



HARRIS COUNTY FLOOD CONTROL DISTRICT INFRASTRUCTURE DIVISION UPDATE

October—November—December 2004

News of Note:

- As of mid January, the District has planted about 4,000 trees .
- The long awaited Vegetation Management Manual is now accessible at www.hcfcd.org.
- Please welcome Jim Bereck (Special Project Coordinator) to the Infrastructure Division.
- Phase II construction of the North Service Center is well under way and is expected to be complete within six months.

Introduction

Thank you for your interest in activities of the Infrastructure Division at Harris County Flood Control District. This newsletter, sent to interested parties each quarter, describes the activities of the Infrastructure Division. Please do not hesitate to offer comments or ask questions. You can reach us at 713-316-4815 or by e-mail at rachel.decker@hcfcd.org.



Wildflower Seeding

Bluebonnet germinations on the northeast side of White Oak Bayou (E100-00-00)

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Fleet Management

The Fleet Management Department is responsible for the care and maintenance of on- and off-road vehicles, equipment, and small engine tools such as chainsaws and weed trimmers. The department also manages the District's warehouse and supplies field operations personnel with needed supplies (first aid kits, boots, and uniforms) to perform their jobs.

The Department moved to the new North Service Center in November 2004. This transition went well. When asked whether warehouse staff took the opportunity to reduce inventory during the move, manager Lowell Jacobs explained that there was little need to dispose of excess inventory because of ongoing efforts to eliminate surplus supplies. The warehouse has shifted from relying on in-house inventory to using supplier inventory. Because of this shift,

warehouse inventory has decreased from about \$900,000 in 1998 to about \$250,000 currently.

Two 2000 gallon water trucks were added to the fleet inventory in the past quarter. These trucks will be used to water some of the thousands of trees planted as part of the District's tree planting program and to support the herbicide program. A 35-foot gooseneck trailer is on order and will be used with our newly acquired F650 truck to transport equipment. These three trucks join a fleet that is composed largely of vehicles less than six years old. Because the fleet is so young, much of the repair work—especially of on-road vehicles—is done off-site through warranty and service contracts. As a result, the mechanics on-site are able to focus their maintenance activities on heavy equipment and repair.

Development Coordination and Inspection Section (DCIS)



Spring Cypress Road — Section 1
K140-00-00

DCIS tracks, monitors, inspects, and documents construction activity in District right-of-ways. This section also identifies potential impacts to the property by development and ensures that new property accepted into the District inventory meets property management and maintenance guidelines. The DCIS also provides review of developer and public agency projects that are proposed in District right-of-way.

A newly created section, DCIS hit the one year mark in October 2004. The Infrastructure Division began managing this program in October 2003 in response to concerns that development activity had the potential to damage the District's infrastructure.

Webb Pederson, the Development Coordination and Inspection Section Head, summed up the first year by saying, "The past year has been one of progress and change. A formal acceptance procedure was established along with a tracking system for the projects. New processes were created and are currently in place along with new monitoring procedures. DCIS is accepting more facilities into the HCFCD storm water maintenance program. Six facilities were accepted by Commissioners Court during the first year of operation and already four are ready to be approved in January of 2005."

A review of the DCIS activity for 2004 reveals the following:

- 89 Projects Completed
- 315 Projects Currently Being Monitored
- 404 Total Projects for 2004

The original project database was expanded to include development activity sections, inspection data, input screens, tracking forms and links to GIS maps. Since the DCIS became an Infrastructure section, it has added 404 project entries to the database.

The DCIS started with three employees in 2003 and added two inspectors during the first year. In 2005, three additional inspectors are planned to be hired to increase project scrutiny capability rather than maintaining a monitoring role.

DCIS is constantly identifying and responding to situations which have no set precedent. The program is a work in progress and has not yet reached maturity. DCIS strives to make the process as simple as possible.

