

*Regional Drainage Plan and Environmental Investigation
for Major Tributaries in the Cypress Creek Watershed
TWDB Contract No. 2000-483-356*

Table I5: Comparison of Water Surface Elevations (100-Year)

SECNO	Location	Baseline Condition		Recommended Plan		Delta (ft)
		Flow	WSEL	Flow	WSEL	
Middle Fork of Mound Creek (Kx166-04-00) cont.						
0.5704		-	-	2232	242.77	-
1.04	Limit of Study	660	255.17	2232	242.73	-12.44

3.0 PLAN IMPLEMENTATION AND MANAGEMENT STRATEGIES

Since a majority of the Mound Creek watershed is still undeveloped, the features identified as part of the recommended plan can be constructed as the watershed develops. As new development continues, mitigation for anticipated increases in stormwater runoff can be implemented. The channel extensions and new channel elements through these undeveloped areas have been identified for use as a guide for new development.

This information identifies ultimate drainage corridor right-of-way needed to implement the recommended plan features. Further, this identification of right-of-way will help local agencies in their coordination with new development to ensure that the appropriate considerations for drainage are being implemented. The following sections outline a suggested approach for implementing the recommended plan and identify recommended management strategies for the watershed.

3.1 Preservation of Stream Habitat Corridors

The recommended plan identifies an area of high quality stream habitat that is to be managed without a structural flood reduction project. The area is from the mouth at the confluence of Cypress Creek upstream to Kx166-04-00 (Middle Fork). In this area, the channel of Mound Creek has a high quality natural stream habitat corridor that is beneficial to maintain in its existing condition.

The area contained within this corridor consists of almost no existing right-of-way or easement dedication. A recommended right-of-way of 300-feet was determined based on the extent of mature tree cover as well as the limits of areas of out-of-bank flooding. Because a majority of this right-of-way represents floodplain, it is anticipated that development of homes and the placement of fill material will not occur as quickly within these areas. Any development in these corridors will require substantial mitigation and coordination with the appropriate regulatory/governmental agencies. In order to implement this plan element, it is necessary to reserve the right-of-way in some fashion in order to limit or restrict development within the extent of the corridor.

One alternative for implementing this plan element is to request the appropriate easements from the landowner as development occurs in the adjacent area. Another alternative would be to have the appropriate entity such as the Harris County Flood Control District (for areas located within Harris County) or Waller County (for areas located within Waller County) acquire the appropriate right-of-way through fee title, easement or setback. However, fee title or easement would severely tax the funding source of these entities if implemented on a wide basis. Another alternative would be to allow developments to participate in construction of regional mitigation facilities such as detention basins and water quality basins within these corridors, and to have the

use of the corridors for recreational features such as hiking trails. No other portions of the development would be allowed within the corridors. Requirements would have to be placed on the construction of these facilities so that they did not overly disturb the stream habitat that is meant to be preserved in the corridors.

3.2 New Lateral Channels/Channel Extensions

There are numerous channels proposed in the recommended plan. The plan right-of-way width is sufficient to incorporate a channel that has terraced sections and allows for multiple uses (see **Figure 1**). The recommended implementation for construction of channel corridors would consist of having the appropriate entity with jurisdiction prioritize (as best as possible) the immediate need for these channels, and proceed with the acquisition of a portion of the right-of-way along the proposed lateral channel alignments. This portion of the right-of-way would be the minimum (approximately 140 feet in width) necessary to implement a typical trapezoidal channel with the appropriate depth for outfall. Additional right-of-way and construction of the channel would be provided by adjacent properties of new development as they occur, or through the impact fee program. Alternative right-of-way acquisition strategies are similar to those discussed in the previous section and consist of requiring dedication of larger easements, purchasing the land outright, or entering into an agreement with the proposed development to share the land. The ultimate configuration of facilities would typically require 300-foot to 600-foot right-of-way widths.

3.3 Detention Facilities

Five detention facilities are identified for the Mound Creek watershed recommended plan. The three facilities along the main stem of Mound Creek are sized to limit flows to the baseline condition through the high quality habitat area and Cypress Creek. The two basins upstream of the City of Waller are designed to remove the floodplain through Waller without having to construct extensive improvements through existing developed areas. Implementation of the regional detention facility element of the recommended plan will consist of the actual purchase of the land and construction of the facility by public agencies such as Waller County or the City of Waller.

3.4 Channel Crossings

Several major roads cross the channels in the Mound Creek watershed. New crossings should be designed to pass the recommended plan 100-year flows with a minimal amount (less than 0.5') of head loss. Crossings that are constructed as part of developments or as revisions to the major thoroughfare plan should be designed in consideration of the goals for the "frontier program" in the watershed. For example, a new bridge spanning an area of high quality habitat protection, such as the main stem of Mound Creek, would need to be built to preserve the habitat quality of the area. This would include longer spans or additional spans to clear more of the conveyance

area of the channel, limited clearing of trees along the right-of-way, and stormwater quality features at any outfalls proposed with the crossing. Proposed crossings of channel extensions or new tributary channels included in the recommended plan could be designed in a more conventional manner, however care must be taken to ensure that the storage of the channel is not impacted by construction of an inadequate structure opening.

3.5 Cost Analysis

Costs were identified for implementation of the recommended plan. These costs consider acquisition of right-of-way, engineering, and construction of the plan elements. Future bridge crossing cost was not included in the recommended plan cost because the crossings will not be implemented as part of the recommended plan, but as part of the county's transportation plan. The table below shows each plan element, the identified right-of-way, the unit costs and total costs for the project. The total cost when fully implemented is approximately \$162 million, with the bulk of the cost in land acquisition and excavation costs.

Table 16 - Estimate of Recommended Plan Construction Costs for Mound Creek				
Description	Unit	Quantity	Unit Cost	Cost
1. Mobilization	Each	34	\$10,000	\$340,000
2. Clearing & Grubbing	Acre	2,350	\$1,500	\$3,525,600
3. Excavation & Haul	Ac-Ft	15,335	\$5,000	\$76,673,000
4. Bridge Installation	EA	8	\$300,000	\$2,100,000
5. Culvert Installation	EA	8	\$100,000	\$800,000
6. Drop/Control Structures	L.S.	133	\$100,000	\$13,300,000
7. Backslope Drains	Each	0	\$3,000	\$0
8. Utilities Relocation	Each	0	\$100,000	\$0
9. Right-of-Way	Acre	2,350	\$15,000	\$23,504,000
10. Seeding & Mulching	Acre	2,350	\$1,000	\$2,350,400
11. Tree/Shrub Planting	Acre	588	\$10,000	\$5,876,000
SUB TOTAL				\$128,469,000
Contingencies (15%)				\$19,270,400
TOTAL CONSTRUCTION COST				\$147,739,400
ENGINEERING AND ADMINISTRATION (10%)				\$14,773,900
TOTAL				\$162,513,360

3.6 Implementation Phasing

Implementation of the recommended plan features is suggested to occur in phases so that the appropriate funding can be identified for each fiscal year. First priority should be given to implementing projects that result in flood reduction benefits to existing flood-prone structures. In the Mound Creek watershed, the two detention basins upstream of the City of Waller fit this category and will reduce flood levels through Waller. Second priority should be placed on an ongoing land acquisition program to purchase right-of-way for stream corridor preservation projects. The stream corridor and voluntary structural buyout would fit this category. Final priority should be given to acquiring right-of-way ahead of new development to ensure that future

drainage projects can be implemented accordingly. This acquisition will also coincide with future major roadway thoroughfare projects.

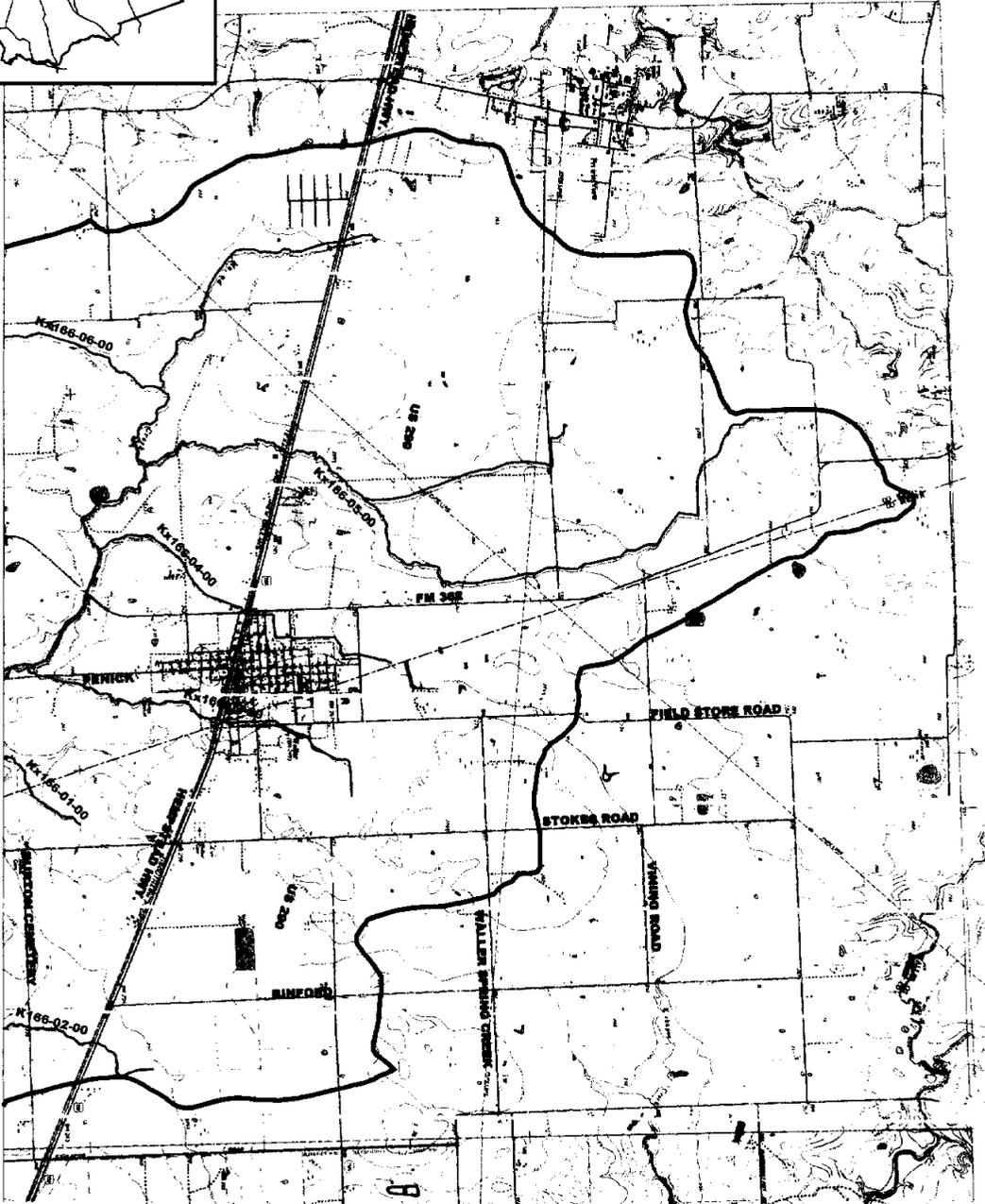
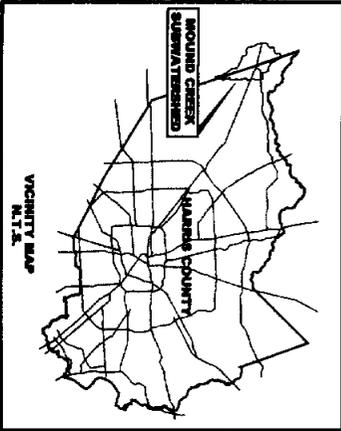
Implementation of the plan should begin immediately to provide a flood reduction benefit to the City of Waller. The recommended plan is estimated to take approximately twenty years to implement. The order of near-term implementation would be to construct detention basins upstream of Waller within the first two years of implementation. The proposed detention facilities would be constructed as soon as land is acquired. The main stem stream habitat corridor could be acquired in the first five years, and right-of-way for regional corridors and detention would be phased ahead of development.

3.7 Identification of Possible Funding Sources

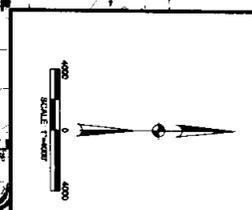
Implementation of the plan is dependent upon the cooperation of other stakeholders in addition to Waller County and the Harris County Flood Control District. The District's primary role is to implement flood reduction projects within Harris County. An impact fee should be created to offset as much of the cost of the plan as can be economically justified. A \$6,000 per acre impact fee was assumed for an estimated 17,000 developable acres which would produce revenues of \$102,000,000. The construction of parks and the creation of mitigation for new development would not be implemented with District funds.

Currently, there does not appear to be an expressed interest by any other organization to implement various park or trail amenities within the Mound Creek watershed. In the event that such interest is expressed, it is anticipated the implementation of parks or trails within the drainage corridor right-of-way could proceed through agreements between the District, Waller County and the appropriate stakeholders. Such stakeholders could include the Texas Parks and Wildlife, Legacy Land Trust, Harris County, and the various civic associations located throughout the watershed. Management of these uses and respective maintenance of the facilities would also be performed by the stakeholders. The District could enter into an agreement to construct the necessary detention or flood-reduction drainage element with consideration for multiple uses such that the stakeholder will take over maintenance of the facility.

The construction of the necessary roadway crossing of the channels will be funded through the appropriate stakeholder responsible for the project, such as Harris or Waller County Engineering for county roads, and developers for their respective developments that include roadway channel crossings.



MATCHLINE - SEE EXHIBIT 1.1.2



LEGEND

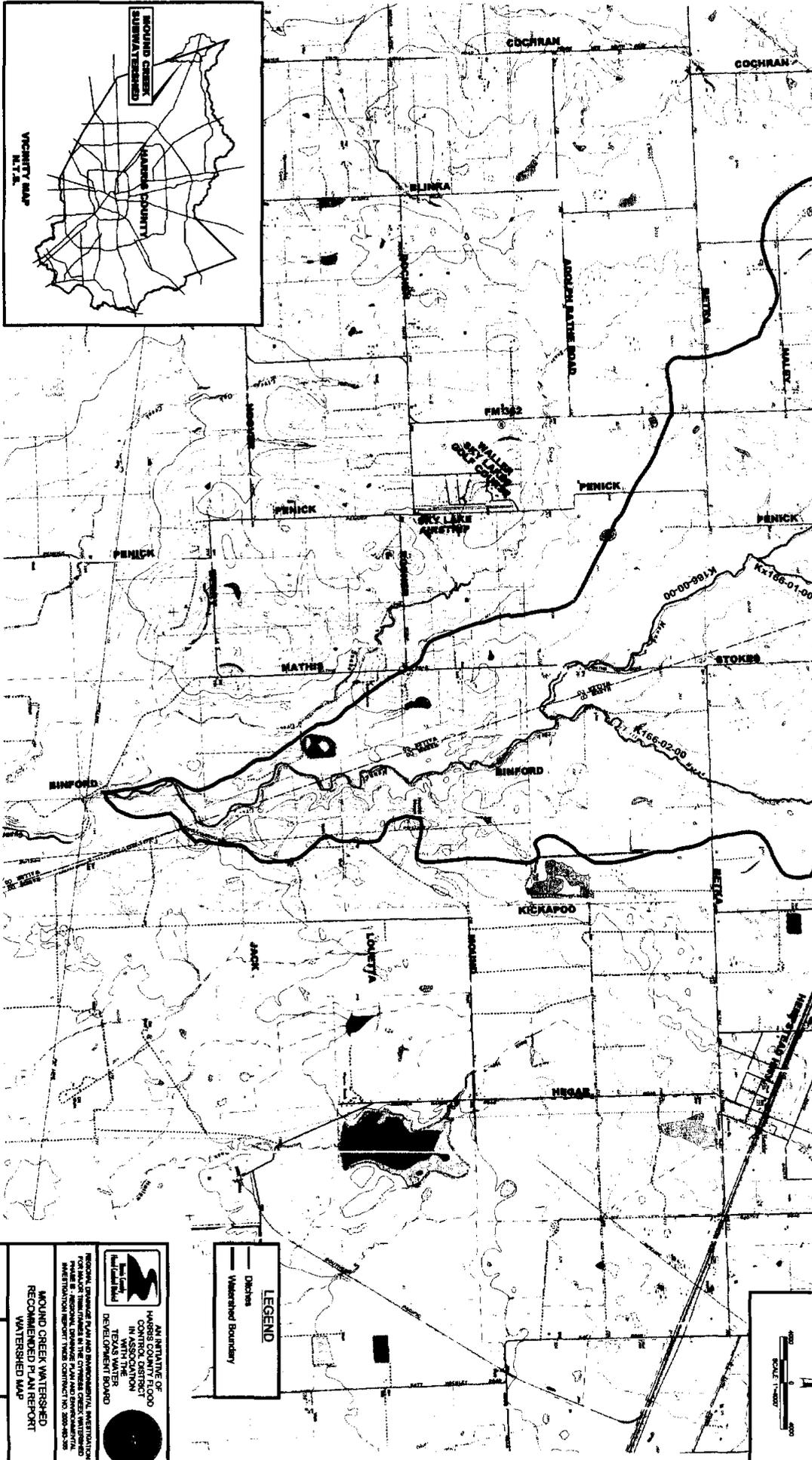
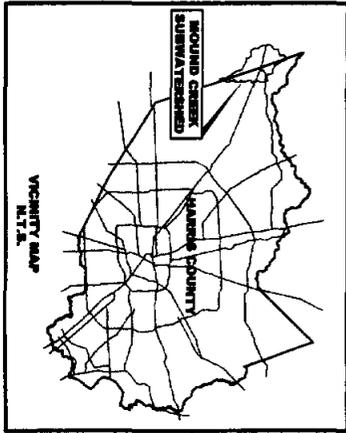
- Ditches
- Watershed Boundary

AN INITIATIVE OF
HARRIS COUNTY
WATERSHED DEVELOPMENT BOARD
IN ASSOCIATION
WITH THE
WATERSHED DEVELOPMENT BOARD

FOR A FULLER UNDERSTANDING OF THE WATERSHED DEVELOPMENT BOARD'S ROLE IN THE ROUND CREEK SUBWATERSHED, PLEASE REFER TO THE WATERSHED DEVELOPMENT BOARD'S WATERSHED DEVELOPMENT REPORT (PART 1) CONTRACT NO. 2004-02-02.

ROUND CREEK WATERSHED
RECOMMENDED PLAN REPORT
WATERSHED MAP

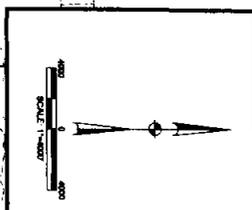
FEBRUARY, 2003 K166-00-00 EXHIBIT 1.1.1



MATCHLINE - SEE EXHIBIT 1.11

LEGEND

- Dashed line: Ditches
- Solid line: Watershed Boundary

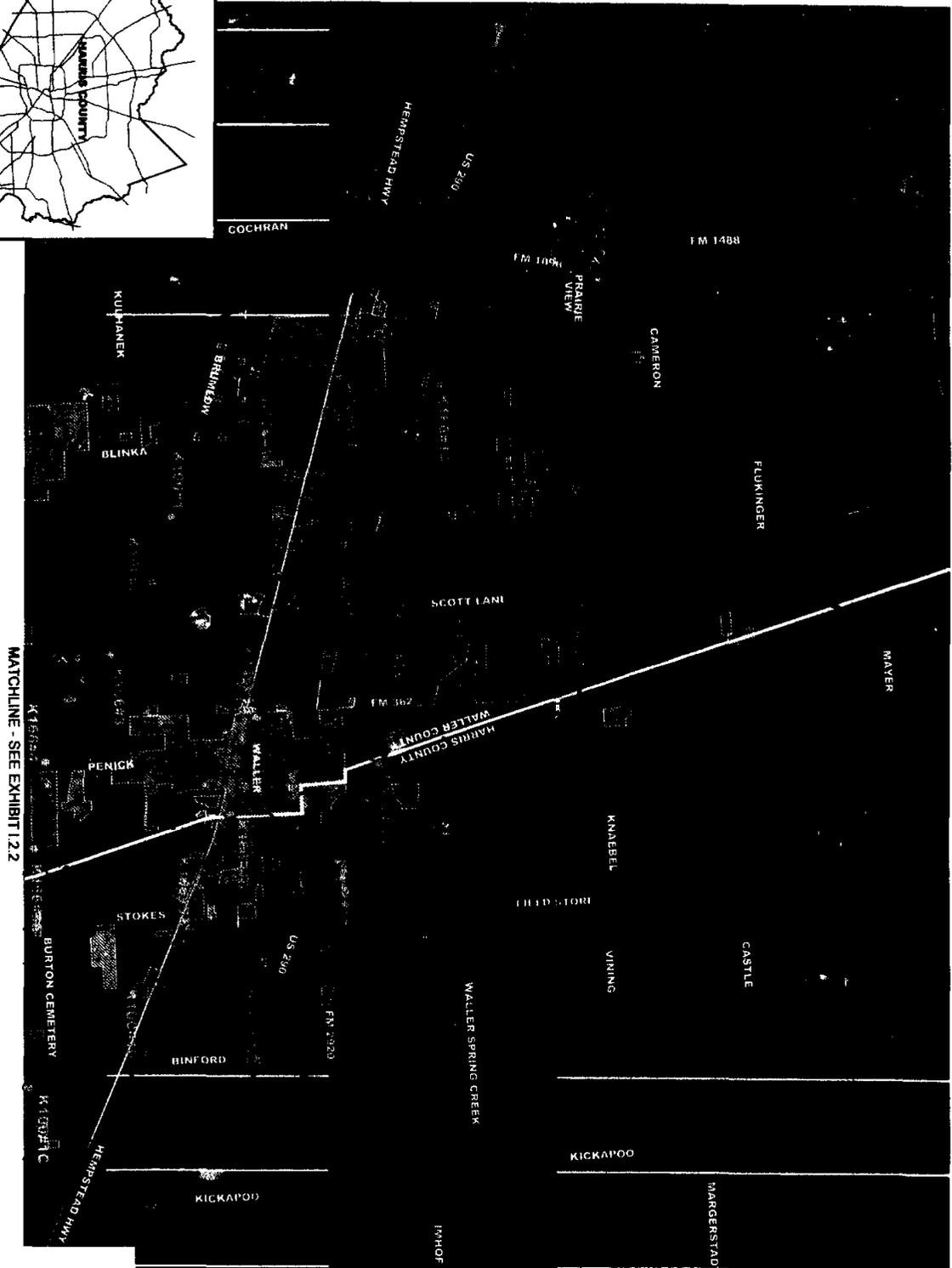
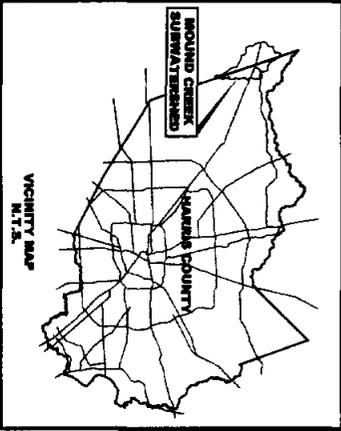


AN INITIATIVE OF
HARBER COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
PROJECT # 1 - REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL
INVESTIGATION REPORT (NO. 2001-01-200)

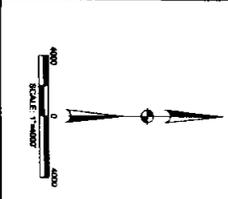
**MOULD CREEK WATERSHED
RECOMMENDED PLAN/REPORT
WATERSHED MAP**

FEBRUARY, 2003 K198-00-00 EXHIBIT 1.12



LEGEND

- Ditches
- Watershed Boundary
- Recommended Plan Sub Watershed Boundary
- 1984 Developed Areas
- HCFCD Right-Of-Way
- Hydrologic Analysis Points



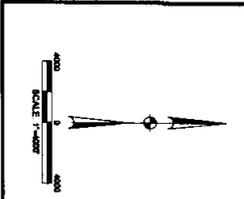
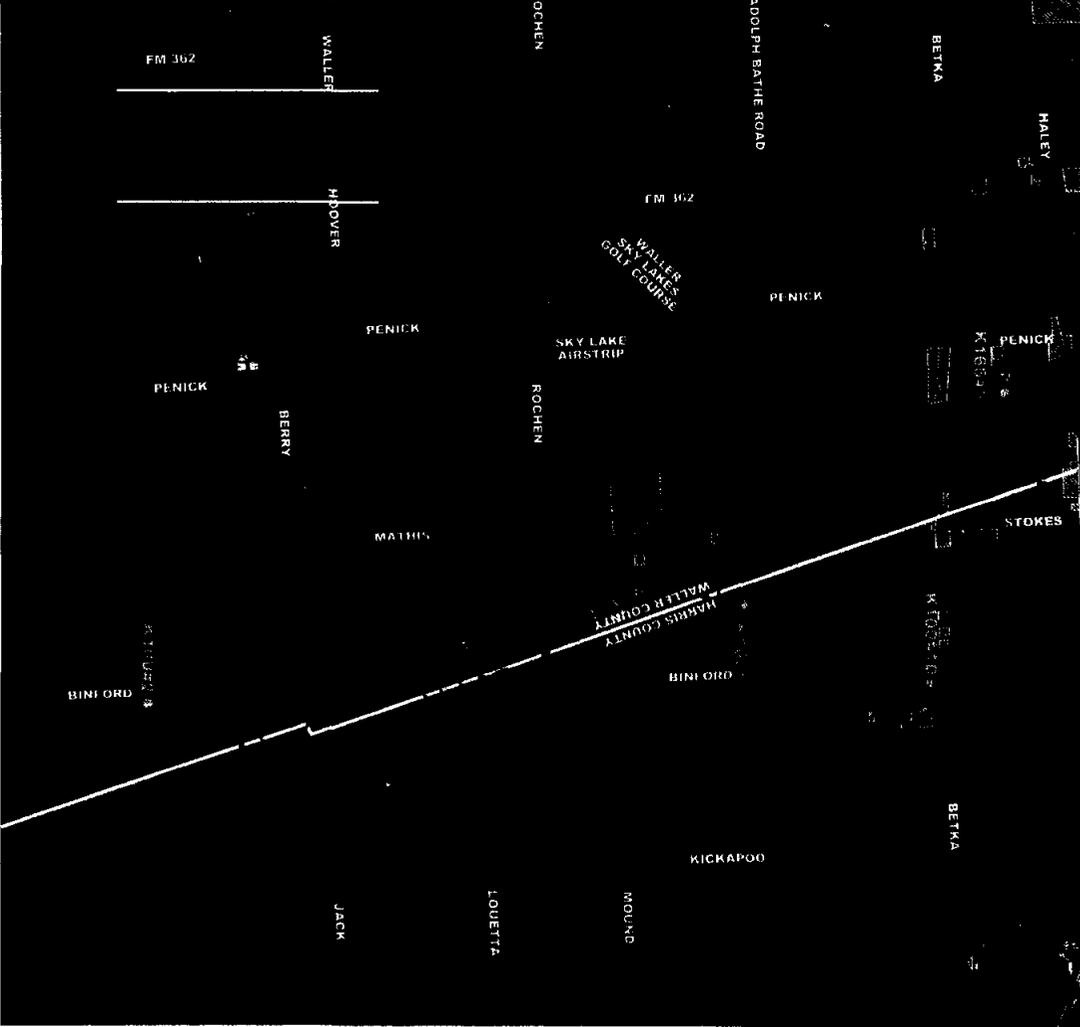
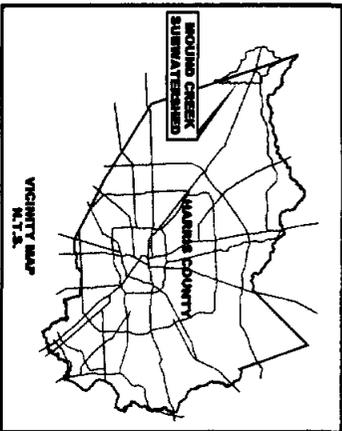
AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DAMAGE PLAN AND ENVIRONMENTAL INVESTIGATION
PHASE II - REGIONAL DAMAGE PLAN AND ENVIRONMENTAL
INVESTIGATION REPORT FINAL CONTRACT NO. 200-80-286

