

Cartegraph/GIS Integration

July, 2012



Cartegraph/GIS Integration

Background:

- Tarrant County is a decentralized county with four precincts
- The County adopted Cartegraph in 1998 with each precinct using its own street identification system and work orders
- An enterprise GIS was developed in 2004 based on the ESRI platform
- Coordination was necessary to tie together the disparate databases from Cartegraph users and GIS users



Cartegraph/GIS Integration

Challenges:

- Standardization of data related to County-maintained roads
- Need to link and report data from four Commissioner precincts
- No streamlined, user-friendly work order processing system
- Reports, forms and road information housed at each precinct, making access by Transportation Services staff difficult
- Need to develop work order processing for new signage and culvert installations

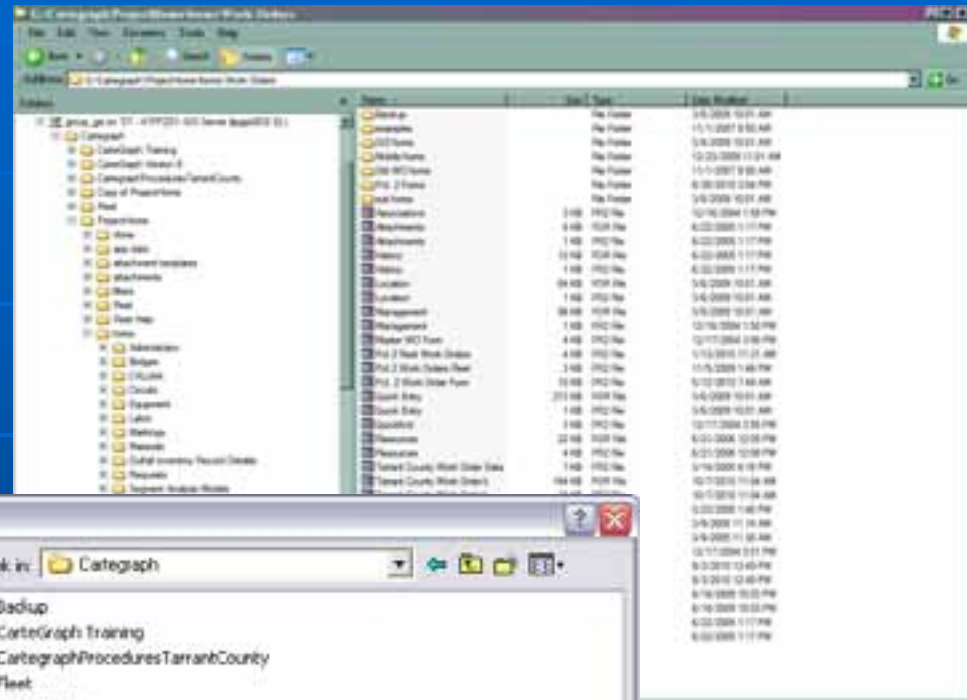


Cartegraph/GIS Integration

Solutions:

