Erosion Control Notes:

- The contractor shall install erosion/sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing or excavation).
- The placement of erosion/sedimentation controls shall be in accordance with the Environmental Criteria Manual and the approved Erosion and Sedimentation Control Plan. The COA ESC Plan shall be consulted and used as the basis for a TPDES required SWPPP. If a SWPPP is required, it shall be available for review by the City of Austin Environmental Inspector at all times during construction, including at the Pre-Construction meeting. The checklist below contains the basic elements that shall be reviewed for permit approval by COA EV Plan Reviewers as well as COA EV Inspectors.
- The Placement of tree/natural area protective fencing shall be in accordance with the City of Austin standard Notes for Tree

and Natural Area Protection and the approved Grading/Tree and Natural Area Plan.

- A pre-construction conference shall be held on-site with the contractor, design Engineer/permit applicant and Environmental Inspector after installation of the erosion/sedimentation controls and tree/natural area protection measures and prior to beginning any site preparation work. The owner or owner's representative shall notify the Planning and Development Review Department, 974-2278, at least three days prior to the meeting date. COA approved ESC Plan and TPDES SWPPP (if required) should be reviewed by COA EV Inspector at this time.
- Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing Engineer, Environmental Specialist or City Arborist as appropriate, Major revisions must be approved by the Planning and Development Review Department. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies.
- The contractor is required to provide a certified inspector with either a Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion, Sediment and Stormwater-Inspector (CESSWI) or Certified Inspector of Sedimentation and Erosion Controls (CISEC) certification to inspect the controls and fences at weekly intervals and after significant rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.
- Prior to final acceptance by the City, haul roads and waterway crossings constructed for temporary contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved spoil disposal sites.
- All work must stop if a void in the rock substrate is discovered which is; one square foot in total area; blows air from within the substrate and/or consistently receives water during any rain event. At this time it is the responsibility of the Project Manager to immediately contact a City of Austin Environmental Inspector for further investigation.
- Temporary and Permanent Erosion Control: All disturbed areas shall be restored as noted below.
- A. All disturbed areas to be revegetated are required to place a minimum of six (6) inches of topsoil [see Standard Specification Item No. 601S.3(A)]. Do not add topsoil within the critical root zone of existing trees. The topsoil shall be composed of 4 parts of soil mixed with 1 part compost, by volume. The compost shall meet the definition of compost as defined by TxDOT Specification Item 161. The soil shall be locally available native soil that meets the following
- B. Shall be free of trash, weeds, deleterious materials, rocks, and debris.
- 100% shall pass through a 1.5-inch (38-mm) screen.
- Soil to be a loamy material that meets the requirements of the table below in accordance with the USDA textural triangle. Soil known locally as "red death" is not an allowable soil. Textural composition shall meet the following criteria:

	Textural Class	Minimum	Maximum
	Clay	5%	50%
	Silt	10%	50%
Ī	Sand	15%	67%

- An owner/engineer may propose use of onsite salvaged topsoil which does not meet the soil texture class required above by providing a soil analysis and a written statement from a qualified professional in soils, landscape architecture. or agronomy indicating the onsite topsoil will provide an equivalent growth media and specifying what, if any, soil
- Soil amendments shall be worked into the existing onsite topsoil with a disc or tiller to create a well-blended material.

Topsoil salvaged from the existing site may often be used, but it should meet the same standards as set forth in these

The vegetative stabilization of areas disturbed by construction shall be as follows:

Temporary Vegetative Stabilization:

- From September 15 to March 1, seeding shall be with cool season cover crops (Wheat at 0.5 pounds per 1000 SF, Oats at 0.5 pounds per 1000 SF, Cereal Rye Grain at 0.5 pounds per 1000 SF) with a total rate of 1.5 pounds per 1000 SF. Cool season cover crops are not permanent erosion control.
- From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 1 pounds per 1000 SF.
- A. Fertilizer shall be water soluble with an analysis of 15-15-15 to be applied once at planting and once during the period of

B. Hydromulch shall comply with Table1, below.

- C. Temporary erosion control shall be acceptable when the grass has grown at least 1 1/2 inches high with 95% coverage, provided no bare spots larger than 16 square feet exist.
- D. When required, native grass seeding shall comply with requirements of the City of Austin Environmental Criteria Manual

