated" means that the discharge meets water quality standards. Similarly, "non-turbid" means the discharge meets turbidity-related water quality standards. See Appendix A.

VI.4 Submitting Your Notice of Intent (NOI) (Part 1.4)

Part 1.4 specifies that to be covered under the CGP, the operator must submit to EPA a complete and accurate Notice of Intent (NOI) prior to commencing construction activities. There are two exceptions to the requirement to submit the NOI prior to the commencement of construction activities: (1) for emergency-related projects, and (2) for new projects scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012. For these two types of projects, the NOI must be submitted within 30 calendar days after the commencement of earth-disturbing activities. The NOI certifies the permittee is eligible for coverage under Part 1.1 and 1.2, and provides information on the construction operation and discharge.

Part 1.4 also clarifies that authorization is not valid if the NOI upon which authorization is based is incomplete or inaccurate, or if the discharge was never eligible for permit coverage.

Part 1.4 also notes that all "operators" (as defined in Appendix A) associated with your construction project, who meet the Part 1.1 eligibility requirements, and who elect to seek coverage under this permit, are required to submit an NOI, and the operator must complete the development of a Stormwater Pollution Prevention Plan (SWPPP) prior to submitting the NOI for coverage under this permit. The requirement for all operators of the same project to submit separate NOIs is new relative to the 2008 CGP. However, multiple operators of the same construction site may still develop a group SWPPP, as provided for in Part 7.1.1.

- *Purpose:* The requirements in Part 1.4 carries out the fundamental requirement that discharges are not authorized until permit coverage is obtained, and that permit coverage is obtained for the CGP through the submission of a complete and accurate NOI.

VI.4.1 How to Submit Your NOI (Part 1.4.1)

Part 1.4.1 specifies that NOIs must be submitted using the electronic NOI system, or "eNOI system". Go to www.epa.gov/npdes/stormwater/cgpenoi to access the eNOI system and file an NOI. If there is a problem regarding the use of the eNOI system, Part 1.4.1 requires that operators contact the EPA Regional Office that corresponds to the location of the site. If the EPA Regional Office approves the use of a paper NOI, and you elect to use it, the operator must complete the form in Appendix J.

- *Purpose:* The requirements in Part 1.4.1 clarify the method by which operators are to submit their NOIs for permit coverage. This is the third CGP that has made use of the eNOI system. In the past, operators were encouraged to use the eNOI system, but were given the option to submit paper NOIs. Due to the expansion in internet availability, greater efficiency in administrative processing, and reductions in cost to manage the system as compared to paper NOIs, it is required that the eNOI system be the primary mechanism by which construction projects obtain permit coverage. If it is not possible for a permittee to make use of the eNOI system, then permittees may submit a paper NOI to the Regional Office with a waiver request and an explanation as to why use of eNOI is infeasible.

VI.4.2 Deadlines for Submitting Your NOI and Your Official Date of Permit Coverage (Part 1.4.2)

Part 1.4.2 specifies the deadlines for submitting NOIs for permit coverage and official start dates for permit coverage in Table . NOI submittal deadlines vary depending on whether the

particular construction activity can be characterized as a "new project", an "existing project", or a "new operator of a new or existing project." The following definitions apply to the different project types:

- New project – a construction project that commences construction activities on or after February 16, 2012.
- Existing project – a construction project that commenced construction activities prior to February 16, 2012.
- New operator of a new or existing project – an operator that through transfer of ownership and/or operation replaces an already permitted construction project.

Table 1 summarizes the deadlines and permit coverage start dates as follows:

Table 1 NOI Submittal Deadlines and Official Start Date for Permit Coverage.

Type of Construction Project	Deadlines for Operators to Submit NOI	Official Start Date for Permit Coverage
New project	You must submit your NOI at least 14 calendar days prior to commencing earth-disturbing activities. Exception: If your project qualifies as an "emergency-related project" under Part 1.2.1, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities. Exception: If you are scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities.	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies you that your authorization has been delayed or denied. Exception: If your project qualifies as an "emergency-related project" under Part 1.2.1, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied. *Exception:* If you are scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied.
Existing project	You must submit your NOI by no later than May 15, 2012. However, if you have not previously obtained coverage under an NPDES permit, you must submit your NOI immediately.	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgp

Type of Construction Project	Deadlines for Operators to Submit NOI	Official Start Date for Permit Coverage
		noisearch), unless EPA notifies you that your authorization has been delayed or denied. Note that if you are currently covered under the 2003 or 2008 CGP, this coverage continues until your coverage under this permit begins, provided you have submitted an NOI by the deadline.
New operator of a new or existing project	You must submit your NOI at least 14 calendar days before the date the transfer to the new operator will take place.	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies you that your authorization has been delayed or denied.

If the deadline to submit the NOI corresponding to the project type in Table has been missed, any and all discharges will continue to be unauthorized under the Clean Water Act until they are covered by the CGP or a different NPDES permit. EPA may take enforcement action for any unpermitted discharges that occur between the commencement of earth-disturbing activities and discharge authorization.

- *Purpose:* The requirements in Part 1.4.2 provide deadlines for the submission of NOIs based upon the type of construction project.

  The term "new project" in Table 1 is used to describe projects that commence earth disturbing activities on or after February 16, 2012, the effective date of the permit. New projects include those that are subject to the C&D rule's New Source Performance Standards (NSPS) because they commenced construction after February 1, 2010 (the effective date of the C&D rule). The term "new project" was adopted to avoid the confusion that would have resulted if the permit used the term "new source" to describe both projects that began construction after February 1, 2010, but before February 16, 2012, and those projects that begin on or after February 16, 2012. Because the two types of "new sources" would have been subject to two different NOI deadlines, EPA would have had to develop additional subcategories of new sources to avoid confusion, as the Agency did in the proposed permit. EPA hopes that by simplifying the categories of projects, construction operators will find this section to be easy to follow.

  The term "existing project" in Table 1 refers to construction projects that commenced activities prior to February 16, 2012, the effective date of the permit. Existing projects include both those activities that began prior to the February 1, 2010 effective date of the NSPS of the C&D rule, and may have been covered under the 2003 or 2008 CGPs, and those activities that are subject to the NSPS because they commenced after February 1, 2010, but before February 16, 2012.

  The 14-day NOI submittal deadlines in Table 1 for new projects and new operators of a new or existing project provides the Fish & Wildlife Service and the National Marine Fisheries Service (the "Services"), and the public, with an opportunity to review these submissions and to inform EPA if more time is needed to review the potential impacts

from the project. The 14 days between receipt of the NOI and authorization is referred to as the "waiting period".

During the 14-day waiting period, where one or both of the Services requests that they or EPA need to further explore whether or not a particular facility is eligible for permit coverage, EPA can delay authorization to allow such an assessment to take place. EPA may also use the waiting period to determine whether any more stringent requirements are necessary to meet applicable water quality standards, to be consistent with an applicable wasteload allocation (WLA), or to comply with state or tribal antidegradation requirements.

Additionally, during this waiting period, the public has an opportunity to review the NOIs and request review of applicable SWPPPs. Anyone wishing to provide feedback to EPA can send information to the appropriate EPA Regional Office listed in Appendix B of the permit for consideration. EPA clarifies that this waiting period is not a formal permit public notice and comment period. EPA will consider any information provided to it during the waiting period, but does not plan to provide specific responses to comments received. Where appropriate, EPA will address concerns raised (e.g., will require the relevant operator to make improvements to the designed stormwater controls). Depending on the nature of the issue and the timing of the comments, EPA will require appropriate action either prior to or following discharge authorization. In addition, EPA may delay authorization if warranted, or may determine that the discharge is not eligible for authorization under this permit.

Table 1 describes that operators of emergency-related projects are considered provisionally covered under the terms and conditions of this permit immediately upon the start of construction, and unprovisionally covered 14 calendar days after EPA acknowledges receipt of their NOI through posted information on EPA's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies the permittee that their authorization has been delayed or denied.

If the requests a waiver and submits a paper NOI, the 14-day period prior to permit coverage is the same as above, however this period commences only after the NOI Processing Center completes manual entry of the paper NOI information into the eNOI system. Note that if the paper NOI contains errors or is incomplete, this will result in delaying the commencement of the 14-day waiting period. The operator can tell when the 14-day waiting period has begun by checking for their NOI in the eNOI system at www.epa.gov/npdes/stormwater/cgpenoi.

The following summarizes the changes made from the 2008 CGP:

1. New project: For new projects, the permit requires NOIs to be submitted 14 days, instead of 7 days in the 2008 CGP, prior to the commencement of construction. This additional time was added to provide a more realistic window of time for the Services to determine whether the location of the construction project may be a cause for concern. Note that this time period was shortened from the 30 days in the proposed 2012 CGP in response to concerns raised in public comments regarding the burden of submitting an NOI a full 30 days in advance of commencing construction, and also an indication by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that 14 days would be a significant improvement from the 7-day time period for the 2008 CGP.

2. Existing project: The 90-day deadline for submitting NOIs is the same deadline provided in the 2003 CGP, which was the last permit that covered existing projects. The 2008 CGP did not provide coverage for existing projects. EPA notes that, provided the operator submits the NOI by the 90-day deadline, coverage under the 2003 or 2008 CGP will be automatically continued until the date that coverage is obtained under the 2012 CGP or an individual NPDES permit.
3. Emergency-related project: The 2008 CGP did not specify any separate requirements for submitting an NOI for emergency-related projects. However, EPA recognizes that situations may occur where permit authorization is required immediately. Therefore, EPA is requiring that emergency-related projects submit their NOI within 30 days after commencing earth-disturbing activities. EPA describes the eligibility requirements for emergency-related projects in Part 1.2.1.
4. New projects commencing construction on or after February 16, 2012, but no later than March 1, 2012: The new permit provides flexibility for projects scheduled to commence construction in this 2-week period by enabling them to submit their NOI within 30 days after commencing construction, similar to emergency-related projects. This flexibility is provided in order to take into account the impracticability of requiring such projects to be able to immediately apply for coverage in the 2-week period after permit issuance.

VI.4.3 Your Official End Date of Permit Coverage (Part 1.4.3)

Part 1.4.3 describes how long permit coverage lasts. If covered under the CGP, permit coverage will last until:

1. Permit coverage is terminated, consistent with Part 8; or
2. Discharges are permitted under a different NPDES permit or a reissued or replacement version of this permit after expiring on February 16, 2017 if you request coverage under the reissued or replacement permit by the specified deadline (in this case you have no break in coverage); or
3. For projects that continue after this permit expires, the deadline has passed for the submission of an NOI for coverage under a reissued or replacement version of this permit and you have failed to submit an NOI by the required deadline (in this case your coverage lapses and EPA may take enforcement action against any unpermitted discharges).

- *Purpose:* Part 1.4.3 clarifies to permittees the length of permit coverage under the CGP. The provisions in (1) through (3) above are a clarification of terms in the 2008 CGP. Although they were described differently in the 2008 CGP, all of the specific time periods listed in (1) through (3) above are consistent with how the 2008 CGP, and past permits, have been interpreted and applied.

VI.4.4 Continuation of Coverage for Existing Permittees After the Permit Expires (Part 1.4.4)

Part 1.4.4 specifies that if this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with section 558(c) of the Administrative Procedure Act (see 40 CFR 122.6) and remain in force and effect for discharges that were covered prior to its expiration. All operators granted permit coverage prior to the expiration date of this permit will automatically remain covered under by the 2012 CGP until the earliest of:

1. The authorization for coverage under a reissued or replacement version of this permit following the timely submittal of a complete and accurate NOI requesting coverage under the new permit. Note that if a timely NOI for coverage under the reissued or replacement permit is not submitted, coverage will terminate on the date that the NOI was due; or
2. The date of the submittal of a Notice of Termination; or
3. Issuance or denial of an individual permit for the operator's discharges; or
4. A final permit decision by EPA not to reissue this general permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will terminate at the end of this time period.

EPA reserves the right to modify or revoke and reissue this permit under 40 CFR 122.62 and 63, in which case the permittee will be notified of any relevant changes or procedures to which you may be subject.

- *Purpose:* Part 1.4.4 of the CGP describes to permittees the continuation of coverage for existing permittees if the permit expires. Where EPA fails to issue a final general permit prior to the expiration of a previous general permit, EPA has the authority to administratively extend the permit for permittees authorized to discharge under the prior general permit. However, EPA does not have the authority to provide coverage to construction projects not already authorized to discharge under that prior general permit. Once the five-year expiration date for this permit has passed, any such projects would need to obtain coverage under an individual permit, or other general permit that was still in effect.

VI.4.5 Procedures for Denial of Coverage (Part 1.4.5)

Part 1.4.5 describes to permittees the procedures for the denial of permit coverage. Following submittal of a complete and accurate NOI, the permittee may be notified in writing by EPA that they are not covered, and that they must apply for and/or obtain coverage under either an individual NPDES permit or an alternate general NPDES permit. This notification will include a brief statement of the reasons for this decision and will provide application information. Any interested person may request that EPA consider requiring an individual permit or alternate general permit under this paragraph.

If the permittee is already covered under this permit, or a previously issued CGP, the notice will set a deadline to file the permit application or NOI for an alternate general permit, and will include a statement that on the effective date of the individual NPDES permit or the date of coverage under an alternate general NPDES permit, coverage under this general permit will terminate. EPA may grant additional time to submit the application or NOI if the permittee requests it. If a covered permittee fails to submit an individual NPDES permit application or NOI as required by EPA, the applicability of this permit is terminated at the end of the day specified by EPA as the deadline for application or NOI submittal. EPA may take appropriate enforcement action for any unpermitted discharge. If a timely permit application is submitted, then when an individual NPDES permit is issued or coverage is provided under an alternate general NPDES permit, coverage under this permit is terminated on the effective date of the coverage under the alternate permit.

- *Purpose:* The provisions in Part 1.4.5 describe the procedures permittees must follow if they are denied coverage under this permit. It describes the procedures for permittees

that were denied coverage following the submittal of an NOI, and the procedures for permittees that were denied coverage after being previously approved for coverage under this or another CGP. In both cases, permittees must apply for and/or obtain coverage under an individual permit or alternate general permit.

VI.5 Requirement to Post a Notice of Your Permit Coverage (Part 1.5)

Part 1.5 of the CGP requires that the permittee, once covered, post a sign or other notice conspicuously at a safe, publicly accessible location in close proximity to the project site. At a minimum, the notice must include the NPDES Permit tracking number and a contact name and phone number for obtaining additional project information. The notice must be located so that it is visible from the public road that is nearest to the active part of the construction site, and it must use a font large enough to be readily viewed from a public right-of-way.

- *Purpose:* The purpose of the requirement in Part 1.5 is to provide notice to the public, and any other interested parties, that the construction project is authorized by EPA. By providing notice of permit coverage and other information about the site, interested parties are able to obtain publicly available information about the construction site, such as their SWPPP, and can identify the site when reporting potential permit violations. Note that permittees are only required to provide copies of the SWPPP, upon request, to EPA; a state, tribal or local agency approving stormwater management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS). EPA may provide access to portions of the SWPPP to a member of the public upon request. Confidential Business Information (CBI) will be withheld from the public, but may not be withheld from EPA, USFWS, or NMFS.

VII. Effluent Limitations Applicable to All Discharges from Construction Sites (Part 2)

Part 2 of EPA's Construction General Permit organizes the stormwater effluent limitations in three major sections:

- Erosion and Sediment Control (Part 2.1);
- Site Stabilization (Part 2.2); and
- Pollution Prevention (Part 2.3).

The stormwater control requirements in Part 2 are the effluent limitations that apply to all discharges associated with construction activity eligible for coverage under this permit. The requirements in Part 2 generally apply the national effluent limitations guidelines and new source performance standards in the Construction and Development Rule ("C&D rule") in 40 CFR Part 450 promulgated on December 1, 2009 (74 Fed. Reg. 62996).

These requirements apply to all permitted sites, including construction support activities that are covered under the permit under Part 1.3.c.

EPA provides flexibility in the permit relating to compliance with requirements that would be infeasible to meet for operators of existing projects that were covered under either the 2003 or 2008 CGP for work that will continue under the 2012 CGP. This flexibility is intended to work as follows. For existing projects that find that it is infeasible to comply with a specific requirement in Part 2 because (1) the requirement was not part of the permit the operator was previously covered under (i.e., the 2003 or 2008 CGP), and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to

February 16, 2012, or because you are unable to comply with the requirement due to the manner in which stormwater controls have already been installed or were already designed prior to February 16, 2012, the operator can document this fact in the SWPPP and be waived from complying with that requirement. This flexibility applies only to the requirements in Parts 2.1, and 2.3.3 through 2.3.5 (except for Parts 2.3.3.1, 2.3.3.2.b, 2.3.3.3.c.i, and 2.3.3.4), and only extends to those portions of the site that have already commenced earth-disturbing activities or where stormwater controls implemented in compliance with the previous permit have already been installed.

The Agency believes such flexibility is warranted within the context of the C&D rule given the requirement to "minimize" the discharge of pollutants. See 40 CFR 450.21(a) (erosion and sediment controls) and (b) (pollution prevention measures). Because EPA interprets the requirement to "minimize" pollutant discharges as incorporating not only technical feasibility, but also economic achievability (see Appendix a definition of "minimize"), the Agency believes that where situations would economically preclude compliance, such as in the situations described above, flexibility in these situations is consistent with the rule requirement.

Where this flexibility may be most relevant will be in the application of such C&D rule provisions as the buffer requirement (40 CFR 450.21(a)(6)), the requirement to preserve topsoil (40 CFR 450.21(a)(7)), and the requirement to utilize outlet structures for sediment basins that withdraw water from the surface (40 CFR 450.21(f)) because of the allowance for operators to consider feasibility in whether they must comply with these provisions. These provisions are all required "unless infeasible," where infeasible is interpreted in the C&D rule as including situations where EPA "recognize(s) that there may be some sites where a particular control measure cannot be implemented, thus allowing flexibility for permittees." See 74 Fed. Reg. 63005. EPA further explains that by "infeasible" it means not technologically possible or not economically practicable and achievable in light of best industry practices. This language mirrors the language in the definition of "minimize" to which it is closely related, and has been incorporated into the permit in order to define "infeasible" (see Appendix A). Therefore, EPA believes that allowing the above-described existing projects to make a determination of infeasibility due to prior work that had already been completed is entirely consistent with the intent of the C&D rule to account for infeasibility in applying these specific provisions. For example, if an existing project had already begun construction on a property that is within 50 feet of a surface water, and the location of disturbances precludes compliance with the buffer requirements, EPA believes that as long as the other qualifications were met for the existing project, the permittee could document the infeasibility of complying with Part 2.1.2.1 and be waived from the need to comply with that provision. However, where a phase of the project has not yet commenced for an existing project previously permitted under the 2003 or 2008 CGPs, and the project design does not preclude compliance, flexibility would not apply.

Background of the C&D Rule's Non-Numeric Effluent Limits

The C&D rule contains non-numeric effluent limitations that require the permittee to minimize the discharge of pollutants. EPA's objective in promulgating non-numeric effluent limits that apply to discharges from construction sites is to prevent the mobilization and discharge of sediment, turbidity, and other sediment-bound pollutants, such as metals and nutrients, and to prevent or minimize the exposure of stormwater to construction materials, debris, and other sources of pollutants on construction sites. See 74 FR 63016. The non-numeric effluent limits are structured to require permittees to "first prevent the discharges of sediment and other pollutants through the use of effective planning and erosion control measures; and second, to control discharges that do occur through the use of effective sediment control measures." Id. The effluent limits also require the permittee to implement a range of pollution prevention measures to limit or prevent discharges of other types of non-sediment discharges.

EPA's Incorporation of the Non-Numeric Limits

A permittee can minimize the discharge of pollutants from construction sites by satisfying the non-numeric effluent limitations at 40 CFR 450.21 and by using various controls and practices, outlined in more detail by the permitting authority. EPA crafted the non-numeric effluent limits in the C&D rule to allow flexibility in how the permitting authority implements these requirements in permits. See 74 FR 63016. As an example, 40 CFR 450.21(a)(5) requires construction operators to design, install, and maintain controls to "minimize sediment discharges from the site." Thus, each NPDES permitting authority has discretion within this somewhat broad requirement to further define what it means to minimize sediment discharges, or to achieve any of the other non-numeric limits. See 74 FR 63016.

Accordingly, this permit contains requirements that specifically implement or incorporate each of the C&D rule's non-numeric limits in order to minimize the discharge of pollutants from construction sites. This is consistent with EPA's objective to write general permits with conditions that are clearly articulated, transparent, and enforceable. In the sections that follow, EPA will discuss the permit requirements, and explain how the language is consistent with the non-numeric effluent limits in the C&D rule upon which they are based.

VII.1 Erosion and Sediment Control Requirements (Part 2.1)

Part 2.1 requires generally that the site operator design, install, and maintain erosion and sediment controls that minimize the discharge of pollutants from earth-disturbing activities.

- *Purpose:* To establish requirements that implement the C&D rule's requirement at 40 CFR 450.21(a) to "design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of sediment." The specific sections of the permit within Part 2.1 include requirements that articulate what is expected of the CGP's permittees in order to comply with this effluent limitation established in the C&D rule.

VII.1.1 General Requirements Applicable to All Construction Sites (Part 2.1.1)

Area of Disturbance. (Part 2.1.1.1). Permittees are required to minimize the amount of soil exposed during construction activities. Permittees are also subject to the deadlines for temporarily and/or permanently stabilizing exposed portions of the site pursuant to Part 2.2.

- *Purpose:* The purpose of the requirement to minimize the amount of soil exposed during construction activity is to reduce the amount of soil eroded on construction sites and the amount of sediment and other pollutants discharged from the site. This can be accomplished by minimizing how much of the site is disturbed and minimizing the duration that soils are exposed. For example, soil exposure can be minimized by maintaining or preserving natural vegetation on-site, by phasing construction activities, or by implementing soil stabilization practices on disturbed areas. This requirement corresponds to the C&D rule requirement in 40 CFR 450.21(a)(3).

Design Requirements. (Part 2.1.1.2). In the design of stormwater controls, permittees are required to comply with the following general design requirements:

1. The following factors must be accounted for when designing stormwater controls:
    - The expected amount, frequency, intensity, and duration of precipitation;
    - The nature of stormwater runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. If any stormwater flow will be channelized at the site, stormwater controls must be designed to control both peak flowrates and total stormwater volume to minimize erosion at outlets and to minimize downstream erosion; and

- The range of soil particle sizes expected to be present on the site.

2. The permittee is required to direct discharges from stormwater controls to vegetated areas of the site to increase sediment removal and maximize stormwater infiltration, including any natural buffers established under Part 2.1.2.1, unless infeasible. Permittees must use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.

- *Purpose:* The purpose of requiring the design factors in (1) above is to identify specific factors that need to be accounted for in the design of stormwater controls installed at the site. Each of these specific design factors correspond to the C&D rule requirements in 40 CFR 450.21(a)(2) and (5). It is important to consider precipitation characteristics so that earth-disturbing activities can be planned during periods with a lower risk of precipitation and so that erosion and sediment control practices can be designed to convey and manage the precipitation that is expected to occur. The requirement to design stormwater controls to account for the nature of stormwater runoff and run-on on the site and to reduce peak flowrates and total stormwater is intended to minimize scouring and erosion caused by stormwater discharges from the site. Note that the requirement for stormwater controls to be designed to control peak flowrates and total stormwater volume is only applicable for stormwater discharges from a site that have been channelized. The requirement to account for soil characteristics, such as particle size distribution, erosivity, and cohesiveness, is also important for selecting and designing appropriate erosion and sediment controls.

  The requirement in (2) above implements the C&D rule requirement at 40 CFR 450.21(a)(6). This requirement reduces the discharge of sediment and other pollutants through filtration and infiltration. Permittees can comply with this requirement by directing non-erosive flows leaving silt fences, filter berms, or other perimeter controls and sediment basins to natural buffers adjacent to streams or other vegetated areas on or adjacent to the property on which the construction activities will occur. Note that some site operators have found the use of level spreaders or other practices to be effective to prevent erosive discharges. These practices will help to prevent the formation of gulleys and associated erosion. Examples of where it may be infeasible to direct discharges from stormwater controls to vegetated areas include those areas where pervious or vegetated areas within the project footprint are non-existent, such as in some highly urban areas.

Installation Requirements. (Part 2.1.1.3). Under Part 2.1.1.3, permittees are required to comply with the following installation requirements:

1. **Complete installation of stormwater controls by the time each phase of earth-disturbance has begun, unless infeasible.** (Part 2.1.1.3.a). By the time earth-disturbing activities in any given portion of the site have begun, unless infeasible, the permittee is required to install and make operational any downgradient sediment controls *(e.g., natural buffers or equivalent sediment controls, perimeter controls, exit point controls, storm drain inlet protection)* that control discharges from the initial site clearing, grading, excavating, and other land-disturbing activities. Following the installation of these initial controls, all other stormwater controls planned for this portion of your site and described in the SWPPP must be installed and made operational as soon as conditions on the site allow.

2. **Use good engineering practices and follow manufacturer's specifications.** (Part 2.1.1.3.b). The permittee is required to install all stormwater controls in accordance with good engineering practices, including applicable design specifications.

- *Purpose:* The installation requirements in Part 2.1.1.3 implement the C&D rule requirement to "… install effective erosion and sediment controls."

  The requirement in (1) above is to ensure that stormwater controls are installed and made operational to minimize pollutant discharges from the area of active disturbance. For example, prior to initial site clearing and grading activities, the permittee will need to install perimeter controls, exit point controls, and, if applicable, storm drain inlet protections and natural buffers or equivalent sediment controls to control stormwater discharges from the initial disturbances. After this initial work is completed, the permittee would then be required to install and make operational other controls, such as sediment traps or sediment basins, that are expected to treat stormwater during the remaining phases of construction. Where a project is conducted in phases, such as for a large-scale, road project, the requirement is to install such controls prior to commencing earth-disturbing activities for the particular phase. After initial controls are installed, the permittee is then required to install and make operational any remaining stormwater controls as conditions allow. EPA notes that the requirement to install stormwater controls prior to the initial earth-disturbance does not apply to earth-disturbing activities associated with the actual installation of these controls.

  There may be some situations where the installation of controls prior to the first earth disturbance is not feasible (e.g., due to restricted space, etc.), in which case such circumstances must be documented and kept with your records. However, it is EPA's expectation that where such circumstances exist it will be rare circumstance that will prevent the operator from installing such stormwater controls immediately following the initial earth disturbance.

  The requirement in (2) above is included because stormwater controls will not be effective unless properly designed and installed. EPA notes that design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Additionally, where it is appropriate to depart from such specifications, this must reflect good engineering practice and must be explained in the SWPPP.

Maintenance Requirements. (Part 2.1.1.4). Permittees are required to comply with the following maintenance requirements:

1. 2.1.1.4.a requires that erosion and sediment controls remain in effective operating condition and are protected from activities that reduce their effectiveness during permit coverage.
2. Part 2.1.1.4.b requires the permittee to inspect all erosion and sediment controls in accordance with the inspection requirements elsewhere in the permit (Part 4.1), and to document any findings in accordance with Part 4.1.7. If repairs or modifications to the controls are necessary, the permittee must carry them out as follows:
   a. Initiate work to fix the problem immediately after discovering the problem, and complete such work by the close of the next work day, if the problem does not require significant repair or replacement or if the problem can be corrected through routine maintenance.
   b. When installation of a new erosion or sediment control or a significant repair is needed, the permittee must install the new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery where feasible. If it is infeasible to complete the installation or repair within 7 calendar days, the permittee must document in their records why it is infeasible to complete the installation or repair within the 7-day timeframe and

document the schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in the SWPPP, the permittee must modify the SWPPP accordingly within 7 calendar days of completing this work.

- *Purpose:* To implement the C&D rule requirement to "… maintain effective erosion controls and sediment controls" at 40 CFR 450.21(a) and the NPDES requirement at 40 CFR 122.41(e) to "at all times properly operate and maintain all facilities and systems of treatment and control …" In terms of the deadlines for taking action to correct problems found during inspections, the permit distinguishes between those problems that are "easy fixes" and those that require more significant work to correct or that require the design, purchase, and installation of a new control. For instance, if during the inspection, the permittee discovers that a portion of the site's perimeter controls have fallen down or been driven over, repairs to the control must be made by the end of the next work day. The same would be true if the permittee finds that a sediment control (e.g., sewer inlet control device, compost filter sock, check dam, silt fence, etc.) requires routine maintenance to remove accumulated sediment so that the control will operate effectively during the next storm event. By comparison, if a more significant repair is required, such as the complete removal and replacement of a device, the permittee is given up to 7 days to correct the problem, or as soon as practicable to complete work if complying with the 7-day deadline is infeasible. However, in order to prevent discharges of pollutants, the permittee may have to implement temporary BMPs until the problem is corrected.

VII.1.2 Erosion and Sediment Control Requirements Applicable to All Sites (Part 2.1.2)

***Provide Natural Buffers or Equivalent Sediment Controls.* (Part 2.1.2.1).** If a project's earth disturbances are located within 50 feet of a surface water (defined as a "water of the U.S." in Appendix A; surface waters do not include stormwater control features), the operator is required to ensure that any discharges to surface waters through the area between the disturbed portions of the property and any surface waters located within 50-feet of the site are treated by an area of undisturbed natural buffer and/or additional erosion and sediment controls in order to achieve a reduction in sediment load equivalent to that achieved by a 50-foot natural buffer. The permit includes a buffer guidance (Appendix G) to assist operators in complying with this requirement.

- *Purpose:* The requirements in Part 2.1.2.1 implement the C&D rule's requirement to minimize the discharge of pollutants from the site by providing and maintaining "natural buffers around surface waters… unless infeasible." See 40 CFR 450.21(a)(6). This requirement applies to all project sites that are situated within 50 feet of a surface water, with certain exceptions, that are described in Part 2.1.2.1e. Note that the requirements do not apply to stormwater control features (e.g., stormwater conveyance channels, sediment basins).

  The specific compliance alternatives permittees can choose from to meet the requirements in Part 2.1.2.1 and background on how EPA developed these alternatives are provided in the following section.

- **Compliance Alternatives.** (Part 2.1.2.1.a). The permittee may choose to comply with this requirement in one of the following ways:

  a. Provide and maintain an undisturbed 50-foot natural buffer; or

     Note: If the earth disturbances are located 50 feet or further from a surface water, then this alternative has been complied with.

b. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to an undisturbed 50-foot natural buffer;

c. If it is infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls that achieve the sediment load reduction equivalent to an undisturbed 50-foot natural buffer.

EPA notes that for compliance alternatives a and b, above, which involve the retention of an undisturbed natural buffer, the permittee is not required to enhance the quality of the vegetation that already exists in the buffer, or provide vegetation if none exists (e.g., arid and semi-arid areas). The permittee only needs to retain and protect from disturbance the natural buffer that existed prior to the commencement of construction. Any preexisting structures or impervious surfaces are allowed in the natural buffer provided the permittee retains and protect from disturbance the natural buffer area outside the preexisting disturbance. Similarly, for alternatives 2.1.2.1a.ii and 2.1.2.1a.iii, the permittee is required to implement and maintain sediment controls that achieve the sediment load reduction equivalent to the undisturbed natural buffer that existed on the site prior to the commencement of construction. In determining equivalent sediment load reductions, the permittee may consider naturally non-vegetated areas and prior disturbances. Appendix G discusses how to determine equivalent reductions.