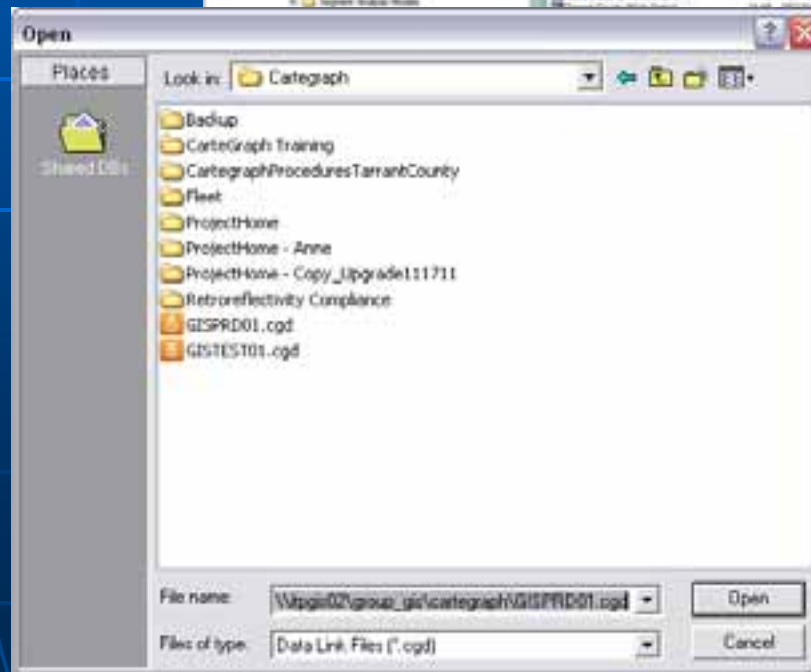
Establish a centralized database

Combine the four precinct databases into one central database accessible by Transportation Services staff.



Difficulties:

None. We have great IT support!
Data Base Inquiries contact:
Frank Cangelosi
fjangelosi@tarrantcounty.com

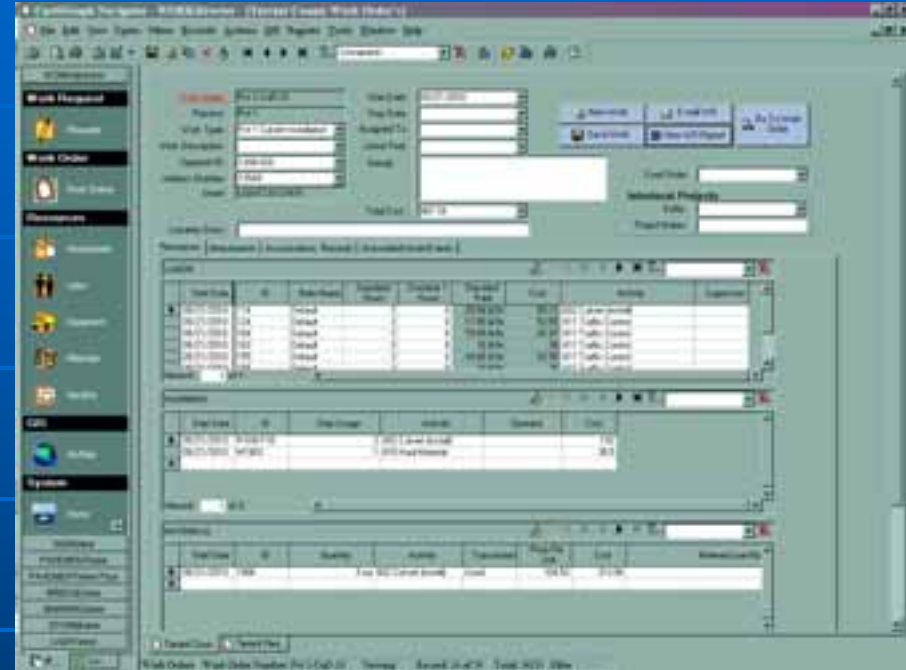


Cartegraph/GIS Integration

Solutions:

Standardize All Forms and Reports

Create standard forms, reports and maps that each precinct will use. This will primarily impact work orders and forms to support Federal GASB reporting, state MS4 drainage reporting, future Retroreflectivity inspections.



Difficulties:

Reaching consensus from all precincts on the Design of each form and report. Addressing the “this is not how we have always done it” syndrome. Standardizing data entry so that GIS Analyst and Auditors understood pavement terminology.