**MOUND CREEK WATERSHED
RECOMMENDED PLAN REPORT
1989 AERIAL WATERSHED MAP**

FEBRUARY, 2000 K196-00-00 EXHIBIT 1.2.1

MATCHLINE - SEE EXHIBIT 1.2.1



LEGEND

- Ditches
- Watershed Boundary
- - - Recommended Plan
- - - Sub Watershed Boundary
- 1984 Developed Areas
- HCFCD Right-of-Way
- Hydrologic Analysis Points

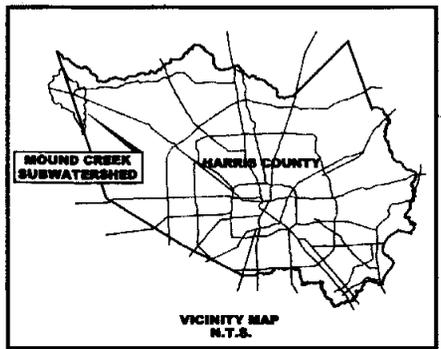
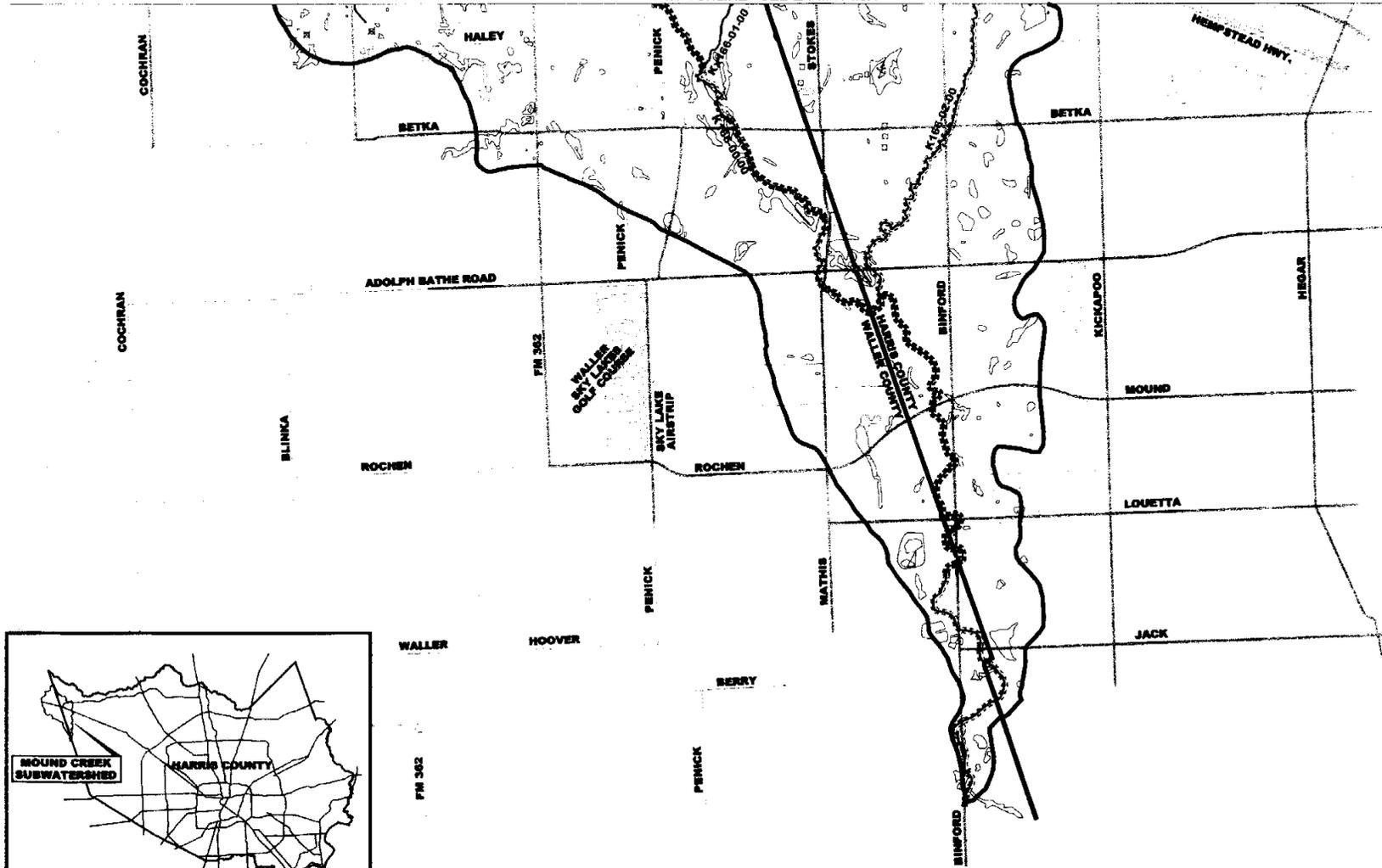
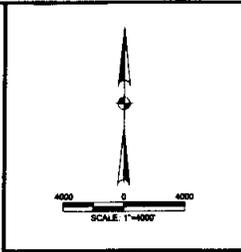
HARRIS COUNTY
FLOOD CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TENTH WATERSHED
DEVELOPMENT BOARD

AN INITIATIVE OF
HARRIS COUNTY
FLOOD CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TENTH WATERSHED
DEVELOPMENT BOARD

NOURI CREEK WATERSHED
RECOMMENDED PLAN REPORT
1999 AERIAL WATERSHED MAP

FEBRUARY 2003 K198-0000 EXHIBIT 1.2.2

MATCHLINE - SEE EXHIBIT I.3.1



LEGEND

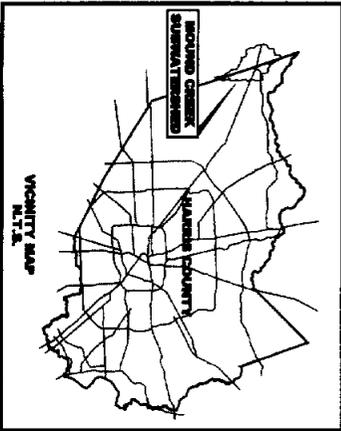
- Street
- Major Road
- Ditches
- Baseline Watershed Boundary
- Potential Wetlands
- Natural Prairies
- Wetlands
- Known Historical Sites
- Hazardous Material Sites

STREAM HABITAT QUALITY

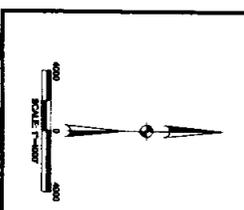
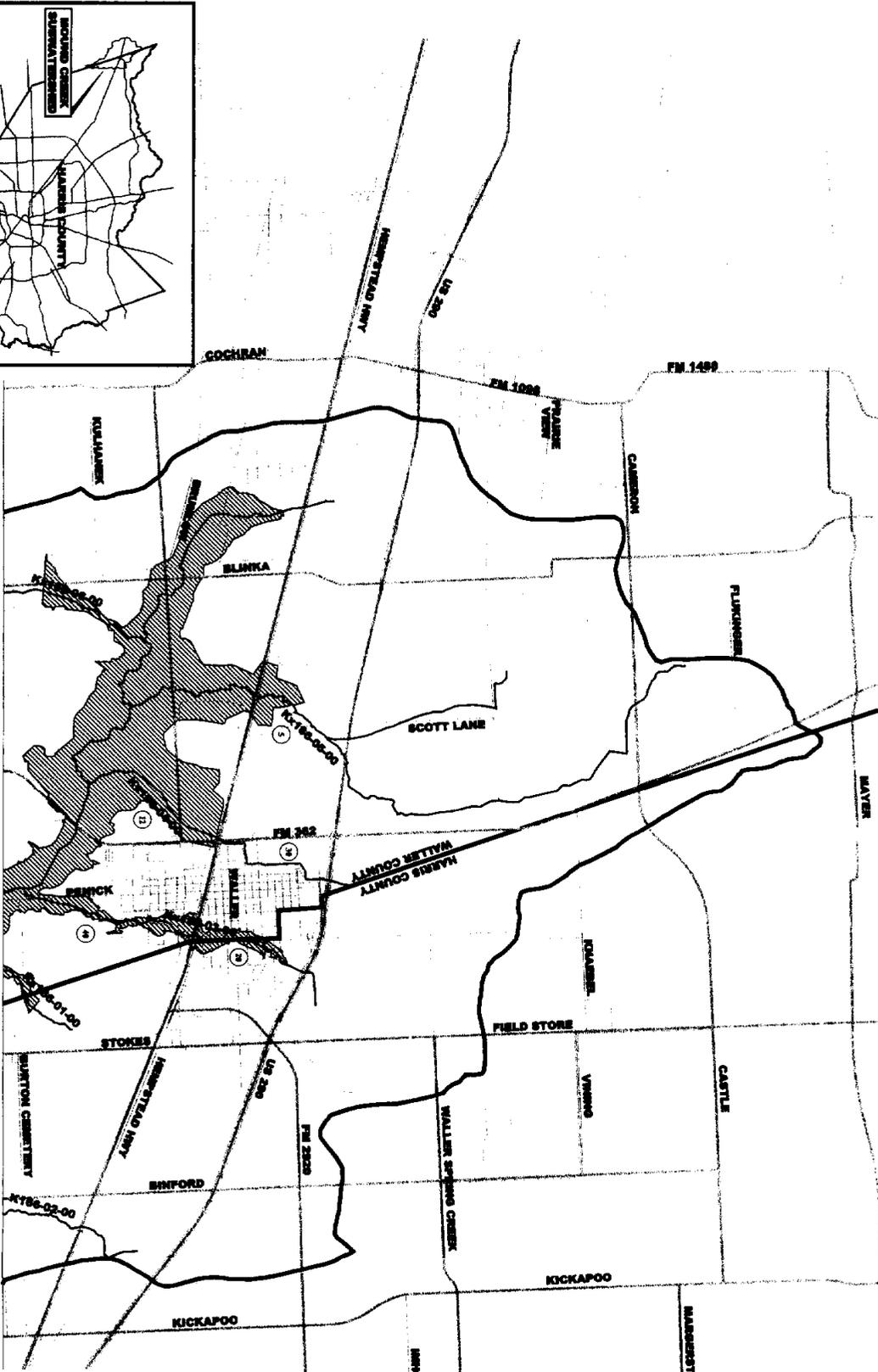
- Low
- Medium
- High

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE III - REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL
INVESTIGATION REPORT TWEB CONTRACT NO. 2002-003-300



MATCHLINE - SEE EXHIBIT 1A.2



LEGEND

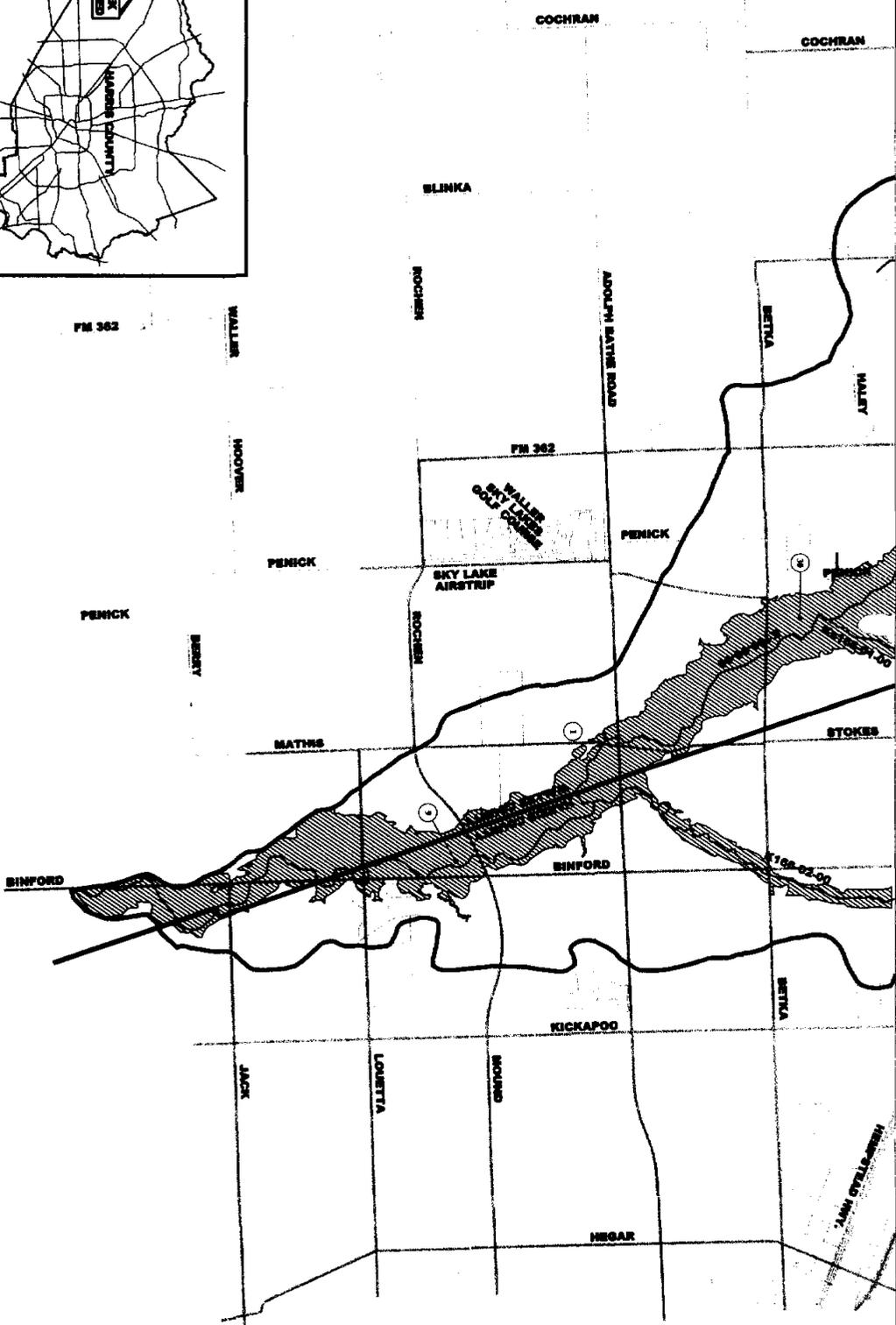
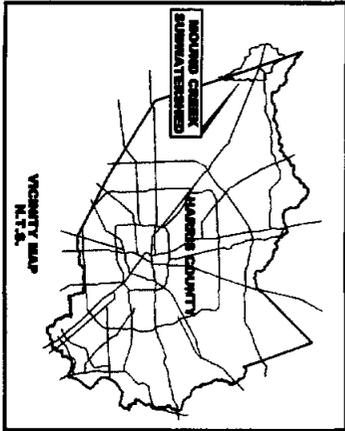
- Streets
- Major Roadways
- Ditches
- ▨ Barabois Floodplain
- ▤ Watershed Boundary
- ⊗ Areas of Designated Flood Damage Potential
- ⊙ Areas of Potential Structural Flooding



AN INITIATIVE OF
HARRIS COUNTY FLOOD CONTROL DISTRICT
IN ASSOCIATION WITH THE NATIONAL FLOOD INSURANCE PROGRAM
DEVELOPMENT BOARD

MOJLAND CREEK WATERSHED RECOMMENDED PLAN REPORT STRUCTURAL FLOODING CONCERNS

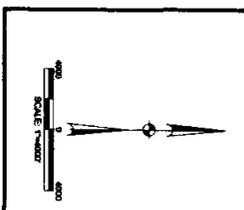
FEBRUARY, 2003 K198-00-00 EXHIBIT 1A.1



MATCHLINE - SEE EXHIBIT 1.4.1

LEGEND

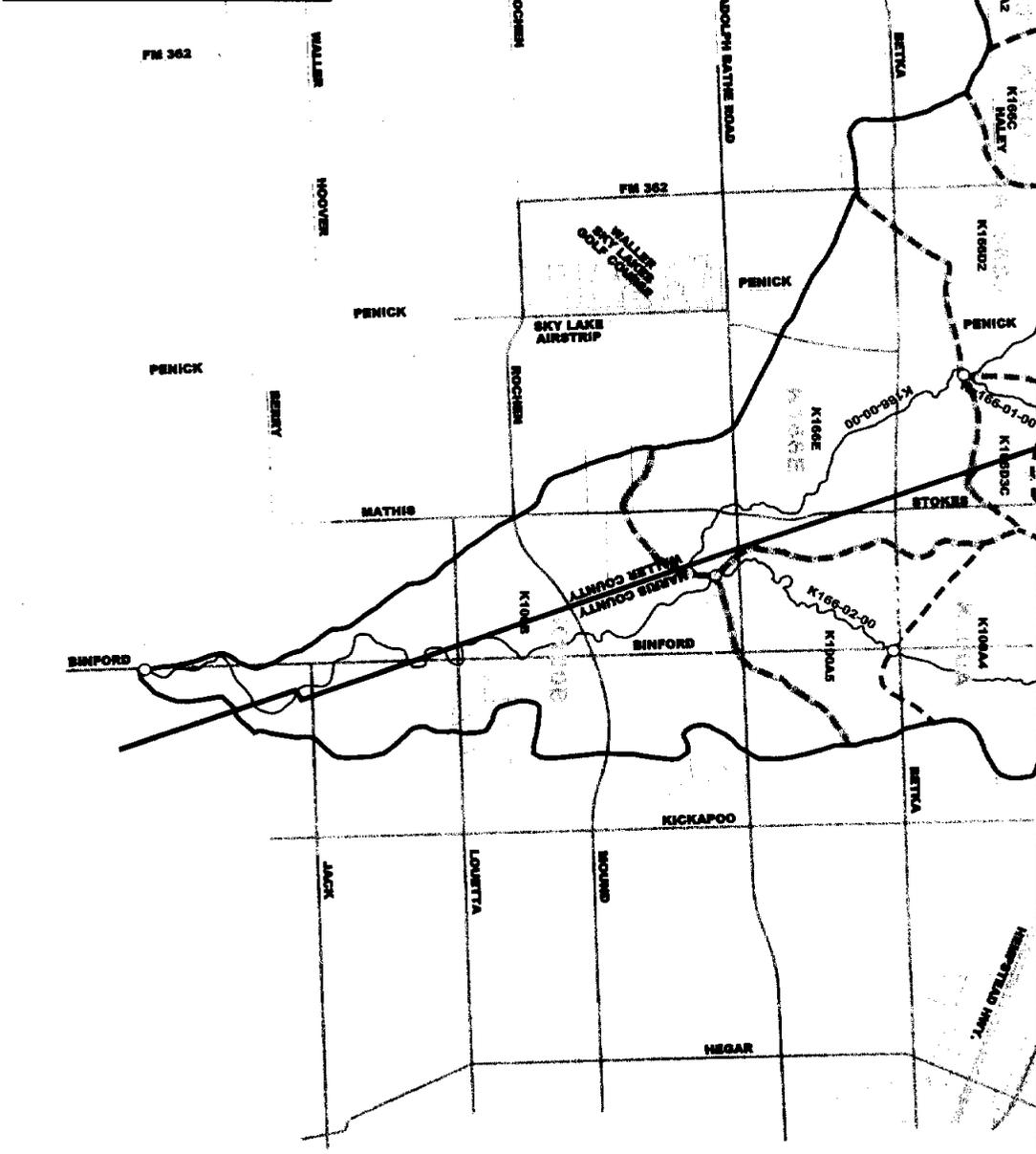
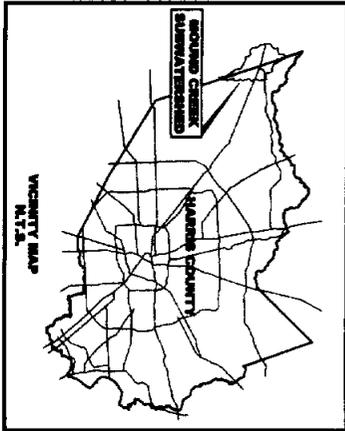
- Streets
- Major Roadways
- Ditches
- ▨ Baseline Floodplain
- ▤ Watershed Boundary
- ⊗ Areas of Documented Flood Damage
- ⊙ Areas of Potential Structural Flooding



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HARRISON COUNTY FLOOD CONTROL DISTRICT
IN ASSOCIATION WITH
TEXAS WATER DEVELOPMENT BOARD

ROUND CREEK WATERSHED
RECOMMENDED PLAN REPORT
STRUCTURAL FLOODING CONCERNS

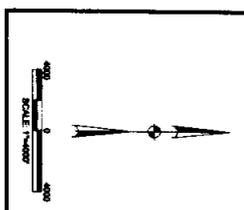
FEBRUARY, 2003 K198-00-00 EXHIBIT 1.4.2



MATCHLINE - SEE EXHIBIT 1.5.1

LEGEND

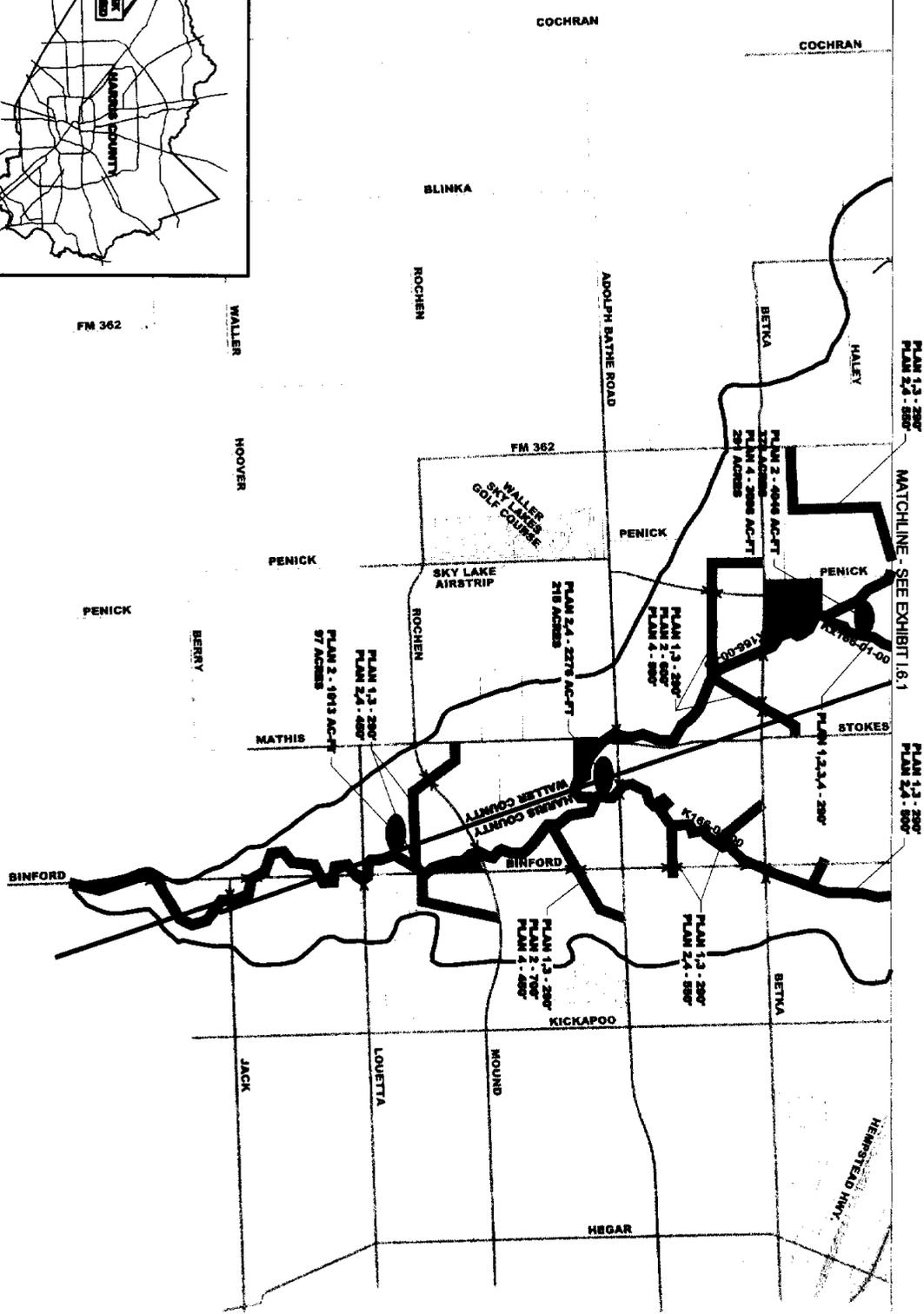
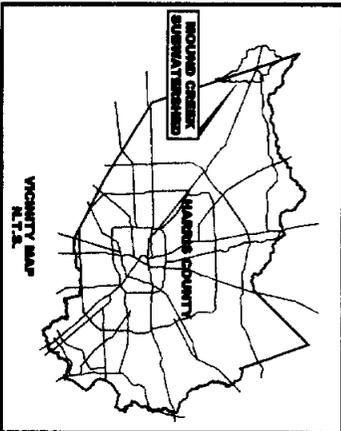
- Stream
- Major Roadways
- Ditches
- Watershed Boundary
- Sub-watershed Boundary
- Sub-watershed Boundary
- Sub-watershed Boundary
- Hydrologic Analysis Points



