



Life Connected.

# UTILIZING GIS TO PROMOTE GROWTH AND PLAN FOR THE FUTURE

21st Annual Public Works Roundup

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GIS MANAGER, OGI COLAKOVIC

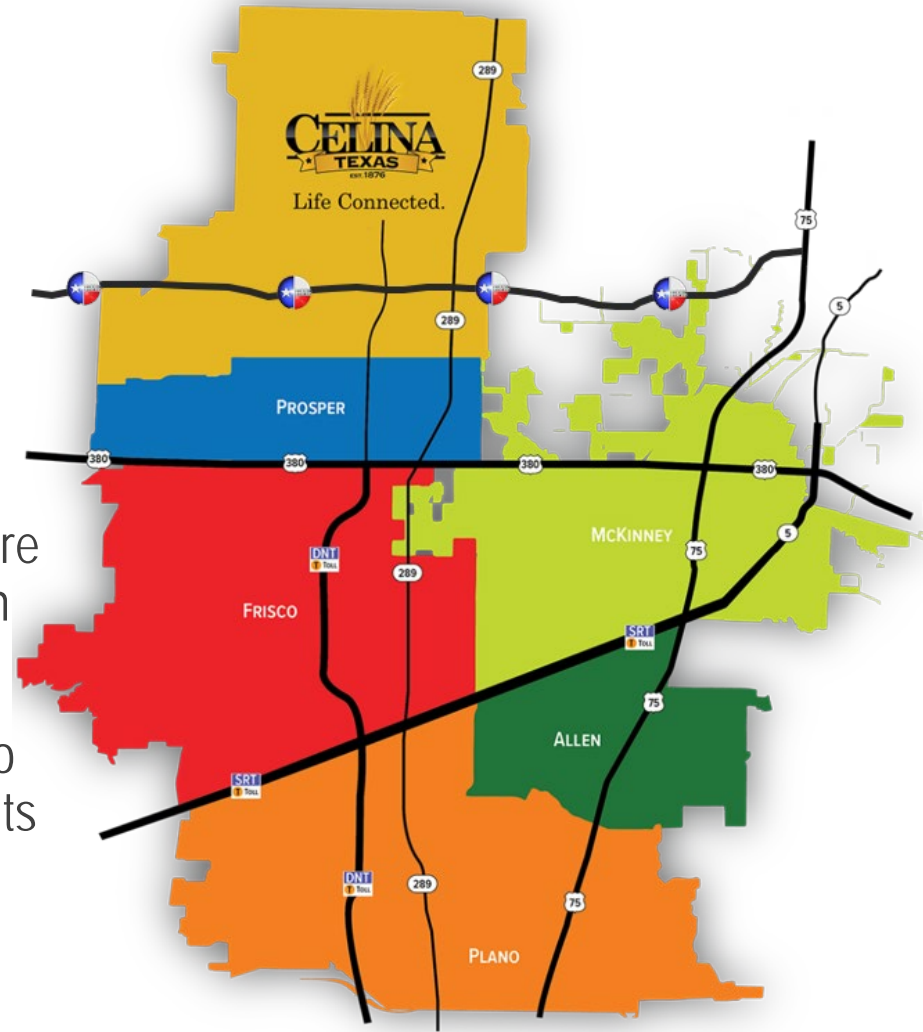
CIVIL ENGINEER, CATHERINE ODURO

PUBLIC WORKS DIRECTOR, ANDREW FIGUEROA

SEPTEMBER 17, 2020

# LOCATION

- Centered at the intersections of the **Dallas North Tollway, Collin County Outer Loop, and Preston Road.**
- Celina's ultimate growth boundary is 78 square miles – the **2nd largest** footprint of any Collin County city (bigger than Plano & Frisco).
- Celina will be the **only city besides Dallas** to have 10 miles of Dallas North Tollway within its boundary.



# DEMOGRAPHICS

- Celina's current population is 22,641. That number is expected to grow to over 50,000 by 2025 and 200,000 by 2040.
- Celina's **ultimate buildout** is approximately 378,000.
- Celina's **median household income** is \$98,277, with an average home value of \$391,991.
- Over 50% of residents have a Bachelor's, graduate, or professional degree.

## CELINA FAST FACTS

### POPULATION

	City	Service Area
Population 2020	17,942	22,641
Population 2025	45,000	52,000

2019 Trade Area: 36,385  
 2019 Single Family Permits: 1252  
 Buildout Population: 350,000

### Median Age 37

Median Household Income: \$98,277  
 Average Home Value: \$408,052

### DEMOGRAPHICS

Caucasian   
  African American   
  Asian Origin   
  Hispanic Origin

### EDUCATION

48% Bachelor's Degree/Grad/Prof Degree  
 28% Some College  
 20% High School Graduate

Celina ISD - 1 High School, 2 Middle Schools, 3 Elementary Schools  
 Prosper ISD in Celina - 3 Elementary Schools  
 Future Collin College (Estimated Completion 2021)

Current: 32 Square Miles  
 Projected: 78 Square Miles  
 Zip Codes: 75009 (Celina)  
 75078 (Prosper)  
 76227 (Aubrey)

### TRANSPORTATION

**Airports:**  
 Dallas Love Field Airport - 38.6 Miles/45 Min  
 DFW Airport - 37.4 Miles/45 Min

**Major Highways:**  
 N/S: Dallas North Tollway, US 289, FM 1385, FM 2478  
 E/W: FM 428, FM 455, Outer Loop (Estimated Completion 2021-22)