PRE_DIR	ST_NAME	ST_TYPE	POST_DIR	SEGMENT_1	LENGTH	ALIAS	TO_ST	FROM_ST
	WATER TOWER	CT	N	4272-070	232.85	WATER TOWER CT N	WATER TOWER	CUL DE SAC
	WATER TOWER	CT	W	4272-080	427.88	WATER TOWER CT W	WATER TOWER	CUL DE SAC
	WATER TOWER	CT	E	4272-060	397.73	WATER TOWER CT E	CUL DE SAC	WATER TOWER
S	WATER TOWER	RD		4272-110	5266.14	S WATER TOWER RD	NORTH FORK	NORTH FORK
N	WATER TOWER	RD		4272-100	4420.32	N WATER TOWER RD	COUNTY LINE	NORTH FORK
N	WATER TOWER	RD		4272-090	611.82	N WATER TOWER RD	NORTH FORK	ASSEMBLY RD
	CIRCLE R	RD	N	1219-020	1141.47	CIRCLE R RD N	CIRCLE R	RENDON NEW HOPE
	CIRCLE T	DR		4205-020	733.73	CIRCLE T DR	CUL DE SAC	HORSESHOE
	CIRCLE	DR		1157-020	8833.85	CIRCLE DR	Raymond Barber	Raymond Barber
	CIRCLE R	RD	S	1219-030	1159.41	CIRCLE R RD S	CIRCLE R	RENDON NEW HOPE
	CIRCLE R	RD	E	1219-010	402.12	CIRCLE R RD E	CIRCLE R	CIRCLE R

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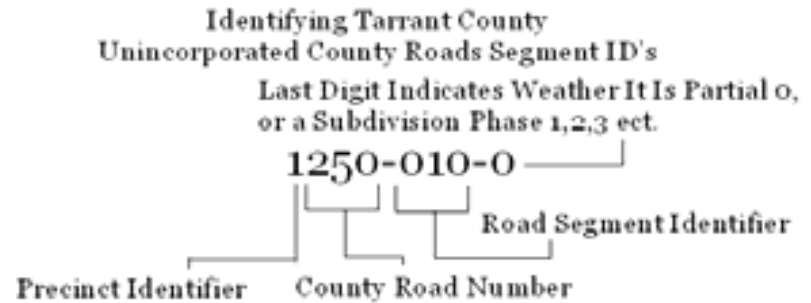
Solutions:

Standardize County Road Data

Create unique segment identification numbers for each roadway maintained by the County. This ID will serve as the link for all current and future applications that use County-maintained road data.

Difficulties:

Determining the extent of each segment and establishing an **unique** identification protocol.



Cartegraph/GIS Integration

GIS Integration With Geodataconnect

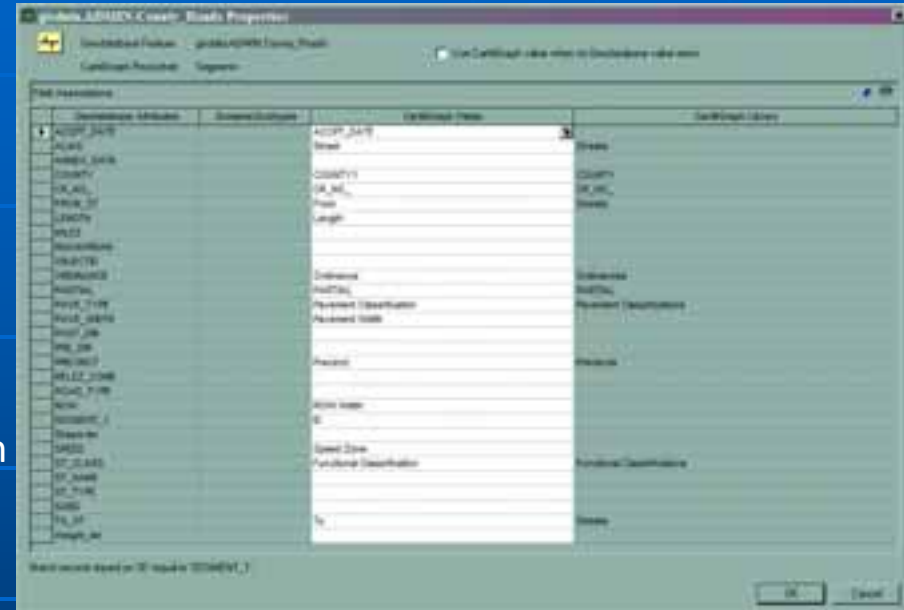
Eliminate duplication of data

Create methods to ensure that precinct data is not duplicated in the master database.

