



## **Code SMTX Think Tank Meeting**

**Wednesday, December 2, 2015**

**6:00 pm**

**San Marcos Activity Center RM#2, 501 E Hopkins St**

### **AGENDA**

1. **Call to Order**
2. **Roll Call**
3. **30 Minute Citizen Comment Period.** The Think Tank welcomes citizen comments. Anyone wishing to speak must sign in with the secretary before the meeting and observe a three-minute time limit.
4. **Approval of Minutes from November 18, 2015**
5. **Presentation from the San Marcos Watershed Initiative**
6. **Issue Exploration – Environmental Standards**
  - a. **Overview**
  - b. **Intensity Zones**
  - c. **Erosion Control Standards**
7. **Next Steps**
  - a. **Future Agenda Items**
  - b. **December 3 CodeSMTX Open House**
  - c. **Outreach Efforts**
8. **Questions from the Press and Public.**
9. **Adjourn.**



1 John David Carson introduced Brenda Jenkins.

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3 **Review and Discuss Think Tank Response to October 21 Issue Exploration Items**

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5 Abby Gillfillan provided an overview of the October 21 Issue Exploration Items.

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7 Chris Wood raised concerns with a requirement for a 3 ½ ft. screening requirement for parking  
8 for industrial development.

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10 John David Carson suggested looking at office and retail separately and allowing office in retail  
11 areas, but not retail in office areas. This change should take place under Brainstormed Solutions  
12 for Employment Centers.

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14 The Think Tank agreed to change the wording under brainstormed solutions to “create a fee-in-  
15 lieu for developers who don’t meet the parking requirements.”

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17 John David Carson Suggested the following unmet interests be added:

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- Create a financial atmosphere that will support transit downtown.

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- Create an atmosphere that will create affordable housing downtown. Requiring  
20 addition parking can inhibit this goal.

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- Release pressure on taller structures – Small block structures and height cap is  
22 very restrictive on high rise development.

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23 John David Carson Suggested the following solutions:

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- A scaling factor for parking by unit. E.g., a 4 bedroom unit does not require 4  
25 parking spaces.

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- A fee-in-lieu for developers who do not meet the parking requirement.

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- Parking reductions for parties that provide car sharing opportunities.

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Betsy Robertson suggested a parking management which would create strategies to encourage a  
fee-based parking management system.

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30 **Receive a presentation and discuss themes presented as part of the Transportation Master Plan**

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Rohit Vij gave a presentation and discussed themes presented as part of the Transportation  
33 Master Plan.

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35 **Reflection and Discussion on Think Tank Review Process**

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Abby Gillfillan gave an update on the new proposed schedule for the code rewrite.

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39 **Questions from the press and public**

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There were no questions from the press or public.

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# ENVIRONMENTAL REGULATIONS IN CODESMTX

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## 1. MODIFICATIONS TO SUPPORT COMPACT CHARACTER BASED DEVELOPMENT PATTERNS IN INTENSITY ZONES

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- Design elements have been included for screening, and location of detention and water quality ponds
- Supports and encourages regional detention and water quality ponds
- Provides exemptions for onsite detention for Infill Development in Character Zone 5
- Expands the current exemptions from cut and fill requirements to all CB 5 zoning districts
- Prioritizes the utilization of green infrastructure and Low Impact Development techniques (LID) for greenfield development in Character Based Planning Areas

## 2. INCORPORATING MORE STRINGENT EROSION CONTROL STANDARDS

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- Supporting and incorporating more comprehensive standards as recommended and implemented by the MS4 program for erosion control during construction
- New standards provide for strong enforcement measures

## 3. INCORPORATING MORE STRINGENT STANDARDS FOR DEVELOPMENT OVER THE EDWARDS AQUIFER RECHARGE ZONE AND THE SAN MARCOS RIVER CORRIDOR

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- Utilize TCEQ Enhanced Standards over the Edwards Aquifer Recharge Zone
- Expanding stream buffer requirements over the Edwards Aquifer Recharge Zone
- Expand the boundaries of the boundaries of the San Marcos River Corridor to the ETJ

## 4. EXPANDING AND PROMOTING CLUSTER DEVELOPMENT TECHNIQUES IN ENVIRONMENTALLY SENSITIVE AREAS

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- Utilizing the Land Use Suitability Matrix to determine where Cluster Development is appropriate
- Requiring 50% of land to be preserved in perpetuity for cluster development plans

## 5. STRENGTHENING THE TREE PRESERVATION AND PROTECTION STANDARDS

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- Increase the mitigation requirement for protected trees to 1:1 caliper inches
- Increase the mitigation requirement for Heritage trees to 2:1
- Provided for fee-in-lieu at the rate of \$150 /inch

## 6. MODIFYING THE LANDSCAPING SECTION TO ENCOURAGE WATER CONSERVATION

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- Limiting the square footage of new lawns and adopting a new plant list that emphasizes drought tolerant and native species

# Environmental Standards

December 2, 2015; ISSUE EXPLORATION

## Intensity Zones

### Vision San Marcos Comprehensive Plan:

#### Goals:

- “Develop a regional detention and water quality strategy (including fee-in-lieu) to improve land efficiency, affordability, and efficacy of systems.”
- “Incentivize dense development within the activity centers by lifting the regulatory environment, streamlining the development process and proactively building the infrastructure and regional detention facilities to support this growth”
- “Incorporate Low Impact Development practices and other best practices early on and throughout the development process.”

### Current Code Provisions

Currently, Environmental Standards in the Land Development Code for areas that are not over the Edwards Aquifer Recharge Zone are uniform and do not recognize the Comprehensive Plan Areas as criteria for environmental standards.

The SmartCode in Downtown exempts the highest intensity zoning district (T5) from on-site detention requirements and Cut and Fill requirements.

- “Within T5 onsite stormwater retention/ detention is not required”

### Initial Proposed CodeSMTX Strategy

CodeSMTX is proposing the following Environmental Standards in Intensity Zones to facilitate Compact Character Based Development patterns.

- Character Based Planning Areas require regional detention facilities to be designed and utilized within Character Based Planning Areas
- Green Infrastructure, Low Impact Development and other best practices are prioritized and encouraged within Character Based Planning Areas.
- Exemptions for Onsite Stormwater retention/ detention are expanded to all CD-5 zoned properties.
- Exemptions for Cut and Fill requirements are expanded to all CD-5 zoned properties

**Does the Proposed CodeSMTX Strategy meet the Comprehensive Plan goals and the interests of stakeholder groups?**

TT Discussion/ Response

Brainstormed Solutions

Final Proposed CodeSMTX Strategy

# Erosion Control

## Vision San Marcos Comprehensive Plan:

### Goals:

- “Audit the effectiveness of Environmental Code Compliance and use this information to recommend staffing levels, training, and code changes.”

### Current Code Provisions

The Land Development Code requirements are vague and difficult to enforce. We currently rely on state standards.

### Proposed CodeSMTX Strategy

CodeSMTX is proposing the following updates to the Erosion Control Standards

- Adopting a Comprehensive MS4 Ordinance that matches the State Requirements
- Enhancing the State Regs with a requirement for Qualified Personnel Inspecting any Construction Site where a SWPPP is required
- The City of San Marcos is the authority for enforcing these requirements
- Adopting specific enforcement measures including Fines for Violations

TT Discussion/ Response

**Does the Proposed CodeSMTX Strategy meet the Comprehensive Plan goals and the interests of the stakeholder groups?**

Brainstormed Solutions

Final Proposed CodeSMTX Strategy

# Draft MS4 Regulations

## **Article 4: Municipal Separate Storm Sewer System**

### **Section 5.4.1 Intent and Purpose**

This Ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) of the City of San Marcos in order to comply with requirements of the Texas Pollutant Discharge Elimination System (TPDES) permit process. The objectives of this ordinance are:

- To regulate pollutants from stormwater discharges into and from the MS4;
- To prohibit illicit connections and discharges to the MS4;
- To control the discharge of spills and prohibit dumping or disposal of materials other than stormwater into the MS4;
- To enforce compliance with the permittee's ordinances, permits, contracts, or orders;
- To require installation, implementation, and maintenance of control measures;
- To receive and collect information, such as stormwater plans, inspection reports, and other information deemed necessary to assess compliance with this permit, from operators of construction sites, new or redeveloped land, and industrial and commercial facilities;
- To establish legal authority to implement inspection and enforcement procedures to ensure compliance with this Ordinance;
- To respond to non-compliance with Best Management Practices (BMPs) required by the small MS4 consistent with its ordinances or other regulatory mechanism(s);
- To assess penalties, including monetary, civil, or criminal penalties; and
- To enter into interagency or interlocal agreements or other maintenance agreements, as necessary.

### **Section 5.4.2 Definitions**

**Applicant** - Property owner or agent of a property owner who filed an application for a stormwater authorization under a TPDES general permit or an individual TPDES permit.

**Authorized Enforcement Agency** - Employees or designees of the City Manager of the City of San Marcos or the director of the Texas Commission on Environmental Quality (TCEQ) have authority to enforce this Ordinance and/or the TPDES regulations. Authorized individual(s) shall have the authority to enforce this Ordinance in its entirety and shall be designated as a MS4 Stormwater Manager and/or Inspector.

**Best Management Practices (BMPs)** - Schedule of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment practices, operating procedures, and practices to control runoff, spills or leaks, waste disposal, or drainage from raw materials storage areas.

**Building** - Any structure, either temporary or permanent, with walls and a roof, designed to shelter a person, animal, or property, and occupying more than 100 square feet of area.

Commented [WS1]: What is a building in SM?

**Construction Activity** – Includes soil disturbance, such as clearing, grading, and excavating, and does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities).

Commented [WS2]: Demolition?

**Small Construction Activity** is construction activity that results in land disturbances equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) 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 (1) and less than five (5) acres of land.

**Large Construction Activity** is construction activity that results in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres 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 five (5) acres of land.

**Conveyance** - Curbs, gutters, man-made channels and ditches, drains, pipes, and other constructed features designed or used for flood control or to otherwise transport stormwater runoff.

**EPA** - The United States Environmental Protection Agency.

**Final stabilization** - The status when all soil disturbing activities at a site have been completed, and a uniform perennial vegetative cover with a density of seventy (70%) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Commented [WS3]: Different definition in CGP

**Hazardous Materials** - Any item or agent (biological, chemical, physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

**Illicit Connection** - Any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

**Illicit Discharge** - Any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges pursuant to a TPDES stormwater general permit or a separate authorization and discharges resulting from emergency firefighting activities.

**Land Disturbance Activity** - Any activity which changes the volume or discharge rate of stormwater runoff from the land surface. This includes grading, digging, cutting, scraping, demolition, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

**Maintenance Agreement** - A formal contract between a local government and a property owner to guarantee long-term maintenance of stormwater management practices.

**Municipal Separate Storm Sewer System (MS4)** – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- a) That is owned or operated by the U.S., a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes, including special district, or similar entity, or an Indian tribal or an authorized Indian tribal organization, or a designated and approved management agency under the CWA §208 that discharges to surface water in the state;
- b) That is designed or used for collecting or conveying stormwater;
- c) That is not a combined sewer; and
- d) That is not part of a publicly owned treatment works (POTW) as defined in 40 CFR §122.2.

**Non-Stormwater Discharge** - Any discharge to the storm drain system that is not composed entirely of stormwater.

**Operator** - The person or persons associated with a large or small construction activity that is either a primary or secondary operator as defined below:

**Primary Operator** – the person or persons associated with a large or small construction activity that meets either of the following two criteria:  
(a) the person or persons have on-site operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or  
(b) the person or persons have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a Storm Water Pollution Prevention Plan (SWP3) for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

**Secondary Operator** – The person or entity, often the property owner, whose operational control is limited to:  
(a) the employment of other operators, such as a general contractor, to perform or supervise construction activities; or  
(b) the ability to approve or disapprove changes to construction plans and specifications, but who does not have day-to-day on-site operational control over construction activities at the site.

Secondary operators must either prepare their own SWP3 or participate in a shared

SWP3 that covers the areas of the construction site where they have control over the plans and specifications.

If there is not a primary operator at the construction site, then the secondary operator is defined as the primary operator and must comply with the requirements for primary operators.

**Person** - Any individual, association, organization, partnership, firm, corporation, or other entity recognized by law and acting as either the owner or as the owner's agent.

**Pollutant** – In accordance with the Texas Water Code, §26.001(13) a pollutant includes the following: Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland.

For the purpose of this ordinance, the term "pollutant" includes sediment.

**Premises** - Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

**Qualified Personnel** – Any person with credible certification or training or skills such as Certified Erosion, Sedimentation and Storm Water Inspector (CESSWI) or Certified Inspector of Sediment and Erosion Control (CISEC) or equal certification program or as approved by the MS4 operator, that demonstrates proficiency in evaluating, interpreting and implementing Best Management Practices and elements of a Storm Water Pollution Prevention Plan (SWPPP).

**Stormwater and Stormwater Runoff** - Rainfall runoff, snow-melt runoff, and surface runoff and drainage.

**Stormwater Management** - The use of structural or non-structural control practices/BMPs designed to reduce stormwater pollutant runoff, discharge volumes, peak flow discharge rates, and detrimental changes in stream temperature that affect water quality.

**Stormwater Pollution Prevention Plan (SWP3)** - A document that describes the Best Management Practices and activities to be implemented by the permit holder to identify sources of pollution or contamination at a site and actions to eliminate or reduce pollutant discharges.

**Stormwater Control Practices** - Structural or nonstructural measures to minimize stormwater runoff to surface water in the state.

**Surface Water in the State** - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHW) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the

jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

**TCEQ** - Texas Commission on Environmental Quality.

**Texas Pollutant Discharge Elimination System Stormwater (TPDES) Discharge Permit** - A permit issued by the TCEQ, under the authority of Texas Water Code Sections 26.027 or 26.040 that authorizes the discharge of pollutants into or adjacent water in the state. The TPDES program is administered under the authority delegated pursuant to 33 U.S.C. Section 1342(b).

**Unauthorized Discharge** - Any direct or indirect non-stormwater discharge to the storm drain system except as exempted in Section V Prohibition of Illicit Connections of this Ordinance.

**Water Pollution Abatement Plan (WPAP)** - *The State* required plan that is described in 30 Texas Administrative Code, Chapter 213 for identifying and implementing appropriate measures to reduce pollutants in Storm Water Discharges into identified sensitive areas of the Edwards Aquifer. The TCEQ TPDES Construction General Permit TXR150000 identifies the requirement of protective measures of the Edwards Aquifer.

#### **Section 5.4.3 Applicability**

Unless exempted, this Ordinance applies to discharges entering the storm drain system within the jurisdictional limits of the City of San Marcos.

#### **Section 5.4.4 Responsibility for Administration**

The City of San Marcos shall administer, implement, and enforce the provisions of this Ordinance. Any powers granted or duties imposed upon the City Manager of the City of San Marcos may be delegated in writing by the City Manager of the City of San Marcos to persons or entities acting in the beneficial interest of the City of San Marcos.

Authorized individual(s) under this Section shall have the authority to enforce this Ordinance in its entirety and shall be designated as a MS4 Stormwater Manager and/or Inspector. Any person subject to an industrial or construction TPDES stormwater discharge permit or authorization shall comply with all provisions of the permit and may be required by the City of San Marcos to have authorization to discharge stormwater into the MS4.

Commented [WS4]: Sound like a separate permit?

#### **Section 5.4.5 Prohibition of Illicit Connections and Discharges**

The City of San Marcos has the authority to prohibit illicit discharges and illicit connections in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)a. This Ordinance prohibits unauthorized discharges into the storm drain system. No person shall release discharges into the municipal storm drain system containing any pollutants that cause or contribute to a violation of water quality standards.

Discharges from illicit connections are unauthorized, even if the connection was allowable under previous rules and regulations. Allowable non-stormwater discharges are listed in the TPDES Phase II MS4 Permit TXR040000 Part II Section C.