Table 1: Hydromulching for Temporary Vegetative Stabilization

Material	Description Longevity Typical Application		Typical Application	Application Rates
100% or any blend of wood, cellulose,	70% or greater	0-3 months	Moderate slopes; from flat to 3:1	1500 to 2000 (bs per acrens)
straw, and/or cotton	Wood/Straw		ditions	
plant material	30% or less			
(except no mulch	Paper or			
shall exceed 30%	Natural Fibers			e, it
paper)				

ERMANENT VEGETATIVE STABILIZATION:

- From September 15 to March 1, seeding is considered to be temporary stabilization only. If cool season cover crops exist where permanent vegetative stabilization is desired, the grasses shall be moved to a height of less than one-half (1/2) inch and the area shall be re-seeded in accordance with 2. below.
- From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 1 pound per 1000 SF with a purity of 95% with 85% germination. Bermuda grass is a warm season grass and is considered permanent erosion control.
- A. Fertilizer shall be a water soluble with an analysis of 15-15-15 to be applied once at planting and once during the period
- of establishment at a rate of 1/2 pound per 1000 SF. B. Hydromulch shall comply with Table 2, below.
- C. The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at daily intervals (minimum) during the first two months. Rainfall occurrences of ½ inch or more shall postpone the watering schedule for one week.
- D. Permanent erosion control shall be acceptable when the grass has grown at least 1½ inches high with 95% coverage. provided no bare spots larger than 16 square feet exist.

Material	Description	Longevity	Typical Application	Application Rates
Bonded Fiber Matrix (BFM)	80% Organic defibrated fibers 10% Tackifier	6 months	On slopes up to 2:1 and erosive soil conditions	2500 to 4000 lbs per acre (see manufacturers recommendations)
Fiber Reinforced Matrix (FRM)	65% Organic defibrated fibers 25% Reinforcing Fibers or less 10% Tackiffer	Up to 12 months	On slopes up to 1:1 and erosive soil conditions	3000 to 4500 lbs per acre (see manufacturers recommendations)

0. Developer Information:

Ms. Lora Margaret Gilbreth Phone # (512) ???-????

1151 County Road 330

Granger, Texas 76530

Owner's representative responsible for plan alterations: Garrett-Ihnen Civil Engineers Phone # (512) 454-2400

Person or firm responsible for erosion/sedimentation control maintenance:

Phone #

Person or firm responsible for tree/natural area protection Maintenance

Phone #

1. The contractor shall not dispose of surplus excavated material from the site without notifying the Planning and Development Review Department at 974-2278 at least 48 hours prior with the location and a copy of the permit issued to receive the material.

Free and Natural Area Protection Notes:

- All trees and natural areas shown on plan to be preserved shall be protected during construction with temporary fencing.
- Protective fences shall be erected according to City of Austin Standards for Tree Protection.
- Protective fences shall be installed prior to the start of any site preparation work (clearing, grubbing or grading), and shall be maintained throughout all phases of the construction project.
- Erosion and sedimentation control barriers shall be installed or maintained in a manner which does not result in soil build-up within tree drip lines.
- Protective fences shall surround the trees or group of trees, and will be located at the outermost limit of branches (drip line), for natural areas, protective fences shall follow the Limit of Construction line, in order to prevent the following:
- Soil compaction in the root zone area resulting from vehicular traffic or storage of equipment or materials; Root zone disturbances due to grade changes (greater than 6 inches cut or fill), or trenching not reviewed and authorized by the City Arborist;
- Wounds to exposed roots, trunk or limbs by mechanical equipment; Other activities detrimental to trees such as chemical storage, cement truck cleaning and fires.
- Exceptions to installing fences at tree drip lines may be permitted in the following cases: a. Where there is to be an approved grade change, impermeable paving surface, tree well, or other such site
- development, erect the fence approximately 2 to 4 feet beyond the area disturbed: Where permeable paving is to be installed within a tree's drip line, erect the fence at the outer limits of the permeable paving area (prior to site grading so that this area is graded separately prior to paving
- installation to minimized root damage); Where trees are close to proposed buildings, erect the fence to allow 6 to 10 feet of work space between
- the fence and the building: Where there are severe space constraints due to tract size, or other special requirements, contact the City Arborist at 974-1876 to discuss alternatives.
- Special Note: For the protection of natural areas, no exceptions to installing fences at the Limit of
- Construction line will be permitted Where any of the above exceptions result in a fence being closer than 4 feet to a tree trunk, protect the trunk
- with strapped-on planking to a height of 6 ft. (or to the limits of lower branching) in addition to the reduced fencing provided. Trees approved for removal shall be removed in a manner which does not impact trees to be preserved.
- Any roots exposed by construction activity shall be pruned flush with the soil. Backfill root areas with good quality top soil as soon as possible. If exposed root areas are not backfilled within 2 days, cover them with organic material in a manner which reduces soil temperature and minimizes water loss due to evaporation. 0. Any trenching required for the installation of landscape irrigation shall be placed as far from existing tree trunks
- as possible. No landscape topsoil dressing greater than 4 inches shall be permitted within the drip line of trees. No soil is permitted on the root flare of any tree
- 2. Pruning to provide clearance for structures, vehicular traffic and equipment shall take place before damage occurs. (ripping of branches, etc.)
- 13. All finished pruning shall be done according to recognized, approved standards of the industry (Reference the National Arborist Association Pruning Standards for Shade Trees available on request from the City Arborist).
- 14. Deviations from the above notes may be considered ordinance violations if there is substantial non-compliance or if a tree sustains damage as a result.