Type	Total Active	Total Pending	Executed Oct-Dec
Adopt-a-lot	19	0	0
LMA	45	7	3
Encroach	112	1	2
Grazing	4	3	0
H & B	39	8	2
Pub Rec	17	2	0
Mowing	11	2	0

Multi-Use Program

The Property Management Department actively seeks partners to develop multi-use opportunities for District property that benefit the community. These partnerships also have the potential to reduce District maintenance responsibilities and related costs.

In December, the Community Services Section, in conjunction with the Rivers, Trails and Conservation Assistance Program of the National Park Service, gave two seminars to describe opportunities to partner with the District to develop multi-use facilities. Over 100 people attended, including many representatives from utility districts. Already, the District has begun receiving inquiries from participants regarding potential partnership opportunities.

Asset Management

In addition to responding to Service Requests and related tasks, Facilities Management Section has worked on the following projects in the past quarter:

Outfield GIS Data Collection:

The Outfield GIS Data Collection is responsible for the identification of inventory, such as outfall pipes, control structures, etc., and deficiencies along HCFCD rights-of-way using hand-held GPS units and lasers to record their locations. Each item identified with a GPS location is referred to as a point collected.



Outfield Data Collection Handheld

- Data has been collected on approximately 70% of the watersheds throughout Harris County. About 64,000 points identifying inventory and deficiencies have been collected to date.
- Points have been collected in the following watersheds: Addicks, Armand, Barker, Brays, Buffalo, Carpenters, Clear Creek, Goose Creek, Greens, San Jacinto River and Galveston Bay Watersheds, Sims, Vince, White Oak, and Cypress Creek.
- Current work continues on a parallel project. Verification of outfall diameters in key watersheds is in progress with 1,758 outfall diameters being verified. Work is ongoing in Greens Bayou where approximately 3,300 outfalls have been verified to date.
- Individually, the data collectors Robert Snoza and Jorge Zempoalteca have logged over 2,500 miles in ATV travel since they began collecting points.

Maintenance Repair Program:

Initiated to establish a plan for scheduling maintenance repairs by identifying and analyzing deficiencies along HCFCD rights-of-way. Many of the deficiencies are identified through the Outfield GIS Data Collection program. Scheduling is based on factors such as available right-of-way, degree of deficiency, location, and need for repair.

- Maintenance repair projects have been scheduled totaling over \$8 million each year for Fiscal Years 2005, 2006, and 2007.
- Projects for FY 2008 are being evaluated.
- As new projects are identified, they are rated and placed into the schedule accordingly. As a result, some projects already scheduled may be rescheduled for a later date.
- With the use of the data from the Outfield Data Collection Program, 100 projects have been verified and another 260 sites have been identified as potential repair sites for the upcoming years.
- A new program is being analyzed for utilization. "Comet" will link to the Outfield Data Collection Program and will be used as a management and planning tool in determining the worth of the District's infrastructure and budgeting of costs for repairs of the infrastructure.

Building Maintenance:

- The Brookhollow renovations are completed except for a few outstanding punch-list items which are currently being addressed.

Channel Ownership:

The Property Management Department has completed discussions with the City of Houston regarding "orphan" ditches (i.e., channels with no responsible parties identified). The purpose is to establish which agency is responsible for addressing maintenance and management issues along the channels within the City of Houston. Upon final review, the results will be implemented into GIS.

The Property Managers and their assigned watersheds are as follows:

James Middleton

A - Clear Creek
B - Armand Bayou
C - Sims Bayou
D - Brays Bayou
F - San Jacinto and Galveston Bay
G - Southern half San Jacinto River
H - Hunting Bayou
I - Vince Bayou
W - Buffalo Bayou

Richard Weber

E - White Oak Bayou
J - Spring Creek
K - Cypress Creek
L - Little Cypress Creek
M - Willow Creek
T - Barker Reservoir
U - Addicks Reservoir

Kenneth Parker

G - Northern half San Jacinto River
N - Carpenters Bayou
O - Spring Gully and Goose Creek
P - Greens Bayou
Q - Cedar Bayou
R - Jackson Bayou
S - Luce Bayou

Turf Establishment

Turf Establishment provides protection from erosion by quickly establishing grass on channels that do not have suitable cover. Because establishment frequently is on channels that have recently been repaired or built, one can examine current projects of the Maintenance Engineering Department, Maintenance Construction Group and CIP channels to determine upcoming establishment projects.