The permittee is required to document the compliance alternative selected above in the SWPPP, and must also comply with the applicable additional requirements described in Parts 2.1.2.1b and 2.1.2.1c.

The compliance alternative selected above must be maintained throughout the duration of permit coverage, except that the permittee may select different compliance alternative during the period of permit coverage, in which case the permittee must modify their SWPPP to reflect this change.

- *Purpose:* The approach in Part 2.1.2.1.a complies with the C&D rule requirement to provide and maintain "natural buffers around surface waters… unless infeasible," and does so in a way that recognizes site-specific variables involved. Detailed information about how to comply with each of the compliance alternatives in Part 2.1.2.1.a is provided in Appendix G of the permit

  To arrive at the requirements in Part 2.1.2.1, EPA examined many different options. Ultimately, EPA felt it was important to provide a uniform buffer performance standard, but to allow permittees the flexibility to achieve this standard without prescribing a minimum natural buffer width that must be complied with in all circumstances. EPA also determined it was appropriate to identify specific cases where compliance with this requirement is infeasible, and to specify alternative requirements in these cases.

  The following discussion details EPA's basis for the requirements in Part 2.1.2.1.a.

  Background on the Development of the Compliance Alternatives in Part 2.1.2.1.a

  In developing the compliance alternatives in Part 2.1.2.1.a, EPA first considered whether a buffer width would need to be specified at all in the permit, or whether the C&D rule language was sufficient. The C&D rule does not specify what size buffer is necessary to meet the requirement, but rather leaves this and other related determinations up to the permitting authority, including if a minimum buffer width is necessary at all. See 75 Fed. Reg. 63016-17. After considering the option of simply adopting the C&D rule language in the permit, EPA concluded that it would be appropriate to develop more specific language to be used as a permit condition. In EPA's view, to include no other

requirements would leave the Agency with a permit requirement that would be difficult, if not impossible, to enforce, and would place the permittee in the position of having to guess what amount of a natural buffer is adequate to minimize the discharge of pollutants from the site, leading not only to uncertainty regarding compliance, but also inconsistencies among permitted sites. EPA believes that this permit should include minimum requirements that specify how to comply with the terms of the permit.

After determining that it is appropriate to add specificity to the permit requirement, EPA evaluated different ways to articulate the permit conditions. A number of issues presented themselves during this process, which included the following:

- How effective are natural buffers at removing sediment and other pollutants?
- What size buffers are necessary to provide high level pollutant removal?
- What types of local and state regulations already affect the buffer area?
- Is a uniform buffer width requirement appropriate?

EPA explored all of these issues in arriving at the buffer requirements. Each are discussed in depth below.

The Pollutant Removal Effectiveness of Natural Buffers

EPA started by evaluating how effective buffers are at removing pollutants. To arrive at the minimum buffer width performance standard of 50 feet, EPA undertook a comprehensive review of the scientific literature with the goal of assessing the relationship between pollutant removal efficiency and buffer width.

EPA was particularly interested in understanding the effectiveness of buffers at removing pollutants in construction site discharges. Sediment and turbidity are the most thoroughly documented pollutants associated with construction site stormwater discharges. Typical construction activities, such as clearing vegetation and excavating, moving, and compacting earth and rock increase the vulnerability of soil to the erosive powers of precipitation and stormwater runoff. Soil compaction reduces precipitation infiltration and increases overland water flow, thereby increasing the quantity of stormwater discharges available to erode soil. During precipitation events, the increased erosion can cause sediment to be discharged in stormwater from the site, which can lead to impairments of receiving waters. During the Phase I stormwater rulemaking, EPA identified nonconventional and toxic pollutants of concern in discharges from construction sites, stating "[c]onstruction sites also generate other pollutants such as phosphorus, nitrogen, and nutrients from fertilizer, pesticides, petroleum products, construction chemicals, and solid wastes." 55 Fed. Reg. 48033. These pollutants can be found in construction materials and equipment, historic site contamination, and natural soil and ground water constituents, and may be carried in stormwater in solution or adsorbed to transported sediment particles. Although EPA's focus was in determining the pollutant removal effectiveness of the buffer for pollutant parameters related to sediment, EPA took into account the ancillary benefits of buffers at removing other pollutants found in construction site stormwater discharges, particularly nitrogen and phosphorus.

EPA found the scientific literature to widely support the pollutant-removal effectiveness of buffers (Wong & McCuen, 1982; Barling & Moore, 1994; Castelle et al., 1994; Schueler, 1995; Wenger, 1999; Correll, 2005; Mayer et al., 2005; Liu et al., 2008; Yuan et al., 2009). Natural buffers are particularly effective at removing sediment. Wenger found that riparian buffers reduce stream sedimentation through six different functions:

1. By displacing sediment-producing activities away from flowing water (setbacks);

2. By trapping terrestrial sediments in surface runoff;
3. By reducing the velocity of sediment-bearing storm flows, allowing sediment to settle out of water and be deposited on land;
4. By stabilizing streambanks, preventing channel erosion;
5. By moderating stream flow during floods, reducing bed scour; and
6. By contributing large woody debris (snags); these can trap considerable sediment, at least temporarily.

Sediment removal in buffers occurs by increasing the hydraulic roughness of the flow surface, which enhances sediment deposition and filtration by vegetation. As sediment-laden water flows through vegetation, the flow velocity is decreased and sediment is deposited (Barling & Moore, 1994). Coarser soil and organic particles settle more quickly than finer particles, which tend to stay in suspension. Sediment trapping performance was found to decrease as sediment particle size decreases. To capture fine suspended particles, buffers need to be wide enough to allow for infiltration (Wong & McCuen, 1982; Barling & Moore, 1994; Wenger, 1999; Liu et al., 2008). An early study on buffer sediment removal performance found the optimum distance for trapping sand, silt, and clay to be 3 m, 15 m, and 122 m, respectively (Wilson, 1967).

Because nutrients are often present in construction site stormwater discharges, EPA found it useful to understand the performance of natural buffers at removing nitrogen and phosphorus. Scientific literature supports the effectiveness of buffers at removing nutrients. Because phosphorus tends to attach to sediment or organic matter, buffer widths sufficient to remove sediment are generally sufficient to remove phosphorus from construction site stormwater discharges (Wenger, 1999). However, finer sediment particles have a greater capacity to hold phosphorus than coarser particles, and therefore buffers should be sized wide enough to allow for infiltration of smaller phosphorus-attached sediment particles (Barling & Moore, 1994). Buffers were also found to be effective at removing nitrogen (Wenger, 1999). Unlike phosphorus, nitrogen is soluble, and readily moves through ground water. Buffers can remove nitrogen in surface flows through uptake by vegetation, denitrification, soil storage, ground water mixing, and microbial immobilization (Mayer et al., 2007; Wenger, 1999).

The Relationship Between Buffer Width and Pollutant Removal Effectiveness

EPA found numerous studies that examined the relationship between buffer width and pollutant removal performance (Young et al., 1980; Dillaha et al., 1989; Magette et al., 1989; Sheridan et al., 1999; Abu-Zreig et al., 2004; Peterjohn and Correll; 1984; and others). The results of these studies ranged widely, with some reporting very high sediment removal performance (i.e., over 90 percent removal) at buffer widths less than 15 feet, while others found similar sediment removal performance at widths of 80 feet or more. Many of these studies examined the efficacy of buffers under site-specific conditions, and looked at the performance of highly engineered vegetation types, such as those found in installed vegetated filter strips. In Part 2.1.2.1a, EPA does not require the installation of vegetation in the buffer area, but rather requires that the existing natural vegetation not be disturbed. EPA cannot therefore reasonably assume that a similar performance would be achieved with all types of vegetative cover that exist in all the areas where this permit is in effect. Nor can EPA assume that buffers of a specific width will perform similarly under various soil types, slopes, and other differences in site-specific conditions. Therefore, while informative, EPA found it necessary to conduct further research given that these studies alone do not offer a clear choice on what size buffers

will best achieve a consistent pollutant removal performance for the range of conditions where this permit is effective.

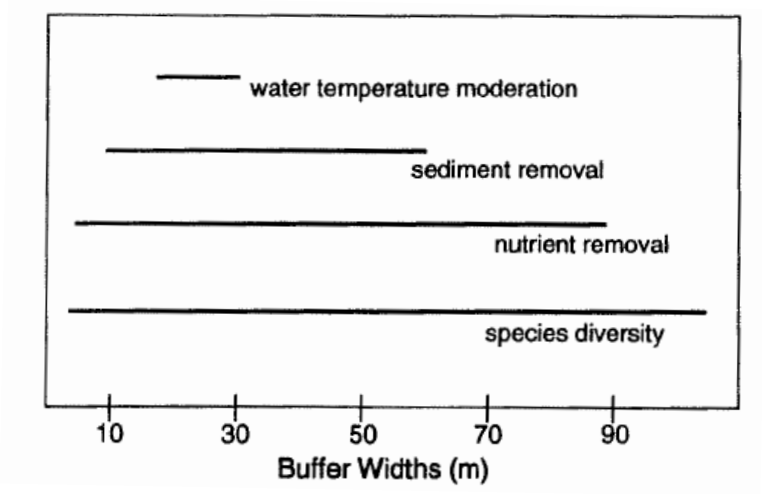
In determining the minimum buffer width to include in Part 2.1.2.1.a, EPA found it useful to look at those studies that examined multiple sources of information in order to arrive at a recommendation for a minimum buffer width or a range of widths that would be most effective at removing pollutants. The studies EPA found to be particularly informative in terms of minimum buffer width requirements are included in Table 2, and are described below.

Table 2 Summary of buffer widths for removal of sediment, nitrogen, and phosphorus from EPA's review of the scientific literature.

Study	Minimum Buffer Width for Sediment	Minimum Buffer Width for Nitrogen	Minimum Buffer Width for Phosphorus	Analysis Method
Castelle et al. (1994)	**33 - 200 ft**	**16 - 300 ft**	**16 - 300 ft**	Reviewed range of buffer widths in scientific literature to determine minimum buffer size requirements.
Liu et al. (2008)	**33 ft**	**-**	**-**	Applied logarithmic regression model to results of over 80 studies and predicted sediment trapping efficacy to reach its maximum at 33 feet.
Wenger (1999)	**50 - 100 ft**	**50 - 100 ft**	**50 - 100 ft**	Reviewed range of buffer widths in scientific literature to determine minimum buffer width requirements.
Yuan et al. (2009)	**>16 ft**	**-**	**-**	Applied logarithm model to results of 80 studies and predicted that buffers of 16 feet or greater remove at least 80 percent of sediment.
Mayer et al. (2005)	**-**	**>164 ft**	**-**	Performed linear and non-linear regression models on data from 89 studies to determine nitrogen removal effectiveness.

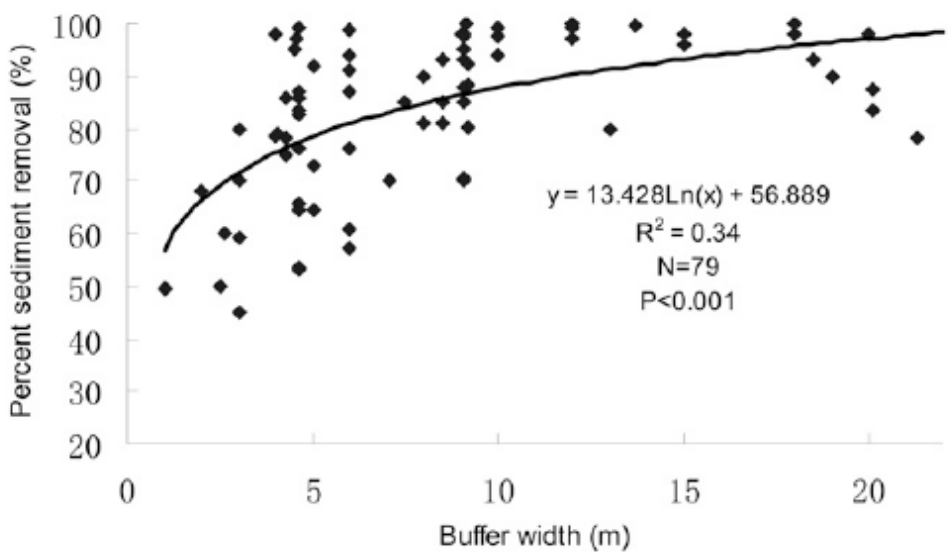
Castelle et al. reviewed studies that analyzed the pollutant removal functions of buffers. Among the parameters examined were sediment and nutrients. The results in Figure 1 below indicate that recommended buffer widths for sediment and nutrients in the literature vary widely. Recommended widths for sediment removal range from 33 to 200 feet, and for nutrients 16 to 300 feet. The range of widths informed Castelle et al.'s overall recommended buffer widths of 50 feet for the maintenance of physical and chemical characteristics of aquatic resources, and 100 feet for the maintenance of the biological components of wetlands and streams.

Figure 1 From Castelle et al. (1994), the range of buffer widths providing specific buffer functions.



A study by Liu, Zhang, and Zhang examined the sediment removal efficacy of buffers by performing a meta-analysis on over 80 different experiments. Figure 2 shows the results of a logarithmic regression model on the experiments that were reviewed. Liu et al. found that increasing buffer width increases sediment removal. However, the relationship between buffer widths and sediment removal is not linear. According to Liu et al., as buffer widths reach 10 m, or 33 feet, the increased removal percentage diminishes. This is explained by the fact that buffers are effective at removing a substantial percentage of coarser sediment particles within the first few meters, but larger widths are necessary to remove suspended fine sediments through infiltration. These results indicate that to remove a high percent (e.g., 90 percent or more) of sediment particles, buffer widths must be sized at a widths ranging from 33 to 50 feet.

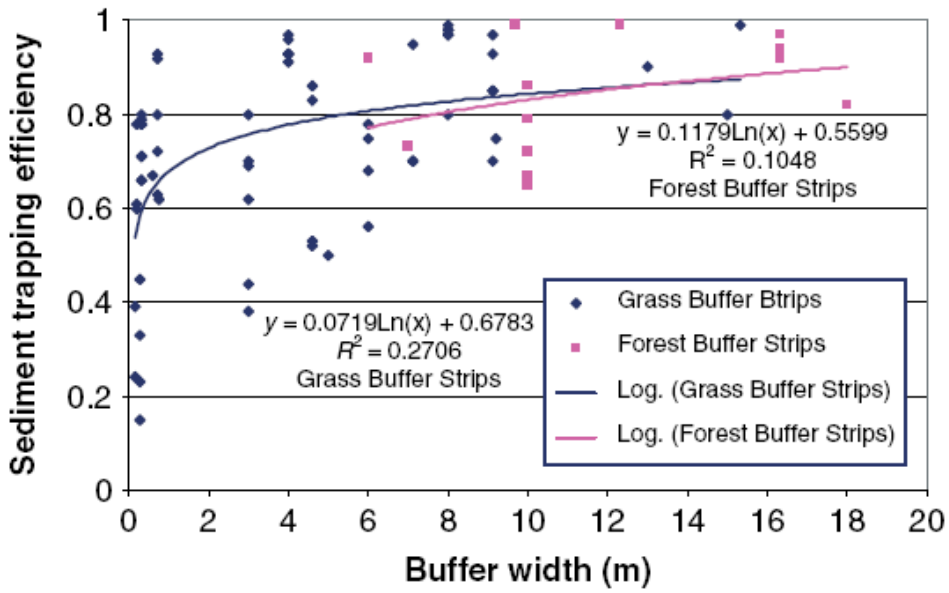
Figure 2 From Liu et al. (2008), the relationship between buffer width and percent sediment trapping efficiency.



Yuan et al. (2009) similarly reviewed the available literature on the sediment removal performance of buffers and found that increasing buffer width increases sediment removal. Yuan et al. looked at the differences in buffer performance based on the type

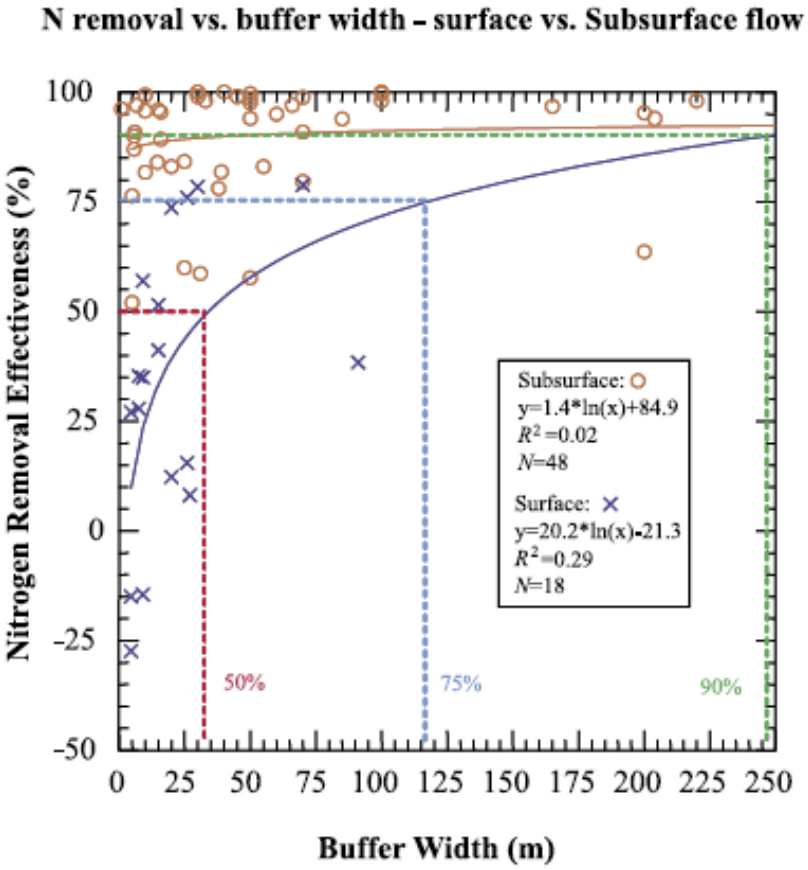
of vegetation in addition to width, as shown in Figure 3. Buffer sediment removal performance did not vary widely by vegetation type, but in general, forested buffers were found to be wider than grassed buffers. Yuan et al. found that buffers of at least 5 meters, or 16 feet, are necessary to remove 80 percent of sediment. According to Figure 3, to remove higher percentages of sediment (e.g., 90 percent or more), buffers widths of at least 15 meters, or 50 feet, are necessary.

Figure 3 From Yuan et al. (2009), the relationship between buffer width, vegetation type, and percent sediment trapping efficiency.



In a 2005 report, EPA reviewed 89 riparian buffer studies to determine the relationship between nitrogen removal effectiveness and buffer width. It was concluded that nitrogen removal performance varied, but generally wider buffers (> 50 m, or 164 feet) more consistently remove more nitrogen than narrower buffers. Figure 4 shows the relationship between buffer width and nitrogen removal from surface flow. Buffers of 30, 115, and 250 meters (or 100, 380, and 820 feet) are shown to remove 50, 75, and 90 percent of nitrogen, respectively. These results indicate that while buffers are effective at removing nitrogen, wider widths are necessary to remove a significant percentage.

Figure 4 From Mayer et al. (2005), the relationship between buffer width and percent nitrogen removal.



Taking all of the above information into account, EPA has concluded that while buffers are very effective at removing pollutants, because buffer performance varies from study to study, it is challenging to determine the minimum width that would be adequate for removing construction site pollutants from stormwater for the majority of sites. Buffer pollutant removal performance is not only a function of buffer width, but is also a function of many other site-specific factors, including vegetation type, slope, soil type, and infiltration rate (Wenger, 1999). Despite this challenge, EPA believes it is appropriate to include a minimum fixed-width buffer to serve as a performance standard by which to achieve sufficient pollutant removal and to provide permittees with a sense of clarity about their requirements.

Most studies concluded that wider buffers consistently remove higher percentages of pollutants; however, EPA's aim was to determine the minimum width necessary to achieve an adequate removal of pollutants in most circumstances. While recognizing the wide variability in buffer effectiveness, based on soil type, vegetation, slope, etc., EPA was primarily focused on determining the minimum buffer width that would generally remove a substantial majority of sediment particles, but also provide significant removal of nutrients. The recommended buffer widths EPA reviewed for sediment removal ranged from 16 to 200 feet, and for nutrients ranged from 16 to 300 feet (see Table 2). However, by reviewing analyses of multiple buffer studies, EPA was able to relate specific buffer widths to expected pollutant removal potential. Both Liu et al. and

Yuan et al.'s analysis of over 80 buffer studies determined that 90 percent of sediment can be expected to be removed from buffers of 50 feet, which can also be assumed to be of sufficient width for removing a significant percentage of sediment-attached phosphorus. Mayer et al. found buffers of 50 feet to be capable of removing 35 percent of nitrogen from surface flows. EPA concluded from these analyses that 50-foot buffers generally remove most sediment from stormwater flows through buffers, and provide ancillary benefits by removing significant amounts of nutrients.

EPA also recognizes that the requirement in the C&D rule is to establish buffers "where feasible" and that feasibility is thus also an important consideration. EPA reviewed buffer width requirements in states and localities where this permit would apply to determine what is already required in these areas, and thus shed light on what is feasible. This review is summarized below. Based on its assessment of buffer effectiveness, EPA came to the conclusion that 50 feet would be an appropriate minimum buffer width performance standard to substantially reduce pollutant discharges, while EPA's review of existing state and local requirements convinced EPA that such a requirement would be "feasible," subject to certain limitation that are recognized in the "Exceptions" section of the permit (Part 2.1.2.1.e). EPA thus concluded that it would be appropriate to require a 50-foot natural buffer in the permit for sites where surface waters are located on or immediately adjacent to the property on which the construction activities will occur.

EPA recognizes that the pollutant removal performance of 50-foot buffers will vary from site-to-site, but based on the information reviewed, buffers of 50 feet are shown to consistently achieve significant pollutant removal benefits. Recognizing the need for flexibility, the 50-foot buffer does not represent a fixed width requirement for all sites, but rather serves as the basis for a minimum pollutant removal performance that must be achieved on the sites. This minimum pollutant removal performance can be achieved by providing the minimum width of 50 feet, or by providing alternative controls, which could include providing a lesser buffer width and additional erosion and sediment controls, or, where providing any buffer is infeasible, relying exclusively on erosion and sediment controls that achieve the equivalent performance as the 50-foot buffer based site-specific conditions. EPA arrived at the need for this flexibility through the consideration of additional issues, which are discussed below.

State/Local Waterfront Zoning Requirements

In addition to evaluating what the literature indicates about the effectiveness of buffers in reducing pollutant loads, EPA needed to understand the existing state or local restrictions that are already in place affecting the buffer area. EPA researched existing buffer requirements and other types of waterfront setback restrictions that construction sites are already subject to. This review helped EPA to determine how existing state or local buffer width requirements compare with the buffer widths that were under consideration for the permit and to evaluate the feasibility of the 50-foot buffer requirement. Table 3 summarizes the existing buffer width or waterfront setback requirements found in areas where EPA is the permitting authority.

Table 3 Buffer Requirements in EPA-Permitted Areas

EPA-Permitted Area	Buffer Requirement	
District of Columbia	"Waterfront Setback" of 100 feet for buildings and structures	
Idaho	Bannock County	• Setback for all structures shall be 100 feet from any stream or riparian area
	Blaine County	• 75-ft setback for Class I streams • 50-ft setback for Class II streams • 25-ft setback for Class III and IV streams
	City of Bellevue	• 100-ft 'Riparian Protection Setback' from the mean high water mark of the Bigwood River
	City of Boise	• 75-ft 'Greenbelt Setback' for all structures, driveways, manicured landscaping and parking areas preserved for greenbelt purposes within the Boise River System • 10-20-ft 'Riparian Setback' for Tier 1 waterways • 25-ft 'Riparian Setback' for Tier 2 waterways and the Boise River • Minimum 15-ft building setback from the edge of the 'Riparian Setback'
	City of Coeur d'Alene	• Minimum 25-ft buffer for lots with frontage on sensitive waterbodies
	City of Pocatello	• 'Special Site Permit' required for ground disturbance of a natural vegetative buffer within 50-ft from wetlands or waterbodies
	City of Twin Falls	• Canyon rim setback – 100-ft if no geologic report provided; 50 to 100-ft for different areas of Rock Creek Canyon and Snake River Canyon
Massachusetts	Statewide	• 200-ft 'Riverfront Area', except in densely developed areas • 25-ft in urban areas
	Town of Falmouth	• Regulatory 100-ft buffer zone divided into 'No Disturbance Area' and the 'Outer Buffer Area
	Town of Sturbridge	• 25-ft of no disturbance for new construction • 50-ft where no structures allowed for new construction

EPA-Permitted Area	Buffer Requirement	
New Hampshire	Statewide	• Primary building line 50-ft • Natural woodland buffer must be maintained 150-ft • Limits to impervious surfaces within 250-feet
	Town of Bow	• 150-ft minimum for prime wetlands • 75-ft for surface waters, wetlands with poorly drained soils, and bogs • 50-ft for vernal pools and wetlands >0.25 acre • 30-ft for other wetlands
	Town of Concord	• 50-ft minimum width for wetlands • 75-ft for all surface waters
	46 additional municipalities throughout state	• Adopted local regulations for shoreland and riparian protection
New Mexico	Rio Arriba County	• 300-ft around surface waters in Critical Management Areas
	Santa Fe	• 25-feet plus the depth of the arroyo channel for arroyos, streams, or watercourses that carry 100 cubic feet per second or more of stormwater flow in a 100 year, 24-hour storm event
	Taos	• For acequias, no development within the right-of-way • Width specified on a site-specific basis for properties traversed by watercourses, arroyos, ditches, channel, or stream
Puerto Rico	Territory-wide	• 5 meter requirement

In summary, EPA found there to be district-, state-, and territory-wide buffer or waterfront setback requirements for surface waters in four of EPA's permitted states /territories: the District of Columbia, Massachusetts, New Hampshire, and Puerto Rico. EPA also found there to be existing local buffer or waterfront setback requirements in all of EPA's permitted states; however, the prevalence of these requirements varied, with very few of such requirements existing in New Mexico and Idaho. Where buffer or waterfront setback requirements are in place, they vary widely from 25 feet to 300 feet, with the distances averaging around 75 feet. EPA assumes that where no buffer or waterfront setback requirements were found, new construction would be allowed up to the water's edge.

EPA also reviewed the extent to which other states have adopted buffer restrictions in their CGPs. As a result of this examination, EPA found that although most state CGPs do not currently include a buffer requirement, there are a select few that have adopted such provisions. Table 5 shows the buffer requirements EPA found in these state-issued CGPs.

Table 4 Buffer Requirements in Non-EPA Issued Construction Permits

Permit	Requirement
Alaska Construction General Permit	• 25-ft natural buffer areas or the width required by local ordinance. • Exceptions for water dependent activities, specific water access activities, or necessary water crossings.
Georgia Construction General Permit	• No construction activities allowed within a 25-ft buffer along the banks of all State waters, and within a 50-ft buffer for all State waters classified as 'trout streams.' • If discharging to or within 1 mile of impaired stream, permittee has an option to double the buffer width to 50-ft.
Minnesota Construction General Permit	• For discharges into special and impaired waters, a buffer zone of 100-ft must be maintained at all times.
North Dakota Construction General Permit	• Vegetated buffers must have a minimum width of 25-ft for every 125-ft of disturbed area which drains to the buffer. For each additional 5-ft of disturbance, an additional 1-ft width must be added. The land within the buffer must have a slope of 5% or less, and the area draining to the buffer must have a slope of 6% or less.
Ohio Olentangy River Watershed and Big Darby Creek	• Riparian setback requirements of varying distances based on stream type.
Oregon Construction General Permit	• If discharging to impaired waters, permittee has option to establish vegetated buffer sized at 50-ft plus 25-ft per 5 degrees of slope.
Tennessee Construction General Permit	• 30-ft natural riparian buffer zone applies to all streams adjacent to construction sites, with an exception for stream designated as impaired or Exceptional Tennessee waters. • 60-ft buffer zones required for streams designated as impaired or Exceptional Tennessee waters. • Buffer widths can be averaged with a minimum width of 15 feet, or 30 feet for impaired/high quality waters.
Vermont Construction General Permit	• If permittee establishes a 50-ft buffer, their risk evaluation score is reduced.

Permit	Requirement
Washington Construction General Permit	• Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize infiltration, unless infeasible.

These state-issued CGP requirements show a range of options for implementing a buffer requirement in a permit. EPA notes that several of these permits impose buffer restrictions on sites that discharge to sensitive or impaired waters. EPA does not believe that limiting the implementation of the C&D rule buffer requirement in the Agency's CGP to only sensitive or impaired waters is appropriate given that the C&D rule's natural buffer requirement applies to all sites, not just those that discharge to impaired or sensitive waters.

Based on its review of state and local requirements, EPA concludes that a general buffer width requirement of 50-feet is feasible, provided flexibilities are included to address site-specific circumstances that may make it infeasible at a given site.

Federal Buffer Requirements and Guidance

Although there is no comprehensive federal standard for buffer implementation, several federal agencies have issued either regulations or guidance concerning the use of buffers. In formulating requirements in Part 2.1.2.1.a, EPA felt it would be helpful to review the status of buffer-related requirements or guidance issued by federal agencies. The following summarizes the relevant information EPA found from varying federal agencies.

