

CHAPTER 10: RAINY SEASON CLEARING / GRADING

10.1 INTRODUCTION

These standards are adopted per Redmond Municipal Code 15.24. These general standards identify what development projects in the City of Redmond can undertake site construction work in the rainy season, what level of Temporary Erosion and Sediment Control (TESC) is necessary and what runoff monitoring is required. Since these are general standards, specific projects and sites may warrant exceptions to these standards.

Planning for rainy-season work needs to begin early in a project. The "Permit Processing Implications" section presents important information for those who may be pursuing construction work in the rainy season. It is important to plan ahead if rainy-season work is to occur given that:

- The SWPPP approved for good weather will probably not be adequate for the rainy season.
- A Seasonal Suspension Plan will be required for rainy-season work.
- Higher levels of TESC require City meetings as these plans are formulated (advance scheduling with City staff is important).
- High TESC levels can involve chemical treatment, so the possible use of such measures must be part of SEPA documents. If such measures become necessary for a project and were not included in SEPA reviews, then SEPA processes would need to be amended prior to approval of the special TESC measures.
- State Department of Ecology approval is required for some state-of-the-art TESC.

Clearing/grading work shall comply with provisions in the Stormwater Notebook and other applicable regulations and standards. Project work shall also comply with City regulations and with requirements developed through SEPA (State Environmental Policy Act) processes, through the City's site plan review processes, and through other project reviews. These project-specific requirements are in addition to and take priority over the general standards in this document where differences occur.

The rest of this chapter contains eight (8) sections:

1. Definitions. This section presents definitions for a few key terms used in this document.
2. TESC Standards. This section presents the standards that define what constitutes successful Temporary Erosion and Sediment Control for a project.
3. Special Requirements for Rainy-Season Work. This section describes two special requirements that apply to rainy-season project work: the Seasonal Suspension Plan and additional performance security.
4. Rough Grading Permits. This section briefly identifies a permit that allows clearing and grading to get started under certain circumstances, so that such work does not occur in the rainy season.

5. Explanation of the Rainy-Season Clearing/Grading Matrix. This section discusses the elements of the "Matrix" (Table 10.2).
6. How to Use the Rainy-Season Clearing/Grading Matrix. This section describes the steps to follow to use the Matrix.
7. Project Planning Implications. This section outlines the project review and approval implications related to rainy-season work. This section contains information to request an exception to the general standards presented in the Matrix.
8. Appeals: Wet Weather Committee. This section describes the group of City staff that have reviewed these general standards and that considers the Correction Requests and Appeals. This group is called the Wet Weather Committee.

There are four (4) tables in this chapter:

Table 10.1	Hydrologic Groups for Area Soils
Table 10.2	Rainy-Season Clearing/Grading Matrix (This table consists of five (5) pages)
Table 10.3	TESC Requirements
Table 10.4	Monitoring Requirements

10.2 DEFINITIONS

10.2.1 Clearing

The term "clearing," as used in these General Standards means the removal of timber, brush, grass, ground cover or other vegetative matter from a site which exposes the earth's surface or any actions which disturb the existing ground surface.

10.2.2 Grading

The term "grading" means any action that changes the elevation of the ground surface. Grading includes, but is not limited to, dredging, landfills, excavations, filling, earthwork, and embankments.

10.2.3 NTU

The letters "NTU" stand for Nephelometric Turbidity Units. These units are a quantitative measure of water clarity based on the scattering of a standard beam of light directed into a standard sample of the water when the scattering is measured at right angle to the beam. A higher reading means the sample is less clear (more cloudy). See also the definition for "turbidity" included below.

10.2.4 Potential Hydraulic Influence

The term "potential hydraulic influence" means surface runoff from the project would follow an identifiable conveyance route to a surface water or regulated wetland and would not be infiltrated enroute.

10.2.5 Rainy Season

The term "rainy season" means the period of time starting on October 1 of each year and ending April 30 of each following year. These dates may be adjusted by the Public Works Director based on climatic conditions for a particular year.

