

said highways are not federal projects and can be constructed without a federal Environmental Impact Statement.

In order to allow construction of the highway to continue and to ensure that the highways are constructed in an environmentally sensitive and prudent fashion, SDHPT and the District have agreed and recommended to the Court entry of this Judgment. The Court is convinced that the terms of the Judgment are reasonable, designed to help protect the Aquifer from the potential effects of highway construction and subsequent highway use, within the jurisdiction of the Court, and consistent with the public interest. The Court also finds that there is no just reason for delay in entering this Judgment.

IT IS THEREFORE, ORDERED, ADJUDGED and DECREED:

- 1) This Consent Decree and Partial Final Judgment constitutes settlement of all current controversies between the District and SDHPT relating to the construction of MoPac South (Loop 1) south of U.S. 290 and Outer Loop (State Highway 45), Segment 3, as more fully described in the District's Intervention Complaint; provided, however, this provision does not prevent subsequent proceedings to enforce the terms of this Judgment.
- 2) If federal funds are utilized in the future by Defendant SDHPT for design, construction, or property acquisition of current or future extensions of MoPac South and/or Outer Loop Segment 3, a federal Environmental Impact Statement shall be performed prior

to any such action, if required by then existing federal law.

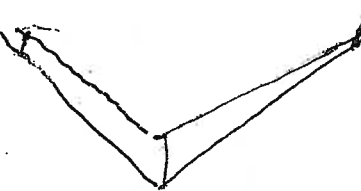
- 3) Any change relating to the handling of runoff or storm water which alters requirements presently included in construction plans or specifications for MoPac South south of U.S. 290 or Outer Loop Segment 3, or Outer Loop Segment 3 plans which will be developed in the future, whether a result of the requirements of this Judgment or independently implemented by SDHPT or any other entity, will be identified to the District. SDHPT will allow the District a reasonable period of time (at least 20 days from the date that the District is provided a copy of proposed plan changes) to comment on such modifications prior to implementation.
- 4) Plans and specifications for Outer Loop Segment 3 east of MoPac South have not yet been prepared by SDHPT. Prior to developing such plans and specifications, SDHPT and the District will perform an on the ground survey of the anticipated right of way for the Outer Loop between MoPac South and FM 1636 to locate and identify significant recharge features. Significant recharge features in this segment will be protected in accordance with this Judgment's provisions; provided, however, if a major cave is discovered SDHPT will either realign the highway or provide for a grade separation to protect the cave. Additionally, SDHPT will provide the District with draft plans and

specifications at no cost for the Outer Loop between MoPac and FM 1626 for review and comment prior to soliciting bids for construction on that portion of the Outer Loop. *

5) At each creek, waterway, or drainageway crossed by MoPac South, from its intersection with U.S. 290 south, and by Outer Loop Segment 3 between FM 1626 and RM 1826, SDHPT shall require the construction of devices designed to prevent the entry into the Edwards Aquifer of spills of hazardous material on the highway or highway runoff, as described more fully below.

(a) Specifically, such devices shall capture and direct, through a concrete-lined pilot channel, the first one-half inch of highway runoff through sand filters. In lieu of concrete-lined pilot channels, SDHPT may use a one-foot thick (after rolling) topsoil layer with a low shrink-swell potential, rolled to eliminate clods and voids and to achieve the greatest field density consistent with vegetation growth. Filter basins lined with a one-foot thick topsoil layer with a low shrink-swell potential shall be constructed to contain the runoff prior to filtration. The basins shall be properly designed to contain and isolate the first one-half inch of runoff volume, with an appropriate bypass system for additional flows.

(b) Concrete-lined, off-channel hazardous materials traps, upstream from sand filters, shall be installed on all highway drainage ditches or structures at their points of discharge and at other necessary locations designed to prevent entry of hazardous materials spilled on or adjacent to the highway from entering the Aquifer. Hazardous materials traps shall each have a volume of at least 8,000 gallons and be equipped with either an inverted siphon or other device to empty rainfall runoff which may accumulate in the trap during heavy rainfall events. The siphon or other device shall be designed to discharge nonhazardous fluids beginning above the 8,000 gallon capacity into a sand filtration system.