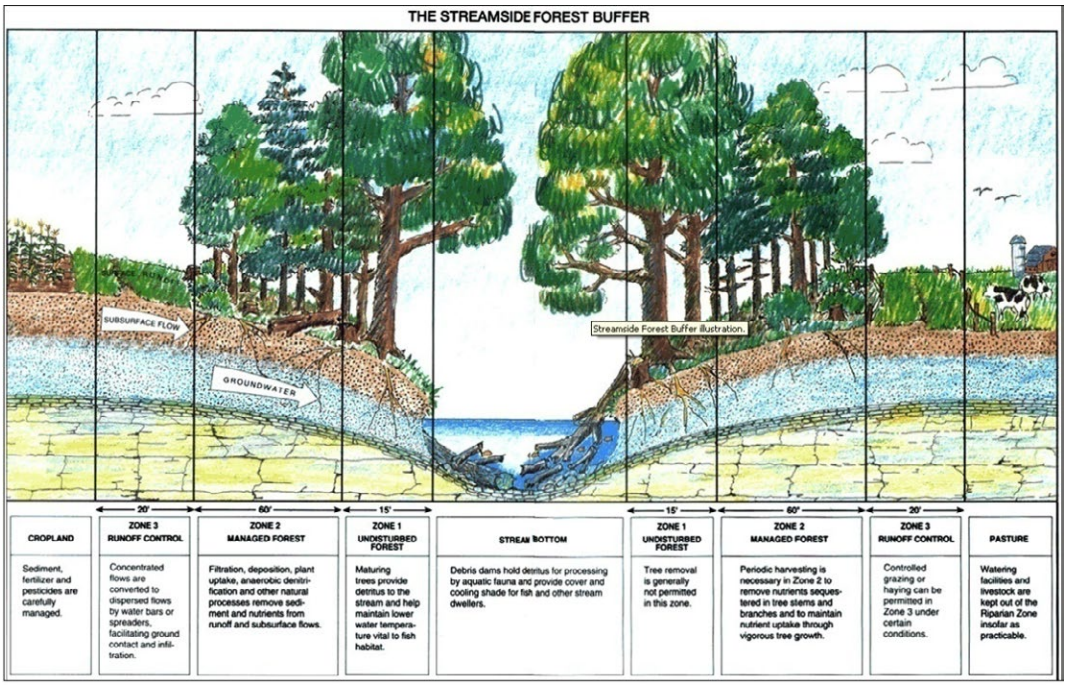
- **EPA:** In both its *Aquatic Buffer Model Ordinance* (viewable at http://www.epa.gov/owow/NPS/ordinance/mol1.htm) and in the *Riparian/Forested Buffer Fact Sheet* (viewable at http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=82) in its Stormwater Menu of BMPs, EPA has recommended a 100-foot buffer around surface waters to provide adequate stream protection. In the Riparian/Forested Buffer Fact Sheet, EPA recommends that the buffer be structured using a three-zone buffer system. EPA further elaborates that:
  "the three-zone buffer system, consisting of inner, middle, and outer zones, is an effective technique for establishing a buffer. The zones are distinguished by function, width, vegetative target, and allowable uses. The inner zone protects physical and ecological integrity. It consists of a minimum of 25-feet plus wetland and critical habitats. The vegetative target consists of mature forest. Its allowable uses are very restricted (flood controls, utility right-of-ways, footpaths, etc.). The middle zone provides distance between upland development and the inner zone. It is typically 50 to 100 feet depending on stream order, slope, and 100-year floodplain. The vegetative target for this zone is managed forest. Usage is restricted to some recreational activities, some stormwater BMPs, and bike paths. The outer zone is the first zone to encounter runoff. It functions to prevent encroachment while slowing and filtering backyard runoff. The outer zone's width is at least 25 feet, and while forest is encouraged turf-grass can be a vegetative target. The outer zone's uses are unrestricted. They can include lawn, garden, compost, yard wastes, and most stormwater BMPs."

Additionally, the Concentrated Animal Feeding Operations (CAFO) NPDES regulations at 40 CFR 412.4(c)(5) require operators to not apply manure, litter, and process wastewater closer than 100 feet of any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters. Alternatively, CAFO operators may substitute a 35-foot buffer for the 100-foot setback, or use alternative practices that provide equivalent pollutant removal as the 100-foot setback.

- **U.S. Forest Service:** The U.S. Forest Service recommends a three zone structure for buffer establishment (similar to the three-zone buffer system in EPA's *Aquatic Buffer Model Ordinance*, described above), with varying widths depending on factors such as soil capability class and water type (Welsch, 1991). Figure 5 (below) shows an example of a three-zone buffer system, providing a total minimum buffer width of approximately 100 feet.
- **Natural Resource Conservation Service:** The Conservation Reserve Enhancement Program (CREP) provides financial incentives to farmers who agree to conserve a minimum of 35 feet of land surrounding streams and wetlands.
- **U.S. Department of the Interior:** The permit requirements for surface mining and reclamation at 30 CFR 780.28(c) impose additional mandates on surface mining activities that are proposed within 100 feet of any perennial or intermittent stream. The additional requirements include demonstrating why it is not reasonably possible to avoid disturbance within the 100-foot area, indicating what lesser buffer will be provided, and providing information on why it is believed that the lesser buffer combined with additional practices constitutes the best technology currently available.

These federal guidelines/requirements are illustrative of the prevalence of buffer zone regulations or policies across different programs. EPA notes the significant support for a 100-foot buffer as goal, but recognizes the need for flexibility inherent in imposing restrictions within such an area. The guidelines/requirements listed above all recognize the need for such flexibility on a site-specific basis. These guidelines/requirements all reflect the importance of identifying a minimum width that should be either protected or within which activities should only be allowed where equivalent protections are provided (e.g., the CAFO and SMCRA regulations). EPA believes that these guidelines/requirements indicate that the Agency's buffer requirement in the CGP is reasonable and consistent with these other approaches. The requirement recognizes the importance of the 50-foot buffer area (similar to the 100-foot or 35-foot buffers of the other programs), while it allows for flexibility for either restricting activity within the 50-foot buffer or providing an equivalent alternative.

Figure 5 Three-zone buffer (Welsch, 1991).



Buffer Performance Considerations

EPA understands from the scientific literature on buffers that their pollutant removal effectiveness depends heavily on site-specific factors, such as soil type, slope, vegetative cover, and runoff characteristics. EPA also acknowledges that buffer performance will vary even within a site depending on how these same variables change along the length of particular waterbodies. For instance, EPA would expect the filtering function of a natural buffer receiving multiple discharges from a construction site to differ in each location if there were only slight changes in the slope, soil type, vegetative cover, and runoff characteristics within the buffer. However, establishing a permit condition based on this variability is a challenge. The uniform buffer width requirement is the approach used by the vast majority of states and localities (within EPA's area of permitting authority) that have buffer or waterfront setback requirements. The advantage of the fixed-width buffer approach is that it is easier to implement and enforce. This approach is arguably easier to comply with from the permittee's perspective because the permittee does not need to perform sites-specific calculations to determine the size of the applicable buffer. The buffer requirement adopts a uniform width approach in the sense that all of the compliance options in Part 2.1.2.1.a provide the permittee with equivalent alternatives all based on the performance of a uniform 50-foot buffer around surface waters. EPA believes that the variability in buffer performance is accounted for in the buffer requirement where the permittee chooses either of the two compliance alternatives requiring additional sediment and erosion controls because he/she is only required to provide equivalent controls based on the expected site-specific buffer performance given local vegetation, soils, and precipitation patterns. The procedure for doing this is explained in detail in Appendix G.

Buffer performance is also affected by the characteristics of the discharge flowing through the buffer area. In particular, stormwater discharges that enter the buffer as concentrated or channelized flow will receive minimal benefit from the buffer area in

terms of pollutant reduction. Pollutant removal in the buffer depends in large part on the discharge being slowed down by the vegetation in the buffer and enabling the flow and suspended sediments to infiltrate to a large extent into the underlying soil layers. The more concentrated the flow of stormwater is in the discharge the higher its velocity, and the less likely the buffer area is to reduce any suspended sediment. For these reasons, EPA includes a requirement in Part 2.1.2.1.b below to use velocity dissipation devices if necessary to prevent erosion caused by stormwater within the buffer.

Rationale for the Part 2.1.2.1.a Compliance Alternatives

EPA's evaluation of the issues discussed above shaped the buffer compliance alternatives in Part 2.1.2.1.a, which the Agency believes strike the right balance between requiring the sites to use a uniform-width natural buffer to achieve scientifically-proven pollutant removal, while at the same time enabling permittees to meet this requirement in several different equivalent ways. From the scientific literature, EPA concluded that a 50-foot buffer width, if provided around surface waters on permitted sites, would generally achieve high (often more than 90 percent) sediment load removals from site runoff. Translating a recommended 50-foot buffer to a permit requirement that would affect all permitted sites in close proximity to surface waters required EPA to understand numerous issues, including first and foremost the extent to which the buffer area is already subject to state or local restrictions. EPA assessed the zoning requirements that are in effect (or the absence of such requirements) in areas permitted by EPA, the buffer requirements included in other states' CGPs, and the recommendations by EPA and other federal agencies regarding buffer widths. From this assessment, EPA determined that while there is no consensus among these various agencies and jurisdictions regarding buffer width requirements, there are an array of different options for implementing a buffer requirement in the CGP, and in several areas within EPA's permitting area, construction operators are already accustomed to complying with such requirements.

In formulating the buffer requirement, EPA also weighed the advantage of implementing a uniform buffer width approach, which is prevalent among local and state zoning requirements affecting the buffer. EPA found advantages to establishing a requirement based on the need to establish either a uniform width natural buffer (i.e., 50 feet) or the equivalent in terms of the sediment load reduction expected if that same buffer were provided. In other words, by allowing permittees to comply with the buffer requirement by providing a uniform 50-foot natural buffer or to provide some combination of a narrower buffer (or no buffer if establishing a buffer is infeasible) and stormwater controls that achieve an equivalent sediment load reduction as the 50-foot buffer, EPA has embraced the uniform width buffer approach while ensuring that implementing it is feasible. EPA believes this flexibility will benefit construction operators by giving them options for compliance while also ensuring conceptual consistency in the sediment load reduction regardless of the options chosen.

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- **Additional Requirements for the Compliance Alternatives in Parts 2.1.2.1a.i and 2.1.2.1a.ii.** (Part 2.1.2.1b). If the permittee chooses either of the compliance alternatives in Parts 2.1.2.1a.i or 2.1.2.1a.ii, the following additional requirements apply:

  a. Ensure that all discharges from the area of earth disturbance are first treated by the site's erosion and sediment controls, and use velocity dissipation devices if necessary to prevent erosion caused by stormwater within the buffer;

b. Document in the SWPPP the natural buffer width retained on the property, and show the buffer boundary on the site plan; and

c. Delineate, and clearly mark off, with flags, tape, or other similar marking device all natural buffer areas.

- *Purpose:* Requirement (a) is intended to address the fact that erosive discharges through buffers do not result in the same high level sediment removal that results when the stormwater flow entering the buffer area is flatter and wider, and thus slower. Some site operators have found the use of level spreaders or other practices to be effective to prevent concentrated points of discharge. These practices will help to prevent the formation of gulleys and associated erosion. Requirement (b) is a reminder to operators to document the width of the buffer retained and to visually depict the buffer boundary on the site plan. Requirement (c) demarcates the actual boundaries of the buffer on the site so that construction personnel are reminded not to conduct earth-disturbing activities in the buffer.

- **Additional Requirements for the Compliance Alternatives in Parts 2.1.2.1a.ii and 2.1.2.1a.iii.** (Part 2.1.2.1c). If the permittee chooses compliance alternatives (ii) or (iii), they must document in the SWPPP the erosion and sediment control(s) chosen to achieve an equivalent sediment reduction, as well as any information relied upon to demonstrate equivalency.

  - *Purpose:* Where the permittee chooses to implement equivalent sediment controls instead of providing the 50-foot natural buffer, documentation must be included in the SWPPP to substantiate the claims that the additional controls, in conjunction with the site's perimeter controls implemented pursuant to Part 2.1.2.2, are expected to reduce sediment by the amount equivalent to the 50-foot natural buffer. Refer to Appendix G for further information on the sediment removal expected from buffers in the different areas where this permit is in effect. Note that the sediment removal efficiencies provided in table G - 8 through G - 15 in Appendix G assume the discharge was treated by both a 50-foot buffer and appropriate perimeter controls. Therefore, the equivalency determination requires that the additional controls in conjunction with the already required perimeter controls achieve an equivalent level of removal.

- **Additional Requirement for the Compliance Alternative in Part 2.1.2.1a.iii.** (Part 2.1.2.1d). If the permittee chooses the compliance alternative in Part 2.1.2.1a.iii, they must also include in the SWPPP a description of why it is infeasible to provide and maintain a natural buffer of any size.

  - *Purpose:* If the permittee finds it infeasible to provide and maintain a natural buffer of any size, Part 2.1.2.1d requires that the SWPPP include documentation of the reason why it is infeasible. An example where it would be infeasible to provide a buffer of any size would be if space constraints require disturbances up to the edge of the surface water. Regardless of the reason for infeasibility, the permittee is still responsible for complying with the requirement in Part 2.1.2.1a.iii to implement erosion and sediment controls that achieve the equivalent sediment load reduction as a 50-foot natural buffer, unless the site qualifies for one of the exceptions in Part 2.1.2.1e.

- **Exceptions.** (Part 2.1.2.1e).

  a. Permittees are not required to comply with this Part if there is no discharge of stormwater to surface waters through the area between your site and any surface waters located within 50 feet from the site. This includes situations where the operator

has implemented control measures, such as a berm or other barrier, that will prevent such discharges.

- *Purpose:* To recognize that when there is no discharge of stormwater to the surface water, the permittee is not subject to the 50-foot buffer or equivalent sediment removal treatment standard. For instance, if the slope of the construction site is such that no stormwater from the construction activities discharges through the buffer area, the Part 2.1.2.1 requirement does not apply. This exemption also applies if stormwater from the site enters a storm sewer system and does not discharge through the buffer area, or a berm or other barrier is used to prevent discharges to the surface water. This exception provides additional flexibility to operators who may need to build close to the water's edge, while ensuring that adjacent surface waters are protected.

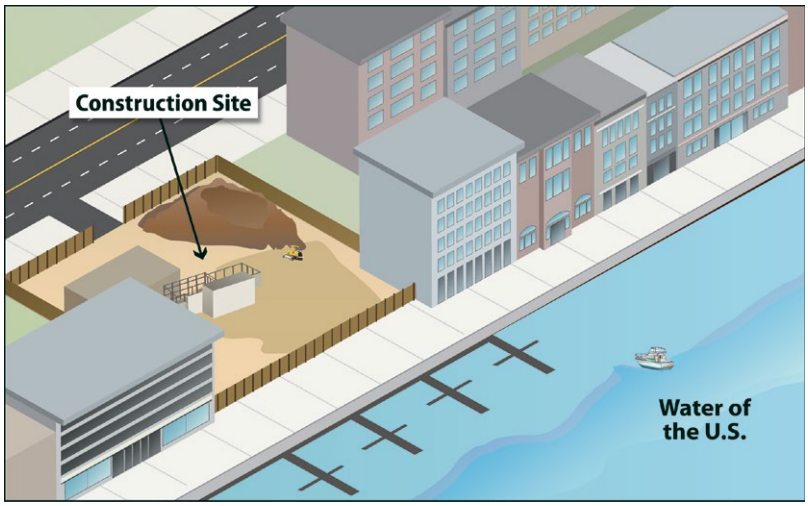
b. Where no natural buffer exists due to preexisting development disturbances *(e.g., structures, impervious surfaces)* that occurred prior to the initiation of planning for the current development of the site, the operator is not required to comply with the requirements in this Part, unless you will remove portions of the preexisting buffer.

   Where some natural buffer exists but portions of the area within 50 feet of the surface water are occupied by preexisting development disturbances, the operator is required to comply with the requirements in this Part. For the purposes of calculating the sediment load reduction for either compliance alternative 2.1.2.1a.ii and 2.1.2.1a.iii, above, the operator is not expected to compensate for the reduction in buffer function from the area covered by these preexisting disturbances. See Appendix G for further information on how to comply with the compliance alternatives in Part 2.1.2.1a.ii or 2.1.2.1a.iii above.

   If during the project, the operator will disturb any portion of these preexisting disturbances, the area disturbed will be deducted from the area treated as natural buffer.

   - *Purpose:* For situations where prior disturbances from a previous development have eliminated the natural buffer, EPA recognizes that it would not be feasible to provide and maintain a buffer in these disturbed areas, and may also be infeasible in certain situations to provide the equivalent sediment load reduction through erosion and sediment controls. For example, for a site that is part of a waterfront development where the existing buffer area has been paved over (see Figure 6 below), EPA would agree with a permittee who claims that establishing a natural buffer or implementing controls that achieve the equivalent sediment load reduction is infeasible.

Figure 6 Example of a disturbance where no naturally vegetated buffer exists due to previous development.



c. For "linear construction projects" (see Appendix A), the operator is not required to comply with this requirement if site constraints (*e.g., limited right-of-way*) prevent the operator from meeting the requirements of the compliance alternatives 2.1.2.1a, above, provided that, to the extent practicable, the operator limits disturbances within 50 feet of the surface water and/or the operator provides supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the surface water. The operator must also document in the SWPPP the rationale as to why it is infeasible to comply with the buffer compliance alternatives, and describe any buffer width retained and/or supplemental erosion and sediment controls installed.

- *Purpose:* EPA notes that dispersal of stormwater discharges through adjacent vegetated is a common practice on many linear projects, and therefore EPA believes that operators of linear projects will in many cases find it feasible to treat stormwater discharges through vegetated buffers. However, EPA recognizes that linear projects may have difficulty in fully complying with each of the compliance alternatives in Part 2.1.2.1.a due to site constraints (i.e., linear projects may not be able to provide the full 50 foot vegetated buffer width). In Part 2.1.2.1.e.iii, the permit provides a more flexible alternative for linear facilities with site constraints by requiring that, instead of meeting the compliance alternatives in Part 2.1.2.1a, the permittee may instead retain as much natural buffer s is feasible, and/or to the extent feasible provide supplemental erosion and sediment controls in the buffer area. For example, if a linear project has only 10 feet of right-of-way between the disturbed area and a stream, permit compliance can be achieved by providing in the buffer area a 10-foot natural buffer, or by providing a narrower buffer (e.g., 5 feet) and additional erosion and sediment controls (e.g., a fiber roll barrier in addition to the perimeter control), or by providing exclusively erosion and sediment controls. EPA believes that this flexibility for linear projects is consistent with the intention of the C&D rule infeasibility language.

d. For "small residential lot" construction (*i.e., a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre*), you have the option of complying with the requirements in Appendix G (Part G.2.3).

- *Purpose:* It is anticipated that in most cases, builders of small residential lots will be able to take credit for the compliance alternatives implemented on their lot by the original developer of the larger common plan of development/sale. For example, the developer could take into account the 50-foot buffer when installing the infrastructure and subdividing the property so that the 50-foot buffer is not encroached upon by the developable portion of the subdivided lots. Alternatively, the developer could hypothetically evaluate and implement equivalent erosion and sediment controls, which can be used by the builders of the small lots to demonstrate that the buffer requirements have already been met. However, there will be circumstances where the builder will be responsible for implementing one of the compliance alternatives on a small lot because it was not taken into account during the sale of the lot (e.g., there was encroachment into the 50-foot buffer in the subdivision of the lot, thus making the alternative in Part 2.1.2.1a.i no longer feasible). EPA recognizes that, under this scenario, builders of small residential lots may have difficulty evaluating the supplemental erosion and sediment controls that provide the equivalent protection of the 50-foot buffer due to limited technical resources.

  To address these concerns, in Appendix G, EPA provides compliance alternatives applicable to small residential lots. Under the small residential lot compliance alternatives, builders of small lots would not be required to model and demonstrate that they are achieving the equivalent sediment reduction equivalency as the 50-foot buffer. Instead, the small residential lot compliance alternatives provide builders of small residential lots with specific controls that they must implement based on the amount of buffer they will retain on the site and the risk level of their site with respect to potential for pollutant discharges to surface waters through the buffer area.

  The controls specified in the small residential lot alternative, although not necessarily equivalent to the sediment removal of a 50-foot buffer, in EPA's best professional judgment are sufficient to protect water quality from small residential construction sites. Small construction sites generally contribute much smaller sediment loads in comparison to larger construction sites. For example, if you compare a large site and a small site with the same erosion rates, the small site will yield less sediment:

  <u>Small Site:</u>

  Site size = 0.5 acres

  Construction period = 0.5 years

  Predicted erosion rate = 2.2 tons/acre/year

  = 2.2 tons/acre/year * 0.5 acres * 0.5 years = **0.55 tons sediment yield**

  <u>Large Site:</u>

  Site size = 5 acres

  Construction period = 1 year

  Predicted erosion rate = 2.2 tons/acre/year

= 2.2 tons/acre/year * 5 acres * 1 year = **11 tons sediment yield**

Therefore, due to the limited resources to conduct site-specific analyses and the lower risk of sediment discharge, EPA believes it is appropriate to provide builders of small residential lots the option to comply with a more streamlined set of compliance alternatives that are specified in Appendix G. These alternatives are not provided to operators of larger sites because of the higher sediment discharge potential associated with them, and because developers of the typical project that disturbs 1 or more acres are presumed to have a greater amount of technical resources at their disposal to perform the calculations necessary to verify compliance with one of the compliance alternative sin Part 2.1.2.1a, above.

The following provides some background on the methodology behind the development of the two small residential lot compliance alternatives in Appendix G.

Small Residential Lot Compliance Alternative 1

Small residential lot compliance alternative 1 is a straightforward tiered-technology approach that specifies the controls that a small residential lot must implement based on the buffer width retained (see Table G – 1 of Appendix G). The requirements in Table G – 1 were developed through modeling a hypothetical small site scenario, in which EPA determined that maintaining a 30 foot buffer, in combination with a double perimeter control and stabilization of disturbed areas within 7 days, will result in a comparable sediment reduction as a 50-foot buffer. Thus, EPA set these controls as the most stringent requirement for sites retaining less than a 30 foot buffer. For sites retaining greater than a 30 foot buffer, in Table G – 1 EPA requires less stringent requirements, taking into account the extra sediment removal achieved by the wider buffer. EPA recognizes that this approach may not provide the equivalent sediment removal as the 50-foot buffer on all sites; however, as described above, EPA maintains that this requirement will be protective of surface waters for small sites.

Small Residential Lot Compliance Alternative 2

Small residential lot compliance alternative 2 incorporates sediment discharge risk into the specification of the controls that must be implemented with a reduced buffer. Builders of small lots have the flexibility of choosing between small resident lot compliance 1 or 2, or complying with the compliance alternatives in 2.1.2.1a. However, because small residential lot compliance alternative 2 incorporates the sediment discharge risk of a site, the required controls may be more appropriate for the specific conditions on the small site (e.g., sites with greater risk will be required to implement more stringent controls, while sites will lower risk will be required to implement less stringent controls).

In small residential lot compliance alternative 2, sites must first determine their site's sediment discharge "risk". To help permittees determine their risk, EPA modeled the expected sediment discharge risk in the different geographic areas of the permit, based on varying slope conditions and soil types (Tables G – 2 through G – 6 of Appendix G). The actual modeled expected sediment discharge risks are as follows, expressed as expected tons of sediment yield per acre per year:

Guam Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	13	23	9.6	17	81
Slope<=6	30	51	21	38	180
Slope<=9	47	81	33	61	290
Slope<=15	82	170	70	130	600
Slope<=25	190	320	130	240	1100

Puerto Rico Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	13	22	9.1	16	77
Slope<=6	27	45	18	34	160
Slope<=9	42	72	29	54	250
Slope<=15	88	150	61	110	530
Slope<=25	160	280	110	210	980

Virgin Islands Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	7	12	5.1	9	43
Slope<=6	15	26	11	19	92
Slope<=9	24	41	17	31	140
Slope<=15	50	86	35	65	300
Slope<=25	94	160	65	120	560

American Samoa Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	30	52	22	39	180
Slope<=6	67	110	47	87	410
Slope<=9	110	180	75	140	650
Slope<=15	230	390	160	770	1400
Slope<=25	420	720	290	1400	2500

Massachusetts and New Hampshire

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	5.4	9.2	3.7	6.9	33
Slope<=6	11	18	7.5	14	65
Slope<=9	17	29	12	22	100
Slope<=15	36	46	25	46	210
Slope<=25	67	85	46	85	390

Idaho Summary - Pocotello

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	0.18	0.31	0.13	0.23	1.1
Slope<=6	0.36	0.61	0.25	0.46	2.2
Slope<=9	0.56	0.96	0.39	0.72	3.4
Slope<=15	1.2	2	0.82	1.5	7.1
Slope<=25	2.2	3.8	1.5	2.8	13

New Mexico Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	0.96	1.6	0.67	1.2	5.9
Slope<=6	1.9	3.3	1.3	2.4	12
Slope<=9	3	5.2	2.1	3.9	18
Slope<=15	6.3	11	4.4	8	37
Slope<=25	12	20	8.1	15	69

Washington DC Summary

	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Slope<=3	6	10	4.2	7.7	36
Slope<=6	12	20	8.3	15	72
Slope<=9	19	32	13	24	110
Slope<=15	40	68	28	51	240
Slope<=25	74	130	51	95	440

Based on the expected sediment discharge modeled in the above tables, EPA developed 3 risk categories: "low", "moderate", and "high". The "low" risk category applies to sites that are expected to yield < 8 tons of sediment/acre/year. The "moderate" risk category applies to sites that are expected to yield ≥ 8 and < 60 tons of sediment/acre/year. The "high" risk category applies to sites that are expected to yield ≥ 60 tons of sediment/acre/year. EPA's sediment discharge risk modeling and establishment of risk categories form the basis for the risk levels established in Tables G – 2 through G – 6.

Once the site determines their sediment discharge "risk" level in Tables G – 2 through G – 6 in Appendix G, based on the width of buffer retained, Table G – 7 in Appendix G specifies the required controls that a site must provide. Like small residential lot compliance alternative 1, this approach establishes double perimeter controls and 7-day site stabilization as the most stringent requirement, but because of the incorporation of sediment discharge risk, sites that are in the low risk category will not be subject to this more stringent requirement. EPA likewise recognizes that this approach may not provide the equivalent sediment removal as the 50-foot buffer on all sites; however, as described above, EPA maintains that this requirement will be protective of surface waters for small sites.

e. The following disturbances within 50 feet of a surface water are exempt from the requirements in this Part:

- Construction approved under a CWA Section 404 permit; or
- Construction of water-dependent structures and water access areas (*e.g., piers, boat ramps, trails)*.

The permittee must document in the SWPPP if any of the above disturbances occur within the buffer area.

- *Purpose:* To recognize that compliance with the buffer requirements is either unnecessary or infeasible for this category of disturbances, which occur entirely or substantially in the buffer. In the case of activities permitted under CWA Section 404 (for discharges of dredge or fill material), EPA believes that such permits already include appropriate safeguards for discharges of sediment to surface waters. For water-dependent features, which must by definition be located in the buffer zone, EPA believes that compliance with the 50-foot natural buffer requirement would generally be infeasible.

Install Perimeter Controls. (Part 2.1.2.2). Permittees are required to comply with the following perimeter control requirements:

1. **Installation Requirements.** (Part 2.1.2.2.a). Permittees must install sediment controls along those perimeter areas of the site that will receive stormwater from earth-disturbing activities.

   Examples of perimeter controls include, but are not limited to, filter berms, silt fences, and temporary diversion dikes.

   For linear projects with rights-of-way that restrict or prevent the use of such perimeter controls, permittees must maximize the use of these controls where practicable and document in your SWPPP why it is impracticable in other areas of the project.

2. **Maintenance Requirements.** (Part 2.1.2.2.b). The permittee is required to remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control.

- *Purpose:* The perimeter control requirements in Part 2.1.2.2 implement the C&D rule requirement to "… install effective erosion and sediment controls."

  The requirement in (1) above instructs permittees as to where downslope sediment controls should be installed so that they are effectively situated to minimize the discharge of pollutants on the site. Part 2.1.2.2.a provides flexibility for linear projects with limited rights-of-ways by allowing them to document in the SWPPP when it is impracticable to install perimeter controls in certain areas of the site, and to maximize the use of these controls in the areas where it is practicable. The requirement in (2) above makes permittees aware that they are required to maintain perimeter controls so that they remain effective throughout the duration of permit coverage. This requirement implements the C&D rule requirement to "…maintain effective erosion controls and sediment controls" at 40 CFR 450.21(a).

Minimize Sediment Track-Out. (Part 2.1.2.3). Permittees must minimize the track-out of sediment onto off-site streets, other paved areas, and sidewalks from vehicles exiting the construction site by complying with the following requirements:

1. Restrict vehicle use to properly designated exit points;

2. Use appropriate stabilization techniques at all points that exit onto paved roads so that sediment removal occurs prior to vehicle exit (e.g., aggregate stone with an underlying geotextile or non-woven filter fabric, or turf mats);
3. Where necessary, use additional controls to remove sediment from vehicle tires prior to exit (e.g., wheel washing, rumble strips, rattle plates); and
4. Where sediment has been tracked-out from the site onto the surface of off-site streets, other paved areas, and sidewalks, remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of the next work day if track-out occurs on a non-work day. Permittees must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. The permittee is prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

   Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of Part 2.1.2.3.

- *Purpose:* The requirement to restrict vehicle use to properly designated exit points in (1) above, the requirement for appropriate stabilization techniques at all points that exit onto paved roads in (2) above, and the requirement for the use of additionally controls, where necessary, to remove sediment from vehicle tires in (3) above, implement the C&D rule requirement to "minimize sediment discharges from the site."

  The requirement in (2) above also implements the C&D rule requirement to "minimize the amount of soil exposed during construction activity."

  The requirement in (4) above implements the C&D rule requirements to "minimize sediment discharges" and the requirement to "minimize the discharge of pollutants from equipment and vehicle washing ….".

  Collectively, the requirements in Part 2.1.2.3 will result in the minimization of sediment that has been tracked-out from the site onto paved surfaces and subsequently discharged in stormwater.

Control Discharges from Stockpiled Sediment or Soil. (Part 2.1.2.4). For any stockpiles *(e.g., storage for multiple days of soil or other sediment material to be used in the construction project)* or land clearing debris composed, in whole or in part, of sediment or soil, permittees must comply with the following requirements:

1. Locate the piles outside of any natural buffers established under Part 2.1.2.1a and physically separated from other stormwater controls implemented in accordance with Part 2.1;
2. Protect from contact with stormwater (including run-on) using a temporary perimeter sediment barrier *(e.g., berms, dikes, fiber rolls, silt fences, sandbag, gravel bags, or straw bales)*;
3. Where practicable, provide cover or appropriate temporary stabilization to avoid direct contact with precipitation or to minimize sediment discharge;
4. Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance or storm drain inlet (unless it is connected to a sediment basin, sediment trap, or similarly effective control) or surface water; and
5. Unless infeasible, contain and securely protect from wind.

- *Purpose:* The requirements to control discharges from stockpiled sediment or soil are intended to prevent the discharge of sediment from stockpiled soil and dirt on the site.

Minimize Dust. (Part 2.1.2.5). In order to avoid pollutants from being discharged into surface waters, the permittee must minimize the generation of dust through the application of water or other dust suppression techniques.

- *Purpose:* The purpose of the requirement to minimize the generation of dust on the site is to minimize the discharge of sediment in stormwater. Dust suppression techniques prevent dust from being generated, minimizing the potential for the dust to accumulate where it is likely to discharge from the site in stormwater discharges.

Minimize the Disturbance of Steep Slopes. (Part 2.1.2.6). Part 2.1.2.6 requires that permittees minimize the disturbance of "steep slopes" (as defined in Appendix A.

- *Purpose:* Part 2.1.2.6 implements the C&D rule requirement to "minimize the disturbance of steep slopes" at 40 CFR 450.21(a)(4). EPA added specificity to what is to be considered a "steep slope" under the permit by defining a steep slope in Appendix A as any tribal, local government, or industry technical manual definition of what is to be considered a "steep slope." Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade. For example, if the county in which the construction activity is taking place has a steep slope regulation that defines steep slopes, then that definition of steep slope is to be used in meeting the requirements of Part 2.1.2.6.

  EPA recognizes that for many projects, there will not be a tribal, local government, or industry definition of steep slopes. In these cases, the default steep slope standard is 15 percent. The 15 percent default steep slope definition was informed through a review of past Agency research, and through a review of state and local steep slope definitions in areas where the permit is in effect.

