



Storm Water Management Program The University of Texas at Austin

NPDES Storm Water Management Program

The University of Texas at Austin

INTRODUCTION

The City of Austin has invited The University of Texas at Austin (U.T. Austin) to participate in the City's permit as a co-applicant. U.T. Austin agreed to become a co-applicant in the permitting process with specific responsibilities of each entity to be set out in an inter-jurisdictional agreement. U.T. Austin's responsibilities include development and implementation of a comprehensive storm water management plan covering the following properties held by the Board of Regents of The University of Texas System; the Main Campus, the Pickle Research Campus ("PRC," formerly the Balcones Research Center), the Gateway Apartment complex, and those sections of the Brackenridge Tract (Brackenridge Apartments, Brackenridge Field Labs, and Colorado Apartments) which are used for University purposes. This plan, referred to as the "Tier 1 program," is being implemented on the larger tracts of developed land where roadways and utility conveyances are typically owned and maintained by U.T. Austin. Tier 1 properties are shown on maps included in Appendix A.

U.T. Austin's responsibilities will also include implementation of a storm water management plan for isolated U.T. Austin properties (other than properties held for resale or investment purposes) located within the corporate boundary or in the extra-territorial jurisdiction of the City of Austin where roadways and utility conveyances are generally owned and maintained by the City or others, but which are used for University purposes. This plan is referred to herein as the "Tier 2 program." University property leased to third parties, or otherwise subject to City of Austin ordinances relating to storm water management by written agreement, is subject to the City of Austin storm water management plan. Tier 2 properties are shown on maps included in Appendix B. The following Storm Water Management Program ("SWMP") assumes a permit term of five years.

STORM WATER POLLUTION PREVENTION AND MANAGEMENT PROGRAM

U.T. Austin has authority and responsibility for designing, implementing, monitoring, maintaining and revising the SWMP controls where conveyances are wholly within University property boundaries. The legal authority for the University of Texas at Austin to control discharges to and from those portions of the MS4 over which it has jurisdiction is established by Section 65.39 of the Texas Education Code. [The revision of the

description of legal authority was submitted on November 1, 1999; implemented December 30, 1999.] The statute confers on The University of Texas System Board of Regents management and control of properties within The University of Texas System. With the exception of the System Complex (Appendix B), the lands subject to this SWMP are held by the Board of Regents of The University of Texas for and on behalf of The University of Texas at Austin. These lands are not subject to local ordinances relating to storm water management, except as may be expressly set out in one or more written agreements. This SWMP will be an attachment to an inter-jurisdictional agreement between the City and U.T. Austin. The activities and responsibilities of the co-permittees, will be delineated in the inter-jurisdictional agreement.

This SWMP will be reviewed and updated annually in conjunction with annual reporting requirements, or as required by the Director of the U.S. Environmental Protection Agency, in accordance with statutory provisions of section 402(p)(3)(B) of the Clean Water Act. Newly acquired properties which are occupied or used by U.T. Austin will be added to the appropriate management program for control of storm water runoff.

Public Participation: The University of Texas at Austin has always been committed to and has benefited from public participation from its campus community of faculty, staff, and students. In fact public participation is an integral component of all processes in an institution of higher education. Participation of the campus community has, is, and will be accomplished in a variety of ways:

- In late 1994, The University engaged the services of an architectural consultant to work with a newly appointed campus master planning committee to address potential future development. This project required almost two years of site inspections and research. During that time and beginning in November, 1994, regular town meetings were conducted with widespread publicity to the campus community. Numerous comments and recommendations were elicited and incorporated into the final plan. The resultant plan is The University's guide to current and potential future development.
- Public participation concerning illicit discharges, inspections, and maintenance is provided by 24-hour a day customer service of The University's Environmental Health & Safety (EH&S) department. Comments, complaints, and concerns from members of the campus community are forwarded to various professionals in EH&S for investigation or other appropriate response. Responses may range from site inspections, to corrective solutions from Campus Planning & Facilities Management (CPFM), to spill clean-ups. Emergency situations requiring remedial action are dispatched via an immediate notification network.
- By September, 1999 The University will offer a copy of this Storm Water Management Program (SWMP) via access on Internet. Internet is widely, in fact almost universally, in use throughout the campus and is a commonly used means for communicating to The University community. In addition

to offering the SWMP in this widely accessible media, the Internet site will offer a hot link to e-mail comments back to the storm water management team. In this way the public can access the program and conveniently return comments, suggestions, or problems. As an indication of how accessible the information will be, at last count the EH&S site under consideration had between 15,000 and 20,000 hits per month. Along with the SWMP, the site will contain instructions for reporting illicit discharges or other storm water problems, and links to other useful sites including the regional EPA and TNRCC home pages.

In sum, The University has been, is, and will be taking action to ensure public participation in its storm water management program by the means outlined above. As new and innovative mechanisms to facilitate participation are identified they will be incorporated into The University's Storm Water Management Program. [This section on Public Participation was submitted on May 1, 1999; implemented on June 29, 1999.]

TIER 1 STORM WATER MANAGEMENT PROGRAM

U.T. Austin will implement a comprehensive management plan to include the following elements. This Tier 1 program covers only Tier 1 properties.

I. Structural Controls and Storm Water Collection System Operation

U.T. Austin will adopt and implement a scheduled program to inspect and maintain storm sewer inlets, mains, and structural controls and perform the following tasks concerning inspection and maintenance of drainage works:

- A. Open Channel Drainage Systems- Annually, and more frequently on an as-needed basis, inspect open channel drainage systems, including bar ditches, and remove any materials that could impede flow or increase erosion. The purpose of this activity is to maintain an appropriate flow rate in flood conditions and to maintain water quality.
- B. Open Channel Restrictions- Quarterly, inspect culverts, bridges, exposed utility conveyances, and other civil or natural open channel restrictions, and remove sediment, debris and vegetation. The purpose of this activity is to maintain an appropriate flow rate in flood conditions and to maintain water quality.