#### Section 5.4.6 Response to Releases

The City of San Marcos has the authority to respond to and contain releases. The City of San Marcos must control the discharge of a spill and prohibit dumping or disposal of material other than stormwater and authorized non-stormwater discharges into the MS4 in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)b. Any person in violation of this Ordinance may risk having their discharge authorization to the MS4 terminated. The authorized enforcement agency will notify the violator of the proposed termination of its authorization. The violator may petition the City of San Marcos to reconsider and schedule a hearing.

Commented [WS5]: Separate permit?

During emergency situations involving unauthorized discharges from illicit connections, the local jurisdiction may suspend a person's MS4 authorization to stop an actual or threatened discharge which may present danger to the MS4 or surface water in the state. If the violator fails to comply, the authorized enforcement agency may take necessary steps to prevent or minimize damage to the MS4 or surface water in the state.

When the person responsible has knowledge of any known or suspected release of materials resulting in or potentially resulting in unauthorized discharges into a storm sewer system or surface water in the state, the person must contain and clean up the release. If hazardous materials are released, the person must immediately notify emergency response agencies. If non-hazardous materials are released, the person must notify the authorized enforcement agency no later than the next business day. Notifications in person or by telephone must be confirmed by written notice addressed and mailed to the City of San Marcos.

- (a) The person responsible for any facility, vehicle, or other source of any spilling, leaking, pumping, pouring, emitting, emptying, discharging, escaping, leaching, dumping, disposing, or any other release of any of the following quantities of any of the following substances that may flow, leach, enter, or otherwise be introduced into the MS4 or waters of the United States, shall immediately telephone and notify the City of San Marcos concerning the incident:
  - (1) An amount equal to or in excess of a reportable quantity of any hazardous substance, as established under 40 CFR Part 302, as amended;
  - (2) An amount equal to or in excess of a reportable quantity of any extremely hazardous substance, as established under 40 CFR Part 355, as amended;
  - (3) An amount of oil that either (a) violates applicable water quality standards, or

(b) causes a film or sheen upon or discoloration of the surface of the water or an adjoining shoreline or causes a sludge or emulsion to be deposited beneath the surface of the water or upon an adjoining shoreline; or

(4) Any harmful quantity of any pollutant.

(b) The immediate notification required by subsection (a) shall include the following information:

(1) The identity or chemical name of the substance released, and whether the substance is an extremely hazardous substance;

(2) The exact location of the release, including any known name of the waters involved or threatened and any other environmental media affected;

(3) The time and duration (thus far) of the release;

(4) An estimate of the quantity and concentration (if known) of the substance released;

(5) The source of the release;

(6) Any known or anticipated health risks associated with the release and, where appropriate, advice regarding medical attention that may be necessary for exposed individuals;

(7) Any precautions that should be taken as a result of the release;

(8) Any steps that have been taken to contain

(c) Within fourteen (14) calendar days following such release, the responsible person in charge of the facility, vehicle, or other source of the release shall, unless waived by the City of San Marcos, submit a written report containing each of the items of information specified above in subsection (b), as well as the following additional information:

(1) The ultimate duration, concentration, and quantity of the release;

(2) All actions taken to respond to, contain, and clean up the released substances, and all precautions taken to minimize the impacts;

(3) Any known or anticipated acute or chronic health risks associated with the release;

(4) Where appropriate, advice regarding medical attention necessary for exposed individuals;

(5) The identity of any governmental/private sector representatives responding to the release; and

(6) The measures taken or to be taken by the responsible person(s) to prevent similar future occurrences.

(d) The notifications required by subsections (b) and (c) above shall not relieve the responsible person of any expense, loss, damage, or other liability which may be incurred as a result of the release, including any liability for damage to the City of San Marcos, to natural resources, or to any other person or property; nor shall such notification relieve the responsible person of any fine, penalty, or other liability which may be imposed pursuant to this Ordinance or to state or federal law.

(e) Any person responsible for any release as described in subsection (a) above shall comply with all state, federal, and any other local law requiring reporting, cleanup, containment, and any other appropriate remedial action in response to the release.

(f) Failure to report a known release may result in fines as described in Section 5.4.13

(g) Any person responsible for a release described in subsection (a) above shall reimburse the City of San Marcos for any cost incurred by the City in responding to the release.

#### **Section 5.4.7 Stormwater Discharges from Construction Activities**

##### **(a) General Requirements**

(1) All operators of construction sites shall use best management practices to control and reduce the discharge, to the MS4 and to waters of the United States, of sediment, silt, earth, soil, and other material associated with the clearing, grading, excavation, and other construction activities to the maximum extent practicable under the circumstances. Such best management practices may include, but not be limited to, the following measures:

a. Ensuring that existing vegetation is preserved where possible and that disturbed portions of the site are stabilized as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.

Stabilization measures may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protection of trees, preservation of mature vegetation, and other appropriate measures;

b. Use of structural practices to divert flows from exposed soils, storm flows, or otherwise limit runoff and the discharge of pollutants from the site to the extent feasible;

c. Minimization of the tracking of sediments off-site by vehicles, the generation of dust, and the escape of other windblown waste from the site;

- d. Prevention of the discharge of building materials, including cement, lime, concrete, and mortar, to the MS4 or waters of the United States;
- e. Providing general good housekeeping measures to prevent and contain spills of paints, solvents, fuels, septic waste, and other hazardous chemicals and pollutants associated with construction, and to assure proper cleanup and disposal of any such spills in compliance with state, federal, and local requirements;
- f. Implementation of proper waste disposal and waste management techniques, including covering waste materials, providing secondary containment of chemicals and fuels, and minimizing ground contact with hazardous chemicals and trash;
- g. Timely maintenance of vegetation, erosion and sediment control measures, and other best management practices in good and effective operating condition; and
- h. Installation of structural measures during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. Structural measures should be placed down gradient of the construction site, but upstream of the receiving waters to the degree attainable.

(2) Qualified personnel (provided by the operator of the construction site) shall inspect disturbed areas of any construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every seven calendar days and within twenty-four (24) hours of the end of a storm that is 0.5 inches or greater. All erosion and sediment control measures and other identified best management practices shall be observed in order to ensure that they are operating correctly and are effective in preventing significant impacts to receiving waters and the MS4. Based on the results of the inspection, best management practices shall be revised as appropriate, and as soon as is practicable.

(3) The City of San Marcos may require any plans and specifications that are prepared for the construction of site improvements to illustrate and describe the best management practices required by section 5.4.7 (a) (1) above that will be implemented at the construction site. The City may deny approval of any building permit, grading permit, or any other City approval necessary to commence or continue construction, or to assume occupancy, on the grounds that the management practices described in the plans or observed upon a site inspection by the City of San Marcos are determined not to control and reduce the discharge of sediment, silt, earth, soil, and other materials associated with clearing, grading, excavation, and other construction activities to the maximum extent practicable under the circumstances.

(4) Any owner of a site of construction activity, whether or not he/she is an operator, is jointly and severally responsible for compliance with the requirements in section 5.4.7(a).

(5) Any contractor or subcontractor on a site of construction activity, who is not an owner or operator, but who is responsible under his/her contract or subcontract for implementing a best management practices control measure, is jointly and severally responsible for any willful or negligent failure on his/her part to adequately implement that control measure if such failure causes or contributes to causing the City to violate a water quality standard, the City's TPDES permit, or any State-issued discharge permit for discharges from its MS4.

(b) Disturbances of Greater Than One Acre but Less than Five Acres

(1) All operators of sites of construction activity, including clearing, grading, and excavation activities, that result in the disturbance of one to less than five acres of total land area or who are required to obtain an TPDES permit for stormwater discharges associated with construction activity, shall comply with the following requirements (in addition to those in section 5.4.7(a))

a. Any operator who intends to obtain coverage for stormwater discharges from a construction site under TXR150000 TPDES General Permit for Stormwater Discharges from Construction Sites ("the Construction General Permit") shall submit a signed copy of signed and certified construction site notice (CSN) to the City of San Marcos prior to the commencement of construction activities. The CSN shall be sent to City of San Marcos, Public Services – Transportation, Attn: Stormwater Manager, 630 E. Hopkins, San Marcos, TX 78666. If the construction activity is already underway upon the effective date of this Ordinance, the CSN shall be submitted within thirty (30) days. For stormwater discharges from construction sites where the operator changes, a CSN shall be submitted at least two (2) days prior to when the operator commences work at the site.

b. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented in accordance with the requirements of the Construction General Permit (TXR 150000) for any individual or group TPDES permit issued for stormwater discharges from the construction site, and with any additional requirement imposed by or under this Ordinance and any other city ordinance. All SWPPP documents shall be designed and signed by a Licensed Professional Engineer (Texas) with competence in this area as required by Texas Engineering Practice Act, Section 137, or a Certified Professional in Erosion and Sedimentation Control (CPESC), or other registered/certified professional with competence in this area.

c. The City of San Marcos may require any operator who is required by section 5.4.7(b) (1) (b) to prepare a SWPPP, to submit the SWPPP, and any modifications thereto, to the City of San Marcos for review. Such submittal and review of the SWPPP may be required by the City of San Marcos prior to commencement of or during construction activities at the site.

d. The SWPPP shall be completed prior to the submittal of the CSN to the

City of San Marcos and, for new construction, prior to the commencement of construction activities. The SWPPP shall be updated and modified as appropriate and as required by the Construction General Permit and this Ordinance.

e. Upon the City of San Marcos' review of the SWPPP and any site inspection that he/she may conduct, the City may deny approval of any building permit, grading permit, or any other City approval necessary to commence or continue construction, or to assume occupancy, on the grounds that the SWPPP does not comply with the requirements of the Construction General Permit, any individual or group TPDES permit issued for stormwater discharge from the construction site, or any additional requirement imposed by or under this Ordinance. Also, if at any time the City of San Marcos determines that the SWPPP is not being fully implemented, the City may similarly deny approval of any building permit, grading permit, subdivision plat, site development plan or any other City approval necessary to commence or continue construction, or to assume occupancy, at the site.

f. All contractors and subcontractors identified in an SWPPP shall sign the SWPPP in accordance with the General Permit.

g. The SWPPP shall be retained at the construction site from the date of commencement of construction through the date of final stabilization and shall be made available to the City of San Marcos upon request (as well as to EPA and State inspectors).

h. The City of San Marcos may notify the operator at any time that the SWPPP does not meet the requirements of the Construction General Permit, any applicable individual or group TPDES permit issued for stormwater discharges from the construction site, or any additional requirement imposed by or under this Ordinance. Such notification shall identify those provisions of the permit or Ordinance which are not being met by the SWPPP, and identify which provisions of the SWPPP require modifications in order to meet such requirements. Within seven (7) days of such notification from the City of San Marcos (or as otherwise provided by the City of San Marcos), the operator shall make the required changes to the SWPPP and shall submit to the City of San Marcos a written certification that the requested changes have been made.

i. The operator shall amend the SWPPP whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the MS4 or to the waters of the United States, and which has not otherwise been addressed in the SWPPP, or if the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objective of controlling pollutants in stormwater discharges associated with construction activity. In

addition, the SWPPP shall be amended to identify any new contractor and/or subcontractor that will implement a measure in the SWPPP.

j. Qualified personnel (provided by the operator of the construction site) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every seven (7) calendar days. The inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

k. Based on the results of the inspections required by section 5.4.7 (b)(1) (l), the site description and/or the pollution prevention measures identified in the SWPPP shall be revised as appropriate, but in no case later than seven (7) calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP within seven (7) calendar days following the inspection.

l. A report summarizing the scope of any inspection required by section 5.4.7 (b) (1) (l), and the name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken in accordance with section 5.4.7 (b) (1) (k) above shall be made and retained as part of the SWPPP for at least three (3) years from the date that the site is finally stabilized. Such report shall identify any incidence of noncompliance. Where a report does not identify any incidence of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP, the facility's TPDES permit, and this Ordinance. The report shall be certified and signed by the person responsible for making it.

m. The operator shall retain copies of any SWPPP and all reports required by this Ordinance or by the TPDES permit for the site, and records of all data used to complete the CSN, for a period of at least three (3) years from the date that the site is finally stabilized.

n. Where a site has been finally stabilized and all stormwater discharges from construction activities that are authorized by this Ordinance and by the TPDES permit for those construction activities are eliminated, or where the operator of all stormwater discharges at a facility changes, the operator of the construction site shall submit to the City of San Marcos a completed site notice in accordance with the Construction General Permit. The completed site notice shall be mailed to City of San Marcos, Public Services – Transportation, Attn: Stormwater Manager, 630 E. Hopkins, San Marcos, TX 78666.

o. Upon final stabilization of the construction site, the owner (or the duly authorized representative thereof) shall submit written certification to the City of San Marcos that the site has been finally stabilized. (See definition of final

stabilization in this Ordinance.) The City may withhold an occupancy or use permit for any premises constructed on the site until such certification of final stabilization has been filed and the City of San Marcos has determined, following any appropriate inspection, that final stabilization has, in fact, occurred and that any required permanent structural controls have been completed.

(c) Disturbances of Five Acres or More

(1) All operators of sites of construction activity, including clearing, grading, and excavation activities, that result in the disturbance of five or more acres of total land area, or that are part of a common plan of development or sale within which five or more acres of total land area are disturbed, or who are required to obtain an TPDES permit for stormwater discharges associated with construction activity, shall comply with the following requirements (in addition to those in section 5.4.7(a)):

a. Any operator who intends to obtain coverage for stormwater discharges from a construction site under TXR150000 TPDES General Permit for Stormwater Discharges from Construction Sites ("the Construction General Permit") shall submit a signed copy of its Notice of Intent (NOI) to the TCEQ at least seven (7) days prior to the commencement of construction activities, or if utilizing electronic submittal, prior to commencing construction activities. For stormwater discharges from construction sites where the operator changes, an NOI shall be submitted at least ten (10) days prior to the transfer of operational control, in accordance with the General Permit. Primary operators shall complete and post a TCEQ Large Construction Site Notice and Secondary Operators shall complete and post a Secondary

b. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented in accordance with the requirements of the Construction General Permit or any individual or group TPDES permit issued for stormwater discharges from the construction site, and with any additional requirement imposed by or under this Ordinance and any other city ordinance. All SWPPP documents shall be designed and signed by a Licensed Professional Engineer (Texas) with competence in this area as required by Texas Engineering Practice Act, Section 137, or a Certified Professional in Erosion and Sedimentation Control (CPESC), or other registered/certified professional with competence in this area.

c. The SWPPP shall be completed prior to the submittal of the NOI and submitted to the City of San Marcos for review prior to the commencement of construction activities. The SWPPP shall be updated and modified as appropriate and as required by the Construction General Permit and this Ordinance.

d. A copy of any NOI that is required by section 5.4.7 (c) (1) (a) shall be submitted to the City in conjunction with any application for a building permit, grading permit, site development plan approval, and any other City approval necessary to commence or continue construction at the site.

e. The City of San Marcos may require any operator who is required by section 5.4.7(c) (1) (b) to prepare a SWPPP, to submit the SWPPP, and any modifications thereto, to the City of San Marcos for review. Such submittal and review of the SWPPP may be required by the City of San Marcos prior to commencement of or during construction activities at the site.

f. Upon the City of San Marcos' review of the SWPPP and any site inspection that he/she may conduct, the City may deny approval of any building permit, grading permit, or any other City approval necessary to commence or continue construction, or to assume occupancy, on the grounds that the SWPPP does not comply with the requirements of the Construction General Permit, any individual or group TPDES permit issued for stormwater discharge from the construction site, or any additional requirement imposed by or under this Ordinance. Also, if at any time the City of San Marcos determines that the SWPPP is not being fully implemented, the City may similarly deny approval of any building permit, grading permit, subdivision plat, site development plan or any other City approval necessary to commence or continue construction, or to assume occupancy, at the site.

g. The SWPPP shall be retained at the construction site from the date of commencement of construction through the date of final stabilization and shall be made available to the City of San Marcos upon request (as well as to EPA and State inspectors).