  EPA defines as steep slopes that are 15 percent or greater in its "Model Aquatic Buffer Ordinance" (http://www.epa.gov/nps/ordinance/mol1.htm). New Hampshire's *Model Ordinance for Steep Slope Protection* and the state's Steep Slope and Ridgeline Protection chapter in its document *Innovative Land Use Planning Techniques: A Handbook for Sustainable Development* indicates that many communities in the state define steep slopes as being 15 percent or greater. The State of Idaho's *Catalog of Stormwater BMPs for Idaho Cities and Counties* (1998) indicates that the erosion hazard of a site is "high" if it has a slope of 15 percent or greater, and suggests that grading should not result in a slope of greater than 15 percent. See pages 10 and 23, respectively. The State of Massachusetts' *Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials* (May 2003) notes that structural sediment and erosion control practices are not suitable on slopes of 12 percent or greater. See page 39. EPA was not able to locate a similar stormwater control manual for the State of New Mexico. However, the City of Santa Fe's *Development and Design Standards* (Article 14-8) prohibits disturbances to slopes that are 10 percent or greater. See Section 14-8.2(B)(2).

  Other states have also adopted the 15 percent slope as the cutoff for what is considered steep. For instance, the State of Washington's *Stormwater Management Manual for Western Washington* (April 2005) defines steep slopes as measuring 15 percent or greater, or as steeper than 15 percent within 500 feet of the site. The State of Maryland's *2010 Maryland Standards and Specifications for Soil Erosion and Sediment*

Control (draft 2010) defines as steep slopes those that are 15 percent or greater. See page A-3.

The purpose of the requirement to minimize the disturbance of steep slopes is to minimize the amount of soil eroded on construction sites, and the amount of sediment and other pollutants discharged from the site. Minimizing the disturbance of steep slopes during construction activity can be accomplished through a number of practices. These include practices related to how much soil is exposed on steep slopes, such as phasing land disturbing activities, and providing timely soil stabilization on slopes, such as through the use of mulches, rolled erosion control products, and vegetation. Permittees have flexibility to select appropriate controls to minimize disturbance of steep slopes at their individual sites. Permittees also have flexibility to schedule and phase construction activities so as to limit the amount of land disturbed at one time and the duration of exposure on steep slopes.

The permit does not prevent or prohibit disturbance on steep slopes. EPA recognizes that for some projects, disturbance on steep slopes may be necessary for construction (e.g., a road cut in mountainous terrain). If a disturbances to steep slopes are required for the project, EPA would recognize that it is not practicable to minimize the disturbance of steep slopes.

EPA notes that the requirement to minimize the disturbance of steep slopes does not apply to the creation of soil stockpiles.

Preserve Topsoil. (Part 2.1.2.7). Permittees are required to preserve native topsoil on the site, unless infeasible.

- *Purpose:* The requirement in Part 2.1.2.7 implements the C&D rule requirement to preserve topsoil, unless infeasible at 40 CFR 450.21(a)(7). The requirement to preserve topsoil helps to maintain the soil structure on construction sites and provides a growing medium for vegetative stabilization measures. Better vegetative stabilization reduces erosion rates of the underlying soil and also increases the infiltrative capacity of the soil, thereby reducing the amount of sediment transported to downslope sediment and perimeter controls. Topsoil can be preserved by stockpiling the native topsoil on the site for later use (e.g., for vegetative stabilization), or by limiting disturbance and removal of the topsoil and associated vegetation. For example, topsoil can be preserved by limiting clearing and grading to only those areas where necessary to accommodate the building footprint. EPA notes that some projects may be designed to be highly impervious after construction, and therefore little or no vegetation is intended to remain. In these cases, EPA recognizes that preserving topsoil at the site would not be feasible or desirable. In addition, some sites may not have space to stockpile topsoil on site for later use, in which case, it may also not be feasible to preserve topsoil. EPA is aware that stockpiling of topsoil in off-site locations, or transfer of topsoil to other locations, is frequently used in these situations and EPA would view this as acceptable practice. However, EPA notes that stormwater discharges from any construction support activities meeting the requirements of Part 1.3.c are subject to the permit requirements.

Minimize Soil Compaction. (Part 2.1.2.8). In any areas of the site where final vegetative stabilization will occur or where infiltration practices will be installed, the permittee must either:

1. **Restrict vehicle / equipment use.** Restrict vehicle and equipment use in any locations where final vegetative stabilization will occur or where infiltration practices will be installed; or

2. ***Use Soil Conditioning Techniques.*** Prior to seeding or planting areas of exposed soil that have been compacted, permittees must use techniques that condition the soils to support vegetative growth, if necessary and feasible.

- *Purpose:* The purpose of the requirement to minimize soil compaction is to allow for infiltration and retention of stormwater to reduce stormwater discharge volume and velocity. Reducing stormwater discharges reduces erosion and therefore reduces the amount of sediment and other pollutants discharged from the site. The requirements in Part 2.1.2.8 achieve the C&D rule requirement to "minimize soil compaction." To comply with this requirement, permittees may either restrict vehicle and equipment use on areas that will be vegetatively stabilized or where infiltration practices will be installed, or can use soil conditioning techniques to decompact soils to support vegetative growth. Specific types of soil conditioning techniques could include deep-ripping and decompaction or sub-soiling. EPA notes that the requirement to use soil conditioning techniques is not required in any area where it would not be feasible, such as on steep slope areas or any other areas where it is not safe for the required equipment. EPA also notes that the requirement to minimize soil compaction does not apply to areas that will not be used for final vegetative stabilization or for areas where infiltration practices will be installed. For example, the requirements do not apply to disturbed areas that will become paved surfaces, such as roads, foundations, footings, or on embankments, or on areas where soil compaction is necessary by design.

Protect Storm Drain Inlets. (Part 2.1.2.9). For any discharges from the site to a storm drain inlet that discharges to a surface water (and it is not first directed to a sediment basin, sediment trap, or similarly effective control), and for which the permittee has authority to access the storm drain inlet, the permittee must:

1. **Installation Requirements.** (Part 2.1.2.9.a). Install inlet protection measures that remove sediment from the discharge prior to entry into the storm drain inlet.

   Examples of inlet protection measures include fabric filters, sandbags, concrete blocks, and gravel barriers. Note that inlet protection measures can be removed in the event of flood conditions or to prevent erosion.

2. **Maintenance requirements.** (Part 2.1.2.9.b). 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, the permittee must remove the deposited sediment by the end of the same work day in which it is found, or by the end of the following work day if removal by the same work day is not feasible.

- *Purpose:* Part 2.1.2.9 implements the C&D rule requirement to "minimize sediment discharges from the site" by requiring stormwater inlets to be protected with sediment controls during construction. Inlet protection measures prevent sediment-laden stormwater from being discharged into storm drains, and ultimately surface waters. The maintenance requirements support the need for the inlet measures to be kept in working condition so that they are effective at preventing the discharge of pollutants.

VII.1.3 Requirements Applicable Only to Sites Using Specific Stormwater Controls (Part 2.1.3)

Part 2.1.3 specifies the requirements that are applicable to specific stormwater controls. These requirements apply only if a site is using the specific stormwater controls described in this section. A detailed discussion is included below of each specific set of requirements.

Constructed Stormwater Conveyance Channels. (Part 2.1.3.1). Part 2.1.3.1 specifies that channels must be designed to avoid unstabilized areas on the site and to reduce erosion, unless

infeasible. Permittees must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of velocity dissipation devices (*e.g., check dams, sediment traps, riprap, or grouted riprap at outlets)* within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

- *Purpose:* The requirements in Part 2.1.3.1 implement the C&D rule requirements to "control stormwater volume and velocity within the site to minimize soil erosion", to "control stormwater discharges… to minimize erosion at outlets and to minimize downstream channel and streambank erosion", to "minimize the amount of soil exposed during construction activity," and to "minimize the disturbance of steep slopes."

Sediment Basins. (Part 2.1.3.2). If a permittee installs a sediment basin, the following requirements apply:

1. **Design requirements:**
    a. Provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm (see Appendix H for information relating to the 2-year, 24-hour storm in the Idaho, Massachusetts, New Hampshire, and New Mexico), or (2) 3,600 cubic feet per acre drained;
    b. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharge of pollutants, unless infeasible;

    Note: EPA believes that the circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include areas with extended cold weather, where surface outlets may not be feasible during certain time periods (although it is expected that they would be used during other periods). If the permittee has determined that it is infeasible to meet this requirement, the permittee must provide documentation in their SWPPP to support their determination.

    c. Prevent erosion of (1) the sediment basin using stabilization controls *(e.g., erosion control blankets)*, and (2) the inlet and outlet using erosion controls and velocity dissipation devices; and
    d. Sediment basins must be situated outside of surface waters and any natural buffer areas established under Part 2.1.2.1a, and must be designed to avoid collecting water from adjacent wetlands.
2. **Maintenance requirements.** Keep in effective operating condition and remove accumulated sediment to maintain at least ½ of the design capacity of the sediment basin at all times.

- *Purpose:* Sediment basins are often used on construction sites to minimize sediment discharges. They are typically placed at or near low points of drainageways on in order to temporarily detain stormwater discharges, allowing sediment particulates to settle. Sediment basins are also often designed to reduce peak flowrates, reducing downstream flooding and channel erosion. At the point of discharge, which is typically a pipe or channel, installation of riprap or other stabilization measures is often necessary because the concentrated discharge can cause erosion. Sediment basins are also often designed to reduce flow duration impacts by reducing the total volume of stormwater being discharged or by providing extended detention to reduce discharge rates. The purpose of the requirements in this part is to provide specific design and maintenance requirements for the proper implementation of sediment basins, if used on a site.

The design requirements in Part (1) above are a modification of the sediment basin requirements in the 2008 CGP. EPA has modified the storage requirement to apply to all sediment basins installed. The design requirements include new language to implement the following C&D rule requirement: "When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible." EPA has also added a requirement to prevent erosion of the sediment basin and the inlet and outlet to implement the C&D rule requirement to "design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants," and the requirement to "control stormwater discharges…to minimize erosion at outlets and to minimize downstream channel and streambank erosion."

The maintenance requirements in Part (2) above implement the C&D rule requirement to "… *maintain* effective erosion controls and sediment controls to minimize the discharge of pollutants."

Use of Treatment Chemicals. (Part 2.1.3.3). If the permittee will use polymers, flocculants, or other treatment chemicals at the construction site, they must comply with the following minimum requirements:

a. **Use conventional erosion and sediment controls prior to and after application of treatment chemicals.** Use conventional erosion and sediment controls prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated stormwater is directed to a sediment control prior to discharge.

b. **Select appropriate treatment chemicals**. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction and discharged to locations where chemicals will be applied, and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area.

c. **Minimize discharge risk from stored chemicals.** Store all treatment chemicals in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures *(e.g., spill berms, decks, spill containment pallets)*, or provide equivalent measures, designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means *(e.g., storing chemicals in covered area or having a spill kit available on site)*.

d. **Comply with state/local requirements.** Comply with relevant state and local requirements affecting the use of treatment chemicals.

e. **Use chemicals in accordance with good engineering practices and specifications of the chemical vendor/supplier.** The permittee must also use treatment chemicals in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals, or document specific departures from these practices or specifications and how they reflect good engineering practice.

f. **Ensure proper training.** Ensure that all persons who handle and use treatment chemicals at the construction site are provided with appropriate, product-specific training. Among other things, the training must cover proper dosing requirements.

g. **Comply with additional requirements for the approved use of cationic chemicals.** If the operator has been authorized to use cationic chemicals at the site pursuant to Part 1.2.4, and the authorization is conditioned on compliance with additional requirements necessary to ensure that the use of such chemicals will not cause an exceedance of water quality standards, the permittee is required to comply with all such requirements.

h. **Provide proper SWPPP documentation.** The permittee must include documentation in the SWPPP consistent with Parts 7.2.6.9 and 7.2.10.2 on the specific chemicals and chemical treatment systems to be used, and how the site will comply with the requirements in this Part.

- *Purpose:* To establish minimum requirements that apply to the use of treatment chemicals at permitted construction sites. A more detailed discussion of EPA's rationale supporting these requirements is included below.

  1. *Use conventional erosion and sediment controls prior to and after application of treatment chemicals* – To help ensure that treatment chemicals are used effectively, the permit requires that the permittee use conventional erosion and sediment controls prior to chemical addition. Through the use of proper erosion and sediment controls, the influent levels of turbidity prior to chemical addition will be significantly lowered, thus requiring a lower dosage level of the treatment chemical. EPA believes that where less chemical is used for treatment there is a significantly lower chance for over application to occur and for residual chemical to be discharged.

     The permit also requires that, following chemical addition, the treated stormwater flow be directed to a sediment control prior to discharge. Through the use of settling or filtering practices, such as sediment ponds or sediment traps, or barrier controls such as silt fences, treated sediment "flocs" will be removed prior to discharge.

     The following are some examples of state requirements regarding the use of conventional controls, which informed the permit language included in this permit:

     - Maryland: "Only apply coagulant where runoff is to a sediment control practice. Do not apply coagulant directly to surface waters of the State." (MD Department of the Environment, 2010 Standards and Specifications for Soil Erosion and Sediment Control, *Standards and Specifications for Passive Control Systems*, H-7-1, Draft 2009)
     - Michigan: "When used correctly and in concert with existing erosion control best management practices (BMPs), land applied PAMs should not enter surface waters of the state." (MI Department of Environmental Quality, Water Bureau, Technical Guidance for the Use of Polyacrylamides for Soil Erosion Control, March 2006)
     - Mississippi: "Polymer shall be introduced through turbulent mixing into the storm water upstream of sedimentation BMPs." (MS Large Construction General Permit, ACT 8 (LCGP) Application of Flocculants)
     - New Hampshire: "The department shall not approve the use of flocculants unless the person requesting approval demonstrates that due to the presence of on-site clay colloidal particles, other erosion control measures, alone or in combination, will not be sufficient to prevent turbidity violations and sedimentation in downstream receiving waters." (NH Code of Administrative Rules, Sediment Control Methods: Flocculants, Env-WQ 1506.12(c))
     - Wisconsin: "The applicator should use the least amount of polymer mixture to achieve optimal performance. Polymer mixtures should be applied in conjunction with other erosion control BMPs and under an erosion and sediment control or stormwater management plan." (WI Department of Natural Resources, Conservation Practice Standard, Interim Sediment Control – Water Application of Polymers (1051), Section VI.C).

  2. *Select appropriate treatment chemicals* – The effectiveness of treatment chemicals is dependent on a number of variables that are site-specific, including water temperature, soil types (particle size distribution), turbidity of inflow water, pH, and flow rate.

EPA requires in the permit that the operator takes these variables into account when selecting appropriate treatment chemicals, and to document in the SWPPP the supporting rationale for their choice. It is common in the water treatment industry to use jar tests for evaluating chemicals and optimizing their use. The following is an excerpt from EPA's Office of Pesticide Programs' 2001 paper, *The Incorporation of Water Treatment Effects on Pesticide Removal and Transformations in Food Quality Protection Act (FQPA) Drinking Water Assessments,* downloadable at (http://www.epa.gov/oppfead1/trac/science/water_treatment.pdf):

> Prototype studies are the standard approach to assess and optimize water treatment processes (J.M.M. Consulting Engineers, 1985 and USEPA, 1989). The most common approach is the bench scale laboratory study commonly referred to a " jar" study. A jar study is a static mixed reactor system (mixed water in a jar). The test study is recommended to assess the impact of primary water treatment processes including coagulation, flocculation, and sedimentation (J.M.M. Consulting Engineers, 1985). Jar tests are also recommended to assess turbidity removal; appropriate dose of coagulants; impact of polymeric aids; impact of mixing time; and control measures for iron and manganese precipitation (J.M.M. Consulting Engineers, 1985). Advantages of jar studies are the relative ease and costs associated with the method."

Regarding jar tests, operators should be aware that ASTM (American Society for Testing and Materials) has a standard practice for conducting jar tests. Refer to the American Society *Standard Practice for Coagulation-Flocculation Jar Test of Water,* ASTM Designation D-2035-8.

Several state permitting programs have adopted requirements that are similar to EPA's requirement to select chemicals that are suited to site-specific variables:

- Michigan: "Using the wrong form of a PAM on a soil will result in some degree of performance failure, and increase the potential for this material to enter surface waters. … Please specify if the characteristics of the PAM(s) meet the guidelines specified above and if on-site soil or sediment characteristics have been identified and matched to the appropriate polymer." (*Technical Guidance for the Use of Polyacrylamides for Soil Erosion Control*, Michigan Dept. of Environmental Quality, March 2006)
- Mississippi: "Polymer shall be selected for site specific soil conditions (i.e., jar test)." (MS Large Construction General Permit, ACT 8 (LCGP) Application of Flocculants)
- California: "The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer dosage levels for their ATS." (CA CGP, Attachment F, D.3)

In addition, the USDA's Cooperative Extension Service advises the following for use of PAM: "There are many types of PAMs, each with slightly different properties and ability to react with a specific soil. Be sure to use the PAM that works best on the soil at your site. Some suppliers and manufacturers will test your soil at no charge to determine the best PAM for your site." See *Soil Facts: Using PAM to Reduce Erosion on Construction Sites*, at http://www.soil.ncsu.edu/publications/Soilfacts/agw439-61_low-res-060106.pdf.

3. *Minimize discharge risk from stored chemicals* – EPA includes specific storage requirements for treatment chemicals so that the risk of discharge from areas where the raw chemical will be stored is eliminated. EPA believes that the specificity of the requirement will ensure that accidental releases will not result in a discharge to surface waters with potential consequences to aquatic species. A state example of this requirement can be found in Washington's 2011 CGP: "Provide cover, containment, and protection from vandalism for all chemicals, liquid products,

petroleum products, and other materials that have the potential to pose a threat to human health or the environment" (see Section D.9.b of S.9).

4. *Comply with state/local requirements* – Permittees are required to comply with any applicable state or local requirements that apply to the use of treatment chemicals. For instance, if you are subject to the sediment control standards of NRCS, that agency has specific restrictions on the allowable formulations of PAM. The NRCS species that PAM:

   - "Be of the anionic type meeting acrylamide monomer limits of ≤ 0.05 percent;
   - Have a charge density of 10 to 55 percent, by weight;
   - Have a molecular weight of 6 to 24 Mg/mole; and
   - Be mixed and/or applied in accordance with Occupational Safety and Health Administration (OSHA) Material Safety Data Sheet requirements and the manufacturer's recommendations." See NRCS, Conservation Practice Standard, Anionic PAM Application (Code 450).

   Another example is in New Hampshire, where the state sediment control regulations include a number of restrictions that apply to the use of chemical flocculants. Among these requirements are the following:

   - Flocculants shall not be applied directly to or within 100 feet of any surface water unless specifically approved by the department in writing in accordance with this section.
   - The department shall not approve the use of flocculants unless the person requesting approval demonstrates that due to the presence of on-site clay colloidal particles, other erosion control measures, alone or in combination, will not be sufficient to prevent turbidity violations and sedimentation in downstream receiving waters.
   - Sites shall be stabilized as soon as possible using conventional measures to minimize the need to use flocculants.
   - All chemical flocculants must be in anionic form.

   The requirements also require that the operator submit specific information about the chemicals to be used, a site-specific flocculant application plan, and a water quality sampling plan. See NH regulations, Env-Wq 1506.12(f)(5). Therefore, where a project will occur in New Hampshire, coverage under the CGP would require that these state requirements be complied with. Where there are other requirements affecting the use of chemicals in the areas where the CGP is in effect, these requirements must also be complied with.

5. *Use chemicals and treatment systems in accordance with good engineering practices and specifications of the chemical provider/supplier* – The permit requires that chemicals and chemical treatment systems be used in accordance with good engineering practices. In addition, where the chemical supplier or vendor includes specifications regarding chemical dosage or has provided design specifications for the dosage or design of the treatment system, the permit requires that these specifications be followed. For instance, where the chemical supplier or provider has conducted jar tests for your site, suggesting an optimal dosage level or application rate for the chemical, you should follow these specifications, unless there are significant changes at your site that would impact dosage levels (e.g., change in influent turbidity levels, pH, types of soils) or the type of chemical being used, in which case you should adjust dosage levels appropriately. Additionally, where the MSDS for a specific chemical or a chemical product specification sheet recommends specific practices in terms of storage or application of the chemical, you should follow these specifications as well, or document specific departures from these practices and how they reflect good engineering practice.

6. *Ensure proper training* – The permit requires that personnel responsible for the application and use of chemicals be properly trained for those specific chemicals and applicable chemical treatment systems. EPA emphasized in the C&D rule the importance of ensuring adequate training of construction personnel in its discussion of ensuring the proper usage of treatment chemicals. EPA stated that "based on the information in the record EPA has determined that when polymers are properly applied the risks of toxicity to aquatic life or adverse effects to the receiving water are minimal. However, it is important that permittees be properly trained in the use of polymers." 74 Fed. Reg. 63008. EPA also indicated that "NPDES permitting authorities may establish controls on … training requirements for site operators or other measures they deem appropriate."
7. *Comply with additional requirements for the approved use of cationic treatment chemicals* – The use of cationic treatment chemicals for discharges authorized under this permit is generally ineligible for coverage, however Part 1.2.4 allows for exceptions on a case-by-case basis if the applicable EPA Region provides specific authorization. Where such authorization is contingent upon the operator's compliance with additional requirements, those requirements are considered enforceable terms of the permit. The requirements may include enhanced controls or procedures beyond the minimum measures specified in this Part. Some examples may include:
   - Specific training requirements geared towards specific cationic treatment chemical to be used;
   - Specific inspection requirements related to the locations where chemicals are used and stored;
   - Maximum dosage rate based on jar test information submitted, other state NPDES permit requirements, and/or manufacturer information;
   - Requirements to periodically recalculate the optimal dosage rate based on influent and effluent monitoring of pH and turbidity;
   - Requirements related to the use of specific conventional pretreatment controls;
   - Requirements related to the storage of chemicals on the site; and
   - Aquatic toxicity testing and applicable reporting, recordkeeping, and corrective action requirements; and
   - Residual chemical testing and applicable reporting, recordkeeping, and corrective action requirements.
8. *Provide proper SWPPP documentation* – Refer to discussion in Section I.a of the fact sheet for a discussion of the SWPPP documentation requirements.

Dewatering Practices. (Part 2.1.3.4). Part 2.1.3.4 prohibits the discharge of ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first treated by an appropriate control. Examples of appropriate controls include, but are not limited to, sediment basins or sediment traps, dewatering tanks, tube settlers, weir tanks, or filtration systems (e.g., bag or sand filters) that are designed to remove sediment.

Uncontaminated, non-turbid dewatering wastewater, such as well-point ground water, can be discharged without being routed to a control. The permittee must also meet the following requirements for dewatering activities:

1. **Discharge requirements.**
   a. Do not discharge floating solids or foam;

b. Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering wastewater is found to contain these materials;

c. To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. In no case will surface waters be considered part of the treatment area;

d. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.1.3.1;

e. With backwash water, either haul away for disposal or return it to the beginning of the treatment process; and

f. Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.

2. **Treatment chemical restrictions.** Permittees using polymers, flocculants, or other treatment chemicals to treat dewatering wastewater must comply with the requirements in Parts 2.1.3.3.

- *Purpose:* To implement the C&D rule requirement that prohibits "discharges from dewatering activities, including discharges from dewatering of trenches and excavations" unless managed by "appropriate controls." The specific restrictions in Part 2.1.3.4 provide the permit's interpretation of what is meant by "appropriate controls" in the C&D rule. These specific requirements, in part, also implement the C&D rule requirements to control peak flowrates and total stormwater volume (40 CFR 450.21(a)(2)), to minimize sediment discharges (40 CFR 450.21(a)(5)), and to direct stormwater to vegetated areas (40 CFR 450.21(a)(6)).

VII.2 Stabilization Requirements (Part 2.2)

Part 2.2 requires exposed portions of the site be stabilization in accordance with the requirements in this Part. EPA acknowledges that some portions of some projects are intended to be left unvegetated or unstabilized following construction. An example would be a dirt access road or a utility pole pad where the final plan calls for the area to remain a dirt road or an unstabilized pad. EPA does not expect temporary or permanent stabilization measures to be applied to these areas.

EPA notes that for the purposes of this permit, "exposed portions of your site" means areas of exposed soil that are required to be stabilized. Note that EPA does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left unvegetated or unstabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

EPA provides a definition in the 2012 CGP for "stabilization" as "the use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas exposed through the construction process." Appendix A defines "temporary stabilization" and "final stabilization" as follows:

- "Temporary stabilization" means a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

- "Final stabilization" means that, on areas not covered by permanent structures, either (1) vegetation has been established, or for arid or semi-arid areas, will be established that provides a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the natural background vegetative cover, or (2) non-vegetative stabilization methods have been implemented to provide effective cover for exposed portions of the site.

In the C&D rule, EPA emphasizes the importance of effective and speedy stabilization of soils exposed throughout the construction process in order to reduce the amount of soil eroded on construction sites and the amount of sediment and other pollutants discharged from the site. EPA indicates in the rule that initiating soil stabilization measures immediately after land has been disturbed and construction activity has ceased is an important non-numeric effluent limitation. EPA also states that it "sees no compelling reason why permittees cannot take action immediately to stabilize disturbed soils on their sites" (see 74 Fed. Reg. 63005, December 1, 2009). EPA also observes that erosion control measures, such as mulch, are readily available and permittees need only plan accordingly to have appropriate materials and laborers present when needed. Ibid.

Furthermore, "simply providing some sort of soil cover on these areas can significantly reduce erosion rates, often by an order of magnitude or more. Vegetative stabilization using annual grasses is a common practice used to control erosion. Physical barriers such as geotextiles, straw, rolled erosion control products and mulch and compost are other common methods of controlling erosion. Polymers (such as PAM) and soil tackifiers are also commonly used. These materials and methods are intended to reduce erosion where soil particles can be initially dislodged on a C&D site, either from rainfall, snow melt or up-slope runoff." See 74 Fed. Reg. 63012.

The permit carries forward these important principles and factors by incorporating specific provisions intended to implement the C&D rule's stabilization deadline requirements. The following section provides support for these provisions.

VII.2.1 Deadlines for Initiating and Completing Stabilization (Part 2.2.1)

Deadline to Initiate Stabilization. (Part 2.2.1.1). The permit specifies that the permittee must initiate soil stabilization measures immediately whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site. EPA explains in the permit that, for the purposes of this provision, the term "immediately," as used to define the deadline for initiating stabilization measures, means *as soon as practicable, but no later than the end of the next workday following the day when earth-disturbing activities have temporarily or permanently ceased*.

The permit also clarifies what is meant by permanent or temporary cessations in earth-disturbing activities:

> *For the purposes of this permit, earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed.*
>
> *Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. The 14-day timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances*

where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days. At that point, you must comply with Parts 2.2.1.1 and 2.2.1.2.

EPA also notes that, for the purposes of this permit, EPA will consider any of the following types of activities to constitute the initiation of stabilization:

1. prepping the soil for vegetative or non-vegetative stabilization;
2. applying mulch or other non-vegetative product to the exposed area;
3. seeding or planting the exposed area;
4. starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and
5. finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization in Parts 2.2.1.2 and 2.2.1.3.

- *Purpose:* The requirement to immediately initiate stabilization when disturbed soils will not be worked on for 14 or more days implements the C&D rule requirement with the same deadline. See 40 CFR 450.21(b).

  EPA believes it is important to clarify the rule by specifying what it means to have earth-disturbing activities temporarily or permanently cease. It is important for construction operators to understand that stabilization must begin *immediately* when there is no justification for leaving areas exposed. For example, if 14 days will pass between the time when clearing and grading has been completed and further earth-disturbing activities will occur, there is no reason why the exposed portions of the site cannot be stabilized temporarily to prevent erosion and sediment discharge during the time of inactivity on any portion of the site. EPA clarifies that the initiation of stabilization means that the permittee has taken action to implement the stabilization measures, including, for example, finalizing arrangements to have the stabilization product delivered, scheduling the installation of the product, and/or prepping the soil.

Deadline to Complete Stabilization Activities. (Part 2.2.1.2). The permit requires as soon as practicable, but no later than 14 calendar days after the initiation of stabilization measures in Part 2.2.1.1, the permittee must have completed: (a) for vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized (e.g., soil conditioning, application of seed or sod, planting of seedlings or other vegetation, application of fertilizer, and, as deemed appropriate); and/or (b) for non-vegetative stabilization, the installation or application of all such non-vegetative measures.

EPA also notes that the Agency may determine, based on an inspection carried out under Part 4.2 and corrective actions required under Part 5.3, that the level of sediment discharge on the site makes it necessary to require a faster schedule for completing stabilization. For instance, if sediment discharges from an area of exposed soil that is required to be stabilized are compromising the performance of existing stormwater controls, EPA may require stabilization to correct this problem.

- *Purpose:* The C&D rule, at 40 CFR 450.21(b), requires that a deadline to complete stabilization be established by each permit authority. As the permit authority for this CGP, EPA has included in the 2012 CGP what it believes to be a reasonable and unambiguous deadline for completing stabilization procedures. In arriving at the 14-day deadline, EPA gave consideration to the differences between vegetative and non-vegetative stabilization techniques. While it is infeasible to define with any certainty a deadline for when vegetative stabilization must be established and operating effectively, it is possible to require that some of the basic steps for planting vegetative cover in an area take place within a certain period of time, which is what EPA included in this section. By comparison to vegetative stabilization, it is feasible to define when non-vegetative practices must be installed and made operational, since the establishment of non-vegetative practices is typically more straightforward in terms of their application or installation. EPA considered a shorter (7 calendar day) deadline for all sites, but believes that the 14 calendar day deadline better recognizes potential conflicts such as site scheduling constraints or unexpected weather-related delays. The14 calendar day deadline will be just as protective in most cases because permittees will still be required to initialize stabilization immediately after the cessation of earth-disturbing activities. Also, they will likely complete stabilization promptly rather than wait until the 14th calendar day because waiting could put them at risk of missing the deadline should there be inclement weather or other unexpected delays on the 14th calendar day. EPA has included tighter deadlines in the permit for sites discharging to sensitive waters (see below).

Exceptions to the Deadlines for Initiating and Completing Stabilization. (Part 2.2.1.3). Part 2.2.1.3 describes the exceptions to the deadlines for initiating and completing stabilization in Parts 2.2.1.1and 2.2.1.2.

1. ***Deadlines for projects occurring in arid or semi-arid area, or drought-stricken areas.*** (Part 2.2.1.3.a). The 2012 CGP provides flexibility in terms of the stabilization deadlines for sites located in arid areas, semi-arid areas, or drought-stricken areas. In Part 2.2.1.3.a, if the site is located in an arid area, a semi-arid area, or a drought-stricken area, and if construction will occur during the seasonally dry period or during a period in which drought is predicted to occur, and if the permittee is using vegetative cover for temporary or permanent stabilization, the operator may choose to comply with the following deadlines in lieu of those in Part 2.2.1.1:

   a. Immediately initiate, and within 14 calendar days of a temporary or permanent cessation of work in any portion of the site, complete the installation of temporary non-vegetative stabilization measures to the extent necessary to prevent erosion;

   b. As soon as practicable, given conditions or circumstances on the site, complete all activities necessary to initially seed or plant the area to be stabilized; and

   c. Document the beginning and ending dates of the seasonally dry period and your site conditions in the SWPPP. The permittee must also include the schedule that will be followed for initiating and completing vegetative stabilization.