### PROJECTED GROWTH

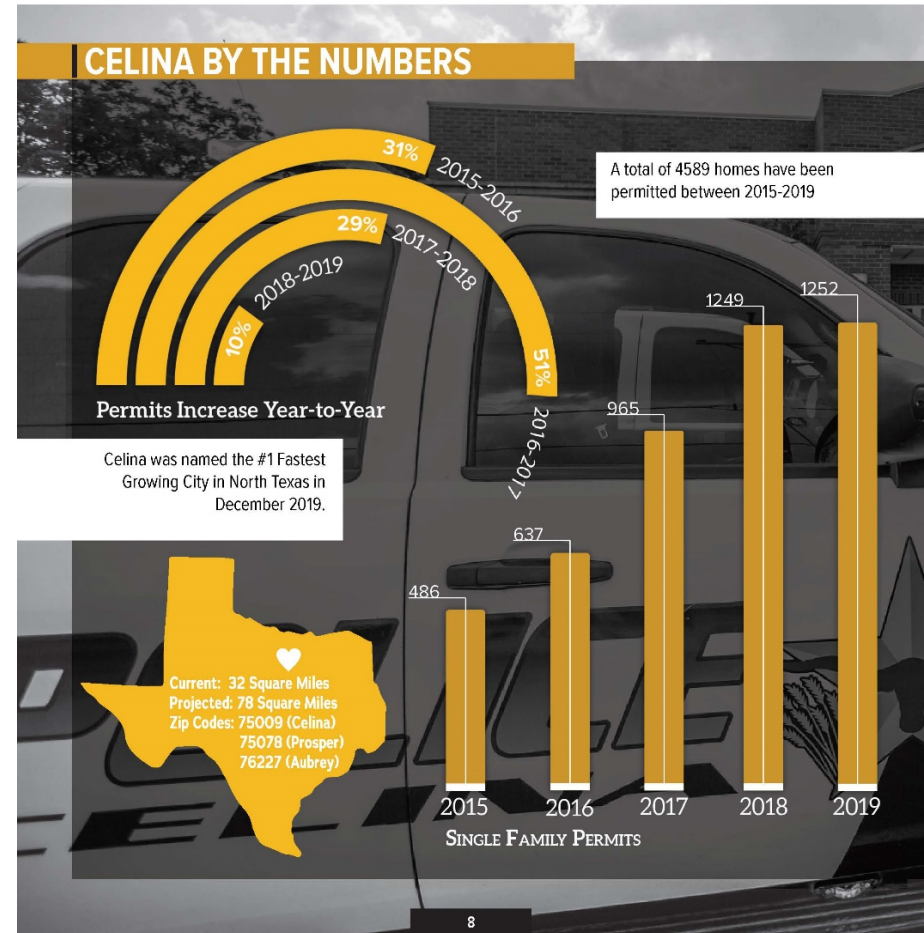
Year	Population
'19	18,860
'20	22,700
'21	27,500
'22	34,450
'23	40,275
'24	46,800
'25	52,000

Celina Economic Development Corporation
Alexis Jackson - ajackson@celinaedc.com - 972-382-3455

Updated 2020

# GROWTH

- Celina 2017 Issued Permits – 965
- Celina 2018 Issued Permits – 1249
- Celina 2019 Issued Permits – 1252
- A total of 4589 homes have been permitted between 2015 – 2019
- As of today Celina has done 1180 permits in 2020 and is projected to finish the year at over 1600 permits.



# Life Connected

## Servant Leadership in Practice

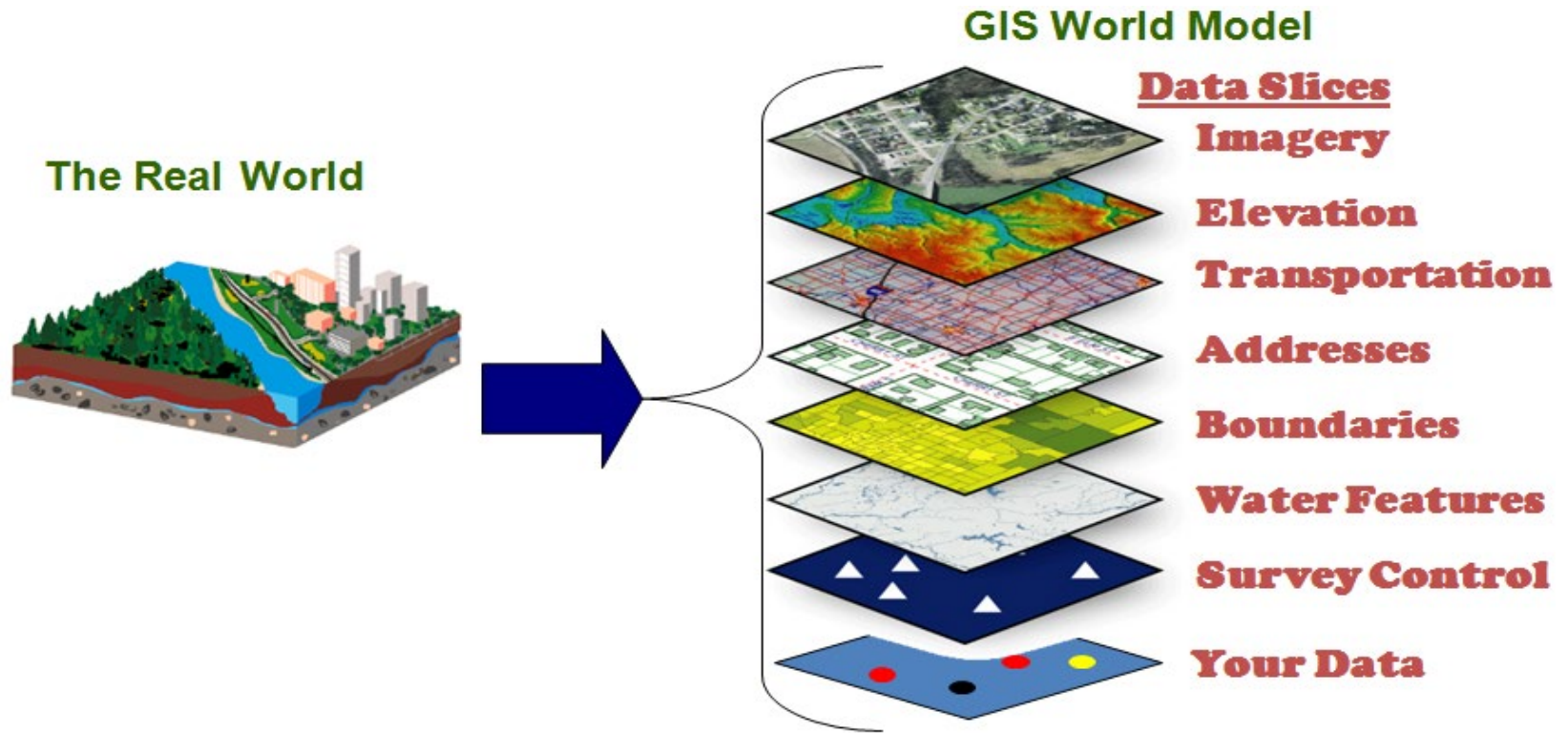
- **Our Core Values:** Excellence, Community, Integrity, Service
- **Fiber connectivity** throughout 100% of Celina.
- **Embedded Mobility Framework** in Downtown Master Plan.
- **Forward-looking Trails and Parks Plans** emphasize biking, enhanced landscaping, and extensive trails.