- C. Storm Sewer Mains- Continue the ongoing program of inspection, and if necessary cleaning of the storm sewer system. See also Section VI.A.2. Suspect segments of the storm sewer mains will be inspected and cleaned immediately as necessary on an as-needed basis. The preventative maintenance aspect of this task will be performed in conjunction with the Dry Weather Screening Program (see Section XI.A). The purpose of this activity is to maintain an appropriate flow rate in flood conditions, identify illicit discharges, and evaluate the condition of the system so that necessary repairs and replacements can be made. Waste materials removed from drainage conveyances will be disposed of in accordance with all applicable regulations promulgated by governmental authorities with jurisdiction.

- D. Repair or replace piping in the storm sewer to maintain optimal operating conditions on an as-needed basis.

The due date for submitting the certification of the implementation of the Structural Controls and Storm Water Collection System Operation Program is November 1, 1999.

II. Areas of New Development and Significant Redevelopment

U.T. Austin initiated a campus-wide master plan in 1994 to address architectural continuity and civil engineering aspects of future development and to provide for a more integrated and comprehensive planning process. U.T. Austin has retained consultants and appointed a Director of Planning to create a master plan guidance document. In conjunction with the integrated and comprehensive planning process, U.T. Austin will form a storm water management team (the "SWM team") composed of individuals from Environmental Health and Safety, Utilities and Energy Management Department ("UEMD"), Physical Plant, and appropriate academic department(s). The SWM team will be further divided into the Storm Water Advisory Committee, who will provide guidance on campus-wide storm water management issues, and the Storm Water Action Team, who will direct the implementation of the Storm Water Management Program. Minutes of the SWM Team meetings as well as information and recommendations developed by this group will be provided to the Campus Master Planning committee. In addition, information developed from flood plain studies as well as water run off studies for specific areas of campus will be provided to the Campus Master Planning committee for use in evaluating the impact of proposed new construction activities on storm water management. Environmental Health & Safety, as a representative of the SWM team, will review all construction plans for potential impacts on storm water quality to determine if proposed construction meets the requirements of this plan and will recommend drainage and runoff controls to reduce erosion and peak flows, and to mitigate poor water quality.

For both new development and redevelopment, U.T. Austin will publish training briefs for its construction inspectors, outlining contractor liabilities and responsibilities, and procedural control and structural control management practices.

U.T. Austin has a policy document called University Construction Site Procedures for Contractors outlining procedural best management practices ("BMPs") that contractors are required to follow to achieve Maximum Extent Practicable ("MEP") goals. This document is distributed to all construction contractors working on University projects. This document, together with the controls outlined in this SWMP, will be incorporated by reference into the construction standards manual U.T. Austin Design and Construction Standards. Private development on lands leased from U.T. Austin are not subject to U.T. Austin Design and Construction Standards or this SWMP.

- A. New Development - Design criteria and specifications for permanent and temporary structural controls contained in the U.T. Austin Design and Construction Standards reference the appropriate sections of the City of Austin's Drainage Criteria Manual and the Water Quality Management section of the City's Environmental Criteria Manual. U.T. Austin contractors will use these manuals, with any modifications approved by U.T. Austin, as design guidelines for structural controls.
 1. Pre-construction- Construction details will be reviewed by EH&S to determine if erosion, sedimentation, and pollution controls meet the requirements of the U.T. Austin Design and Construction Standards. U.T. Austin holds pre-design conferences and schematic (proposed design) reviews allowing for site-specific construction phase and post-construction phase controls to be included in the scope of work.
 2. Construction-Phase Controls- Guidelines for new construction are outlined in the U.T. Austin Design and Construction Standards. This document requires construction-phase controls to prevent water from any source contaminated with any substance which will or might cause water pollution or cause extraordinary maintenance of the storm sewer system from leaving the construction site. It applies to all new development construction projects, where there is any anticipated impact to storm water runoff. This document outlines specific details including preparation of erosion/sedimentation control plans, sequence of development, and frequency of inspection of controls.

At stages of 50% complete and 90% complete, U.T. Austin conducts construction project reviews. These reviews provide an opportunity to change the scope of work as necessary to accommodate or mitigate unanticipated impacts on storm water quality and conveyance systems caused by the of new development. The Director of Environmental Health and Safety has been assigned responsibility to determine if modifications to construction-phase controls are necessary to meet requirements and goals of the management plan and to require implementation of such controls.

3. Post-construction Phase Controls- Storm water management planning at the pre-construction phase will focus on aspects of the site plan, grading plan, and proposed storm water utilities. To achieve MEP reduction in pollutant loading of runoff, architectural and structural controls will also be considered. Where the scope of work warrants, U.T. Austin will look for retrofit opportunities to manage runoff from existing facilities upgradient from the project site.

B. Redevelopment

1. Except where there is no anticipated impact to storm water runoff, redevelopment will follow the same guidelines with respect to erosion and sediment and pollution controls as new development. Contractors will be required to implement site-appropriate controls (including BMPs) during redevelopment construction. Environmental Health and Safety will review redevelopment projects for opportunities to improve post-construction storm water management.

Aspects of the program to reduce the discharge of pollutants from construction sites are further detailed in Section IX (Construction Site Runoff) of this SWMP.

The due date for submitting the certification of the incorporation of criteria addressing permanent controls to minimize the impact of future development and redevelopment on storm water quality in the master planning process is November 1, 1999.

The due date for submitting the certification of the implementation of a master planning process addressing storm water quality impacts of new development and redevelopment is November 1, 2000.

III. Roadways and Impervious Cover Management

- A. Street/Impervious Cover Sweeping- U.T. Austin removes sediment, trash, and organic detritus on mall areas, sidewalks, and in parking garages. U.T. Austin may contract for street and parking area sweeping services. Initially, U.T. Austin will sweep all University owned streets on a semi-annual basis and as needed to accommodate increased leaf litter and recover sand from deicing operations in the winter. Data to be collected will include area covered and amount of material recovered, to evaluate the effectiveness of this program element.
- B. Street/Impervious Cover Maintenance- The SWM team will evaluate re-pavement projects and utility repair projects for opportunities to retrofit storm water controls.

The due date for submitting approvable revisions to roadway operation and maintenance activities/program to include equipment/vehicle roadway and maintenance center operation and maintenance practices, and schedules for maintenance activities is November 1, 2000.

The due date for submitting the certification of implementation of street/impervious cover sweeping and maintenance programs is November 1, 1999.

