



April 19, 2010

Mr. Kevin Maguire
Strasburger & Price, LLP
901 Main Street, Suite 4400
Dallas, Texas 75202-3794

RE: Prairie Restoration Cost Estimate
Proposed NTMWD Pipeline Route
Heard Natural History Museum and Wildlife Sanctuary
W&M Project No. 1042.001

Dear Mr. Maguire:

W&M Environmental Group, Inc. (W&M) completed a draft of a Prairie Restoration Plan for the portion of the Heard Natural History Museum and Wildlife Sanctuary (Heard Museum) that contains tallgrass prairie that would be directly affected by the proposed North Texas Municipal Water District (NTMWD) proposed sanitary sewer construction. Approximately 4.5 acres of tallgrass prairie would be directly affected by the proposed project at the Heard Museum in McKinney, Texas (Site). This letter is to accompany our estimate of costs to restore the prairie to its condition prior to the proposed construction. The actual costs of the prairie restoration will depend on an assessment of the Site immediately after the pipeline construction is completed and on the success of planting and weed control efforts. This estimate is based on the draft Prairie Restoration Plan, which is based our assessment of the Site, plans that have been provided, and our experience at other similar construction sites. The itemized estimate is detailed on the attached **Spreadsheet 1**, and totals approximately \$168,400.

If you have any questions or need additional information, please do not hesitate to call us.

Very truly,

W&M ENVIRONMENTAL GROUP, INC.

Aaron Brewer
Project Manager

W&M ENVIRONMENTAL GROUP, INC.

Michael Whitehead
President

cc: Mr. Sy Shahid, Heard Museum

Attachment



www.wh-m.com

PLANOCORPORATE OFFICE

906 E 18th Street
Plano, TX 75074
972-516-0300

AUSTIN

3706 Speedway
Austin, TX 78705
512-493-9691

FORT WORTH

112 NW 24th Street
Suite 201
Fort Worth, TX 76106
817-378-0012

HOUSTON

1215 Durham Drive
Houston, TX 77007
713-316-0025

SPREADSHEET 1: HEARD MUSEUM PRAIRIE RESTORATION COST ESTIMATING

*Heard Museum
One Nature Place
McKinney, Texas*

The following cost estimate was prepared to provide a general cost estimate¹ for re-establishing prairie that would be directly impacted by the proposed North Texas Municipal Water District's sewer main crossing the Heard Museum property. The direct impacts will cover at least 4.5 acres within the approximate boundaries of the existing tall grass prairie equaling 1.4 acres of permanent sewer easement area and 3.1 acres of temporary easement area.

<u>General Activity</u>	<u>Activity Details</u>	<u>Units</u>	<u>Per Unit Estimate</u>	<u>Cost Estimate</u>
Test Soil	Soil samples to be processed by the Texas Agricultural Extension Service and Texas A&M.	18 tests	\$20	\$360
Soil Amendments	Amend upper 1 foot of surface with compost to improve soil organic matter, nutrient, or texture deficiencies from inadvertent soil mixing during construction.			
	Material delivered (Alpine Materials pH 7.8) 700 cu. Yd.		\$29.00	\$20,300
	Equipment and operator to spread compost 1 day		\$2,000	\$2,000
Weed Control	Initial weed control with broadcast application of roundup, up to 40 gallons per acre per label			
	Material 180 gallons		\$25	\$4,500
	Equipment and operator 1 day		\$1,000	\$1,000
Seed Bed Preparation	Excavated soils to be disked and harrowed; compacted soils to be chisel plowed and finished with a harrow or comparable implement.			
	Equipment with operator 1 day		\$2,000	\$2,000
Planting	Establish cover crop of native quick cover blend from Bamert or,			
	Material 45 pounds		\$6.10	\$275
	Equipment with operator 1 day		\$2,000	\$2,000
	Plant native grass and forb seeds with a seed drill.			
	Material 45 pounds		\$44	\$1,980
	Equipment with operator 1 day		\$2,000	\$2,000
	Supplemental planting of forbs from seed.			
	Material 45 pounds		\$44	\$1,980
	Equipment with operator 1 day		\$2,000	\$2,000
	Supplemental planting of forbs from plugs (10 per 1,000 SF).			
	Material 2000 plants		\$8.00	\$16,000
	Labor 800 hours		\$20	\$16,000
Irrigation	Temporary irrigation setup (estimated 1,320 to water source)	1	\$10,825	\$10,825
	Water fees for irrigation (1 inch per week for 8 months each of 2 years)	16 months	\$2,320	\$37,120
Erosion Control	Erosion control silt fence installation	5,250 feet	\$3 per foot	\$15,750
Maintenance	Spot application of herbicide and re-seeding for maintenance of invasive species control monthly over two growing seasons at 50 hrs per month and 18 gallons per month over growing season.			
	800 hrs		\$19.50	\$15,600
	Material 288 gallons		\$25	\$7,200
	Supplemental planting of grasses and forb seeds to replace impact from invasive control.	4.5 pounds	\$44	\$198
	Bi-annual woody plant control with mechanical implement.			
	Mower with operator 75 hours		\$19.50	\$1,463
	Two controlled burns for initial establishment.	2 burns	\$1,000 each	\$2,000
	Two mowing events to no less than 4 inches in first two years.			
	Labor and Equipment 300 hours		\$19.50	\$5,850
			Total	\$168,400

¹Costs for labor and materials for mowing, herbicide application, and temporary irrigation installation adapted from Metheny bid. Other costs from varied documented sources and/or past project experience.