# How would you define GIS?



# Role of GIS?



# Celina & GIS

- GIS Department was established in January of 2018
- GIS is part of Development Services
- GIS currently has one personnel member
- Adding additional team member Fiscal Year 2020-21



# Overview of GIS

- Internal Service
  - Development Services
  - Engineering
  - Public Works
  - Marketing
  - Public Safety
  - Economic Development
- External Service
  - Citizens
  - Contractors
  - Developers
  - Builders



# Celina Pre GIS

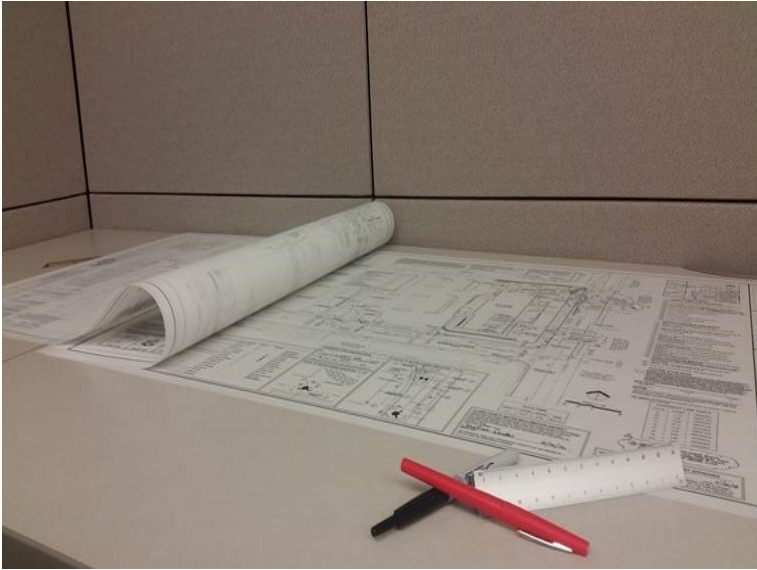


- Difficulty locating existing infrastructure



- Staff efficiency limited by using alternative methods

# Celina Pre GIS-Cont.

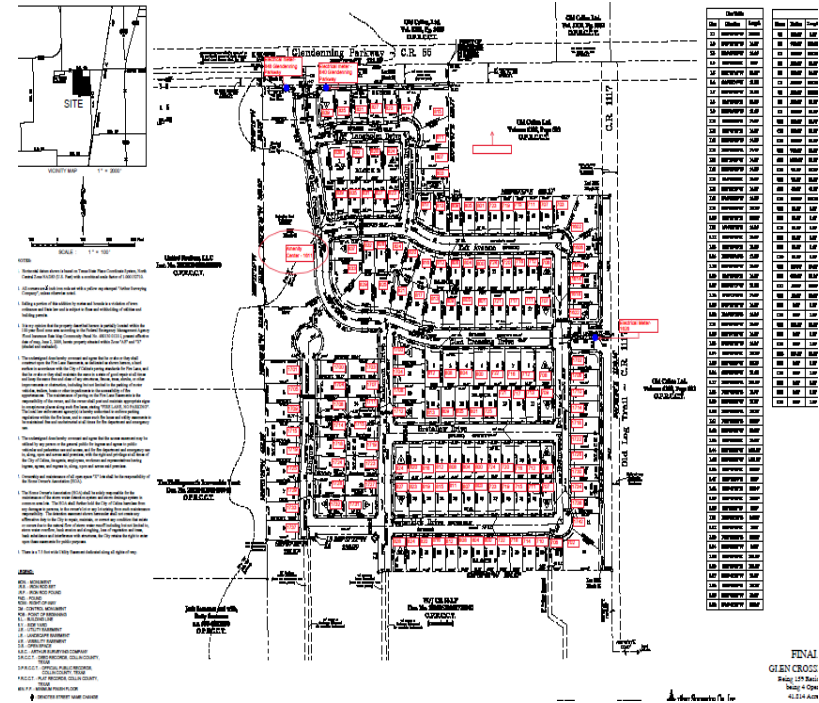
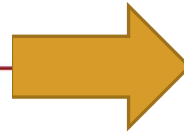
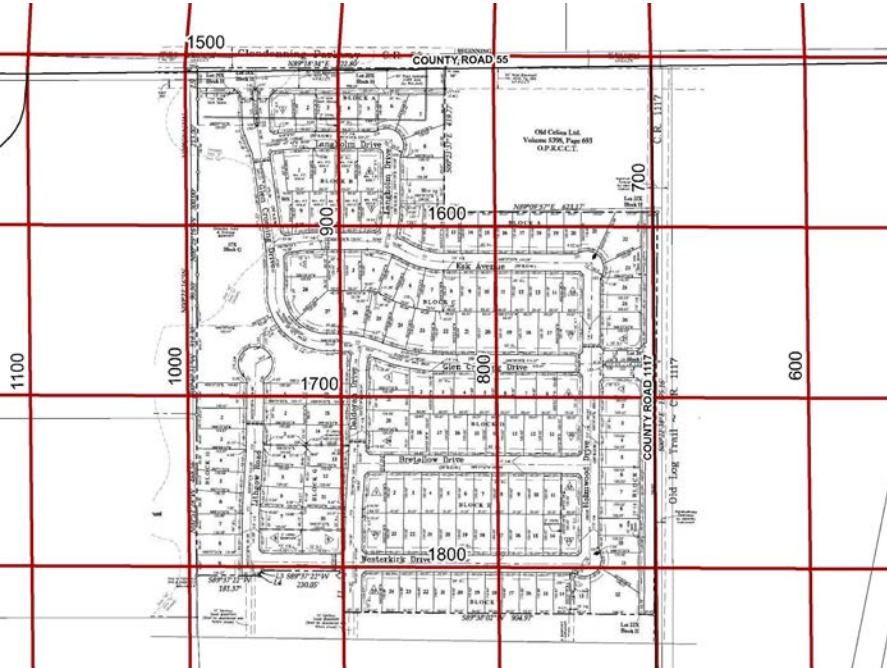


- Prolonged plan review



- Lack of electronic filing of record drawings

# Celina Pre GIS-Cont.



- 911 headache / disorganized address plats

# Introduction of GIS



- ORGANIZE, ORGANIZE, ORGANIZE!
- ACCURATE Data is CRITICAL!
- Understanding Departmental Needs
- Creation of in house GIS System
- Creation / maintenance of database structures

# GIS Continued

- 911 Address & Road Database Management
- Infrastructure Focus
  - Water
  - Wastewater
  - Stormwater
- Public Safety Support



# GIS Continued

- Creation of a GIS Portal
- Use of ArcGIS Online
- Integration of a GIS Server



# Creation of a GIS Portal

Home Gallery Map Scene Groups

Q Sign I

All In One Interactive Map

Celina Points of Interest

CIP Active Infrastructure Projects

Lot Inventory

**Welcome to the City of Celina's Geographic Information System Mapping Portal**

Please click on the image below to find a variety of web maps and applications which allow you to answer the "where" question for any project! Visit our website frequently as we will be updating our maps & apps periodically!