Note: See Section VI.B.1.a. for the certification of the implementation of the anti-litter educational/public awareness programs.

IV. Flood Control Projects

- A. Structural Controls - U.T. Austin operates three detention type flood control structures. By October 31, 2001, U.T. Austin will complete a study regarding the feasibility of retrofitting these structures for additional pollutant removal.

The due date for submitting a summary report of retrofit evaluations conducted on existing flood control devices to benefit water quality is November 1, 2002.

An informal review has begun on the Main Campus (Appendix A-1) to identify potential sites for retention or detention structures. Any such controls will be designed to reduce peak runoff for rainfall events of short duration or low precipitation rates. To address receiving water channel flooding problems, U.T. Austin will perform a study by October 30, 2003 to assess creek bank stability and identify areas where stabilization improvement projects may

be needed. Structural improvements may be incorporated into and carried out in conjunction with urban renewal aspects of the campus-wide master plan. In addition, U.T. Austin and the City of Austin will cooperate in an evaluation of suitable tract(s) outside of the Main Campus for operation and maintenance of control structures. These structures may serve to detain and treat runoff from both University-owned and other lands.

- B. Procedural Controls- Maintenance activities described in Section I and in Section (VI)(C) of this plan are performed for flood control purposes.

The due date for developing and submitting technical criteria and a program for the assessment of water quality impacts from future flood control projects (criteria to be used during the planning and design stages) is November 1, 2000.

The due date for submitting the certification of implementation of a program for water quality review of future flood control projects is November 1, 2001.

V. Pesticide and Fertilizer Management

U.T. Austin Grounds Maintenance employees applying pesticides are supervised by individuals licensed by the Texas Department of Agriculture. An integrated pest and fertilizer management program with the following elements will be implemented by 10/31/2000 to reduce pollutant discharge associated with storage, application, and disposal of fertilizers and pesticides (including herbicides):

- A. Identify all U.T. Austin departments or offices with employees that apply pesticides and fertilizers on U.T. properties.
- B. Require that application of pesticides and fertilizers be performed only by trained individuals and in a standard, uniform manner.
- C. Require an annual training on pesticide and fertilizer management techniques addressing, at a minimum, the following:
 - 1. Storage- pesticides and fertilizers of any type will be stored in rainfall protected locations within secondary containment.

2. Application- pesticides and fertilizers will be applied using techniques that minimize their application to impervious cover and un-vegetated areas.
 3. Disposal- unused pesticides and fertilizers and pesticide and fertilizer residues will be properly disposed of according to applicable state and federal regulations.
 4. Other considerations required by law.
- D. Continue implementation of a Xeriscape program, particularly in conjunction with new development and in re-vegetation projects.
- E. Develop a policy for expeditious re-vegetation of disturbed areas associated with construction and maintenance. Specify sod rather than seeding for grassy areas to the maximum extent practicable.
- F. U.T. Austin will follow established guidelines and regulations and good management practices in the application of pesticides and fertilizer.

The due date for submitting the certification of implementation of pesticide and fertilizer management program is November 1, 2000.

VI. Illicit Discharges and Improper Disposal

U.T. Austin allows the discharge of the following non-storm waters to the Municipal Separate Storm Sewer System (MS4): water line flushing, fire fighting runoff water, clean storm water impounded in spill containment facilities, process and heating steam condensates, air conditioning condensate; irrigation runoff; de-chlorinated swimming pool water; uncontaminated ground water whether gravity flowing or pumped; discharges from potable water sources; once-through cooling water derived from potable sources, fountain drains, diverted stream flows, pavement wash water, and flows from riparian habitats and wetlands. U.T. Austin prohibits, to the maximum extent practicable, otherwise allowable discharges which will or might cause pollution of receiving waters. Other non-storm water discharges to the storm water conveyance system will be eliminated and the following measures implemented:

The due date for submitting reasons for exempting the categories of non-storm water included in the SWMP, Chapter 2, Section VI from the non-storm water prohibition is November 1, 1999. (For discharges from process and heating steam condensate and once through cooling water derived from

potable water sources, a description is provided of the nature and frequency of the discharge, as well as description of any limitation placed on the discharge.)

- A. By October 31, 1999, U.T. Austin will implement the following program for the prevention of overflows and the limitation of seepage from the sanitary sewer system into the storm sewer system.
 - 1. Overflows- U.T. Austin will continue to take measures to prevent overflows of sanitary sewage to the MS4. These measures include:
 - a. Regular maintenance of sanitary sewer lines including visual inspection and cleaning of grease traps and known problem areas as needed to prevent overflows.
 - b. Respond to emergencies using appropriate equipment and materials to control overflows.
 - c. Proper disposal of waste materials.
 - d. Implementation necessary repairs immediately or as soon as practicable.
 - 2. Seepage- As part of its Dry Weather Screening Program, U.T. Austin will screen storm outfalls with dry weather flows on an annual basis for sanitary characteristics and perform subsurface monitoring by closed-circuit television on any suspect segments of storm sewer mains when suspect segments are identified.

The due date for submitting the certification of the implementation of the programs addressing prevention of overflow and limitation of seepage from sanitary sewers is November 1, 1999.

- B. Floatable monitoring stations will be established for the purpose of determining baseline conditions and to gauge the success of source control management practices. Two will be established on the Main Campus (Appendix A-1). Structural controls will be implemented in strategic areas to supplement overall program effectiveness where source controls appear to be ineffective.

The due date for submitting the certification of the installation of the floatable monitoring stations is November 1, 2001.

1. Source Control BMPs

- a. Educational Programs- U.T. Austin will participate with the City of Austin in the planning and implementation of a community-wide public awareness campaign for the control of litter. Options to further this goal include public notices in local and student newspapers and other campus-wide publications, announcements on the U.T. Austin-owned public radio station, electronic mail to University departments and staff members, and inclusion of a litter control/awareness literature in new student orientations. U.T. Austin will locate anti-litter signs in strategic locations such as bus stops and smoking areas.

The due date for submitting the certification of the implementation of the anti-litter educational/public awareness programs is November 1, 1999.