Eliminate duplicate editing in GIS and Cartegraph

Difficulties:

Not knowing then what we know now regarding naming conventions, geocoding and addressing.



Cartegraph/GIS Integration

Standard Operating Procedures


Seamless work flow

Ensure a seamless workflow from the time a call is received to the preparation of the Work order request, work orders, and data entry into the Asset Management section.

Difficulties:

Required training of precinct staff to ensure consistency in reporting. Internal work flow processes are reviewed and modified as necessary.

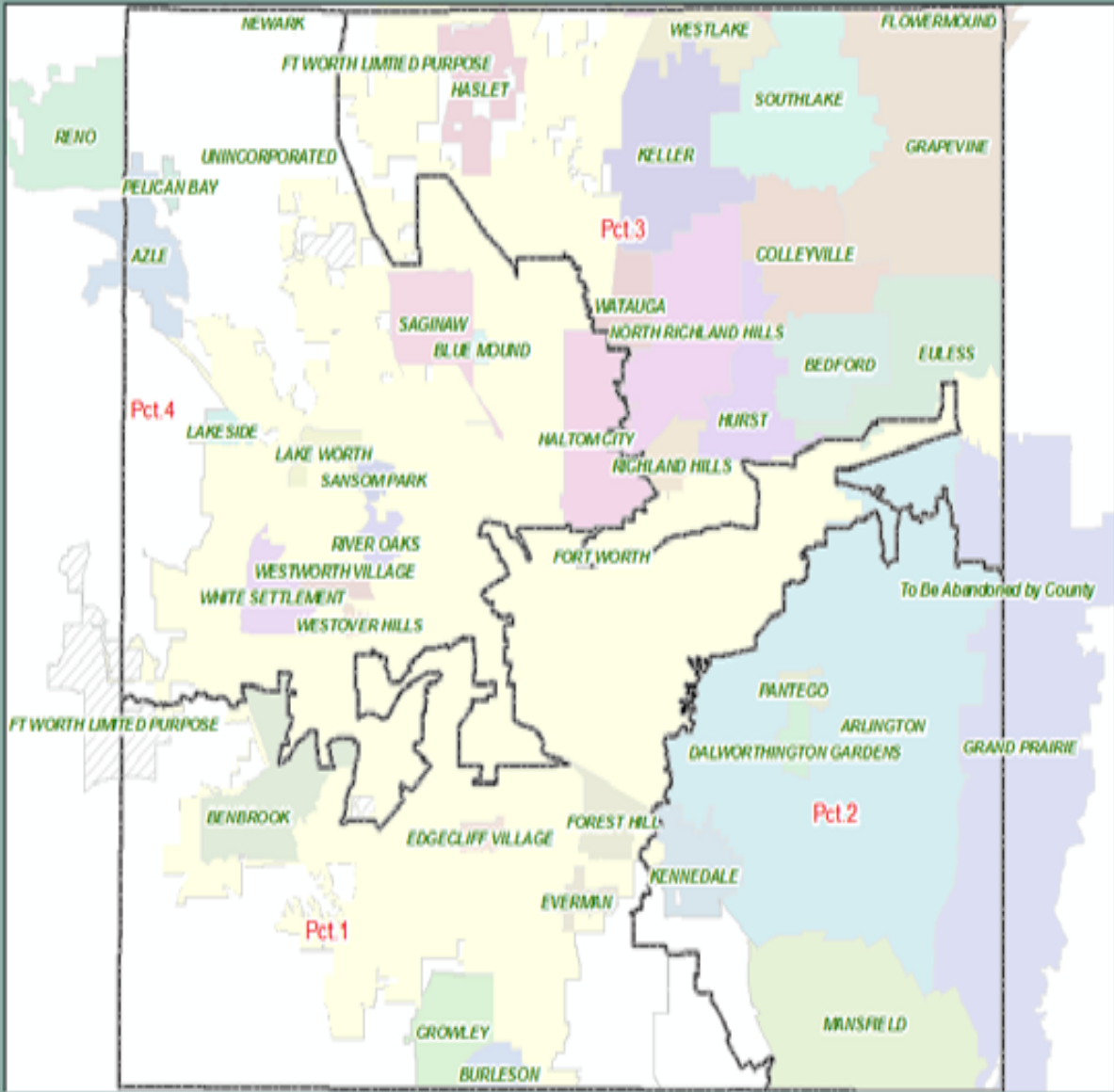
CALLdirector
(instructions)