Special Construction Techniques

- Prior to excavation within tree driplines, or the removal of trees adjacent to the other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to minimize root damage.
- In critical root zone areas that cannot be protected during construction with fencing, and where heavy vehicular traffic is anticipated, cover those areas with four (4) inches of organic mulch to be produced on site, to minimize
- Perform all grading within critical root zone areas with small equipment to minimize root damage. Water all trees most heavily impacted by construction activities deeply as necessary during periods of hot, dry
- weather. Spray tree crowns with water periodically to reduce dust accumulation on the leaves. When installing concrete adjacent to the root zone of a tree, use a plastic vapor barrier behind the concrete to
- prohibit leaching of lime into the soil.

Remedial Tree Care Notes

Aeration and Supplemental Nutrient requirements for trees within construction areas

As a component of an effective remedial tree care program per Environmental Criteria Manual section 3.5.4, preserved trees within the limits of construction may require soil aeration and supplemental nutrients. Soil and/or foliar analysis should be used to determine the need for supplemental nutrients. The City Arborist may require these analyses as part of a comprehensive tree care plan. Soil pH shall be considered when determining the fertilization composition as soil pH influences the tree's ability to uptake nutrients from the soil. If analyses indicate the need for supple nutrients, then humate/nutrient solutions with mycorrhizae components are highly recommended. In addition, soil analysis may be needed to determine if organic material or beneficial microorganisms are needed to improve soil health. Materials and methods are to be approved by the City Arborist (512-974-1876) prior to application. The owner or general contractor shall select a fertilization contractor and iensure coordination with the City Arborist.

Pre-construction treatment should be applied in the appropriate season, ideally the season preceding the proposed construction. Minimally, areas to be treated include the entire critical root zone of trees as depicted on the City approved plans. Treatment should include, but not limited to, fertilization, soil treatment, mulching, and proper pruning.

Post-construction treatment should occur during final revegetation or as determined by a qualified arborist after construction. Construction activities often result in a reduction in soil macro and micro pores and an increase in soil bulk density. To ameliorate the degraded soil conditions, aeration via water and/or air injected into the soil is needed or by other methods as approved by the City Arborist. The proposed nutrient mix specifications and soil and/or foliar analysis results need to be provided to and approved by the City Arborist prior to application (Fax # 512-974-3010). Construction which will be completed in less than 90 days may use materials at ½ recommended rates. Alternative organic fertilizer materials are acceptable when approved by the City Arborist. Within 7 days after fertilization is performed, the contractor shall provide documentation of the work performed to the City Arborist, Planning and Development Review Department. P.O. Box 1088, Austin, TX 78767. This note should be referenced as item #1 in the Sequence of Construction.