- b. Litter Pick-up Details- Grounds maintenance crews with litter pick-up duties are active on a daily basis.
- c. Street/Impervious Cover Sweeping- U.T. Austin will implement a street and parking area sweeping program as a floatables control measure. (See Section III of this SWMP.)
- d. Storm Water Utility Infrastructure- The storm water utility infrastructure will be inspected and maintained on a regular, periodic basis. This BMP has been in effect for some time as a flood control management practice, and includes clean out of curb inlets, repair of broken pipe, stoppage control, and other activities. Infrastructure maintenance activities will be managed to reduce or minimize the discharge of floatables and other pollutants to surface waters.
- e. The number of trash receptacles and recycling bins will be increased in strategic locations such as bus stops and mall areas where people congregate.

2. Structural Controls- U.T. Austin anticipates the installation of permanent structural controls in strategic locations where source control BMPs fail. By October 31, 1999, the SWM team will develop criteria to judge the success of source controls. Such determinations will be made periodically. Locations on the Main Campus (Appendix A-1) have been identified for potential structures which will control floatables. These controls will be inspected and maintained annually. The weight and volume of entrapped floatables and sediment will be estimated and these materials disposed of properly. Estimates for reduction of other pollutants will be made based upon City of Austin removal efficiency figures. Trash traps and oily waste traps will be installed where practicable for new and renovated parking facilities. Environmental Health and Safety will review plans for new facility construction to determine whether appropriate structural containment rainfall protection is provided for loading dock areas.

The due date for submitting the certification of the implementation of the floatables monitoring program is November 1, 2002.

- C. Discharge of Motor Vehicle Fluids, Hazardous Wastes, Animal Wastes, and Landscape Maintenance Wastes and Food Handling Wastes- U.T. Austin will control the illicit discharge of motor vehicle fluids, hazardous wastes, animal wastes, and landscape maintenance wastes generated by U.T. Austin, its employees and agents, by employing the following strategies:

1. Motor Vehicle Fluids- All U.T. Austin motor vehicles are maintained at rainfall protected central facilities with provisions for proper collection, accumulation and transfer of waste fluids. Maintenance protocols and practices in place to prevent contaminated discharges to storm water from motor vehicle fluid handling facilities include containment around all storage drums, use of oil drip pans where necessary and covered and contained storage for used parts at service centers if the parts present a potential for release of contaminants. Both Main Campus and PRC motor vehicle facilities utilize EH&S for spill response and have posted notices to call EH&S should a spill occur. Slug Control Plans implemented to fulfill pretreatment requirements of city wastewater permits also provide protection of storm water. The Slug Control Plan for PRC and the Main Campus are included as Appendix C. The program is publicized by a periodic newsletter.

- a. Motor Oil- U.T. Austin has an established program to collect and recycle used motor oil. Automotive services operations include protocols for safely storing used motor oil, which is picked up by EH&S. Motor oil and other waste oils are manifested to a recycler for reprocessing to the maximum extent allowed under federal regulations.
 - b. Antifreeze- U.T. Austin has established a policy to recycle antifreeze and a program to manage antifreeze wastes in parallel with the used motor oil program.
 - c. Oil Filters- U.T. Austin collects and ships used oil filters off-site for disposal through its waste management program. The filters are first "hot-drained" and the recovered oil is managed as noted in the paragraph on motor oil above.
2. Hazardous Waste Materials- U.T. Austin is a large quantity generator and has three (3) EPA ID numbers. U.T. Austin is in the process of closure of an interim RCRA Part B hazardous waste collection, storage and transfer facility at PRC (Appendix A-2). The PRC facility is, and has been for the last several years, operated as a 90-day accumulation facility consistent with U.T. Austin's status as a large quantity generator.

The hazardous waste management program is publicized to University departments through a series of training workshops and through a periodic newsletter.

Hazardous wastes are picked up from the point of generation and transported to the accumulation facility by the EH&S hazardous waste team. The materials are accumulated at this facility for a period of no more than 90 days, then removed and disposed of by a contracted hazardous waste disposal company. U.T. Austin employs two full-time safety technicians in the task of hazardous waste pickup and transport. They are trained and experienced in the proper handling of hazardous wastes and hazardous waste containers and have attended 40-hour Hazardous Materials Emergency Response courses. To protect themselves and the environment from chemical exposure, they inspect each container at the point of generation to ensure that its integrity is not compromised. If there is a release of hazardous materials during transport, the safety technicians have access to spill response supplies carried on board the transport vehicle (e.g. hydrophilic and hydrophobic absorbents, boom and dike materials, and bioremediation supplies),

which reduce the risk of introducing hazardous materials to the storm water system. U.T. Austin maintains a hazardous waste accumulation facility at Main Campus and at PRC. The hazardous waste accumulation facilities are secured, limited access buildings. U.T. Austin employees transport these wastes only within the U.T. Austin property where the waste was generated. The accumulation facilities are inspected on a weekly basis by a safety specialist. All hazardous waste containers are inspected to ensure that proper labeling requirements are met, that containers are tightly sealed, and that no containers are leaking.

U.T. Austin will also address applicable provisions of this SWMP in other related programs such as the Waste Minimization Program, Hazard Communication Program, Spill Prevention Control and Countermeasures, and Recycling Program.

3. Animal Wastes- U.T. Austin policy for disposal of animal wastes is as follows:
 - a. Research Laboratory Animals- U.T. Austin maintains an Industrial Waste Permit from the City for the disposal of sanitary wastes through the sewage conveyance system to publicly owned treatment works operated by the City of Austin. Non-infectious metabolic wastes from research animals are disposed of through washing into sanitary sewer lines as well as disposal with other municipal trash. Animal carcasses are disposed of by off-site incineration.
 - b. Free-roaming Animals- Effect controls for metabolic wastes from roosting pigeons, grackles, starlings, and bats including:
 - (1) Use noise-based disruption of roosting to the extent allowed by law.
 - (2) Reroute storm drains in known rainfall-protected significant roosting sites to sanitary sewer.
 - (3) The impact of significant roosting sites on storm water quality will be minimized by an aggressive program to discourage the establishment of such sites and cleaning of these areas by appropriate methods on an as needed basis.

(4) Landfill stray and wild animal carcasses.