10.2.6 Turbidity

The term "turbidity" as related to construction runoff is the visual cloudiness of the runoff especially as caused by suspended solids and settle-able solids that are being carried by the runoff. In these standards, turbidity shall be measured as specified in Method 2130B of the following reference:

Standard Methods for the Examination of Water and Wastewater. Current Edition. Franson, Mary Ann H., Managing Editor. Clesceri, Lenore S; Greenberg, Arnold E; and Eaton, Andrew D editorial board. Published jointly by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

10.2.7 Turbidity Meter

The term "turbidity meter" means a portable, electric, hand-held measuring device designed to give a numerical value of the turbidity (cloudiness) of a sample of water. The numerical values are expressed in units known as Nephelometric Turbidity Units (NTUs).

10.3 TESC STANDARDS

Successful TESC will meet all the following standards:

- A. Site areas which do not need to be disturbed are not disturbed (clearing limits are defined and maintained).
- B. Flows of runoff from areas not under construction are kept off of disturbed soils in the construction areas.
- C. Disturbed soil in an area that is not being worked receives temporary cover.
- D. The turbidity in runoff from the construction area does not exceed 50 NTU.
- E. Run-off from the construction area that reaches receiving waters does not cause the turbidity in the receiving waters to increase more than 5 NTU as a result of the project runoff.
- F. Disturbed areas receive final, permanent cover in accordance with the approved project plans without unnecessary delay.
- G. Off-site streets are kept free of dirt and mud originating from the construction site. (Using sweeping, not flushing, in the streets and, if appropriate, on-site wheel wash facilities.)
- H. Dust is controlled and is in compliance with the Puget Sound Clean Air Agency.
- I. Contingency plans for controlling spills and other potential pollutants have been developed and are ready to implement at the construction site.

- J. Work in Critical Areas conforms to requirements of the City's Critical Areas Ordinance (CAO). See Redmond Community Development Guide for additional information and definitions regarding Critical Areas.
- K. 24-hour, 7-day-per-week point(s) of contact is/are designated who can call out and direct crews, obtain materials, and authorize immediate expenditures for on-site temporary erosion and sediment control (TESC) work.
- L. Compliance exists with all project approval conditions and permits (including applicable non-City permits such as, but not necessarily limited to, the Hydraulics Project Approval from Washington State Department of Fish and Game and the Washington Department of Ecology NPDES Permit).

10.4 SPECIAL REQUIREMENTS FOR RAINY-SEASON WORK

There are two special requirements that apply specifically to rainy-season clearing and grading:

- A. Project must have a City-approved Seasonal Suspension Plan for suspending work until the end of the rainy season if on-site TESC is found to be inadequate.

A Seasonal Suspension Plan is a separate outline on the TESC PLAN that describes how the site is closed for the duration of the rainy season if directed by the City. Sites may be closed if they cannot meet the criteria for successful TESC outlined in Section 2. The Seasonal Suspension Plan must have sufficient detail to clearly define the work to be performed under this plan if it is implemented.

The Seasonal Suspension Plan can include measures in the TESC Plan and /or additional BMPs. No site work is allowed under the Seasonal Suspension Plan in the rainy season except for work that is necessary to implement the measures in the TESC Plan and the Seasonal Suspension Plan.

- B. Performance security must be provided in a manner acceptable to the City. Performance security will need to provide for monitoring (Level M2 minimum; discussed later in these General Standards), operation of TESC measures, implementation of the Seasonal Suspension Plan, and site restoration.

10.5 Rough Grading Permits

- A. Note that a separate permit for clearing and grading may be issued in certain circumstances when such action could allow substantial clearing and grading work to be completed before the rainy season begins. This permit is called a "Rough Grading Permit." See Chapter 6 of the Stormwater Notebook for requirements.