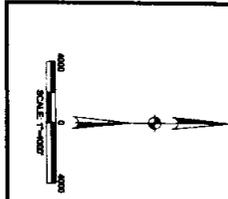
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CONTROL DISTRICT
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WITH THE
TEXAS WATER
DEVELOPMENT BOARD

ROUND CREEK WATERSHED
RECOMMENDED PLAN REPORT
WATERSHED DELINEATION COMPARISON

FEBRUARY, 2003 K198-00-00 EXHIBIT 1.5.2



MATCHLINE - SEE EXHIBIT 1.6.1
 PLAN 1.3-2807
 PLAN 2.4-5807



LEGEND

- Street
- Major Roadways
- Ditches
- Watershed Boundary
- Proposed Detention Basin
- Proposed Stream Corridor
- Proposed Land Acquisition of Stream Quality Habitat Preservation
- Voluntary Acquisition of Historic Flood Prone Structures
- Proposed Bridge Modification

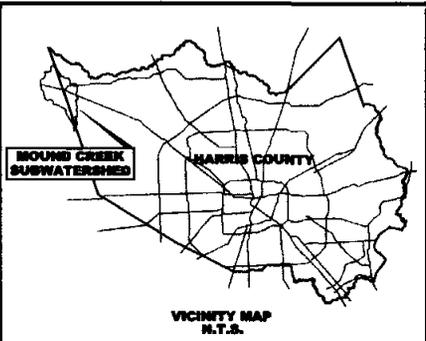
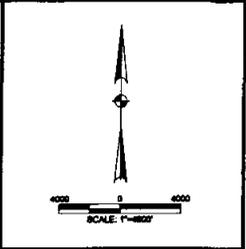
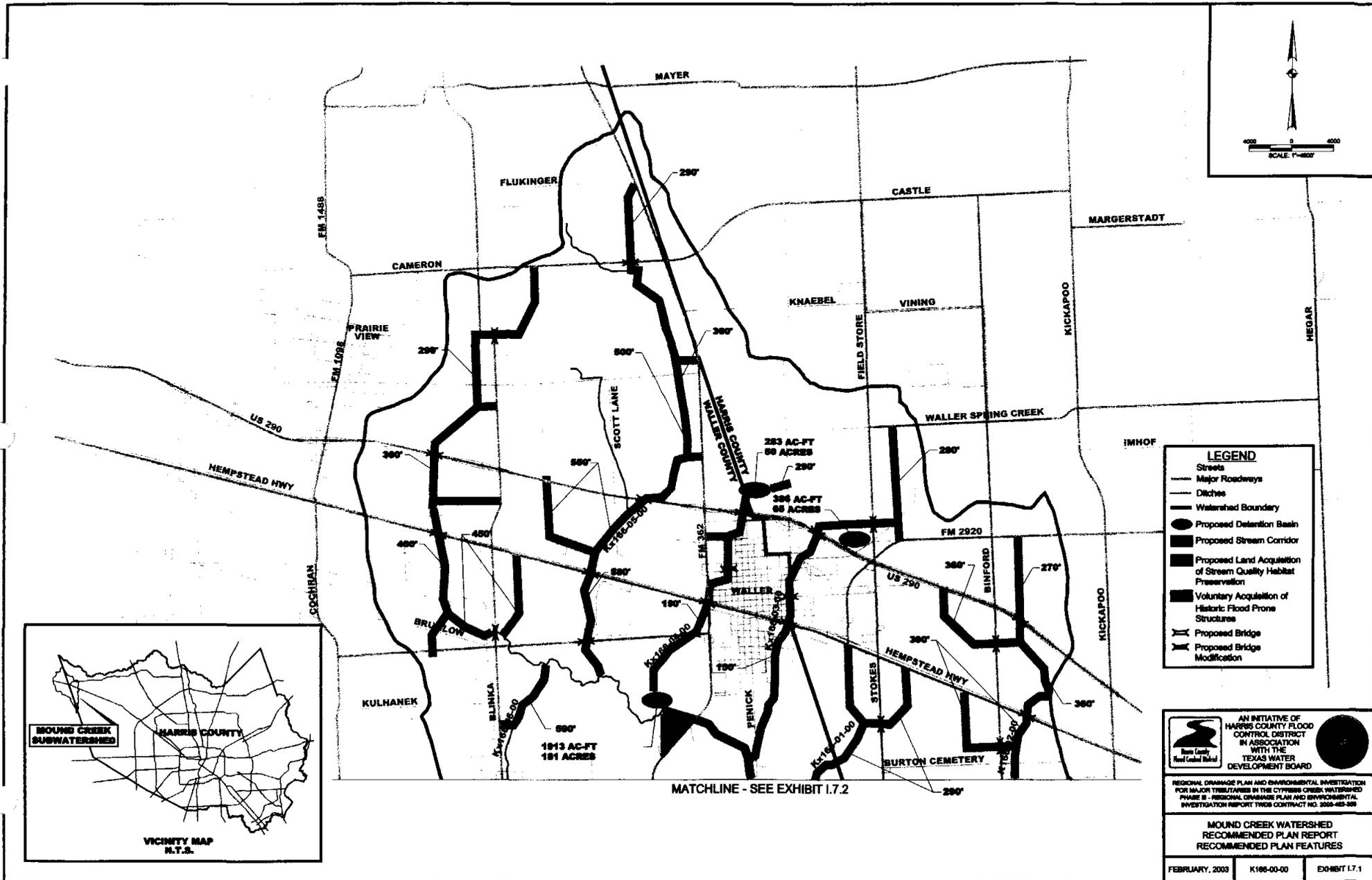


AN INITIATIVE OF
 HARRIS COUNTY FLOOD CONTROL DISTRICT
 IN ASSOCIATION
 WITH THE
 TEXAS WATER DEVELOPMENT BOARD

REGIONAL PARTNERSHIP BY THE HOUSTON ENVIRONMENTAL INITIATION
 FOR WATERSHED MANAGEMENT IN THE HOUSTON METROPOLITAN AREA
 PROVIDED BY THE HOUSTON ENVIRONMENTAL INITIATION
 PARTNERSHIP WITH THE HOUSTON ENVIRONMENTAL INITIATION

**MOUND CREEK WATERSHED
 RECOMMENDED PLAN REPORT
 COMBINED ALTERNATES FEATURES**

FEBRUARY, 2003 K168-00-00 EXHIBIT 1.6.2



LEGEND

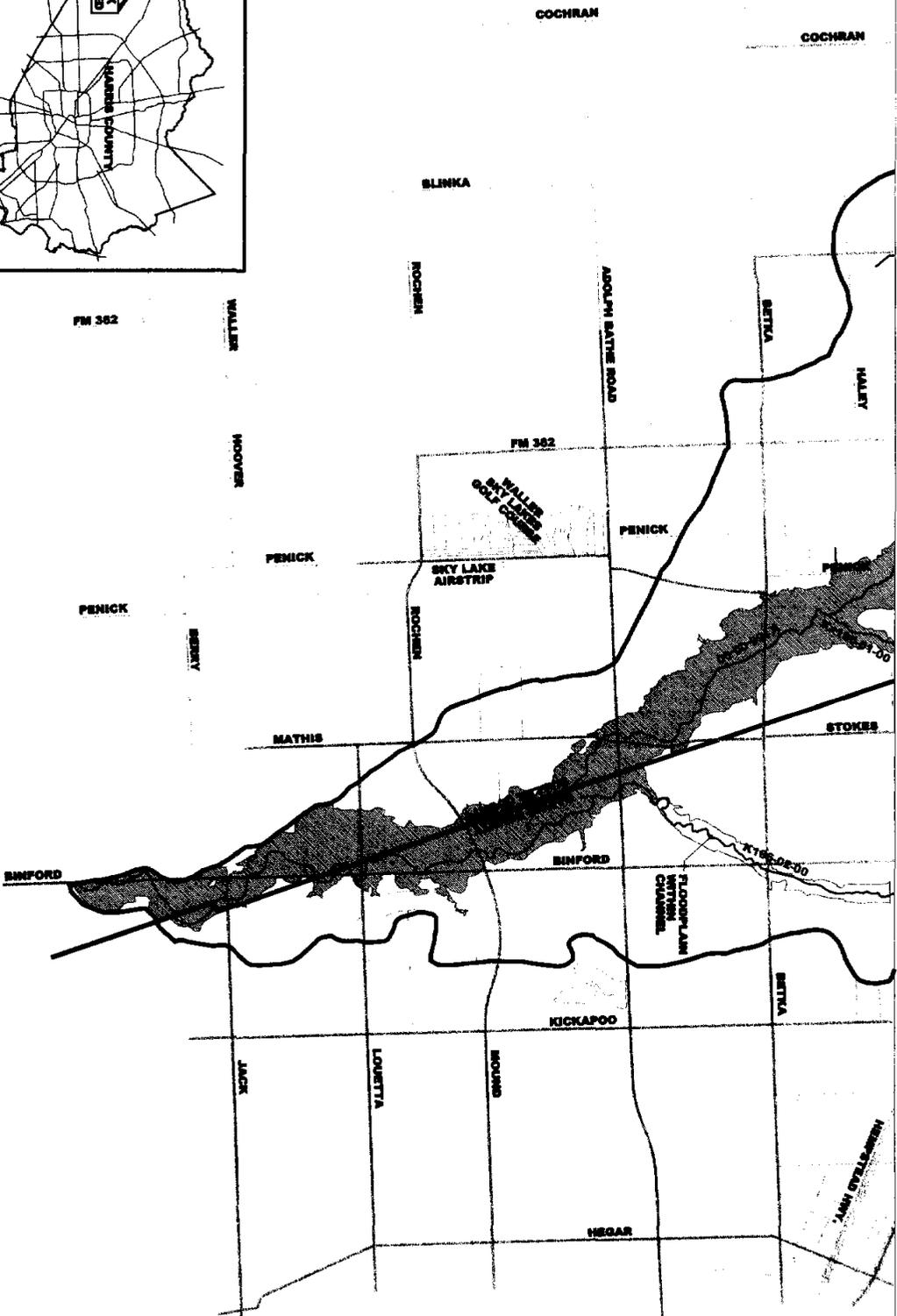
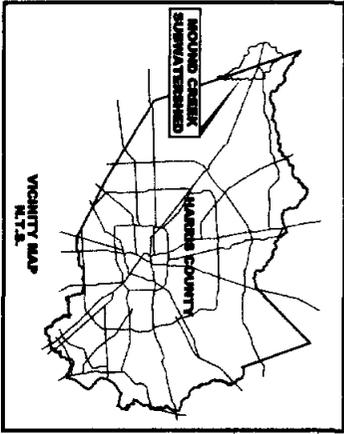
- Streets
- Major Roadways
- Ditches
- Watershed Boundary
- Proposed Detention Basin
- ▬ Proposed Stream Corridor
- ▬ Proposed Land Acquisition of Stream Quality Habitat Preservation
- ▬ Voluntary Acquisition of Historic Flood Prone Structures
- ⊗ Proposed Bridge
- ⊕ Proposed Bridge Modification


 AN INITIATIVE OF
HARRIS COUNTY FLOOD CONTROL DISTRICT
 IN ASSOCIATION
 WITH THE
TEXAS WATER DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
 FOR MAJOR TRIBUTARIES IN THE CYPRUS CREEK WATERSHED
 PHASE II - REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL
 INVESTIGATION REPORT TWD8 CONTRACT NO. 2008-48-389

**MOUND CREEK WATERSHED
 RECOMMENDED PLAN REPORT
 RECOMMENDED PLAN FEATURES**

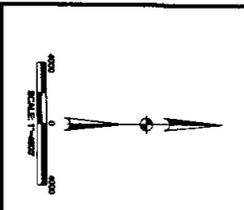
MATCHLINE - SEE EXHIBIT I.7.2



MATCHLINE - SEE EXHIBIT 18.1

LEGEND

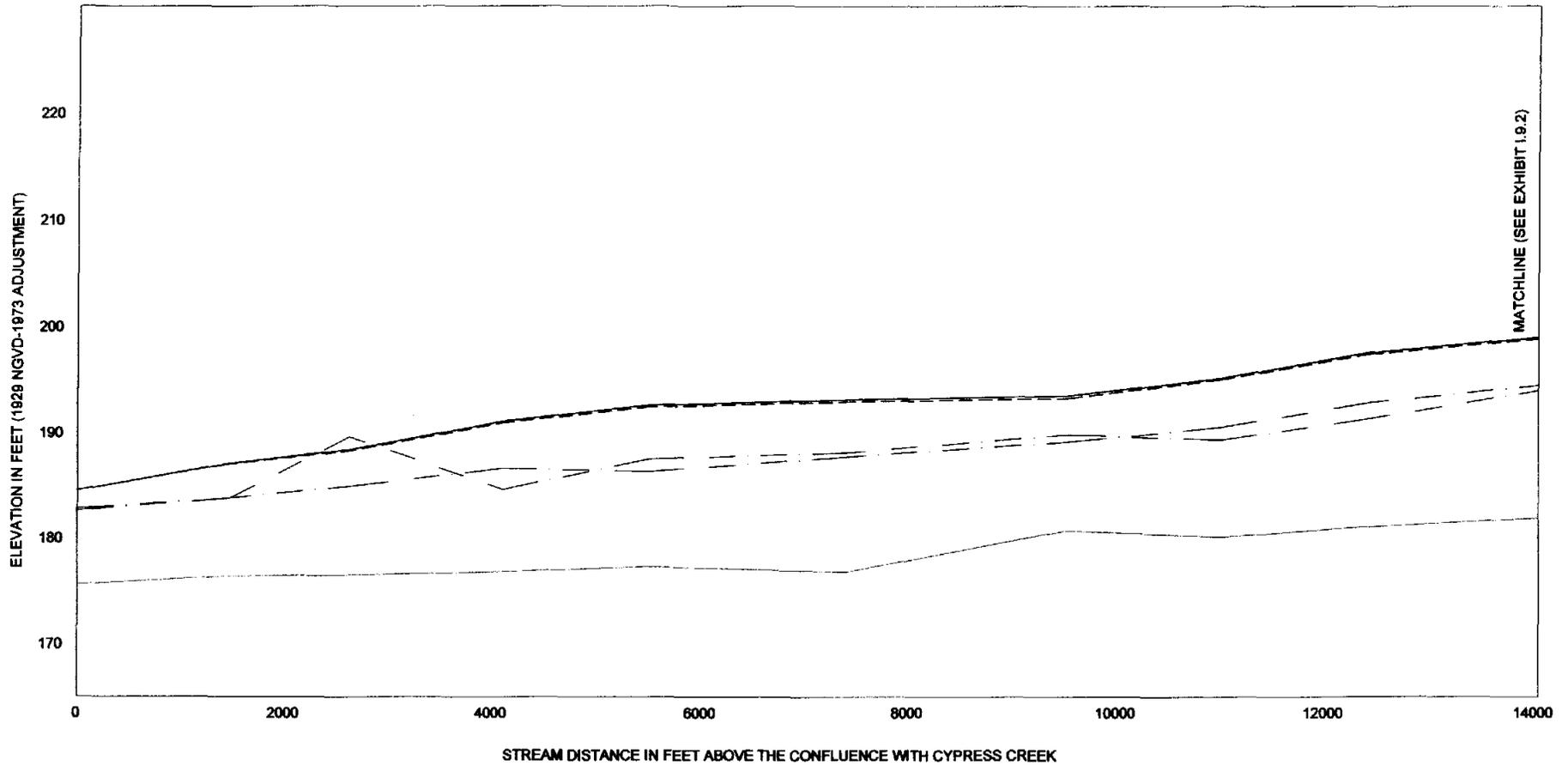
- Streets
- Major Roadways
- Ditches
- Watershed Boundary
- Baseline Floodplain
- Recommended Plan Floodplain



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HARRIS COUNTY
WATERSHED CONTROL DISTRICT
IN ASSOCIATION
WITH THE
WATERSHED DEVELOPMENT BOARD

ROUND CREEK WATERSHED
RECOMMENDED PLAN REPORT
BASELINE AND RECOMMENDED PLAN
FLOODPLAIN MAP

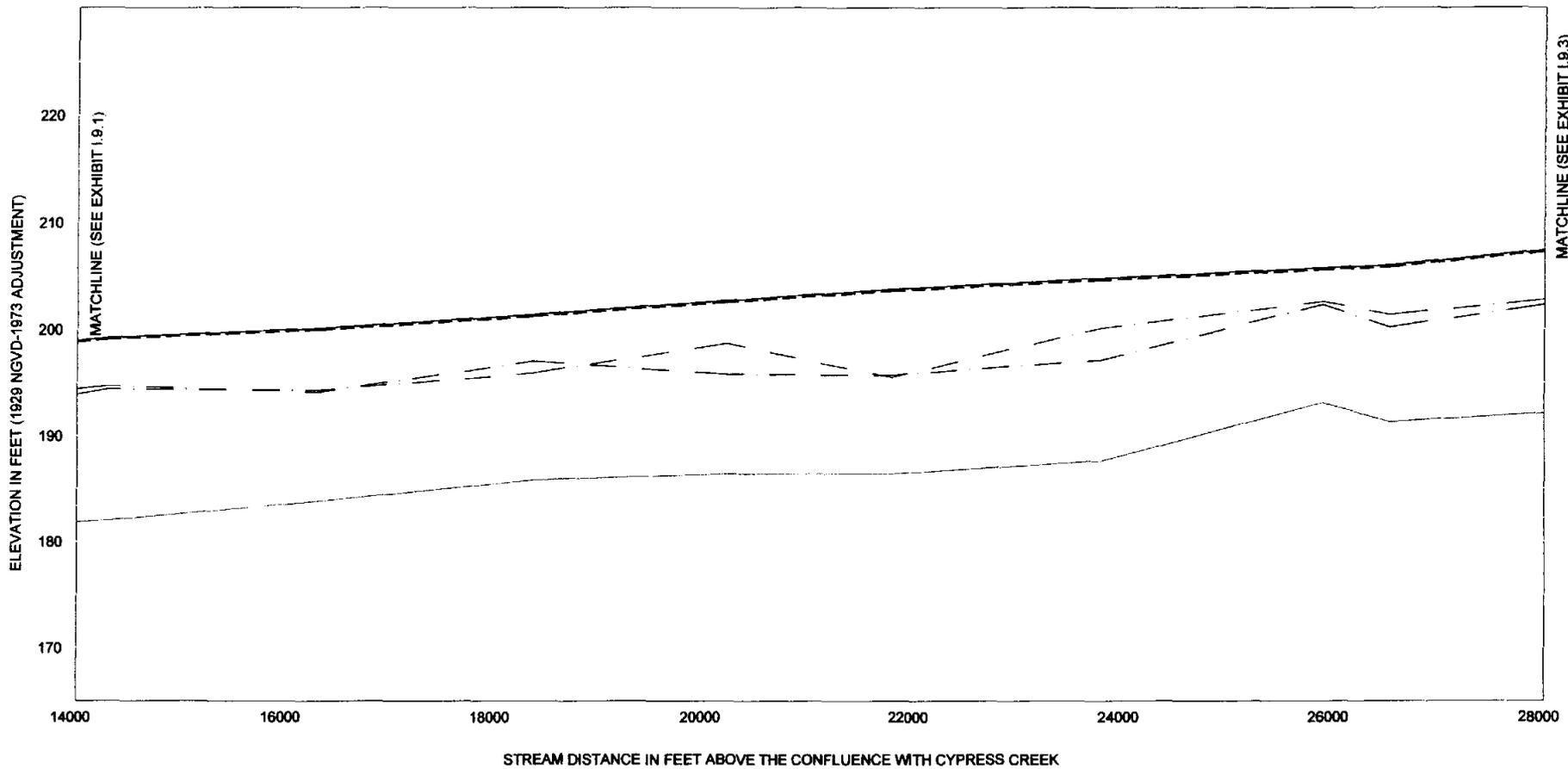
FEBRUARY, 2003 K184-00-00 EXHIBIT 18.2



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

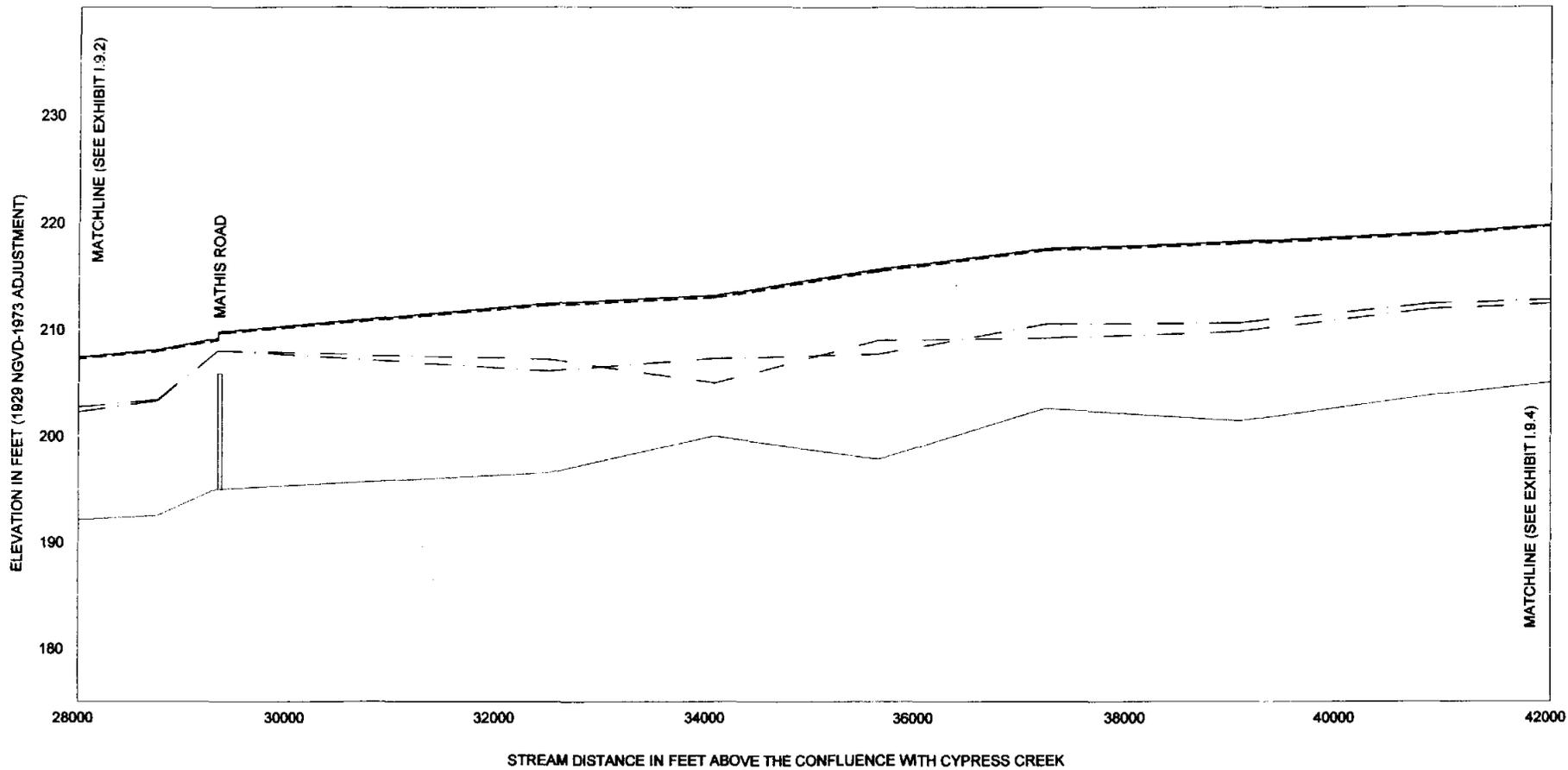
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TROP CONTRACT NO. 2008-02-00	
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)		
FEBRUARY 2009	R199-00-00	EXHIBIT 1.9.1



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| ----- | FLOWLINE | ----- | 100-YEAR (BASELINE) |
| ----- | FLOWLINE (RECOMMENDED PLAN) | ----- | 100-YEAR (RECOMMENDED PLAN) |
| ----- | LEFT BANK | | |
| ----- | RIGHT BANK | | |
| ----- | BRIDGES | | |