4. Landscape Maintenance Wastes- Leaf litter and grass clippings are managed as a renewable resource by shredding, mixing, composting, and mulching. Grounds maintenance controls for leaf litter and grass clippings involve blowing, raking, and sweeping plant wastes into piles for transportation to an on-campus storage location.
5. Food Handling Wastes- Food Handling operations such as the Texas Union, Housing and Food Services, and Faculty Center typically dispose of food wastes as municipal trash. In some locations, food wastes are stored for disposal in dumpsters or compactors. A survey of these locations has been performed for possible impacts on storm and surface waters. One or more of the following BMPs will be implemented at each location which poses a threat of discharge to storm water:
 - a. curb and diking, coupled with rainfall protection.
 - b. re-routing of rainfall protected storm drains to sanitary sewers.
 - c. relocation of containers.
 - d. educational provisions for the university public at large and training provisions for food handling workers to minimize liquid wastes in municipal trash containers.

D. Program to Locate and Eliminate Illicit Discharges and Improper Disposal.

1. Dry Weather Screening Activities
 - a. Dye Tracing Program- U.T. Austin is currently engaged in a program to dye trace interior floor drains, sinks and toilets in all University-owned facilities on the Main Campus (Appendix A-1). This program is managed by UEMD and Physical Plant. The program began early in 1994 with the dye tracing of individual floor drains in the mechanical rooms of certain facilities. Storm outfalls are monitored to determine whether there is an illicit connection. U.T. Austin will continue this program until

connections in all buildings on Main Campus (Appendix A-1) and PRC (Appendix A-2) have been tested, at the rate of 20% or more of all buildings annually, or 100% by October 30, 2003. Scheduling for dye test screenings on existing buildings will proceed on a continuous basis with the following priority order:

- (1) First- Laboratory and other buildings where high risk materials are used or stored such as chemical transfer facilities, vehicle maintenance facilities, and art studios and work areas.
 - (a) Test 30% of the drains on the lowest level of the building
 - (b) Test 20% of all other drains in the building
 - (c) Test drains in any chemical storage areas and rooms where EH&S picks up regulated wastes.
 - (d) Test all drains in custodial closets.
 - (e) If any "sanitary" drain on any level above the lowest discharges to storm, test all the drains in that room and adjoining rooms.
 - (f) The drains in items 3, 4, and 5 count toward the 30%-20% rules of items 1 and 2.

- (2) Second- All other buildings (except residential units at Brackenridge (Appendix A), Colorado (Appendix A), and Gateway Apartments (Appendix A)):
 - (a) Test the lowest drain in the lowest level.
 - (b) Test all drains in custodial closets.
 - (c) Test drains in chemical storage and chemical waste accumulation areas.

- (3) When an interior drain test confirms a misconnection to the storm sewer system, UEMD or Physical Plant will immediately label the drain, tape it off, and notify EH&S and Physical Plant immediately if possible, but in no case later than one working day from the time of confirmation. When an illicit discharge is discovered as a result of the dye tracing program, U.T. Austin, through EH&S, will act immediately to mitigate illicit discharges.

U.T. Austin will initiate project review and contractor closeout activities to prevent the establishment of new illicit connections to the MS4 and may require dye testing procedures to verify utility tie-ins for all new construction and remodeling projects involving connections to the sanitary sewer system. Construction inspectors will institute a checklist item for routine inspection of as-built sanitary risers in new construction (including redevelopment) to ensure they are properly connected to sanitary sumps or mains.

- b. Outfall Surveys- U.T. Austin will perform chemical analyses annually on 100% of the outfalls that were identified as having dry weather flows in the Dry Weather Screening Program. This program is outlined in Section XI.A of this SWMP.

E. Expeditious Elimination of Illicit Discharges

1. U.T. Austin, through EH&S, will act immediately to mitigate illicit discharges as quickly as possible.
2. U.T. Austin will effect an immediate cessation of illicit discharges upon notice of such discharge to UEMD or EH&S. The Director of Environmental Health and Safety has been given express authorization for specified individuals to require an immediate cessation of activities. An emergency work order will be initiated as soon as possible and within one working day to correct the illicit connection to the MS4. All reasonable efforts will be made to correct the illicit connection within 60 days of its discovery. If correction cannot be accomplished within 60 days, an

expeditious schedule will be established as to when the connection is expected to be corrected.

3. Records will be kept for a period of 2 years detailing times and dates of discovery, notification, work order issuance, and correction of illicit connections to the MS4.

The due date for submitting the certification of the incorporation of enforcement measures for expeditious elimination of illicit discharges into standard operating procedures and implementation of enforcement program is November 1, 1999.

- F. Discharges with Individual NPDES Permits- There are no individual or industrial general NPDES permits within the area covered by this SWMP. There are occasional construction general permits for projects within U.T. Austin.

VII. Spill Prevention and Response Program

U.T. Austin has had a spill prevention and response program for many years. See Slug Control Plan for Main Campus and PRC attached as Appendix C. University policy is that any discharge to surface waters of any substance which could or does cause pollution to surface waters is strictly prohibited. Criteria used to determine whether a substance may cause pollution include without limitation color, odor, sheen, impacted aquatic life, cloudiness, and sampling and analysis when any of these characteristics is observed.

A. Procedural Components

1. Prevention Measures

- a. EH&S Training Programs- The University provides hazard communication training as required by Texas law. Hazard communication training includes, among other information, information on interpreting labels and material safety data sheets; general instruction on the handling and disposal of hazardous chemicals; and general instructions relating to spill cleanup procedures. This training is offered to all employees of U.T. Austin exposed to hazardous materials, including teaching assistants.

Additionally, HAZWOPER training is made available to U.T. Austin employees responsible for managing hazardous wastes. EH&S offers additional specific training relating to chemical safety and disposal procedures to any University department that requests it. This training is customized to fit the needs of each department and includes information on disposal of waste materials and the reporting and handling of spills. The training sessions are publicized through venues such as the EH&S web page and other appropriate means of communication.

- b. Other Educational programs- U.T. Austin distributes a policy document, the University Construction Site Procedures for Contractors, containing construction site procedures (aimed specifically at reducing pollution of surface waters) required of contractors. This SWMP incorporates by reference this policy document (See Appendix D).