10.6 Explanation of the rain-season clearing/grading matrix

Four factors are considered to classify sites and set standards for clearing and grading work during the rainy season:

- A. Location of work areas as related to surface waters (streams and lakes) or wetlands and the buffers of these Critical Areas.
- B. The slope of the land surface in the work areas. In some instances the direction of the slope relative to nearby surface waters or wetlands is also a factor.
- C. The actual soils in the work area expressed as Soil Conservation Service (SCS) Soil Hydrologic Groups designations (A, B, C, or D) (Table 10.1).
- D. Amount of land that is disturbed, considering both the cleared area and volume of earth to be moved.

10.6.1 Location(s) of Work Area(s)

For purposes of these General Standards, the entire City of Redmond is classified into five (5) types of work areas.

Class 1 Work Areas: areas within the banks of a stream, in a lake, in a regulated wetland or on steep slopes (equal to or over 40 percent).

Class 2 Work Areas: areas that are the buffers of streams, lakes, regulated wetlands, or steep slopes.

Class 3 Work Areas: areas within the current conditions 100-year frequency floodplains of major streams or lakes but outside the buffers of the stream or lake (the Sammamish River, Bear Creek, Evans Creek, and Lake Sammamish).

Class 4 Work Areas: areas that have "potential hydraulic influence" on a stream, lake, or regulated wetland (See definitions section regarding this term).

Class 5 Work Areas: consist of all other areas not included in any of the previous four (4) areas.

Work areas are further defined and sub-divided in Table 10.2.

10.6.2 Slope of the Land Surface

This factor refers to the general slope of the land in and immediately adjacent to a work area. The slope used in these General Standards generally refers to the steepest gradient before work or during work, prior to final cover.

Slopes are considered in categories as shown in Table 10.2. The percent of slope is the vertical rise divided by the horizontal run between two points on the ground surface (measured in the steepest direction) multiplied by 100.

10.6.3 Soil(s)

This document is based on soil hydrologic groups as defined by the United States Soil Conservation Service (SCS):

- Group A. (Low runoff potential). Soils having high infiltration rates even when thoroughly wetted. These consist chiefly of deep, well-to-excessively drained sands or gravels. These soils have a high rate of water transmission in that water readily passes through them.

- Group B. Soils having moderate infiltration rates when thoroughly wetted. These consist chiefly of moderately deep-to-deep, moderately well-to-well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

- Group C. Soils having slow infiltration rates when thoroughly wetted. These consist chiefly of soils with a layer that impedes downward movement of water or soils with moderately fine-to-fine texture. These soils have a slow rate of water transmission.

- Group D. (High runoff potential). Soils having very slow infiltration rates when thoroughly wetted. These consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

Group A soils have high infiltration capacity in their natural locations because they are associated with permeable underlying geology. In these guidelines, a work area is considered to have Group A soils only if the underlying geology is highly permeable (to a depth of at least 6 feet below the elevation of the lowest project excavation) and only Group A material is used in any filling.

A site's soil types must be determined by a qualified Professional Engineer based on field observations, borings, and test pits at the site. For reference, Table 10.1 in these General Standards shows hydrologic groups for various soils found in the SCS Soil Survey for King County.

10.6.4 Amount of Land Disturbed

The area disturbed is measured in acres and includes all land area that will be cleared at any one time. An area is considered cleared or disturbed until it has the final permanent cover as shown in approved project plans.

Permanent cover can include: final landscaping; buildings (at least to pad or first floor stage); and walkways, parking, and roadways (at least to first lift of compacted gravel sub-base or equal).

For some projects, project phasing can be part of the TESC Plan so the amount of land disturbed at any one time is reduced (see Table 10.2 to determine how disturbed area can affect requirements for a site).

The volume of material to be moved on a site is also a factor in setting standards. The volume of material to be moved is measured in cubic yards, independent of site area.

10.7 How to Use the Rainy-Season Clearing/Grading Matrix

Table 10.2 classifies sites, determines if clearing/grading work can occur in the rainy season, determines the level of TESC required, and determines the level of monitoring required. Table 10.3 defines the four (4) levels of TESC shown in Table 10.2. Table 10.4 defines the three (3) levels of monitoring shown in Table 10.2.