- *Purpose:* To provide flexibility for arid and semi-arid areas where stabilization timeframes can be adjusted during comparably dry periods. In the C&D rule, EPA allowed for the fact that "alternative stabilization measures" could be used for arid and semi-arid areas. See 40 CFR 450.21(b). This provision is consistent with the C&D rule.

2. ***Deadlines for projects that are affected by circumstances beyond the control of the permittee that delay the initiation and/or completion of vegetative stabilization as required in Parts 2.2.1.1 and/or 2.2.1.2.*** (Part 2.2.1.3.b). If the permittee is unable to meet the deadlines in Parts 2.2.1.1 and/or 2.2.1.2 due to circumstances beyond the control of permittee (e.g., problems with the supply of seed stock or with the availability of specialized equipment, unsuitability of soil conditions due to excessive precipitation and/or flooding), and the permittee is using vegetative cover for temporary or permanent stabilization, the permittee may comply with the following stabilization deadlines instead:

   a. Immediately initiate, and within 14 calendar days complete, the installation of temporary non-vegetative stabilization measures to prevent erosion;

   b. 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

   c. Document the circumstances that prevent the ability to meet the deadlines required in Parts 2.2.1.1 and/or 2.2.1.2 and the schedule for initiating and completing stabilization.

- *Purpose:* To provide flexibility for projects that are affected by circumstances beyond the control of the permittee (e.g., problems with the supply of seed stock or with the availability of specialized equipment). For sites with unsuitable site conditions, the permit still requires that temporary non-vegetative stabilization measures be immediately initiated and completed within 14 days in order to prevent erosion during the period of unsuitable site conditions.

3. ***Deadlines for sites discharging to sensitive waters.*** (Part 2.2.1.3.c). The permit establishes faster stabilization timeframes for any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified by the state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes. For such sites, the permit requires that stabilization activities specified in Parts 2.2.1.2a and/or 2.2.1.2b be completed within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities.

   Note: If the permittee qualifies for the deadlines for initiating and completing stabilization in Part 2.2.1.3.a or b, you may comply with the stabilization deadlines in Part 2.2.1.3.a or b for any portion of your site that discharges to a sensitive water.

- *Purpose:* To provide for as short a time period as possible during which soils disturbed in areas of special concern can be left exposed prior to completing stabilization. EPA believes that discharges from these particular areas demand stricter controls given heightened concern about erosion and the impacts from sediment discharges from these areas. The permit requires earlier stabilization deadlines as a water-quality based effluent limitation for earth disturbances in certain areas considered more sensitive to water quality impacts. EPA believes that a stricter stabilization timetable is necessary to minimize erosion and the discharge of sediment in these areas. The preamble to the C&D rule anticipated permitting authorities requiring stricter stabilization timeframes in their permits, consistent with the overall flexibility provided in the non-numeric limits of 40 CFR 450.21. EPA clarifies that the faster stabilization timeframes are only required for those portions of the site discharging to the sensitive water. For example, for a highway construction project spanning many miles over multiple watersheds, the increase in inspection frequency would only be required in areas of the site that are located within the watershed of the sensitive water. EPA also notes that if a permittee qualifies for the

deadlines in Part 2.2.1.3a or b, they may comply with those deadlines for any portion of the site discharging to the impaired water.

VII.2.2 Criteria for Stabilization (Part 2.2.2)

To be adequately stabilized, the permittee must meet the criteria below depending on the type of cover that is being used, either vegetative or non-vegetative.

Vegetative Stabilization. (Part 2.2.2.1).

1. **For all sites, except those located in arid or semi-arid areas or on agricultural lands.** (Part 2.2.2.1.a).
   a. If the permittee is vegetatively stabilizing any exposed portion of the site through the use of seed or planted vegetation, the permittee must provide an established uniform vegetation *(e.g., evenly distributed without large bare areas)*, which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities. The permittee should also avoid the use of invasive species;
   b. For final stabilization, vegetation must be perennial; and
   c. Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, the permittee must 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.

2. **For sites located in arid or semi-arid regions, or drought-stricken areas.** (Part 2.2.2.1.b). For sites that are located in an arid or semi-arid area, or a drought-stricken area, the permittee is considered to have completed final stabilization if both of the following criteria are met:
   a. The area that has been seeded or planted must within 3 years provide established vegetation that covers 70 percent or more of the density of vegetation prior to commencing earth-disturbing activities; and
   b. In addition to seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, the permittee must select, design, and install non-vegetative erosion controls that provide cover for at least 3 years without active maintenance.

3. **For sites located on land used for agriculture.** (Part 2.2.2.1.c). Disturbed areas that are restored to their preconstruction agricultural use are not subject to these final stabilization criteria. Areas disturbed that were not previously used for agricultural activities and areas that are not being returned to preconstruction agricultural use must meet the conditions for stabilization in Part 2.2.2.1.

- *Purpose:* To provide an objective standard by which to assess whether a site has been stabilized. This criterion is the same as the requirement included in the definition of "final stabilization" in Appendix A of the 2008 CGP. Note that when background vegetation covers less than 100 percent of the ground prior to commencing earth-disturbing activities, the 70 percent vegetative stabilization criteria can be adjusted as follows: if vegetation covers 50 percent of the ground prior to construction, then the requirement would be to provide a total vegetative cover at final stabilization of 70 percent of 50 percent (0.70 X 0.50 = 0.35), or 35 percent of the ground.

Non-Vegetative Stabilization. (Part 2.2.2.2)**.** If the permittee is using non-vegetative controls to stabilize exposed portions of the site, or if they are using such controls to temporarily protect areas that are being vegetatively stabilized, the permittee must provide effective non-vegetative cover to stabilize any such exposed portions of the site. For temporary stabilization, examples of temporary non-vegetative stabilization methods include, but are not limited to, hydromulch and erosion control blankets. For final stabilization, examples of permanent non-vegetative stabilization methods include, but are not limited to, riprap, gabions, and geotextiles.

- *Purpose:* To define what is required and to provide examples of methods to ensure adequate non-vegetative final stabilization.

VII.3 Pollution Prevention Requirements (Part 2.3)

Part 2.3 of the 2012 CGP includes the requirements for pollution prevention and prohibited discharges, which implement 40 CFR 450.21(d) and (e) of the C&D rule. Part 2.3 explains the general requirement for construction operators to design, install, and maintain effective pollution prevention measures in order to minimize or prohibit the discharge of pollutants. To meet this requirement, the operator is required to:

- Eliminate certain pollutant discharges from the site (see Part 2.3.1);
- Properly maintain all pollution prevention controls (see Part 2.3.2); and
- Comply with pollution prevention standards for pollutant-generating activities that occur at the site (see Part 2.3.3).

These requirements apply to all areas of the construction site and any support activities covered by this permit consistent with Part 1.3.c.

VII.3.1 Prohibited Discharges (Part 2.3.1)

Part 2.3.1 identifies the types of discharges that are prohibited from occurring at the permittee's construction site. This list prohibits the following discharges:

1. Wastewater from washout of concrete, unless managed by an appropriate control as described in Part 2.3.3.4;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, unless managed by an appropriate control as described in Part 2.3.3.4;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
4. Soaps, solvents, or detergents used in vehicle and equipment washing; and
5. Toxic or hazardous substances from a spill or other release.

- *Purpose:* Part 2.3.1 details the types of wastes and other pollutants that permittees are prohibited from discharging under this permit. The requirement in Parts (1) through (4) above implement prohibitions included in the C&D rule at 40 CFR 450.21(e). The requirement in Part (5) above to prohibit toxic or hazardous substances from a spill or other release corresponds to Part 3.1.I of the 2008 CGP ("you are not authorized to discharge hazardous substances or oil resulting from an on-site spill").

VII.3.2 General Maintenance Requirements (Part 2.3.2)

Part 2.3.2 requires that all pollution prevention controls installed remain in effective operating condition and are protected from activities that reduce their effectiveness throughout the duration of coverage under the permit. The permit also requires the permittee to inspect all pollutant-generating activities and pollution prevention controls in accordance with the inspection requirements in Part 4.1, and to document any findings in accordance with Part 4.1.6 and Part 4.1.7. If pollution prevention controls need to be replaced, repaired, or maintained, the permittee must carry them out as follows:

1. Initiate work to fix the problem immediately after discovering the problem, and complete such work by the close of the next work day, if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance.
2. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery. If it is infeasible to complete the installation or repair within 7 calendar days, the permittee must document in their records why it is infeasible to complete the installation or repair within the 7 calendar day timeframe and document the schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7 calendar day timeframe. Where these actions result in changes to any of the pollution prevention controls or procedures documented in the SWPPP, the permittee must modify the SWPPP accordingly within 7 calendar days of completing this work.

- *Purpose:* To implement the C&D rule requirement to "… maintain effective pollution prevention measures" at 40 CFR 450.21(d) and the NPDES requirement at 40 CFR 122.41(e) to "at all times properly operate and maintain all facilities and systems of treatment and control …". In terms of the deadlines for taking action to correct problems found during inspections, the permit distinguishes between those problems that are "easy fixes" and those that require more significant work to correct or that require the design, purchase, and installation of a new control. For instance, if during the inspection, the permittee discovers that a trash container had been tipped over, leaving waste on the site, the permit would require that the waste be removed and placed in the appropriate container or otherwise disposed of immediately.

VII.3.3 Pollution Prevention Standards (Part 2.3.3)

Part 2.3.3 requires permittees to comply with specific pollution prevention standards for the following pollutant-generating activities that may result in pollutant discharges:

1. Fueling and maintenance of equipment or vehicles;
2. Washing of equipment and vehicles;
3. Storage, handling, and disposal of construction materials, products, and wastes; and
4. Washing of applicators and containers used for paint, concrete, or other materials.

- *Purpose:* Part 2.3.3 establishes pollution prevention standards to minimize, control, or eliminate the discharge of pollutants (i.e., construction and demolition waste, solid waste, trash, and other pollutants) in stormwater and other wastewater from pollutant-generating activities that occur on-site or at an off-site construction support activity area.

Fueling and Maintenance of Equipment or Vehicles. (Part 2.3.3.1). If the permittee will conduct fueling and/or maintenance of equipment or vehicles at the site, an effective means must be

provided to eliminate the discharge of spilled or leaked chemicals, including fuel, from the area where these activities will take place.

Examples: locating activities away from surface waters and stormwater inlets or conveyances, providing secondary containment and cover where appropriate, and/or having spill kits readily available.

To comply with the prohibition in Part 2.3.1.3, the permittee must:

1. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR 112 and Section 311 of the CWA;
2. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;
3. Use drip pans and absorbents under or around leaky vehicles;
4. Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements;
5. Clean up spills or contaminated surfaces immediately, using dry clean up measures where possible, and eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and
6. Do not clean surfaces by hosing the area down.

- *Purpose:* These requirements implement the 40 CFR 450.21(d)(3) requirement to "minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures" and the 40 CFR 450.21(e)(3) requirement prohibiting the discharge of "fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance."

Washing of Equipment and Vehicles. (Part 2.3.3.2)**.** If the permittee will wash equipment or vehicles on site, Part 2.3.3.2 requires that he/she:

1. Provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing *;* and
2. To comply with the prohibition in Part 2.3.1.4, for storage of soaps, detergents, or solvents, the permittee must provide either (1) cover (*e.g., plastic sheeting or temporary roofs)* to prevent these discharges from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

- *Purpose:* This requirement implements the 40 CFR 450.21(e)(1) requirement to "Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge." Requiring that permittees properly manage was waters reduces the discharge of pollutants, such as sediment and other pollutants, from the site. Examples provided in the permit for providing an effective means of minimizing the discharge of pollutants from the washing of equipment or vehicles include, but are not limited to, locating activities away from surface waters and stormwater inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags or sand filters, or using other similarly effective controls. This requirement also implements the 40 CFR 450.21(e)(4) prohibition against discharging soaps or solvents, and is consistent with the eligibility condition that allows the use of non-stormwater wash waters as long as they do not contain soaps, solvents, or detergents.

Storage, Handling, and Disposal of Construction Products, Materials, and Wastes. (Part 2.3.3.3). Part 2.3.3.3 requires the permittee to minimize the exposure to stormwater of any of the products, materials, or wastes specified below that are present at the site by complying with the requirements in this Part. *(Note: These requirements do not apply to those products, materials, or wastes that are not a source of stormwater contamination or that are designed to be exposed to stormwater.)*

To meet this requirement, the permittee must:

1. *For building products (e.g., asphalt sealants, copper flashing, roofing materials, adhesives, concrete mixtures):* (Part 2.3.3.3.a). In storage areas, provide either (1) cover (*e.g., plastic sheeting or temporary roofs*) to prevent these products from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

2. *For pesticides, herbicides, insecticides, fertilizers, and landscape materials:* (Part 2.3.3.3.b).

    a. In storage areas, provide either (1) cover (e.g., *plastic sheeting or temporary roofs*) to prevent these chemicals from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas; and

    b. Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label.

3. *For diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals:* (Part 2.3.3.3.c).

    a. To comply with the prohibition in Part 2.3.1.3, store chemicals in water-tight containers, and provide either (1) cover *(e.g., plastic sheeting or temporary roofs)* to prevent these containers from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., spill kits)*, or provide secondary containment *(e.g., spill berms, decks, spill containment pallets)*; and

    b. 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.

4. *For hazardous or toxic waste (e.g., paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids):* (Part 2.3.3.3d).

    a. Separate hazardous or toxic waste from construction and domestic waste;

    b. 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, tribal, or local requirements;

    c. Store all containers that will be stored outside within appropriately-sized secondary containment *(e.g., spill berms, decks, spill containment pallets)* to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., storing chemicals in covered area or having a spill kit available on site)*;

d. Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements; and

e. 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.

5. *For construction and domestic waste (e.g., packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials)*: (Part 2.3.3.3.e). Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes. In addition, you must:

   a. On work days, clean up and dispose of waste in designated waste containers; and

   b. Clean up immediately if containers overflow.

6. *For sanitary waste*, position portable toilets so that they are secure and will not be tipped or knocked over. (Part 2.3.3.3f).

- *Purpose:* These requirements implement the 40 CFR 450.21(d)(2) requirement to "minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents … present on the site to precipitation and to stormwater." The permit clarifies that the staging or storage of construction materials, building products, or wastes, which are either not a source of contamination to stormwater or are designed to be exposed to stormwater, are not held to this requirement. For instance,
  materials such as bricks, blocks, pipeline, electrical equipment, structural steel, and utility poles can generally be stored outside making it unnecessary to provide secondary containment or equivalent control measure. In comparison, where fuels, oils, or chemicals are stored, there is a risk of stormwater contamination due to a spill and exposure to precipitation, thereby making it subject to the Part 2.3.2.3 requirement. These requirements also implement the prohibition on the discharge of fuels, oils, or other pollutants in 40 CFR 450.21(e)(3) and the 40 CFR 450.21(d)(3) requirement to "minimize the discharge of pollutants from spills and leaks…".

Washing of Applicators and Containers Used for Paint, Concrete, or Other Materials. (Part 2.3.3.4). To comply with the prohibition in Parts 2.3.1.1 and 2.3.1.2, Part 2.3.3.4 requires the permittee to provide an effective means of eliminating the discharge of water from the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials. To comply with this requirement, the permittee must:

1. 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;

2. Handle washout or cleanout wastes as follows:

   a. Do not dump liquid wastes in storm sewers;

   b. Dispose of liquid wastes in accordance with 2.3.3.3; and

   c. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3.3; and

3. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

- *Purpose:* To implement the requirements of 40 CFR 450.21 (e)(1) and (e)(2).

VII.3.4 Emergency Spill Notification (Part 2.3.4)

The permit prohibits permittees from discharging toxic or hazardous substances from a spill or other release. Furthermore, where a leak, spill, or other release contains a toxic or hazardous substance in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 during a 24-hour period, the permittee is subject to federal reporting requirements of 40 CFR Part 110, Part 117, and Part 302 relating to spills or other releases of oils or hazardous substances. Permitees must also, within 7 calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State, tribal, or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies.

- *Purpose:* To prohibit the discharge of toxic or hazardous substances from a spill or other release and to require permittees to comply with federal reporting requirements of 40 CFR Part 110, Part 117, and Part 302 in the event that a leak, spill, or other release contains a toxic or hazardous substance in an amount equal to or in excess of a reportable quantity.

  Part 2.3.4 corresponds to 3.1.I of the 2008 CGP.

VII.3.5 Fertilizer Discharge Restrictions (Part 2.3.5)

Part 2.3.5 requires permittees to minimize discharges of fertilizers containing nitrogen and phosphorus. The following requirements must be complied with:

1. Apply at a rate or amount based on manufacturer's specifications, or document departures from the manufacturer specifications where appropriate in Part 7.2.7.3 of the SWPPP;
2. Apply at the appropriate time of year based on your location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;
3. Avoid applying before heavy rains;
4. Never apply to frozen ground;
5. Never apply to stormwater conveyance channels with flowing water; and
6. Follow all other state or local requirements regarding fertilizer application.

- *Purpose:* The fertilizer discharge restrictions in Part 2.3.5 are included to prevent the discharge of nutrients in stormwater and to further implement the C&D rule requirement to "minimize the discharge of pollutants" at 40 CFR 450.21(d). EPA includes specific guidelines to follow regarding fertilizer application which are meant to minimize any potential discharge of excess or improperly applied fertilizers.

VIII. Water Quality-Based Effluent Limitations (Part 3)

This CGP includes water quality-based effluent limits (WQBELs) to control discharges as necessary to meet applicable water quality standards. The provisions of Part 3 constitute the WQBELs of this permit, and supplement the permit's general effluent limits in Part 2.

VIII.1 General Effluent Limitation to Meet Applicable Water Quality Standards (Part 3.1)

The permit requires discharges of stormwater to be controlled as necessary to meet applicable water quality standards, including meeting any specific water quality-based conditions or limits required by states, tribes, and U.S. territories in Part 9.

In the absence of information demonstrating otherwise, EPA expects that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards. If at any time the permittee becomes aware, or EPA determines, that the discharge is not being controlled as necessary to meet applicable water quality standards, the permittee must take corrective action as required in Part 5.2.1.3, and document the corrective actions as required in Part 5.2.2 and 5.4.

EPA will also impose additional water quality-based limitations on a site-specific basis, or require the permittee to obtain coverage under an individual permit, if information in the NOI, required reports, or from other sources indicates that discharges are not controlled as necessary to meet applicable water quality standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA established or approved TMDL.

- *Purpose:* To require that all permittees control their stormwater discharges as necessary to meet applicable water quality standards, consistent with 40 CFR 122.44(d)(1).

  To support EPA's expectation that compliance with the conditions and effluent limitations in this permit will result in discharges that meet applicable water quality standards, the permit includes additional water quality-based effluent limitations, which, in combination with the general effluent limits in Part 2, EPA expects to be as stringent as necessary to achieve water quality standards. These additional WQBELs apply in the permit where EPA has determined that discharges from construction sites may have the reasonable potential to contribute to exceedances of applicable water quality standards, such as when a waterbody is impaired for sediment or nutrients, which are parameters associated with stormwater discharges from construction sites. The fact sheet will discuss these additional requirements below in Section VIII.2.

VIII.2 Discharge Limitations for Impaired Waters (Part 3.2)

For the purposes of this permit, "impaired waters" are waters identified as impaired on the appropriate CWA Section 303(d) list, or waters with an EPA-approved or established TMDL. The construction site will be considered to discharge to an impaired water if the first surface water to which it discharges is identified by a state, tribe, or EPA pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or is included in an EPA-approved or established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the first surface water to which the site discharges is the waterbody that receives the stormwater discharge from the storm sewer system.

If the permittee discharges to a surface water that is impaired for sediment or a sediment-related parameter, such as total suspended solids (TSS) or turbidity, and/or nutrients, including impairments for nitrogen and/or phosphorus, the permittee is required to comply with the requirements in Part 3.2.2.

If the permittee discharges to an impaired water that is impaired for a parameter other than a sediment-related parameter or nutrients, EPA will inform the permittee if any additional limits or controls are necessary for the discharge to be controlled as necessary to meet water quality standards, including for it to be consistent with the assumptions of any available wasteload allocation in any applicable TMDL, or if coverage under an individual permit is necessary in accordance with Part 1.4.5.

If during coverage under a previous permit, the permittee was required to install and maintain stormwater controls specifically to meet the assumptions and requirements of an EPA-approved or established TMDL (for any parameter) or to otherwise control the discharge to meet water quality standards, the permittee must continue to implement such controls as part of this permit.

- *Purpose:* The purpose of Part 3.2 is to inform permittees that the requirements in Part 3.2.2 apply if they discharge to a water impaired for sediment or a sediment-related parameter, and/or nutrients.

  Part 3.2 also clarifies that permittees will be informed if any additional limits or controls are necessary for the discharge to be consistent with the assumptions of any available wasteload allocation in the TMDL, or if coverage under an individual permit is necessary in accordance with Part 1.4.5. These provisions are intended to implement the requirements of 40 CFR 122.44(d)(1)(vii)(B), which requires that water quality based effluent limits in permits be "… consistent with the assumptions and requirements of any available wasteload allocation for the discharge …" and of 40 CFR 122.4(i), which creates conditions for the issuance of permits for new sources.

  Part 3.2 also clarifies when discharges from construction sites are discharging to an impaired water. EPA considers such a clarification to be necessary due to the considerable amount of uncertainty that exists among the regulated community as to how to determine whether a site discharges to an impaired water.

VIII.2.1 Identify If You Discharge Impaired Water (Part 3.2.1)

For operators that determine they have a discharge to an impaired water, the permit requires that the permittee provide the following information on the NOI:

1. A list of all impaired waters to which the permittee discharges;
2. The pollutant(s) for which the surface water is impaired; and
3. Whether a TMDL has been approved or established for the waters to which the permittee discharges.

- *Purpose:* To require operators to report in their NOIs whether they have a discharge to an impaired water, and to provide additional information regarding their discharge. This information is necessary for EPA to determine if any additional controls are necessary to ensure that discharges do not cause or contribute to an exceedence of water quality standards, including that they are consistent with the assumptions in any WLA in a TMDL approved or established by EPA for the receiving water. Providing this information on the NOI also helps the operator to determine which WQBELs in the permit are applicable to his or her site.

  The paper NOI form for the 2008 CGP required operators to identify any surface waters to which they would discharge, and whether the discharge would be consistent with the assumptions and requirements of EPA approved or established TMDLs. This permit

continues the first provision, but replaces the second provision with a requirement that the operator provide information that will allow EPA to determine whether any additional requirements are necessary to be consistent with the assumptions and requirements of a TMDL. In EPA's experience, relatively few TMDLs contain WLAs that would be applicable to specific construction sites, but if such requirements do exist and are applicable to the operator's site, EPA believes that EPA is in a better position than the operator to determine exactly what the operator must do to be consistent with the assumptions and requirements of the TMDL. EPA believes this approach is both less burdensome to the permittee, and will better ensure that all applicable requirements in EPA approved or established TMDLs are complied with.

VIII.2.2 Requirements for Discharges to Sediment or Nutrient-Impaired Waters (Part 3.2.2)

For discharges to a surface water that is impaired for sediment, nutrients, or related pollutants, including impaired waters for which a TMDL has been approved or established for the impairment, the permit requires compliance with specific stormwater controls, which will be discussed in detail in this section. These stormwater control requirements, along with the provision at Part 3.1, constitute the applicable WQBELs and conditions of the permit. Additionally, EPA will also impose additional water quality-based limitations on a site-specific basis, or require the permittee to obtain coverage under an individual permit, if it is determined that the controls in this Part will not be sufficient to control discharges consistent with the assumptions and requirements of an applicable wasteload allocation of an approved or established TMDL or to prevent the site from contributing to the impairment.

Frequency of Site Inspections. (Part 3.2.2.1). Part 3.2.2.1 requires sites discharging to sediment or nutrient-impaired waters to undergo more frequent inspections as specified in Part 4.1.3 of the permit.

- *Purpose:* To require that sites discharging to waters impaired for sediment and/or nutrients be inspected more frequently. Instead of the inspection frequency in Part 4.1.2 of the permit, permittees must conduct inspections in accordance with the following inspection frequencies:

  1. Once every 7 days; and
  2. Within 24 hours of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. You must keep a record of rainfall occurrences in accordance with Part 4.1.7.1.

  EPA believes that these modified inspection requirements will enhance the permittee's ability to find and correct problems before a discharge of pollutants to the impaired water occurs.

Deadline to Complete Stabilization. (Part 3.2.2.2). Sites that discharge to sediment or nutrient-impaired waters are subject to stricter stabilization timeframes than other sites, as specified in Par 2.2.1.3c of the permit.

- *Purpose:* To restrict the amount of time that areas exposed during construction on sites that discharge to sediment or nutrient-impaired water are left unstabilized. Instead of the stabilization deadlines in Part 2.2.1.2, permittees must complete stabilization activities within 7 calendar days of the temporary or permanent cessation of earth-disturbing activities.

EPA believes that, in waters already degraded for pollutants associated with construction activities, further reducing the amount of time that exposed soil is left in an unstabilized state is especially important for limiting the sediment and/or nutrient load to these waters. The faster stabilization requirement for areas discharging to sediment and nutrient-impaired waters is designed to minimize the erosion and sedimentation that is associated with large, exposed areas.

EPA specifically anticipated that a stricter stabilization timeframe would be within the permitting authority's discretion in implementing the 40 CFR 450.21(b) requirement of the C&D rule. In the preamble to the C&D rule, EPA explained that "the permitting authority may determine it necessary for permittees to initiate soil stabilization measures when construction activity has permanently or temporarily ceased and will not resume for a period exceeding 7 calendar days, as opposed to 14 calendar days ….".

State and Tribal Requirements. (Part 3.2.2.3). Sites that discharge to sediment or nutrient-impaired waters must also comply with any additional state or tribal impairment-related requirements included in Part 9.

- *Purpose:* To make permittees aware that there may be additional state or tribal requirements for discharges to impaired waters.

VIII.3 Discharges to Waters Identified as Tier 2, Tier 2.5, or Tier 3 (Part 3.3)

VIII.3.1 Identify If You Discharge to a Tier 2, Tier 2.5, or Tier 3 Water (Part 3.3.1)

For the purposes of this permit, the permittee is considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first surface water to which it discharges is identified by a state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3. Tiers 2, 2.5 and 3 refer to waters either identified by the state as high quality waters or Outstanding National Resource Waters under 40 CFR §131.12(a)(2) and (3). For discharges that enter a storm sewer system prior to discharge, the surface water to which the site discharges is the first surface water that receives the stormwater discharge from the storm sewer system.

The permit requires the permittee to identify in the NOI if the site discharges to a water identified by a state, Tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 water.

- *Purpose:* To clarify when discharges from construction sites are discharging to Tier 2, Tier 2.5, or Tier 3 water for antidegradation purposes. For the permittee's assistance, EPA has provided a list of all Tier 2, Tier 2.5, and Tier 3 waters that occur within the areas covered by the CGP. See Appendix F.

VIII.3.2 Requirements for New Projects Discharging to Tier 2, 2.5, or 3 Waters (Part 3.3.2)

For new projects, if a site discharges to Tier 2, Tier 2.5, or Tier 3 waters, the permittee must comply with the requirements in Parts 4.1.3 (inspection frequencies) and 2.2.1.3c (stabilization deadlines), and, if applicable, Part 9 (relevant state or tribal requirements). In addition, on a case-by-case basis, EPA may notify operators of such new projects or operators of existing projects with significantly increased discharges that additional analyses, stormwater controls, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify the permittee that an individual permit application is necessary in accordance with Part 1.4.5.

- *Purpose:* This provision implements applicable antidegradation requirements. For background, state and tribal water quality standards are required to contain an antidegradation policy pursuant to 40 CFR 131.12. In addition, each state and tribe is required to identify implementation methods that, at a minimum, provide a level of protection that is consistent with the federal antidegradation provisions. Waters designated as "Tier 2" by states and tribes can generally be described as follows: Tier 2 maintains and protects "high quality" waters -- waterbodies where existing conditions are better than necessary to support CWA § 101(a)(2) "fishable/swimmable" uses. (Note that some states have designated waters using criteria that EPA considers to be more stringent than the federal Tier 2 designation, but less stringent than the federal Tier 3 designation. EPA uses the term "Tier 2.5" to describe such waters.) Water quality may be lowered in such Tier 2 or Tier 2.5 waters where "allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located." See 40 CFR 131.12(a)(2). The process for making this determination is what is commonly known as "Tier 2 review." The essence of a Tier 2 review is an analysis of alternatives to the discharge. 63 Fed. Reg. 36, 742, 36,784 (col. 1)(July 8, 1998). In no case may water quality be lowered to a level that would interfere with meeting existing or designated uses. See 40 CFR 131.12(a)(1), 122.44(d). States have broad discretion in identifying Tier 2 waters. 63 Fed. Reg. at 36,782-83. In addition, states and tribes may adopt what is known as a "significance threshold." A "significance threshold" is a *de minimis* level of lowering of water quality below which the effects on water quality do not require Tier 2 review. Id. at 36,783.

  Tier 3 provides a high level of water quality protection for outstanding national resource waters (ONRWs) designated by states and tribes, which are generally the highest quality surface waters. However, the ONRW classification also offers special protection for waters of exceptional ecological significance, i.e., those that are important, unique, or sensitive ecologically, but do not necessarily have high water quality. Except for certain temporary changes, water quality cannot be lowered in such waters. See 40 CFR 131.12(a)(3). EPA expects few construction stormwater discharges into ONRWs will be covered under an NPDES permit. For example, of the four primary states covered by this permit (Idaho, Massachusetts, New Mexico, and New Hampshire), New Mexico is the only state with identified ONRWs. Appendix F includes a full listing of New Mexico's Tier 3 waters.

  Part 3.3.2 of the CGP establishes a process for EPA to determine and specify if further actions are required for new or increased discharges to Tier 2, Tier 2.5, and Tier 3 waters, rather than leaving it to the construction operator to interpret what it means to comply with each state's or tribe's antidegradation policies. EPA has found in the process of issuing other stormwater permits (e.g., the 2008 MSGP) that facilities have often not understood how to apply these antidegradation requirements. As such, EPA believes that it is appropriate for the Agency, as the permitting authority, to assume responsibility for identifying any specific, more stringent requirements for these discharges, including the possibility of denying coverage under this permit.

  In Part 3.3.2, if a new project will discharge to a Tier 2, Tier 2.5, or Tier 3 water, EPA may authorize the discharge under the CGP without necessarily going through Tier 2 or Tier 3 review. As stated in Part 3.1 of the permit, in the absence of information demonstrating otherwise, EPA expects that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards (which include state antidegradation requirements). More specifically, by imposing on permittees that discharge to Tier 2, Tier 2.5, or Tier 3 water the requirement to

comply with the additional requirements, on top of the permit's other effluent limits and conditions, to stabilize exposed areas faster and to conduct more site inspections than other sites, EPA believes that authorizing these discharges will not result in a lowering of water quality. Thus, EPA has determined that compliance with the CGP generally will be sufficient to satisfy Tier 2 (or 2.5) and Tier 3 antidegradation requirements because the controls will not result in a lowering of water quality, making individualized Tier 2 or Tier 3 review unnecessary, assuming of course that the discharger is in compliance with any other applicable state or tribal antidegradation conditions that are included in Part 9 of the permit. Furthermore, the controls in the permit are sufficiently stringent that they would generally satisfy the requirement at the heart of Tier 2 review, that the discharge is necessary to accommodate important economic or social development in the area where the discharge is located. Construction is usually important to economic and social development, and the controls already required in Part 2 of this permit have been identified by EPA in its effluent limitations guideline for the construction and development category as the level of pollutant abatement that is the best available technology economically achievable. However, in cases where information submitted with the NOI, or available from other sources, indicates that further Tier 2 or Tier 3 review and/or conditions are necessary either for a new project or an existing project with a significantly increased discharge, EPA will conduct this review and require any appropriate additional controls.