h. The certification must include the name and title of the person providing the signature; the name, address, and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

i. The SWPPP, and the certifications of contractors and subcontractors required by section 5.4.7 (c) (1) (i), and with any modifications attached, shall be retained at the construction site from the date of commencement of construction through the date of final stabilization.

j. The operator shall make the SWPPP and any modification thereto available to the City of San Marcos upon request (as well as to EPA and State inspectors).

k. The City of San Marcos may notify the operator at any time that the SWPPP does not meet the requirements of the Construction General Permit, any applicable individual or group TPDES permit issued for stormwater discharges from the construction site, or any additional requirement imposed by or under this Ordinance. Such notification shall identify those provisions of the permit or Ordinance which are not being met by the SWPPP, and identify which provisions of the SWPPP require modifications in order to meet such requirements. Within seven (7) days of such notification from the City of San Marcos (or as otherwise

provided by the City of San Marcos), the operator shall make the required changes to the SWPPP and shall submit to the City of San Marcos a written certification that the requested changes have been made.

l. The operator shall amend the SWPPP whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the MS4 or to the waters of the United States, and which has not otherwise been addressed in the SWPPP, or if the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objective of controlling pollutants in stormwater discharges associated with construction activity. In addition, the SWPPP shall be amended to identify any new contractor and/or subcontractor that will implement a measure in the SWPPP.

m. Qualified personnel (provided by the operator of the construction site) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every seven (7) calendar days. The inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

n. Based on the results of the inspections required by section 5.4.7 (c)(1) (m), the site description and/or the pollution prevention measures identified in the SWPPP shall be revised as appropriate, but in no case later than seven (7) calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP within seven (7) calendar days following the inspection.

o. A report summarizing the scope of any inspection required by section 5.4.7 (c) (1) (m), and the name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken in accordance with section 5.4.7 (c) (1) (n) above shall be made and retained as part of the SWPPP for at least three (3) years from the date that the site is finally stabilized. Such report shall identify any incidence of noncompliance. Where a report does not identify any incidence of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP, the facility's TPDES permit, and this Ordinance. The report shall be certified and signed by the person responsible for making it.

p. The operator shall retain copies of any SWPPP and all reports required by this Ordinance or by the TPDES permit for the site, and records of all data used to complete the NOI, for a period of at least three (3) years from the date that the site is finally stabilized.

q. Where a site has been finally stabilized and all stormwater discharges from construction activities that are authorized by this Ordinance and by the TPDES permit for those construction activities are eliminated, or where the operator of all stormwater discharges at a facility changes, the operator of the construction site shall submit to the TCEQ a Notice of Termination (NOT) and a copy of the NOT to the City of San Marcos MS4 operator in accordance with the Construction General Permit. The NOT shall be mailed to City of San Marcos, Public Services – Transportation, Attn: Stormwater Manager, 630 E. Hopkins, San Marcos, TX 78666.

r. Upon final stabilization of the construction site, the owner (or the duly authorized representative thereof) shall submit written certification to the City of San Marcos that the site has been finally stabilized. (See definition of final stabilization in this Ordinance.) The City may withhold an occupancy or use permit for any premises constructed on the site until such certification of final stabilization has been filed and the City of San Marcos has determined, following any appropriate inspection, that final stabilization has, in fact, occurred and that any required permanent structural controls have been completed.

#### **Section 5.4.8 Permit Procedure Requirements**

The City of San Marcos can enforce compliance with the permittee's ordinances, permits, contracts, or orders in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)c.

Other information here??? Abbey???

#### **Section 5.4.9 Maintenance and Repair of Stormwater Facilities**

The City of San Marcos has the authority to require installation, implementation, and maintenance of control measures in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)d.

#### ***Maintenance Easement***

*Prior to the issuance of any permit that has a stormwater management facility the applicant of the site must implement a maintenance easement agreement that binds all subsequent owners of land served by the stormwater management facility. The agreement allows the City of San Marcos or their contractor/agent access to the facility to periodically inspect if the facility is maintained in proper working condition and meets design standards and other provisions established by this Ordinance. The easement agreement shall be recorded by the County of Hays in the land records.*

**Maintenance Covenants**

The applicant of the site must develop a maintenance covenant articulating a schedule of maintenance activities and plans for periodic inspections to assess the proper functioning of the stormwater management facility. The maintenance covenant shall be approved by the City of San Marcos and recorded into the land record prior to final plan approval.

**Requirements for Annual Self-Inspections**

All stormwater management facilities must undergo, at minimum, an annual self-inspection to document maintenance and repair needs and to verify compliance with the requirements of this Ordinance. The inspection record must be in writing and maintained on site and available for inspection by the local jurisdiction in conjunction with a site compliance review. Maintenance and repair may include: removal of silt, litter, and other debris from all catch basins, inlets and drainage pipes; cutting grass and vegetation removal; and replacement of landscape vegetation. Maintenance needs must be addressed in a timely manner as determined by the City of San Marcos. The local jurisdiction may implement more stringent inspection and maintenance requirements.

**Failure to Maintain Practices**

If the stormwater management facility becomes a danger to public safety or public health, the City of San Marcos shall notify the party responsible for maintenance of the stormwater management facility in writing. Upon receipt of that notice, the responsible person shall have 30 days to meet maintenance and repair requirements. If the owner of the facility fails to comply with the requirements of the maintenance covenant, the City of San Marcos, after reasonable notice, may perform all necessary work to bring the facility into compliance.

**Section 5.4.10 Requirements for Stormwater Management Plan Approval**

The City of San Marcos has the authority to receive and collect information (i.e. stormwater pollution prevention plans, inspection reports, etc.) from any person (i.e. operators of regulated construction sites, new or redeveloped land, and industrial and commercial facilities) in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2).e to assess compliance with this permit.

Other information here???? Abbey, Teresa????

**Section 5.4.11 Authority to Enter and Inspect**

The City of San Marcos has the authority to enter and inspect private property including facilities, equipment, practices, or operations related to stormwater discharges to the small MS4 in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2).f.

The City of San Marcos may enter and inspect facilities, equipment, practices and operations subject to regulation under this Ordinance as often as necessary to determine compliance with this Ordinance. If a discharger's security measures require proper identification and clearance before entry into the premises, the discharger shall make necessary arrangements to allow access to representatives of the authorized enforcement agency.

The City of San Marcos may require the discharger to install and maintain necessary sampling and monitoring equipment.

Unreasonable delays in allowing the City of San Marcos access to a permitted facility is a violation of a TPDES stormwater discharge permit and of this Ordinance. A person commits an offense if the authorized enforcement agency is denied reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this Ordinance.

#### **Section 5.4.12 Best Management Practices (BMPs) to Reduce Stormwater Pollutants**

The City of San Marcos has the authority to respond to non-compliance with BMPs required by the small MS4 in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)g. The City of San Marcos shall adopt measures to identify BMPs for any activity, operation, or facility which may facilitate pollution of stormwater, the storm drain system, or surface water in the state. The owner or operator of a commercial or industrial establishment shall implement, at their own expense, appropriate pollution control measures through the use of structural and non-structural BMPs to prevent and reduce discharge of pollutants into the municipal storm drain system or watercourses. The BMPs must be identified in the Stormwater Pollution Prevention Plan (SWP3) to satisfy requirements of the TPDES permit.

#### **Section 5.4.13 Enforcement**

The City of San Marcos has the authority to assess penalties, including monetary, civil, or criminal penalties in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)h.

- (a) If the City of San Marcos finds a person in violation of this Ordinance, the authorized enforcement agency may issue a Field Correction Notice (FCN) to a responsible party. The Field Correction Notice shall be personally delivered to a responsible party, if such person is available on site; or, in the absence of such person, shall be posted at the construction site and mailed by U.S. Mail or by electronic e-mail. Field Correction Notices shall afford two (2) 24-hour periods to correct the violation alleged. The first 24-hour period should be used to remediate and remove the offending material, if any, from the city's MS4, or obtain and post permit documents and/or provide a copy of a complete SWPPP and WPAP (as applicable).

A second 24-hour grace period shall follow immediately to allow the responsible party to appropriately install or repair corrective BMP's which were lacking or failed to protect city property.

- (b) If the violation is corrected within forty-eight (48) hours, as described above, no further city action is required.
- (c) If correction is not made timely, the inspector may issue a stop work order.
- (d) If a stop work order is not honored at the site and/or corrective action is not timely accomplished to protect the city's MS4, citations may be issued or civil injunctive remedies with appropriate penalties may be pursued.
- (e) Additional or cumulative enforcement action may be taken as the seriousness of the alleged pollutant encroachment in the MS4 may warrant.
- (f) Additional compliance time may be afforded, if within the judgment and discretion of the inspector, municipal obligations to environmental health and safety and municipal stormwater compliance obligations to enforcement agencies are not compromised.
- (g) Upon observation of an alleged violation or condition an inspector believes constitutes a violation of a Water Pollution Abatement plan within the Edwards Aquifer Recharge Zone, the Inspector shall have the authority to issue a Field Correction Notice (FCN) to a responsible party. Delivery of the FCN shall be in accordance with the process as identified in paragraph (a) of this Section. The Field Correction Notice shall require immediate correction of the violation alleged or within 24 hours of observation of alleged violation as specified and documented by the Inspector on the FCN. If correction is not made timely, the Inspector may issue a Stop Work Order.

#### Criminal and civil enforcement.

- (a) A penalty is hereby established whereby any person who shall violate any provision of this section shall be deemed to be guilty of a misdemeanor and shall upon conviction be fined a minimum amount of not less than two hundred dollars (\$200.00) per violation and a maximum amount of not more than two thousand dollars (\$2,000.00) per violation. Each day of violation shall constitute a separate offense for purposes of the enforcement of this section.
- (b) The city attorney has authority to pursue all legal, equitable, and criminal remedies appropriate to enforce all provisions of this section, including, but not limited to, authority under the Texas Local Government Code, Chapter 54, providing for injunctive relief and court imposed civil penalties up to five thousand dollars (\$5,000.00) a day for violation of ordinances relating to discharge of a pollutant into a storm sewer system controlled by a municipality.
- (c) Upon the written direction of the Director of Public Services, advising of an alleged violation of this section, the city attorney, pursuant to subsection (b) above, is authorized to petition any court of competent jurisdiction for an injunction to enjoin the continuance of such violation and

to secure any and all civil penalties within the jurisdiction of the appropriate court. This remedy shall be cumulative of and to all other enforcement remedies available to the city.

(d) The authority set out above shall in no way diminish the authority and responsibility of the city attorney to diligently prosecute violations of this section through the municipal prosecutor's office.

**Section 5.4.14 Maintenance Agreements**

The City of San Marcos has the authority to enter into interagency or interlocal agreements or other maintenance agreements, as necessary in accordance with TPDES Phase II MS4 Permit TXR040000 Part III Section A.3.(a)(2)i. This agreement will include maintenance easements to access and inspect stormwater control practices, and perform routine maintenance to ensure proper stormwater control. A legally binding covenant will identify the responsible parties to maintain stormwater control practices.

**Section 5.4.15 Ultimate Responsibility**

The standards set forth herein and promulgated pursuant to this Ordinance are minimum standards; therefore, this Ordinance does not intend nor imply that compliance by any person will ensure prevention of contamination, pollution, and unauthorized discharge of pollutants.

**Section 5.4.16 Separability**

The provisions and sections of this Ordinance shall be deemed to be independent, and the invalidity of any portion of this Ordinance shall not affect the validity of the remainder.

**Section 5.4.17 Adoption of Ordinance**

This Ordinance shall be in full force and effect after its final passage and adoption. All prior Ordinances in conflict with this Ordinance are hereby repealed.

Passed and Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

## CHAPTER 6: ENVIRONMENTAL REGULATIONS

### ARTICLE 1: GENERAL PROVISIONS

### ARTICLE 2: DEVELOPMENT RELATED TO THE EDWARDS AQUIFER

### ARTICLE 3: DEVELOPMENT RELATED TO THE SAN MARCOS RIVER CORRIDOR

### ARTICLE 4: RESERVED

### ARTICLE 5: TREE AND HABITAT PROTECTION

**NOTE:** This entire chapter and the places into which parts of it were moved will need to be checked for references to other chapters of code that have been revised since that was written.

## ARTICLE 1: GENERAL PROVISIONS

### DIVISION 1: - GENERAL

### DIVISION 2: - STREAM AND RIVER CORRIDOR WATER QUALITY STANDARDS

### DIVISION 1: GENERAL

#### Section 6.1.1.1 Applicability, Exceptions, Authority and Findings

(a) *Applicability.*

(1) The standards of this Article apply to the Development of all land within the City limits and within the City's Extraterritorial Jurisdiction, including, but not limited to, land located on hillsides, in Edwards Aquifer recharge, transition, and Upland Zones, as defined in Article 2 of this Chapter 6, in the San Marcos River Corridor, and in other river, stream or Waterway corridors, as defined in Division 2 of this Article 1. Development includes clearing or rough cutting of vegetation or grading or scarifying of the top soil.

(2) The standards in this Article 1 shall be construed as supplemental to more specific water quality standards governing Development of land in the Edwards Aquifer, set forth in Article 2 of this Chapter 6, and to more specific water quality standards governing Development of land in the San Marcos River Corridor, set forth in Article 3 of this Chapter 6. The standards in this Article 1 also shall be construed as supplemental to standards pertaining to design, placement and Construction of Drainage facilities in Floodplains, which standards are set forth in **Article 4 of this Chapter 6**, and to general Drainage standards contained in Chapter 3, Article 9 of this Land Development Code.

(3) The standards of this Article 1 are intended to apply with uniformity throughout the City's Extraterritorial Jurisdiction.

(b) *Exceptions.*

(1) Structures existing prior to the effective date of this Division may be replaced and/or enlarged up to a maximum amount equal to 50 percent of the ground floor area of the Existing Structure before having to comply with this Article.

(2) The clearing of Underbrush and the maintenance or removal of individual Trees on a parcel of land where Development has already occurred; provided, however, that the clearing or removal is not for the purpose of Construction.

(3) The hand clearing of Underbrush and the trimming of Trees necessary to allow sufficient access

to the property for planning and engineering purposes.

- (4) Agricultural activities or related maintenance.
  - (5) Character Zones 4 and 5 of a Character Based Zoning District.
- (c) *Authority.* The requirements of this Article are authorized under Tex. Water Code Sections 16.316 and 26.177(b).
- (d) *Findings.* The City Council makes the following findings:
- (1) The City Council is a trustee of the natural environment of the San Marcos River, the Edwards Aquifer, the Balcones Escarpment, portions of the Blanco River, portions of the Texas Hill Country and the related watersheds for future generations of citizens of the City and surrounding areas.
  - (2) Development activities within the City and within its Extraterritorial Jurisdiction can result in irreparable damage to the quality of water in the San Marcos River and Edwards Aquifer.
  - (3) Development activities within the City and within its Extraterritorial Jurisdiction can damage the Balcones Escarpment and portions of the Texas Hill Country through increased erosion, Alterations to Natural Drainage, unregulated vegetation removal, and installation of Impervious Cover.
  - (4) The San Marcos River, the Blanco River, the Edwards Aquifer, and other rivers, streams and Waterways must be protected in order to preserve the health, safety and welfare of the citizens of the City and surrounding areas.
  - (5) The continued economic growth of the City and the surrounding area is encouraged by a pleasing natural environment, protection of watersheds and groundwater, and recreational opportunities in close proximity to the City and smart development patterns that are compact and walkable.
  - (6) The City Council desires to adopt Site Development rules and regulations for Development within the City and within its Extraterritorial Jurisdiction for the purpose of protecting the San Marcos River, the Blanco River, the Edwards Aquifer, rivers, streams and Waterways from the effects of water quality deterioration related to Development activities.