Turf Establishment Program added the following sites in the past quarter, bringing the total number of sites to 91:

Unit	Acres	Street	Key Map
A111-00-00	0.35	W. Area	617U
D134-00-00	0.38	Westpark Drive	527D
E100-00-00	15.9	Hollister	411S
E100-00-00	8.94	Hollister	410V
E121-00-00	2.97	Cypress Grove	411Y
E121-04-00	3.2	Lakeside Forest	411K,L
E500-04-00	0.54	N. Houston Rosslyn	411N
E500-10-00	10	N. Gessner	410N
E532-01-00	9.52	Tower Oak	369S
K140-05-00	0.71	Indian Trail	329K
N100-00-00	3.06	Woodford Bridge	497H
P118-19-00	6.71	Orange Grove	414K
P118-31-00	6.75	West Road	412B
P118-31-00	1.41	West Road	412B
P118-31-00	8.48	West Road	412B
P121-00-00	7.23	John Ralston Road	416Y
U106-00-00	0.47	Trailside Road	408K
U106-05-00	1.4	Trailside Road	408L
U106-08-00	0.33	Trailside Road	408J

Forestry



Volunteers Planting Trees on Cypress Creek

The District's tree planting program is well underway with the planting season half over. Volunteers, in-house crews, and a contractor have planted 2,643 trees. Volunteers also helped District staff pot about 4,000 seedlings purchased from the Texas Forest Service.

Successful tree plantings occurred on A519-02-00, B500-01-00, E500-04-00, and E500-06-00 detention basin sites. HCFCD channel planting sites include K100-00-00 at Kuykendahl, Jones Road, North Eldridge Parkway, and Grant Road. HCFCD also planted a number of trees at the new North Service Center.

This year, HCFCD hopes to plant 6,000 to 10,000 trees from various suppliers and the District's Facilities Maintenance nursery.

Opportunities to plant trees are listed at www.volunteermatch.org. Please visit the site and sign up!

Citizen Service Center (713-684-4197)

Quarterly Review	Oct	Nov	Dec
Total SRs	213	208	107
SRs Closed	208	198	107

The Citizen Service Center handles calls related to Infrastructure and Property Management. This quarter, the Center generated a total of 528 service requests (SRs). Of those total requests, 24 were received on-line via the HCFCD website. Please see the table at left for the monthly review.



Selective Clearing

Selective clearing crews have recently completed projects along the following:

Channel	Name	Location
A120-00-00	Beamer Ditch	Dixie Farm Road to A100-00-00
E500-03-00	Detention Basin of White Oak Bayou	Buffer along Fairbanks
G103-25-00	Dunks Ditch	Antelope Drive to Big Deer Road
K112-01-01	Tributary of Wild Cow Gulch	U/S to K112-01-00
T101-02-00	Tributary of Mason Creek	Katy Freeway to T101-00-00

Some of the selective clearing projects being considered for execution are:

Channel	Name	Location
A104-00-00	Taylor Creek	McCabe to downstream end
A115-00-00	Tributary of Clear Creek	Entire reach
C123-00-00	Tributary of Sims Bayou	South Acres to downstream end
G103-02-01	Tributary of Bear Bayou	Oak Lane to downstream end
L100-00-00	Little Cypress Creek	Kluge to Cypressview
N104-00-00	Tributary of Carpenters Bayou	Woodforest to I-10
P148-00-00	North Service Center	Prairie Oak Drive
P133-00-00	Tributary of Greens Bayou	P133-02-01 to downstream end
Q114-07-00	Tributary of Magee Gully	N. Main St. to downstream end
Q126-00-00	Krenek Ditch	Bohemian Hall to Lindstrom
R102-09-01	Tributary of Gum Gully	Flying Dove to Hannah Nash

Herbicide

Licensed Service Center crews have been treating vegetation growing in weep holes and joints along concrete-lined channels. This pre-emergent program is typically conducted in December, January, and February. In March, crews will begin targeting undesirable broadleaf vegetation such as Giant Ragweed and Johnson grass.