The conclusion that compliance with the CGP will generally meet the Tier 2 and Tier 3 antidegradation requirements depends on several key aspects of the permit. First, all construction sites subject to this permit are required to meet the stringent general effluent limits set out in Part 2. Through compliance with these limits alone, EPA expects that the discharge of pollutants will be reduced and/or eliminated so that there should not be a lowering of water quality. EPA bases this conclusion in part on the fact that the limits in this permit are based on the nationally-developed effluent limitations guidelines process that defined the BAT/BCT/BPT and NSPS level of control. EPA also is imposing on these sites the requirement to meet even more stringent controls defined in 4.1.3 (more frequent inspections) and 2.2.1.3c (stricter stabilization deadlines). Furthermore, once installed and implemented, the permittee is obligated to maintain these controls and to correct deficiencies where inspection determines that deficiencies exist. Where EPA determines through its oversight activities (e.g., onsite inspection) that a discharger is not meeting its limits, such a deficiency will constitute a violation of the permit and will require follow-up corrective action pursuant to Part 5.2.1.3.

Second, there may very well be individual cases where EPA determines that further controls are necessary or that coverage under the CGP is no longer appropriate to protect the Tier 2, 2.5, or 3 status of the receiving water. For this reason, EPA has included the following language in Part 3.3.2: "on a case-by-case basis, EPA may notify operators of such new projects or operators of existing projects with significantly increased discharges that additional analyses, stormwater controls, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part 1.4.5." It is anticipated that if EPA decides to require a Tier 2 or Tier 3 review for a particular new project or an existing project with a significantly increased discharge, EPA may either change the terms of coverage or terminate CGP coverage and require an individual permit.

Note about alternate antidegradation designations used by some states: Some states have adopted alternative approaches to designating Tier 2 or Tier 3 waters. These are

collectively referred to as "Tier 2.5" waters since they fall between Tiers 2 and 3 in terms of characteristics and regulations supporting them. Tier 2.5 waters are commonly described as providing protection more stringent than Tier 2 but allowing some added flexibility that a Tier 3-designated water (Outstanding National Resource Water) would not. Refer to *Memorandum from William Diamond* (Former Director, Standards and Applied Science Division) *to Victoria Binetti* (Chief, Region III, Program and Support Branch), June 13, 1991. Examples of Tier 2.5 waters exist in Massachusetts, which designates "outstanding resource waters" (ORWs). These waters have exceptional sociologic, recreational, ecological and/or aesthetic values and are subject to more stringent requirements under both the Massachusetts Water Quality Standards and the Massachusetts Stormwater Management Standards. ORWs include vernal pools certified by the Natural Heritage Program of the Massachusetts Department of Fisheries and Wildlife and Environmental Law Enforcement, all Class A designated public water supplies with their bordering vegetated wetlands, and other waters specifically designated. All of the provisions in the CGP pertaining to Tier 2 waters apply equally to Tier 2.5 waters. And, where there is a reference in this fact sheet to Tier 2 waters, the reader should infer that EPA intends to include Tier 2.5 waters as well.

These requirements were not included in the 2008 CGP. However, the permit required implementation of control measures that would "minimize pollutants in the discharge as necessary to meet applicable water quality standards", and several of the states, tribes, and territories/protectorates included requirements to meet applicable water quality standards, which include the antidegradation policies.

IX. Inspections (Part 4)

IX.1 Site Inspections (Part 4.1)

IX.1.1 Person(s) Responsible for Inspecting Site (Part 4.1.1)

Part 4.1.1 requires the permittee to conduct inspections of the site, and clarifies that the person(s) inspecting the site may be a person on the project staff or a third party hired to conduct such inspections. Whoever is charged with conducting the inspections must be a "qualified person", who is knowledgeable in the principles and practice of erosion and sediment controls, and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater control measures selected and installed to meet the requirements of the permit.

- *Purpose:* Part 4.1.1 clarifies that it is the permittee who is responsible for ensuring that a person is charged with conducting the inspections required under Part 4, and that this person, whether he/she is a member of the project staff or a third party, must be a "qualified person."

IX.1.2 Frequency of Inspections (Part 4.1.2)

Part 4.1.2 establishes the required minimum inspection frequency. The permittee has the option to either (1) conduct a site inspection once every 7 calendar days; or (2) conduct a site inspection once every 14 days and within 24 hours of the occurrence of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee must either keep a properly maintained rain gauge on the site, or obtain the

storm event information from a weather station that is representative of the location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, the permittee must record the total rainfall measured for that day.

- *Purpose:* This provision retains the existing permit's choice between the weekly inspection and bi-weekly inspection frequency. EPA has slightly modified the requirement in option (2) above from "within 24 hours of the end of a storm event…" to "within 24 hours of the occurrence of a storm event…" In other words, permittees are required to conduct their inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, If there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm. This change reflects the challenge of determining when a particular storm event ends, especially when the storm event is intermittent and/or occurs over multiple days. EPA also felt that it was important for inspections to be conducted within a day of the occurrence of a qualifying rainfall event so that the permittee could catch any potential problems on the site and correct such problems before a prolonged discharge of pollutants occurs. Requiring inspections to be conducted within 24 hours of the occurrence of a qualifying storm event provides assurance that, during multiple days of discharge from a single storm event, problems with the control of pollutants will be identified sooner and corrected in accordance with the corrective action timeframes specified in Part 5 of the permit.

  Complying with the bi-weekly inspection frequency: EPA intends that sites electing to inspect once every 14 days and within 24 hours of a 0.25 inch storm will conduct at a minimum 1 inspection every 14 days and additional inspections as is warranted depending on whether a 0.25 inch storm event occurs during normal working hours. To comply with this requirement, permittees should ensure that no more than 14 days pass after each inspection before the next inspection is conducted. This could be accomplished by choosing a regular day during the 2-week period on which inspections will be conducted in the absence of precipitation events. However, where a rain event produces 0.25 inches or more during the 2-week period, an inspection must be performed within 24 hours of the occurrence of the event. Following the event-related inspection (or final event related inspection in cases of multi-day events), the permittee must conduct the next inspection within no more than 14 calendar days.

  Multiple day storms: The permit clarifies that if the site experiences a storm event that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

  0.25 inch rain event threshold: With respect to the post-storm inspection requirement, EPA has changed the 0.5 inch storm trigger from the 2008 CGP for conducting inspections to a 0.25 inch storm threshold. The primary reason for this change is that EPA found in looking at the precipitation data for the areas covered by this permit that the 0.5 inch threshold did not cover many storms at sites covered under this permit which, based on their potential for stormwater discharge from the site, would warrant inspection under the storm-dependent inspection schedule. EPA believes that failing to inspect after such storms may undermine the extent to which inspections will achieve the type of performance evaluation that is intended under the storm-based inspection schedule option. For instance, based on current National Oceanic and Atmospheric Administration (NOAA) precipitation data, EPA estimates that the 0.5 inch storm threshold

would cover only 24 percent of storms in New Hampshire, 2 percent of storms in Idaho, and 11 percent of storms in New Mexico. See the Table 5 below summarizing the percentage of storms greater than several storm event thresholds.

Table 5 Percentages of Storms with Rainfall Amounts Greater than the Specified Volume (for years with rainfall amounts similar to long-term averages)

	Threshold (Inches)				
	0.1	0.25	0.5	1	1.5
NH	77%	47%	24%	10%	3%
ID	28%	10%	2%	0%	0%
NM	51%	27%	11%	4%	1%

By modifying the permit to require inspections within 24 hours of 0.25 inch storms, Table 5 indicates that a greater number of storms in areas where the permit is effective will require an inspection, including an estimated 47 percent of storms in New Hampshire, 10 percent of storms in Idaho, and 27 percent of storms in New Mexico. EPA estimates that compared to the 0.50 inch storm threshold for conducting inspections, the 0.25 inch threshold would result in an increase of 5,424 additional inspections annually, or 2.3 additional inspections annually per permittee.

More importantly, however, EPA believes that storms with rainfall totals between 0.25 and 0.5 inches have the potential to produce discharges of stormwater that could lead to discharges of pollutants to surface waters, particularly if stormwater controls are not functioning effectively. Further, storms in this size range may compromise stormwater controls on the site. Thus, inspection immediately after such events (or during such events in the case of multi-day storms) is important to meet the purposes of adopting a storm-based inspection schedule.

IX.1.3 Increase in Inspection Frequency for Sites Discharging to Sensitive Waters (Part 4.1.3)

Part 4.1.3 requires modified inspection frequencies for the portion of any sites discharging to a sediment or nutrient-impaired water or to a water identified by a state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes. The inspection frequencies for these sites are:

(1) Once every 7 calendar days; and

(2) Within 24 hours of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. You must keep a record of rainfall occurrences in accordance with Part 4.1.7.1d.

- *Purpose:* As noted in Fact Sheet Section VIII.2.2, EPA believes that these inspection requirements will enhance the permittee's ability to find and correct problems before a discharge of pollutants occurs. EPA expects that compliance with the water quality-based effluent limits in the permit, in combination with the general effluent limits in Part 2, will result in discharges that meet applicable water quality standards. EPA clarifies that the more frequent site inspections are required only for those portions of the site that are discharging to the sensitive water. For example, for a highway construction project spanning many miles over multiple watersheds, the increase in inspection frequency would only be required in areas of the site that are located within the watershed of the sensitive water. EPA also notes that if the permittee qualifies for any of the reduced inspection frequencies specified in Part 4.1.4, they may comply with those reduced

frequencies despite the fact that they discharge to a sensitive water. This is because the reduced frequencies in Part 4.1.4 apply only to situations where the reduced inspection frequency is justified by circumstances that ensure protection of all waters, including sensitive waters.

Note that, similar to the requirements for conducting bi-weekly site inspections under Part 4.1.2.2, the permit clarifies that if the site experiences a storm event that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

IX.1.4 Reductions in Inspection Frequency (Part 4.1.4)

Part 4.1.4 identifies 3 different situations in which a reduction in the frequency of inspections is permitted. Each of these represent situations of comparatively lower risk for discharges to surface waters.

For Stabilized Areas. (Part 4.1.4.1)**.** The permit enables the permittee to reduce the frequency of inspections to once per month in any area of the site where the stabilization steps in Part 2.2.1.2a and 2.2.1.2b have been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to the frequency specified in Part 4.1.2 or 4.1.3 if applicable. The permittee must document the beginning and ending date of this period in its records.

- *Purpose:* Part 4.1.4.1 provides the opportunity for permittees to reduce their inspection frequencies, in any areas of the site that have achieved temporary or final stabilization as required in Part 2.2.1.2. Such areas present a significantly lower risk of producing unacceptable discharges of pollutants in stormwater to surface waters. EPA further expects that, especially for larger projects, where construction activities may take place in different phases in separate locations of the site, reducing site inspection frequency where areas have been stabilized will encourage stabilization to take place closer to the time that active disturbances have ended. EPA also hopes that the reduction in inspection frequency will provide a benefit in reduced administrative burden to the permittee.

For Arid, Semi-Arid, or Drought-Stricken Areas. (Part 4.1.4.2). The permit enables permittees to reduce their inspection frequency to once per month and within 24 hours of the occurrence of a storm event of 0.25 inches or greater if the project is located in an arid, semi-arid, or drought-stricken area and construction is occurring during the seasonally dry period or during a period in which drought is predicted to occur. The permittee must document that they are using this schedule and the beginning and ending dates of this period in your SWPPP. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee must either keep a properly maintained rain gauge on the site, or obtain the storm event information from a weather station that is representative of the location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, the permittee must record the total rainfall measured for that day in accordance with Part 4.1.7.1d.

- *Purpose:* To allow permittees whose construction projects occur in areas considered arid or semi-arid to reduce the frequency of inspection to account for the comparatively lower amounts of rainfall.

  The 2008 CGP includes language in Part 4.B.3 allowing a once-per-month inspection frequency if construction occurs during seasonal arid periods in arid or semi-arid areas;

the 2012 CGP retains this general approach but specifies when the permit considers those periods to occur, and also adds a condition that inspections be conducted after a qualifying storm event. EPA believes this modification is important to ensure that permittees are able to identify potential problems that could result in a discharge of pollutants in the unlikely event that such a storm event does occur.

To determine when the seasonal dry periods occur in arid and semi-arid areas, one tool that is available for permittees is the U.S. Department of Agriculture, Natural Resources Conservation Service's Climate Analysis for Wetlands tool: http://www.wcc.nrcs.usda.gov/climate/wetlands.html.

Note that, similar to the requirements for conducting bi-weekly site inspections under Part 4.1.2.2, the permit clarifies that if the site experiences a storm event that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

For Frozen Conditions. (Part 4.1.4.3). The permit enables operators to reduce inspection frequencies under the following conditions:

1. Where earth-disturbing activity is suspended: If the permittee is suspending earth-disturbing activities due to frozen conditions, it may temporarily suspend inspections on the site until thawing conditions begin to occur if:
   a. Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, the permittee must immediately resume the regular inspection frequency as described in Parts 4.1.2 or 4.1.3 if applicable;
   b. Land disturbances have been suspended; and
   c. All disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.
2. Where earth-disturbing activities continue on portions of the site: If the permittee is still conducting earth-disturbing activities during frozen conditions, the permittee may reduce its inspection frequency to once per month if:
   a. Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, the permittee must immediately resume the regular inspection frequency as described in Parts 4.1.2 or 4.1.3 if applicable; and
   b. Except for areas in which the permittee is actively conducting earth-disturbing activities, disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.

Part 4.1.4.3 also requires that permittees document the beginning and ending dates of this period in their SWPPP.

- *Purpose:* To enable permittees that experience frozen conditions on their site to reduce their inspection frequency to account for the fact that a discharge will not be likely during this period of time.

  The 2008 CGP includes language in Part 4.C, which provides a waiver of the inspection projects until one month before thawing conditions are expected to result in a discharge.

The 2012 CGP retains this approach for projects that suspend all construction work during this period of time. This permit also allows permittees to reduce inspection frequencies to once per month if the ground is frozen and they will still be conducting earth-disturbing activities. For both scenarios under which a reduction is possible, this permit includes an additional requirement that the disturbed areas be stabilized either vegetatively or non-vegetatively. Including this requirement also provides further assurance that in the case of an unexpected thaw or rain on snow event, the discharge of pollutants from all areas has been minimized.

IX.1.5 Areas That Need to be Inspected (Part 4.1.5)

The permit specifies which areas of the site need to be inspected during each site inspection, which include, at a minimum, the following:

1. All areas that have been cleared, graded, or excavated, and that have not yet completed stabilization consistent with Part 2.2;
2. All stormwater controls installed at the site to comply with this permit;
3. Material, waste, borrow or equipment storage and maintenance areas that are covered by this permit;
4. All areas where stormwater typically flows within the site, including drainageways designed to divert, convey, and/or treat stormwater;
5. All points of discharge from the site; and
6. All locations where stabilization measures have implemented.

Permittees are not required to inspect areas of the site that, at the time of the inspection, are considered unsafe to inspection personnel.

- *Purpose:* To describe the areas on the site that need to be inspected. The 2008 CGP included many of the same specific areas to be inspected in Part 4.E. In a few areas, the permit elaborates on the provisions of the 2008 CGP, for instance by including a specific requirement to inspect areas where stormwater flows within the site and locations where stabilization measures have been initiated.

IX.1.6 Requirements for Inspections (Part 4.1.6)

The permit requires that inspections, at a minimum, consist of the following:

1. Check whether all erosion and sediment controls are installed, appear to be operational, and are working as intended to minimize pollutant discharges. Determine if any controls need to be replaced, repaired, or maintained in accordance with Part 2.1.1.4 and 2.3.2;
2. Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site;
3. Identify any locations where new or modified stormwater controls are necessary to meet the requirements of Parts 2 and/or 3;
4. At points of discharge and, if applicable, the banks of any surface waters flowing within or immediately adjacent to the property on which the construction activities will occur, check for signs of visible erosion and sedimentation (i.e., sediment deposits) that have occurred and are attributable to the discharge; and
5. Identify any and all incidents of noncompliance observed.

6. If a discharge is occurring during the inspection, the permittee is required to:
    a. Identify all points of the property in which there is a discharge;
    b. Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollutants; and
    c. Document whether the stormwater controls are operating effectively, and describe any such controls that are clearly not operating as intended or are in need of maintenance.
7. Based on the results of the inspection, initiate corrective action under Part 5.

- *Purpose:* To include specific requirements regarding the focus of the inspection. The requirement to visually observe the quality of the discharge is a modification of the requirement in the 2008 CGP to describe "any discharges occurring at the time of the inspection." See Part 4.H.4.

IX.1.7 Inspection Report (Part 4.1.7)

Requirement to Complete Inspection Report. (Part 4.1.7.1). The permittee is required to complete an inspection report within 24 hours of completing any site inspection. Each inspection report must include the following:

1. The inspection date;
2. Names and titles of personnel making the inspection;
3. A summary of the inspection findings, covering at a minimum the observations you made in accordance with Part 4.1.6;
4. If the permittee is inspecting the site at the frequency specified in Part 4.1.2.2, Part 4.1.3, or Part 4.1.4.2, and the permittee conducted an inspection because of rainfall measuring 0.25 inches or greater, it must include the applicable rain gauge or weather station readings that triggered the inspection; and
5. If the permittee has determined that it is unsafe to inspect a portion of the site, it must describe the reason it was found to be unsafe and specify the locations that this condition applied to.

- *Purpose:* To provide a consistent means of documenting the results of each inspection. Part 4.H of the 2008 CGP requires, similar to the concept of a log book, that an inspection report be completed for each inspection. EPA believes that requiring an inspection report to be kept will improve the organization of the inspection-related records, and make it easier for permittees to keep track of their findings from inspection to inspection.

Signature Requirements. (Part 4.1.7.2). Each inspection report must be signed in accordance with Appendix I, Part I.11 of this permit.

- *Purpose:* To require that inspection reports, whether in paper or electronic format, provide accountable documentation of compliance with the inspection requirements in this permit. Appendix I provides signature requirements for both paper and electronic reports.

Recordkeeping Requirements. (Part 4.1.7.3). The permit requires that all inspection reports be kept at least 3 years from the date that permit coverage expires or is terminated, and that the

inspection reports must be accessible at the site so that they are available upon request by EPA, including during EPA inspections. For purposes of this permit, inspection reports may be kept electronically if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form.

- *Purpose:* The requirement to retain all reports a minimum of three years comes from the standard permit condition requirements at 40 CFR 122.41(j)(2).

  The provision also specifies EPA's expectations with respect to inspection reports that are kept electronically. The following provides a discussion of general attributes that an electronic recordkeeping system should have to be meet the requirements of Part 4.1.7.3.a thru c. EPA notes that it may change this guidance at any time, based upon experience with electronic recordkeeping, or any other new information or considerations.

  <u>Readability/Legal Dependability</u>
  EPA expects the requirements of an electronic recordkeeping system in Parts 4.1.7.3.a thru c of this permit will generally ensure that records created and/or maintained in such systems are readable and legally dependable with no less evidentiary value than their paper equivalent. The following attributes of an electronic recordkeeping system should be present to ensure readability and legal dependability:

  a. From any other point of access to the electronic recordkeeping system, electronic records, including signatures, certifications, and alterations, can be: (i) displayed to EPA, including its authorized representatives, in a format that can be read in a manner similar to a paper record and that associates data with field names or other labels that give the data contained in the record meaning and context (not solely in a computer code or data string), (ii) easily copied for EPA, including its authorized representatives, to review and access at EPA staff computers using non-proprietary software, and (iii) can easily be printed to paper form;

  b. Associated metadata in their native format is preserved and available upon request;

  c. Electronic records cannot be modified without detection and are preserved in a manner that cannot be altered once created. For example, any changes to an electronic record are automatically and indelibly recorded in a logically associated (i.e., cryptographically bound) audit trail that records each change made without obscuring the data to which the modification is made or its antecedents;

  d. The electronic recordkeeping system automatically identifies any person who creates, certifies, or modifies an electronic record using electronic signatures that meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication);

  e. Originals of any electronic record are immediately and automatically transferred to and held at a single location by a custodian of records who is not an author, certifier, or modifier of the electronic records. The original electronic record is secured in a fashion that protects it from tampering or destruction;

  f. The electronic recordkeeping system automatically identifies: (i) the name, address, telephone number and email address for the custodian of records described in "d" above; and (ii) the address and owner of the location where the original electronic record is located. The electronic records and their associated metadata remain

available and the discharger/permittee can demonstrate that the records have not been changed in any modification of the record-keeping system or migration to a successor record-keeping system;

g. Clear instructions guide users of the electronic record-keeping system in proper use of the system and unambiguously communicate the legal significance of using an electronic signature device; and

h. Computer systems (including hardware and software), controls, and attendant documentation that are part of the electronic record-keeping system are readily available for, and subject to, agency inspection.

Accessibility
EPA will generally consider electronic records to be accessible enough to be considered to be stored at the site when the operator is able to, immediately, upon request, provide to government officials or authorized representatives:

a. Paper or electronic copies of requested records required to be kept pursuant to Part 4.1.7.3; and

b. Electronic access, using hardware and software available at the site, to required permit records via electronic storage at the site, or via direct access to an electronic system of records stored elsewhere, provided that the location of the original record is within the United States.

IX.2 Inspections by EPA (Part 4.2)

Part 4.2 requires the permittee to allow EPA or an authorized representative of the EPA to conduct the following activities at reasonable times:

1. Enter onto areas of the site, including any construction support activity areas covered by this permit, and onto locations where records are kept under the conditions of this permit;
2. Access and copy any records that must be kept under the conditions of this permit;
3. Inspect the construction site, including any construction support activity areas covered by the permit, and any stormwater controls installed and maintained at the site; and
4. Sample or monitor for the purpose of ensuring compliance.

- *Purpose:* To inform the permittee of its obligations with respect to providing access to EPA (or its authorized representatives) in order to conduct site inspections of its own for the purposes of determining compliance with this permit.

  This same authority is included in Appendix G, Part 9 of the 2008 CGP as a standard permit condition based on 40 CFR 122.41(i). This authority is based on section 308 of the Clean Water Act. EPA believes it is appropriate to place this same language in the inspection part of the permit so that it is more visible to the permittee.

X. Corrective Actions (Part 5)

X.1 "Corrective Actions" Defined (Part 5.1)

Part 5.1 explains that a corrective action constitutes any action taken by the permittee in compliance with Part 5 to:

1. Repair, modify, or replace any stormwater control used at the site;
2. Clean up and properly dispose of spills, releases, or other deposits; and
3. Remedy a permit violation.

- *Purpose:* To explain in general terms what a corrective action is.

X.2 Requirements for Taking Corrective Action (Part 5.2)

Part 5.2 requires that permittees complete the following corrective action in accordance with the deadlines specified in this Part. In all circumstances, the permittee must immediately take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events.

- *Purpose:* This part of the permit establishes conditions on construction sites that trigger corrective action and the deadlines for initiating and completing work to correct the problem. Corrective action is distinguished from routine maintenance of stormwater controls and pollution prevention measures required in Parts 2.1.1.3 and 2.3.2.

  EPA notes that in the context of Part 5.2 the term "immediately" requires construction operators to, on the same day a condition requiring corrective action is found, take steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. However, if the problem is identified at a time in the work day when it is too late to initiative corrective action, the initiation of corrective action must begin on the following work day.

  The permit also specifies that permittees are required to take steps to minimize or prevent the discharge of pollutants, including the cleanup of any contaminated surfaces. For example, if a post-rain inspection event indicates that a sediment basin needs to be increased in size, the permittee should implement check dams or other controls until the corrective action is completed.

X.2.1 Corrective Action Triggers and Deadlines (Part 5.2.1)

For any of the following conditions, permittees must install a new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery. If it is infeasible to complete the installation or repair within calendar 7 calendar days, the permittee must document in their records why it is infeasible to complete the installation or repair within the 7 calendar day timeframe and document their schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7 calendar day timeframe.

1. A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Parts 2 and/or 3; or
2. The permittee becomes aware that stormwater controls he or she has installed and is maintaining are not effective enough for the discharge to meet applicable water quality standards or applicable requirements in Part 3.1. In this case, the permittee must notify the EPA Regional Office by the end of the next work day. The permittee is required to submit the notification through EPA's electronic NOI system, or "eNOI", at www.epa.gov/npdes/stormwater/cgpenoi; or
3. One of the prohibited discharges in Part 2.3.1 is occurring or has occurred.

- *Purpose:* To establish specific corrective action requirements and a specific timeframe for completing such actions.

  The corrective action provisions in (1) above is similar to Parts 3.6.A and B of the 2008 CGP, which required permittees, if an inspection found that the site's stormwater controls are not operating effectively, or that BMPs need to be maintained or if additional controls are necessary, to complete maintenance, modifications, or installation of new BMPs as soon as possible and before the next storm event whenever practicable to maintain the continued effectiveness of the stormwater controls. The corrective action provisions in (1) is also similar to Part 5.10.B of the 2008 CGP, which required modifications where an inspection determined that "the existing stormwater controls are ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site."

  The purpose of the corrective action provision in (2) above is not to hold permittees retroactively accountable for any water quality standards concerns that may subsequently be identified, but to ensure that new information is acted upon and brought to the attention of the permitting authority in a timely manner. The requirement is similar to Part 3.4 of the 2008 CGP, which gave EPA specific authority to require the permittee to modify its controls to address any discharges that may cause, have reasonable potential to cause, or contribute to an exceedance above any applicable water quality standard.

  With respect to the triggering condition in (3) above ("one of the prohibited discharges … is occurring or has occurred"), the 2008 CGP (Part 3.1.I) also prohibited the discharge of hazardous waste or oil released from an oil spill, which are included as prohibited discharges in Part 2.3.1.3 and 2.3.1.5 of the 2012 CGP, but did not explicitly include corrective action provisions regarding prohibited discharges. EPA has determined that it is appropriate to include a specific corrective action triggering provision for prohibited discharges because of the inclusion of a list of prohibited discharges in the C&D rule, which was issued subsequent to the 2008 CGP.

  EPA notes that if the condition identified in this Part constitutes a permit violation, correcting it does not remove the original violation. However, enforcement authorities will consider the promptness and effectiveness of any corrective action taken in determining an appropriate response. Additionally, failing to take corrective action in accordance with this Part is an additional permit violation.

X.2.2 SWPPP Modifications to Reflect Changes to Stormwater Controls (Part 5.2.2)

The permit requires that where corrective action results in changes to any of the stormwater controls or procedures described in the SWPPP, permittees must modify their SWPPPs accordingly within 7 calendar days of completing corrective action work.

- *Purpose:* To ensure that the SWPPP adequately reflects the stormwater controls being implemented on the site. Where a new control is installed and made operational, or a modification is made to an existing control, the SWPPP must be updated to reflect these site changes. Note that this is true for all such modifications, including those made to implement corrective actions.

X.3 Corrective Action Required by EPA (Part 5.3)

The permittee is required to comply with any corrective actions required by EPA as a result of permit violations found during an inspection carried out under Part 4.2.

- *Purpose:* To clarify that, in addition to corrective actions that may result from the permittee's own inspections, EPA may also require corrective actions to address permit violations found during the Agency's inspections.

X.4. Corrective Action Report (Part 5.4)

Part 5.4 requires that permittees complete a corrective action report for each corrective action taken in accordance with this part of the permit. Note that these reports must be maintained in the permittees records but do not need to be provided to EPA except upon request.

- *Purpose:* To require proper documentation of all corrective actions taken under this part of the permit. This requirement is consistent with the 2008 CGP's Part 4.H inspection report requirement to document problems found on the site and the corresponding corrective actions taken and applicable implementation dates. See specifically Parts 4.H.5, 6, 7, 8, and 9. In addition, Part 5.10.C of the 2008 CGP required the SWPPP to "properly document additional or modified BMPs designed to correct problems identified."

X.4.1 Reporting within 24 Hours (Part 5.4.1)

Within 24 hours of one of the triggering conditions in Part 5.2.1 occurring at a permittee's site, the permittee is required to complete a report of the following:

1. Which condition was identified at the site;
2. The nature of the condition identified; and
3. The date and time of the condition identified and how it was identified.

- *Purpose:* To require the permittee to immediately record some basic information with respect to the initial finding of the triggering condition.

X.4.2 Progress Report (Part 5.4.2)

Within 7 calendar days of discovering the occurrence of one of the Part 5.2.1 triggering conditions, the permittee is required to complete a report of the following:

1. Any follow-up actions taken to review the design, installation, and maintenance of stormwater controls, including the dates such actions occurred;
2. A summary of stormwater control modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed; and
3. Indication of whether SWPPP modifications are required as a result of the condition identified or corrective action.

- *Purpose:* To document progress made in completing corrective actions. This requirement is similar to the 2008 CGP's Part 4.H.9 requirement to include in the inspection report corrective actions and applicable implementation dates. EPA notes that the requirement to provide an indication of whether SWPPP modifications are required is so that the permittee provides documentation of this occurrence in their progress report.

X.4.3 Signature Requirements (Part 5.4.3)

Each corrective action report must be signed and certified in accordance with Appendix I, Part I.11 of this permit.

- *Purpose:* To require that corrective actions reports, whether in paper or electronic format, provide accountable documentation of compliance with the corrective action requirements in this permit. Appendix I provides signature requirements for both paper and electronic reports.

X.4.4 Recordkeeping Requirements (5.4.4)

The permittee is required to keep a current copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an onsite inspection or upon request by EPA. All corrective action reports completed for this Part must be retained for at least 3 years from the date that permit coverage expires or is terminated. The provision also specifies EPA's expectations with respect to corrective action reports that are kept electronically. EPA notes that it may change this guidance at any time, based upon experience with electronic recordkeeping, or any other new information or considerations.

- *Purpose:* The requirement to retain all reports a minimum of three years comes from the standard permit condition requirements at 40 CFR 122.41(j)(2). The obligation to retain copies of the corrective action reports is intended to ensure that EPA officials have immediate access to such records during an on-site inspection.
  The provision also specifies EPA's expectations with respect to corrective action reports that are kept electronically. See the Section IX.1.7 discussion of EPA's recommendations regarding the general attributes of adequate electronic recordkeeping systems (under "Recordkeeping Requirements (Part 4.1.7.3)), which are relevant to the requirements of Parts 5.4.4.1 thru 5.4.4.3.

XI. Staff Training Requirements (Part 6)

Part 6 of the 2012 CGP describes the training requirements for all members of the stormwater team prior to the commencement of earth-disturbing or pollutant-generating activities to ensure that they understand the permit requirements and their specific responsibilities with respect to those requirements. The requirements to conduct training prior to commencing earth-disturbing or pollutant-generating activities do not apply to emergency-related construction activities that are eligible for permit coverage under Part 1.2; however for such activities, training must be conducted prior to NOI submission.