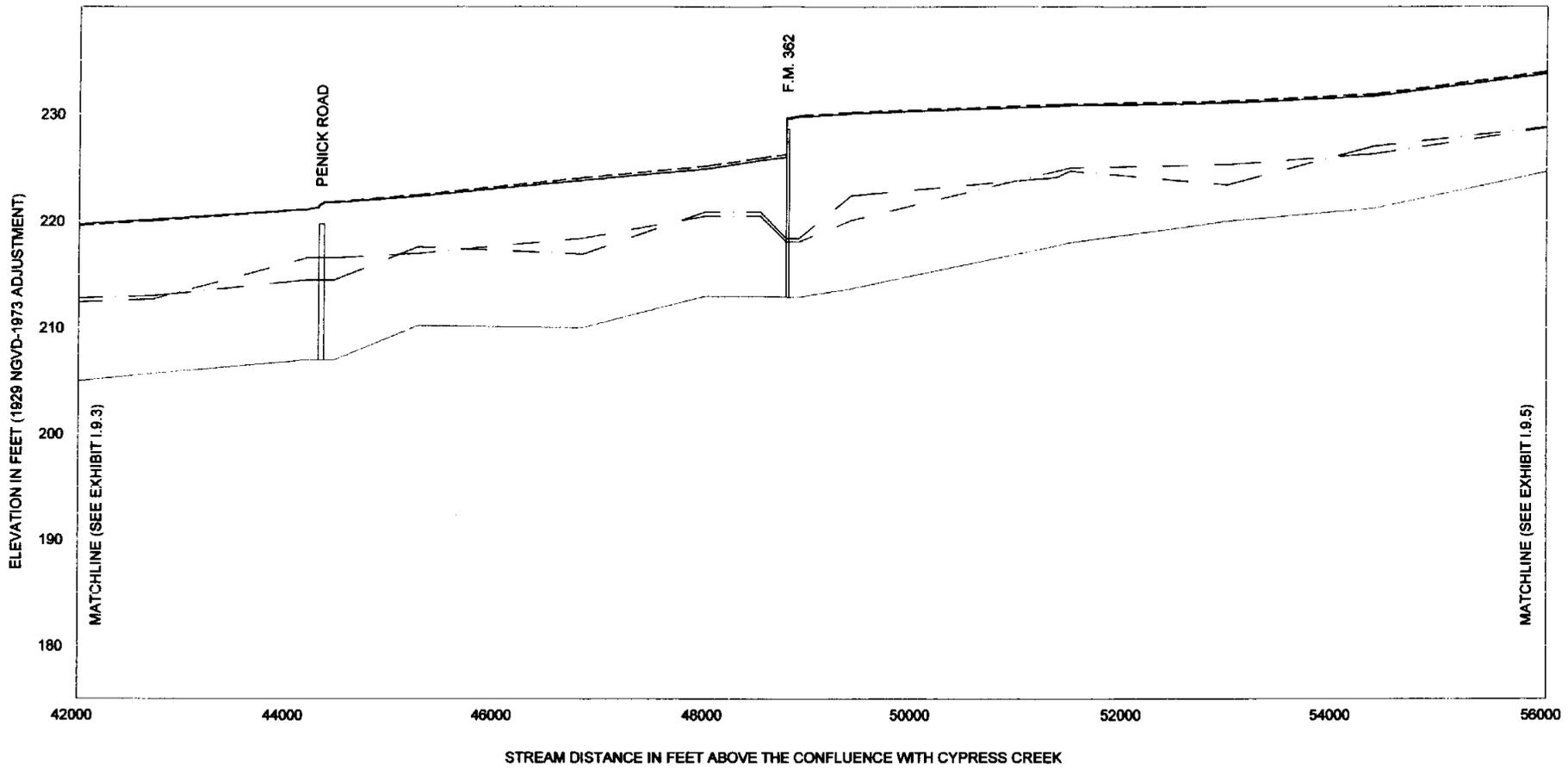
 <p>Harris County Flood Control District</p>	<p>AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD</p>	
<p>MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)</p>		
FEBRUARY 2003	K100-00-00	EXHIBIT 1.9.2



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

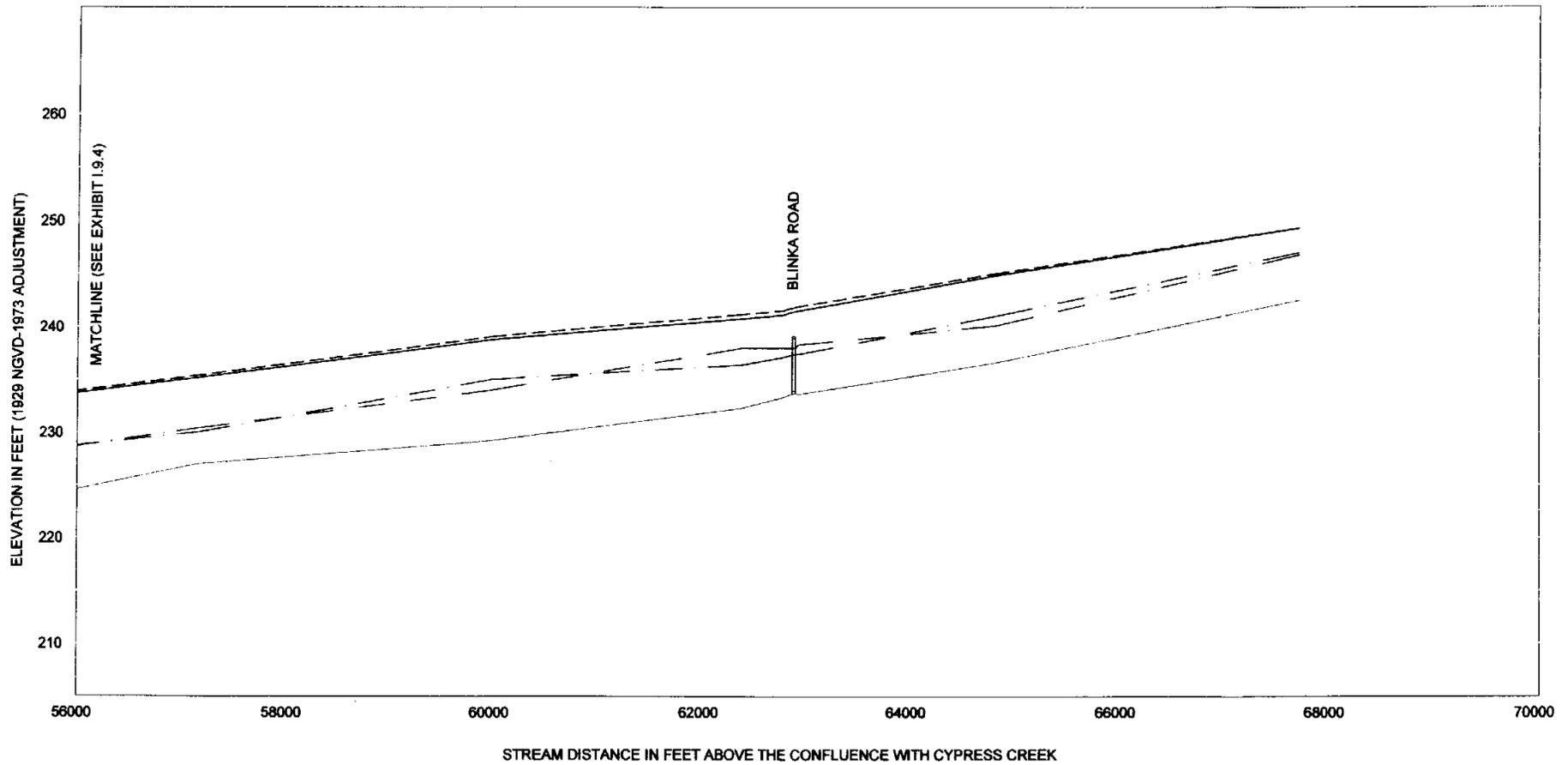
 AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
		REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWEB CONTRACT NO. 2003-468-308
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)		
FEBRUARY 2003	K166-00-00	EXHIBIT I.9.3



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| | FLOWLINE | ———— | 100-YEAR (BASELINE) |
| | FLOWLINE (RECOMMENDED PLAN) | ----- | 100-YEAR (RECOMMENDED PLAN) |
| --- | LEFT BANK | | |
| --- | RIGHT BANK | | |
| — | BRIDGES | | |

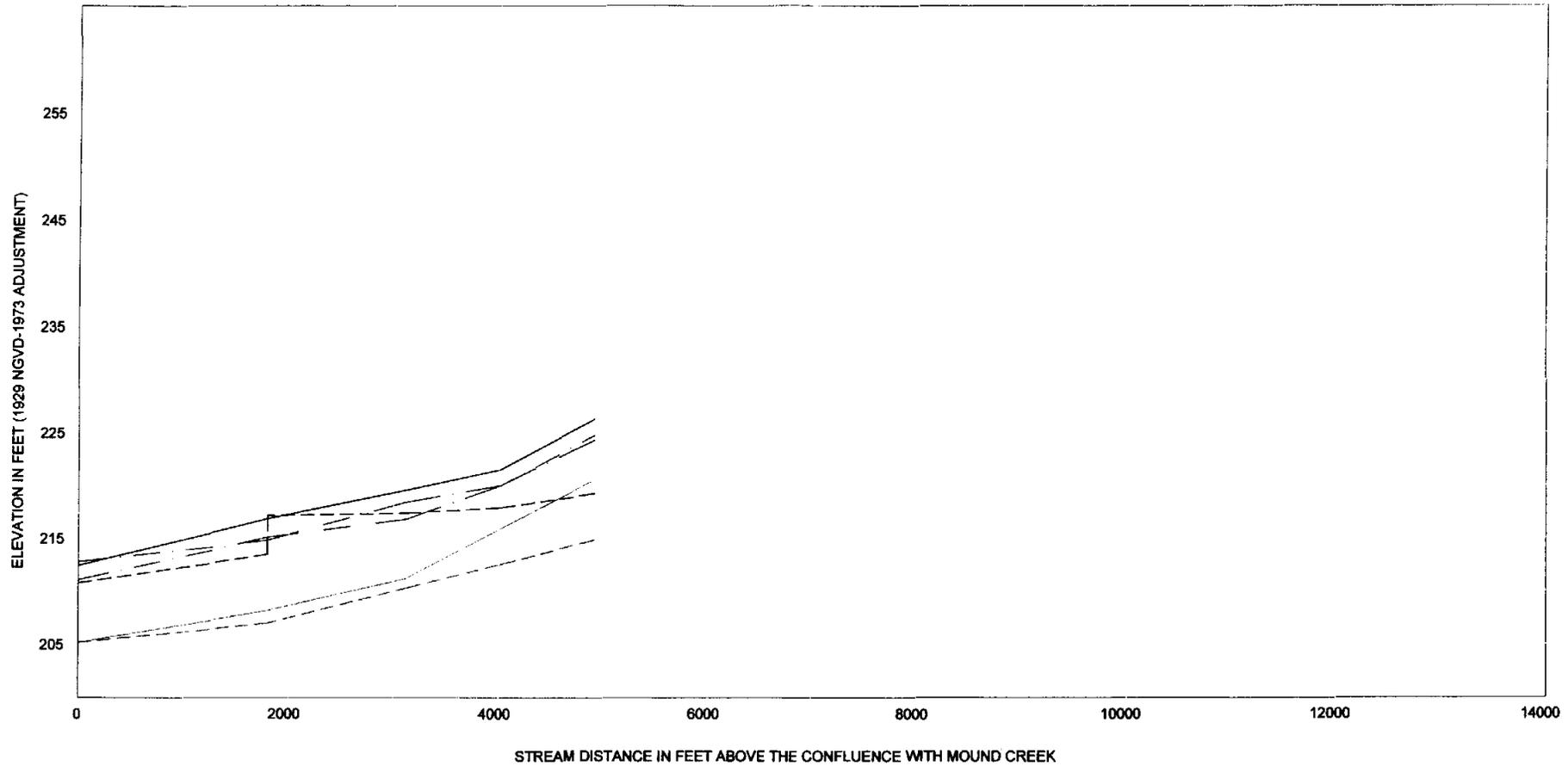
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWD8 CONTRACT NO. 2000-003-008		
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)			
FEBRUARY 2003	K100-00-00	EXHIBIT 1.9.4	



LEGEND

- | | | | | |
|---------|--------------------------------|------------------------|-------|-----------------------------|
| — | FLOWLINE | WATER SURFACE PROFILES | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE
(RECOMMENDED PLAN) | | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - . - . | LEFT BANK | | | |
| | RIGHT BANK | | | |
| — — | BRIDGES | | | |

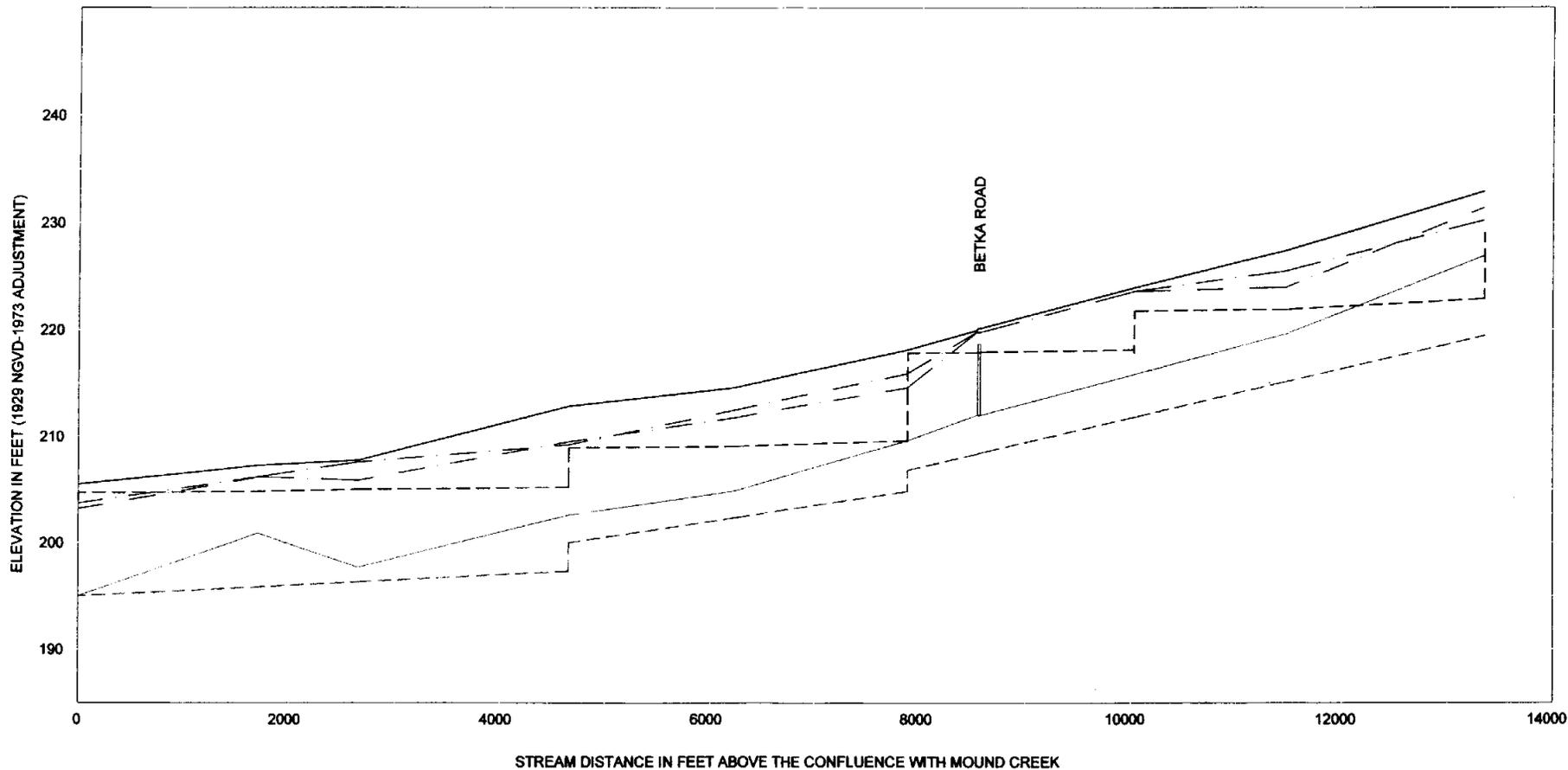
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT THEIR CONTRACT NO. 2002-463-008		
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)			
FEBRUARY 2003	K166-00-00	EXHIBIT 1.9.3	



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | FLOWLINE (RECOMMENDED PLAN) | — | 100-YEAR (BASELINE) |
| - - - | LEFT BANK | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TDCS CONTRACT NO. 2003-02-008		
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES TRIB. 7.62 TO MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)			
FEBRUARY 2003	Kr188-01-00	E0488T1.0.0	

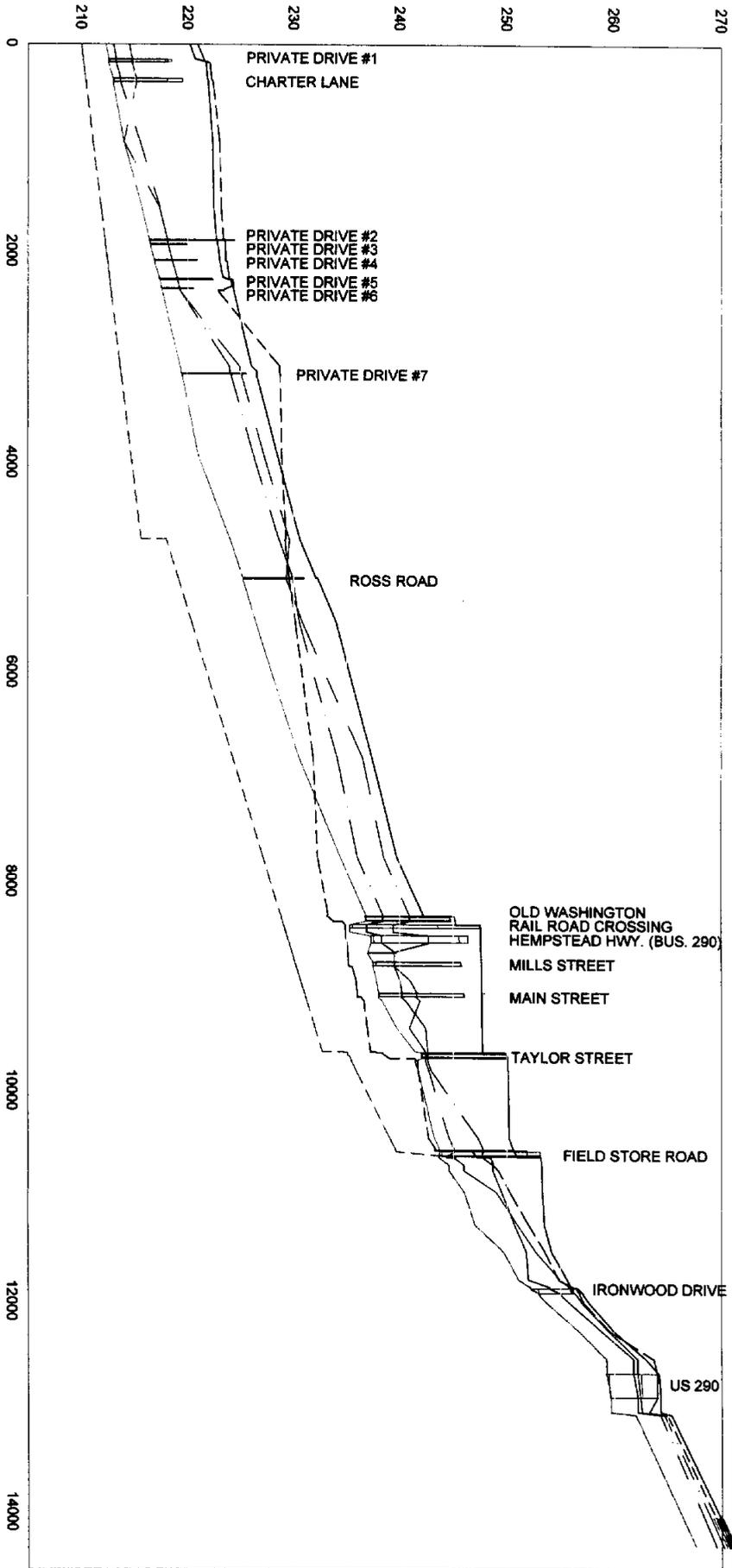


LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

 <p>Harris County Flood Control District</p>	<p>AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD</p>	
<p>MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES LITTLE MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)</p>		
<p>FEBRUARY 2003</p>	<p>K100-02-00</p>	<p>EXHIBIT 1.8.7</p>

ELEVATION IN FEET (1929 NGVD-1973 ADJUSTMENT)



LEGEND

- FLOWLINE (RECOMMENDED PLAN)
- FLOWLINE (BASELINE)
- LEFT BANK
- RIGHT BANK
- BRIDGES
- WATER SURFACE PROFILES (100-YEAR (BASELINE))
- WATER SURFACE PROFILES (100-YEAR (RECOMMENDED PLAN))

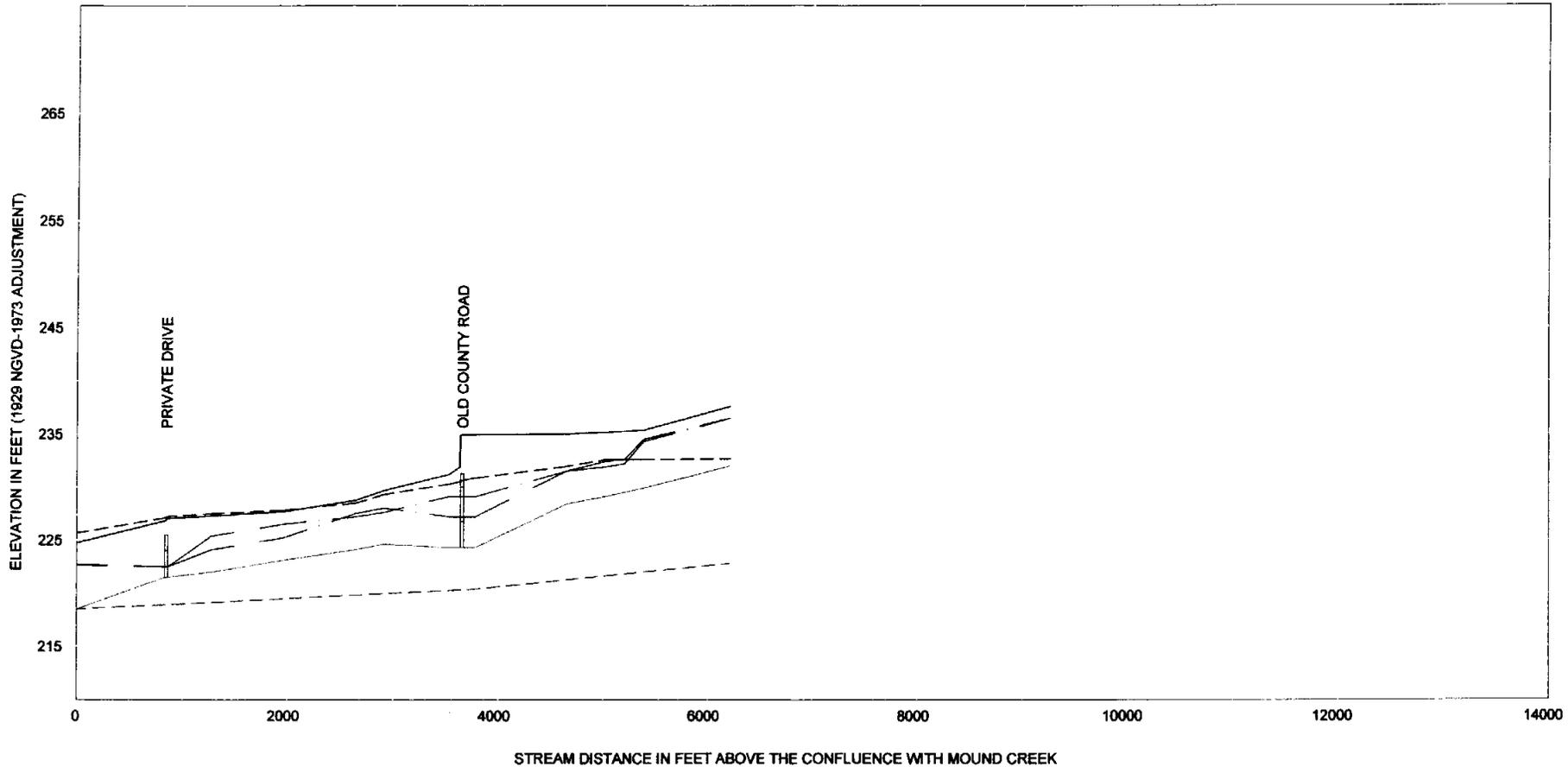
STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH MOUND CREEK



REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II (CONTRACT NO. 2000-03-008)

MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES TRIM 8.18 TO MOUND CREEK (BASELINE VS. RECOMMENDED PLAN)

FEBRUARY 2003 K:\18-03-00 E:\SHEET 1A

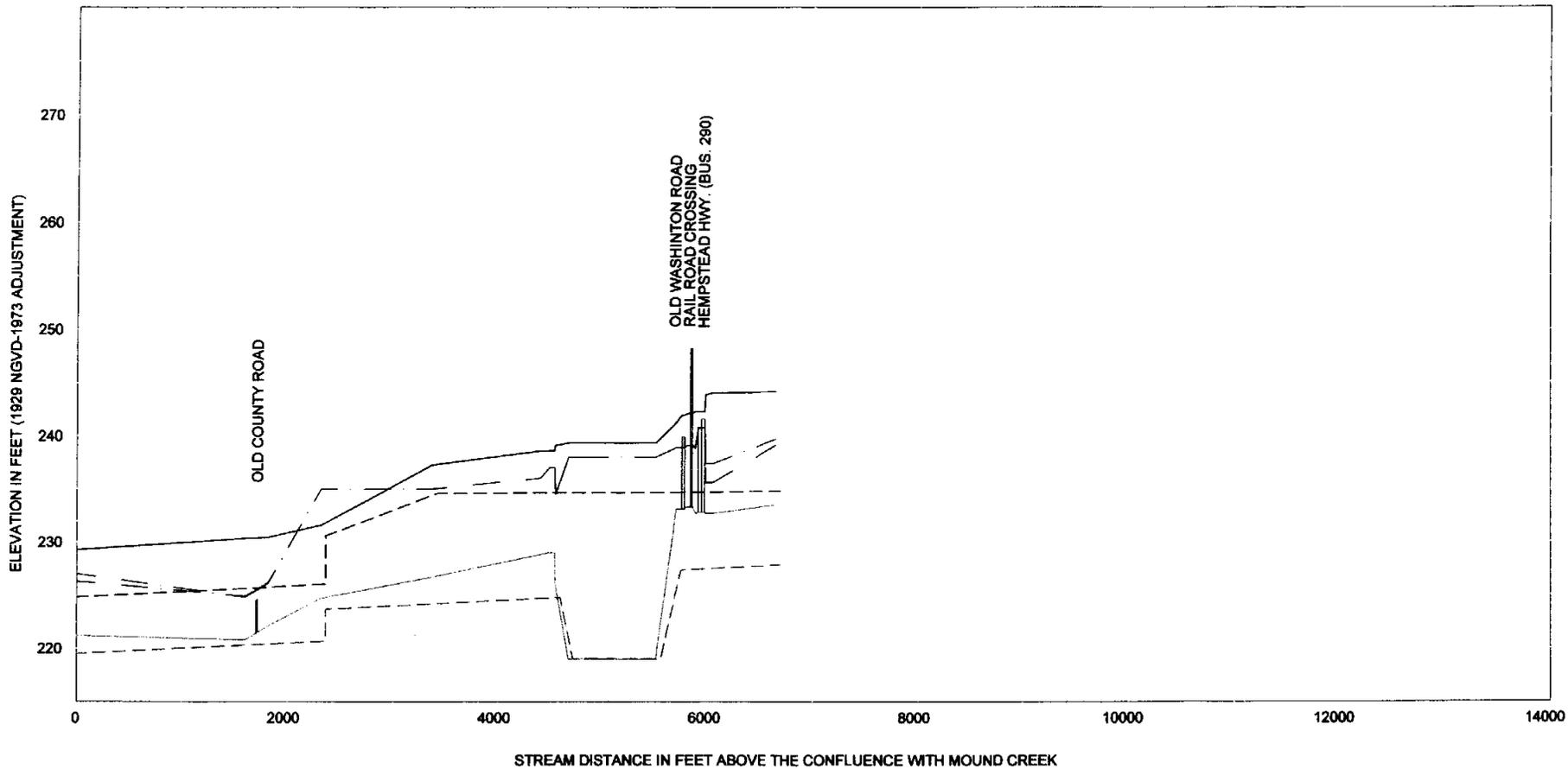


LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

- WATER SURFACE PROFILES**
- | | |
|-------|-----------------------------|
| — | 100-YEAR (BASELINE) |
| - - - | 100-YEAR (RECOMMENDED PLAN) |