(c) For the portion of MoPac South north of Slaughter Lane, the following requirements shall apply. SDHPT shall construct hazardous materials traps at all creek, waterway, or drainageway crossings, as described in subparagraph (b), except sand filters will not be required. Additionally, a detention filtration pond at the City of Austin Detention Facility near Park Bridge shall be constructed by SDHPT. With respect to drainage from the intersection of MoPac South and 290, SDHPT will construct pollution control devices capable of satisfying the intent of the requirements of

subparagraphs (a) and (b), above; provided, however, with respect to this intersection, alternate structures which accomplish the goals of subparagraphs (a) and (b) shall be acceptable.

- 6) SDHPT will routinely, at least annually, inspect and, as necessary, conduct maintenance operations in the future to ensure that hazardous materials traps and highway runoff filters are able to function in accordance with their design, i.e., that hazardous materials traps continue at all times in the future to be capable of trapping hazardous materials spills of up to 8,000 gallons, and that highway runoff filters be at all times capable of trapping and filtering up to the first 1/2 inch of runoff from the highway.
- 7) SDHPT shall maintain ownership of existing right-of-way and control of access points, and in the future shall allow no construction providing for additional access from adjoining property to MoPac South and its frontage roads south of McCarty Lane beyond that specifically shown on existing plans.
- 8) Outer Loop Segment 3, east of its intersection with MoPac South, shall be constructed as a parkway, as shown in the final EIS for Outer Loop Segment 3, over the recharge zone of the Edwards Aquifer from Bliss *Spillar Road to MoPac South, and SDHPT shall maintain ownership of all control of access points and not allow additional access in the future.

- 9) SDHPT shall limit construction of access roads for Outer Loop Segment 3 east of its intersection with MoPac South to those shown in the approved final EIS for Outer Loop Segment 3, Alternative B. SDHPT shall maintain ownership of all control of access points and not allow additional access in the future. Additionally, SDHPT shall notify the District of any request received in the future to authorize connection of a road (not including driveways) to a frontage road of Outer Loop Segment 3, or any request to initiate construction of any road (excluding driveways) providing access to Outer Loop Segment 3 between FM 1626 and RM 1826 (including access roads approved by the Environmental Impact Statement).
- 10) SDHPT has no interest in constructing MoPac South any further south than the Outer Loop. Moreover, SDHPT has stated that it would not be technically feasible for the Department to construct MoPac South south of the Outer Loop because the interchange proposed for MoPac South and the Outer Loop does not allow for further construction of MoPac South to the south as a controlled access facility. The District recognizes the interchange is designed to accommodate access to the south due to the fact that a 90 foot wide access easement to the south has been recorded in the Travis County Deed Records. The District further recognizes SDHPT can in no way bind the City of Austin or any

other entity, so as to completely foreclose the possibility of future construction of MoPac South south of the Outer Loop. SDHPT agrees that, due to the sensitive nature of the Edwards Aquifer, all alternate routes that would not necessitate construction of MoPac South south of the Outer Loop over the recharge zone shall be seriously considered by SDHPT, and should be considered by any party contemplating the construction of MoPac South south of the Outer Loop over the recharge zone.

- 11) To the extent not inconsistent with the provisions of this Judgment, SDHPT shall implement all mitigation, environmental protection, and pollution prevention measures described in its EISS for Outer Loop Segment 3 and MoPac South south of U.S. 290.
- 12) SDHPT shall comply with the preconstruction procedures attached to this Judgment as Exhibit "A," and incorporated herein for all purposes. These preconstruction procedures shall be implemented prior to initiation of construction on Outer Loop Segment 3 or MoPac South south of Hannon Lane. The preconstruction procedures shall be implemented on MoPac South north of Hannon Lane to the maximum extent feasible, within ten working days from entry of this Judgment.
- 13) SDHPT shall comply with the construction procedures set forth in Exhibit "B," attached hereto and incorporated

herein for all purposes. These construction procedures shall be applied to all phases of construction for Outer Loop Segment 3 over the recharge zone, to MoPac South from Hannon Lane to the Outer Loop, and to the greatest extent feasibly possible over the contributing zone. Additionally, with respect to the ongoing construction of MoPac South north of Hannon Lane, the construction procedures shall be applied to the greatest extent feasibly possible.