Contract Management

The Maintenance Engineering Department prepares bid packages and monitors contracts for maintenance-related (non-CIP) repairs. Contracts may encompass either single projects or multiple, smaller projects that have been batched together to create a contract that is attractive to bidders.

The following 45 projects are being designed:

Channel	Proj #	Channel Name	Description
*B104-02-00	X007	Tributary of Horsepen Bayou	Fill voids (MCG)
B115-00-00	X007	Tributary of Armand Bayou	Slope repair
C118-03-00	X001	Tributary of Salt Water Ditch	PER - Channel enclosure
C127-00-00	X004	Tributary of Sims Bayou	Slope repairs
D112-00-00	X009	Willow Waterhole Bayou	Erosion repairs (MCG)
E100-00-00	X047	White Oak Bayou at Jersey Village	Slope erosion repair PER
E101-10-00	X002	Tributary of Little White Oak Bayou	PER
*E112-00-00	X008	Tributary of White Oak Bayou	Sinkhole repairs (MCG)
E122-00-00	X002	Tributary of White Oak Bayou	Erosion repairs
E125-00-00	X001	Rolling Fork	Outfall pipe replacement
E140-00-00	X013	Tributary of White Oak Bayou	Erosion repairs
*E500-04-00	X001	Detention Basin of White Oak Bayou	Desilt (MCG)
I101-00-00	X005	Little Vince Bayou	Channel erosion repair PER
J109-01-00	X005	Tributary of Spring Creek	Erosion repair, interceptor structure repair
K100-00-00	X026	Cypress Creek at Meyer Park	Channel restoration
K111-00-00	X009	Winding Creek/Turkey Creek	Slope erosion repair
K142-07-00	X003	Tributary of Faulkey Gully	Erosion repair
K143-00-00	X007	Anderson Ditch	Silt removal (MCG)
N100-00-00	X015	Carpenters Bayou	Rehabilitation alternatives PER
N111-00-00	X006	Tributary of Carpenters Bayou	Erosion repairs
P100-00-00	X048	Greens Bayou	Slope repair
P118-12-00	X003	Tributary of Halls Bayou	Cellular confinement – ROW acquisition
P118-18-01	X001	Tributary of Halls Bayou	Conversion to storm sewer
*P118-21-00	X002	Tributary of Halls Bayou	Erosion repair (MCG)
P125-00-00	X003	Tributary of Greens Bayou	Desilt
P125-04-00	X001	Tributary of Greens Bayou	Desilt
P134-00-00	X003	Tributary of Greens Bayou	Desilt
P135-00-00	X004	Tributary of Greens Bayou	Channel restoration
P145-00-00	X002	Tributary of Greens Bayou	Erosion repair
P145-03-00	X005	Tributary of Greens Bayou	Channel rehabilitation
P147-00-00	X005	Tributary of Greens Bayou	Erosion and sinkhole repair
P155-00-00	X001	Tributary of Greens Bayou	Channel rehabilitation
T101-00-00	X017	Mason Creek	Channel rehabilitation and pipeline relocation
T103-00-00	X006	Barker Reservoir	Channel restoration
T103-01-00	X003	Tributary of Barker Reservoir	Backslope rehabilitation
U101-05-00	X002	Tributary of South Mayde Creek	Channel restoration (MCG)
U101-06-00	X001	Tributary of South Mayde Creek	Channel restoration
U101-07-00	X003	Tributary of South Mayde Creek	Channel rehabilitation/storm sewer PER
*U101-07-00	X004	Tributary of South Mayde Creek	Pipe clearing (MCG)