Part 6 requires the following members of the stormwater team to receive training:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures);
- Personnel responsible for the application and storage of treatment chemicals (if applicable);
- Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.

Part 6 specifies that the content and extent of training must be tailored to match the stormwater team member's duties and responsibilities related to the permit's requirements. At a minimum, personnel must be trained to understand the following if related to the scope of their job duties:

- The location of all stormwater controls on the site required by this permit, and how they are to be maintained;

- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.
- *Purpose:* The purpose of the staff training requirements in Part 6 is to ensure that each member of the stormwater team understands the requirements of the permit and his or her particular responsibilities relating to complying with those requirements.

  Part 6 specifies when applicable members of the stormwater team must receive the training required in Part 6. Part 3.7 of the 2008 CGP was silent with respect to the timing of the training. However, the above requirement to have training completed prior to the commencement of earth-disturbing or pollutant-generating activities is a logical extension of the requirement in Part 3.7 for applicable employees and subcontractors to understand their respective responsibilities with respect to the site's control measures in advance of the time when that knowledge would need to be employed to conduct maintenance and inspection activities, in particular when construction begins. In this respect, Part 6 of the permit simply provides clarification of what was already intended by the 2008 CGP.

  Part 6 also specifies the minimum understanding that applicable members of the stormwater team should have with respect to the pertinent aspects of permit compliance. All of the above listed areas that are required to be understood by stormwater team members relate to specific permit provisions in the CGP.

  Part 3.7 of the 2008 CGP required broadly that each employee or subcontractor be made aware of the control measures implemented at the site. This requirement is functionally equivalent to the above requirements. The provision here provides greater clarification with respect to what EPA meant by requiring an understanding of what the 2008 CGP referred to as "control measures." EPA believes that the specificity provided in Part 6 was implied in Part 3.7 of the 2008 CGP.

  Part 3.7 of the 2008 CGP did not make explicit the requirement that the permittee's employees and subcontractors be trained in how to conduct inspections. However, the 2008 CGP required training on the "control measures" and required each permittee to conduct inspections of, among other things, the site's control measures. The requirement in Part 6 to ensure that applicable stormwater team members understand how to conduct proper inspections is a logical extension of the Part 3.7 training requirement in the 2008 CGP and that permit's inspection requirements.

  New training may not be necessary for some employees if the permittee is able to ensure that the employee, due to prior training, already understands the applicable topic area.

  EPA notes that the operator is not required to provide or document formal training for subcontractors or other outside service providers, but must ensure that such personnel understand any requirements of the permit that may be affected by the work they are subcontracted to perform. Ultimately, the operator(s) is/are responsible for ensuring that all activities on the site comply with the requirements of this permit.

  EPA also notes that for emergency-related projects, the requirement to train personnel prior to commencement of earth-disturbing activities does not apply. Because immediate authorization is available for these projects, given the urgency of the timing associated with such projects, EPA feels that it is appropriate to provide greater flexibility

in the initial weeks of construction. However, the permit requires that upon submittal of the NOI personnel be trained in accordance with this section.

XII. Stormwater Pollution Prevention Plan (SWPPP) (Part 7)

Part 7 of the CGP describes the requirements for developing and maintaining a Stormwater Pollution Prevention Plan (SWPPP).

XII.1 General Requirements (Part 7.1)

Part 7.1 describes the general requirements for developing and maintaining a SWPPP.

XII.1.1 Requirement to Develop a SWPPP Prior to Submitting Your NOI (Part 7.1.1)

Part 7.1.1 requires all operators covered under this permit to develop a stormwater pollution prevention plan (SWPPP). The operator is required to develop the SWPPP prior to submitting the NOI. The permit notes that the operator may develop a group SWPPP where several operators will be engaged in construction activities at the same site. For instance, if both the owner and the general contractor of the construction site are permitted, the owner may be the party responsible for SWPPP development, and the general contractor can choose to use this same SWPPP, as long as the SWPPP addresses the general contractor's scope of construction work and obligations under this permit.

At a minimum, the SWPPP must include the information required in Part 7.2 and as specified in other parts of the permit. The operator must also update the SWPPP as required in Part 7.4. If the SWPPP was prepared under a previous version of the permit (i.e., the 2003 or 2008 CGPs), the operator must review and update the SWPPP to ensure that this permit's requirements are addressed prior to submitting the NOI.

Additionally, the permit notes that if the project is an "existing project" (see Part 1.4.2.b) or if the permittee is a new operator of an existing project" (see Part 1.4.2.c) and it is infeasible for the permittee to comply with a specific requirement in this Part or in Part 2 (specifically Parts 2.1, and 2.3.3 thru 2.3.5 (except for Parts 2.3.3.1, 2.3.3.2.b, 2.3.3.3.c.i, and 2.3.3.4) because (1) the provision was not part of the permit the permittee was previously covered under (i.e., the 2003 or 2008 CGP), and (2) because the permittee is prevented from compliance due to the nature or location of earth disturbances that commenced prior to February 16, 2012, or because the permittee is unable to comply with the requirement due to the manner in which stormwater controls have already been installed prior to February 16, 2012, the permittee is required to include documentation of the reasons why it is infeasible to meet the specific requirement and then may be waived from complying with this requirement. The permittee must include a separate justification why it is infeasible for you to meet each of the applicable requirements.

- *Purpose:* Part 7.1.1 establishes the overall requirement that operators develop SWPPPs prior to submitting their NOIs, and provides overarching requirements with respect to what SWPPPs must contain.

XII.2 SWPPP Contents (Part 7.2)

Part 7.2 includes the minimum requirements that must be included in the SWPPP, as follows.

XII.2.1 Stormwater Team (Part 7.2.1)

Part 7.2.1 requires that each operator, or group of multiple operators, assemble a "stormwater team," which is responsible for overseeing the development of the SWPPP, any later modifications to it, and for compliance with the requirements in this permit.

The SWPPP must identify the personnel (by name or position) that are part of the stormwater team, as well as their individual responsibilities. Each member of the stormwater team must have ready access to an electronic or paper copy of applicable portions of this permit, the most updated copy of the SWPPP, and other relevant documents or information that must be kept with the SWPPP.

- *Purpose:* Part 7.2.1 provides assurance that specific staff members are identified as responsible for overseeing the development of the SWPPP and are responsible for ensuring compliance with the permit requirements. Identification of staff members on the stormwater team in the SWPPP provides notice and clarification to facility staff and management (e.g., those responsible for signing and certifying the plan) of the responsibilities of certain key staff for following through on compliance with the permit's conditions and limits.

  The requirement to assemble a "stormwater team" to oversee the development of the SWPPP and to ensure permit compliance is a clarification of Part 5.2.A of the 2008 CGP, which required the SWPPP to "identify all operators for the project site, and the areas of the site over which each operator has control." This requirement is also a logical extension of the need for the operator to designate personnel (whether or not they are members of the operator's staff or a subcontractor's) that are assigned the responsibility of carrying out the permit's requirements related to preparing the SWPPP, installing and maintaining stormwater control measures, conducting inspections, taking samples (if required), and implementing corrective actions. EPA has also, in past CGPs, required that operators name a "SWPPP contact" in the NOI and the SWPPP itself.

XII.2.2 Nature of Construction Activities (Part 7.2.2)

Part 7.2.2 requires that the SWPPP describe the nature of the construction activities, including the size of the property (in acres) and the total area expected to be disturbed by the construction activities (in acres), construction support activity areas covered by this permit (see Part 1.3.c), and the maximum area expected to be disturbed at any one time.

- *Purpose:* The purpose of requiring a description of the nature of the construction activities taking place on the construction site is to provide general information about the construction project, which can be readily understood by an EPA inspector or other third party who may be unfamiliar with the purpose and general layout of the project. Identification of the total area expected to be disturbed by construction activities and the soil types provides the permittee, among other things, with information about properly designing and installing stormwater control measures to minimize the discharge of pollutants, as well as information about the placement and type of stabilization practices that should be implemented to minimize the discharge of pollutants in stormwater.

XII.2.3 Emergency-Related Projects (Part 7.2.3)

Part 7.2.3 requires if operators are conducting earth-disturbing activities in response to a public emergency (as discussed in Part 1.2), that they must document the cause of the public

emergency (e.g., natural disaster, extreme flooding conditions, etc.), information substantiating its occurrence (e.g., state disaster declaration or similar state or local declaration), and a description of the construction necessary to reestablish the effected public services.

- *Purpose:* The purpose of this requirement is to provide the permittee the opportunity to document the specific type of emergency for which they are eligible for coverage under this permit as an emergency-related project under Part 1.2 of the permit.

XII.2.4 Identification of Other Site Operators (Part 7.2.4)

Part 7.2.4 requires that the SWPPP include a list of all other operators who will be engaged in construction activities at the site, and the areas of the site over which each operator has control.

- *Purpose:* The purpose of requiring identification in the SWPPP of other site operators in Part 7.2.4 of the CGP is to provide both staff members and EPA notice of any other parties that are responsible for specific areas of the construction site and other parties that are responsible for permit compliance.

XII.2.5 Sequence and Estimated Dates of Construction Activities (Part 7.2.5)

Part 7.2.5 requires that the SWPPP include a description of the intended sequence of construction activities, including a schedule of the estimated start dates and the duration of the activities, for the following activities:

1. Installation of stormwater control measures, and when they will be made operational, including an explanation of how the sequence and schedule for installation of stormwater control measures complies with Part 2.1.1.3.a and of any departures from manufacturer specifications pursuant to Part 2.1.1.3.b;
2. Commencement and duration of earth-disturbing activities, including clearing and grubbing, mass grading, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization;
3. Cessation, temporarily or permanently, of construction activities on the site, or in designated portions of the site;
4. Final or temporary stabilization of areas of exposed soil. The dates for stabilization must reflect the applicable deadlines to which you are subject to in Part 2.2.1; and
5. Removal of temporary stormwater conveyances/channels and other stormwater control measures, removal of construction equipment and vehicles, and cessation of any pollutant-generating activities.

- *Purpose:* The purpose of requiring documentation of the sequencing of construction activities is to assist permittees with planning their construction activity sequencing in conjunction with the control measures they intent to use to meet the effluent limitations in this permit. Proper construction site planning limits the amount of land disturbed at one time and limits the exposure of unprotected soils through rapid stabilization, which in turn reduces the amount of sediment that gets discharged from the construction site. This requirement will provide permittees a better understanding of the site runoff characteristics throughout all phases of construction activity, which will help them to plan for the types of stormwater control measures necessary to meet effluent limitations.

  The requirement for documentation in the SWPPP of the sequencing and major dates of construction activity was included in Part 5.2.B of the 2008 CGP. In Part 7.2.5 of the CGP

EPA requires greater specificity relating to the construction activities that must be described, including such additional documentation requirements as a description of the sequence of the installation of stormwater control measures, as well as a description of when areas disturbed by construction will be inactive and when they will be stabilized. EPA believes this greater specificity will help permittees to minimize earth disturbances to the extent necessary for the construction activity, which will also minimize pollutants discharged in stormwater.

EPA recognizes that plans often change due to unforeseen circumstances or for other reasons. The requirement to describe the sequence and estimated dates of construction activities is not meant to "lock in" the operator to meeting these projections. Rather, EPA intends that the SWPPP and its associated records should be a living document that reflects actual conditions on the site as they evolve. When departures from initial projections are necessary, this should be documented in the SWPPP itself or in associated records, as appropriate.

XII.2.6 Site Map (Part 7.2.6)

Part 7.2.6 requires that the SWPPP contain a legible site map, or series of maps. In the 2012 CGP, EPA divided the Site Map requirements from Section 5.2.C of the 2008 CGP into sub-categories to provide greater clarity for the various site map requirements. The fact sheet discussion in this section follows the organization of the site map sub-categories as follows:

Boundaries of the property and the locations where construction activities will occur. (Part 7.2.6.1). The map(s) in the SWPPP must show boundaries of the property and of the locations where construction activities will occur, including:

1. Locations where earth-disturbing activities will occur, noting any phasing of construction activities;
2. Approximate slopes before and after major grading activities. Note areas of steep slopes, as defined in Appendix A;
3. Locations where sediment, soil, or other construction materials will be stockpiled;
4. Locations of any crossings of surface waters;
5. Designated points on the site where vehicles will exit onto paved roads;
6. Locations of structures and other impervious surfaces upon completion of construction; and
7. Locations of construction support activity areas covered by the permit (see Part 1.3.c).

- *Purpose:* A detailed site map that identifies the overall property boundaries, and the specific locations of all earth-disturbing activities, areas of steep slopes, stockpiled materials, impervious cover, and construction support activities, is designed to provide construction operators with a "big picture" understanding of the areas impacted by construction within their larger property area. This part of the site map should also assist permittees with selecting and designing the stormwater control measures necessary to meet the various erosion and sediment, stabilization, and pollution prevention requirements.

  With the exception of the requirement to include locations where steep slopes occur on the property and where sediment, soil, or other construction materials will be stockpiled, all of these requirements correspond to Part 5.2.C, the site map section of the 2008 CGP. EPA is including the areas of steep slopes on the site map to help implement the C&D

rule requirement (40 CFR 450.21(a)(4)) to minimize disturbances to steep slopes. EPA is requiring the locations of stockpiled materials in the site map because it will help permittees, and any inspectors, locate where the site materials will be stockpiled and, thus, require protection from erosion.

Locations of all surface waters, including wetlands, that exist within or immediately adjacent to the property on which the construction activities will occur. The site map must indicate which waterbodies are listed as impaired, and which are identified by the state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 waters. (Part 7.2.6.2).

- *Purpose:* The requirement in Part 7.2.6.2 compels permittees to develop an understanding of the location of any waters flowing through or near the property where the construction will take place. Requiring a visual showing these waters will provide permittees with information necessary to comply with the requirements for impaired waters (Parts 3.2.2), and Tier 2, 2.5, and 3-protected waters (Part 3.3.2). Identifying the location of these waters on the site map will also help permittees comply with the Erosion and Sediment Control requirements (Part 2.1), particularly those related to buffers, and Pollution Prevention Standards (Part 2.3.2).

The boundary lines of any natural buffer areas provided consistent with Part 2.1.2.1a. (Part 7.2.6.3).

- *Purpose:* Requiring a visual showing of areas to be protected as natural buffers.

  The requirement in Part 7.2.6.3 to document areas protected by the buffer requirements in the site map was not included in the 2008 CGP, but is included in the permit to help permittees implement the C&D rule requirement to "Provide and maintain natural buffers."

Areas of federally-listed critical habitat for endangered or threatened species. (Part 7.2.6.4).

- *Purpose:* To require documentation on the site map of areas of threatened or endangered species critical habitat.

  The 2008 CGP did not specify that the site map include areas of critical habitat for threatened or endangered species. However, in Part 5.5 of the 2008 CGP, permittees were required to provide with their SWPPP documentation supporting permit eligibility with regard to endangered species, including "Information on whether federally-listed endangered species, or federally-designated critical habitat may be in the project area."

Topography of the site, existing vegetative cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of stormwater and authorized non-stormwater flow onto, over, and from the site property before and after major grading activities. (Part 7.2.6.5).

- *Purpose:* The requirement to map the flow of stormwater on the property will give operators an understanding of how stormwater moves onto, through, and from the property, which will in turn provide valuable information to assist with planning, designing, and installing the appropriate stormwater control measures necessary to meet the permit's requirements regarding erosion and sediment controls, pollution prevention, and stabilization. Specifically it will also assist the permittee with complying with the requirements in Part 2.1.3.1 to "Design stormwater conveyance channels to avoid disturbed areas and to reduce erosion."

Stormwater and allowable non-stormwater discharge locations. (Part 7.2.6.6). The permit requires the site map to show information pertaining to discharge locations including:

1. Locations of any inlets to storm drains located on and in the immediate vicinity of the site; and
2. Locations where stormwater discharges and/or authorized non-stormwater are discharged to surface waters (including wetlands) on or near the site.

- *Purpose:* To inform the operator and to document for EPA's purposes where stormwater discharges will occur. There are multiple uses for this information, among which include: (1) learning where sewer inlet protections will need to be installed prior to commencing construction disturbances; and (2) helping to plan stormwater controls that will reduce the erosive force of the discharge. The permit notes that the requirement to show storm drain inlets in the immediate vicinity of the site only applies to those inlets that are easily identifiable from the site or from a publicly accessible area immediately adjacent to the site.

Locations of all pollutant-generating activities identified in Part 7.2.7. (Part 7.2.6.7). The permit requires identification in the site map of all potential pollutant-generating activities identified in Part 7.2.7.

- *Purpose:* The requirement to identify the locations of all pollutant-generating activities on the site map will provide operators with an understanding of how the location of their various pollutant-generating activities will correspond to the areas of disturbance at the site, the potential impacts of where these activities are located on the discharge pollutants, and the ideal locations for stormwater control measures to reduce or eliminate such discharges. This information will be used to comply with the pollution prevention requirements in Part 2.3 of the CGP.

  The requirement for permittees to document the location of potential pollutant-generating activities corresponds, in part, to Part 5.2.C.5 of the 2008 CGP, which required the site map to include off-site material, waste, borrow or equipment storage areas. However, the requirement to identify all on-site pollutant-generating activities is new, and corresponds with Part 2.3, which implements the pollution prevention requirements of the C&D rule (see specifically 40 CFR 450.21(d) and (e)).

Locations of stormwater control measures. (Part 7.2.6.8). The permit requires identification on the site map of the location of stormwater control measures.

- *Purpose:* The requirement to show on the site map the location of stormwater control measures is intended to provide a spatial correlation between pollutant sources on the site, the flow of stormwater through and from the site, and the location of waters of the U.S.

  The requirement to document the location of stormwater control measures and locations where exposed soils will be stabilized correspond to Part 5.2.C.3, 4, and 8 of the 2008 CGP. In Part 7.2.6.8 of the CGP, EPA requires more specificity about the location of any stormwater control measures for managing stormwater discharges from developed sites that will be or already are installed, and any other items necessary to depict site-specific conditions.

  EPA believes that by requiring such information on the site map, the permittee will be better able to locate stormwater control measures strategically so as to comply with the permit's requirements for erosion and sediment and pollution prevention in Parts 2.1 and 2.3. The requirement to show on the site map where areas of exposed soil will be

stabilized, or have already been stabilized, provides permittees with a visual aid that will help them to comply with the temporary and final stabilization requirements in Part 2.2.

Locations where polymers, flocculants, or other treatment chemicals will be used and stored. (Part 7.2.6.9). The permit requires identification on the site map of the locations where polymers, flocculants, or other treatment chemicals will be used and stored.

- *Purpose:* To require the operator to show where chemicals will be applied on the site, and where they will be stored. Similar to Part 7.2.6.8, this requirement corresponds to the requirement to document the location of stormwater control measures in Part 5.2.C.3 of the 2008 CGP. EPA believes this requirement will encourage the operator to think strategically about where the chemicals are applied and stored to minimize the risk of accidental release.

XII.2.7 Construction Site Pollutants (Part 7.2.7)

Part 7.2.7 requires permittees to identify in the SWPPP a list and description of all the pollutant-generating activities on the site and, for each pollutant-generating activity, an inventory of pollutants or pollutant constituents associated with that activity, which could be exposed to rainfall, or snowmelt, and could be discharged from the construction site. The following must be documented in the SWPPP to demonstrate compliance with the permit requirements:

Pollutant-generating activities at the site. (Part 7.2.7.1). Part 7.2.7.1 requires permittees to include a list and description of all the pollutant-generating activities on the site. Examples of pollutant-generating activities include, but are not limited to: paving operations; concrete, paint and stucco washout and waste disposal; solid waste storage and disposal; and dewatering activities.

- *Purpose:* Identification in the SWPPP of all potential pollutant-generating activities on the site will assist permittees in understanding the potential sources of pollutants so that stormwater control measures can be located and designed in a way that best achieves the required reduction or elimination of the discharge of such pollutants.

  In Part 7.2.7.1, EPA requires a more comprehensive list of pollutant-generating activities to be documented in the SWPPP than was required in the 2008 CGP. The reason for the greater level of specificity is to account for EPA's growing understanding of the different types of activities at construction sites that potentially lead to pollutant discharges. In addition, this requirement is necessary to provide operators with sufficient information to comply with the permit's requirements on pollution prevention in Part 2.3 of the CGP, which in turn are based on the C&D rule's new requirements in 40 CFR 450.21(d) and (e).

Pollutants. (Part 7.2.7.2). Part 7.2.7.2 requires permittees to provide, for each pollutant-generating activity, an inventory of pollutants or pollutant constituents (e.g., sediment, fertilizers, and/or pesticides, paints, solvents, fuels) associated with that activity, which will be exposed to rainfall or snowmelt, and potentially discharged from the construction site. The permittee must take into account where potential spills or leaks could occur that would contribute pollutants to stormwater discharges. The permittee must also document any departures from the manufacturer's specifications for applying fertilizers containing nitrogen and phosphorus, as required in Part 2.3.5.1.

- *Purpose:* Documentation of pollutants or pollutant constituents that result from pollutant-generating activities will assist permittees in understanding the potential pollutants associated with the pollutant-generating activities at the site so that stormwater control

measures can be located and designed in a way that best achieves the required reduction or elimination of the discharge of such pollutants.

EPA is requiring a greater level of specificity in this permit than was required in the corresponding section in the 2008 permit in order to better inform permittees of the types of pollutants they should be concerned about. EPA sees this documentation requirement as critical for planning purposes when the operator is selecting and installing pollution prevention control measures. This provision helps implement the pollution prevention provisions of Part 2.3, which are based on the C&D rule requirements in 40 CFR 450.21(d) and (e).

XII.2.8 Non-Stormwater Discharges (Part 7.2.8)

Part 7.2.8 requires the SWPPP to identify all sources of allowable non-stormwater discharges listed in Part 1.3.d.

- *Purpose:* The requirements in Part 7.2.8 require permittees to create a comprehensive list of all non-stormwater discharges expected to occur from the site. Documentation in the SWPPP of all non-stormwater discharges from the site provides permittees with information that will help them to minimize non-stormwater associated pollutant discharges, and to ensure that only authorized non-stormwater discharges occur.

XII.2.9 Buffer Documentation (Part 7.2.9)

For permittees that are required to comply with Part 2.1.2.1 of the permit because a surface water is located within 50 feet of the project's earth disturbances, Part 7.2.9 requires permittees to describe which compliance alternative they have selected for their site, and to comply with any additional requirements to provide documentation in Part 2.1.2.1.

- *Purpose:* The purpose of the requirements in Part 7.2.9 are to require permittees to document their compliance with respect to the buffer requirements in Part 2.1.2.1 of the permit. Such documentation will also provide inspectors with verification that the permittee has complied with the permit's buffer compliance alternatives.

XII.2.10 Description of Stormwater Control Measures (Part 7.2.10)

Part 7.2.10 requires permittees to provide a description in the SWPPP of their stormwater control measures used in compliance with this permit.

Stormwater Control Measures to be Used During Construction Activity. (Part 7.2.10.1). Part 7.2.10.1 requires permittees to describe all stormwater control measures that are or will be installed and maintained at the site to meet the requirements in Parts 2. For each stormwater control measure, the permittee must document:

1. Information on the type of stormwater control measure to be installed and maintained, including design information;
2. What specific sediment controls will be installed and made operational prior to conducting earth-disturbing activities in any given portion of the site to meet the requirement of Part 2.1.2.2a;
3. For exit points on the site, document stabilization techniques that will be used and any additional controls that are planned to remove sediment prior to vehicle exit consistent with Part 2.1.2.3; and

4. For linear projects, where permittee has determined that the use of perimeter controls in portions of the site is impracticable, document why this is the case (see Part 2.1.2.2a).

- *Purpose:* The requirements in (1) through (3) above document in the SWPPP compliance with important erosion and sediment control requirements in Part 2.1 of the CGP. Requirement (4) above is included to allow linear projects to document infeasibility with the perimeter control requirements in Part 2.1.2.2a of the permit.

Use of Treatment Chemicals. (Part 7.2.10.2). If you will use polymers, flocculants, or other treatment chemicals at your site, the SWPPP must include:

1. A listing of all soil types that are expected to be exposed during construction and that will be discharged to locations where chemicals will be applied. Also include a listing of soil types expected to be found in fill material to be used in these same areas, to the extent you have this information prior to construction. *Note: Information on soils may be obtained at* http://websoilsurvey.nrcs.usda.gov/app/;
2. A listing of all treatment chemicals to be used at the site, and why the selection of these chemicals is suited to the soil, turbidity, pH, and flow rate characteristics of the site;
3. If the operator has been authorized by the applicable Regional EPA Office to use cationic treatment chemicals at the site, the SWPPP must include the specific controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.
4. The dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage;
5. Information from any applicable Material Safety Data Sheets (MSDS);
6. Schematic drawings of any chemically-enhanced stormwater controls or chemical treatment systems to be used for application of the treatment chemicals;
7. A description of how the use of conventional sediment and erosion pretreatment controls will minimize the need to apply treatment chemicals;
8. A description of how chemicals will be stored consistent with Part 2.1.3.3b;
9. References to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable specifications from the chemical provider or supplier regarding the use of the specific treatment chemicals and/or chemical treatment systems; and
10. Specific personnel who will be operating chemical treatment systems at the site, or who have been given responsibility for compliance with the requirements of Part 2.1.3.3. Include a description of the training this personnel has received prior to permit coverage, or will receive prior to use of the treatment chemicals at the site.

- *Purpose:* To ensure proper documentation regarding the use of chemicals at permitted sites, and a demonstration of the permittee's ability to comply with the Part 2.1.3.3 requirements.

Stabilization Practices. (Part 7.2.10.3). Part 7.2.10.3 requires that the SWPPP describe the specific vegetative and/or non-vegetative practices that will be used to comply with the requirements in Part 2.2 on temporary and final stabilization of the exposed portions of the site, including if the permittee will be complying with the stabilization deadlines specified in Part 2.2.1.3a, they must indicate in the SWPPP the beginning and ending dates of the seasonally dry period and the site conditions; and if the permittee will be complying with the stabilization deadlines specified in

Part 2.2.1.3b, the permittee must document the circumstances that prevent the permittee from meeting the deadlines specified in Parts 2.2.1.1 and/or 2.2.1.2.

- *Purpose:* Part 7.2.10.3 of the CGP corresponds to Part 5.3.B of the 2008 CGP. In the new permit, EPA requires greater specificity regarding the use of vegetative and/or non-vegetated controls, and the use of such controls for both temporary and final stabilization. EPA includes such specificity so that documentation in the SWPPP corresponds to the permit requirements for stabilization in Part 2.2 of the CGP.

  The requirements in Part 7.2.10.3 will provide the permittee the opportunity to support its compliance with the stabilization requirements in Part 2.2 of the CGP in the SWPPP. Such documentation will also provide inspectors with verification that the permittee has complied with the permit's stabilization requirements.

XII.2.11 Pollution Prevention Procedures (Part 7.2.11)

Part 7.2.11 requires that the SWPPP describe procedures that will be followed to prevent and respond to spills and leaks consistent with Part 2.3, including:

Spill Prevention and Response Procedures (Part 7.2.11.1). Part 7.2.11.1 requires permittees to include in the SWPPP procedures that will be followed to prevent and respond to spills and leaks consistent with Part 2.3, including:

1. Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or position of the employee(s) responsible for detection and response of spills or leaks; and
2. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.4 and established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available.

   Permittees may also reference the existence of Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the CWA, or spill control programs otherwise required by an NPDES permit for the construction activity, provided that a copy of that other plan is kept onsite. Note: Even if a SPCC or other spill prevention plan already exists, the plans will only be considered adequate if they meet all of the requirements of this Part, either as part of the existing plan or supplemented as part of the SWPPP.

- *Purpose:* The purpose of the requirement to document spill prevention and response procedures is to provide the permittee an opportunity to develop a response plan for preventing spills from occurring and, if they do occur, a plan for responding to them in order to minimize the potential discharge of any pollutants from the site. The documentation in the SWPPP of spill prevention and response procedures also demonstrates to inspectors the permittee's compliance with the spill prevention and response procedures of the Pollution Prevention procedures in Part 2.3 of the CGP.

  The requirements in Part 7.2.11.1 include more detail than the 2008 CGP, which reflects the need to require the permittee to document his/her plans for compliance with the spill prevention and response requirements in Part 2.3 of the CGP, which derive from the C&D rule requirements in 40 CFR 450.21(d)(2) and (e).

Waste Management Procedures. (Part 7.2.11.2). Part 7.2.11.2 requires permittees to describe in the SWPPP procedures for handling and disposing of all wastes generated at the site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

- *Purpose:* The requirements in Part 7.2.11.2 allow permittees the opportunity to develop procedures for waste management, and provide documentation to inspectors demonstrating compliance with the pollution prevention requirements relating to the management of construction wastes.

  This requirement corresponds to Part 3.1.F (prevent the exposure of construction and waste materials to stormwater) and Part 5.3.C (description of control measures) of the 2008 CGP. The requirements in Part 7.2.11.2 include more specificity, which EPA believes is warranted because of the new, more specific pollution prevention requirements in Part 2.3 of the CGP that correspond to the new C&D rule requirements at 40 CFR 450.21(d).

XII.2.12 Procedures for Inspection, Maintenance, Corrective Action (Part 7.2.12)

Part 7.2.12 requires permittees to describe in the SWPPP the procedures that will be followed for maintaining stormwater control measures, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Parts 2.1.1.4, 2.3.2, Part 4, and Part 5 of the permit. The following information must also be included in the SWPPP:

1. Personnel responsible for conducting inspections;
2. The inspection schedule the permittee will be following, which is based on whether the site is subject to Part 4.1.2 or Part 4.1.3, and whether the site qualifies for any of the allowances for reduced inspection frequencies in Part 4.1.4. If the permittee will be conducting inspections in accordance with the inspection schedule in Part 4.1.2.2 or Part 4.1.3, the location of the rain gauge on the site or the address of the weather station the permittee will be using to obtain rainfall data
3. If the permittee will be reducing the inspection frequency in accordance with Part 4.1.4.2, the beginning and ending dates of the seasonally-defined arid period for the area or the valid period of drought. If the permittee will be reducing the inspection frequency in accordance with Part 4.1.4.3, the beginning and ending dates of frozen conditions on the site; and
4. Any inspection or maintenance checklists or other forms that will be used.

- *Purpose:* The requirements in Part 7.2.12 allow permittees the opportunity to develop and document their procedures for inspections, maintenance activities, and corrective actions, and allow permittees to demonstrate their compliance with the permit requirements corresponding to this documentation.

  The requirements in Part 7.2.12 are more specific than those that were included in the 2008 CGP, and are necessary to clarify what SWPPP documentation is required as a result of the modified permit language in the permit relating to inspections, maintenance, and corrective actions.

XII.2.13 Staff Training (Part 7.2.13)

Part 7.2.13 requires that the SWPPP include documentation that the required personnel were trained in accordance with Part 6.

- *Purpose:* The requires in Part 7.2.13 allow permittees the opportunity to document their compliance with Part 6 of the permit (Staff Training Requirements).