In addition, U.T. Austin has completed an extensive storm drain marking program. In mid-1994, UEMD completed a program to label all external curb inlets and area drains on Main Campus and at PRC (Appendix A-2) with durable, brightly colored, embossed stickers which state " No Dumping - Drains to Creek". Each warning tag is printed in English and Spanish.

2. Response Measures

- a. Personnel- The University will identify a specific organizational unit responsible for responding 24 hours a day, 7 days a week to spills on U.T. Austin properties which threaten or impact surface water quality, regardless of whether the responsible party is affiliated with U.T. Austin or not. Staff members coordinate response and clean-up activities with appropriate state and local governmental offices and ensure that any necessary corrective action is taken. EH&S is prepared to respond to spill incidents originating on U.T. Austin property which have impacted or threaten to impact any of the various surface water bodies in the corporate boundary or the extra-territorial jurisdiction of the City of Austin.
- b. Equipment and Materials- U.T. Austin maintains a well-stocked equipment and materials cache for mitigating and abating spills which

threaten or have impacted surface waters, including hydrocarbon sorbing/hydrophobic booms, dikes, and pads, absorbent clay, storage container liners, pumps, skimmers, shovels, brooms, mops, personal protective gear, and a trailer mounted recovery/storage tank.

B. Structural Components

1. Prevention Measures

- a. Underground Storage Tanks- U.T. Austin maintains compliance with regulatory requirements for underground storage tanks by employing strategies such as double containment, cathodic protection, spill and overfill appurtenances, continuous monitoring and integrity testing.
- b. Fuel Oil Load-In Containment- The back-up fuel supply for electric power generators at the U.T. Austin cogeneration plant is #2 diesel. The fuel oil storage load-in facility was retrofitted with a catchment basin in 1988 to comply with the Spill Prevention Control and Countermeasures requirements for onshore facilities.
- c. Aboveground Storage Tanks- Aboveground storage tanks containing bulk process materials such as lubricating oils, acids, scale and corrosion inhibitors, and large outdoor liquid-cooled transformers are designed or retrofitted with secondary containment and/or neutralization. In cases where the secondary containment feature is not protected from rainfall, U.T. Austin uses an established protocol for the release of trapped storm water. Sampling and analysis of the rainwater will be completed if there is a reasonable suspicion of contamination based upon the criteria of color, odor, sheen, cloudiness, and impacted aquatic life. Trained personnel use these criteria to assess storm water quality prior to release from secondary containment. U.T. Austin has begun a program to install drain lock-out valves on all rainfall exposed secondary containment facilities.

2. Response measures- Permanent anchoring bolts for floating booms have been placed at five separate locations in the banks of Waller Creek, the receiving water for approximately 95% of the Main Campus drainage.

VIII. Industrial and High Risk Facilities Runoff

Industrial & High Risk Inspection Program

U.T. Austin does not operate industrial & high risk facilities as defined by 40 CFR 122.26(d)(2)(iv)(C). On the properties covered by this permit, U.T. Austin does not own or operate a municipal landfill, hazardous waste treatment, disposal and recovery facilities, or industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Further, U.T. Austin has not identified any industrial facilities on its properties that contribute a substantial pollutant loading to the storm sewer system. [The revision of this section on Industrial & High Risk Inspection Program was submitted on November 1, 1999; implemented December 30, 1999.]

IX. Construction Site Runoff

The U.T. Austin program to reduce the discharge of pollutants from construction sites will include:

- A. Requirements for Use of Procedural and Structural BMPs- U.T. Austin requires BMP implementation to reduce pollutant loading of runoff from construction sites (including building exterior washing practices) to the maximum extent reasonably possible. Construction sites are monitored by construction inspectors.
- B. Inspection of Construction Sites and Enforcement of Control Measures- The authority of to enforce pollution control measures for construction projects, including the authority to issue a stop-work order for failure to implement or maintain pollution control BMPs, has been provided to specified individuals, including the Director of Environmental Health and Safety. Construction inspectors review the work of the contractor on a periodic basis and will execute a weekly check-off inspection for proper functioning of temporary controls. EH&S will make unannounced reviews of construction phase controls and housekeeping practices of the contractor. Contractors will be required to immediately cease any activity or practice which is impacting or threatening to impact surface waters and correct any defect in structural controls.
- C. Appropriate Education and Training Measures for Construction Site Operators, Including U.T. Austin Construction Inspectors- The policy document University Construction Site Procedures for Contractors will be distributed to all construction site operators and inspectors prior to site preparation. In addition, EH&S will provide briefs and training workshops

annually to U.T. Austin construction inspectors to familiarize them with construction site pollution control BMPs.

- D. Contractor Notification of Potential Responsibilities for Construction Site Runoff- In addition to references to this SWMP in the construction standards manual U.T. Austin Design and Construction Standards and University Construction Site Procedures for Contractors, pre-bid and pre-construction review conferences will provide opportunity to notify construction site operators of their responsibilities to control construction phase storm water runoff.

The due date for submitting the certification of the implementation of the construction site runoff control program, specifically incorporation of BMP requirements and guidances and standards into official operating procedures; inspection and enforcement of control measures; and training/education programs is November 1, 2000.

Aspects of the program to reduce the discharge of pollutants from construction sites are further detailed in Section II (Areas of New Development and Significant Redevelopment) of this SWMP.

X. Public Education Program

U.T. Austin will implement a public education campaign with the following elements:

- A. Promote, publicize, and facilitate reporting of illicit discharges and improper disposal of wastes.
 - 1. U.T. Austin has established a "pollution hotline" telephone line to facilitate reporting by the public.
 - 2. An announcement will be published and printed at least 4 times per year in the student newspaper outlining steps to report an illicit discharge. The announcement will also be published electronically on The University web site and will appear in staff informational publications as appropriate.
- B. Promote, publicize, and facilitate proper disposal of used motor vehicle fluids and hazardous wastes.

1. In addition to the proposals put forth in Section VI.C of this SWMP, U.T. Austin has completed the implementation of a storm water drain warning label project at both the Main Campus and PRC, as detailed in Section VII.A.1.b. U.T. Austin will perform a survey for label status and legibility of all exterior drains on an annual basis.
- C. Promote, publicize, and facilitate proper handling of pesticides and fertilizers.
1. In addition to the proposals put forth in Section V (Pesticide and Fertilizer Management), U.T. Austin will notify contracted commercial landscapers associated with new construction and re-vegetation projects of the required compliance with the procedures of this SWMP.