Continued on next page

Contract Management — (continued)

Channel	Proj #	Channel Name	Description
U101-08-00	X001	Tributary of South Mayde Creek	Channel restoration
U102-00-00	X010	Bear Creek	Erosion repairs
U106-00-00	X009	Horsepen Creek	Sheet pile wall repair PER/ plans
*U106-11-00	X001	Tributary of Horsepen Creek	Desilt (MCG)
D111-00-00	X005	Poor Farm Ditch	Emergency repair
*W140-00-00	X006	Spring Branch	Fill Void (MCG)

*Denotes new project this quarter.

(MCG) denotes project for Maintenance Construction Group, the District's in-house construction group.

PER stands for Preliminary Engineering Report.

The following packages are preparing to bid:

Project I.D.	Pct.	Channel Name	Description
E115-00-00-X016	4	Brickhouse Gully	Concrete Channel Replacement - Phase I
E116-00-00-X005	4	Tributary of White Oak Bayou	Slope erosion repairs
U106-00-00-X009	4	Horsepen Creek	Sheet pile wall repair PER
Z100-00-00-X084	1	White Oak Bayou at Stude Park	Repair of concrete lining (awaiting permit)

The following contracts, previously awarded, are in progress:

Project I.D.	Pct.	Start Date	Active section
D100-00-00-X043	1,3,4	11/15/2004	General repairs, federal maintenance on Brays Bayou (Awarded 9/14/04) - 13 sites repaired to date
K127-01-00-X001	4	8/2/2004	Channel restoration (75% complete)
K129-00-00-X005	4	—	Installation of flap gates (Recommendation to award)
N100-00-00-X016	2	8/18/2004	Channel slope restoration at Channelwood Park (92% complete)
P110-00-00-X001	2	1/31/2005	Channel rehabilitation
Q112-00-00-X013	2	—	Sheet pile repair (Bid opened 1/24/05)
T101-09-00-X001	3	2/10/2004	<ul style="list-style-type: none"> • Channel Restoration on T101-09-00 (48% complete) • Backslope swale regrading on T101-00-00
W165-00-00-X004	3	11/29/2004	Slope failure repairs and pipe replacement (35% complete)
Z100-00-00-X069	1,4	10/18/2004	General repairs (Awarded 8/10/04) <ul style="list-style-type: none"> • P100-00-00 • P126-00-00 • P132-00-00 • P133-01-00 (Active) • P135-00-00
Z100-00-00-X072	4	10/25/2004	General repairs (Awarded 8/10/04) <ul style="list-style-type: none"> • P100-00-00 • P137-00-00 (Active)
Z100-00-00-X080	2	10/4/2004	General repairs (Awarded 8/10/04) <ul style="list-style-type: none"> • G105-00-00 • O105-00-00 (Active) • P121-00-00 (Completed)

Contract Management (continued)

Project I.D.	Pct.	Start Date	Active section
Z100-00-00-X081	1,2	11/15/2004	General repairs in SE Harris County (Awarded 10/5/04) <ul style="list-style-type: none"> • A119-07-00 • A120-04-00 • B109-00-00 (Active) • C128-00-00 (Complete) • G108-00-00 • N110-00-00 (Active) • P107-00-00 (Active)
Z100-00-00-X083	3	12/13/2004	Channel rehabilitation of tributaries of Bear Creek <ul style="list-style-type: none"> •U102-18-00-X001 •U102-27-00-X001

The following contracts have been completed in the past quarter:

Project I.D.	Pct.	Project Description	Start Date	Substan. Complete
Z100-00-00-X071	4	Emergency Repairs	3/17/2004	1/10/2005
K133-00-00-X015	4	General Repairs	12/15/2004	1/10/2005

Mechanical/Electrical

The Maintenance Engineering Department monitors and maintains the mechanical and electrical systems of the District, including cathodic protection devices, flap gates, and the gated structure on the second outlet from Clear Lake. Project Status is noted below.