Erosion, Sedimentation Control, and Tree Protection:

- All erosion requirements of the City of Austin Developmental Codes shall apply to the construction of the
- proposed project, as described in these plans. All sedimentation controls shall be observed as prescribed by the requirements found in these plans.
- All tree protection requirements of the City of Austin Developmental Codes shall be applied.
- Contractor shall utilize dust control measures during site construction, such as irrigation trucks and mulching, as per EMC 1.4.5 (D), or as directed by the Environmental Inspector.
- An on site envieronmental manager will be identified at the pre-construction meeting pursuant to LDC 25-8-181, It is a violation to allow sedimentation from a construction site to enter a classified waterway, pursuant to LDC
- A mid-construction conference with the environmental inspector is required for all projects within the Barton Springs Contributing Zone. Notify the environmental inspector at 974-2278 at least 3 days prior to the meeting

General Notes (Silt Fence):

- Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. post must be embedded a minimum of one (1) foot. The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that a down slope face of
- the trench is flat and perpendicular tot he line of flow. The trench must be a minimum of in. deep and 6 in. wide to allow for the silt material to be laid in the ground and backfilled with compacted material.
- Silt fence should be securely fastened to each post or to woven wire, which is in turn attached to the steel fence Inspection shall be made weekly or after each rainfall event, and repair or replacement shall be made promptly
- as needed. Silt fence shall be removed when the site is completely stabilized, so as to block or impede storm flow or
- drainage. Accumulated silt shall be disposed of ain in No. 7 below. Accumulated silt shall be removed when it reaches a depth of six (6) inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to additional siltation.

Dust Control Note

Contractor shall utilize dust control measures during site construction such as irrigation trucks and mulching as per ECM 1.4.5(A), or as directed by the Environmental Inspector.

Environmental Inspector Note

Environmental Inspector has the authority to add and/or modify erosion/sedimentation controls on site to keep project in-compliance with the City of Austin Rules and Regulations.

Spoils Control Note

All spoils will be cleaned off of all roads, driveways, and any other impervious cover located outside the LOC at the end of each day.

Sequence of Construction Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan or subdivision construction plan and in accordance with the Stormwater Pollution Prevention Plan (SWPPP) that is required to be posted on the site. Install tree protection and initiate tree mitigation measures. The Environmental Project Manager or Site Supervisor must contact the Watershed Protection Department, Environmental Inspection, at 512-974-2278, 72 hours prior to the scheduled date of the required on-site preconstruction meeting.

The Environmental Project Manager, and/or Site Supervisor, and/or Designated Responsible Party, and the General Contractor will follow the Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised

construction schedule relative to the water quality plan requirements and the erosion plan.

- Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the Storm Water Pollution Prevention Plan (SWPPP) posted on the site.
- Begin site clearing/construction activities.
- Execute demolition activities, as shown on the Demolition Plan.
- 8 Complete construction and start revegetation of the site and installation of landscaping. Upon completion of the site construction and revegetation of a project site, the design engineer shall submit an engineer's letter of concurrence to the Watershed Protection and Development Review Department indicating that construction, including revegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a
- Upon completion of landscape installation of a project site, the Landscape Architect shall submit a letter of concurrence to the Watershed Protection and Development Review Department indicating that the required landscaping is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate City Inspector.

final inspection will be scheduled by the appropriate City Inspector.

After a final inspection has been conducted by the City Inspector and with approval from the City Inspector, remove the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from removal of the controls.

Release of this application does not constitute a verification of all data, information and calculations supplied by the

FILE NUMBER SP-2014-0245C APPLICATION DATE June 25, 2014
APPROVED ON 7:26:15 UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.

Correction

Correction 2

Correction 3

EXPIRATION DATE (25-5-81,LDC) 7 .1.9 CASE MANAGER Christine Barton-Holmes

applicant. The engineer of record is solely responsible for the completeness, accuracy and adequacy of his/her

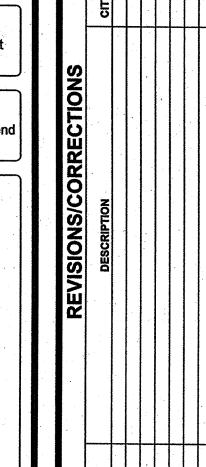
submittal, whether or not the application is reviewed for Code compliance by City engineers.

SITE PLAN APPROVAL

Director, Planning and Development Review Departmen

RELEASED FOR GENERAL COMPLIANCE: 7 - 2% 15

permit is not required), must also be approved prior to the Project Expiration Date.



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SHEET <u>5</u> of <u>14</u>

SP-2014-02450

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building

SHEET NUMBER