To use Table 10.2, it is recommended that this document be reviewed to understand site factors and other issues related to rainy-season work. For specific projects, start with the first page of Table 10.2. If any part of the proposed rainy-season work area is in a Class 1 area, then the entire rainy-season work area must comply with requirements for the Class 1 area.

If none of the proposed rainy-season work area is in a Class 1 area, do the same review using the second page of Table 10.2. Continue through the table until the proposed rainy-season work area is shown in the table. That point in the table defines the class for the proposed work.

Once the work area class is found; Table 10.2 shows whether or not work can be undertaken in the rainy season and if so, what levels of TESC and monitoring are required.

10.7.1 Temporary Erosion and Sediment Control (TESC) Levels

Table 10.2 requires different levels of TESC for different site circumstances. The TESC Levels are defined in Table 10.3. Level TESC1 is the most basic level and Level TESC4 is to be used in critical or sensitive situations. The levels of TESC effort shown in Table 10.3 specify the nature of the TESC Plan and:

- The expertise involved in preparation of the TESC Plan.
- The expertise and experience of the TESC implementation team (during project construction).

Moving large volumes of earth is also a factor in determining the TESC Level required. If rainy-season work involves large quantities of earthwork (over 10,000 cubic yards, as a general threshold), then Level TESC3 is the minimum required.

As experience is obtained by the City concerning TESC3 and TESC4 levels, additional guidance will be added to this document.

10.7.2 Monitoring Requirements

Table 10.2 requires different levels of monitoring for different site circumstances. The three (3) levels of monitoring are defined in Table 10.4. The monitoring relates to inspection of the TESC measures and to monitoring of site runoff and receiving waters for turbidity levels. Portable, electronic turbidity meters are required TESC tools for Contractors working in this area.

If monitoring or other inspections lead to a determination that the TESC measures are not adequate to meet the standards outlined in Section 2, the City may stop work on the entire project and issue further direction. The developer must take actions that are necessary (subject to City approval) to meet the TESC criteria listed in Section 2. Such actions may include compliance with the approved TESC Plan, preparation of an improved TESC plan, suspension of work during the rainy season, or other actions depending on the situation.

10.8 *Project Planning Implications*

These standards are intended to protect surface and ground water quality and fisheries resources during construction and keep streets in the vicinity of construction sites safe, free of dirt and mud.

Almost all construction sites have the potential to adversely affect water quality and the safety of nearby streets. Such potential greatly increases in the rainy season. It is this increased potential that led to formulation of these general standards for rainy-season work.

The best general strategies to avoid the risks associated with rainy-season work are:

Strategy One: Plan projects so that major, if not all, site work is done in the dry season.

Strategy Two: Plan projects so the site work is phased, if rainy-season work is to be pursued. Work phasing can be applied in two ways as related to these general standards.

First, if part of the site is in an area where work would not generally be allowed during the rainy season, a proposed rainy-season work plan might exclude the site work that cannot be constructed in the rainy season.

Second, project phasing may be used as a general strategy to reduce the area of bare earth exposed at any one time during the rainy season. Such project phasing can reduce costs and land area required for the more complex TESC measures. This approach can reduce the scope and costs (including bonding) for implementation of the Seasonal Suspension Plan.

Even with phasing, some work areas pose such a risk to water quality and fisheries resources that they are not suitable for rainy-season work. These standards identify such work areas.

These standards also identify work areas that pose a high risk but one that can be reduced by using exceptional temporary erosion and sediment control (TESC) measures. Further guidance is provided in this document.

Even lower risk sites need to carefully plan and implement TESC measures in the rainy season.

If rainy-season site work is being contemplated, the project applicant should consider the following questions:

10.8.1 General Project Planning Stage

- A. The City has significant limitations and conditions regarding clearing and grading work in the rainy season. Is there any way that this project can be scheduled to conduct all clearing and grading activities in the dry weather? This will expedite permitting and reduce the cost of erosion control measures during construction.
- B. Can work avoid Critical Areas altogether? A project that avoids or at least minimizes work in Critical Areas also avoids or minimizes permitting issues related to Critical Areas.
- C. Can work be phased? This strategy is discussed above.