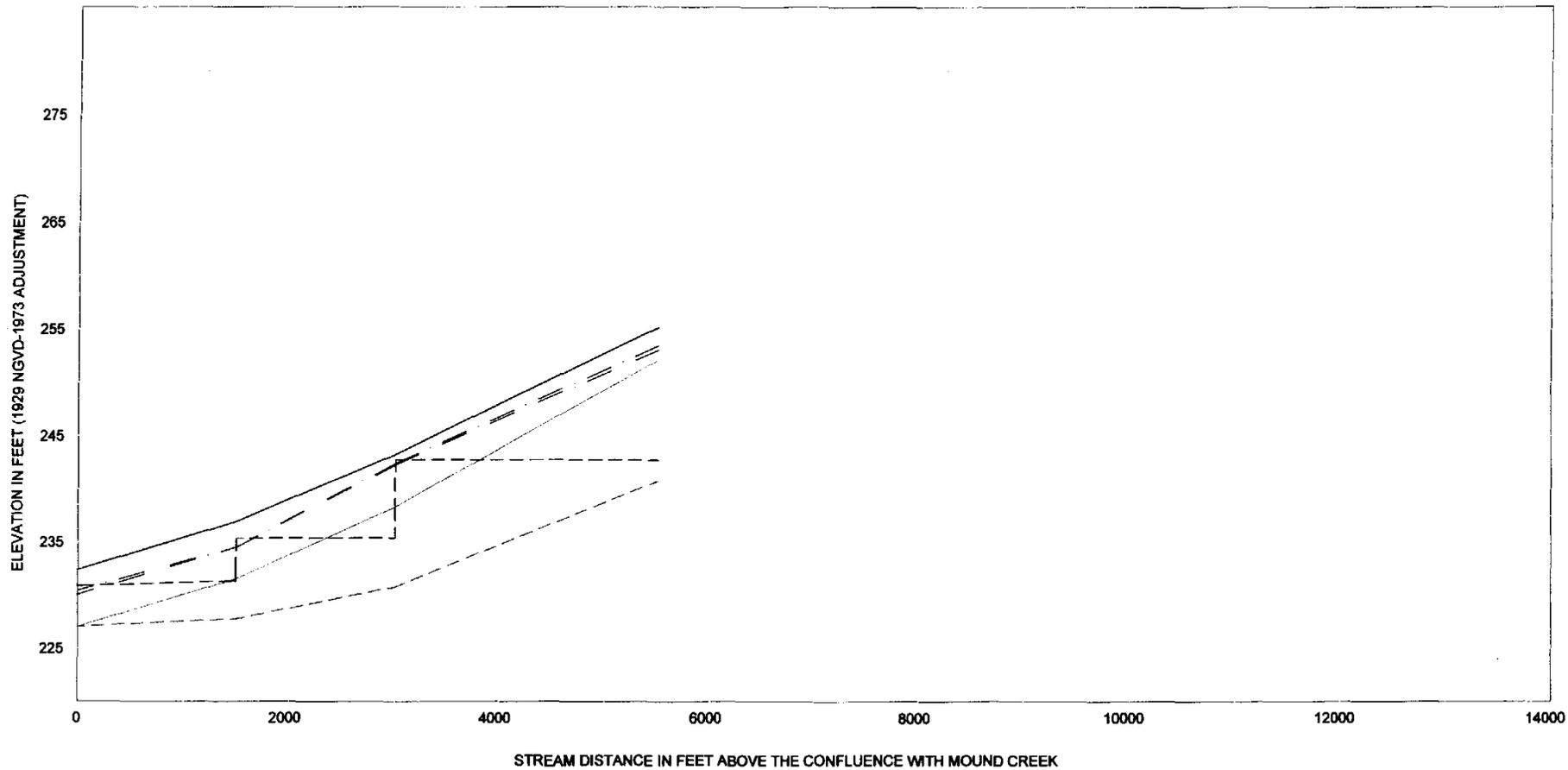
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWCDB CONTRACT NO. 2000-485-308	
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES MIDDLE FORK (BASELINE VS. RECOMMENDED PLAN)		
FEBRUARY 2003	KJ188-04-00	EXHIBIT I.B.9



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

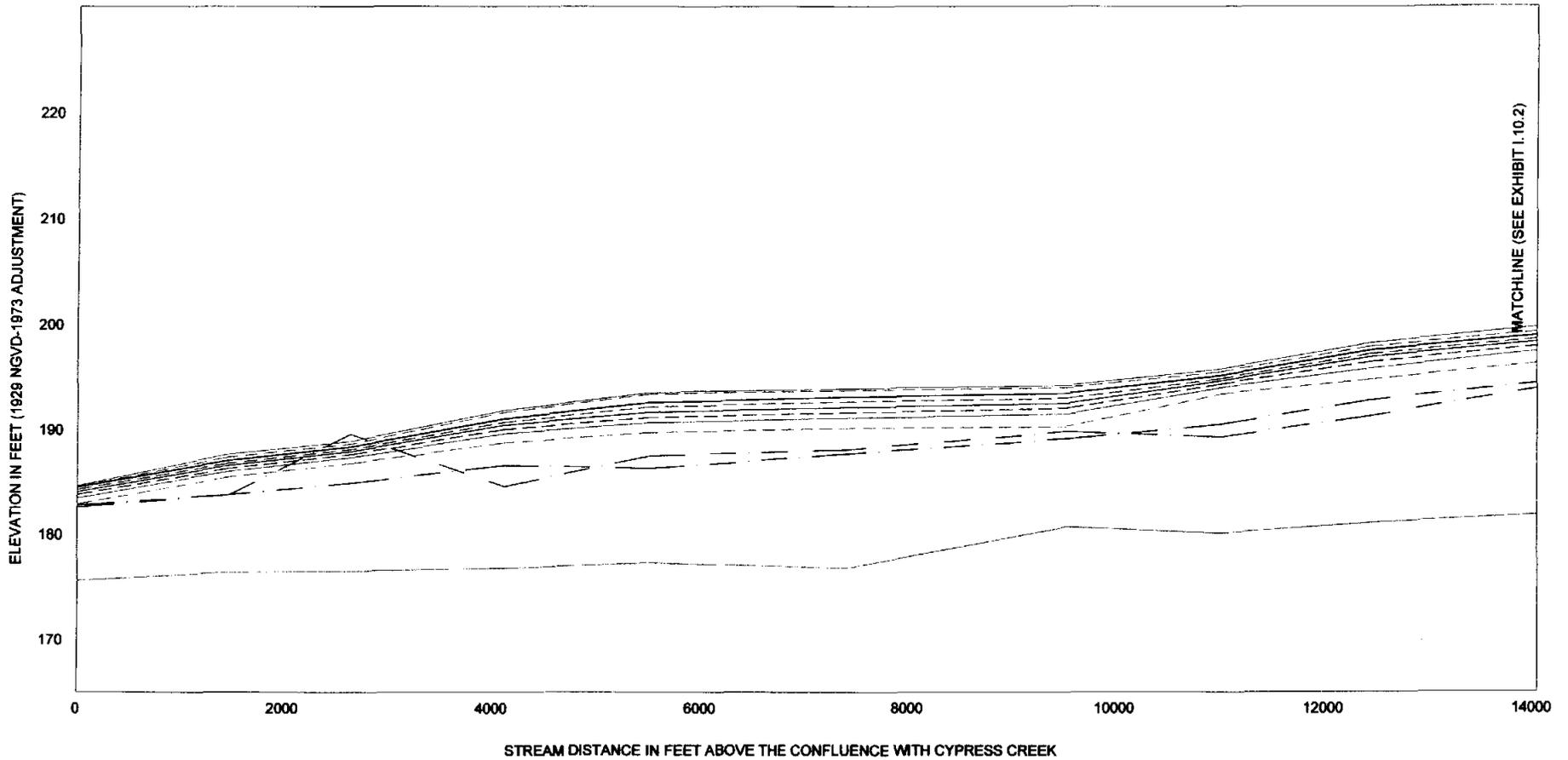
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWDB CONTRACT NO. 2000-083-308	
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES WEST FORK (BASELINE VS. RECOMMENDED PLAN)		
FEBRUARY 2003	KC 168-05-00	EXHIBIT 1.B.10



LEGEND

- | | | | |
|-------|-----------------------------|-------|-----------------------------|
| — | FLOWLINE | — | 100-YEAR (BASELINE) |
| - - - | FLOWLINE (RECOMMENDED PLAN) | - - - | 100-YEAR (RECOMMENDED PLAN) |
| - - - | LEFT BANK | | |
| - - - | RIGHT BANK | | |
| — | BRIDGES | | |

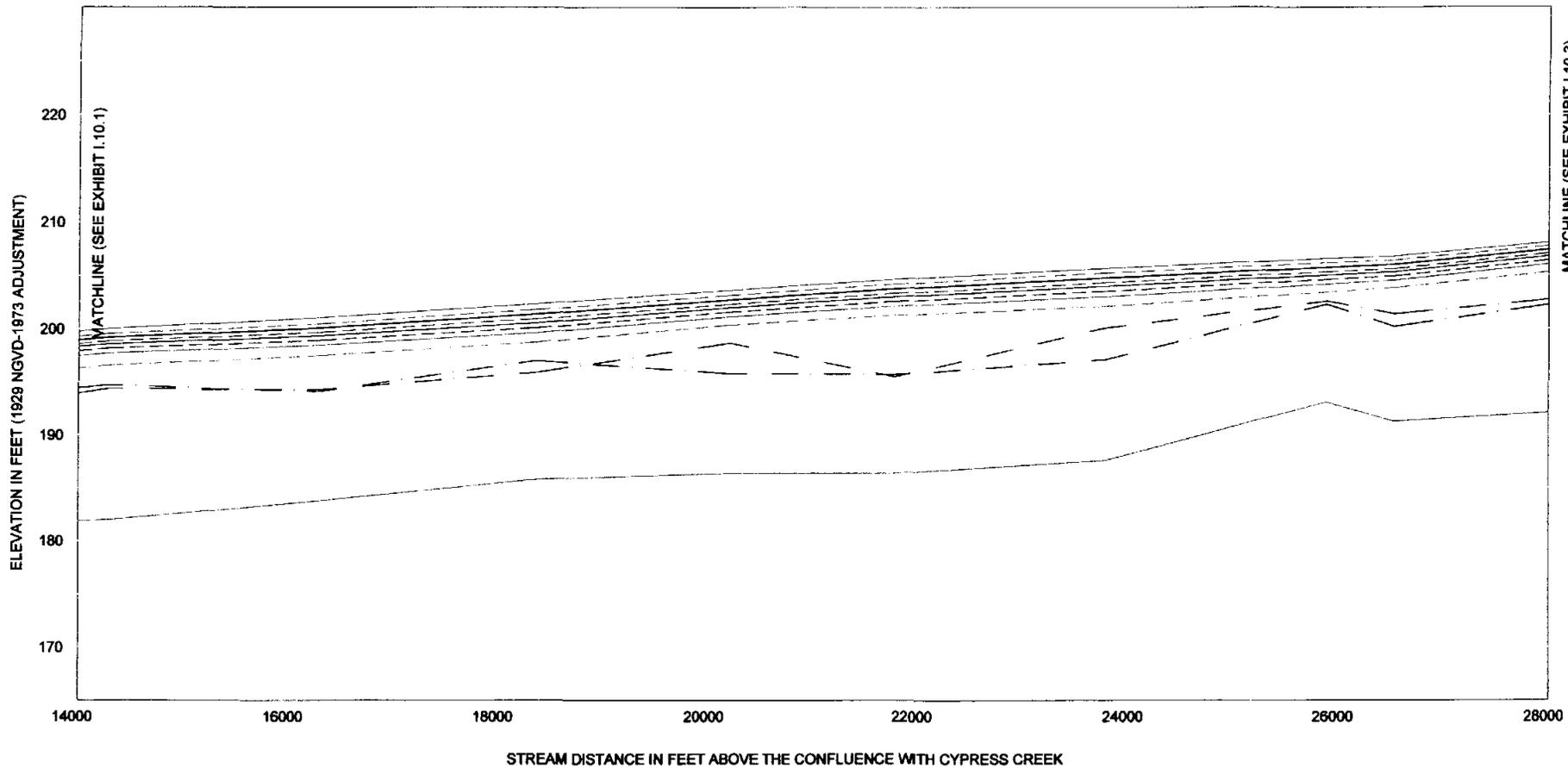
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT THIS CONTRACT NO. 2008-488-308	
MOUND CREEK WATERSHED 100-YEAR WATER SURFACE PROFILES SOUTH FORK (BASELINE VS. RECOMMENDED PLAN)		
FEBRUARY 2011	KJ108-09-00	E:\PROJECTS\11



LEGEND

- | | | |
|-------|------------|------------------------|
| ----- | FLOWLINE | WATER SURFACE PROFILES |
| ----- | LEFT BANK | —— 500-YEAR |
| ----- | RIGHT BANK | ----- 250-YEAR |
| —— | BRIDGES | —— 100-YEAR |
| | | ----- 50-YEAR |
| | | —— 25-YEAR |
| | | ----- 10-YEAR |
| | | ----- 5-YEAR |
| | | ----- 2-YEAR |

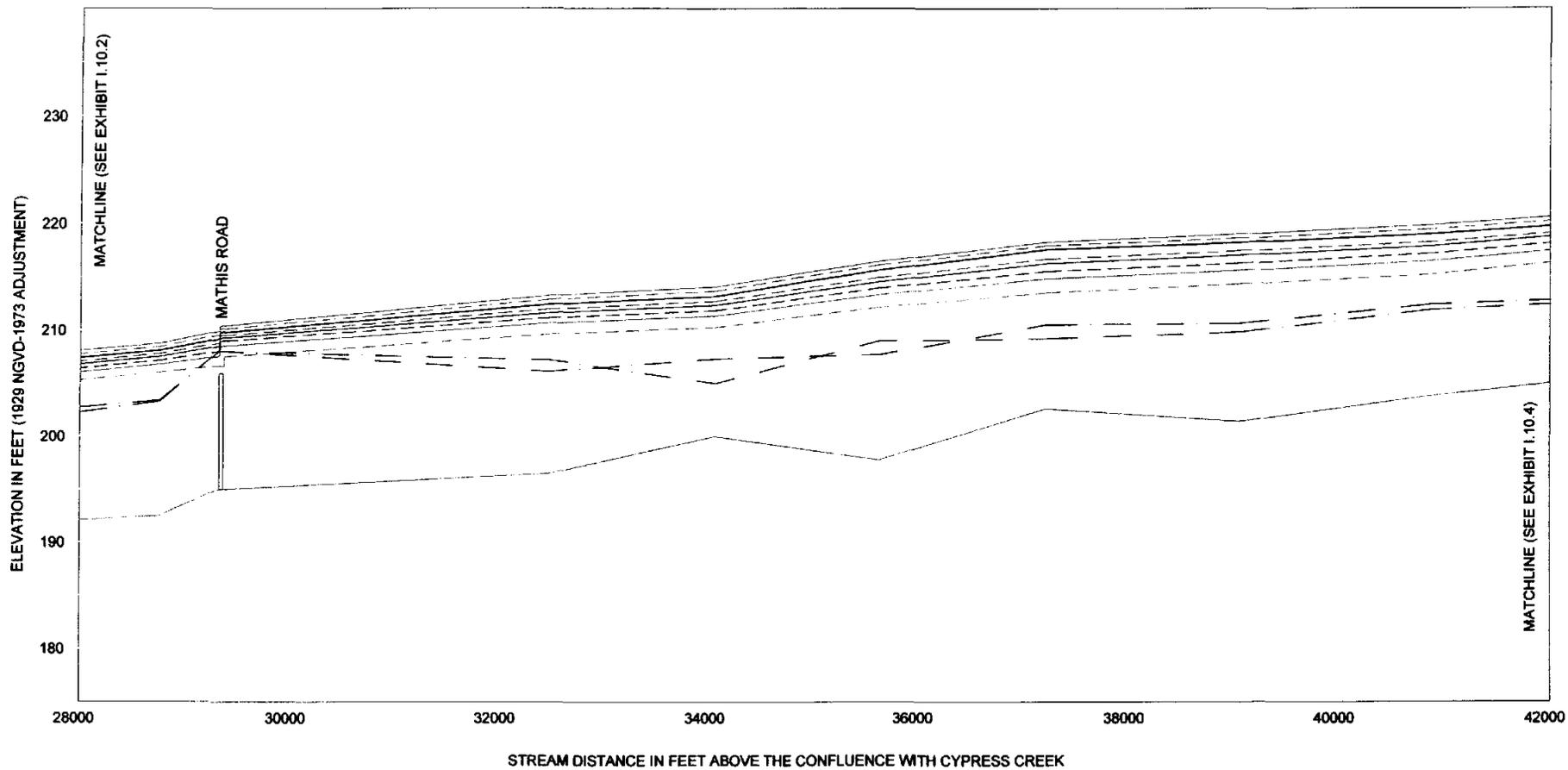
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT THIS CONTRACT NO. 200-400-200	
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (BASELINE)		
FEBRUARY 2003	K108-00-00	EXHIBIT 1.10.1



LEGEND

—	FLOWLINE	—	WATER SURFACE PROFILES
- - -	LEFT BANK	—	500-YEAR
- - -	RIGHT BANK	- - -	250-YEAR
- - -	BRIDGES	—	100-YEAR
		- - -	50-YEAR
		—	25-YEAR
		- - -	10-YEAR
		- - -	5-YEAR
		- - -	2-YEAR

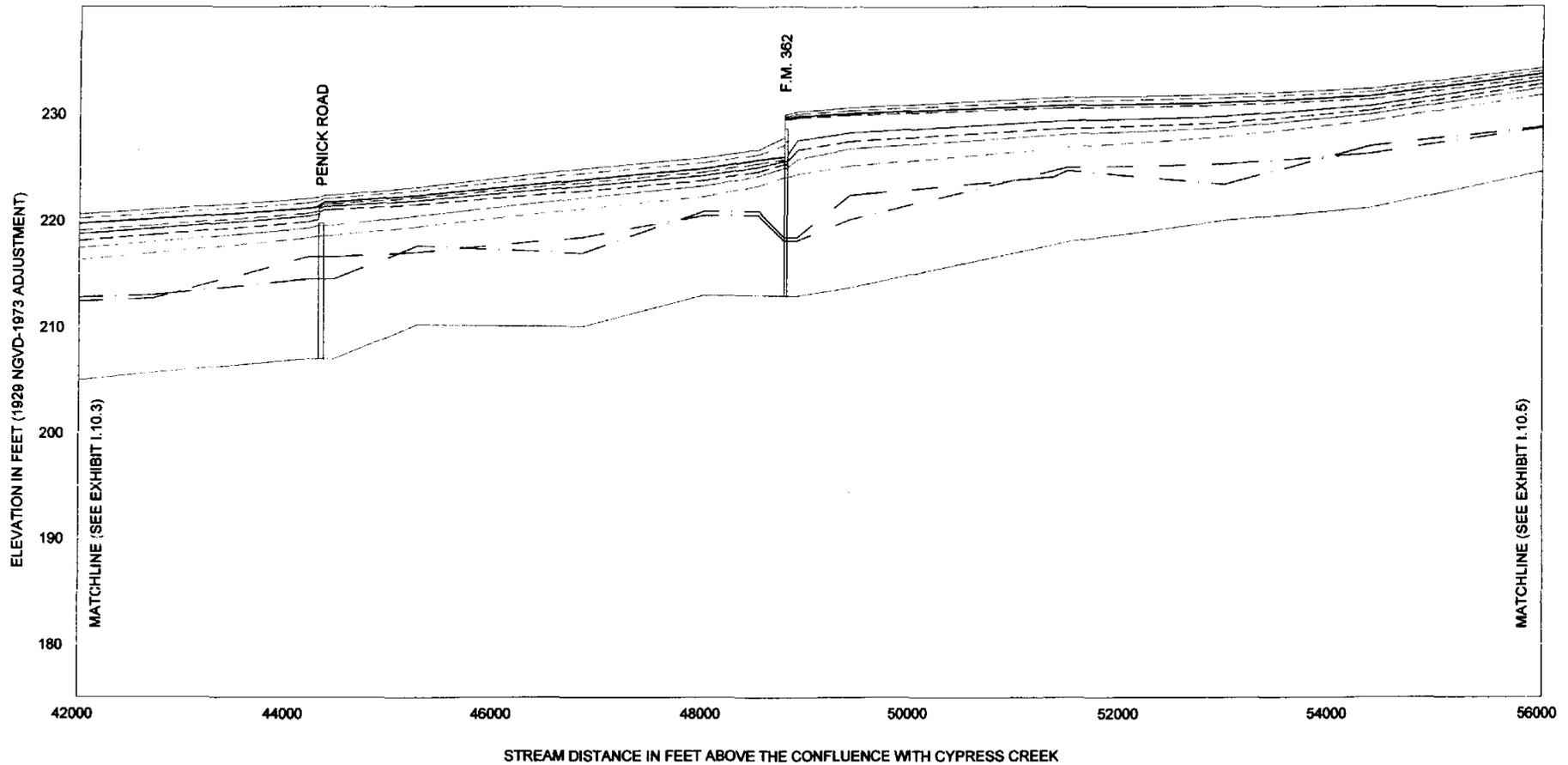
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWD8 CONTRACT NO. 2000-483-388		
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (BASELINE)			
FEBRUARY 2003	K188-00-00	EXHIBIT 102	



LEGEND

- | | | | |
|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | - - - | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

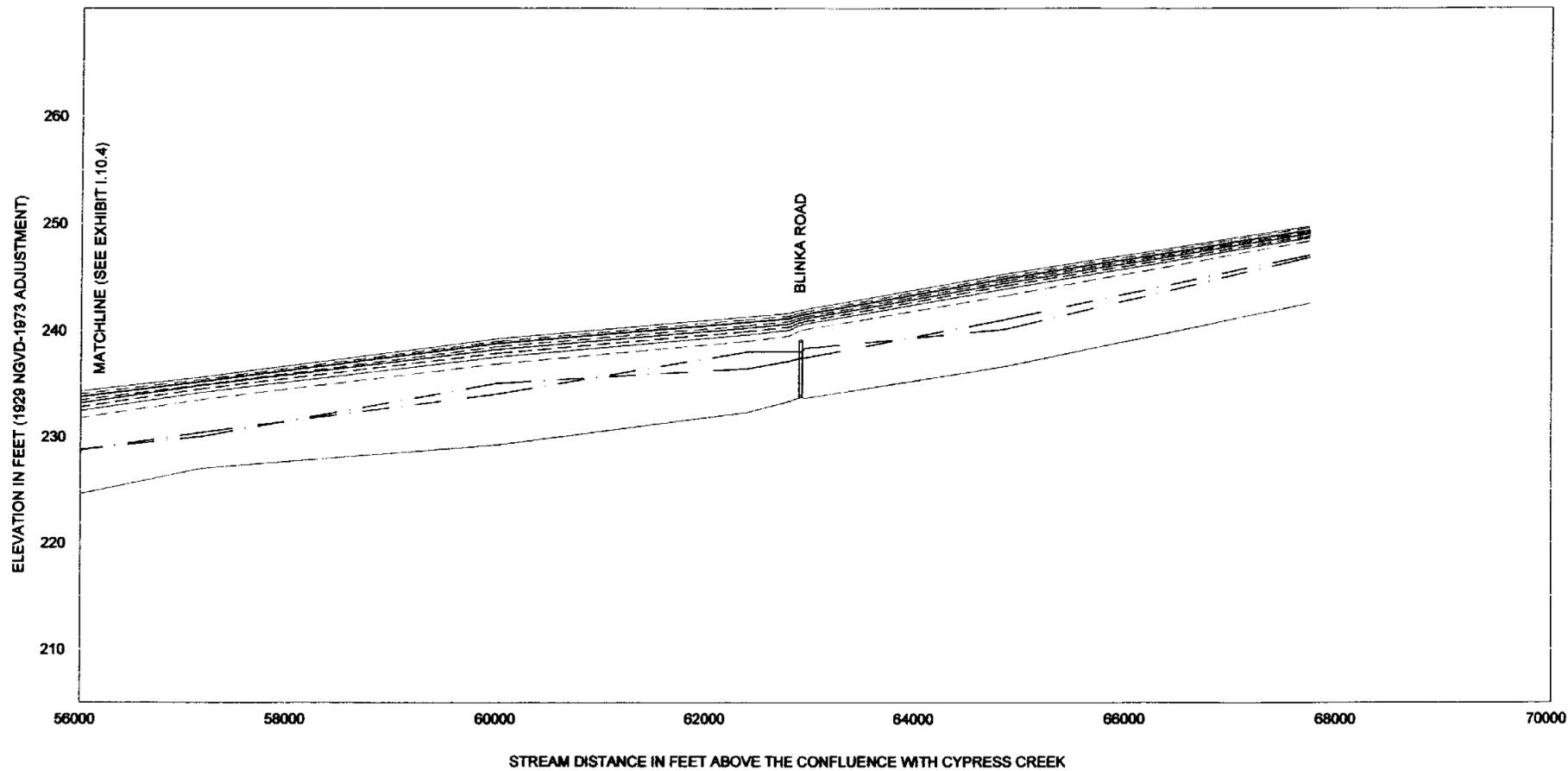
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWER CONTRACT NO. 2000-493-399		
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (BASELINE)			
FEBRUARY 2003	K198-00-00	EXHIBIT I.10.3	