**CELINA MAPS & APPS PUBLIC GALLERY**

Help Trust Center Legal Contact Esri Report Abuse Contact Us



# Heavy ArcGIS Online Presence



**All In One Interactive Map**  
Web Mapping Application



**Arts & Parks Story Map**  
Web Mapping Application



**Capital Improvement Projects**  
Web Mapping Application



**Celina Drive Times**  
Document Link



**Celina Marketing Brochure**  
Document Link



**Celina Points of Interest**  
Web Mapping Application



**Celina Resident Dashboard**  
Web Mapping Application



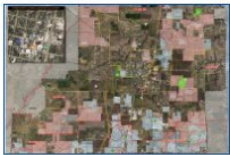
**City Limits & ETJ**  
Document Link



**Downtown Eateries, Brewery & Winery**  
Document Link



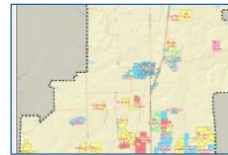
**EDC Interactive Map**  
Web Mapping Application



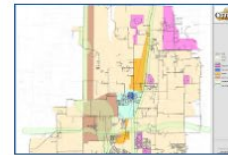
**EDC Map 2020**  
Document Link



**Existing & Potential School Sites**  
Document Link



**Fiber Providers**  
Document Link



**Future Land Use Plan**  
Document Link



**Lot Inventory**  
Web Mapping Application



**Multi-Family Locations**  
Document Link



**Parks Master Plan**  
Document Link



**Public Crime Map**  
Web Mapping Application



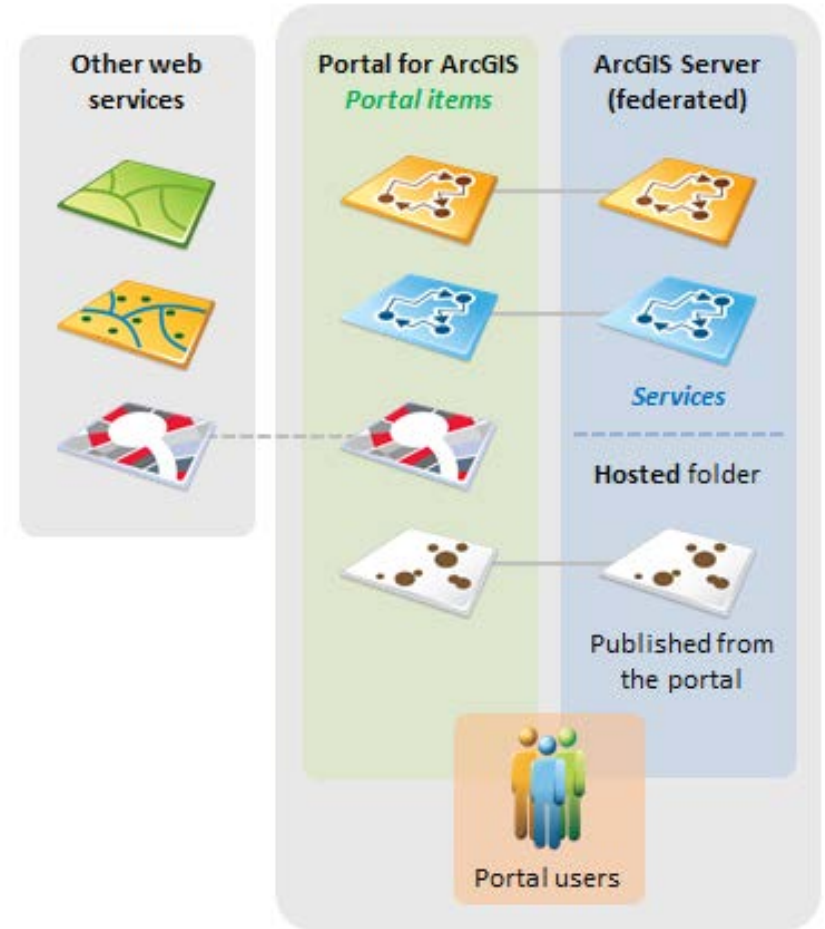
**Roadway Projects**  
Document Link



**School Districts**  
Document Link

# Integration of a GIS Server

- Publish services
- Create web maps
- Develop custom web applications

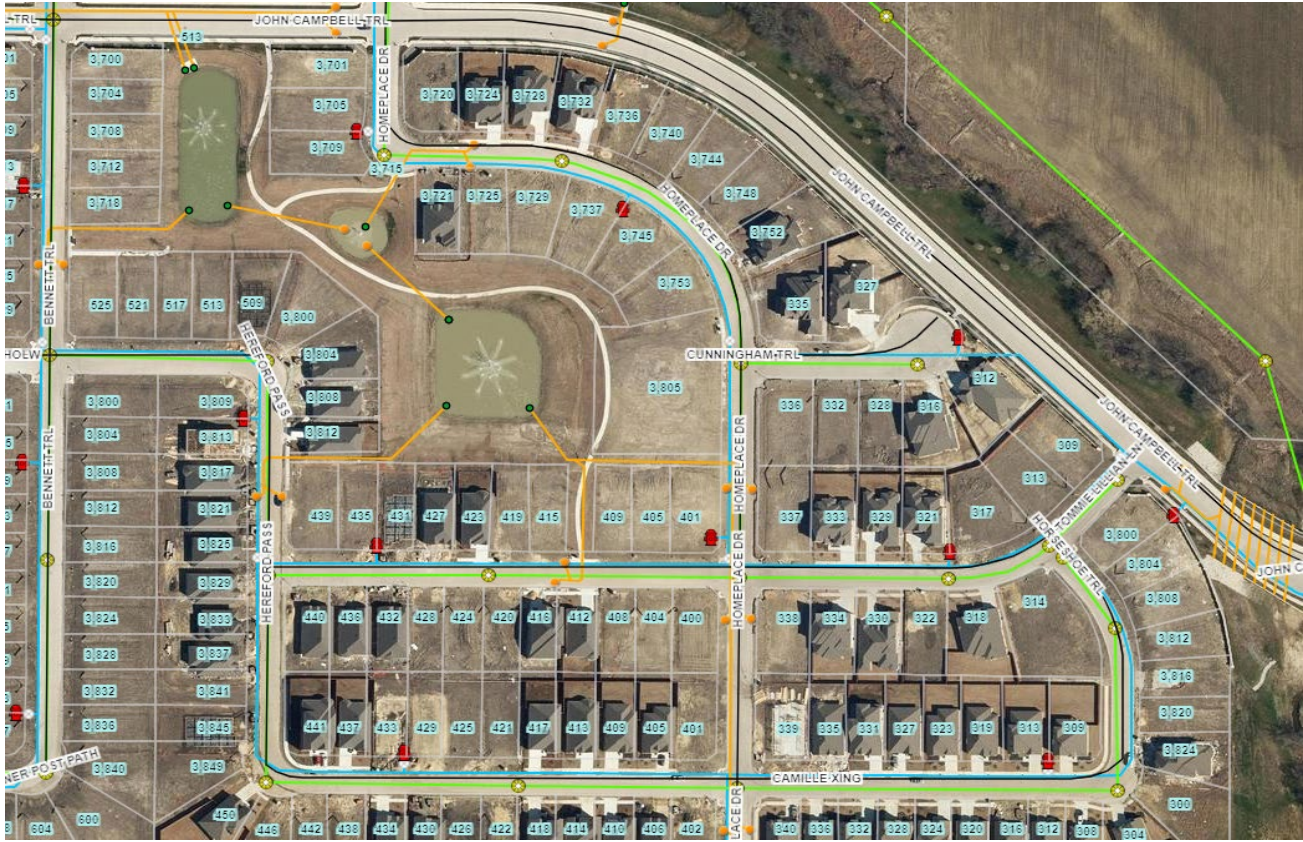


# GIS in Engineering & Public Works

- Create web applications to support daily operations
- Organize as built / record drawings
- Create web applications to support field crews
- Integration of Cityworks