Additionally, U.T. Austin anticipates that it will become a cost-sharing co-sponsor of the publicity and promotional aspects of the City of Austin's public education programs, recognizing that many city residents are also members of the U.T. Austin community, and that the two entities share common goals and benefits achieved in complying with the requirements of the NPDES permit.

The due date for submitting the certification of the implementation of the public education programs is November 1, 1999.

XI. Monitoring Programs

- A. Dry Weather Screening Program- U.T. Austin has surveyed all outfalls and identified the location of dry weather flows. Annually, a chemical analysis will be performed on the identified dry weather flows to locate illicit discharges and improper connections. Drainage maps of the Main Campus (Appendix A-1) have been compiled at 1:200 scale on both planimetric and topographic bases. These maps incorporate the U.T. Austin storm sewer system and identify specific outfall points for each drainage.

Several surveys of the Waller Creek drainage (a primary drainage from Main Campus) have been made during periods of dry weather and narrative descriptions of visual observations have been made for each outfall. Maps have been compiled which show all outfall points and distinguish those that exhibited dry weather flow. A program is currently in progress to identify the sources of observed dry weather flows, using visual overland reconnaissance for obvious sources such as irrigation runoff, and manhole surveys of storm lines involved in the conveyance of dry weather flows.

During the annual chemical analysis, U.T. Austin will screen dry weather flows from University drainage systems, with a particular emphasis on suspect flows, and perform colorimetric analyses for Ph, chlorine, copper, phenol, detergents, and ammonia, according to the guidelines set forth in the City of Austin's Part II NPDES application to EPA dated November 16, 1992. (See Section VI.D.1 of this SWMP for other dry weather screening activities.) UT's NPDES permit compliance schedule requires that fifty percent of outfalls will be screened by November 1, 2001 and one hundred percent of outfalls will be screened by November 1, 2002. The due date for submitting the certification of the implementation of dry weather screening activities is November 1, 1999.

B. PROGRAM DESCRIPTION

Wet Weather Screening Program

In order to satisfy the NPDES storm water permit requirements related to wet weather monitoring, The University of Texas at Austin (U.T. Austin) proposes utilizing a visual assessment to provide a post-storm event evaluation of the storm water runoff to campus area waterways. The proposed program will be implemented over the remaining four years of the permit term. U.T. Austin anticipates that the wet weather screening program will accomplish the following objectives over the permit period:

- Provide a tool to detect excessive levels of pollutants in waterways after storm events.
- Provide information related to the type of pollutants present in waterways after storm events.
- Provide a tool for investigating the origin of pollutants.
- Provide a limited assessment of storm water impact on aquatic life.
- Provide a tool to detect acute pollution events.

SCREENING LOCATIONS

Site Selection

The proposed screening sites within each watershed have been selected based on the following criteria:

- within U.T. Austin's permit area,
- along the main stem of the stream or main open channel system,
- distribution within permit area,
- ability for staff to access site safely,
- ability to determine the area discharging upstream of the site.

Site locations:

The Wet Weather Screening program will complete visual assessments of storm water flow in the following watersheds:

Waller Creek Watershed

- Waller Creek at wooden bridge immediately east of Animal Resources Center (approx. 27th Street)
- Waller Creek at 24th Street
- Waller Creek at 21st Street
- Waller Creek at Martin Luther King Blvd.

Town Lake Watershed

- Brackenridge Tract, SW corner of Colorado Apartments ravine up from Town Lake

Johnson Creek Watershed

- North end of Creek along West side of Gateway Apts.
- South end of Creek along West side of Gateway Apts.

Shoal Creek Watershed

- Detention pond at SE corner of J. J. Pickle Research Campus
- SW corner of J. J. Pickle Research Campus (near intersection of Neils Thompson Dr. and Road "D")

PROGRAM PROCEDURES

Each site will be screened at least once a year. A visual assessment of storm water flow will be completed at each monitoring site within 24 hours of a storm event. For the purposes of this screening program, a storm event will be defined as any event with greater than 0.10 inches of rain. After determining that a storm event has occurred within the target watersheds, Environmental Health and Safety (EH&S) staff will conduct a visual evaluation related to the type of pollutants that may be present in the storm water flow at each monitoring site. EH&S staff will complete one data collection form in each watershed monitored. A copy of the Wet Weather Screening Field Observation Form is included.

PROGRAM SCHEDULE

Part III.A.16. of the permit, requires that U.T. Austin will complete wet weather screening efforts in 50% of the MS4 by November 1, 2001 and in 100% of the MS4 by November 1, 2002. In fact, U.T. Austin staff will complete an assessment at each site at least once during each year so that each watershed will be monitored at least four times during the remaining four years of the permit period. In doing so, U.T. Austin will have completed wet weather screening of U.T. Austin's MS4, as defined for the purposes of this monitoring program, as required by U.T. Austin's permit.

ANALYSIS

EH&S staff will review each screening site assessment for indications of elevated pollutant levels. If unusual conditions exist at a screening location, a complaint investigation could be initiated. If, during an assessment, site conditions indicate that an acute pollutant event may have occurred, EH&S spill response personnel will be notified immediately and an investigator will respond to initiate a detailed investigation of the situation.

RECORD KEEPING AND REPORTING

EH&S staff will retain all wet weather screening field observation forms as required by the permit. EH&S staff will also enter field data into a spreadsheet for electronic storage and reporting purposes. The results of the assessment activities described above will be documented and submitted to the EPA in the annual system-wide report as required in Part V.C. of U.T. Austin's permit.