LEGEND

- | | | | |
|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | — | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

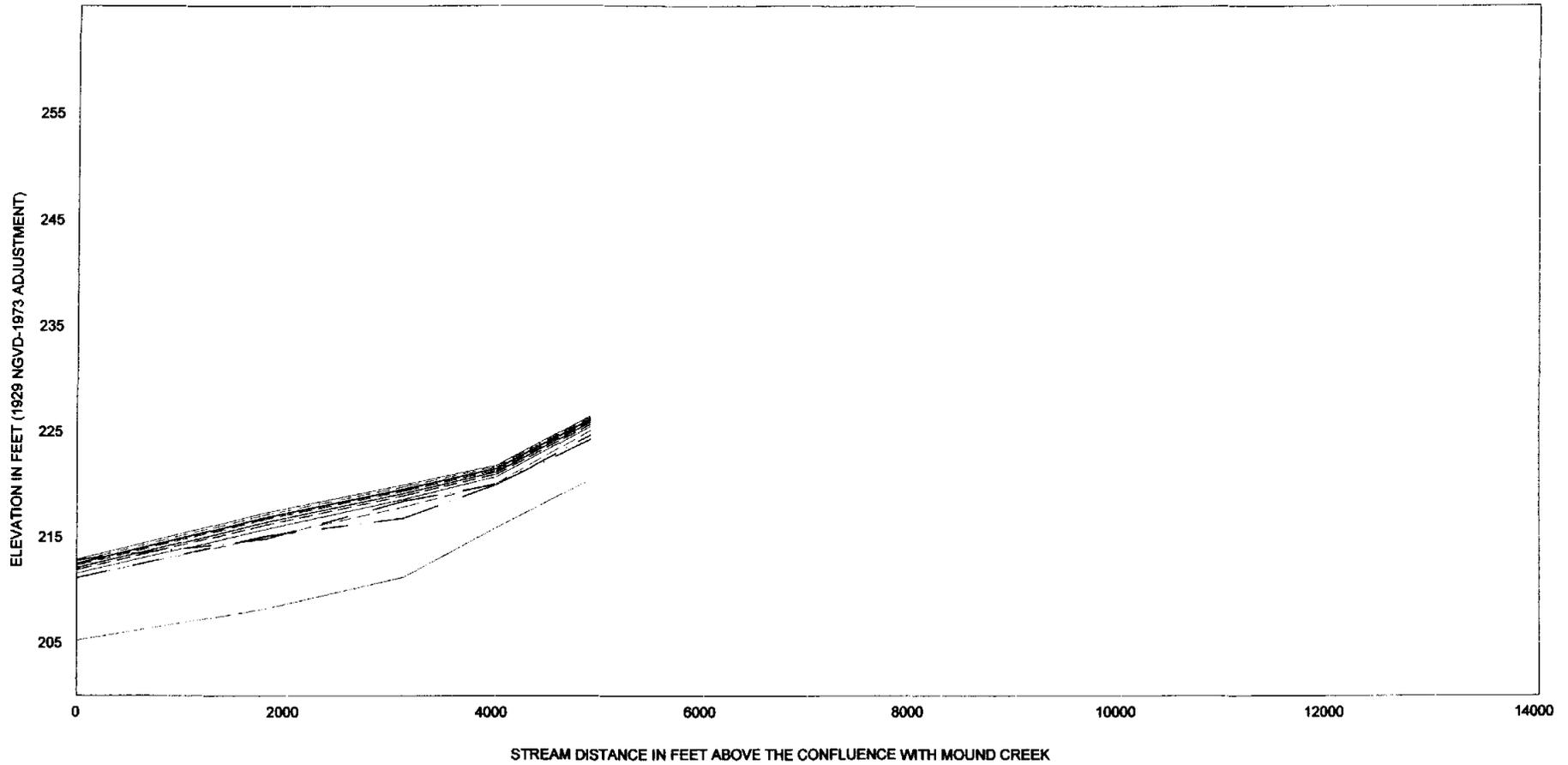
 HARRIS COUNTY FLOOD CONTROL DISTRICT	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (BASELINE)		
FEBRUARY 2003	K198-00-00	EXHIBIT I.10.4



LEGEND

- | | | | |
|-------|------------|---|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

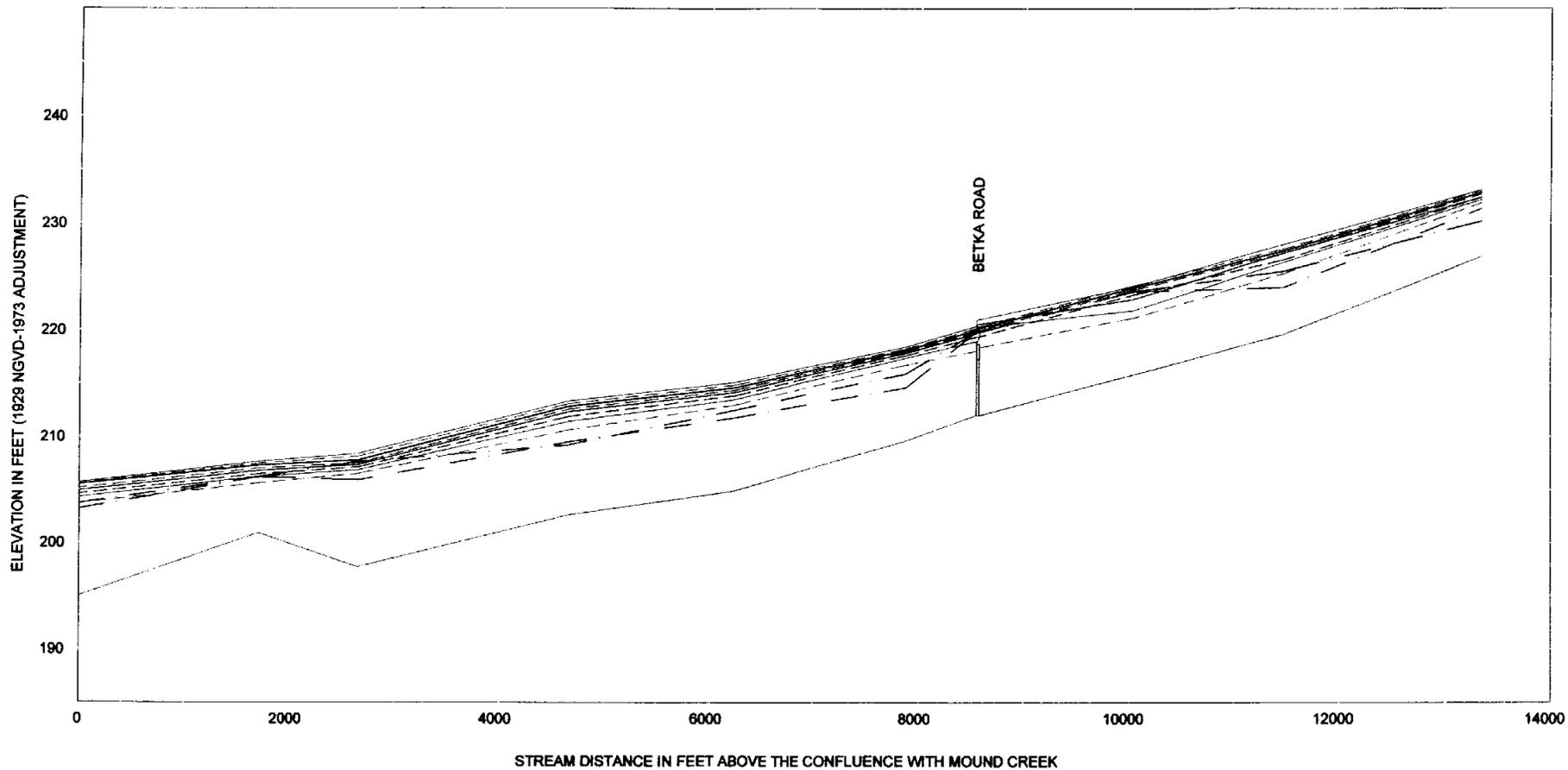
 AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
		REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR SALINE TRIBUTORIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TRWD CONTRACT NO. 2000-480-305
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (BASELINE)		
FEBRUARY 2005	K100-00-00	EXHIBIT I.10.5



LEGEND

- | | | | |
|-------|------------|-------|------------------------|
| ----- | FLOWLINE | ----- | WATER SURFACE PROFILES |
| ----- | LEFT BANK | ----- | 500-YEAR |
| ----- | RIGHT BANK | ----- | 250-YEAR |
| ----- | BRIDGES | ----- | 100-YEAR |
| | | ----- | 50-YEAR |
| | | ----- | 25-YEAR |
| | | ----- | 10-YEAR |
| | | ----- | 5-YEAR |
| | | ----- | 2-YEAR |

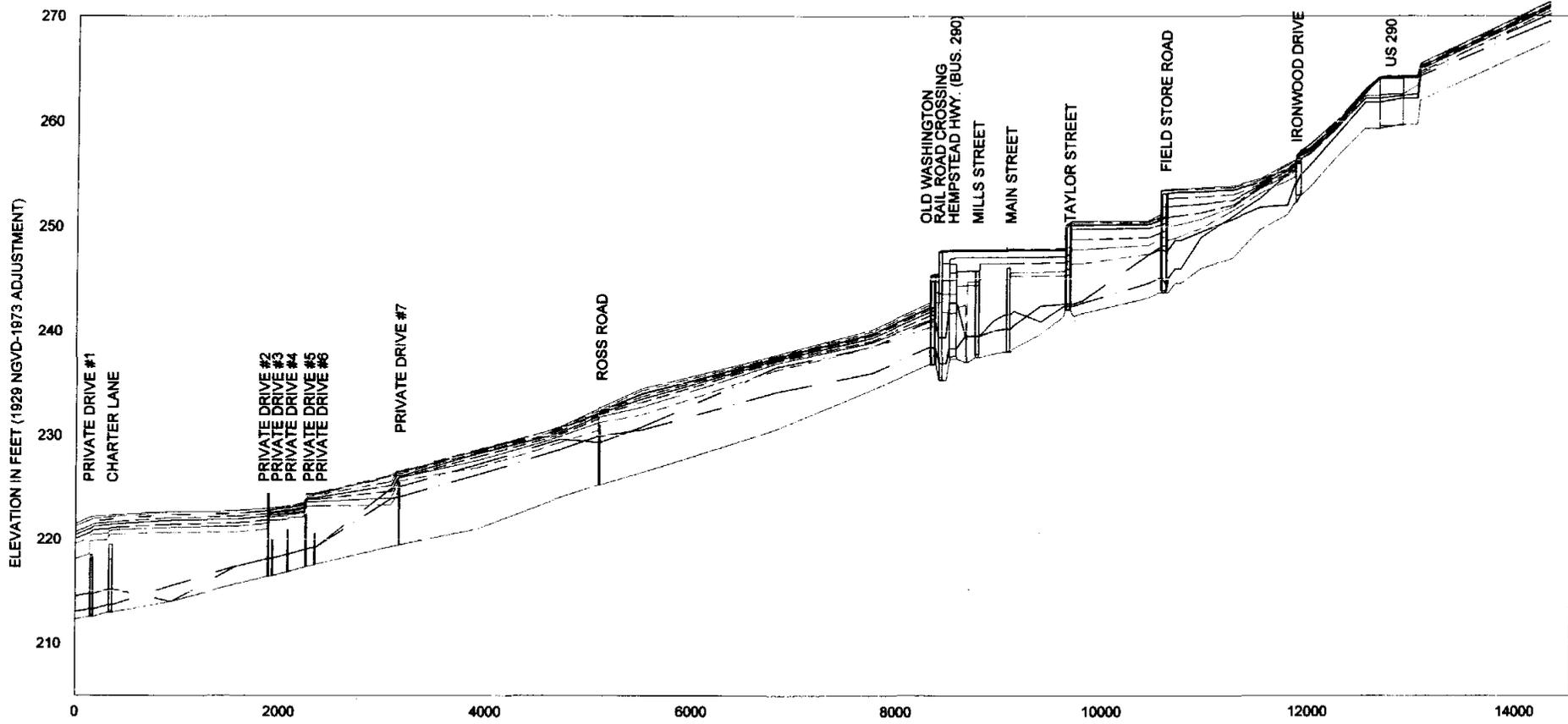
		AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWDI CONTRACT NO. 200-463-208				
MOUND CREEK WATERSHED WATER SURFACE PROFILES TRIB. 7.62 TO MOUND CREEK (BASELINE)				
FEBRUARY 2002	K4189-01-00	E30-001110-0		



LEGEND

- | | | | |
|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | — | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

 AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
		REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWDB CONTRACT NO. 2002-003-308
MOUND CREEK WATERSHED WATER SURFACE PROFILES LITTLE MOUND CREEK (BASELINE)		
FEBRUARY 2003	K 108-02-01	EXHIBIT 1.10.7



LEGEND

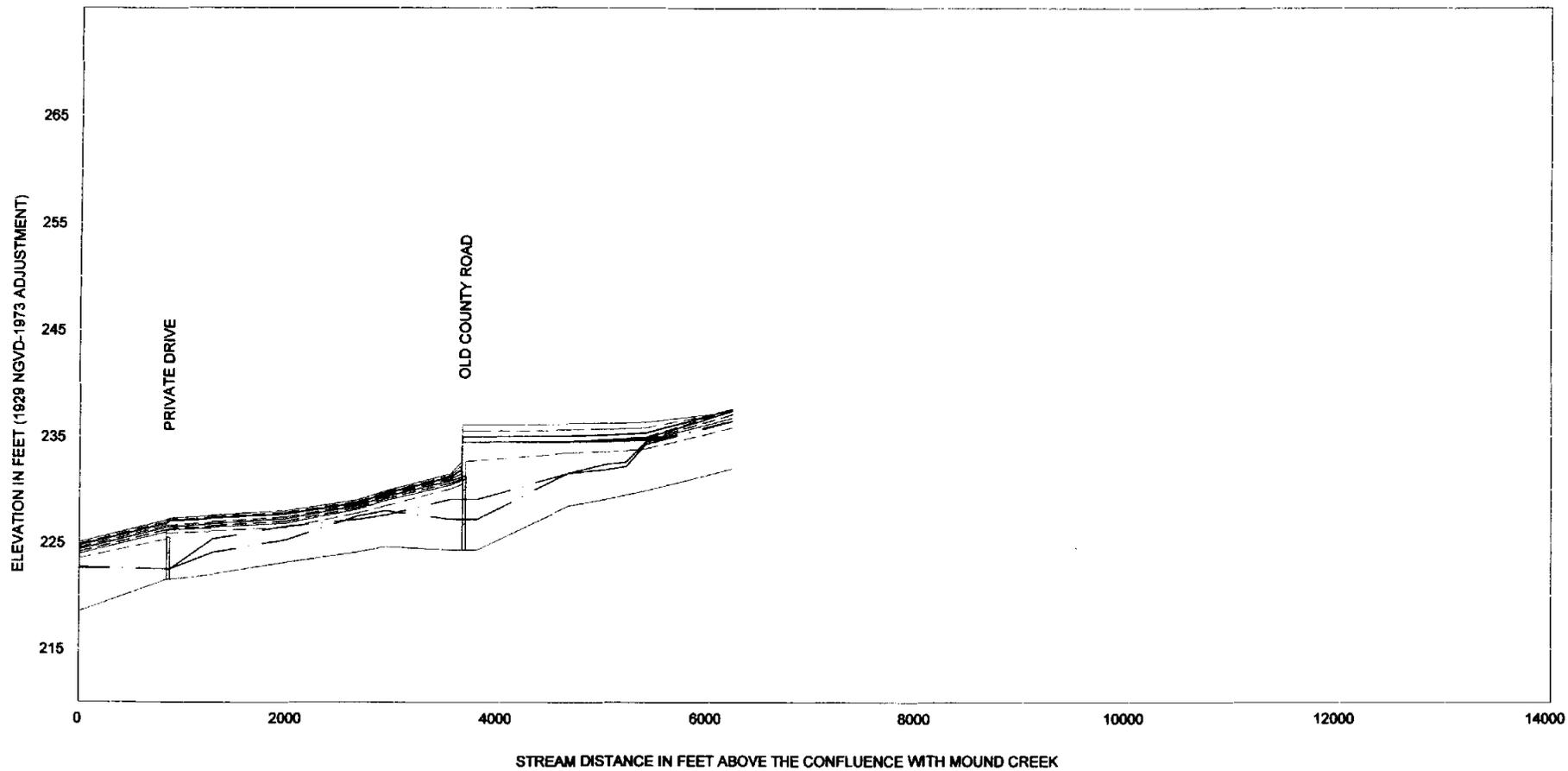
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|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | - - - | 100-YEAR |
| | | - - - | 50-YEAR |
| | | - - - | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT
TWER CONTRACT NO. 2009-493-308

MOUND CREEK WATERSHED
WATER SURFACE PROFILES
TRIB. 8.18 TO MOUND CREEK
(BASELINE)

FEBRUARY 2003
KV100-03-01
6/2/00T | 10.8



LEGEND

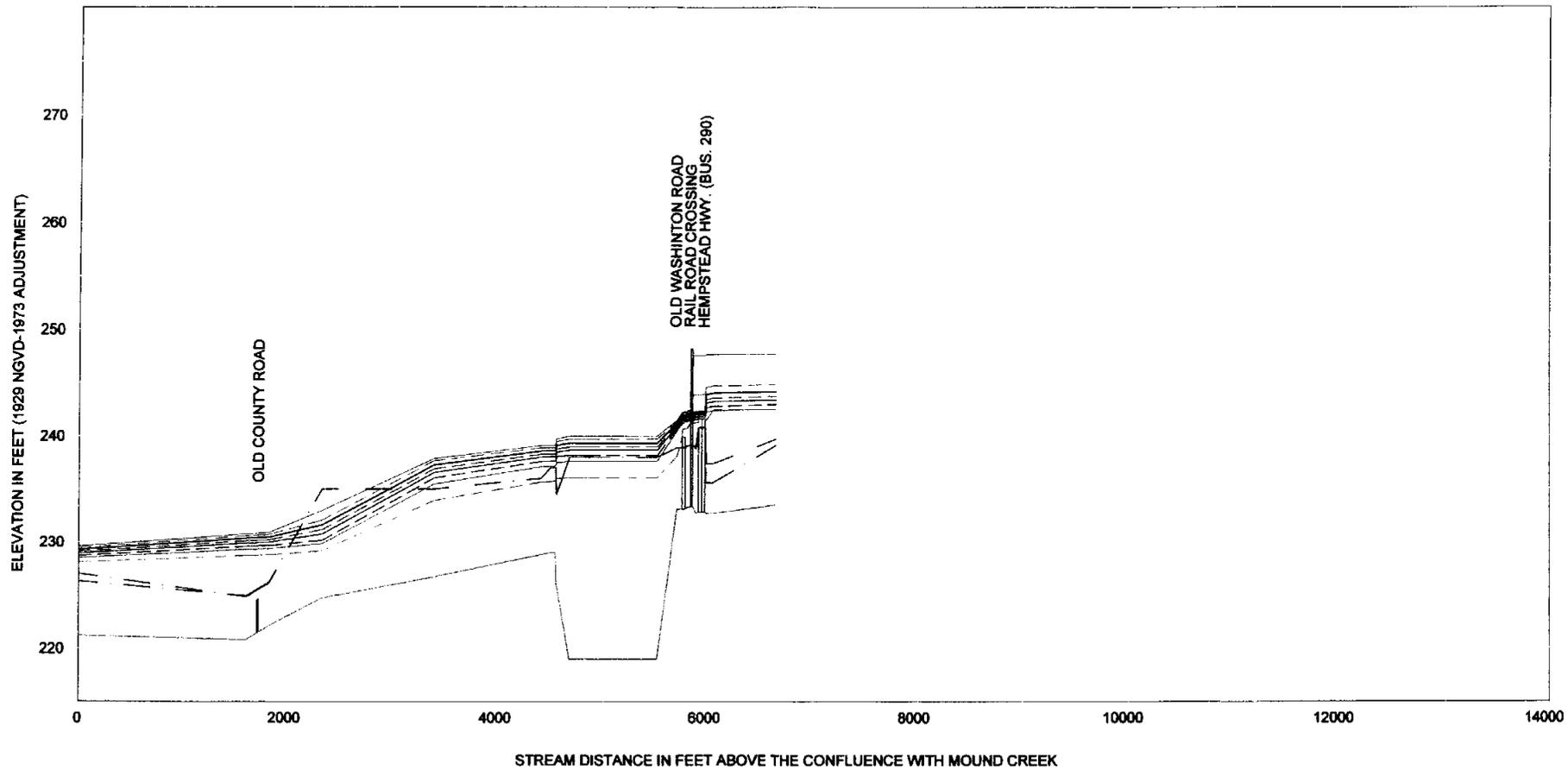
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|-------|------------|---|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT
THIS CONTRACT NO. 200-463-28

MOUND CREEK WATERSHED
WATER SURFACE PROFILES
MIDDLE FORK
(BASELINE)

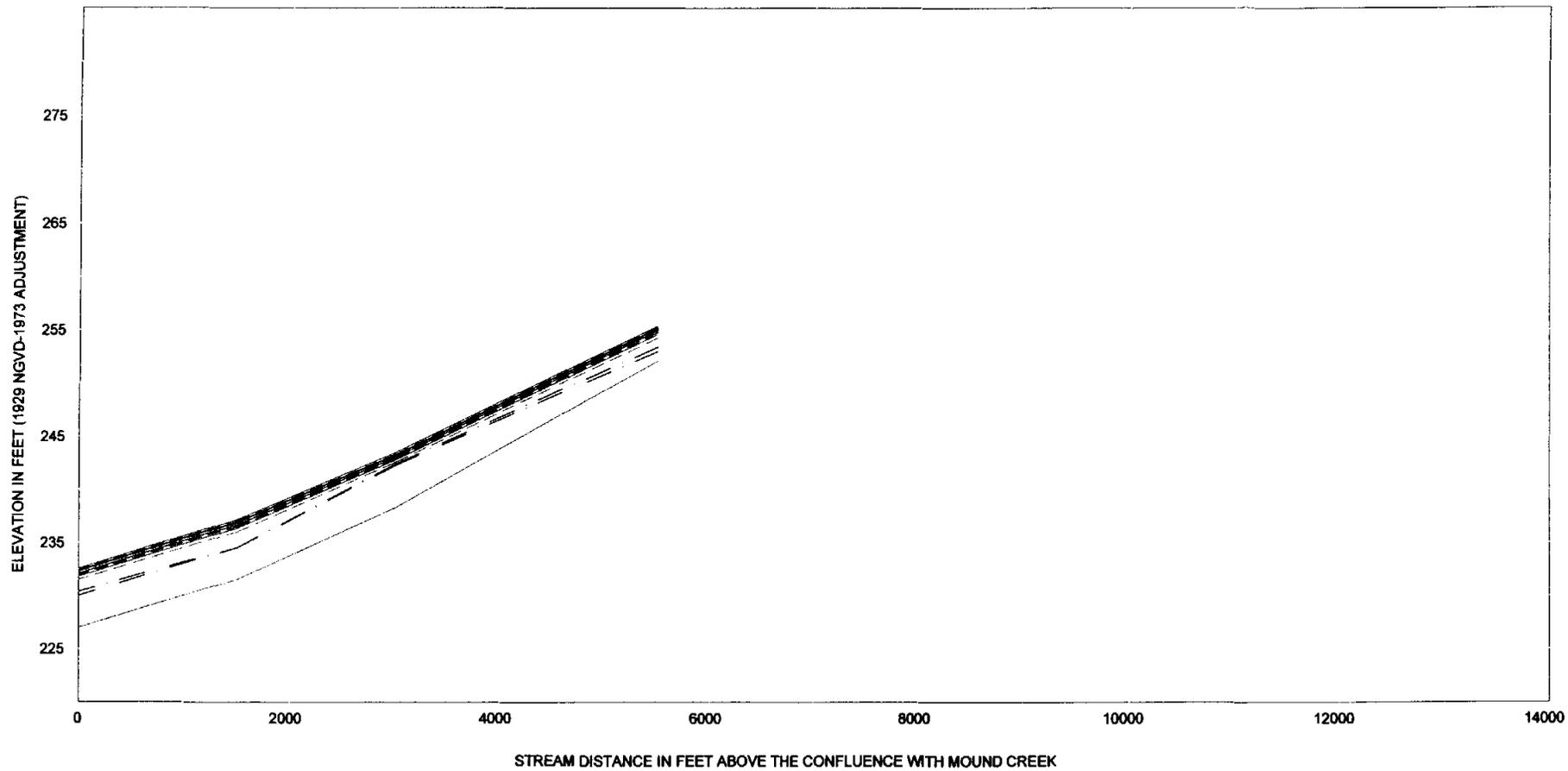
FEBRUARY 2003	KJ188-04-00	E2-0871.109
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LEGEND

- | | | | |
|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | - - - | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT THIS CONTRACT NO. 2000-465-308	
MOUND CREEK WATERSHED WATER SURFACE PROFILES WEST FORK (BASELINE)		
FEBRUARY 2003	KC 198-06-00	ED08RT 1.10.10