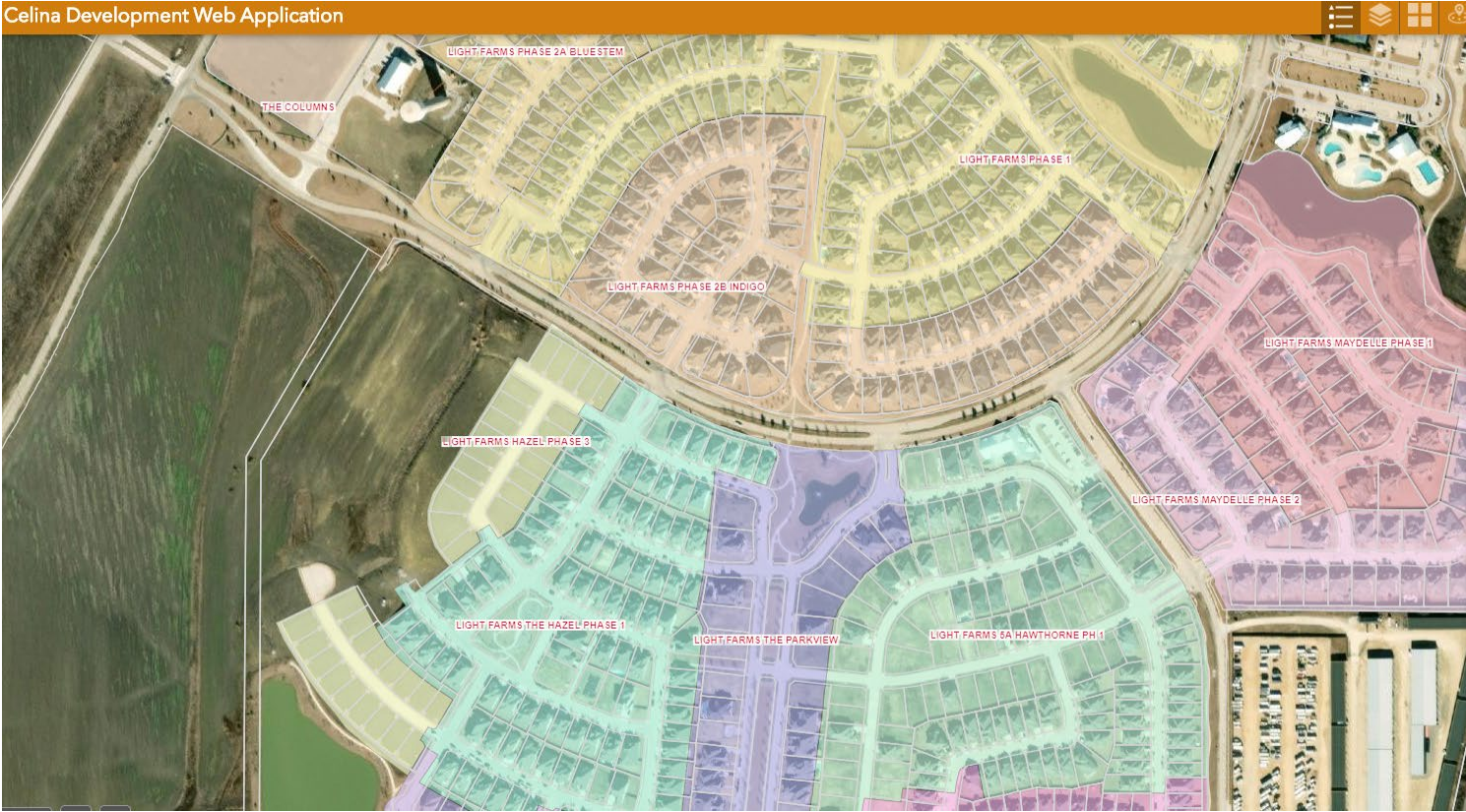
# Web Applications

- Internal Web Application



# Web Applications

- Development Web Application



# Web Applications

- Public Works Field Crew Web Application



**Smart Editor** [X]

◀ (1 of 2) ▶

Water Fire Hydrant [^]