### Section 6.1.1.2 Erosion Control Standards

(a) *Standards for Overland Flow and Natural Drainage:*

- (1) Natural Drainage patterns shall be preserved whenever possible by leaving portions of a Subdivision in an underdeveloped and Natural State and located to receive runoff from the developed areas.
- (2) The loss of the pervious character of the soil shall be limited in order to prevent erosion and attenuate the harm of contaminants collected and transported by stormwater.
- (3) Open surface Drainage through vegetated Swales shall be utilized if possible.
- (4) Drainage Swales and other areas used for conveying stormwater runoff from developed areas shall be located to avoid sinkholes, faults and fractures to the greatest extent practicable.
- (5) Construction of pave-pipe-and-dump drainage systems that concentrate runoff instead of treating rain closer to where it lands (gray infrastructure) shall be permitted only when the Engineering Director, on the basis of competent engineering and planning evidence, confirms that the gray infrastructure is the only justifiable option available. Gray infrastructure systems shall be designed to mitigate their impact on water quality through the use of approved control strategies to control sediment, neutralize contaminants and dissipate energy by the use of multiple smaller outlets, whenever practical, by locating Discharges to maximize Overland Flow and by any other strategies that will accomplish the objectives defined and discussed in this Article.
- (6) *Point Discharges.* Point Discharges of runoff shall be dissipated to sheet flow conditions or to outfall conditions resembling the pre-developed natural condition.
- (7) Necessary stormwater Drainage systems and culverts shall be designed to mitigate the impact of erosion and stormwater runoff on water quality through the use of approved control strategies to control sediment and dissipate energy by mimicing natural processes such as dispersal, ponding, infiltration, and overland flow.
- (8) Detention pond bottoms must be vegetated.
- (9) Internal rock berm baffles are required in ponds.

- (10) Where a separate water quality pond is required under this Article or other applicable regulations, the Discharge from the pond must be under a baffle that will trap floating matter in the pond.
- (11) Suitable access must be provided for maintenance of ponds and sediment traps.
- (b) *Compliance with Criteria Manuals.* Erosion control and Restoration measures shall comply with the City of San Marcos Stormwater Technical Manual.
- (c) *Erosion Prevention Techniques.* Erosion prevention techniques, as referenced in the City of San Marcos Stormwater Technical Manual, City of Austin Drainage Criteria Manual and the City of Austin Environmental Criteria Manual, shall be utilized to attain naturalistic Drainage objectives.
- (d) In order to help reduce stormwater runoff, and resulting erosion, sedimentation and conveyance of nonpoint source Pollutants, the layout of the Street network, Lots and building Sites shall, to the greatest extent possible, be Sited and aligned along natural contour lines, and shall minimize the amount of cut and fill on slopes within the limits for cut and fill required in subsections (e) and (g).
- (e) Cuts on a tract of land may not exceed four feet of depth, except:
- (1) In Character Based District CBD-5;
  - (2) In a Street Right-of-Way;
  - (3) For cuts within the perimeter of a Building footprint and temporary cuts necessary during Construction of a Building foundation within a Building footprint;
  - (4) For utility Construction or a Wastewater drain field if the area is restored to natural grade; or
  - (5) In a state permitted sanitary landfill or a sand or gravel Excavation located in the Extraterritorial Jurisdiction, if:
    - a. The cut is not in a water quality or Buffer Zone;
    - b. The cut does not hydrologically alter for the worse a 100-year Floodplain;
    - c. The landfill or Excavation has an erosion and Restoration plan approved by the City; and
    - d. All other applicable City Code provisions are met.
- (f) The surface of a cut area must be restored and stabilized in accordance with the Criteria Manuals identified in 6.1.1.2(b).
- (g) Fill on a tract of land may not exceed four feet in depth, except:
- (1) In the Character Based Zoning District;
  - (2) In a Street Right-of-Way;
  - (3) Under a foundation with sides perpendicular to the ground, or with pier and beam Construction;
  - (4) For utility Construction or a Wastewater drain field;
  - (5) In a state-permitted sanitary landfill located in the Extraterritorial Jurisdiction, if:
    - a. The fill is derived from the landfill operation;
    - b. The fill is not placed in a Water Quality Zone, Buffer Zone, or a 100-year Floodplain;
    - c. The landfill operation has an erosion and Restoration plan approved by the City, and
    - d. All other applicable City Code provisions are met.
- (h) A fill area must be restored and stabilized in accordance with the Criteria Manuals identified in 6.1.1.2(b).
- (i) *Variances.* The Engineering Director may approve a Variance from a requirement of Section 6.1.1.2(e) (cut requirements) or Section 6.1.1.2(g) (fill requirements) for a water quality control or stormwater detention facility, or for a cut or fill of not more than eight feet if the post Construction layout is integrated into the natural environment and enhanced measures identified in the Criteria Manuals are used to manage Construction and post Construction stormwater runoff quality to levels that would be the same or better quality as would result from a cut or fill of not more than four feet. The City Council may approve a Variance for a cut or fill greater than eight feet based on a Variance petition submitted in accordance with Article 6, Division 3 of Chapter 1. The cut and fill requirements under this Section may not be modified through a petition for a Planned Development District.

### Section 6.1.1.3 Runoff Attenuation

- (a) *Techniques to Minimize Erosion.* Under this Chapter, all Drainage channels on the Site shall be designed to minimize potential erosion. In addition to standards in

Section 6.1.1.2, the following runoff attenuation strategies and techniques shall be used:

- (1) All constructed and Altered Drainage channels shall be stabilized and vegetated immediately after final grading.
  - (2) Effective energy dissipation techniques must be used at inlets to and outlets from ponds. Inlets to ponds must also have sediment traps, with a wall or gabions, designed to trap the bulk of sediments and facilitate sediment removal.
  - (3) Velocity checks must be made on channel slopes over 2%.
  - (4) For channels with slopes over three percent and with non-erodable velocities (less than six feet per second), a rock pilot channel must be used to stabilize the channel bed.
  - (5) Sediment and litter traps are required at the Discharge point of Parking Lots and Parking Areas for commercial, industrial, and multifamily uses.
  - (6) Storm drain inlets must be equipped with inlet baskets to capture litter from Parking Lots and Parking Areas.
- (b) *Detention or Retention Required.* Drainage facilities will be designed and constructed so that the rate and volume of runoff from a Site after Construction shall be equal to or less than the runoff prior to Construction for the 2, 10, 25 and 100-year storm frequencies. Drainage facility design features shall be designed by using the City of San Marcos Stormwater Technical Manual. Computation of the rate and volume of runoff shall be based on an assumption of a fully developed contributing Drainage area or watershed that is fully developed in accordance with the current drainage standards and criteria.
- (c) *Waiver of Detention / Retention.* Detention / Retention will be waived for Character Based District CBD-5, for infill and redevelopment projects less than 1 acre in size and for high intensity zones as defined in the Comprehensive Plan, and for small projects with less than 5,000 square feet of Impervious Cover, including Buildings, Parking Lots and Sidewalks. Runoff from infill and redevelopment projects and small projects shall be treated with best management practices to prevent erosive velocities and provide for filtering of sediments prior to exiting property.
- (d) Low Impact Development Practices (aka Green Infrastructure) as described in the City of San Marcos Stormwater Technical Manual shall be prioritized as preferable to gray infrastructure to reduce the impact of

runoff on the natural and built Drainage system and those benefits shall be credited without requiring redundant gray infrastructure. **NOTE: Credit System?**

#### Section 6.1.1.4 Wastewater Collection and Disposal

- (a) *Water Quality Corridors.* For Development within the City limits, the use of septic tanks, holding tanks, evapotranspiration units, cesspools or other private or individual sewage disposal systems shall not be permitted in any river, stream or Waterway corridor defined by this Chapter 6.
- (b) *Individual Disposal Systems.* Lots overlying the Edwards Aquifer Recharge Zone that are not connected to a public Wastewater System shall use sewage disposal systems that are installed in accordance with applicable state regulations.

#### Section 6.1.1.5 Highly Erodible Soils

*Erodible soils.* Impervious cover on a Development Site subject to the limitations in Chapter 5, Article 2 may be further limited if the Site contains highly erodible soils, as identified in the Stormwater Technical Manual, and if so, shall include a plan for stabilizing and prevention of erosion of such soils from proposed Development activities.

## DIVISION 2: STREAM AND RIVER CORRIDOR WATER QUALITY STANDARDS

### Section 6.1.2.1 Purpose, Applicability and Exceptions

- (a) *Purpose.* The purpose of the standards in this Division are to protect water quality and to prevent Flood damage throughout the City and its Extraterritorial Jurisdiction.
- (b) *Applicability.* Except as provided in subsection (c) below, the provisions of this Division apply to Development affecting any stream, river or Waterway located within the City or its Extraterritorial Jurisdiction, other than those within the Recharge Zone of the Edwards Aquifer or within the San Marcos River Corridor. Specific standards governing streams, rivers or Waterways within the Recharge Zone of the Edwards Aquifer are contained in Article 2 of this Chapter 6 and those governing streams, rivers or Waterways within the San Marcos River Corridor are contained in Article 3 of this Chapter 6. The provisions of this Division apply to Development affecting streams, rivers or Waterways within the Recharge Zone of the Edwards Aquifer or within the San Marcos River Corridor only as expressly referenced in Article 2 or Article 3, respectively.
- (c) *Exceptions.* The provisions of this Division do not apply to the following:
- (1) Any stream or Waterway having a Drainage basin of less than 120 acres measured upstream from the proposed Development;
  - (2) The partition of land into not more than four single-Family Residential Lots for sale or to Development of a single-Family residence for a Family member who is related to the owner of the property within the third degree by consanguinity or affinity, as defined under Tex. Gov't Code Ch. 573, and provided further that each resulting parcel has access to a Public Street or thoroughfare. This exception shall be cumulative, i.e., the creation of a fifth Lot for the land from which Lots are partitioned shall trigger the requirements of this Division.
  - (3) The Construction of Barns or other Accessory Structures related to agricultural uses.

### Section 6.1.2.2 Water Quality Zones

- (a) A Water Quality Zone shall be established for each stream, river or Waterway located within the applicable area. The area of the Water Quality Zone shall be determined as

follows:

- (1) *FEMA mapped Waterway.* For any Waterway with a FEMA defined Floodway, a Water Quality Zone shall be established 100 feet in width, measured from the boundary of the defined Floodway on each side of the Waterway, but shall not exceed the width of the 100-year Floodplain.
- (2) *Not a FEMA-mapped Waterway.* If the Waterway does not have an officially mapped 100-year Floodplain, the Water Quality Zone is either:
  - a. 50 feet extending out on each side of the centerline of a Minor Waterway, 100 feet extending out on each side of the centerline of an intermediate Waterway, and 200 feet extending out on each side of the centerline of a Major Waterway; or
  - b. The area of the 100-year Floodplain resulting from fully developed conditions (with growth as projected by the Comprehensive Plan and as regulated by the Land Development Code - which mandates stormwater runoff mitigation measures) in the watershed as calculated and determined by a Texas-licensed engineer, at the developer's option and expense, in accordance with engineering standards acceptable to the Engineering Director.
- (3) *Designation required.* The Water Quality Zones and Buffer Zones required by this Article shall be designated when a Plat is required for a Development, and shall be shown on all associated Watershed Protection Plans, Cluster Development Plans, Plats, Site Preparation Permits, and building plans. Unless required by the Engineering Director to be dedicated as a flowage Easement and dedicated for public maintenance, Water Quality Zones and Buffer Zones shall be privately held and maintained, subject to the enforcement procedures for BMPs established in Section 6.2.4.1.

### Section 6.1.2.3 Buffer Zones

For any Waterway with a FEMA defined Floodway, a Buffer Zone shall be established 100 feet in width, measured from the outer boundary of the Water Quality Zone established in Section 6.1.2.2, on each side of the Waterway. The combined width of the Water Quality Zone and the Buffer Zone shall not exceed the width of the 100-year Floodplain.

### Section 6.1.2.4 Impervious Cover Limitations

- (a) *Water Quality Zones.* No Impervious Cover shall be allowed in or transferred to a Water Quality Zone, with the exception of those activities listed in subsection (d).
- (b) *Buffer Zones.* Impervious cover within a Buffer Zone shall be limited by the gradient of the land to be developed, as follows:
- (1) 30 percent on areas having a slope with a gradient of less than 15 percent;
  - (2) 20 percent on areas having a slope with a gradient of between 15 and 25 percent; or
  - (3) Ten percent on areas having a slope with a gradient greater than 25 percent.
- (c) *Mitigation plan.* Impervious cover limitations may be exceeded in a Buffer Zone only for land with a gradient of less than 15 percent based upon a mitigation plan demonstrating that the water quality benefits of the Impervious Cover within the Buffer Zone can be achieved through utilization of water Pollution abatement control facilities that incorporate Base Zones for the entire Development Site. No Impervious Cover may be transferred to a Buffer Zone that exceeds the requirements of this Section. Transfer of Impervious Cover from a Buffer Zone may be allowed under [Section 6.1.2.5](#).
- (d) *Exceptions to Impervious Cover Limitations.*
- (1) Existing Impervious Cover in water quality or Buffer Zones may be replaced, subject to standards in [Article 4 of this Chapter 6](#), but may not be increased except consistent with the limitations in this Section.
  - (2) Utility line crossings that are in compliance with all City and TCEQ requirements.
  - (3) Fences that do not obstruct or dam surface water flows.
  - (4) Trails and related facilities, other than Buildings, for walking, running, and non-motorized biking.
  - (5) Areas designated as High Intensity Areas on the

Preferred Scenario Map of the Comprehensive Plan.

### Section 6.1.2.5 Clustering and Development Transfers

- (a) *Clustering.*
- (1) Within all areas subject to this Division 1 of Article 3, Chapter 6 and not designated as a Medium Intensity or High Intensity Area on the Preferred Scenario Map of the Comprehensive Plan or zoned in the Character Based Zoning District, clustering of Residential density shall be allowed in accordance with [Table 4.1.6.1](#) and transfer of Impervious Cover for non-Residential uses shall be allowed in accordance with [Table 4.1.6.1](#), when approved under a Cluster Development Plan authorized in Chapter 2, Article 5, Division 7, or, outside City limits, when approved under a Plat application authorized in Chapter 3, Article 6 that is consistent with a Watershed Protection Plan (Phase 1) approved under [Chapter 2, Article 6](#).
  - (2) The maximum number of Residential units attained under the Cluster Development Plan shall be calculated as follows:

**[Gross non-restricted Site area]  
multiplied by  
{The number of units allowed under the applicable  
zoning district in accordance with [Table 4.1.6.1](#)}  
multiplied by  
{1.25}.**

- (b) *Development Transfer.* Development transfers may be authorized from all areas subject to this [Division 1 of Article 3, Chapter 6](#), to areas not subject to this Division, when approved through a Petition for Development transfer under [Chapter 3, Article 4, Division 4](#).

### Section 6.1.2.6 Performance Standards in Water Quality and Buffer Zones

- (a) *Ground Cover.* Water quality zones and Buffer Zones shall be stabilized with native vegetation to achieve a 70 percent Ground Cover, or, if Ground Cover vegetation was less than 70 percent prior to Construction, to a coverage level consistent with a stable undisturbed condition. Areas disturbed during Construction activities shall be restored to the same standard.

- (b) *Point Discharges.* New point Discharges of runoff into water quality or Buffer Zones shall be dissipated to sheet flow conditions throughout the zone.
- (c) *Restrictions.* The use of fertilizers and pesticides shall be prohibited within water quality or Buffer Zones.
- (d) *Excavation and Fill.* Excavation and fill within water quality or Buffer Zones shall be allowed only in conformity with the standards

## ARTICLE 2: DEVELOPMENT RELATED TO THE EDWARDS AQUIFER

### DIVISION 1: - GENERAL

### DIVISION 2: - DEVELOPMENT DUTIES

### DIVISION 3: - IMPERVIOUS COVER

### DIVISION 4: - BEST MANAGEMENT PRACTICES (BMPs)

### DIVISION 5: - TEMPORARY EROSION AND SEDIMENTATION CONTROLS

### DIVISION 6: - WATER QUALITY ZONES

### DIVISION 7: - BUFFER AND PROTECTION ZONES

### DIVISION 8: - CLUSTERING INCENTIVES, DEVELOPMENT TRANSFERS AND PARKLAND CREDITS

**DIVISION 1: GENERAL****Section 6.2.1.1 Applicability and Authority**

- (a) *Applicability.* The standards contained in this Article 2 apply to the recharge, transition, and Upland Zones of the Edwards Aquifer.
- (b) *Authority.* The requirements of this Article are authorized under Tex. Water Code Sections 16.316 and 26.177(b), and Tex. Loc. Gov't Code Ch. 212.