- 14) The District may advise SDHPT with respect to the implementation of the preconstruction and construction procedures set forth in Exhibits "A" and "B." Specifically, the District may counsel with SDHPT regarding: the location and evaluation of the significance of recharge features, in accordance with the criteria set forth in Exhibit "C," attached hereto and incorporated herein for all purposes; determination of the adequacy of erosion control measures; and determination of the contractor's compliance with the preconstruction and construction procedures.
- 15) SDHPT shall commission an independent study (by USGS or the U.T. Bureau of Economic Geology) to monitor and investigate the water quality effects of MoPac South and Outer Loop construction and operations. The study's scope will include, but not be limited to, the items set forth in Exhibit "D." SDHPT will consult with the District concerning the nature, scope, and

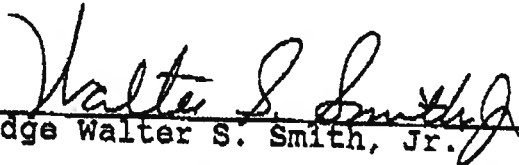
progress of the study, both before and during the study. All data and information developed in the study shall be made available to the District.

16) SDHPT shall erect signage for Outer Loop Segment 3, MoPac South, and U.S. 290/S.H. 71 to inform drivers and members of the public that they are over the recharge zone of the Edwards Aquifer and that the area is environmentally sensitive. Such signs shall be posted at or near each entrance to each highway over the recharge zone, as each highway itself enters and leaves the recharge zone, and periodically as each highway crosses the recharge zone.

17) The consideration paid underlying the execution of the Judgment by SDHPT and the District is set forth in the January 17, 1990 letter agreement executed by the parties' respective authorized representatives.

The foregoing Consent Decree and Partial Final Judgment is without prejudice to the rights of any nonsettling party to obtain an independent determination of all contested issues of fact and law pending before the Court.

Dated: January 23, 1990



Judge Walter S. Smith, Jr.

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TRANSPORTATION

EXHIBIT "A"
PRECONSTRUCTION PROCEDURES

1. An initial field inspection of proposed highway right-of-way will be performed, in cooperation with the District, to identify significant recharge features (SRF).
2. Determination of SRF shall be in accordance with Exhibit "C" and shall be performed in cooperation with the District.
3. All SRF shall be located by a field survey and mapped on proposed highway plans. SRF shall be ranked or categorized in accordance with the criteria set forth in Exhibit "C," attached to the Judgment, to determine the degree of protection to be accorded in highway design and during construction.
4. Before construction commences, SRF shall be protected in accordance with the standards set forth in Exhibit "C."
5. No highway runoff during construction or operation shall be allowed to directly enter SRF without filtration of sediments in the runoff using filter fence and fabric-lined rock berms. This includes areas outside the footprint of the roadway exhibiting SRF.
6. All highway runoff shall be directed away from any fracture zones during construction or operation which are determined to be SRF, as per the criteria set forth in Exhibit "C." As a last resort, if redirection is not feasible, the fracture zone may be sealed.
7. Evaluation of caves and SRF, at selected locations within the right-of-way, to determine their physical characteristics shall be done by drilling geotechnical testholes, or by other appropriate means, including seismic.
8. There will be no construction within 50 feet of a major cave, as set forth in Exhibit "C."

EXHIBIT "B"
CONSTRUCTION PROCEDURES

1. Clearing of trees and brush in the right-of-way shall be initially performed with the least disruption possible. Cleared trees and brush shall be stockpiled in areas exhibiting no recharge features.
2. After initial clearing, the right-of-way shall be surveyed, in cooperation with the District, for any additional SRF. If any additional SRF are located, they shall be protected in accordance with the guidelines in Exhibit "C."
3. During construction, all runoff from the site shall be diverted and filtered through filter fences, sedimentation basins, or rock berms with filter fabric to control sediment loadings.
4. Rock berms shall not be used for sediment and erosion control without filter fabric. Flow shall not be allowed to bypass rock berms. Rock berms shall be "U" or "J" shaped.
5. Filter fabric fences shall be inspected daily and maintained at all times.
6. Inspection of sediment and erosion control devices shall be performed during and immediately after rainfall events to determine their effectiveness. Appropriate corrective measures shall be immediately performed if these devices are not functioning properly.
7. Blasting shall be in accordance with the criteria listed in Exhibit "C." In addition, blasting shall be limited to the footprint of the roadway and shall not be done in excess of 5-foot lifts per shot.
8. There shall be no heavy equipment used in creek beds and drainageways exhibiting SRF, except on timber matting.
9. Construction or equipment activities outside the footprint of the roadway in areas exhibiting extensive SRF shall be limited.
10. Geotechnical logs shall be available for inspection by the District. If caves or solution cavities are found, the coreholes/bores shall be plugged above the cavity with expanding cement. Bridge piers or columns constructed in major cavities shall be performed using casing, so as to allow a minimum amount of concrete to enter the cavity.
11. The District shall have the option to observe and comment on construction activities and provide any suggestions.