CALLdirector@link

call director:

- **Open Call Director**
- **Make sure Map is in view**
- **Enter Caller information**
 - First Name
 - Last Name
 - Citizen Address Number
 - Citizen Street
 - Citizen City
 - Citizen State
 - Citizen Zip Code
 - Phone Number
- **Enter Issue Information**
 - Enter Segment Id
 - Enter Caller information -- If issue is located at the caller's property Use Shortcut (Mailbox by Citizen lookup) or Ctr+A
 - Enter Mapset
 - Enter Issue-- Drainage Mowing Etc.
 - Enter Workorder Type---This is critical for the map to show up---Pct (?) Maintenance, Interlocal, County Project, Administrative.
 - Enter Details
 - This is where you enter the caller's request.
 - Priority is optional
 - Make sure the Print on save button is checked and if you want to email the request make sure you check the E-Mail request or save

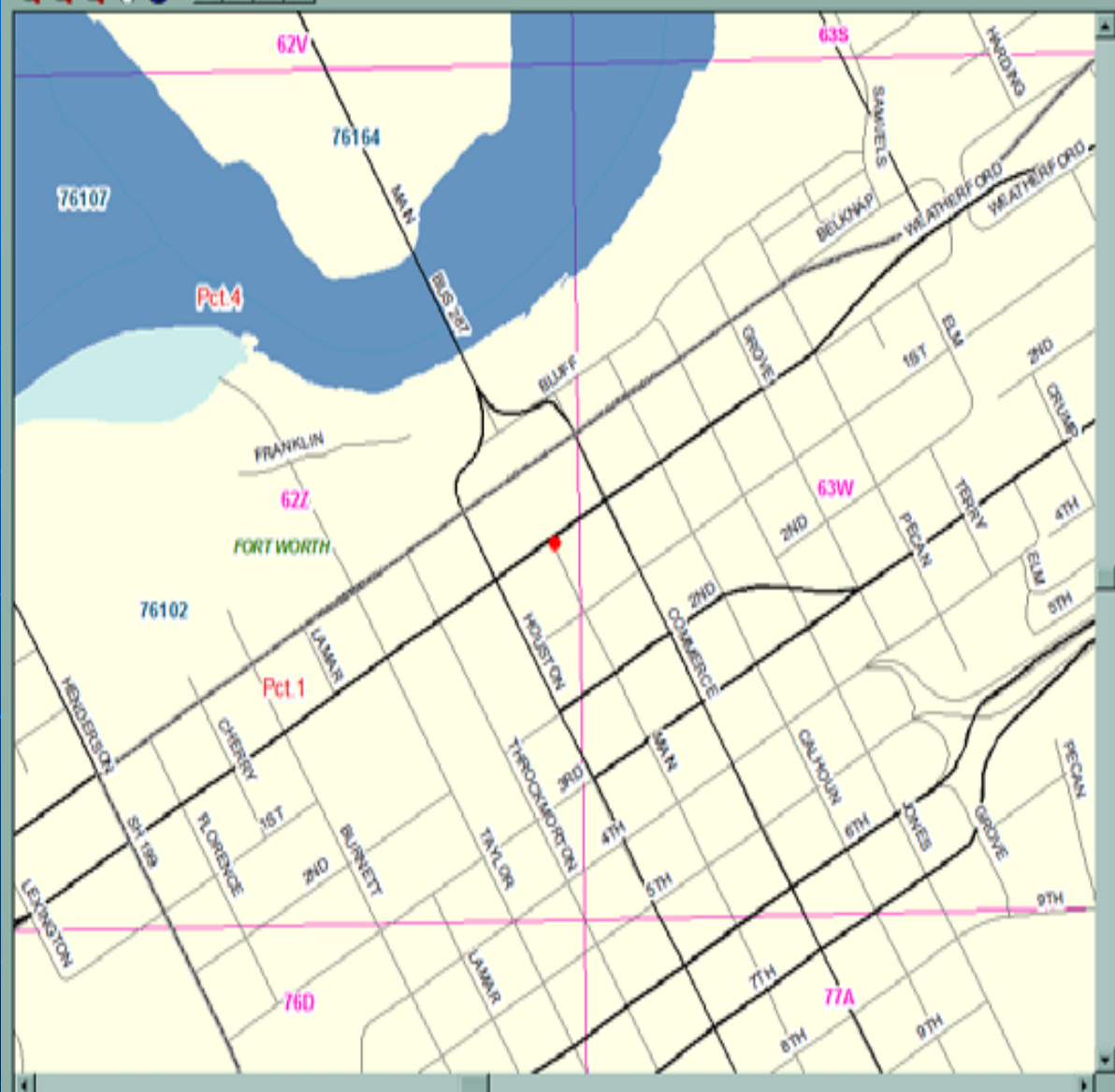




Caller	
First Name	
Last Name	
Citizen Address Number	
Citizen Street	
Citizen City	
Citizen Zip Code	
Phone Number	
Alternate Phone	
Email Address	
Date Observed	
Time Observed	

Issue	
Issue	
Address Number	
Address Street	
City	
State	
Zip Code	
Segment ID	
Mapaco	
Subdivision	
Block	
Lot	
Work Order Type	
Details	
New Driveway	<input type="checkbox"/>
Additional Culvert	<input type="checkbox"/>
Culvert Length	
Install By County	<input type="checkbox"/>
Install By Applicant	<input type="checkbox"/>
Installed Length	
Pipe Diameter	
Qty	
Cost	
Associated Work Order	
Assigned To	