10.8.2 Preliminary Design and Application Stage

- A. If site work is allowed in the rainy season under these general standards, what levels of TESC and Monitoring will be required? See Tables 10.2, 10.3, and 10.4.
- B. If state-of-the-art TESC4 is required, what notifications need to be included in the SEPA documents to allow such TESC options to be used?

Note: If chemical treatment options for TESC may be required, this option must be included in the SEPA Environment Checklist (or EIS) for the project. It is possible to amend a SEPA determination at a later date to add the chemical treatment options but initial disclosure is preferable and saves time for the applicant.

- C. Are appropriate TESC planning and implementation team members and those with monitoring expertise being brought into the design process?

Note: For sites and projects requiring only TESC1 or TESC2 levels, the specialized expertise of the team may be less critical. For TESC3 and TESC4 levels, the composition, knowledge, and experience of the team will be a

major consideration in allowing rainy-season work. See Table 10.3 for requirements regarding team participants.

- D. Is adequate scheduling, including lead times, being included to involve the City staff in TESC issues?

Note: The TESC1 and TESC2 levels require a minimum of City staff involvement in addition to normal project review activities. However, TESC3 and TESC4 require additional review by City staff. Joint meetings will likely be needed. As the rainy season approaches in each year, demands for City staff time can increase to the point where scheduling involves significant lead time. Please plan ahead if rainy-season work is a possibility.

10.8.3 Project Approval Stage

As part of the City's initial, written preliminary approval for a project, the Rainy-Season Classification will be included.

The City's classification may be appealed based on specific issues of fact or the project's context. Appeals may be submitted only after the written preliminary project approval is issued. Appeals are submitted as described in Paragraph 10.9.

10.8.4 Construction Documents Stage

As construction documents are being developed, it is imperative to apply the expertise of appropriate team members. For most sites, rainy-season TESC will involve significant costs. The TESC measures and their costs are an inherent part of rainy-season work. The design team needs to produce high-quality TESC plans for projects to proceed in the rainy season.

10.8.5 Pre-Construction Stage

The main interaction with the City in this stage is the Pre-Construction Meeting. This meeting needs to include members of the TESC and Monitoring planning and implementation team including contractors and sub-contractors. The contractor doing the clearing and grading work must attend.

If appropriate parties are not represented at the Pre-Construction Meeting, the City may cancel that meeting and require it to be rescheduled.

10.8.6 Construction Stage

The construction stage is the critical stage. It is the responsibility of the developer to meet the standards outlined in Paragraph 10.3 of this chapter. (If the approved plan is not sufficient, the developer must take actions to propose and, after approval by the City, implement additional measures.)

It is the TESC standards not just the measures on the approved plan that must be achieved.

If TESC (including monitoring) is not being successfully addressed, the City may take action ranging from “Notices of Correction” to “Stop Work Orders” that apply to the whole project including all trades and activities. The Stop Work Order can apply for the entire rainy-season duration and can require implementation of the Seasonal Suspension Plan.

The construction stage does not end under these general guidelines until all disturbed earth surfaces are covered with the final, permanent cover as shown on approved project plans.

10.9 Appeals: the Wet Weather Committee

After the City has issued the initial written approval or disapproval for a project (which will include the classification of the site and project under these general standards) an appeal may be made based on issues of fact and/or the project's context.

Appeals are to be submitted to the Development Services Division and will be considered by the Wet Weather Committee. The Wet Weather Committee is composed of one representative from each of the following divisions of the Public Works Department:

- Construction Division
- Development Services Division
- Natural Resources Division

Appeals must be in writing (five copies) and must include clearly organized supporting data developed by well-qualified professionals for all key points.

Upon reviewing written appeals, the Wet Weather Committee may take one of six (6) actions:

- Determine that inadequate or insufficient information has been provided or that information was not developed by appropriate, well-qualified professionals. (The appeal will be returned without action and additional details may or may not be included.)
- Approve the appeal.
- Approve the appeal with conditions.
- Deny the appeal.
- Deny the appeal but include information that could be addressed so as to warrant reconsideration.
- Request additional information.