- The voltage potential survey on Unit D139-00-00 was completed and Infrastructure Associates has determined that the diode stack for rectifier #8 needs to be replaced for improved efficiency.
- Repairs on the actuator on gate #2 on the A200 gated structure were completed on October 25th. All six gates are functioning properly.
- The bonding system installation on Unit E100 was completed. The power to rectifier #5 was restored and is working fine.

Infrastructure Calendar

Feb 12 & 19	Tree Planting opportunity (details located at www.volunteermatch.org)
Feb 14	Annual Buffalo Bayou De-snag begins
Feb 15-17	Art of Project Management Seminar (Maintenance Engineering staff attending)

Buyout Mowing

Buyout lots are mowed once each month during the growing season from April through November. December through March, only lots that are new to the inventory are mowed. These newly added lots are mowed just once prior to resumption of the growing season.

Month	Lots Mowed
Oct 2004	1,428
Nov 2004	1,435
Dec 2004	6

Maintenance Construction Group

The Maintenance Construction Group (MCG) handles small repairs. These repairs typically take no more than three days to complete. In the past quarter, MCG has completed the following repairs:

Project I.D.	Channel Name	Activity/Repair
Oct-04		
A111-00-00-X006	Tributary of Clear Creek	Interceptor & Pipe Installation
B104-02-00-X005	Tributary of Horsepen Bayou	Cement stablized sand flume & backslope repair
B104-02-00-X006	Tributary of Horsepen Bayou	Filled voids behind concrete liner
B104-05-00-X003	Tributary of Horsepen Bayou	Inlet repairs
B106-02-00-X002	Tributary of Big Island Slough	Cement stablized sand flume & backslope repair
B115-00-00-X008	Tributary of Armand Bayou	Filled voids behind concrete liner
D112-00-00-X009	Willow Waterhole Bayou	Filled Sinkholes & Voids
D124-00-00-X005	Tributary of Brays Bayou	Cement stablized sand flume & backslope repair
D129-00-00-X006	Tributary of Brays Bayou	Interceptor Installations
D134-00-00-X004	Tributary of Brays Bayou	Interceptor & Pipe Installation
E101-15-00-X003	Tributary of Little White Oak	Emergency Desilt
E500-04-00-X001	White Oak Bayou Basin	Desilt
L104-00-00-X003	Tributary of Little Cypress	Interceptor & Pipe Installation
U106-00-00-X011	Horsepen Creek	Interceptor & Pipe Installation
Nov-04		
D126-00-00-X008	Tributary of Brays Bayou	Poured concrete pads
D122-00-00-X008	Tributary of Brays Bayou	Opened clogged Inlets
D124-00-00-X004	Tributary of Brays Bayou	Backslope repair
K112-00-00-X001	Wild Cow Gulch	Interceptor & Pipe Installation
P135-03-00-X001	Tributary of Garners Bayou	Inlet & backslope repair
U106-05-00-X007	Tributary of Horsepen Creek	Interceptor & Pipe Installation
U106-08-00-X002	Tributary of Horsepen Creek	Backslope repair
Dec-04		
B115-00-00-X009	Tributary of Armand Bayou	Rip-Rap removal from channel
D140-00-00-X006	Tributary of Brays Bayou	Filled Sinkholes & Tunneling
E121-04-00-X004	Tributary of Vogel Creek	Slope Erosion & Rip-Rap repair
E121-04-00-X005	Tributary of Vogel Creek	Slope Erosion & Rip-Rap repair
E121-04-00-X006	Tributary of Vogel Creek	Inlet repairs
P151-00-00-X003	Tributary of Greens Bayou	Berm Erosion & backslope repair
P151-00-00-X004	Tributary of Greens Bayou	Slope Erosion repair
P151-00-00-X006	Tributary of Greens Bayou	Slope Erosion repair
U106-05-00-X006	Tributary of Horsepen Creek	Backslope repair