Timer: 00:00 Print on save
 Calls: 0 E-mail request on save



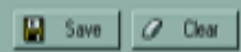
Request

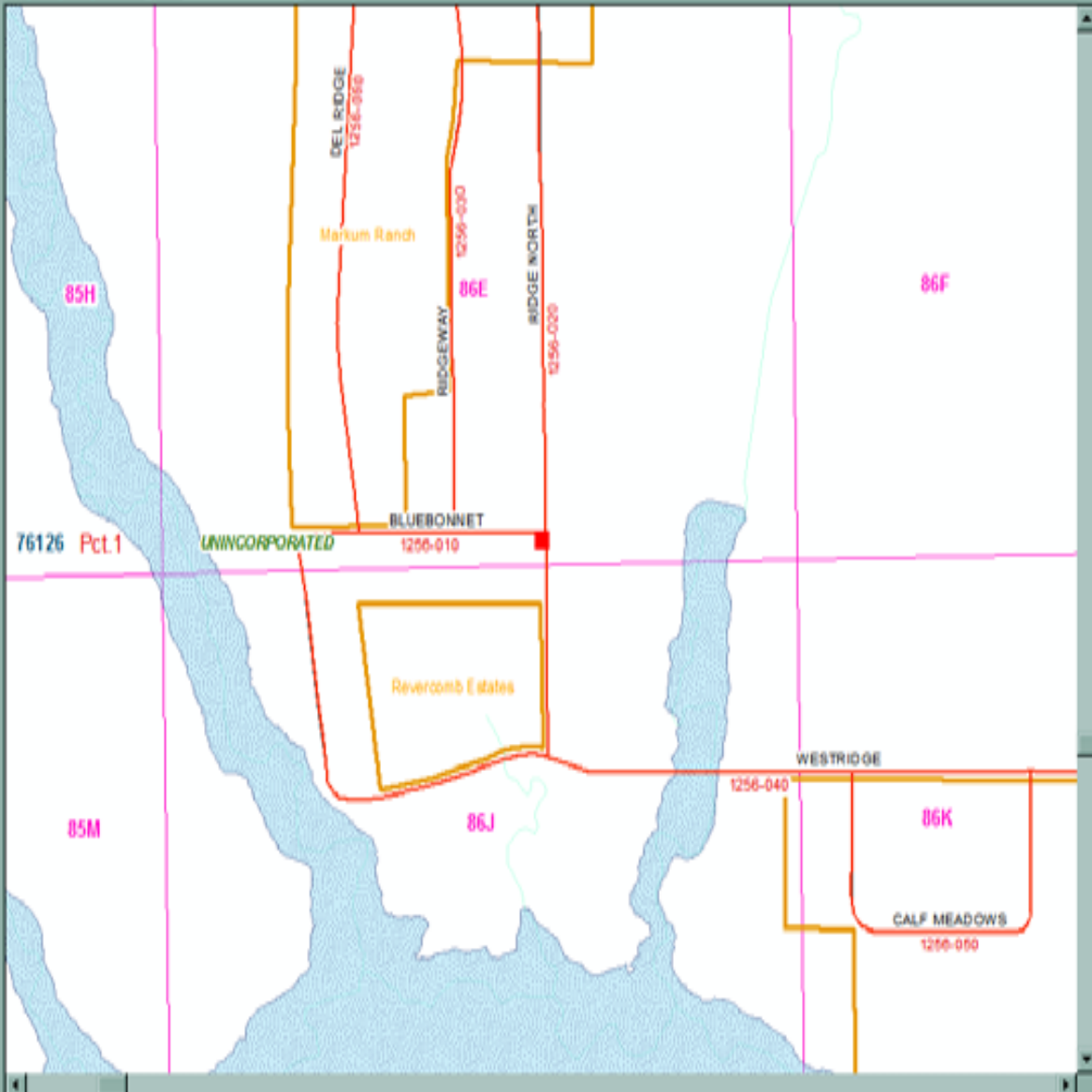
Caller	
First Name	Anne
Last Name	Mackey
Citizen Address Number	100
Citizen Street	E Weatherford St
Citizen City	Fort Worth
Citizen Zip Code	76196
Phone Number	(817) 884-2604
Alternate Phone	(817) 884-1250
Email Address	ammackey@tarrantcounty.com
Date Observed	12/06/2010
Time Observed	3:33:58 PM

Issue

Issue	Culverts
Address Number	
Address Street	
City	
State	Texas
Zip Code	
Segment ID	
Mapaco	
Subdivision	
Block	
Lot	
Work Order Type	
Details	
New Driveway	<input type="checkbox"/>
Additional Culvert	<input type="checkbox"/>
Culvert Length	
Install By County	<input type="checkbox"/>
Install By Applicant	<input type="checkbox"/>
Installed Length	
Pipe Diameter	
Qty	
Cost	
Associated Work Order	
Assigned To	