EXHIBIT "B" CONTINUED

12. Storage of hazardous materials shall not be permitted without a clay lined catchment pit to contain possible spills.
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EXHIBIT "C"

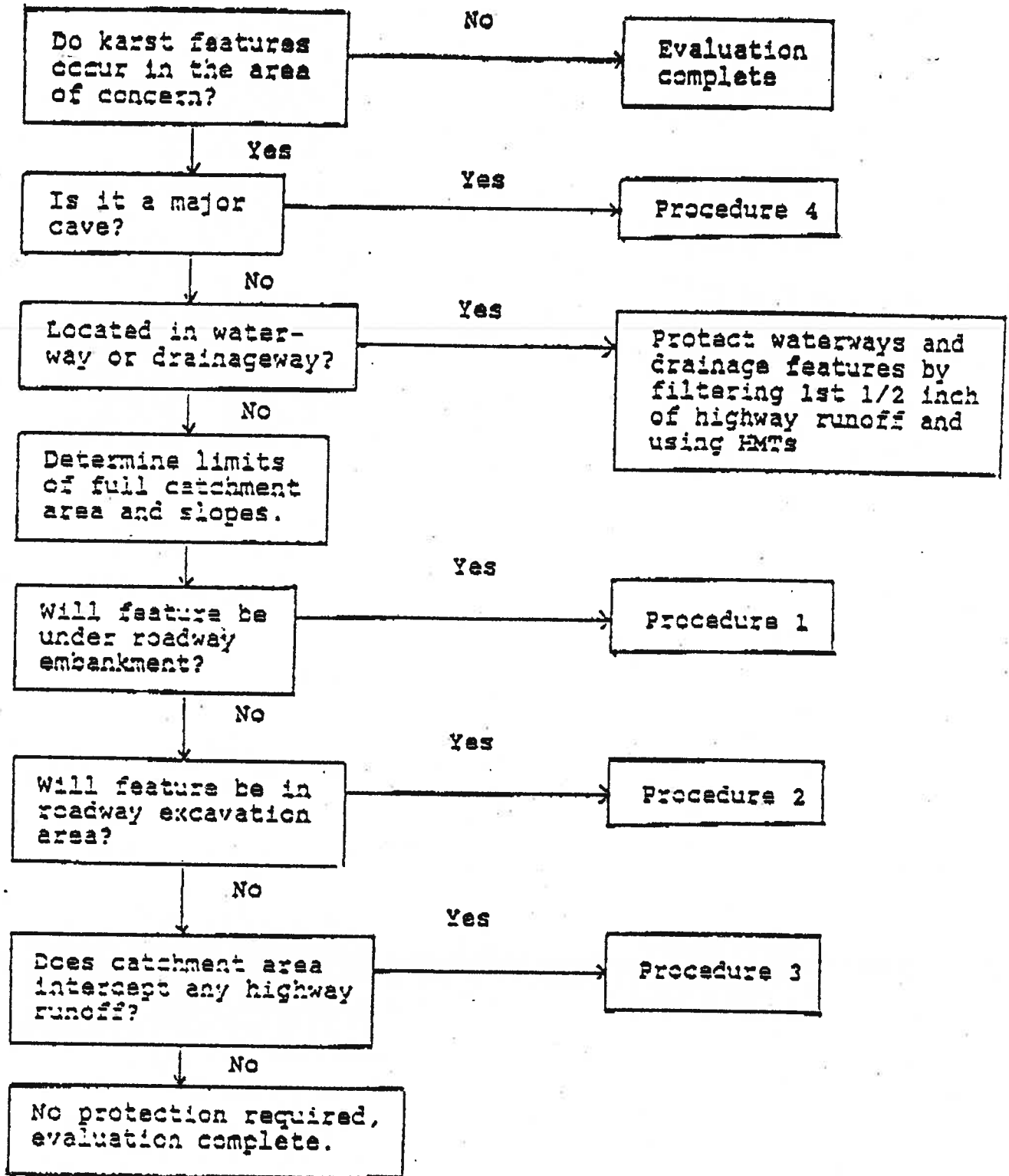


EXHIBIT "C" - CONTINUED

PROCEDURE 1

1. The feature shall be protected from construction runoff prior to beginning the embankment operation. Protection will consist of encirclement of the feature by silt fence or a rock berm with filter fabric.
2. Seal the feature by placing large rock in the opening of the cavity and cover with natural clay type soil from the project site.
3. Complete the construction of the embankment and roadway over the site.
4. Blasting will be permitted, but shall not exceed 5-foot lifts per shot.

PROCEDURE 2

1. Evaluation of the extent of the feature to be removed should be determined by drilling geotechnical testholes or by other appropriate means, as directed by SDHPT, in cooperation with the District.
2. The feature shall be protected from construction runoff prior to beginning the excavation operation. Protection will consist of encirclement of the feature by silt fence or a rock berm with filter fabric.
3. Blasting will be permitted to remove the feature, but shall not exceed 5-foot lifts per shot.
4. After excavation is begun, a berm will be maintained to prevent any construction runoff from entering any portion of the feature which may remain.
5. After excavation is complete, any remaining portion of the feature exposed by the excavation operation shall be protected from highway runoff or filtered. If sealed, the feature shall be sealed with geotechnical fabric/concrete, as directed by SDHPT, in cooperation with the District.

EXHIBIT "C" CONTINUED

PROCEDURE 3

1. The feature shall be protected from construction runoff prior to beginning construction. Protection will consist of placement of silt fence or a rock berm with filter fabric in an orientation which will intercept any construction or highway runoff and prevent it from entering the feature.