For sites that require an NPDES permit from the State Department of Ecology, initial review(s) of appeals may be made by the Wet Weather Committee but final approval for rainy-season work will require submittal of the NPDES Permit.

For sites that require an HPA from the Washington State Department of Fish and Wildlife, a copy of the State-approved HPA must be submitted with an appeal to the Wet Weather Committee.

Table 10.1
Hydrologic Groups for Area Soils*

SCS Symbol	SCS Soil Name	SCS Hydrologic Group
Ag	Alderwood gravelly sandy loam	C
Be	Beausite gravelly sandy loam	B
Bh	Bellingham silt loam	C
Br	Briscot silt loam	B
Bu	Buckley silt loam	B/C
Ea	Earlmont silt loam	B/C
Ed	Edgewick fine sandy loam	B
Ev	Everett gravelly sandy loam	B
In	Indianola loamy fine sand	A
Kp	Kitsap silt loam	C
Ks	Klaus gravelly loamy sand	A
Ne	Neilton very gravelly loamy sand	A
Ng	Newberg silt loam	B
Nk	Nooksack silt loam	B
No	Norma sandy loam	B
Or	Orcas Peat	D
Os	Oridia silt loam	C
Ov	Ovall gravelly loam	C
Pc	Pilchuck loamy fine sand	A
Pu	Puget silty clay loam	C
Py	Puyallup fine sandy loam	B
Ra	Ragnar fine sandy loam	B

*Compiled from Soil Conservation Service information that applies to King County.

Table 10.2
Rainy-Season Clearing / Grading Matrix¹
Work Located in Critical Areas

Area Class²	Description³	Surface Slope	Soil Group	Work in Rainy Season, General Guidance (Guidance may be modified or waived during City-designated emergencies)
1a	<ul style="list-style-type: none"> • Within the Ordinary High Water mark of a stream (all stream classes) • Within a lake • Within a regulated wetland (all wetland classes) • On steep slopes (equal to or greater than 40 percent) 	All	All	No work in rainy season

¹ Decisions for a specific project regarding work in the rainy season may be appealed to the Public Works Department's "Wet Weather Committee." Contact the Engineering Division for details. For TESC Levels and Monitoring Levels see Tables 3 and 4, respectively.

² "Area Classes" are labels used to identify sub-parts of a project site that meet the descriptions presented in this table.

³ See Redmond's Critical Areas Ordinance (20D.140 of the Redmond Community Development Guide) for additional definitions and information regarding streams, lakes, wetlands, and buffers. "Artificially Created Wetlands" as mitigation to maintain wetland resources are to be treated as closest wetland type.

Table 10.2 - Continued
Rainy-Season Clearing / Grading Matrix¹
Work Located in Critical Area Buffers

Area Class ²	Description ³	Surface Slope	Soil Group	Work in Rainy Season, General Guidance (Guidance may be modified or waived during City-designated emergencies)
2a	Buffers associated with: <ul style="list-style-type: none"> • Class I Streams • Class II Streams where native fish are present or could be present during the construction time • All classes of regulated wetlands • The area within 25 feet of Lake Sammamish Ordinary High Water (elevation 27, City Datum) • The area within 15 feet of steep slopes (those equal to or greater than 40 percent) 	All slopes less than 40 percent	All	No work in rainy season
2b	Buffers associated with: <ul style="list-style-type: none"> • Class II Streams not included in 2a above • Class III Streams • The area within 5 feet of Class IV Streams 	Ground slopes away from stream (at slope of at least 5 percent at all times before, during, and after project construction) or work area is isolated from stream by dike or equal; slopes less than 40 percent	All	Work Possible if: <ul style="list-style-type: none"> • TESC3 or TESC4 Plan (as directed by City); M3 monitoring • Separation of work from 100-year stream flows • Restoration/mitigation and performance assurances are approved by City
2c		All other ground slopes less than 40 percent	All	No work in rainy season