Wet Weather Screening Program
Field Observation Form

Date _____ Watershed _____ Observations by: _____
Signature: _____

Site No. _____ Location Description _____

Level of Concern

Oily sheen:	0	1	2	3	Comments: _____
Discolored Water:	0	1	2	3	Comments: _____
Turbid Water:	0	1	2	3	Comments: _____
Trash or Debris	0	1	2	3	Comments: _____
Odor Detected:		Y	N		Comments: _____
Aquatic Life Affected:		Y	N		Comments: _____
Other Observations:	Y	N			Comments: _____

Site No. _____ Location Description _____

Level of Concern

Oily sheen:	0	1	2	3	Comments: _____
Discolored Water:	0	1	2	3	Comments: _____
Turbid Water:	0	1	2	3	Comments: _____
Trash or Debris	0	1	2	3	Comments: _____
Odor Detected:		Y	N		Comments: _____
Aquatic Life Affected:		Y	N		Comments: _____
Other Observations:	Y	N			Comments: _____

Level of Concern

Oily sheen:	0	1	2	3	Comments: _____
Discolored Water:	0	1	2	3	Comments: _____
Turbid Water:	0	1	2	3	Comments: _____
Trash or Debris	0	1	2	3	Comments: _____
Odor Detected:		Y	N		Comments: _____
Aquatic Life Affected:		Y	N		Comments: _____
Other Observations:	Y	N			Comments: _____

Level of Concern Legend: 0=No impact evident 1=Minimal impact evident 2=Moderate impact evident 3=Severe impact evident

Were the field conditions recorded above observed within 24 hours of a storm event? Y N

Note: if any site receives two or more "level 3" ratings, or if aquatic life appears to be affected, please notify EH&S Hotline at 471-3511.

If EH&S was called, which site(s) were reported? Site No.(s): _____

[This revision on Wet Weather Screening Program was submitted on November 1, 1999; implemented December 30, 1999.]

- C. High Risk Runoff Monitoring Program - U.T. Austin has established an NPDES inspection program that includes random and planned inspections of University facilities, particularly those facilities that may be considered to be associated with high risk activities. U.T. Austin is conducting an on-going program to identify potential sources of surface water pollution. Surveys of loading areas, garbage disposal facilities, and a general survey of the Main Campus grounds have been completed. A building survey program involving interviews with building personnel, site inspections, and reviews of mechanical and plumbing drawings is near completion. Information gathered from the building surveys are collected on a specially developed form and are combined with any other pertinent information to create a building survey summary report. Twenty-six surveys have been completed to date. U.T. Austin will continue this program until reports have been compiled for all University facilities in the City of Austin and its extraterritorial jurisdiction.
1. Major outfalls to be sampled in conjunction with the wet weather monitoring program will include discharges from facilities which may be associated with high risk activities. These include the laboratories, cogeneration plant structures, chilling stations and hazardous waste accumulation facilities.
 2. Many facilities in which activities or materials handled might be considered a risk to surface water quality have been designed or redesigned with architectural and structural controls to prevent storm water contact with potential pollutants. Hence, U.T. Austin will seek a certification of "no exposure" from the managers of the following structures:
 - a. PPL (cogeneration plant complex, a three-building facility)
 - b. CS (chilling stations 2, 3, 4, and 5, four separate buildings)
 - c. SER14 (new Service Building accumulation and transfer facility)
 - d. PRC Accumulation Facility
 - e. Waste Management Area (PRC)

In lieu of monitoring these facilities as outlined at 40 CFR 122.26 (d)(2)(iv)(C), EH&S will conduct a site inspection of each facility at least once by October 30, 2003.

The due date for submitting an approvable Industrial and High Risk Monitoring Program to include monitoring frequency, parameters, and entity who will do monitoring and analyses (MS4 permittees or subject facility) is November 1, 2000. (The monitoring program may include a waiver of monitoring for parameters at individual facilities based on a “no exposure” certification.)

The due date for submitting the certification of Industrial and High Risk Monitoring Program implementation is November 1, 2001.

TIER 2 STORM WATER MANAGEMENT PLAN

In discussions with the City of Austin, U.T. Austin agreed to implement a limited plan to protect the quality of storm water runoff from isolated properties used for University purposes, but at which surrounding utility conveyances including drainage utilities and roadways, are owned by others. These properties are referred to as Tier 2 properties and are shown on maps attached as Appendix B. Properties leased to third parties are not subject to this SWMP. Tier 2 responsibilities also cover undeveloped land owned by U.T. Austin in the City's corporate boundary and ETJ. U.T. Austin will implement a management plan to include the following elements of the Tier 1 program:

- A. Repair or Replace Piping and Other Drainage Appurtenances- Structural or civil improvements on Tier 2 properties will be maintained to prevent degradation of storm water runoff. (Tier 1, Section I.D.)
- B. Areas of New Development and Significant Redevelopment- In the event that any Tier 2 property is designated for new or significant redevelopment by U.T. Austin, all provisions of Section II of the Tier 1 SWMP will be implemented.
- C. Pesticide and Fertilizer Management- All elements of Tier 1 Section V shall apply to management practices on Tier 2 properties, except that no provision will be made for an integrated pest management program on undeveloped land, where neither pesticides nor fertilizers are applied.
- D. Illicit Discharges and Improper Disposal

Program for the Prevention of Overflows from Sanitary Sewer Systems- For those Tier 2 properties where sanitary wastes are disposed of through a septic tank system, U.T. Austin will implement a program for education and training of staff and residents on the proper operation and maintenance of septic systems, including routine maintenance dosing of biological treatments and posting of signage in public restrooms. Septic tanks will be inspected annually and pumped if necessary. U.T. Austin will implement the provisions of Tier 1 Section VI.A.1 to control overflows as necessary.

Discharge of Motor Vehicle Fluids and Hazardous Wastes- Any automotive fluid wastes or hazardous wastes generated by U.T. Austin employees on Tier 2 properties will be properly stored for collection by EH&S and managed as described in Tier 1 Section VI.C.1 and VI.C.2 respectively. Yard and landscape maintenance wastes will be composted on site or picked up as municipal trash.

The U.T. Austin management plan to eliminate illicit discharges expeditiously as outlined in Tier 1 Section VI.E applies in its entirety to all Tier 2 properties.

- E. Spill Prevention and Response Program- Procedural components of the Tier 1 program (Section VII.A) applies to all Tier 2 properties.
- F. Construction Site Runoff- The construction site runoff program outlined in Section IX of the Tier 1 management plan applies in its entirety to any construction activity on Tier 2 properties.
- G. Public Education Program- Tier 2 properties shall be included in the public education program described in Section X of Tier 1.

Appendices A and B -- See Draft Storm Water Management Program submitted to EPA on May, 26, 1995.