**DIVISION 2: DEVELOPMENT DUTIES****Section 6.2.2.1 Duties in Undertaking Development Over Aquifer**

- (a) *Excavations in Recharge Zone or Transition Zone.*
  - (1) When a Development in the Recharge Zone or Transition Zone includes any Excavation, the person performing the Development must either engage a Qualified Geologist to inspect the Excavation, or notify the Engineering Director to arrange for inspection of the Excavation by City personnel. The inspection will be for the purpose of determining whether the Excavation has uncovered any geologic or Manmade Feature that presents a possible avenue for recharge to the aquifer. The inspection will be made either upon completion of the Excavation, if it is in a single, defined area, or in segments, if the Excavation is linear, or is in multiple locations, or is accomplished over an extended period of time. The Excavation may be temporarily backfilled before inspection, but inspection must occur with the full Excavation uncovered before permanent backfilling is performed. If an inspection reveals that one or more such features has been uncovered, the person performing the Development must:
    - a. Immediately notify the Engineering Director;
    - b. Utilize Temporary BMPs to prevent Pollution from entering the aquifer through the features; and
    - c. Not perform any further work in the Excavation until an application for an amendment to the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified, as applicable), for a Development in the Recharge Zone, or an application for approval of a Site Preparation Permit, for a Development in the Transition Zone, is submitted to and approved by the Engineering Director.
- (b) *Discovery of Sensitive Feature in Recharge Zone or Transition Zone.*
  - (1) If a new Sensitive Feature, or any solution opening, cave, sinkhole, or similar feature, is

encountered on a Site in the Recharge Zone or Transition Zone during the Construction process for a Development, or if a previously known Sensitive Feature is found in the course of Construction to be larger or more extensive than previously noted in the Geologic Assessment of the Site, the Holder or the Holder's designated representative must:

- a. Immediately suspend all Excavation and Construction activities within 50 feet of the feature, measured horizontally;
  - b. Immediately notify the Engineering Director of the discovery; and
  - c. Retain a Qualified Geologist to inspect the feature and make a recommendation to the Engineering Director based on the relative sensitivity of the feature.
- (2) The Engineering Director may require, for a Development in the recharge or Transition Zone, that the Holder submit an application to amend the approved Watershed Protection Plan or Site Preparation Permit to adequately protect a feature encountered or found under subsection (b)(1) above. For Development with an approved Watershed Protection Plan including a geological assessment, the Engineering Director will review the available information and within two working days of notification of the feature, will decide whether to allow Construction activities to resume near the feature pending the amendment, and if so, at what locations. The Engineering Director will review and approve or deny a requested amendment to Watershed Protection Plan or Site Preparation Permit within five working days of submission of a Geologic Assessment if not included with the original application. The Holder may appeal a denial in accordance with Chapter 2, Article 6, Division 1.

*Waiver to Watershed Protection Plan:* For Development applications proposing solely the Construction or expansion of a single-Family home on a Lot legally Platted in the Recharge Zone on or after March 1, 2000, the applicant is not required to submit a Watershed Protection Plan. A Site Preparation Permit for such an application must be submitted for approval in compliance with the Technical Manual.

*Geological Assessments.* All Watershed Protection Plans (Phase 1) for Developments in the Recharge Zone and Site Preparation Permit for uses must be accompanied

by a Geologic Assessment of the entire Site prepared by a Qualified Geologist. The assessment must be based on 50-foot Transects across the Site, and must contain all information required for Geologic Assessments under the TCEQ Edwards Aquifer rules. The assessment must identify all Sensitive Features on the Site, and for each Sensitive Feature, must state whether it is a Major Recharge Feature, Moderate Recharge Feature, or Minor Recharge Feature.

*Enhanced Geologic Assessment.* A Watershed Protection Plan (Phase 2) for a Development in the Recharge Zone may be accompanied by an enhanced Geologic Assessment of the Site prepared by a Qualified Geologist. The enhanced assessment is subject to review and approval by the Engineering Director as part of the approval process for the Watershed Protection Plan (Phase 2). The enhanced assessment must meet the requirements for assessments under (c) above, and in addition, must meet the following:

- (1) All caves that can be entered must be entered and mapped to establish the footprint of the cave, and to identify related surface hydro-Geologic Features (Drainage areas, sinkholes, fractures, etc.) and cultural features (existing or proposed roads, Buildings, utilities, etc.). Hydro-Geologic Features within each cave must be mapped or noted and interpreted to delineate the Drainage area for the cave, which includes surface Drainage into the cave's entrance(s), plus surface Drainage into fractures, sinkholes, streambeds, or other features which appear to contribute recharge into the cave in areas beyond the cave entrance. Excavations must be conducted as part of the effort to fully map the caves when necessary for study and mapping of otherwise inaccessible parts of the caves. Where Excavation may be unsafe, such as a passage that ends in collapse and likely continues on the opposite side of the collapse, geophysical methods should be employed to determine if and where the cave continues. The geophysical methods must be of a type that has proven accurate and appropriate for the depth, size, and geologic setting of the cave. The geophysical methods should not be used to replace mapping of the cave, but to supplement them and identify areas where Excavation or drilling may find the continuation of the cave to allow its further mapping and study.
- (2) Recharge features that cannot be entered must be Excavated to more fully evaluate the hydrogeologic Significance of the features, and to determine if they lead to caves. Excavations

may be conducted by hand, explosive, and/or mechanized means as appropriate. Excavations will be considered complete if a cave, or bedrock with no openings, or a compact clay at least one foot thick throughout the feature's floors and walls, is found. Where fractures or other openings in the bedrock extend indefinite distances with no fill material or loose fill material, and hydrogeologic indicators suggest the feature may lead to a cave, then geophysical methods should be employed to determine if and where a cave is present to guide further Excavation and study.

**DIVISION 3: IMPERVIOUS COVER**

**Section 6.2.3.1 Impervious Cover Limitation**

- (a) *Impervious Cover Limitation.* The total of all Impervious Cover that may be developed on a Site in the Recharge Zone shall not exceed the following percentages of the gross area of the Site based on the size of the Site on October 8, 2001. Additional Impervious Cover limitations apply to those areas of the Development Site that are located within a Water Quality Zone, a Buffer Zone or a Sensitive Feature protection zone.

**TABLE 6.2.3.1 IMPERVIOUS COVER LIMITATION**

Size of Site	Impervious Cover Limit
Up to and including three acres	40%
More than three acres and less than five acres	30%
Five acres or more	20%

- (b) *Utilization of Site.* Land included in Water Quality Zones, Buffer Zones, and Sensitive Feature protection zones may be used in the calculation of the total Impervious Cover allowed on the Site. The total allowed Impervious Cover on a Site may be allocated by an applicant in a manner that concentrates the allowed Impervious Cover in one or more uplands zones on the Site, under Chapter 2, Article 5, Division 3..

*Submittal of series of applications prohibited.* A person may not submit a series of applications for approval of any type of Watershed Protection Plan for distinct Sites on a single tract of property nor divide such land into smaller parcels for the purpose of increasing the Impervious Cover limit on the property. If the Engineering Director determines that an application involves a Violation of this subsection, the Engineering Director will apply the Impervious Cover limitation for the entire tract of property, including those portions already developed, to the application.

*Computation of Impervious Cover.* The measurement of Impervious Cover at a Site in the Recharge Zone shall be in accordance with **Section 8.5.1.7** of this Development Code.

*Exceptions included in total Impervious Cover.* For an exception to the Impervious Cover limitations for Water

Quality Zones, Buffer Zones or Sensitive Feature protection zones shall be counted towards the total Impervious Cover allowed for a Development Site

#### **DIVISION 4: BEST MANAGEMENT PRACTICES (BMPs)**

##### **Section 6.2.4.1 Requirements and Standards for BMPs**

- (a) *Best management practices* or *BMPs* means activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the Pollution of the Edwards Aquifer and hydrologically connected surface streams. BMPs also include treatment requirements, operating procedures, and practices to control Site runoff, spillage or leaks, sludge or waste disposal, or Drainage from raw material storage. BMPs are described in the TCEQ BMP Guidance Manual.
- (b) *Installation of BMPs.* If Impervious Cover at the Site of a Development in the Recharge Zone equals or exceeds 15 percent on the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) for the Development, Permanent BMPs must be installed in accordance with the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) in order to mitigate the water quality impacts of the Development. The Permanent BMPs must limit the increase in the total suspended solids load in Drainage from the Site that results from the Development to no more than 20 percent above that which would occur from Natural Drainage from the Site. See the City of San Marcos Stormwater Technical Manual for design guidance in coordination with the TCEQ BMP Guidance Manual.
- (c) *BMPs in Accordance With TCEQ Rules.* All temporary and Permanent BMPs required in the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) must be constructed, operated and maintained in accordance with the standards, criteria and requirements in the TCEQ Edwards Aquifer rules and the TCEQ BMP guidance manual.
- (d) *Exclusion.* If a Watershed Protection Plan (Phase 1, Phase 2, or Qualified) shows less than 15 percent Impervious Cover for a Site, the proposed plan may eliminate information pertaining to the provision of Permanent BMPs.

**DIVISION 5: TEMPORARY EROSION AND SEDIMENTATION CONTROLS****Section 6.2.5.1 Requirements for Developments Not Covered by a Watershed Protection Plan**

- (a) *Temporary Controls Required.* Temporary erosion and sedimentation controls are required to be installed and maintained for the following activities that may not be covered by any type of Watershed Protection Plan, if they occur in the Recharge Zone or in an area of the Transition Zone that drains across the Recharge Zone:
- (1) The Construction or expansion of one single Family home or Accessory Structure on a legally Platted Lot, or on an unsubdivided tract of land at least two acres in size, for which a legal description was contained in a deed recorded before March 1, 2000.
  - (2) The installation or maintenance of utility lines by a governmental entity.
  - (3) Landscaping activities involving more than 5,000 square feet of area of landscape installation.
  - (4) The resurfacing of existing paved roads, Parking Lots, Sidewalks, or other Development-related impervious surfaces.
- (b) *Temporary Controls Required.* Temporary erosion and sedimentation controls are required to be installed and maintained for a Development that is not required to be covered by any type of Watershed Protection Plan, if the activities occur in the Recharge Zone or in an area of the Transition Zone that drains across the Recharge Zone.
- (c) *Standards.* All temporary erosion and sedimentation controls required under this Section must:
- (1) Meet the applicable standards and requirements of the TCEQ Edwards Aquifer rules and the TCEQ BMP guidance manual;
  - (2) Be installed prior to commencing Construction;
  - (3) Be maintained during Construction; and
  - (4) Not be removed until vegetation is established and the Construction area is stabilized.

*Monitoring.* The Engineering Director will monitor stormwater Discharges from these activities to evaluate the adequacy of the temporary erosion and sedimentation control measures. The Engineering Director may require the person performing the activity to use additional controls if the Engineering Director determines that the controls used by the person are inadequate to protect water quality.

**DIVISION 6: WATER QUALITY ZONES****Section 6.2.6.1 Water Quality Zones**

- (a) *Water Quality Zones Established.* A Water Quality Zone shall be established along each Minor Waterway, intermediate Waterway, and Major Waterway in the Recharge Zone. The area of the zone is determined in one of the following ways:
- (1) If the Waterway has an officially mapped 100-year Floodplain, the Water Quality Zone is the area of the 100-year Floodplain based on the latest Federal Emergency Management Agency maps adopted by the local regulatory authority, subject to Site-specific interpretation in a manner acceptable to the Engineering Director.
  - (2) If the Waterway does not have an officially mapped 100-year Floodplain, the Water Quality Zone is either:
    - a. 50 feet extending out on each side of the centerline of a Minor Waterway, 100 feet extending out on each side of the centerline of an intermediate Waterway, and 200 feet extending out on each side of the centerline of a Major Waterway; or
    - b. The area of the 100-year Floodplain as calculated and determined by a Texas-licensed engineer, at the developer's option and expense, in accordance with engineering standards acceptable to the Engineering Director.
  - (3) No Development or Impervious Cover is allowed within a Water Quality Zone, except for the following:
    - a. Arterial, Residential and Collector Street crossings in accordance with the following:
      1. Major Waterways may be crossed by Arterial Streets that are a distance of at least 2,000 feet horizontally from the nearest Adjacent crossing of the Waterway by an arterial or Collector Street.
      2. Intermediate Waterways may be crossed by arterial and Collector Streets that are a distance of at least 2,000

feet horizontally from the nearest Adjacent crossing of the Waterway by an arterial or Collector Street.

3. Minor Waterways may be crossed by arterial, collector and Residential Streets that are a distance of at least 1,000 feet horizontally from the nearest Adjacent crossing of the Waterway by an arterial, collector or Residential Street.
  4. A Waterway, whether major, intermediate or minor, may be crossed by one collector or Residential Street regardless of the distance from the nearest crossing of the Waterway by an existing arterial, collector or Residential Street, if the crossing will provide the only access to a public road or Street for a portion of the tract of land on which the new Street is proposed.
- b. Utility line crossings that are in compliance with all City and TCEQ requirements.
  - c. Fences that do not obstruct surface water flows.
  - d. Trails and related facilities, other than Buildings, for walking, running, and non-motorized biking.

## DIVISION 7: BUFFER AND PROTECTION ZONES

### Section 6.2.7.1 Buffer Zones

- (a) *Buffer Zones Established.* A Buffer Zone is established along each Minor Waterway, intermediate Waterway and Major Waterway in the Recharge Zone. The Buffer Zone is 100 feet wide, measured horizontally, along each side of the Water Quality Zone for each minor, intermediate and Major Waterway.
- (b) *Impervious Cover Limitation.* Impervious cover is limited to ten percent of the area of a Site within a Buffer Zone, unless the area has a slope of 20 percent or more. If an applicant obtains approval for a mitigation plan in accordance with subsection (d), Impervious Cover within the Buffer Zone on a Site, other than in an area with a slope of 20 percent or more, may be increased to 20 percent. In a portion of a Buffer Zone that has a slope of 20 percent or more, no Impervious Cover is allowed unless the applicant obtains approval for a mitigation plan in accordance with subsection (d), in which event Impervious Cover is limited to ten percent.

*Development standards near Floodways.* For Development in Buffer Zones Adjacent to a 100-year Floodplain that is 50 feet or less in width next to a Floodway:

- (1) The ten percent limit on Impervious Cover is absolute;
- (2) All Drainage from Impervious Cover in such areas must be directed away from the Waterway; and
- (3) A mitigation plan for the Drainage, prepared in accordance with subsection (d) must be submitted for approval.

*Mitigation plan.* A Watershed Protection Plan (Qualified, refer to Section 3.7.1.4 of this Development Code) for a Development in the Recharge Zone may be accompanied by a mitigation plan for Improvements on the Site that are proposed within a Buffer Zone. The mitigation plan must be prepared by a Texas-licensed engineer, or by such an engineer and a Texas-registered landscape architect, and must describe temporary and permanent mitigation measures to be installed and maintained at the Site. A mitigation plan may consist of landscaping practices and features that perform an active filtration function for runoff from Improvements, or BMPs, or both. To be approved, a mitigation plan must demonstrate to the satisfaction of the Engineering Director that the mitigation measures are designed, and will function, in a manner that provides for removal of contaminants from runoff from the Site to the

same extent as, or to a greater extent than, the installation and maintenance of a native grass surface within the entire width of the Buffer Zone.

- (2) Trails and other facilities, other than Buildings, for walking, running, or non-motorized biking.