Table 10.2 - Continued Rainy-Season Clearing / Grading Matrix¹ Work Located in Major Floodplain (Outside Buffers)				
Area Class²	Description³	Surface Slope	Soil Group	Work in Rainy Season, General Guidance (Guidance may be modified or waived during City-designated emergencies)
3a	Within the current 100-year FEMA Floodplain but outside of stream buffers and wetland buffers (all stream classes, and wetland types)	Ground slopes away from stream (at slope of at least 5 percent at all times before, during and after project construction) or work area is isolated from stream by dike or equal; slopes less than 40 percent	All	Work Possible if: <ul style="list-style-type: none"> • TESC3 Plan minimum; M3 monitoring • Separation of work from 100-year stream flows • Restoration/mitigation and performance assurance are approved by City
3b		All other ground slopes less than 40 percent	All	No Work in rainy season (unless the work area has been isolated from current 100-year frequency flood flows)

Table 10.2 - Continued					
Rainy-Season Clearing / Grading Matrix¹					
Work Located in "Hydraulic Influencing" Areas					
Area Class²	Description³	Surface Slope	Soil Group	Work in Rainy Season, General Guidance (Guidance may be modified or waived during City-designated emergencies)	
4a	Potential hydraulic influence; ⁴ disturbed area for entire project is less than ¼ acre	All slopes less than 40 percent	A	Work possible with: <ul style="list-style-type: none"> • TESC1 • M1 monitoring 	
4b			All other soils (B, C, and D)	<ul style="list-style-type: none"> • TESC2 • M1 monitoring 	
4c	Potential hydraulic influence; ⁴ two or more phases used so maximum disturbed area does not exceed ¼ acre at any one time	All slopes less than 40 percent	A	Work possible with: <ul style="list-style-type: none"> • TESC3 • M1 monitoring 	
4d			All other soils (B, C, and D)	<ul style="list-style-type: none"> • TESC3 • M2 monitoring 	
4e	Potential hydraulic influence; ⁴ disturbed area(s) over ¼ acre	All slopes less than 40 percent	A	Work possible with: <ul style="list-style-type: none"> • TESC3 • M2 monitoring 	
4f			All other soils (B, C, and D)	<ul style="list-style-type: none"> • TESC3 minimum; TESC4 approved and ready to implement at site • M3 monitoring 	

⁴ Potential Hydraulic Influence means surface runoff from the site would follow an identifiable conveyance route to a surface water or regulated wetland and would not be infiltrated enroute.

Disturbed areas less than ¼ acre typically include:

- Trenching/backfill operations
 - Berm construction/cover work
 - Small sites, including single family homes
 - Large sites where work can be phased so as to create only a small disturbed area at any one time.
- TESC Plans for disturbed areas in Area Classification 4a, 4b, 4c, and 4d must provide methods to cover all disturbed areas and temporarily cease work during rainfall.

Table 10.2 - Continued
Rainy-Season Clearing / Grading Matrix¹
Work Located in Other Areas

Area Class²	Description³	Surface Slope	Soil Group	Work in Rainy Season, General Guidance (Guidance may be modified or waived during City-designated emergencies)
5a	Areas not included in previous types with disturbed area of 1 acre or less	0-10% slope	All	Work possible if: <ul style="list-style-type: none"> • TESC2 plan minimum; M1 monitoring
5b		Slopes over 10%, but less than 40%	All	Work possible if: <ul style="list-style-type: none"> • TESC2 plan minimum; M2 monitoring
5c	Areas not included in previous types with disturbed area over 1 acre	0-10% slope	Group A Soils	Work possible if: <ul style="list-style-type: none"> • TESC2 plan minimum; M1 monitoring
5d			Group B, C, or D Soils	Work possible if: <ul style="list-style-type: none"> • TESC3 plan minimum; M2 monitoring
5e		Slopes over 10%, but less than 40%	All	Work possible if: <ul style="list-style-type: none"> • TESC3 minimum; TESC4 approved and ready to implement at site; M2 monitoring