2. At the earliest date possible, an earth berm or ditch shall be constructed to intercept any construction or highway runoff and prevent it from entering the feature.
3. No blasting will be allowed within 300 feet of these features.

PROCEDURE 4

1. SDHPT shall consider highway realignment to bypass the major cave or bridging over the feature as to allow future access.
2. The major cave shall be protected from construction runoff prior to beginning construction. Protection will consist of placement of silt fence or a rock berm with filter fabric in an orientation which will intercept any construction runoff prior to reaching the feature.
3. At the earliest date possible, an earth berm or ditch shall be constructed to intercept any construction or highway runoff and prevent it from entering the feature.
4. No blasting will be allowed within 300 feet of these major caves.

NOTE: "Cave" means a natural cavity, recessed chamber or series of chambers and galleries beneath the surface of the earth. For purposes of establishing a standard for "major" caves, SDHPT and the District agree that Ireland Cave, Whirlpool Cave, Flint Ridge Cave, and the cave recently located near Mopac South in unnamed tributary number 1 to Slaughter Creek (which is of significance primarily because of its location in the drainageway) are each major caves.

EXHIBIT "D"

PRELIMINARY PROJECT DESCRIPTION FOR QUALITY AND QUANTITY OF RUNOFF FROM SELECTED HIGHWAYS IN THE AUSTIN, TEXAS AREA

OBJECTIVES:

1. To determine the quantity and quality of runoff from specific highway segments.
2. To determine the effect of rainfall characteristics and traffic volume and mix on the quality of runoff from highways.
3. To determine the effectiveness of pollution control devices currently being used and planned for installation on Loop 1 and SH 45 in southern Travis County over the recharge zone of the Edwards Aquifer.