### Section 6.2.7.2 Sensitive Feature Protection Zones

- (a) *Sensitive Feature Protection Zones Established.* A Sensitive Feature protection zone shall be established around each Sensitive Feature in the Recharge Zone. Unless an applicant submits an enhanced Geologic Assessment of a feature in accordance with Section 6.2.2.1(d), or an enhanced topographic information in accordance with subsection (c) of this Section, the area of the zones shall be determined as follows (all measurements are to be made horizontally):

- (1) Around a Minor Recharge Feature, the zone shall extend 50 feet around the perimeter of the feature, and an additional 25 feet on the upstream side of the feature.
- (2) Around a Moderate Recharge Feature, the zone shall extend 100 feet around the perimeter of the feature, and an additional 50 feet on the upstream side of the feature.
- (3) Around a Major Recharge Feature, the zone shall extend 200 feet around the perimeter of the feature, and an additional 100 feet on the upstream side of the feature.

- (b) *Enhanced Geologic Assessments.* If an applicant obtains the Engineering Director's approval of an enhanced Geologic Assessment for a feature in accordance with Section 6.2.2.1(d), the area of the Sensitive Feature protection zone for a feature shall be the area identified by the assessment as contributing Significantly to recharge through the feature.

*Enhanced topographic information.* If an applicant submits enhanced topographic information for a Site, with contour intervals of two feet or less, the Sensitive Feature protection zone shall be the area within the following distance of a Sensitive Feature that is identified on the enhanced topographic survey as draining towards the feature:

- (1) For a Minor Recharge Feature, 75 feet.
- (2) For a Moderate Recharge Feature, 150 feet.
- (3) For a Major Recharge Feature, 300 feet.

*Impervious cover limitations.* No Development or Impervious Cover is allowed within a Sensitive Feature protection zone, except for the following:

- (1) Fences that do not obstruct surface water flows.

## DIVISION 8: CLUSTERING INCENTIVES, DEVELOPMENT TRANSFERS AND PARKLAND CREDITS



### Section 6.2.8.1 Clustering Incentives

(a) *On-Site Incentives.*

- (1) For each acre of land in a Buffer Zone that is permanently set aside in its natural condition as Open Space, the total Impervious Cover may be transferred to one or more uplands zones and may be increased by a bonus of 7,000 square feet, if the Planning and Zoning Commission in approving a Qualified Watershed Protection Plan finds that setting aside the land achieves one or more of the following water quality protection results:

- a. It removes all or a portion of the allowed Development out of a Buffer Zone.
- b. It increases the effective width of a Buffer Zone.
- c. It increases the area of a Sensitive Feature protection zone.
- d. It provides Setbacks along smaller Drainage ways that drain areas of less than 50 acres and would otherwise not be protected.

- (2) Land set aside under this subsection must be permanently protected and maintained as Open Space in a manner acceptable to the City Attorney. The land must either be:

- a. Dedicated to the City or the public as permanent Open Space;
- b. Held in private ownership and permanently protected by a conservation Easement or similar mechanism in favor of the City, another government agency, or a non-profit conservation organization approved by the Planning Director; or
- c. Deeded to a government agency or a non-profit conservation organization approved by the Planning Director as permanent Open Space.

- (3) Additional Impervious Cover incentives may be granted by the Commission, upon the recommendation of the Engineering Director and Planning Director, if the applicant proposes to

use innovative BMPs or water quality protection measures that are in addition to or exceed those called for in this Article. No incentive will be granted unless the applicant provides credible scientific data that the proposed BMP or measure will Significantly improve the quality of water leaving developed areas of the Site. The Engineering Director shall report to the Commission on the Significance of the measure and its probable impact on water quality protection on the Site. The Commission shall have the discretion to grant an Impervious Cover incentive, up to the limits set elsewhere in this subsection, that is appropriate for the measures being proposed.

- (4) The total Impervious Cover allowed on the portion of a Development Site within the Edwards Aquifer recharge of Transition Zones, including all incentives granted under this subsection, shall not exceed 30 percent of the gross area of such portion of the Site.

(b) *Off-Site Transfers.*

- (1) For each acre of land in a Buffer Zone that is permanently preserved in the manner provided in subsection (a)(2) above, the total Impervious Cover may be transferred from that Site to one or more uplands zones on a receiving Site, and may be increased by a bonus of 7,000 square feet, if the Development transfer meets one or more of the criteria in subsection (a)(1) above and is approved by the City Council under a Development transfer petition under Chapter 2, Article 5, Division 3.

- (2) The Engineering Director will keep a record of each off-Site transfer, including documentation on both the sending and receiving Sites and the total amount of the Impervious Cover bonus involved in each transfer.

- (3) The total Development allowed on a Site, including all incentives granted under this subsection, may not exceed a 50 percent bonus to the Impervious Cover limits set in Section 6.2.3.1.

### Section 6.2.8.2 Development Transfers

- (a) *Transfer of Development Rights.* The Development transfer from a Site located in the Recharge Zone to a receiving Site located outside of the Recharge Zone is encouraged. The following provisions are intended to provide incentives for a Development transfer.

- (1) The allowance for Impervious Cover under the provisions of this Article for a Site located in the Recharge Zone may be transferred in the form of a Residential unit bonus to a receiving Site inside the City limits through approval of petition for a Development transfer under Chapter 2, Article 5, Division 3. The receiving Site may be granted additional Residential units to be added to the total number of units that would otherwise be allowed within the zoning district of the receiving Site through approval of a Development transfer receiving district. For each 5,000 square feet of Impervious Cover that could be legally constructed in the sending Site, but is instead transferred to the receiving Site, the following additional number of Residential units may be constructed on the receiving Site:
  - a. Two single Family homes, three duplexes or Townhouses, or
  - b. Four apartment units.
- (2) The Commission and the City Council must approve the petition for a Development transfer under Chapter 2, Article 5, Division 3.
- (3) The total increase in Residential density allowed on the receiving Site must not exceed 25 percent of the density otherwise allowed on the receiving Site.

### Section 6.2.8.3 Parkland Credits

- (a) *Parkland Dedication Credit.* Land included in Water Quality Zones, Buffer Zones, and Sensitive Feature protection zones may be used to meet up to 75 percent of the Parkland dedication requirements for Sites that are being Platted in accordance with **Chapter 8, Article 6** of this Development Code under the following circumstances:
  - (1) The Commission, after receiving the recommendation of the Director of Parks and Recreation, must find that the dedication of the land as Parkland is in the public interest;
  - (2) Parkland dedicated under this subsection must be dedicated in accordance with Chapter 8, Article 6, and must be designated as both Parkland and permanent Open Space; and
  - (3) Only minimal trail Improvements and low-impact recreational uses that are consistent with the water quality protection function of the zones will be allowed in areas that are dedicated as Parkland and Open Space under this provision.

## ARTICLE 3: DEVELOPMENT RELATED TO THE SAN MARGOS RIVER CORRIDOR

### DIVISION 1: - GENERAL PROVISIONS

### DIVISION 2: - DEVELOPMENT STANDARDS

### DIVISION 3: - CLUSTERING AND DEVELOPMENT TRANSFERS

**DIVISION 1: GENERAL PROVISIONS****Section 6.3.1.1 Purpose, Applicability, and Findings**(a) *Findings.*

- (1) The City is the trustee of the natural environment of the San Marcos River for existing and future generations of citizens of the City and its environs;
- (2) The San Marcos River provides Significant and irreplaceable recreational opportunities to the citizens of the City and its environs;
- (3) The San Marcos River ecosystem is biologically unique, and some animal and plant species found in the first few kilometers of the San Marcos River are found nowhere else;
- (4) Development that is insensitively planned, improperly constructed or poorly maintained near the San Marcos River can result in irreparable damage to the natural environment and, particularly, to the quality of the water in the San Marcos River;
- (5) The San Marcos River Corridor, due to highly erodible soils and rare biotic communities, is highly susceptible to irreparable damage resulting from Development activities;
- (6) The San Marcos River Corridor is facing the potential for intense Development;
- (7) The continued economic growth and quality of life of the City is dependent on a pleasing natural environment, quality recreational opportunities, compact walkable development patterns, and unique natural resources within and in close proximity to the City;
- (8) The San Marcos River Corridor must be protected in order to preserve the health, safety and welfare of the citizens of the City and its environs;
- (9) If the San Marcos River Corridor is not developed in a sensitive and innovative manner in accordance with regulations designed to protect the corridor, the natural environment, river ecosystem and recreational characteristics, the San Marcos River will be irreparably damaged; and
- (10) The City Manager has directed the City staff to conduct a study of characteristics of the San Marcos River Corridor, the adverse impact of

Development activities thereon and the means by which adverse Development impacts can be mitigated.

(b) *Purposes.* The purposes of the standards in this Division shall be to:

- (1) Prevent indiscriminate and unnecessary stripping of native vegetation and the unnecessary loss of soils;
- (2) Prevent increases in soil erosion and sedimentation during and after Development activities;
- (3) Prevent increases in the rate, volumes and velocities of stormwater runoff;
- (4) Prevent or reduce increases in Pollution concentrations and total Pollutant loadings of stormwater runoff;
- (5) Protect the biological integrity of the San Marcos River habitat; and
- (6) Preserve the natural and traditional character of the land and Waterway to the greatest extent feasible.

(c) *Applicability.* The provisions of this Division apply to all land within the following described boundaries:

- (1) An area bounded by the headwaters of the San Marcos River in Spring Lake along a line perpendicular to the flow line of Sink Creek southeast to the intersection of the Missouri Pacific Railroad tracks, then southwest along the Missouri Pacific Railroad tracks to its intersection with Charles Austin Drive, then southeast along Charles Austin Drive to its intersection with the Missouri Pacific Railroad tracks, then southwest along those tracks to McKinnon Street, then southeast along McKinnon Street to its intersection with Field Street, then south along Field Street to its intersection with Roberts Street, then along Roberts Street, southeast along a line crossing Interstate 35 to Sherbarb Street, along Sherbarb Street to its intersection with Linda Lane, then southwest along Linda Lane to its intersection with River Road, then south along River Road to a point on River Road where River Road turns northeast and intersects with land having soil which is classified as having a high or severe water erosion hazard, then southeast parallel with the San Marcos River to the confluence of the Blanco and San Marcos Rivers, then for a distance of 1,000 feet up the

Blanco River and a distance of 200 feet from the bank of the Blanco River, then across the Blanco River to a point 200 feet from the eastern bank, then south at a distance 200 feet from the bank to the Floodplain of the San Marcos River as defined in the Watershed Plan and Environmental Impact Statement, USDA, SCS-EIS-WS-(ADM)-78-2-(F)-(TX), and on the Federal Emergency Management Administration (FEMA) maps for Hays, Guadalupe and Caldwell Counties in effect on August 11, 1985, (1) then along the Floodplain or (2) within 1,000 feet of the centerline of the San Marcos River if the land is classified by the Soil Conservation Service Soil Surveys of Hays, Caldwell and Guadalupe Counties, as having a high or severe water erosion hazard, or (3) within 200 feet of the bank of the San Marcos River, whichever is the larger area, to the limits of the City's Extraterritorial Jurisdiction.

Then across the San Marcos River and from the limits of the City's Extraterritorial Jurisdiction west and north along the San Marcos River and (1) within the Floodplain of the San Marcos River or a Tributary as defined in the Watershed Plan and Environmental Impact Statement, USDA, SCS-EIS-WS-(ADM)-78-2(F)-(TX), and on the Federal Emergency Management Administration (FEMA) maps for Hays, Guadalupe and Caldwell Counties in effect on August 11, 1985, or (2) within 1,000 feet of the centerline of the San Marcos River if the land is classified by the Soil Conservation Service Soil Surveys of Hays, Caldwell and Guadalupe Counties, as having a high or severe water erosion hazard, or (3) within 200 feet of the bank or the San Marcos River, whichever is larger area, then to Hays Co. Road, northwest along that road to USGS benchmark 578, then north along S. McKie Street to Interstate Highway 35, then across Interstate Highway 35 to C.M. Allen Parkway, then north along C.M. Allen Parkway to its intersection with Purgatory Creek, then along Purgatory Creek west for a distance of 1,000 feet and within 200 feet of its bank, then across Purgatory Creek a distance of 200 feet from the northern bank, then back to C. M. Allen Parkway at a distance 200 feet from the bank of Purgatory Creek then along C. M. Allen Parkway to Moon Street, down Moon Street to its intersection with Woods Street, then in a straight line northeast to that intersection of Sessom Drive with Peques Street, then northeast along Peques Street to a point where Peques Street intersects with the Eckrant-Rock Outcrop Complex soil group, then generally northeast along this soil group's boundary 1,000 feet from the centerline of the San Marcos River to its intersection with the beginning point near the intersection of Ed J.L. Green Drive and

West Laurel Street, then southeast along a line to the headwaters of the San Marcos River in Spring Lake.

- (2) The official map of the SMRC shall be retained in the City Clerk's Office. As land is annexed into the City, and the City's Extraterritorial Jurisdiction is extended in the vicinity of the San Marcos River, the boundaries of the SMRC shall be extended automatically without further action by the City Council in accord with the three-part description in the preceding paragraphs of this subsection.

**NOTE: INSERT SMRC MAP**

- (3) The Engineering Director shall interpret the boundaries of the San Marcos River Corridor from topographic, hydrologic and biological data based on the boundaries described in this subsection.

- (4) The City Council shall periodically, with the assistance of the Engineering Director, review the boundaries of the SMRC. The City Council shall consider in this review and in considering revising the boundaries:

- a. Revised FEMA Floodplain maps;
- b. Water quality monitoring data; and
- c. The effectiveness of this Article's measures, which are designed to protect the river.

(d) *Exceptions.*

- (1) *Development on Platted Subdivisions.* The additional requirements of this Article shall not apply to Development, disrepair, Repair or Construction or Reconstruction of a single-Family detached residence on a properly Platted Subdivision Lot that has been properly Platted before the effective date of the ordinance from which this Article derives.

- (2) *Erodible soils.* If a Development is on land included within the San Marcos River Corridor because it is shown on the Hays, Guadalupe or Caldwell County Soil Conservation Service soil survey maps as being on soils that have a high or severe water erosion hazard, is not within 200 feet of the bank of the San Marcos River, and is not within a Floodplain within the SMRC and a soils test, as verified by the Engineering Director, shows that the Development is not on soils that have a high or severe water erosion hazard and that the stormwater runoff from the Development

will not flow over soils that have a high or severe water erosion hazard, the Development shall not be required to meet the additional requirements of this Article.

## DIVISION 2: DEVELOPMENT STANDARDS

### Section 6.3.2.1 Ecological Preservation

- (a) *Applicability of Landscaping and Buffering.* All standards concerning landscaping, Buffering and the preservation of natural vegetation, as set forth in Chapter 5, Article 1, shall apply within the SMRC.
- (b) *Restoration of Disturbed Areas.* Restoration of disturbed areas that contain native woody and herbaceous plants shall be accomplished only as approved by the Engineering Director.
- (c) *Stabilization of eroding Creek banks.* Stabilization of eroding Creek banks is permitted in order to protect threatened property, but only as approved by appropriate Federal and State agencies and the Engineering Director. All these projects shall be designed to stabilize existing conditions only.
- (d) *Excavation or filling.* Excavation or filling shall be allowed within the SMRC only in accordance with **Article 4, Division 2 of this Chapter 6**, and the following additional requirements:
  - (1) The Excavation or filling is necessary for the purpose of structural engineering or is in the area where a Structure will be completed, including a Building foundation; or
  - (2) Excavation or filling, as demonstrated and certified by a registered professional engineer, will improve the water quality of the runoff and/or stabilize an existing area of erosion and will continue the maintenance of Flood and flow characteristics.