Asset ID  
WTFH01602

Source  
Cambridge Crossing Phase 1

SourceDate  
12/19/2019

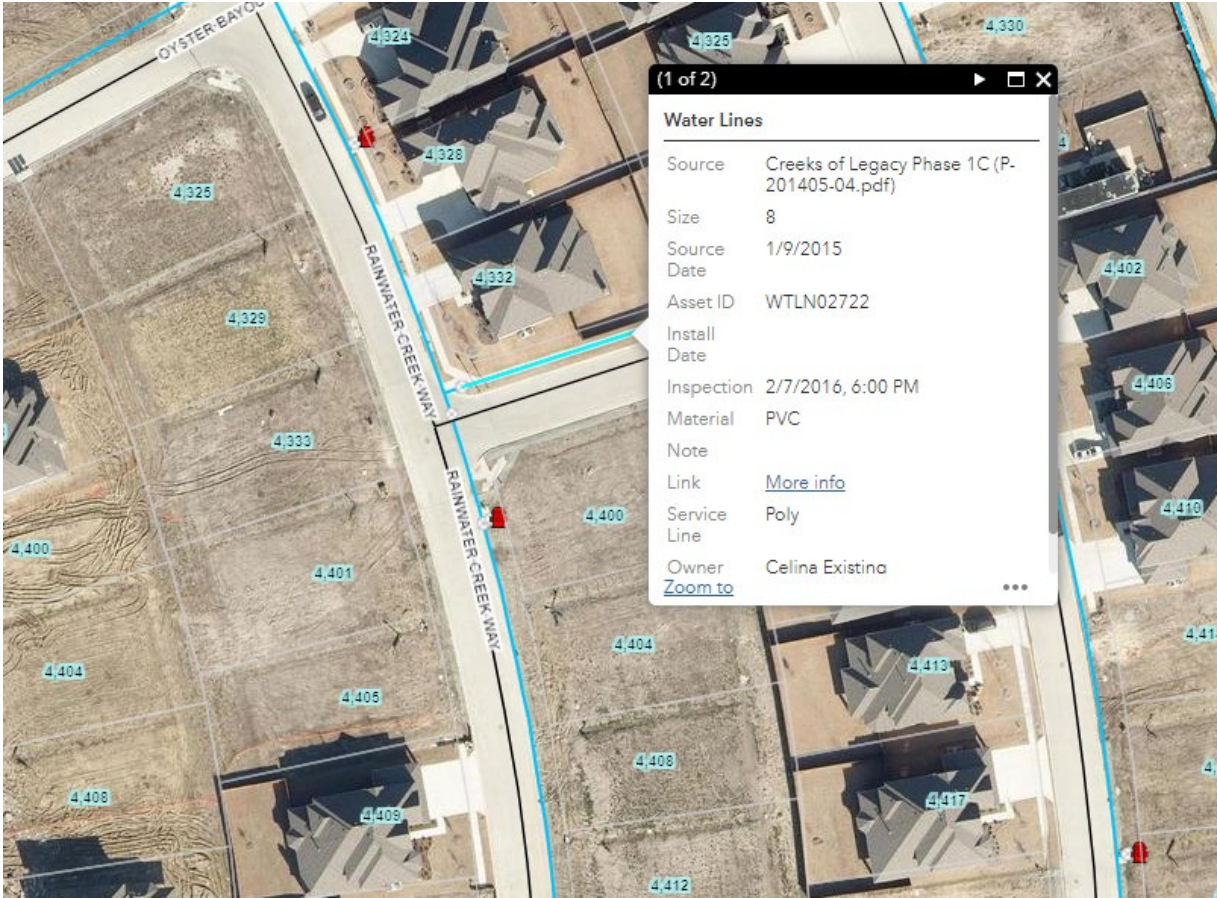
Flow Capacity @ 20psi  
0

Brand

Cancel Delete Save

# As Built / Record Drawings

- Links to plans in GIS
- Plans attached to water / sewer / storm infrastructure



# As Built / Record Drawings

- Plans access on City Website

## Record Drawing

**P = Multi-utility plans**

**R = Roadway plans**

**SD = Storm drain plans**

**SS = Sanitary sewer plans**

**W = Water plans**

### P - Multi-Utility Plans

	On File	Plan Number	Engineer	Plan Type
Willock Hill	Yes	<a href="#">P-198403-01</a>	Jerry L. Lehew and Associates	Construction
Winn Addition II	Yes	<a href="#">P-198509-01</a>	McNamara Engineering Company	Construction
Estates on Preston	Yes	<a href="#">P-199308-01</a>	Boyle Engineering	Construction
Morgan Lakes Estates	Yes	<a href="#">P-199502-01</a>	The Nelson Corporation	Construction
Preston Meadow - Phase 1	Yes	<a href="#">P-199604-01</a>	Geer Surveying and Engineering	Construction
North Preston Lakes - Phase 1	Yes	<a href="#">P-199606-01</a>	Greg Edwards	AsBuilt
North Preston Lakes - Phase 2	Yes	<a href="#">P-199612-01</a>	Greg Edwards	AsBuilt



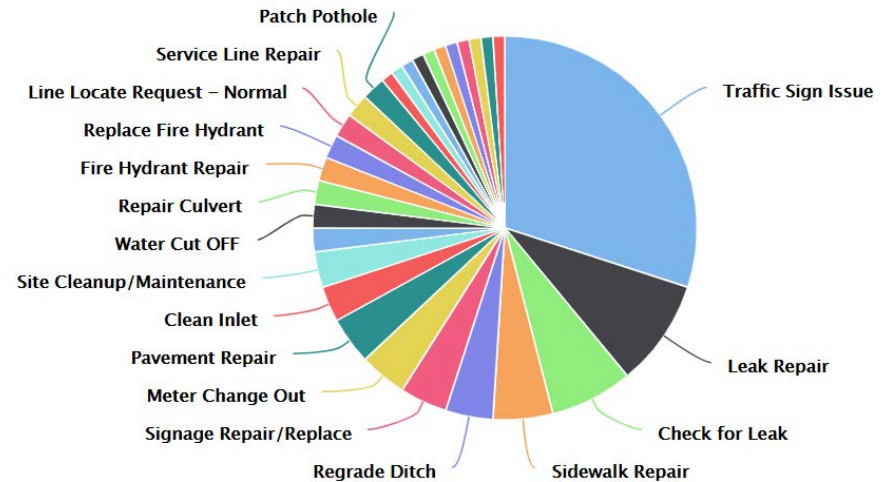
# Integration of Cityworks

The screenshot shows the Cityworks Management Dashboard. At the top, there is a navigation bar with options: "Inbox", "New Request", "New Work Order", "New Inspection", and "A". Below this is a secondary navigation bar with "My Work" and "Management Dashboard" (which is highlighted). The main content area is titled "Inspections" and contains a table of inspection records. The table has columns for "Open", "Insp", "Inspection Type", "Date Inspected", "Inspected By", and "Status".

Open	Insp	Inspection Type	Date Inspected	Inspected By	Status
<input type="checkbox"/>	960	WTPDAILYINSPECTION	09/6/2020 10:08 AM	Garmon, Andy	COMPLETE
<input type="checkbox"/>	959	WTPDAILYINSPECTION	09/6/2020 9:25 AM	Garmon, Andy	COMPLETE
<input type="checkbox"/>	958	WTPDAILYINSPECTION	09/6/2020 9:08 AM	Garmon, Andy	COMPLETE
<input type="checkbox"/>	957	WTPDAILYINSPECTION	09/6/2020 8:40 AM	Garmon, Andy	COMPLETE