LEGEND

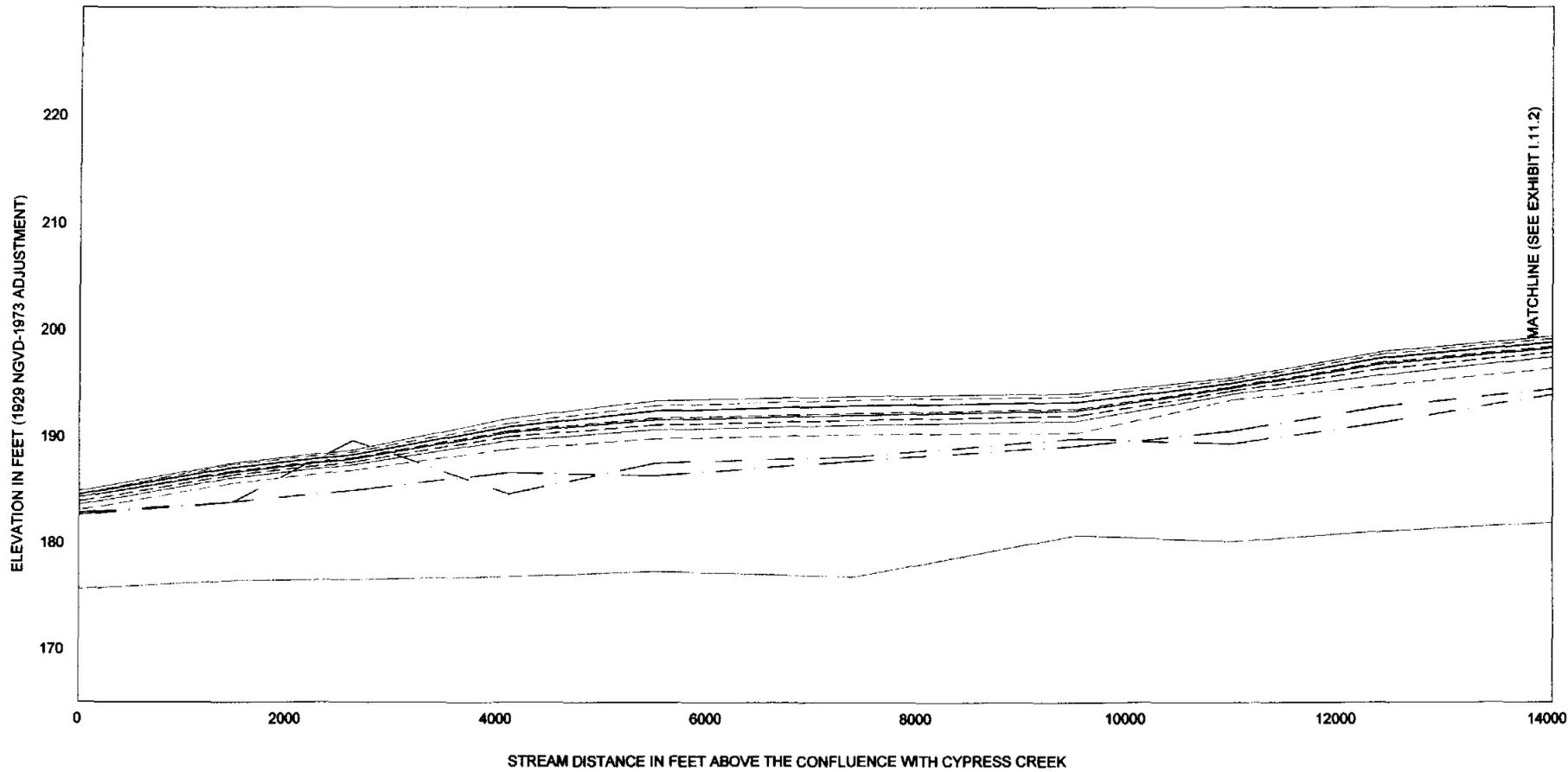
- | | | |
|-----------|------------|------------------------|
| | FLOWLINE | WATER SURFACE PROFILES |
| ----- | LEFT BANK | —— 500-YEAR |
| - - - - - | RIGHT BANK | 250-YEAR |
| —— | BRIDGES | —— 100-YEAR |
| | | 50-YEAR |
| | | —— 25-YEAR |
| | | - - - - - 10-YEAR |
| | | 5-YEAR |
| | | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT
THIS CONTRACT NO. 2002-463-200

**MOUND CREEK WATERSHED
WATER SURFACE PROFILES
SOUTH FORK
(BASELINE)**

FEBRUARY 2003	KJ 106-05-00	EXHIBIT 1.10.11
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LEGEND

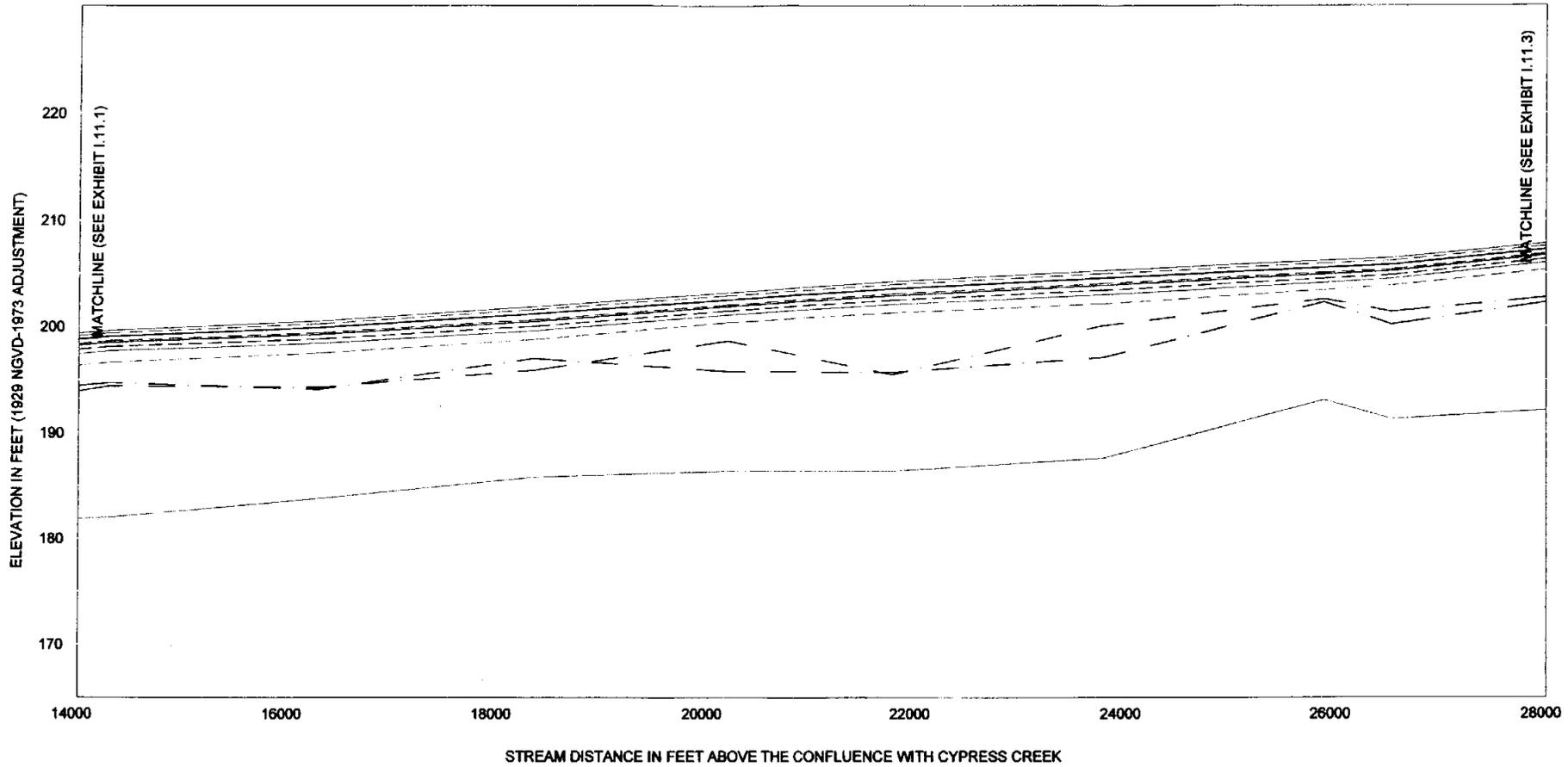
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| - - - | RIGHT BANK | - - - | 100-YEAR |
| — | BRIDGES | - - - | 50-YEAR |
| | | - - - | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TOWNSHIPS IN THE CYPRESS CREEK WATERSHED
PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT
TWD8 CONTRACT NO. 2000-403-200

MOUND CREEK WATERSHED
WATER SURFACE PROFILES
MOUND CREEK
(RECOMMENDED PLAN)

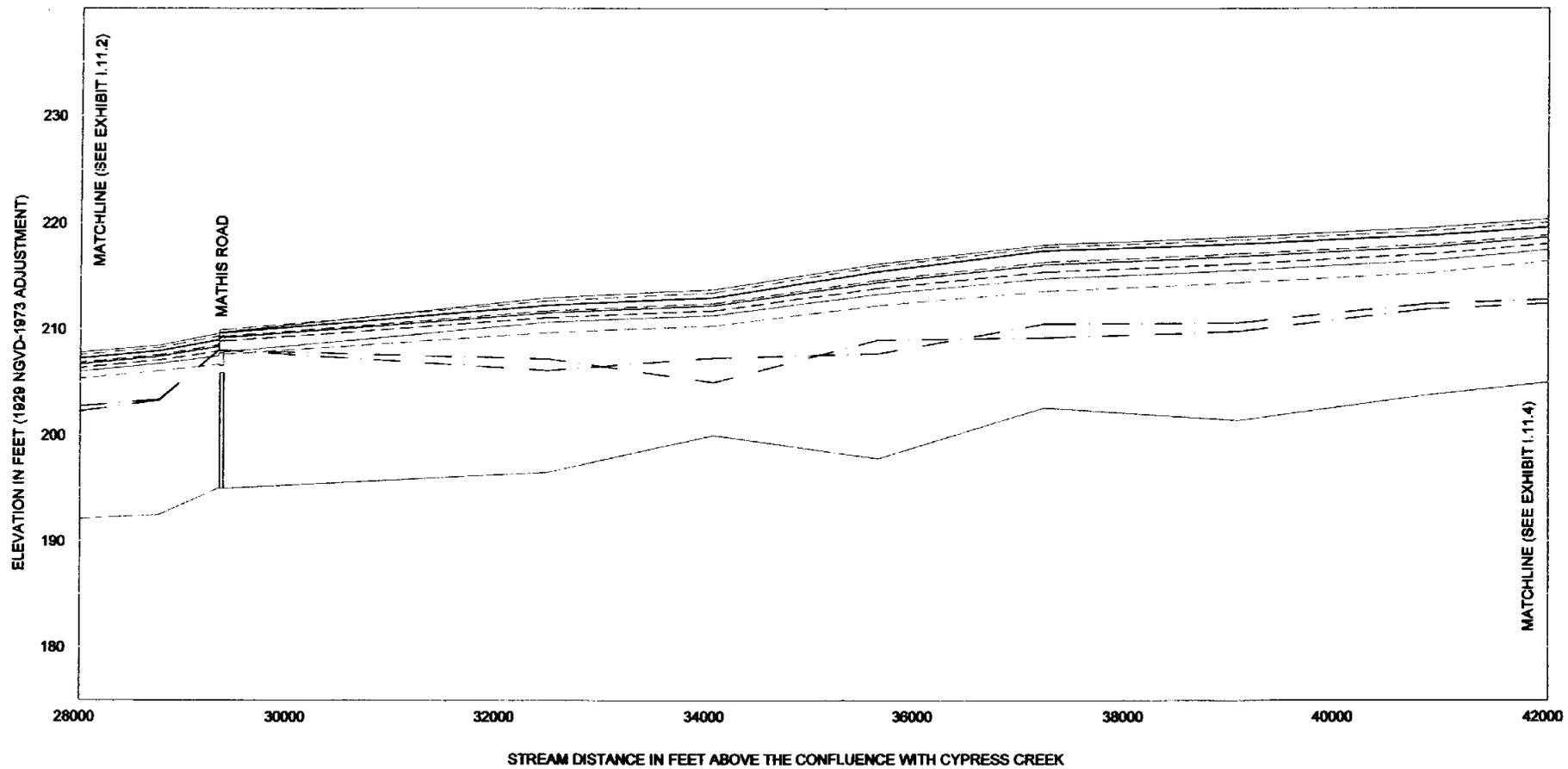
FEBRUARY 2000
K109-00-00
EXHIBIT I.11.1



LEGEND

- | | | | |
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| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

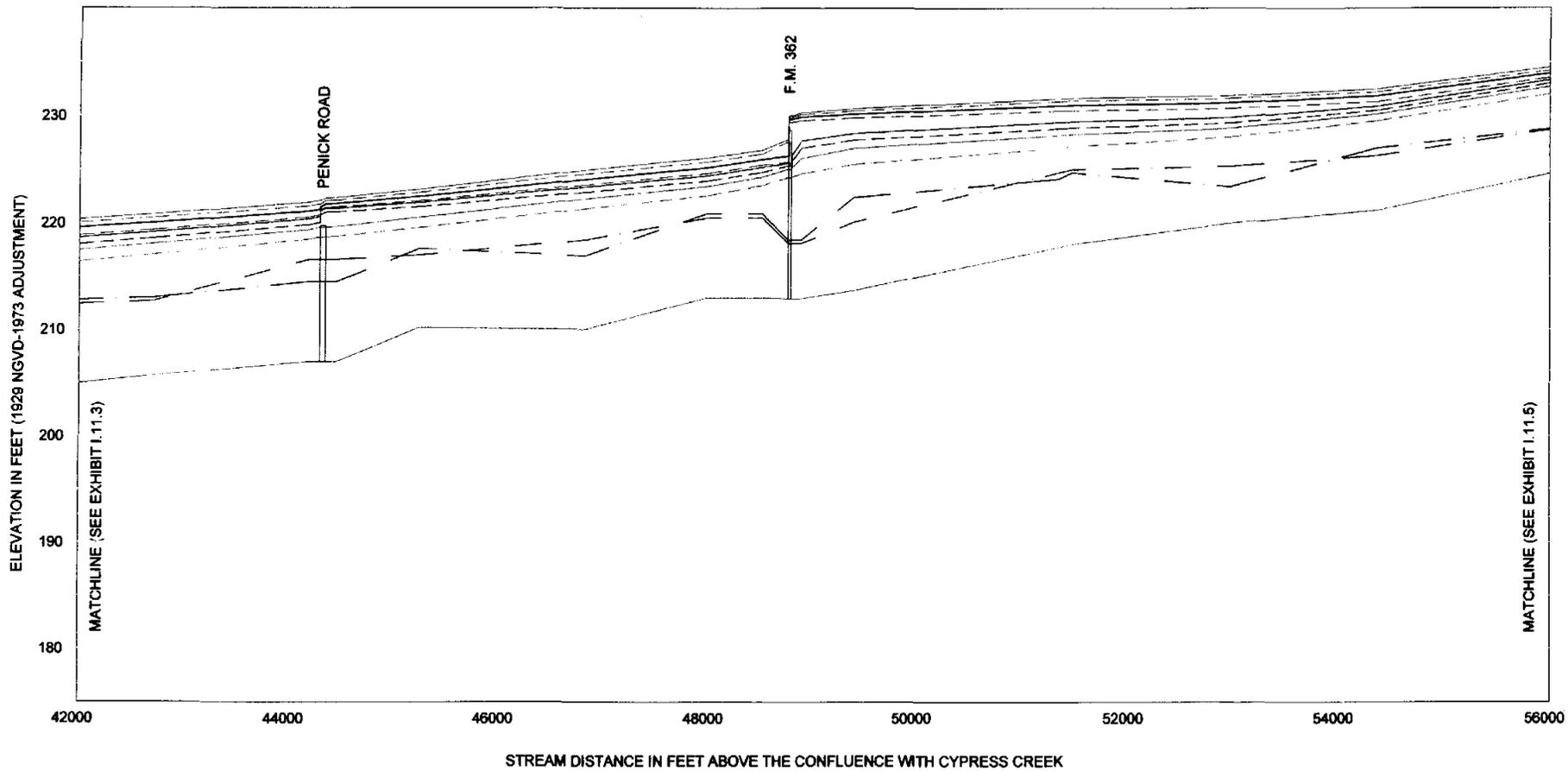
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT BY ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWDB CONTRACT NO. 2008-05-389		
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (RECOMMENDED PLAN)			
FEBRUARY 2003	KHS-05-00	EXHIBIT L.11.2	



LEGEND

- | | | | |
|-------|------------|---|------------------------|
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| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
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| | | — | 5-YEAR |
| | | — | 2-YEAR |

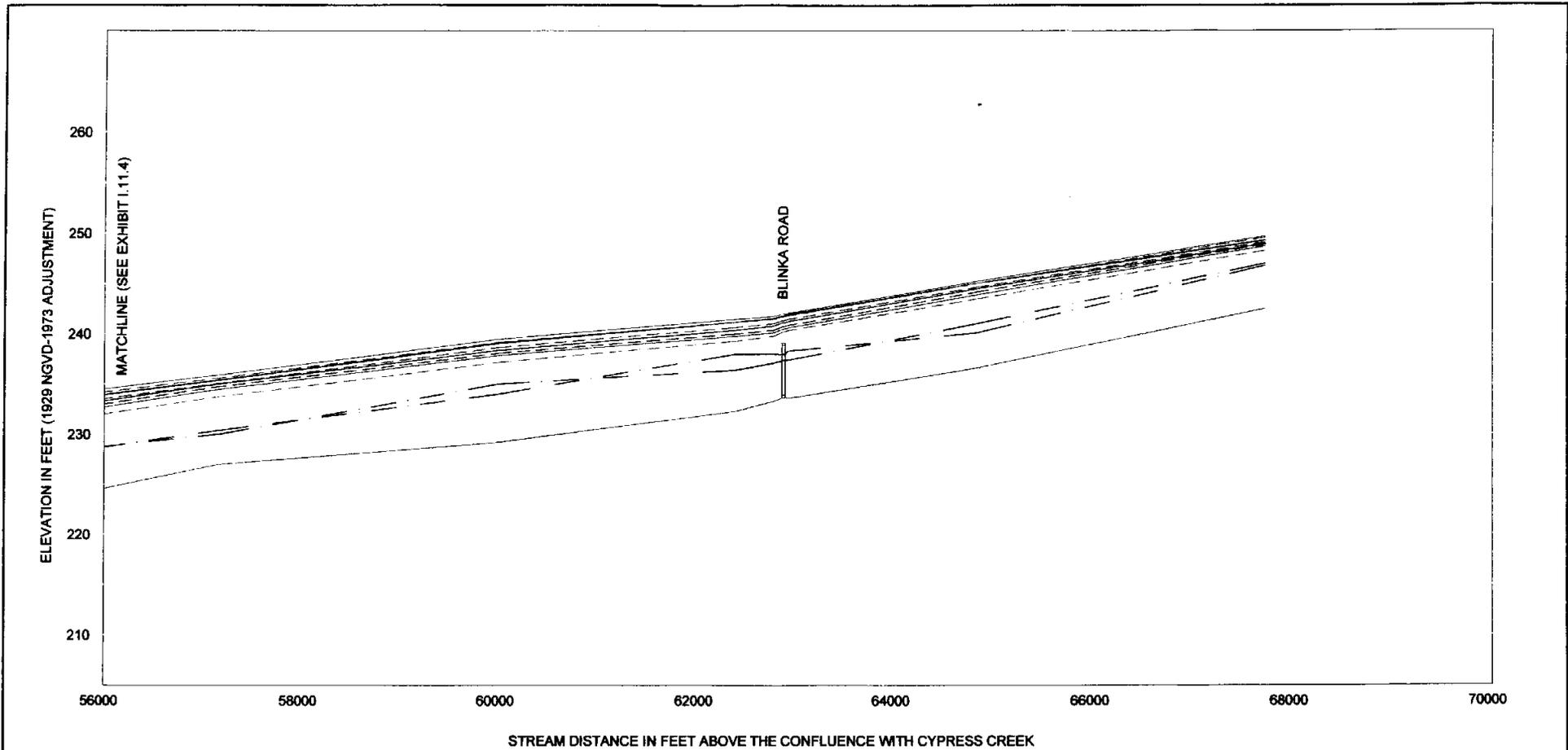
		AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
REGIONAL OVERFLOW PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC ANALYSIS REPORT TWDB CONTRACT NO. 2009-08-308			
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (RECOMMENDED PLAN)			
FEBRUARY 2003	K100-08-00	EXHIBIT L11.3	



LEGEND

- | | | | |
|-------|------------|---|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

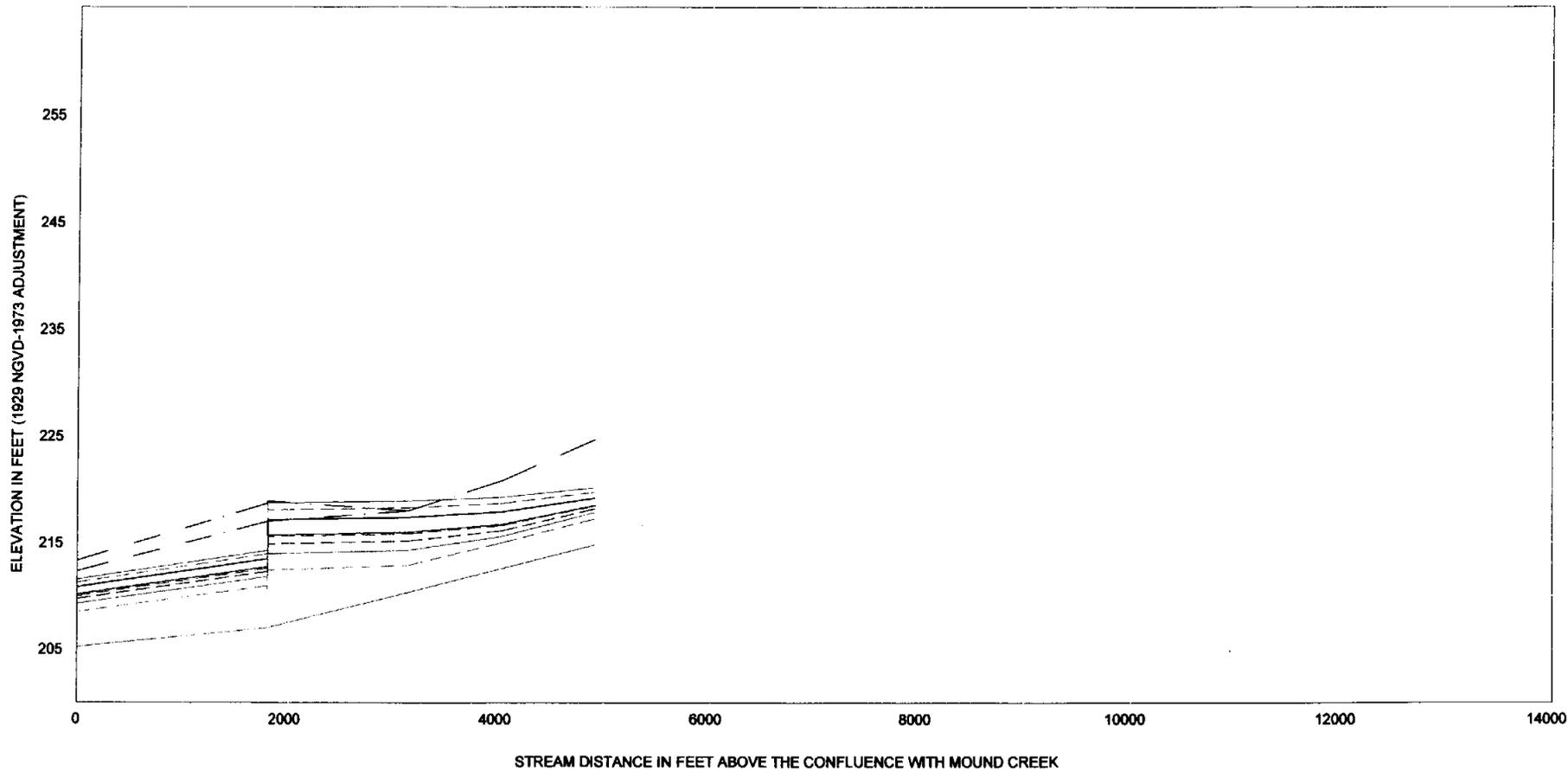
	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
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MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (RECOMMENDED PLAN)			
FEBRUARY 2003	K100-00-00	EXHIBIT 1.11.4	



LEGEND

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|-------|------------|-----|------------------------|
| --- | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | --- | 250-YEAR |
| — | BRIDGES | --- | 100-YEAR |
| | | --- | 50-YEAR |
| | | --- | 25-YEAR |
| | | --- | 10-YEAR |
| | | --- | 5-YEAR |
| | | --- | 2-YEAR |