### Section 6.3.2.2 Water Quality Standards

- (a) *Water Quality Zone.* The Water Quality Zone for the Waterways within the SMRC shall be defined in accordance with Section 6.1.2.2 for a FEMA-mapped Waterway, or as all land within a distance of 100 feet from a bank of the river, whichever is greater.
- (b) *Buffer Zone.* The Buffer Zone of the Waterways within the SMRC shall be defined in accordance with Division 1 of this Article 3 for a FEMA-mapped Waterway, or as all land within a distance of 200 feet from a bank of the river, whichever is greater.
- (c) *Impervious Cover Limitations.* Impervious cover limitations within the Water Quality Zone of the SMRC shall be as

provided in [Section 6.1.2.4\(a\)](#). Impervious cover limitations in areas of the SMRC outside Water Quality Zones shall be as provided in [Section 6.3.2.5](#)

- (d) *Other Land Within the Corridor.* Any Development within the SMRC outside the water quality or Buffer Zones shall meet the requirements of Section 6.3.2.3 regarding Overland Flow.
- (e) *Water Quality Basins.* All Stormwater runoff from the developed Site shall be treated to a level equivalent to that provided by sedimentation-filtration BMPs constructed to capture and hold at least the first one-half inch of runoff from the contributing Drainage area. All subsequent runoff in excess of the design capacity of the basins shall bypass the basins and remain segregated from the contained runoff waters in a peak shaving basin up to the capacity specified in Section 6.1.1.3(b).
- (f) *Design of Water Quality Basins.* The design of all water quality basins shall allow a minimum drawdown time of 24 hours for the first one-half inch of runoff from the contributing Drainage area. The design of all water quality basins shall incorporate efficient removal of contaminants, including but not limited to lead, zinc, iron, total phosphorous, total nitrogen, total suspended solids, and fecal coliform bacteria generated as a consequence of the SMRC Development for which a basin is designed as approved by the Engineering Director in accordance with the City of San Marcos Stormwater Technical Manual. These basins shall be maintained at all times in accordance with [Section 6.1.1.7](#) so that efficient removal of the contaminants is continuous.
- (g) *Disposal of Contaminants.* Disposal of removed or filtered contaminants shall be as approved by the Engineering Director in accordance with the Contaminant Removal Guidelines of the City of San Marcos.
- (h) *Input to and Release from Basins.* Input to and release from water quality basins shall utilize grass-lined Swales and/or Overland Flow dispersion measures.

### Section 6.3.2.3 Overland Flow and Natural Drainage

- (a) *Drainage Patterns.* Natural Drainage patterns shall be preserved whenever possible, and the loss of the pervious character of the soil should be limited in order to prevent erosion and attenuate the impact of contaminants collected and transported by stormwater. Open surface Drainage through grass-lined Swales is preferred. Drainage objectives can best be accomplished by leaving portions of a Subdivision in an underdeveloped and Natural State and located to receive runoff from the developed areas

for purposes of unchannelized, Overland Flow. The use of conventional Streets as the central Drainage network is prohibited, while the use of green streets utilizing drainage BMPs such as french drains, pervious pavers, and bioswales is encouraged.

- (b) *Storm Sewers.* Construction of enclosed Storm Sewers and impervious channel linings are permitted only when the Engineering Director, on the basis of competent engineering evidence, concludes that the Storm Sewers or impervious linings are the only justifiable option available. If stormwater Drainage systems and/or culverts are necessary, these systems shall be designed to mitigate their impact on water quality through the use of approved control strategies to control sediment, neutralize contaminants and dissipate energy by the use of multiple smaller outlets, whenever practical, by locating Discharges to maximize Overland Flow and by any other strategies that will accomplish the objectives defined and discussed in this Article.

### Section 6.3.2.4 Velocity Attenuation and Surface Drainage Channels

- (a) Channelization of the San Marcos and Blanco Rivers and any Tributary of the San Marcos River within the SMRC shall be prohibited.
- (b) Any exceptions to the design flow and velocities or depths granted by the Engineering Director under [Section 8.5.1.2](#) shall be comprehensive with the intent of Section 6.3.2.5.

### Section 6.3.2.5 Creation of Impervious Cover

- (a) *Impervious Cover Limitations.* Impervious cover on land within the San Marcos River Corridor outside a Water Quality Zone shall be limited by the gradient of the land to be developed, as follows:
  - (1) 30 percent on areas having a slope with a gradient of less than 15 percent; or
  - (2) 20 percent on areas having a slope with a gradient of between 15 and 25 percent; or
  - (3) Ten percent on areas having a slope with a gradient greater than 25 percent.
  - (4) Credit shall be given for the use of pervious surfaces and materials in direct proportion to the pervious character of the material.

## ARTICLE 4: RESERVED

## DIVISION 3: CLUSTERING AND DEVELOPMENT TRANSFERS

## Section 6.3.3.1 Clustering and Development Transfers

- (a) *Clustering.* Within all areas subject to this Division 3 of Article 3, Chapter 6 and not designated as a Medium Intensity or High Intensity Area on the Preferred Scenario Map of the Comprehensive Plan or zoned in the Character Based Zoning District, clustering of Residential density shall be allowed in accordance with **Table 4.1.6.1** and transfer of Impervious Cover for non-Residential Uses shall be allowed in accordance with **Table 4.1.6.1**, when approved under a Cluster Development Plan authorized in Chapter 2, Article 5, Division 7, or, outside the City limits, when approved under a Plat application authorized in Chapter 2, Article 6 that is consistent with a Watershed Protection Plan (Phase 1) approved under Chapter 2, Article 6.

The maximum number of Residential units attained under the Cluster Development Plan shall be calculated as follows:

{Gross non-restricted Site area}  
multiplied by

{The number of units allowed under the applicable zoning district in accordance with **Table 4.1.6.1**}  
multiplied by  
{1.25 percent}.

- (b) *Development Transfer.* Development transfers may be authorized from all areas subject to this Division 3 of Article 3, Chapter 6, to areas not subject to this Division, when approved through a Petition for Development transfer under Chapter 2, Article 5, Division 3.



## ARTICLE 5: TREE AND HABITAT PROTECTION

### DIVISION 1: - GENERAL

### DIVISION 2: - TREE PRESERVATION AND PROTECTION

### DIVISION 1: GENERAL

#### Section 6.5.1.1 Purpose

The purpose of this Article is to conserve, protect and enhance existing Trees and natural landscape that are healthy and contribute to a safe and livable community. It is recognized that the preservation of existing Trees contributes to the overall quality of life and environment of the City. Trees play a vital role in water and air quality. They protect the health of aquifers and river corridors set forth in Article 3 of this chapter, function in storm water management as well as erosion and dust control, abatement of noise, provision of wildlife habitat and enhancement of property values.

Working Draft  
Initial Public Review  
10/23/15



## DIVISION 2: TREE PRESERVATION AND PROTECTION

### Section 6.5.2.1 General Tree Preservation Requirements

- (a) *Application.* The provisions of this Section apply to all new Development within the City and not within the ETJ. The Responsible Official shall be the Planning Director.
- (b) *Preservation of Existing Landscape.* The existing natural landscape character, especially native oaks, elms, madrone, and pecan Trees, shall be preserved to the maximum extent reasonable and feasible. For example, in an area of the Street yard containing a stand of Trees, the developer, and the builder shall use best good faith efforts to preserve such Trees. *Celtis Occidentalis* (Hackberry), *Juniperus Virginiana*, *Juniperus Ashei* (Common Cedar), Chinaberry, mesquite and *Ligustrum* with a Caliper of less than 12 inches are excluded from this provision. Indiscriminate clearing or stripping of natural vegetation on a Lot is prohibited. Any part of a Site not used for Buildings, parking, driveways, walkways, utilities, on Site septic facilities (OSSF) and approved storage areas shall be retained in a Natural State, or reclaimed to its Natural State, to the greatest extent feasible, or attractively landscaped in a manner that adds aesthetic value to the Development.
- (c) *Protected and Specimen Trees.*

#### NOTE: INCLUDE A TABLE FOR THESE CATEGORIES

- (1) For the purposes of this Article, the Caliper of a single-trunk Tree shall be measured in accordance with the definition of “Caliper” in Chapter 9 of this Development Code. The Caliper of a multi-trunk Tree shall be measured by the following equation: The Caliper of the largest Tree trunk, plus  $\frac{1}{2}$  the Caliper of all other Tree trunks. For example, a Tree that has three trunks with Calipers of 7”, 6”, and 4” would have a Caliper of 12”, or  $7" + (\frac{1}{2} \times 6") + (\frac{1}{2} \times 4")$ .
- (2) The removal of any Tree with a Caliper of nine inches or larger must be specifically requested by the applicant and approved in writing by the designated Responsible Official prior to any action being taken to remove the Tree or to damage or disturb the Tree in any way.
- (3) The removal of Specimen Trees, which for the purposes of these requirements are Trees with 24-inch Caliper or greater, must be specifically requested by the applicant and approved in writing by the designated Responsible Official prior to any action being taken to remove

the Tree or to damage or disturb the Tree in any way. If the request is not approved by the designated Responsible Official, the applicant may appeal the decision to the Planning and Zoning Commission. Any Specimen Tree that is removed shall be replaced Caliper-for-Caliper (a ratio of one-to-one), even if the Tree removed is within the Building footprint area.

- (4) The location of all Trees over nine inches in Caliper to be preserved or removed within the area proposed for Development shall be designated on an application for a Site Preparation Permit or a Watershed Protection Plan, Phase 2 (see Chapter 2, Article 6). An aerial photograph indicating the Tree Canopy shall be submitted with an application for a Watershed Protection Plan, Phase 1, together with a designation of the location of Specimen Trees in the area proposed for Development. Removal of any such Trees without City approval is expressly prohibited. Such Trees shall be tagged and numbered, and numbers shall be graphically depicted on the applicable plan submitted. The tags and related numbers shall remain on the Trees until the Certificate of Occupancy is issued.

### Section 6.5.2.2 Tree Protection Standards

- (a) *Application.* The provisions of this Section apply to all new Development within the City.
- (b) *Protection of Trees During Construction.*
- (1) All protected Trees next to an Excavation Site or to a Construction Site for any Building, Structure, or Street work, shall be guarded with a good substantial fence, frame, or box not less than four feet high and surrounding the trunk of the Tree. In addition, at least three inches of mulch or compost shall be spread beneath the critical root zone (CRZ is one foot radius per inch of caliper at 4.5 feet) of the Tree.
- (2) The barriers shall be approved by the Planning Director and shall be in place before any Site clearance or other Site-disturbing act commences.
- (3) All building material, dirt, Excavation or fill materials, chemicals, Construction vehicles or equipment, debris, and other materials shall be kept outside the barrier.
- (4) Barriers shall remain in place until the final

building and landscape Site inspections are satisfactorily completed for the issuance of the Certificate of Occupancy.

- (c) *Action Around Protected Trees.* No person shall Excavate any ditches, tunnels, or trenches, place any paving material, or place any drive within the protective zone of any protected Tree without first obtaining a written permit from the Planning Director.
- (d) *Damage to Protected Trees.* Unless specifically authorized by the Planning Director, no person shall intentionally damage, cut, carve, transplant, or remove any protected Tree or Shrub; attach any rope, wire, nails, advertising posters, or other contrivance to any protected Tree or Shrub; allow any gaseous, liquid or solid substance which is harmful to such plants to come in contact with them or with the soil; or set fire or permit any fire to burn when such fire or the heat thereof will injure any portion of any protected Tree or Shrub.
- (e) *Duty of Persons for Trees on Property.*
- (1) It shall be the duty of any person or persons owning or occupying real property bordering on any Street upon which property there may be Trees, to prune such Trees in such manner that they will not obstruct or shade the Street lights, obstruct the passage of pedestrians on Sidewalks, obstruct vision of traffic Signs, or obstruct the view from any Street or Alley intersection. The minimum clearance of any overhanging portion thereof shall be ten feet over Sidewalks and 14 feet over all Streets, except Truck thoroughfares which shall require a clearance of 16 feet.
  - (2) It shall be the duty of any person or persons owning, occupying or controlling real property upon which Tree trimming or removal occurs to advise all landscape contractors, Tree services, arborists and others who remove or trim Trees of the need for proper disinfection of all cutting tools and the required painting of all Tree cuts on oak Trees with a proper sealant immediately after cutting or pruning to prevent the spread of oak wilt and to ensure such sealing of cuts.
- (f) *Removing Tree(s) from Development Site(s).*
- (1) Any protected or specimen tree that is removed from the site or street frontage due to development must be replaced with similar species on a 1:1 caliper inch basis. A fee-in-lieu of \$150 per caliper inch shall constitute alternative compliance. Fees-in-lieu shall be dedicated solely to tree preservation and planting

within the City.

- (2) The following shall not be considered protected trees: Trees deemed hazardous, dead, or invasive by a certified arborist and approved by the city arborist.
- (g) *Trees Within the Building Footprint or Within Site Access Areas.*
- (1) Trees over nine inches in Caliper but less than 24 inches in Caliper that are not located within a Building footprint or within 10 feet of a Building footprint, within the area over the septic system, within areas necessary for reasonable Site access, or within areas designated for the Construction or installation of public facilities such as Streets or utilities, that the property owner requests and receives approval to remove may be removed, but shall be replaced on-Site at a ratio of two-and-one-half Trees per Tree removed and shall be credited toward the number of Trees required for Site Development. Replacement Trees shall have a minimum Caliper of two inches.
  - (2) Any Specimen Tree (24 inch Caliper or greater) that is located within the Building footprint, or areas necessary for Site access (but not including Parking Lots and Parking Areas), such as a driveway, shall not be required to be preserved. However, the Tree that is removed shall be replaced Caliper-for-Caliper (a ratio of five-to-one). A fee-in-lieu of \$300 per caliper inch shall constitute alternative compliance. Fees-in-lieu shall be dedicated solely to tree preservation and planting within the City. Trees removed shall be approved in accordance with Section 6.5.2.1.

### Section 6.5.2.3 Credits - Non-Residential and Multifamily Development

- (a) *Application.* The provisions of this Section apply to all non-Residential and multifamily Development within the City.
- (b) *Incentives to Retain Existing Trees.* As an incentive to retain existing Trees in the Street Yard, exclusive of the Trees contained in the Buffer required under Section 6.2.7.1, the following shall apply:

**NOTE: Specify that applicable trees for credit must be located within the LOC**

- (1) In order to encourage the preservation of Trees that are already established and growing, the additional credit as outlined below shall be given

to healthy existing Trees of a species listed on the Preferred Plant List in the Technical Manual.

- (2) Existing Trees shall receive existing credit against the landscaping requirements according to the following schedule:
    - a. Greater than 12-inch Caliper: credit for two required Trees.
    - b. Greater than four-inch but less than 12-inch Caliper: credit for one-and-one-half Trees.
  - (3) Any existing Tree in the First Lot Layer which is at least six inches in Caliper and at least 15 feet tall, shall be considered as two-and-one-half Trees for the purposes of satisfying the requirements of Chapter 5, Article 1.
  - (4) Any existing Specimen Tree (24-inch Caliper or greater) shall be considered as a Caliper-for-Caliper match for the purposes of satisfying the requirements of Chapter 5, Article 1. For example, a 24 inch Caliper Tree can be counted for up to 12 Trees that each have a two-inch Caliper.
- (c) *Exclusions.* *Celtis Occidentalis* (hackberry), *Juniperus Virginiana*, *Juniperis Ashei* (Common Cedar), Chinaberry, Mesquite, and *Ligustrum* are excluded from this provision.