Timer: 02:04
 Calls: 0
 Print on save
 E-mail request on save





Request

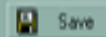
First Name	Anne
Last Name	Mackey
Citizen Address Number	100
Citizen Street	E Weatherford St
Citizen City	Fort Worth
Citizen Zip Code	76196
Phone Number	(817) 884-2604
Alternate Phone	(817) 884-1250
Email Address	ammackey@tarrantcounty.com
Date Observed	12/06/2010
Time Observed	3:33:58 PM

Issue

Issue	Culverts
Address Number	4600
Address Street	Ridge North Rd
City	Fort Worth
State	Texas
Zip Code	76126
Segment ID	1256-020
Mapaco	06E
Subdivision	Markum Ranch
Block	
Lot	
Work Order Type	Pct 4 Culvert Installation
Details	TEST TEST TEST TEST
New Driveway	<input checked="" type="checkbox"/>
Additional Culvert	<input type="checkbox"/>
Culvert Length	18 Ft
Install By County	<input checked="" type="checkbox"/>
Install By Applicant	<input type="checkbox"/>
Installed Length	
Pipe Diameter	18 inches
Qty	1
Cost	
Associated Work Order	
Assigned To	
Entered By	ammackey

Timer: 13:03

Calls: 0



Print on save

E-mail request on save

Friday, February 25, 2011

REQUEST FOR CULVERT

1 of 1

Date Observed 2/22/2011 8:54:11 AM Precinct Pct 1 Permit Number 2011-030
 Work Order Type Pct 1 Culvert Installation Issue Culverts Date Return Culvert Permit
 Date Deposited _____ Warrant No _____

CONTACT INFORMATION

First Name David Stanley
 Citizen Address Number 121339 PO Box Fort Worth 76121
 Phone Number 817-614-9339 Fax Number _____
 Mobile Number _____ Email Address _____

STAKED LOCATION

Address Number 5271 Pyramid Fort Worth 76121
 Subdivision Pyramid Acres Block _____ Lot _____
 Segment ID 1275-010 Mapsco 99W

DEPARTMENTAL USE ONLY

New Driveway Yes Additional Culvert No Culvert Length 42 Ft
 Install By County Yes Install By Applicant No
 Surveyors Date _____
 Qty 1 Pipe Diameter 24 Inches Installed Length 18 ft Cost _____

Work Order Pct 1-Cul-21-11
 Request Number Pct 1-Cul-REQ-20-11

Details

Labor \$0.00
 Equipment \$0.00
 Materials \$0.00
 Cost _____
 Close Date _____
 Entered By awiley



Notes

Sign Shop Daily Project Report

Date Friday, February 25, 2011	Precinct Pct 2	Work Order Type Pct 2 Maintenance	Work Order Number Pct 2-M-238-11
Segment ID	Street		
Details			
Sign Number _____	Distance Back _____	Support Type _____	
MUTCD Code _____	Side Of Road _____	Support Size _____	
Sign Description _____	Sign Direction _____	Sign Height _____	
From Segment _____	Offset _____	Sign Size _____	

Labor I.D.	Hours	Activity	Vehicle	Vehicle Hours	Material	Description	Qty

- High
- Engineer
- AAE

Notes

Work Order Number [Pct 2-M-238-11](#) _____
Court Order _____

Sign Activities 501 Mailbox **502 Install/Replace Sign/Post 503 Fabricate Signs 504 Sign Documentation	** Sign Changes In Sign View History 505 Sign Maintenance 506 Sign Inspection 507 Install/Remove Construction Signs 508 NEW SIGN
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Cartegraph/GIS Integration

Return on Investment:

- Elimination of duplicate data entry (Cartegraph Geodata Connect /GIS)
- GIS provides a graphic display of County-maintained roads to assist precinct staff with request forms
- Assists precincts with tracking related constituent complaints using GIS mapping, eliminating duplicate work in the field
- Standardized forms for meeting federal asset reporting requirements, reducing the need to “interpret” individual reports.



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QUESTIONS?

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