Work Orders - Open By Description

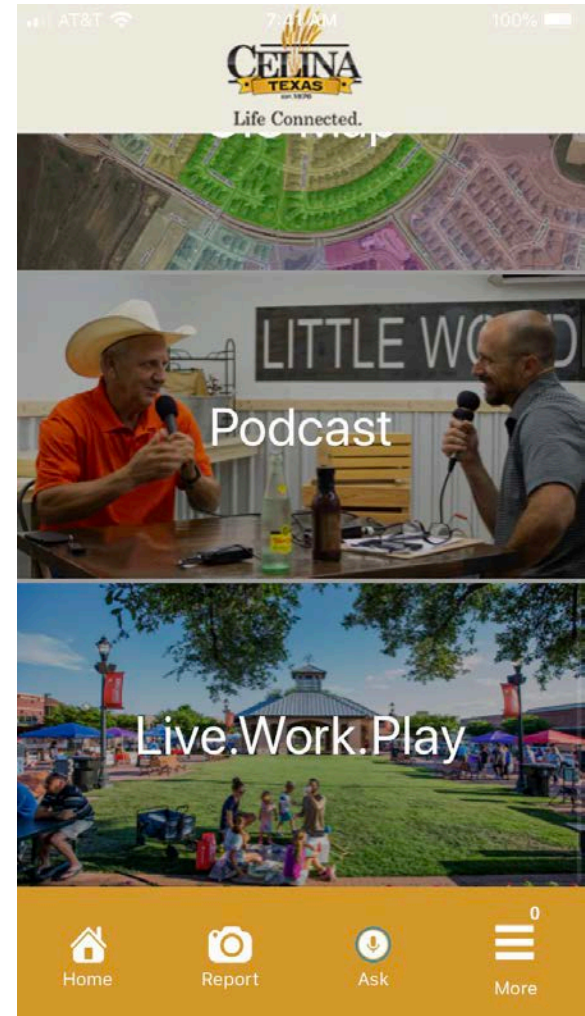
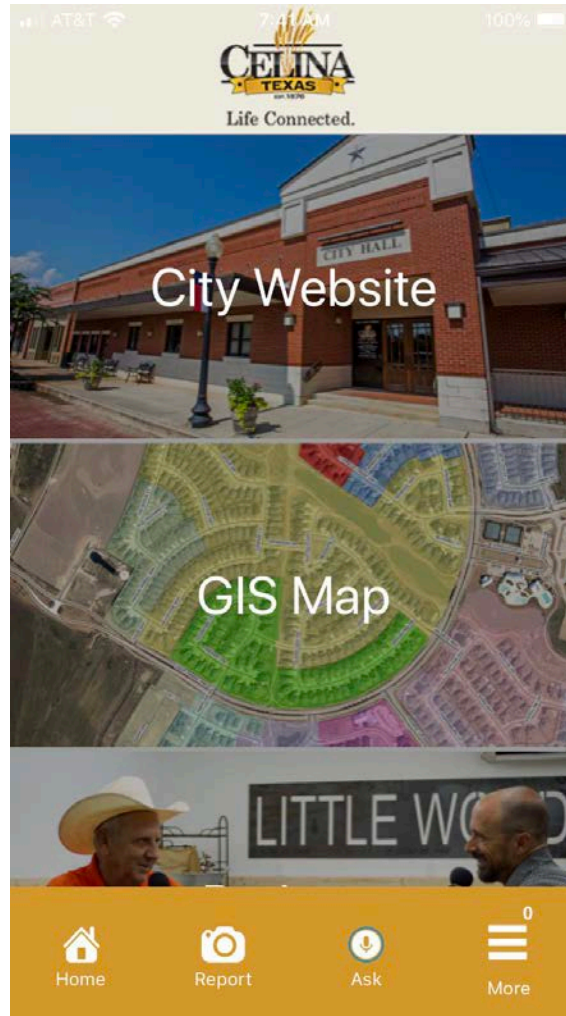
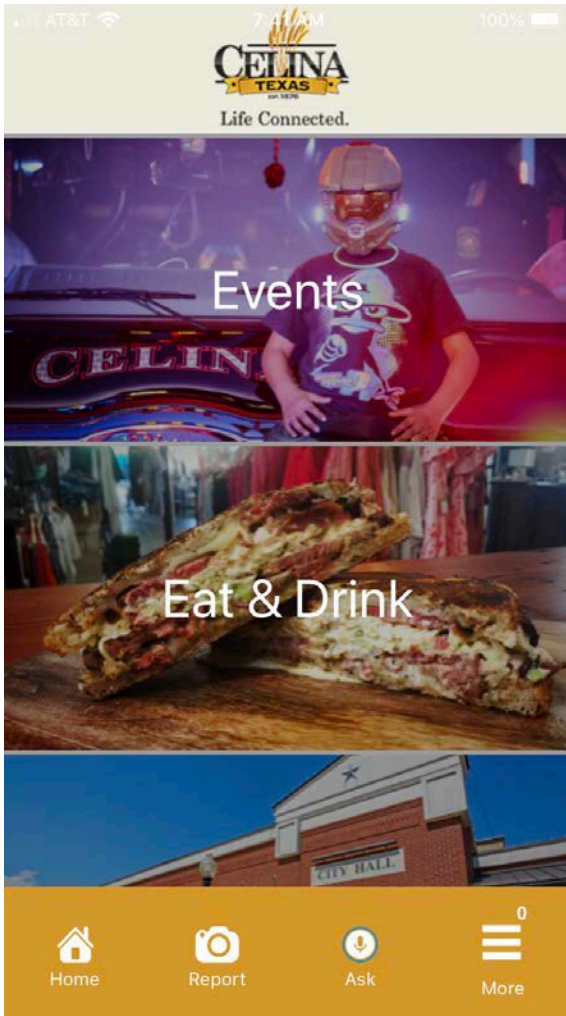
A pie chart titled "Work Orders - Open By Description" showing the distribution of various work order types. The largest slice is "Traffic Sign Issue", followed by "Leak Repair" and "Check for Leak". Other categories include "Regrade Ditch", "Sidewalk Repair", "Signage Repair/Replace", "Meter Change Out", "Pavement Repair", "Clean Inlet", "Site Cleanup/Maintenance", "Water Cut OFF", "Repair Culvert", "Fire Hydrant Repair", "Replace Fire Hydrant", "Line Locate Request - Normal", "Service Line Repair", and "Patch Pothole".



# All in One City Application

- Automate internal workflows
- Creation of service requests & integration with Cityworks
- Marketing tool