XII.2.14 Documentation of Compliance with Other Federal Requirements (Part 7.2.14)

Part 7.2.14 requires permittees to include in the SWPPP documentation for compliance with the following other Federal requirements:

Endangered Species Act. (Part 7.2.14.1). The SWPPP must include documentation supporting the permittee eligibility with respect to Part 1.1.e and Appendix D.

- *Purpose:* The purpose of requiring documentation with regard to endangered species in Part 7.2.14.1 of the permit is to provide the permittee the opportunity to document their compliance with Part 1.1.e of the CGP, and to provide anyone who inspects the SWPPP the opportunity to review such compliance.

Historic Properties. (Part 7.2.14.2). The SWPPP must include documentation required by Appendix E in relation to potential impacts to historic properties.

- *Purpose:* The purpose of requiring documentation with regard to historic properties in Part 7.2.14.2 of the permit is to provide the permittee the opportunity to document their compliance with the screening process in Appendix E.

Safe Drinking Water Act Underground Injection Control Requirements for Certain Subsurface Stormwater Controls. (Part 7.2.14.3). If the permittee is using any of the following stormwater controls at the site, as they are described below, the permittee must document any contact with the applicable state agency or EPA Regional Office responsible for implementing the requirements in the Safe Drinking Water Act and EPA's implementing regulations at 40 CFR Parts 144 – 147:

1. Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system);
2. Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow; and
3. Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system).

These types of stormwater controls are generally considered to be Class V UIC wells.

- *Purpose:* The purpose of requiring documentation with regard to underground injection wells in Part 7.2.14.3 is to make permittees aware of and to provide permittees the opportunity to document their compliance with the Safe Drinking Water Act requirements for underground injection wells. It is consistent with EPA's June 2008 memorandum entitled *Clarification on Which Stormwater Infiltration Practices/Technologies have the Potential to be Regulated as "Class V" Wells by the Underground Injection Control Program* (viewable at http://www.epa.gov/npdes/pubs/memo_gi_classvwells.pdf).

XII.2.15 SWPPP Certification (Part 7.2.15)

Part 7.2.15 requires the permittee to sign and date the SWPPP in accordance with Appendix I, Part I.11.

- *Purpose:* This requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands their responsibility to create and maintain a complete and accurate SWPPP. Permittees are allowed to appoint an authorized representative consistent with the regulations. Therefore, if a facility feels it is more appropriate for a member of the stormwater team to sign the documentation, that option is available under the permit. The signature requirement includes an acknowledgment that there are significant penalties for submitting false information.

XII.2.16 Post-Authorization Additions to SWPPP (Part 7.2.16)

Part 7.2.16 requires the permittee to include the following documents as part of the SWPPP once the permittee is notified of coverage under this permit:

1. A copy of the NOI submitted to EPA along with any correspondence exchanged with EPA related to coverage under this permit;
2. A copy of the acknowledgment letter the permittee received from the NOI Processing Center or eNOI system assigning the permit tracking number; and
3. A copy of this permit (an electronic copy easily available to the stormwater team is also acceptable).

- *Purpose:* The requirement in Part 7.2.16 to provide with the SWPPP documentation of the NOI, EPA authorization, and copy of the permit assists facility personnel and EPA (and other agency) inspectors in determining that the permit has been authorized for the construction site.

XII.3 On-Site Availability of the SWPPP (Part 7.3)

Part 7.3 requires the permittee to keep a current copy of the SWPPP at the site or at an easily accessible location so that it can be made available at the time of an onsite inspection or upon request by EPA; a state, tribal, or local agency approving stormwater management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).

EPA may provide access to portions of the SWPPP to a member of the public upon request. Confidential Business Information (CBI) will be withheld from the public but may not be withheld from EPA, USFWS, or NMFS. (Note: Information covered by a claim of confidentiality will be disclosed by EPA only to the extent of, and by means of, the procedures set forth in 40 CFR Part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may be disclosed to other employees, officers, or authorized representatives of the United States concerned with implementing the Clean Water Act. The authorized representatives, including employees of other executive branch agencies, may review CBI during the course of reviewing draft regulations.)

If an onsite location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of the permittee's construction site.

- *Purpose:* The purpose of Part 7.3 is to require permittees to retain copies of their SWPPP on site, and to make the document available to EPA or the Services immediately upon request. If a member of the public wishes to have access to the non-CBI portions of the permittee's SWPPP, they must first contact EPA. EPA may require that a copy be sent to the Agency so that it can be provided to the requestor. The mechanism for providing EPA with a copy of the SWPPP is at the discretion of the operator (e.g., web-based, hard copy), though EPA strongly encourages that SWPPPs be provided electronically.

XII.4 Required SWPPP Modifications (Part 7.4)

XII.4.1 List of Conditions Requiring SWPPP Modification (Part 7.4.1)

Part 7.4.1 requires the permittee to modify the SWPPP, including the site map(s), in response to any of the following conditions:

1. Whenever new operators become active in construction activities on the site, or changes are made to the construction plans, stormwater control measures, pollution prevention measures, or other activities at the site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered under Part 5. The permittee is not required to modify the SWPPP if the estimated dates in Part 7.2.5 change during the course of construction;
2. To reflect areas on the site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
3. If inspections or investigations by site staff, or by local, state, tribal, or federal officials determine that SWPPP modifications are necessary for compliance with this permit;
4. Where EPA determines it is necessary to impose additional requirements on the discharge. The following must be included in the SWPPP:
    - A copy of any correspondence describing such requirements; and
    - A description of the stormwater control measures that will be used to meet such requirements.
5. To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater control measures implemented at the site; and
6. If applicable, if a change in chemical treatment systems or chemically-enhanced stormwater controls is made, including use of a different treatment chemical, different dosage, or different area of application.

- *Purpose:* The requirement in Part 7.4.1 to maintain a modified SWPPP under any of the conditions listed above provides assurance that the SWPPP will be updated to accurately reflect the conditions on the construction site. It is important that the SWPPP be accurate in terms of changes to construction plans, stormwater controls, changes in operational control, and other important changes on the site, so that the facility personnel have access to a SWPPP that is current, and so that inspectors are provided with accurate site information for compliance purposes.

  In Part 7.4.1 of the CGP, EPA added additional specificity relative to the 2008 CGP to include additional circumstances requiring an updated SWPPP, which reflects additional permit provisions that were not included in the 2008 CGP.

XII.4.2 Deadlines for SWPPP Modifications (Part 7.4.2)

Part 7.4.2 requires the permittee to complete revisions to the SWPPP within 7 calendar days following the occurrence of any conditions listed in Part 7.4.1.

- *Purpose:* The purpose of requiring any SWPPP revisions to be completed within seven days in Part 7.4.2 of the CGP is to ensure that any necessary revisions made to the SWPPP are incorporated in a timely matter so that the SWPPP is kept up to date.

XII.4.3 SWPPP Modification Records (Part 7.4.3)

Part 7.4.3 requires the permittee to maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change (see Part 7.2.15) and a brief summary of all changes.

- *Purpose:* The requirement to maintain a record of all SWPPP modifications is to ensure that a record of all of the changes to the SWPPP is kept. Keeping a record of such changes will help facility personnel to stay current with the changes that have been made to the SWPPP, and will allow inspectors to determine if appropriate modifications were made to the SWPPP under the required circumstances.

  In the permit, EPA requires more detail than was required in the 2008 CGP concerning SWPPP modifications, including the dates of all modifications and the person authorizing each change, along with the summary. EPA believes this requirement will assist permittees with keeping staff updated on the details of any changes to the SWPPP.

XII.4.4 Certification Requirements (Part 7.4.4)

Part 7.4.4 requires that all modifications made to the SWPPP consistent with Part 7.4 be authorized by a person identified in Appendix I, Part I.11.b.

- *Purpose:* The requirement that the SWPPP and all modifications be authorized by a person identified in Appendix I, Part I.11.b is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee certifies any SWPPP modifications. As described in Fact Sheet Section XII.2.15, permittees are allowed to appoint an authorized representative consistent with the regulations. Therefore, if a permittee feels it is more appropriate for a member of the stormwater team to sign the documentation, that option is available under the permit. The signature requirement includes an acknowledgment that there are significant penalties for submitting false information.

XII.4.5 Required Notice to Other Operators (Part 7.4.5)

Part 7.4.5 requires permittees, upon determining that a modification of the SWPPP is required, if there are multiple operators covered under the permit, to immediately notify any operators who may be impacted by the change to the SWPPP.

- *Purpose:* The requirement in Part 7.4.5 ensures that any other operators covered under the permit are kept up to date on the SWPPP so that they can comply with the modifications to the pollution prevention plan.

XIII. How to Terminate Coverage (Part 8)

Part 8 of the CGP details the requirements that must be met before an operator of a construction project may be authorized to terminate coverage under the permit. Although this section has been reorganized from prior permits, many of the requirements for coverage and the process to be followed for terminating coverage remain unchanged. Part 8 reminds the permittee that until permit coverage is terminated, the permittee is required to comply with all conditions and effluent limitations in the permit. Permit coverage is not terminated until EPA has received a complete and accurate Notice of Termination (NOT), certifying that the requirements for termination in Part 8 are met.

XIII.1 Minimum Information Required in NOT (Part 8.1)

Part 8.1 of the CGP lists the minimum information that is required to be provided in the NOT, which includes:

1. NPDES permit tracking number provided by EPA when permittee received coverage under this permit;
2. Basis for submission of the NOT (see Part 8.2);
3. Operator contact information;
4. Name of project and address (or a description of location if no street address is available); and
5. NOT certification.

- *Purpose:* The purpose of the requirements in Part 8.1 is to inform permittees of the required information to be included in their NOT.

  The required information facilitates prompt processing of NOTs and provides assurance that operators have a valid basis for terminating.

  EPA notes that the NPDES permit tracking number is not the same number that was reported on the NOI form. The NOI contains the NPDES permit number as identified in the CGP (e.g., NHR100000) while the NPDES permit tracking number is that number provided by the EPA Stormwater Notice Processing Center acknowledging receipt of a complete NOI. The permit tracking numbers are assigned sequentially as NOIs are received by the EPA Stormwater Notice Processing Center (e.g., NHR1000001, NHR1000002, etc).

XIII.2 Conditions for Terminating Permit Coverage (Part 8.2)

Part 8.2 describes the triggering conditions for terminating permit coverage, which include:

1. The permittee has completed all earth-disturbing activities at the site and, if applicable, construction support activity areas covered by this permit (see Part 1.6.3), and the permittee has met the following requirements:
    - For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which the permittee had control during the construction activities, the permittee has met the requirements for final vegetative or non-vegetative stabilization in Part 2.2.2;
    - The permittee has removed and properly disposed of all construction materials, waste and waste handling devices, and has removed all equipment and

vehicles that were used during construction, unless intended for long-term use following termination of permit coverage;

- The permittee has removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following termination of permit coverage or those that are biodegradable; and
- The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following termination of permit coverage; or

2. The permittee has transferred control of all areas of the site for which the permittee is responsible under this permit to another operator, and that operator has submitted an NOI and obtained coverage under this permit; or
3. Coverage under an individual or an alternative general NPDES permit has been obtained.

- *Purpose:* The requirements in Part 8.2 provide permittees a list of all of the conditions for terminating permit coverage. These conditions must be satisfied before an NOT can be filed and permit coverage terminated.

  The conditions for terminating permit coverage in Part 8.2 correspond to requirements in Part 6.2 in the 2008 CGP; however, additional requirements have been included to emphasize the importance of leaving the site not only stabilized, but also in a condition that no longer requires temporary stormwater controls or pollution prevention practices.

XIII.3 How to Submit Your NOT (Part 8.3)

Part 8.3 describes the process for submitting a NOT. In this section, information about EPA's electronic NOI system, or "eNOI" system is provided. The electronic NOT form the permittee is required to complete is found at www.epa.gov/npdes/stormwater/cgpenoi. The permittee will use their NOI tracking number (i.e., the EPA number assigned upon authorization under the permit) to upload the fillable NOT form, which will ensure that EPA properly records your termination of coverage. If a permittee has a problem with the use of the eNOI system, they must contact the EPA Regional Office that corresponds to the location of their site. If they are given approval by the EPA Regional Office to use a paper NOT, they must complete the form in Appendix K.

- *Purpose:* In Part 8.3, EPA is requiring that permittees file an electronic Notice of Termination (NOT) to notify EPA that it has met the conditions for terminating permit coverage under Part 8.2, unless use of a paper form is authorized by the EPA Regional Office. This is the third CGP that has made use of the eNOI system. In the past, operators were encouraged to use the eNOI system, but were given the option to submit paper NOTs. Due to the expansion in internet availability, greater efficiency in administrative processing, and reductions in cost to manage the system as compared to paper NOTs, it is required that the eNOI system be the primary mechanism by which construction projects obtain permit coverage. If it is not possible for a permittee to make use of the eNOI system, and the relevant EPA Regional Office specifically authorizes the use of a paper NOT, then permittees may submit a paper NOT to the Regional Office.

XIII.4 Deadline for Submitting NOTs (Part 8.4)

Part 8.4 requires that the NOT be submitted within 30 calendar days after any one of the triggering conditions listed in Part 8.2 occur.

- *Purpose:* Part 8.4 of the CGP provides the permittee with a deadline for when the NOT must be submitted following the occurrence of any of the triggering conditions in 8.2. The purpose of requiring a deadline for filing an NOT is to ensure that permittees do not remain covered under the CGP for a long period of time after reaching the conditions for permit termination.

XIII.5 Effective Date of Termination of Coverage (Part 8.5)

Part 8.5 informs permittees that their authorization to discharge under this permit terminates at midnight of the day that a complete NOT is processed and posted on EPA's website at http://www.epa.gov/npdes/stormwater/cgpnoisearch.

- *Purpose:* Part 8.5 of the CGP specifies to permittees when their permit termination becomes effective and therefore when they are no longer responsible for complying with the permit. EPA notes that if the Agency determines that the NOT is incomplete or the permittee has not satisfied one or more of the conditions in Section 8.2 for being able to submit a NOT, then the NOT is not valid, and the permittee must continue to comply with the conditions of the permit.

XIV. Permit Conditions Applicable to Specific States, Indian Country Lands, or Territories (Part 9)

This part of the permit will be completed as the states, Indian Country Lands, and U.S. territories complete their Section 401 certifications for this permit.

- *Purpose*: Section 401 of the CWA (See also 40 CFR §122.44(d)(3) and §124.53(a)) provides that no Federal license or permit, including NPDES permits, to conduct any activity that may result in any discharge into navigable waters shall be granted until the State/Tribe in which the discharge originates certifies that the discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of the CWA. The states, Indian Country lands, and U.S. territories will document the completion of their Section 401 certifications for this permit in this section.

XV. Appendices

XV.A. Definitions and Acronyms (Appendix A)

Appendix A of the permit includes definitions of terms and a list of acronyms used throughout the permit.

- *Purpose:* To provide a reference tool for terms and acronyms used throughout the permit.

The following terms are defined in the 2012 CGP:

1. "Action Area"

2. "Agricultural Land"
3. "Antidegradation Policy" or "Antidegradation Requirements"
4. "Arid Areas"
5. "Bank"
6. "Bluff"
7. "Borrow Areas"
8. "Bypass"
9. "Catchment"
10. "Cationic Treatment Chemical"
11. "Chemical Treatment System"
12. "Commencement of Earth-Disturbing Activities"
13. "Commencement of Pollutant-Generating Activities"
14. "Construction Activities"
15. "Construction and Development Effluent Limitations and New Source Performance Standards"
16. "Construction Site"
17. "Construction Support Activities"
18. "Construction Waste"
19. "Conveyance Channel"
20. "Corrective Action"
21. "Critical Habitat"
22. "CWA"
23. "Dewatering"
24. "Discharge"
25. "Discharge of a Pollutant"
26. "Discharge Point"
27. "Discharge-Related Activity"
28. "Discharge to an Impaired Water"
29. "Domestic Waste"
30. "Drainageway"
31. "Drought-Stricken Area"
32. "Earth-Disturbing Activity" or "Land-Disturbing Activity"
33. "Effective Operating Condition"
34. "Effluent Limitations"
35. "Effluent Limitations Guideline (ELG)"
36. "Electronic Notice of Intent (eNOI)"

37. "Eligible"
38. "Emergency-Related Project"
39. "Endangered Species"
40. "Excursion"
41. "Existing Project"
42. "Exit Points"
43. "Exposed Soils"
44. "Federal Facility"
45. "Final Stabilization"
46. "Hazardous Materials" or "Hazardous Substances" or "Hazardous or Toxic Waste"
47. "Historic Property"
48. "Impaired Water" or "Water Quality Impaired Water" or "Water Quality Limited Segment"
49. "Impervious Surface"
50. "Indian Country" or "Indian Country Lands"
51. "Infeasible"
52. "Install" or "Installation"
53. "Intermittent (or Seasonal) Stream"
54. "Jar test"
55. "Landward"
56. "Level Spreader"
57. "Linear Project"
58. "Minimize"
59. "Municipal Separate Storm Sewer System" or "MS4"
60. "National Pollutant Discharge Elimination System (NPDES)"
61. "Native Topsoil"
62. "Native Vegetation"
63. "Natural Buffer"
64. "Natural Vegetation"
65. "New Operator of a New or Existing Project"
66. "New Project"
67. "New Source"
68. "New Source Performance Standards (NSPS)"
69. "Non-Stormwater Discharges"
70. "Non-Turbid"
71. "Notice of Intent (NOI)"

72. “Notice of Termination (NOT)”
73. “Operational”
74. “Operator”
75. “Ordinary High Water Mark”
76. “Outfall”
77. “Permitting Authority”
78. “Point(s) of Discharge”
79. “Point Source”
80. “Pollutant”
81. “Pollutant-Generating Activities”
82. “Pollution Prevention Measures”
83. “Polymers”
84. “Prohibited Discharges”
85. “Provisionally Covered Under this Permit”
86. “Receiving Water”
87. “Run-On”
88. “Semi-Arid Areas”
89. “Site”
90. “Small Construction Activity”
91. “Small Residential Lot”
92. “Snowmelt”
93. “Spill”
94. “Stabilization”
95. “Steep Slopes”
96. “Storm Sewer System”
97. “Stormwater”
98. “Stormwater Control Measure”
99. “Stormwater Controls”
100. “Stormwater Discharge Associated with Construction Activity”
101. “Stormwater Inlet”
102. “Stormwater Team”
103. “Storm Event”
104. “Storm Sewer”
105. “Subcontractor”
106. “Surface Water”

107. "SWPPP"
108. "Temporary Stabilization"
109. "Thawing Conditions"
110. "Threatened Species"
111. "Tier 2 Waters"
112. "Tier 2.5 Waters"
113. "Tier 3 Waters"
114. "Total Maximum Daily Load" or "TMDL"
115. "Toxic Waste"
116. "Turbidity"
117. "Uncontaminated Discharge"
118. "Upland"
119. "Upset"
120. "Water-Dependent Structures"
121. "Water Quality Standards"
122. "Waters of the United States"
123. "Wetland"
124. "Work Day"

The following acronyms were added to the list that appears in the 2008 CGP:

1. C&D
2. eNOI
3. NRC
4. NRCS
5. SPCC
6. USGS

EPA notes that it has changed the term "federal facility" to "Federal Operator" to clarify what entities need to obtain coverage under this general permit where the state permitting authority is not authorized to administer the federal facility program (*i.e.,* in Vermont, Washington, Delaware and Colorado). The revised definition makes clear that where the operator is a department, agency or instrumentality of the Federal government (a "federal entity"), or another party engaging in construction activity for any such federal entity, the operator is a "Federal Operator" that must obtain coverage under this permit. For example:

- Where a federal entity is conducting construction activity, whether on land owned or leased by the federal government or otherwise, and that federal entity meets the definition of an "operator", the federal entity is a Federal Operator and must obtain permit coverage under this permit.
- Where a federal entity has hired a contractor to complete the day-to-day activities on a construction site, but retains control over the project (*e.g.*, site design/specifications,

construction oversight), the federal entity is a Federal Operator and must obtain coverage under this permit. The contractor should determine whether it meets the definition of "Operator" under this permit and, if it does, should obtain permit coverage.

- Where a federal entity has hired a contractor to complete the day-to-day activities on a construction site and does not retain control over the project, the contractor should determine whether it meets the definition of "Operator" under this permit and, if it does, should obtain permit coverage. The federal entity in this case must determine whether it meets the definition of "Federal Operator" under this permit and, if it does, should obtain permit coverage.
- Where a private party is independently conducting construction activity on federal land or property (e.g., developing an oil and gas lease, grazing lease, or ski resort lease), the private party should determine whether it meets the definition of "operator" under the corresponding state construction general permit and, if it does, should obtain coverage under the state construction general permit.

XV.B Permit Areas Eligible for Coverage (Appendix B)

Appendix B specifies in what areas of the country the permit would apply, and includes specific corresponding permit numbers.

- *Purpose:* To specify the areas where the permit is effective.

  The permit is now available in Region 4, and Denali National Park and Preserve in Region 10, and is no longer available in Alaska because the state has been delegated NPDES program responsibilities. Otherwise, no changes were made to the corresponding 2008 CGP appendix.

XV.C Small Construction Waivers and Instructions (Appendix C)

Appendix C provides information to construction operators on the availability of permit waivers for rainfall erosivity (App. C, Sec. A), TMDLs (App. C, Sec. B), and equivalent analysis (App. C, Sec. C).

- *Purpose:* To provide information to prospective applicants for these three regulatory waivers.

XV.D Endangered Species Act Requirements (Appendix D)

Appendix D specifies the eligibility criteria related to the protection of endangered and threatened species and critical habitat. Each operator is required to certify that they have met one of the 6 eligibility criteria.

Operators who cannot certify to one of the endangered species eligibility criteria cannot submit an NOI to gain coverage under the CGP; instead they must apply to EPA for an individual NPDES permit. As appropriate, EPA will conduct ESA section 7 consultations when issuing individual permits. If there are concerns that CGP coverage for a particular facility may result in adverse effects to listed species or critical habitat, EPA may hold up discharge authorization until such concerns are adequately addressed. Regardless of an operator's eligibility certification under one of the six criteria, EPA may require an application for an individual permit on the basis of adverse effects to species or habitat.

- *Purpose:* Consistent with Section 7(a)(2) of the Endangered Species Act (ESA), EPA has initiated and is in the process of consulting with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), both collectively known as the "Services." Appendix D provides the eligibility language for determining which criterion operators may meet to ensure eligibility under the ESA-related provisions of the permit.

  For background, the FWS and NMFS are responsible for developing and maintaining the list of protected species and critical habitat. Once listed as endangered or threatened, a species is afforded the full range of protections available under the ESA, including prohibitions on killing, harming or otherwise taking a species. In certain instances, the FWS or NMFS may establish a critical habitat for a threatened or endangered species as a means to further protect those species. Critical habitat is an area determined to be essential for the conservation of a species and need not be in an area currently occupied by the species. Some, but not all, listed species have designated critical habitat. Exact locations of such designated critical habitat are provided in the Services regulations at 50 CFR Parts 17 and 226.

  Operators have an independent ESA obligation to ensure that any of their activities do not result in prohibited "take" of listed species. Section 9 of the ESA prohibits any person from "taking" a listed species, e.g., harassing or harming it, with limited exceptions. See ESA Sec 9; 16 U.S.C. §1538. This prohibition generally applies to "any person," including private individuals, businesses and government entities. Many of the requirements and procedures in the CGP to protect species may also assist operators in ensuring that their construction activities do not result in a prohibited take of species in violation of section 9 of the ESA. Operators who intend to undertake construction activities in areas that harbor endangered and threatened species may seek protection from potential "take" liability under ESA section 9 either by obtaining an ESA section 10 permit or by requesting coverage under an individual permit and participating in the section 7 consultation process with the appropriate FWS or NMFS office. Operators unsure of what is needed for such liability protection should confer with the appropriate Services.

XV.E National Historic Preservation Act Procedures (Appendix E)

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of Federal "undertakings" on historic properties that are listed on, or eligible for listing on, the National Register of Historic Places. The term Federal "undertaking" is defined in the NHPA regulations to include a project, activity, or program under the direct or indirect jurisdiction of a Federal agency including those requiring a Federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. See 36 CFR 800.16(l).

EPA's issuance of this permit is a Federal undertaking within the meaning of the NHPA. To address any issues relating to historic properties in connection with issuance of the permit, EPA has included a screening process in Appendix E for all applicants to follow to ensure that potential impacts of their covered activities on historic properties have been appropriately considered and addressed. Although individual applications for coverage under the general permit do not constitute separate Federal undertakings, the screening process and related NOI questions provide an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit.

Under the NPHA regulations, a determination that a Federal undertaking has no potential to cause effects on historic properties fulfills an agency's obligations under section 106 of the NHPA. See 36 CFR 800.3(a)(1). EPA has reason to believe that the vast majority of activities authorized under the CGP have no potential to cause effects on historic properties. EPA does not anticipate effects on historic properties from the pollutants in stormwater and allowable non-stormwater discharges from construction activities covered under this permit. Thus, to the extent EPA's issuance of this general permit authorizes discharges of such constituents, confined to existing stormwater channels or natural drainage areas; the permitting action does not have the potential to cause effects on historic properties. Additionally, where the site is not installing stormwater controls that cause subsurface earth disturbance (see Step 1 of Appendix E for examples of these controls), EPA similarly finds that the issuance of this permit does not have the potential to cause effects on historic properties.

EPA believes this permit may have some potential to cause effects on historic properties where this permit authorizes or requires the construction and/or installation of stormwater controls that involve subsurface disturbance. Where the operator has to disturb the land through the construction and/or installation of such controls, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the operator is installing new stormwater controls to manage its stormwater that will involve subsurface ground disturbance, the operator will need to consider the potential for effects to historic properties and may need to contact the applicable State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), or other tribal representative, to determine the likelihood that these controls will impact historic properties. Refer to Appendix E, Steps 2 through 5.

Purpose: This appendix details the eligibility procedures relating to historic properties.

XV.F List of Tier 3, Tier 2, and Tier 2.5 Waters (Appendix F)

Appendix F provides a list of Tier 3, Tier 2, and Tier 2.5 waters to assist construction operators in determining eligibility for coverage under Parts 1.4, and in complying with any applicable requirements in Part 3.3.2.

- *Purpose:* To provide information to operators to support their compliance with applicable antidegradation requirements.

XV.G Buffer Guidance (Appendix G)

Appendix G provides guidance to operators on how to establish the 50-foot buffer or satisfy one of the two other compliance alternatives described in Part 2.1.2.1.a, as well as how to qualify for and comply with the exceptions in Part 2.1.2.1.e.

- *Purpose:* To provide information to assist permittees in complying with Part 2.1.2.1. This appendix was developed for the permit to help implement the C&D rule requirement at 40 CFR 450.21(a)(6) to "provide and maintain natural buffers around surface waters … unless infeasible."

XV.H Precipitation Frequencies (Appendix H)

Appendix H provides a guide to permittees to determine the volume of precipitation associated with their local 2-year, 24-hour storm event.

- *Purpose:* To provide a guide to permittees on how to determine the local 2-year, 24-hour storm event for designing sediment basins if permittees elect to provide storage for the calculated volume of runoff from a 2-year, 24-hour storm.

XV.I Standard Permit Conditions (Appendix I)

Appendix I includes the standard NPDES permit conditions consistent with 40 CFR 122.41.

- *Purpose:* To include as part of the permit the required standard permit conditions for all NPDES permits.

No significant changes were made to the 2008 CGP's standard permit conditions other than to add a standard severability clause (Appendix I, Part I.17), and to add provisions related to validity of electronic signatures (Appendix I, Part I.11.5).

XV.J Notice of Intent (NOI) Form and Instructions (Appendix J)

Part 1.7.1 requires operators to use the electronic NOI system, or "eNOI" system, to prepare and submit NOIs. However, where an operator has requests and receives approval from his/her EPA Regional Office, the operator is authorized use the paper NOI form included in Appendix J.

- *Purpose:* The following additional information has been included in the NOI form:
    - Is the project an "emergency-related project"?
    - Have stormwater discharges from the project/site been covered previously under an NPDES permit?
    - Does the project/site discharge stormwater to an MS4?
    - Are there any surface waters within 50 feet of your project's earth disturbances? Receiving water information:
        - Provide the names of all first surface water to which you discharge
        - Provide the names of any impaired waters to which you discharge and the pollutant(s) for which they are impaired
        - Provide the name of any waters to which the site discharges for which there is an approved or established TMDL and the pollutant(s) for which there is a TMDL
        - Are any of the surface waters that the site discharges to designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) or as a Tier 3 water (Outstanding Natural Resource Water)?
    - Will the project use polymers, flocculants, or other treatment chemicals at your construction site?
        - If yes, will the project use cationic treatment chemicals at the site? If yes, has the permittee been authorized by the Regional EPA Office to use such chemicals? (If no, the permittee must first obtain such authorization or apply for an individual permit.) If yes, the permittee must attach a copy of your authorization letter and include documentation of the

appropriate controls and implementation procedures designed to ensure that the use of cationic treatment chemicals will not lead to a violation of water quality standards.

- Indicate the treatment chemicals to be used.

- Endangered Species Protection –
  - Provide the basis for the criterion selected in Appendix D (e.g., communication with U.S. Fish and Wildlife Service or National Marine Fisheries Service).
  - If criterion B is selected from Appendix D, provide the Tracking Number from the other operator's notification of authorization under this permit.
  - If criterion C is selected from Appendix D:
    - Attach a copy of your site map.
    - Describe the federally-listed species or federally-designated critical habitat in the "action area"
    - Describe the distance between the "action area" and the listed species or critical habitat (miles)?
  - If criterion D, E, or F is selected from Appendix D, attach copies of any letters or other communications between you and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

- Historic Preservation –
  - Will the permittee be installing any stormwater controls described in Appendix E that will cause subsurface earth disturbance?
  - If yes, have surveys conducted on the site already determined historic properties do not exist, or that prior disturbances have precluded the existence of historic properties?
  - If no, is the permittee able to make such a determination based on historical sources, knowledge of the area, an assessment of the types of earth-disturbing activities to be engaged in, considerations of any controls and/or management practices that will be adopted to ensure that stormwater control-related earth-disturbing activities will not have an effect on historic properties, and any other relevant factor?
  - If no, did the SHPO, THPO, or other tribal representative (whichever applies) respond within the 30 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? If yes, describe the nature of their response.

The additional questions have been added to correspond to the new or modified requirements in Parts 1, 2, and 3 of the CGP, many of which directly result from the requirement to incorporate the C&D rule requirements.

XV.K Notice of Termination (NOT) Form and Instructions (Appendix K)

Part 8.3 requires the permittee to use the electronic NOI system, or "eNOI" system, to prepare and submit the NOT when any of the conditions in 8.2 have been met. However, where the EPA Regional Office specifically authorizes the permittee to use a paper NOT form, that permittee is required to complete and submit the paper form included in Appendix K.

- *Purpose:* To provide pre-approved operators with a paper NOT form to use for seeking coverage under the CGP if the Regional EPA Office approves, and to provide potential operators with an idea of what types of questions to anticipate when completing the NOT.

  The NOT form includes modified reasons for termination. These modifications were considered necessary to reflect the changes made to the conditions for terminating permit coverage in Part 8.2.