APPROACH:

1. Conduct a literature review to identify previous studies concerning the handling and quality of highway runoff, and to survey the types and effectiveness of pollution control devices that can be utilized to handle highway runoff.
2. Based on drainage criteria, design and install monitors which will gage the quantity and sample the quality of runoff from at least three segments of highways in or near Austin. The selected highways will have different traffic frequency--low (less than 10,000 vehicles per day), medium (from 10,000 to 30,000 vehicles per day), and high (exceeding 60,000 vehicles per day) rates (to be located over the recharge zone of the Edwards Aquifer if at all possible). One of the highway segments will include Loop 1 or SH 45 in southern Travis County over the recharge zone, and include pollution control devices with representative drainage areas. A second segment and sampling location shall be located over the recharge zone of the Edwards Aquifer, if feasible in the opinion of the USGS, and at least two filtered sites shall be tested.
3. Have traffic frequency counters installed at each of the sites to obtain available data concerning current frequency.
4. Collect runoff quantity and quality data at each site for at least 8 storms per year during the Phase 1 construction of Loop 1 from Hannon Lane to SH 45 and on SH 45 from Loop 1 to RM 1826, and during at least the first two years of operation of the highway facility. The samples should be representative of the total spectrum of rainfall events which result in highway runoff. Following completion of construction, samples of the first 1/2 inch of highway

runoff shall be separately collected and analyzed. The samples will be analyzed for the water-quality constituents contained on the attached list. For the Loop 1/SH 45 segment, the samples should be collected in a manner which will allow evaluation of the representative quality of runoff (1) at the pavement edge, (2) after flowing in a roadside ditch, (3) immediately above sand filters, and (4) immediately below sand filters. Representative samples should also be taken in creeks and drainageways upstream and downstream from highway crossings of the streams. Sample collection shall continue for a sufficient period of time to obtain at least 8 representative sampling events following construction of Loop 1 and SH 45.

5. Based on incremental values of the quantity and quality of runoff, calculate the storm loads and discharge-weighted mean concentrations for selected water-quality constituents.
6. Tabularly and graphically present all the collected data and the calculated data.
7. For each site, statistically relate the loads and mean-concentrations of constituents to precipitation characteristics such as depth of rainfall and number of dry days between storms.
8. Compare the load and mean-concentration data between the three sites, and graphically or statistically present the effects of traffic frequency on the loads for selected storm characteristics.
9. Present all of the collected, calculated, and analyzed information in a report, along with explanations of the approach and procedures used.

REPORT PLANS:

A report will be prepared for publication in the U.S. Geological Survey Water-Resources Investigations series during the final year of the project or a publication of the U.T. Bureau of Economic Geology.

ATTACHMENT TO PRELIMINARY PROJECT PROPOSAL

	Constituent (dissolved)	Reporting Level ug/L
1.	Barium	2
2.	Beryllium	0.5
3.	Cadmium	1
4.	Calcium	0.02
5.	Cobalt	3
6.	Chromium	5
7.	Copper	10
8.	Iron	3
9.	Lead	10
10.	Lithium	4
11.	Magnesium	0.01
12.	Nickel	10
13.	Manganese	1
14.	Molybdenum	10
15.	Silica	0.01
16.	Sodium	0.2
17.	Silver	1
18.	Strontium	5
19.	Vanadium	6
20.	Zinc	3
21.	Platinum	(to be determined by USGS)

Central Laboratory Schedule 1134

	Constituent (total)	Reporting Level mg/L
1.	Nitrogen, Ammonia as N.	0.01
2.	Nitrogen, Total as N.	0.1
3.	Nitrogen, NO2 as N	0.01
4.	Nitrogen, NO3 as N	0.1
5.	Phosphorus, Total as P	0.01

Central Laboratory Schedule 520

	Constituent (dissolved)	Reporting Level mg/L
1.	Bromide	0.01
2.	Chloridel	0.01
3.	Fluoride	0.01
4.	Nitrogen, NO3 as N	0.01
5.	Phosphorus, ortho, as P	0.01
6.	Sulfate	0.01

Lab Code	Added Parameters (total)	Reporting Level mg/L
1. 0114	Total Organic Carbon	0.1
2. 0076	Chemical Oxygen Demand	10.
3. 0169	Residue, suspended	1
4. 0049	Residue, volatile	1

Field Service Unit Determinations

Constitutents (total)	Reporting Unit mg/L
Alkalinity	1
pH	0.1
BOD	0.1

Other

	Lab Code	Reporting Unit (mg/L)
Total Dissolved Solids	0027	1