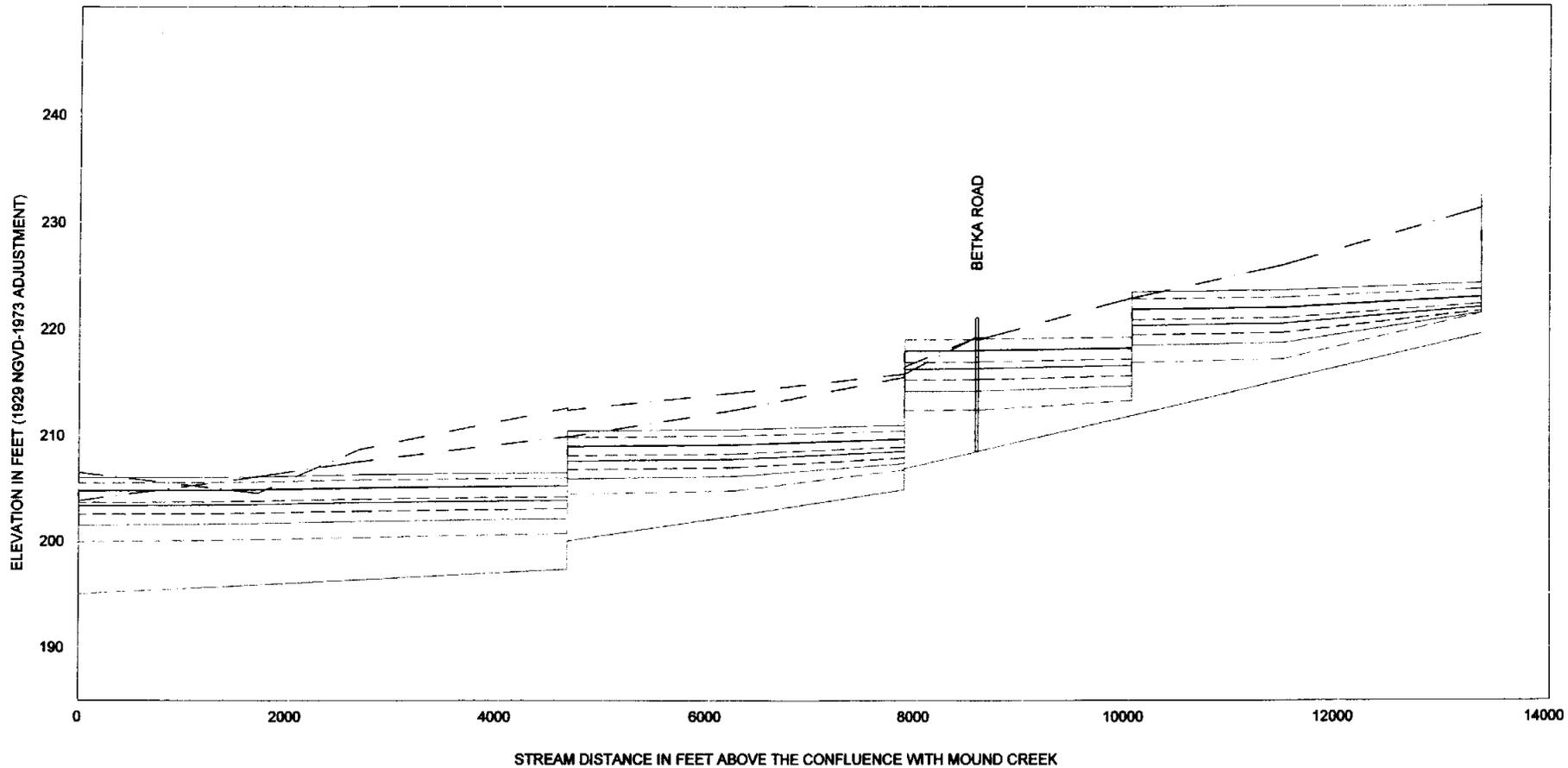
		AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD	
<small>REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT THIS CONTRACT NO. 2000-40-50</small>			
MOUND CREEK WATERSHED WATER SURFACE PROFILES MOUND CREEK (RECOMMENDED PLAN)			
FEBRUARY 2003	K188-00-00	E204807.1.11.5	



LEGEND

-----	FLOWLINE	-----	WATER SURFACE PROFILES
-----	LEFT BANK	-----	500-YEAR
-----	RIGHT BANK	-----	250-YEAR
-----	BRIDGES	-----	100-YEAR
		-----	50-YEAR
		-----	25-YEAR
		-----	10-YEAR
		-----	5-YEAR
		-----	2-YEAR

	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC SURFACE REPORT TWIDE CONTRACT NO. 2000-03-369		
MOUND CREEK WATERSHED WATER SURFACE PROFILES TRIB. 7.62 TO MOUND CREEK (RECOMMENDED PLAN)			
FEBRUARY 2003	K4100-01-00	EXHIBIT 1111.0	

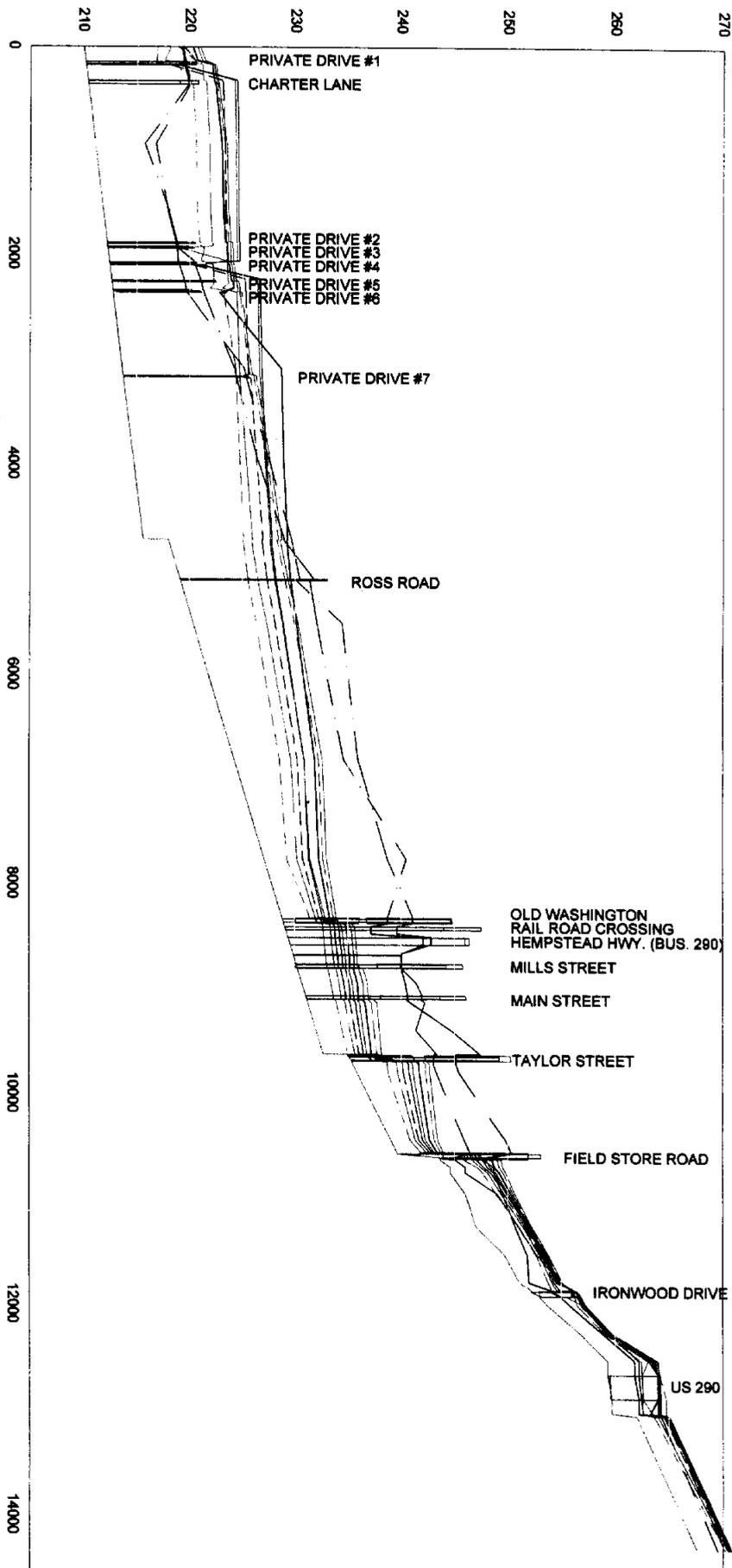


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|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | - - - | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

 <p>Harris County Flood Control District</p>	<p>AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD</p>	
	<p>REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWER CONTRACT NO. 2000-100-300</p>	
<p>MOUND CREEK WATERSHED WATER SURFACE PROFILES LITTLE MOUND CREEK (RECOMMENDED PLAN)</p>		
FEBRUARY 2003	K199-02-00	E20487/1117

ELEVATION IN FEET (1929 NGVD-1973 ADJUSTMENT)



LEGEND

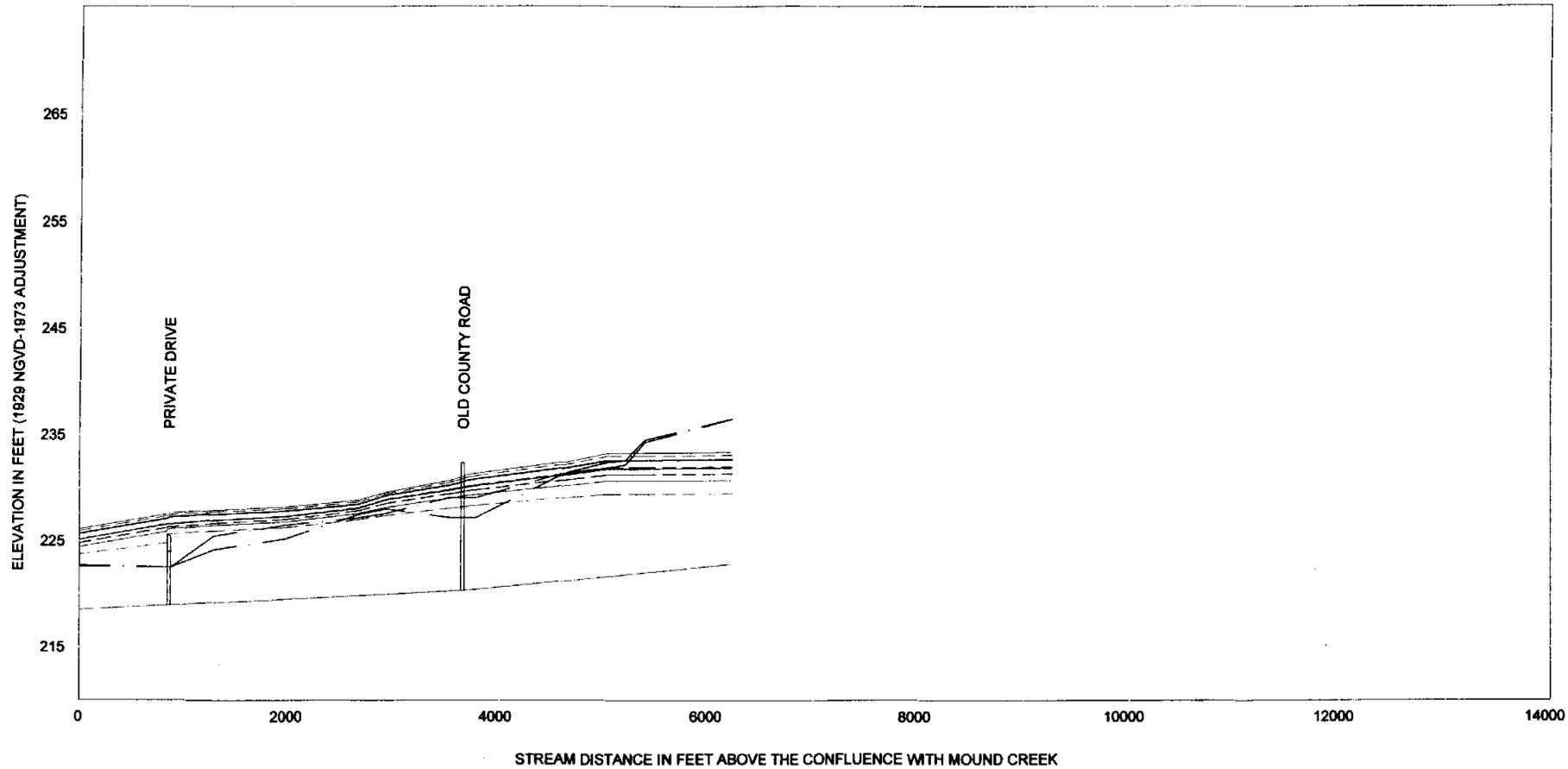
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 LEFT BANK
 RIGHT BANK
 BRIDGES
- WATER SURFACE PROFILES
 500-YEAR
 250-YEAR
 100-YEAR
 50-YEAR
 25-YEAR
 10-YEAR
 5-YEAR
 2-YEAR

STREAM DISTANCE IN FEET ABOVE THE CONFLUENCE WITH MOUND CREEK

AN INSTRUMENTAL
 MAP OF THE
 HABERS COUNTY FLOOD
 CONTROL DISTRICT
 IN NORTH TEXAS
 SHOWING THE
 DEVELOPMENT BOARD

REGIONAL ENGINEER IN CHARGE
 FEDERAL BUREAU OF SURVEY
 PHASE II - HYDROLOGIC AND PHYSICAL CHARACTERIZATION
 FROM WATERSHED TRIBUTARIES IN THE CRYSTAL CREEK WATERSHED
 TRIB. 8, 18 TO MOUND CREEK
 (RECOMMENDED PLAN)

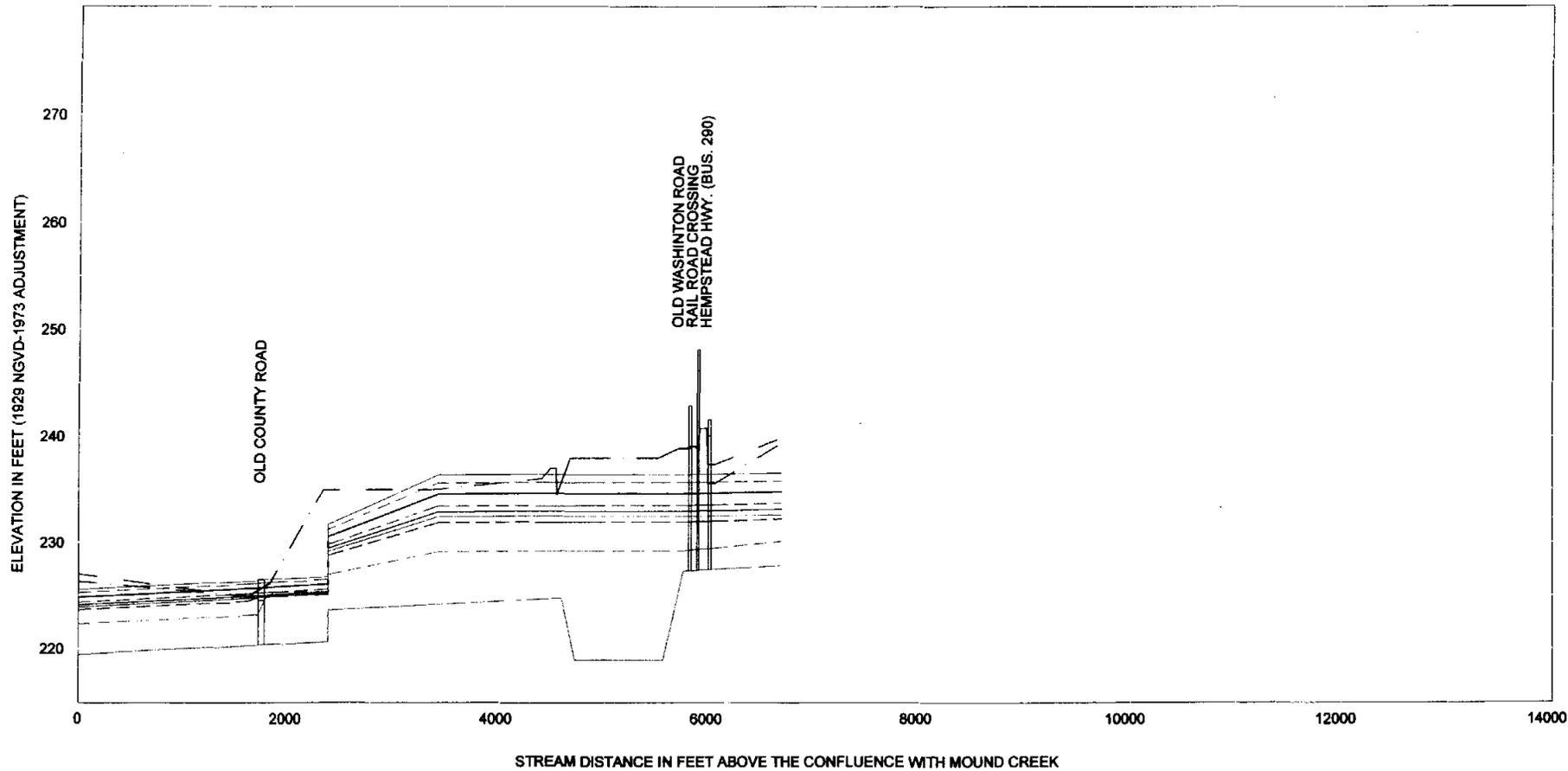
FEBRUARY 2003
 14-188-03-00
 EXHIBIT 111A



LEGEND

- | | | | |
|-------|------------|---|------------------------|
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| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

	AN INITIATIVE OF HARRIS COUNTY FLOOD CONTROL DISTRICT IN ASSOCIATION WITH THE TEXAS WATER DEVELOPMENT BOARD		
	REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED PHASE III - HYDROLOGIC AND HYDRAULIC BASELINE REPORT TWDB CONTRACT NO. 200-483-328		
MOUND CREEK WATERSHED WATER SURFACE PROFILES MIDDLE FORK (RECOMMENDED PLAN)			
FEBRUARY 2003	KJ188-04-00	EX-88BT111.0	



LEGEND

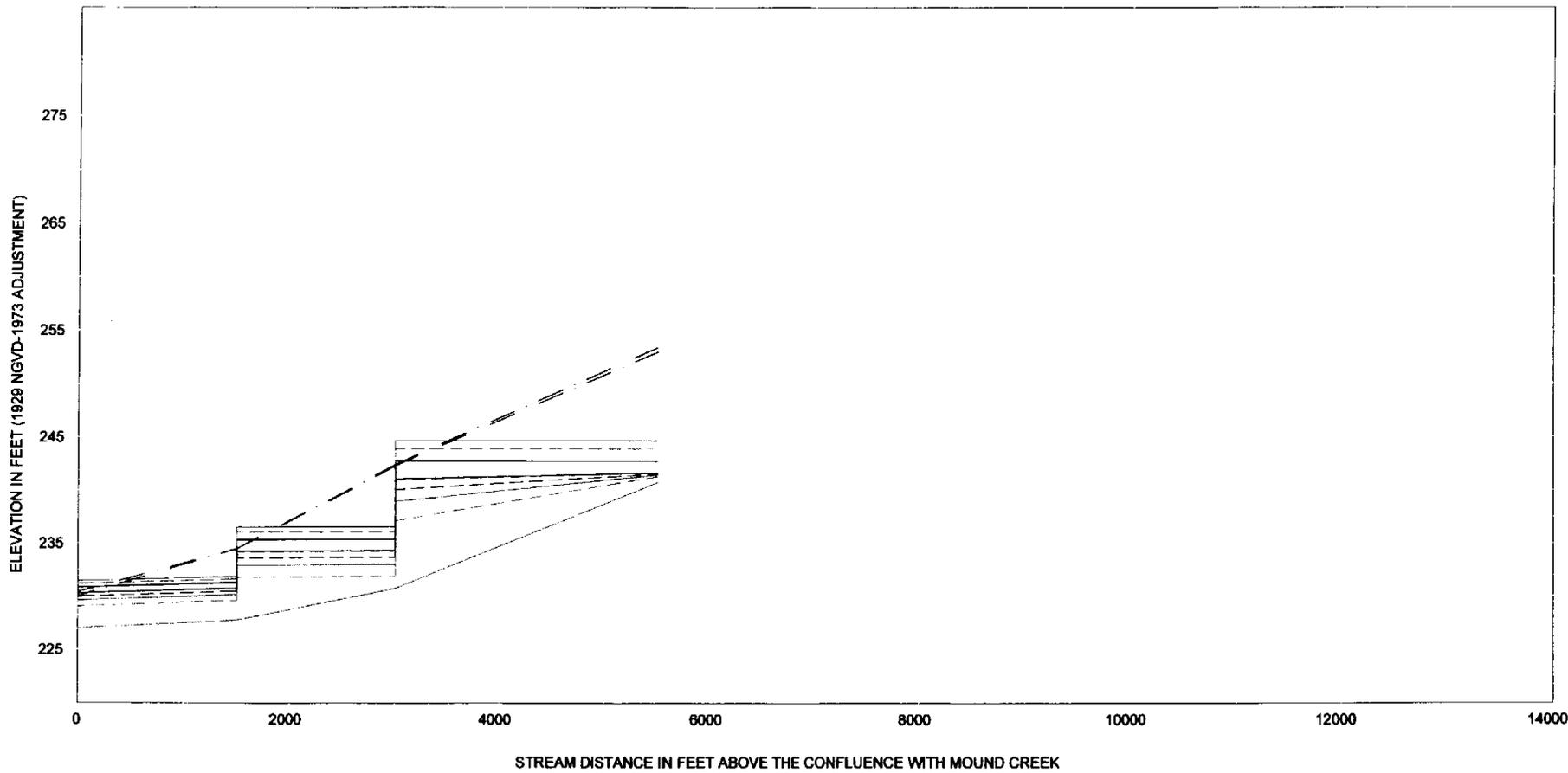
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| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | — | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | — | 50-YEAR |
| | | — | 25-YEAR |
| | | — | 10-YEAR |
| | | — | 5-YEAR |
| | | — | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
BY ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE III - HYDROLOGIC AND HYDRAULIC BARELINE REPORT
TNOB CONTRACT NO. 2008-463-308

MOUND CREEK WATERSHED
WATER SURFACE PROFILES
WEST FORK
(RECOMMENDED PLAN)

FEBRUARY 2005	K4188-05-00	EXHIBIT 11150
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LEGEND

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|-------|------------|-------|------------------------|
| — | FLOWLINE | — | WATER SURFACE PROFILES |
| - - - | LEFT BANK | — | 500-YEAR |
| - - - | RIGHT BANK | - - - | 250-YEAR |
| — | BRIDGES | — | 100-YEAR |
| | | - - - | 50-YEAR |
| | | — | 25-YEAR |
| | | - - - | 10-YEAR |
| | | - - - | 5-YEAR |
| | | - - - | 2-YEAR |

AN INITIATIVE OF
HARRIS COUNTY FLOOD
CONTROL DISTRICT
IN ASSOCIATION
WITH THE
TEXAS WATER
DEVELOPMENT BOARD

REGIONAL DRAINAGE PLAN AND ENVIRONMENTAL INVESTIGATION
FOR MAJOR TRIBUTARIES IN THE CYPRESS CREEK WATERSHED
PHASE II - HYDROLOGIC AND HYDRAULIC BASELINE REPORT
TRWD CONTRACT NO. 2002-463-308

MOUND CREEK WATERSHED
WATER SURFACE PROFILES
SOUTH FORK
(RECOMMENDED PLAN)

FEBRUARY 2003
10/198 08 00
EX-SHEET 1.11.11

The following are responses to additional comments received from the TWDB:

1. *C: Explain how the plan screening criteria matrix is developed and how the numerical scores are given in the matrices.*

The screening criteria matrix consists of 11 different criteria that reflect various issues associated with the recommended plans. These issues are general enough to be applied to each plan alternative, and each alternative plan was found to satisfy these issues to a varying degree.

The criteria were deemed important enough to set as objectives for identifying the appropriate plan elements and ranking the performance of each plan alternative for meeting these objectives. Relative weights were applied to each criteria to reflect the importance of each as it relates to developing the plan. Each plan alternative was scored against each other for each criteria, to determine if one alternative would satisfy the criteria better than the others. The alternative plan scores for each criteria were multiplied by the respective criteria weight, and the resulting values totaled to determine the weighted score for each plan alternative. Although the scores given each plan may be somewhat subjective, each of the plans were scored in the same manner, in order to provide some consistency to the process.

2. *C: Lemm Gully watershed: the recommended detention pond is in the heart of a residential area and it can be a potential safety threat. It may be appropriate to consider moving it to a further downstream location at somewhere between the North Freeway and the confluence of Lemm and Senger gullies (refer to ExhibitB6).*

R: Many regional detention facilities have been constructed along streams throughout Harris, County located in heavily developed residential areas. Some have even incorporated multiple uses to accommodate park and recreational activities. Even new developments are implementing their own detention facilities for mitigation of their projects. With any drainage element, there is always a potential safety issue associated. Because of the development pressures within the watershed, it would not appear to provide any benefit (in consideration of reducing the threat of safety risks) by identifying an alternative site for the detention facility.

3. *C: For Lemm, Seals, and Faulkey Gully sub-basins, the difference between the highest and the second highest scores is minimal. Given the subjectiveness of the screening matrix, the selection of recommended plans based on the score can be contentious.*

R: For the Lemm, Seals, and Faulkey Gully watershed, there are limited plan scenarios that can be implemented while meeting the objectives of the study. Only slight modifications exist between each alternative plan identified for the watersheds. This is why there is very little difference in the scores determined based on the screening matrix. Public comment on the recommended plans for each of these watersheds has been positive and the similarity of portions of each plan may be helpful if some of the recommended plan elements become unfeasible due to encroachment by development before the recommended rights-of-way can be secured.

4. *C: Explain if the possible interaction among the recommended plans of all sub-basins is considered. If the lower boundaries of the HEC-RAS models are set at exits to Cypress Creek (so the Cypress Creek itself is not included in the modeling), such interaction is not considered. Consequently, the actual flood reduction may not be as great as suggested.*

R: An analysis of the entire Cypress Creek watershed in consideration of the recommended plans for the nine major tributary watersheds was not identified in the scope for this contract and has not been performed. Additional study efforts for the Cypress Creek watershed are continuing, and the relationship of the recommended plan drainage in consideration of impacts along Cypress Creek will be a major component of the study as the study efforts progress.

5. *C: The Report has referred the simulated peak flows produced by the HEC-1 models corresponding to 100-year storms as 100-year floods. This concept is generally incorrect. Explain if such simulated peak flows have been compared to available flood flow frequency data.*

R: The peak flows resulting from the modeling efforts of the nine major tributary watersheds have not been compared to any flood-flow frequency data. The modeling performed for this study is based on HEC-1 models that were prepared as part of the effective Federal Emergency Management Agency's Flood Insurance Study (FIS) for Harris County. These models were used to determine the 10%, 2%, and 1% peak flood flows identified in the FIS, consequently used to determine the flood profiles and regulatory floodplain. Since the study effort is geared toward flood protection planning, it was deemed appropriate to use models and methods specified by FEMA, despite the inherent limitations of hypothetical storms.