# All in One City Application



# All in One City Application

## Online Services

Open Record Requests

Alerts Sign Up

Employment Opportunities

Pay My Bills

Pay Court Fees

Maps

Celina Downtown

Apply for Permit

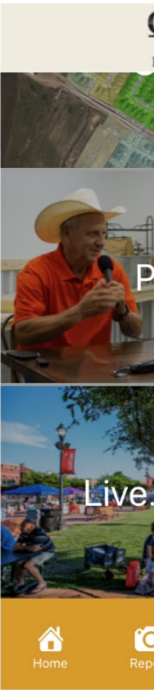
Business Directory

20 Eats

## Social Media

Facebook

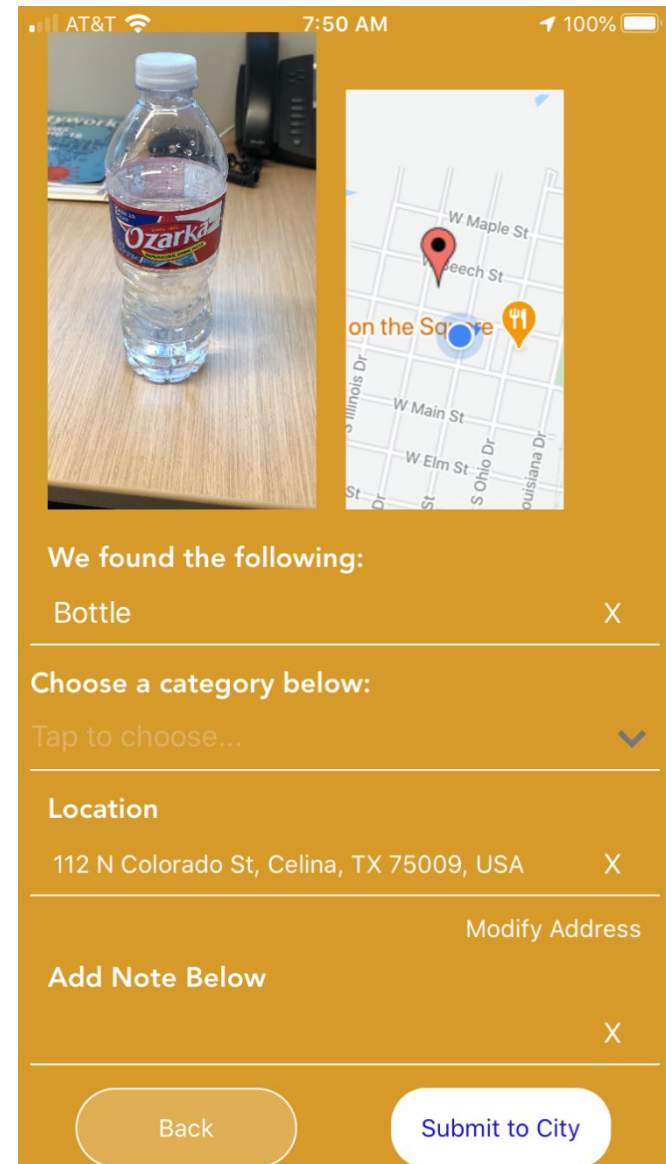
Instagram



# Service Requests

- Direct link between the app & Cityworks
- Direct link between the app & designated email

<u>Description</u>
Manhole Issue/Concern
Sewer Odor/Smell
Sewer Problem
Sewer Back-Up
Pothole
Pavement Issue
Debris In Street
Damaged Curb
Broken Concrete
Sidewalk Issue
Water Standing Pooling
Fire Hydrant Issue
Line Locate Request
Emergency Line Locate
Possible Main Break
Water Quality Concern
Restore Service
Disconnect Service
Signage
Water Pressure Concern
Possible Meter Leak

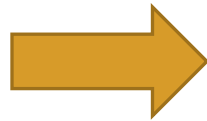


# Service Requests

Your submission has been received. If you would like to follow-up on the request, please reference case

Case Number **251**

Thanks for making Celina a community families and businesses want to call home.



### Service Request

Description: Fire Hydrant Issue

Request Id: 251

Category: Priority: High

Status: Open

Initiated By: Integration, CityFront Date: 09/8/2020 8:14 AM

Investigation:  Date:

Emergency:  WO Needed:

Submit To: Silco, Steven Date: 09/8/2020 8:14 AM

Dispatch To: Date:

Project Name: Prj. Comp. Date:

Project Tree

Cancel?  Date:

Cancel Reason: Canceled By:

Closed By: Date:

Comments: Add Comment Sort ▲

- Integration, CityFront 09/8/2020 8:14 AM
- Bottle

Resolution:

Labor: 0

### Incident Information

Address: 112 N Colorado St, Celina, TX 75009, USA

Apt #: City:

State: Zip Code:

Landmark:

Shop: Tile No:

Map Page: District:

Location: 112 N Colorado St, Celina, TX 75009, USA

Details: [https://cfi-smartcity-usercontent.s3.amazonaws.com/5e135d1ce4b0a38ac96dcab2/5f578398e4b01261c09d15dd-IMG\\_5370.JPG](https://cfi-smartcity-usercontent.s3.amazonaws.com/5e135d1ce4b0a38ac96dcab2/5f578398e4b01261c09d15dd-IMG_5370.JPG)

X: 33.32498844 Y: -96.78763348

### Callers

Caller Type	Comments	Details
6 AM	Water on the table	<a href="https://cfi-smartcity-usercontent.s3.amazonaws.com/5e135d1ce4b0a38ac96dcab2/5f578398e4b01261c09d15dd-IMG_5370.JPG">https://cfi-smartcity-usercontent.s3.amazonaws.com/5e135d1ce4b0a38ac96dcab2/5f578398e4b01261c09d15dd-IMG_5370.JPG</a>

New Request From Caller

### Related Work Activities

#### Inspections

Add:

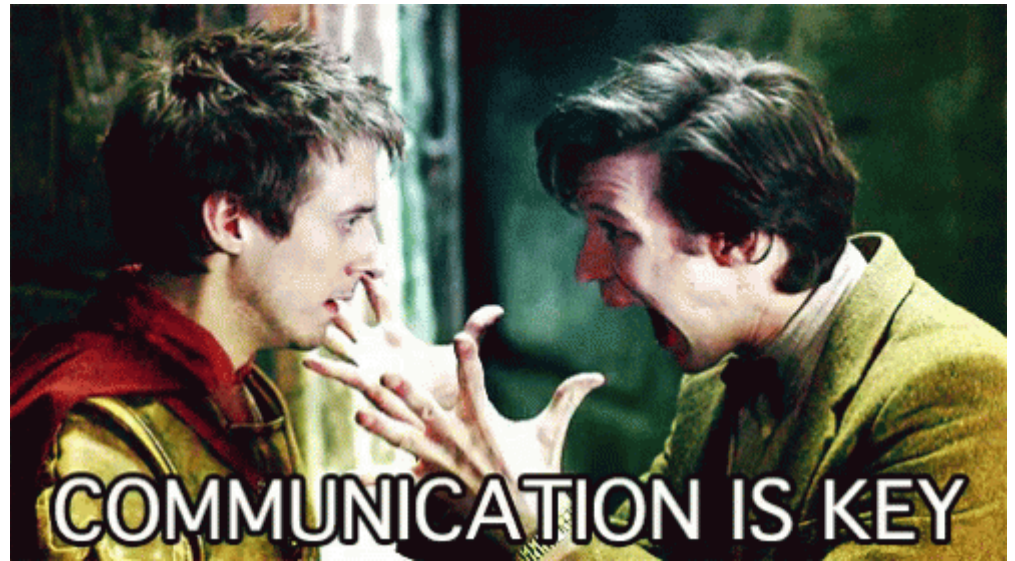
Create

# Service Requests Demo



# Current Challenges

- Keeping up with the demand
- Internal communication
- Optimizing workflows





# Looking towards the future

- Geo Event Server
- Integrating Public Safety (cars, cameras, floor plans)
- Connecting all departments with GIS



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DEVELOPERS



STAFF



RESIDENTS