Table 10.3
TESC Requirements⁵

TESC Level Number	Recommended Participants in TESC Plan	TESC Plan General Formulation and Features (Note: Seasonal Suspension Plan required for all TESC Levels)	TESC Implementation Team (during construction)
TESC1	<ul style="list-style-type: none"> • Applicant's Engineer 	<p>Focus is on standard, common BMPs for site and project type. General sequencing list required.</p>	Designated contractor or sub-contractor ⁶
TESC2	<ul style="list-style-type: none"> • Applicant's Engineer • Applicant's Project Manager • Designated Contractor or Sub-Contractor for TESC⁶ 	<p>Focus is still on standard BMPs. Written summary required outlining how TESC is to be addressed through main construction phases. More detailed sequencing info on plan.</p>	Designated contractor or sub-contractor ⁶ with documented experience ⁷
TESC3	<ul style="list-style-type: none"> • Applicant's TESC Engineer(s) • Applicant's Project Manager • General Contractor • Designated Contractor or Sub Contractor⁶ for TESC • Grading Contractor • City's Stormwater Engineer • City's Construction Inspector 	<p>Plan content similar to Level TESC2, above. More attention to all aspects of plan from conceptual to practical considerations included by team during plan formulation so as assure successful TESC.</p>	Designated contractor or sub-contractor(s) ⁶ with Level TESC3 experience ⁷
TESC4	<p>Same as Level TESC3 plus:</p> <ul style="list-style-type: none"> • Representative from City's Natural Resources Division 	<p>Same as Level TESC3 but will include state-of-art stormwater treatment systems, currently including chemical/filtration systems and such systems as "electrofloc".</p>	Designated contractor(s) ⁶ or sub-contractor(s) ⁶ with Level TESC4 experience ⁷

⁵ Projects moving over 10,000 cubic yards of earth require TESC3 or TESC4.

⁶ Designated 24-hour, 7-day-per-week contact list is required.

⁷ TESC Contractor must document prior experience in TESC at level designated. For Level 4, TESC Contractor must document experience in chemical treatment and latest mechanical TESC methods (even if they are not initially included in TESC Plan).

Table 10.4
Monitoring Requirements⁸

Monitoring Level	Turbidity Monitoring ⁹			Frequency ¹⁰
	Monitoring to be by	Monitoring What and When		
M1	<ul style="list-style-type: none"> Contractor or sub-contractor acceptable to City 	<ul style="list-style-type: none"> Monitoring of surface runoff whenever it is leaving the work area 		<ul style="list-style-type: none"> Frequency and details as directed by City; adjusted as project proceeds
M2	<ul style="list-style-type: none"> City-approved contractor Supplemental verification, if directed by City, by third party to be approved by City and hired by Developer 	<ul style="list-style-type: none"> Monitoring of surface runoff whenever it is leaving the work area Monitoring of receiving waters (if applicable) if and when directed by City 		<ul style="list-style-type: none"> Surface runoff to be monitored at least twice per day Receiving waters to be monitored immediately after surface runoff monitoring
M3	<ul style="list-style-type: none"> Monitoring to be done by City-approved "third party" hired by Developer If so specified, monitoring shall be done by "third party" hired by City and paid for by Developer's advance deposit of funds 	<ul style="list-style-type: none"> Monitoring of surface runoff whenever it is leaving the work area Monitoring of receiving waters whenever surface runoff is leaving site and is reaching the receiving waters 		

⁸ For all three (3) Monitoring Levels, the minimum inspection frequency of all of the TESC measures shall be:

- After each day of site work (but not less than 3 times per week even if no site work has occurred)
- After each storm
- Twice per day during storms; more frequently if directed by City

⁹ TESC Contractor must have portable, electronic turbidity meter. At all monitoring levels, a log is to be kept on-site by the TESC Contractor showing monitoring dates, times, locations, weather conditions, estimated discharge rates, monitoring readings, name(s) of those doing the monitoring and equipment used.

¹⁰ Frequencies listed are minimum frequencies. More frequent monitoring including continuous monitoring during heavy storms may be required.