## DIVISION 5: STORM WATER COLLECTION AND DRAINAGE CONVEYANCE SYSTEMS

### Section 3.9.5.1 Stormwater Collection and Drainage Conveyance Systems

#### (a) *System Design Requirements*

- (1) Design Based on Maximum Build-Out Configuration. Drainage Improvements shall accommodate runoff from the upstream Drainage area in its anticipated maximum “build-out” condition in accordance with the drainage mitigation requirements currently in place, and shall be designed to prevent overloading the capacity of the downstream Drainage system. The City may require the phasing of Development, the use of control methods such as retention or detention, or the Construction of off-site Drainage Improvements in order to mitigate the impact of the proposed Development. No storm water collection system shall be constructed unless it is designed in accordance with the City’s TCSS Manual by a licensed professional engineer, and unless it is reviewed and approved by the Engineering Director. All plans submitted to the Engineering Director for approval shall include a layout of the Drainage system together with supporting calculations for the design of the system. (Also see Chapter 6.)
- (2) Design Storm Event. All Drainage facilities (including Street curbs, gutters, inlets and storm Wastewaters) shall be designed to intercept and transport runoff from a 25-year frequency storm. The Drainage system shall be designed to convey those flows greater than a 25-year frequency, up to and including a 100-year frequency storm within defined Rights-of-Way or Drainage Easements. Peak flows shall not be increased at any location for the 2-, 5-, 10-, 25-, 50- or 100-year storm frequency which causes increased inundation of any Building or roadway surface.
- (3) Easements. Easements or Rights-of-Way shall be dedicated to the City by the owner of property to be developed for the purpose of containing all Drainage facilities, open or enclosed, and all storm water flows to the limits of the 100-year Floodplain as determined by fully developed conditions. No Easement or Right-of-Way for such purposes shall be less than 25 feet in width for open Drainage systems and 15 feet

for enclosed Drainage systems. Additional Easements or Right-of-Way shall be provided as necessary to allow continuous access for operation, maintenance and rehabilitation of all Drainage facilities.

- (4) Street Drainage. Except for inverted crown Thoroughfares described in **Tables \_\_\_\_ - \_\_\_\_ (Thoroughfare Assemblies)**, no lowering of the standard height of Street crown shall be allowed for the purposes of obtaining additional hydraulic capacity. For bridges and culverts in Residential Streets, runoff from the 100-year frequency flow shall not produce a headwater depth at the roadway greater than either 12 inches above the roadway crown or any top of upstream curb elevation, whichever is lower. For bridges and culverts in Streets other than Residential areas, the 100-year headwater depth is limited to six-inches.
- (5) Conformance with the TCSS Manual. All erosion and sedimentation controls shall conform to the TCSS Manual.
- (6) Permit Required. No person, individual, partnership, firm or corporation shall deepen, widen, fill, reclaim, reroute or change the course or location of any existing ditch, channel, stream or Drainage way without first obtaining a Site Plan Permit and permits from all agencies (such as FEMA or the U.S. Army Corps of Engineers) having jurisdiction. The Engineering Director may, at his or her discretion, require preparation and submission of a FEMA or Flood study for a proposed Development if there are concerns regarding storm Drainage on the subject property or upstream or downstream from the subject property. The costs of such study, if required, shall be borne by the developer.
- (7) Layout Should Use Natural Contour Lines. In order to help reduce storm water runoff, and resulting erosion, sedimentation and conveyance of non point source Pollutants, the layout of the Street network, Lots and Building Sites shall, to the greatest extent possible, be sited and aligned along natural contour lines, and shall minimize the amount of cut and fill on slopes in accordance with the standards for cut and fill set forth in **Section 6.1.1.2** (including the limitations on and procedures for Deviations under **Section 6.1.1.2(i)**) in order to minimize the amount of land area that is disturbed during Construction.

- (8) Design of Storm Water Retention or Detention Facilities. All storm water retention or detention facilities shall be designed using materials and techniques as established in the City's TCSS Manual or as may be approved by the Engineering Director.

Detention and water quality ponds shall be designed to avoid the need for fencing when possible. When the need for fencing cannot be avoided, the fencing shall be designed to and utilize materials that complement any associated Building Structure and the project Site. Ornamental fencing, including wrought iron, wooden or masonry fencing may be Erected along steep side slopes or changes in grade only for safety purposes, but may not be Erected around the entire pond. Chain link fencing, however, is prohibited. Detention and water quality ponds and facilities must, otherwise, comply with the design standards set forth in the City of San Marcos Stormwater Technical Manual, including requirements for location, screening and fencing not inconsistent with this Chapter and applicable ordinances.

(b) *Velocity Attenuation and Surface Drainage Channels*

- (1) Drainage Channels Generally. All Drainage channels to be Constructed or to be altered for Drainage purposes shall conform to the criteria of Section 3.9.5.1(b)(2).
- (2) Surface Drainage Channels. Surface Drainage channels shall be designed to minimize potential erosion and to increase the bottom width to flow depth ratio as follows: Channel cross sections shall be trapezoidal in configuration.
- a. Side slopes of channels shall be no steeper than four horizontal to one vertical.
  - b. All constructed and altered Drainage channels shall be stabilized and vegetated as soon as practicable after final grading.
  - c. The Engineering Director may allow exceptions to the design flow velocities or depths in the following situations in conformance with the purpose of **Section 6.3.2.5:**
    1. On lands with greater than 15 percent slope, provided that

the design flow velocity shall never be greater than three feet per second.

2. In limited transitional channel sections (including culverts, culvert entries and exits, drop sections, sharp bends and water quality basin entries).

- (c) *Street and Drainage Improvements.* Plans for Street and Drainage Improvements located within Developments requiring compliance with this Section shall be designed on the basis of a 25-year frequency rainfall, in accordance with the City of Austin Drainage Criteria Manual.

(d) *Impervious Cover Limitation*

- (1) No person shall develop land, a tract, a parcel or a Lot, requiring compliance with this Article, in the City that has a slope of 15 percent gradient or greater or that has highly erodible soils, as identified in this Section, so as to create Impervious Cover in excess of 35 percent on slopes from 15 percent gradient to 25 percent gradient or in excess of 20 percent on slopes over 25 percent gradient. The maximum Impervious Cover percentage requirement shall only apply to those areas on a parcel of land that are not covered with Impervious Cover as of May 6, 1982. The Impervious Cover requirement will pertain to all area within the Development which is shown to be on 15 percent slope or greater by topographical survey performed by a registered Surveyor. Those areas within the Development that are not on slopes of 15 percent or greater may be developed to the maximum allowed under applicable laws.
- (2) Slope contours will be based on existing topography prior to the initiation of grading or fill work at the Site.
- (3) This Section 3.9.5.1(d) shall supersede any other inconsistent Impervious Cover standard of this Development Code.

(e) *Drainage Easement Dedication Requirements*

- (1) Public Drainage Easements shall be dedicated to the City by the owner of property to be developed for the purpose of containing all Drainage Improvements, open or enclosed, and all storm water flows to the limits of the 100-year Floodplain as determined in accordance with anticipated fully-developed contributing area land

Use conditions, and to allow continuous access for operation, maintenance and rehabilitation of all Drainage Improvements. Drainage Improvements that serve Streets or other public property may be dedicated in a public Street Right-of-Way rather than a Drainage Easement, subject to the approval of the Engineering Director.

- (2) Drainage Easements shall be wide enough to provide for adequate maintenance access.

(f) *Drainage Improvements Maintenance Criteria*

- (1) Drainage Improvements constructed or installed under this Article shall be maintained in accordance with the following:

- a. Drainage Improvements located in the Public Rights-of-Way that have been accepted by the City will be maintained by the appropriate jurisdiction.
- b. All Drainage Improvements located on private property and which are publicly dedicated Easements shall be maintained by the property owner.

- (2) During the course of Development under an approved Watershed Protection Plan or Site Plan Permit, and until final inspection of completed Drainage Improvements, the permit Holder shall provide for the following:

- a. Maintaining of an on-site inspection and Repair log for all Drainage and erosion control features and facilities required under this Section 3.9.5.1(f). This log shall be open to inspection by City inspectors at reasonable times.
- b. Maintaining rock covered points of ingress and egress sufficient to permit inspection of all Drainage and erosion control features and facilities required under this Section 3.9.5.1(f).
- c. Daily cleanup of paved Streets and of Drainage areas impacted by on-site or off-site Construction.

- (3) Duly authorized City inspectors may lawfully enter onto the land or Premises where property owners are required to maintain Drainage facilities, at reasonable times, for the purpose of inspection of the maintenance required. Where noncompliance is found, the City shall request in writing that the property owner comply. This

notice shall describe the measures required to be taken. If, within the period of time specified in the notice, the maintenance required is not accomplished, the City may take one or more of the following actions:

- a. Bring an action in a court of competent jurisdiction to require the property owner to accomplish the necessary maintenance.
- b. Perform the required maintenance, bill the property owner for the cost of the maintenance, and record a lien against the property served by the Drainage facilities.

(g) *Calculation of Impervious Cover*

- (1) Under this Section 3.9.5.1(g), paved roads, Sidewalks, Parking Areas, Parking Lot, Buildings and other impermeable Construction covering the natural land surface shall be considered as Impervious Cover. To estimate the percent of Impervious Cover created by the Development of a parcel or tract of land, the following methods in **Table 3.9.5.1A (Calculation of Impervious Cover)** shall be used:



**TABLE 3.9.5.1A CALCULATION OF IMPERVIOUS COVER**

**Roadways (except cul-de-sacs):**

$(W_r + 2W_c) \times (l_f) = \text{square feet}$

Where:

$W_r$  = width of roadway pavement

$W_c$  = width of curb

$l_f$  = linear feet

**Cul-de-sacs (use either subsection a or subsection b of this Section, as is applicable)**

a.  $(P/2 + 10) (W_r + 2W_c) = \text{square feet}$

Where:

$P$  = perimeter of Right-of-Way

$W_r$  = width of roadway pavement

$W_c$  = width of curb

b.  $(P/2 + 10) (W_r + 2W_c) = \text{square feet}$

Where:

$P$  = perimeter of Right-of-Way

$W_r$  = width of roadway pavement

$W_c$  = width of curb

**Driveway approaches**

$(16) \times (9.5) \times (N) = \text{square feet}$

Where:

16 = average driveway width in feet

9.5 = length of driveway approach for standard ten-foot curb base minus curb. (This factor may vary depending on ROW and resulting curb base.)

$N$  = total number of lots

**Single-Family residential areas**

$(3,000) (N) = \text{square feet}$

Where:

3,000 = average Impervious Cover for single-Family residential lots

$N$  = total number of lots

(2) Multi-Family, commercial and industrial land Uses: The Impervious Cover for other land Uses, including Multi-Family, commercial and industrial, shall be determined by addressing the following factors:

- a. Ground floor Building square footage of all Structures.
- b. Estimated square footage of off-street parking.
- c. Driveways and/or roadways on-site.

(3) If alternative surfaces for parking or other related Uses are proposed, adjustment factors have been established that should be multiplied by the total acres of actual Impervious Cover. The use of any alternative surfaces, including those not listed here, must be authorized by the Engineering Director. Adjustment factors for any surfaces not listed here shall be established by the Engineering Director. Adjustment factors for use with specific surface coverage are shown in **Table 3.9.5.1B (Calculation of Impervious Cover - Adjustment Factors)**:

**TABLE 3.9.5.1B CALCULATION OF IMPERVIOUS COVER - ADJUSTMENT FACTORS**

Proposed Alternative Surface	Coverage Factor
Gravel walks or driveways	0.25
Rolled base or gravel driveways	0.55
Stone, brick or wood block with open joints covering < 5%	0.70
Stone, brick or wood block with open joints covering ≥ 5% & underlaid with sand & gravel	0.40
Stone, brick or wood block with cemented joints	0.90
Grass-crete (or equivalent)	0.70
Concrete or asphaltic concrete	1.00

(h) Erodible Soils. The following is a list of those soils located within the area that have a high potential for erosion based on soil conservation service data:

- (1) Branyon clay
- (2) Houston black clay

- (3) Heiden clay
- (4) Anhalt clay
- (5) Ferris clay
- (6) Lewisville silty clay
- (7) Sunev silty clay loam
- (8) Seawillow clay loam
- (9) Denton silty clay
- (10) Bular clay loam
- (11) Altoga silty clay
- (12) Oakalla soils
- (13) Tinn clay
- (14) Oakalla silty clay loam
- (15) Oris soils
- (16) Austin-Castephen complex
- (17) Tarpley clay
- (18) Castephen clay loam
- (19) Purves clay
- (20) Gruene clay
- (21) Doss silty clay
- (22) Krum clay
- (23) Pedernales pine sandy loam

(i) *Continuing Responsibilities*

- (1) The Holder of any approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) required by this Development Code is responsible for compliance with the terms and conditions of the approved plan, including the Construction, operation and maintenance of all Temporary BMPs and Permanent BMPs shown on the approved plan or described in the accompanying technical report, through all phases of implementation. The Holder is responsible for notifying all persons engaged in Development activities on the Site of the requirements of this Article and the terms and conditions of the approved plan, including the Construction, operation and maintenance of all Temporary BMPs and Permanent BMPs shown on the approved plan or described in the accompanying technical report. Any failure to comply with any provision of this Article or any term or condition of the approval by any person

engaged in work on a Development on the Site will constitute a Violation of this Section by the Holder and will subject the Holder to enforcement under Chapter 3, Article 3, Division 7.

- (2) Any person engaged in work on a Development who violates any provision of this Chapter or any term or condition of the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) for the Development, including the Construction, operation and maintenance of all Temporary BMPs and Permanent BMPs shown on the approved plan or described in the accompanying technical report, violates this Section and is subject to enforcement under Chapter 3, Article 3, Division 7.

- (3) Upon legal transfer of property, the new owner is required to comply with all terms of any approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) required by this Land Development Code. If the new owner intends to commence any development on the site that is not covered by the approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified), a new Watershed Protection Plan application (Phase 1, Phase 2, or Qualified, as applicable) that specifically addresses the new activity must be submitted to the Engineering Director for review and approval prior to commencement of the activity

- (4)
  - (a.) Responsibility to Maintain Permanent BMPs. The Holder of any approved Watershed Protection Plan (Phase 1, Phase 2, or Qualified) required by this Development Code is responsible for maintaining any required Permanent BMPs after Construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as an owners association, a new property owner or lessee, a district, or the City) or the ownership of the property is transferred to the entity. The other entity will then be responsible for maintenance until another entity assumes the obligations in writing or ownership is transferred, with notice to the Engineering Director.

- b. Annual Report. The Holder must submit a maintenance report to the Engineering Director between November 1 and December 31 of each year. No fee will be charged by the City for the filing or

review of the report, but a late fee set by the City Council will be charged to a Holder if a submission is not made by the due date. The Engineering Director may waive or extend the time period for this reporting requirement for BMP designs that are passive or for designs that demonstrate a low maintenance requirement. The report must be prepared by a Texas-licensed engineer and must describe all of the following:

- (i) An assessment of the condition of the BMP, current as of the date of the report.
  - (ii) A history of maintenance activities performed on the BMP during the past year.
  - (iii) The professional opinion of the engineer regarding the current functionality of the BMP and its ability to provide total suspended solids removal in accordance with the original design specifications for the BMP.
  - (iv) Recommendations of the engineer regarding the need for maintenance or modification of the BMP to meet original design specifications.
- (5) If an entity responsible for maintaining a Permanent BMP fails to properly maintain the BMP, the Engineering Director will send a written notice to the entity to correct the problem within a reasonable time set by the Engineering Director, not less than five nor more than 30 days from the entity's receipt of the notice. If the entity fails to comply with the notice, the Engineering Director may initiate one or more of the following:
- (a) Enforcement action against the entity through the City Attorney.
  - (b) Proper maintenance of the BMP by use of City forces or a private contractor.
  - (c) Withholding of further permits, inspections or approvals for any other Development at the Site served by the BMP.
  - (d) Assessment of costs. If the Engineering

Director undertakes maintenance of a BMP under Subdivision (c)(2), the Finance Director will send a statement of the costs for the maintenance, including an administrative fee set by the City Council, to the entity. If the full amount of the statement is not paid to the City within 30 days of the issuance of the statement, the Finance Director will certify the charges as a lien against the property on which the BMP is located, and the City Attorney may initiate legal action to collect the unpaid amount from the entity.

- (j) Determination Regarding Public Dedication. In determining whether Drainage Improvements should be dedicated to the public, the Director shall take into consideration the following factors:
  - (1) Detention and water quality facilities associated with a single Development shall remain private.
  - (2) Drainage Improvements that may serve multiple Developments or provide regional detention/treatment shall be dedicated to the public.