June 18, 2025

Ms. Pennie Arounsack, Director of IT & Innovation
City of Manteca
1001 W Center Street
Manteca, CA 95337

Re: GIS Utilities Layers Update Project

Dear Ms. Arounsack:

SDI Presence LLC (SDI) is pleased to present this letter proposal to provide professional services to update the City's existing GIS utilities layers. The City of Manteca currently has a robust GIS system which includes data layers depicting the locations of critical infrastructure as follows:

- Water Distribution, including the following Potable and Reclaimed features:
  - Mains (305 miles, 62 of which have services and/or meters connected)
  - Laterals
  - Valves
  - Fire Hydrants
  - Blow-off Valves
  - Sample Stations
  - Air Release Valves
  - Wells
  - Tanks
  - Services
  - Meters
  - Turnouts
- Wastewater:
  - Gravity Mains
  - Force Mains
  - Air Release Valves

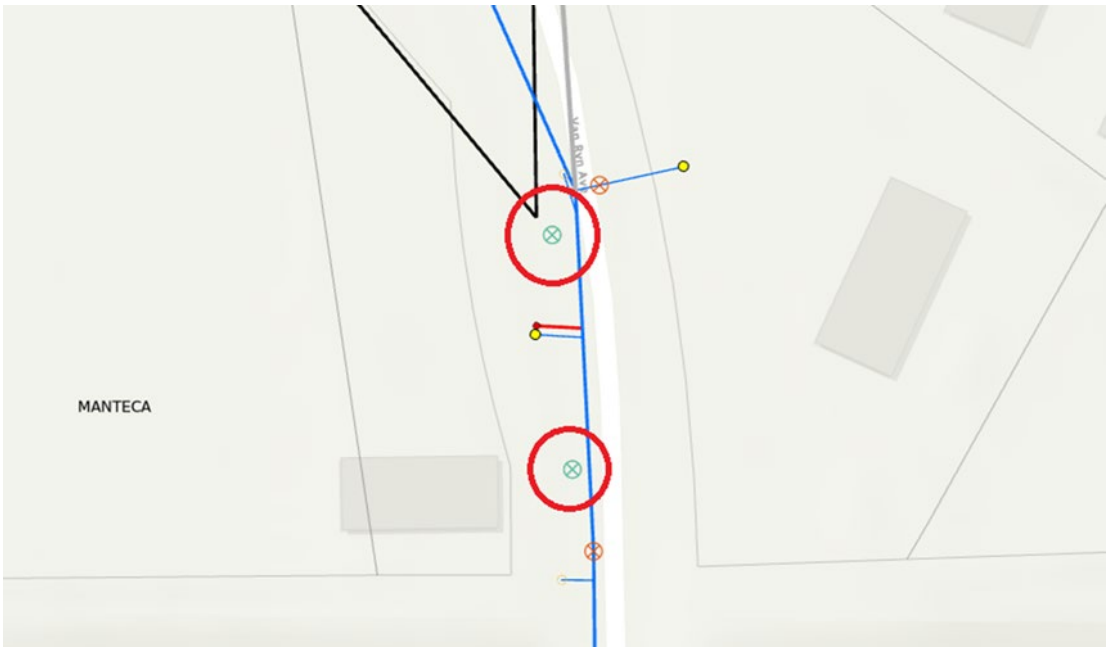
- Cleanouts
- Flush Stations
- Lamp Holes
- Manholes
- Stations

- Stormwater:
  - Gravity Mains
  - Force Mains
  - Laterals
  - Catch Basins
  - Drop Inlets
  - Manholes
  - Stations

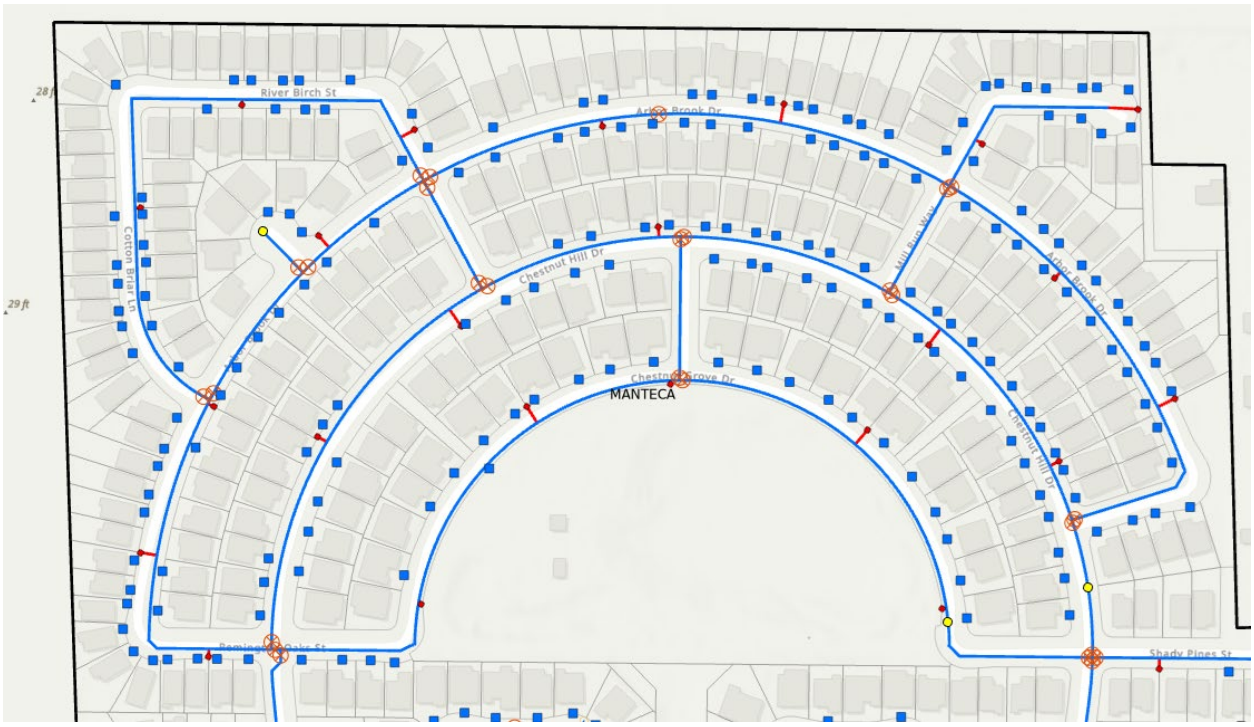
These infrastructure layers are available to City staff within the core GIS Viewers as well as through integrations with other systems including the following:

- VueWorks
- TabletCommand
- Boss811

Review of the three utility system GIS layers has revealed some common issues which can be summarized in three categories: Missing Features, Topology and Attributes. All three will be included in this Scope of Work to ensure that the updated GIS layers provide maximum value for the City. The following examples illustrate these issues.



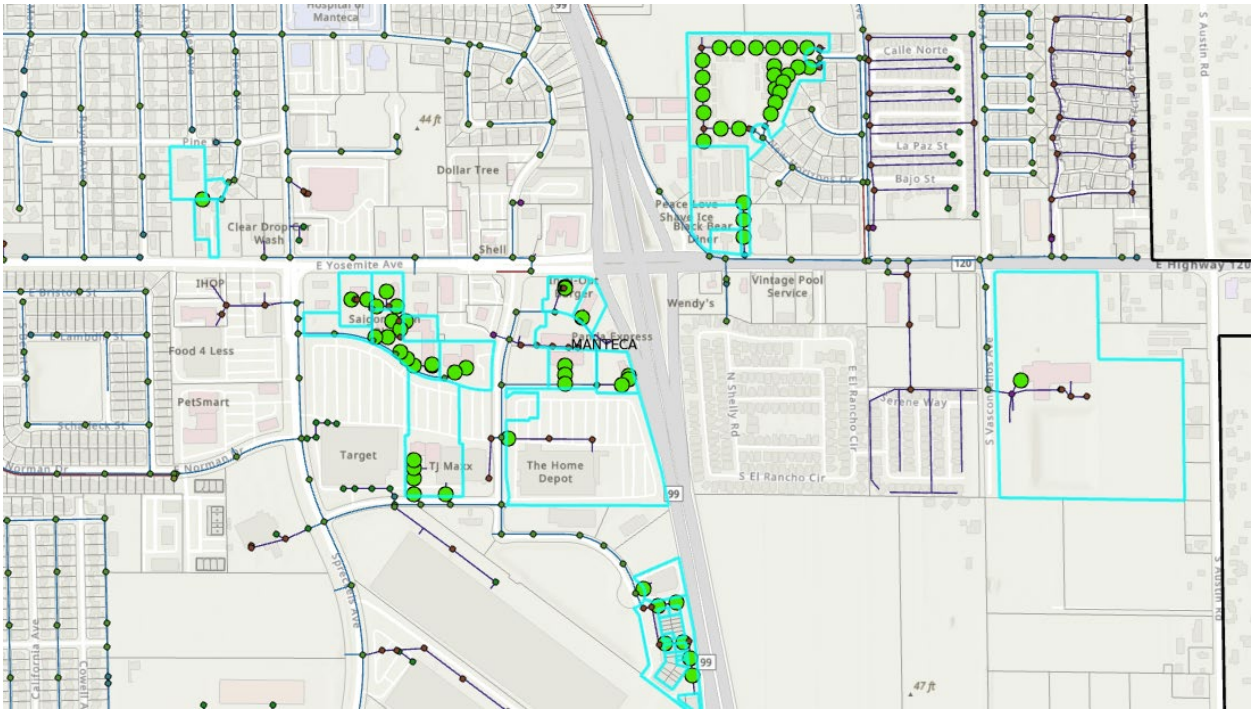
Missing Features: Floating Valves – likely service valves



Missing Features: Neighborhood containing water meters with no water services

Missing Features: Neighborhood containing water services with no water meters

Topology: Valves not snapped to Mains



Cleanouts limited to Commercial/Industrial areas

SCOPE OF WORK

The Scope of Work was formulated to align with the current utility GIS to the extent possible. Within the water system, some meters and services are mapped, so the assumption is that all should be mapped. Likewise, within the wastewater system, residential services and cleanouts are not shown for any properties, so this is assumed not to be of sufficient value and therefore unnecessary. As a result of these observations, the Scope of Work covers Water Utility mapping to include all infrastructure up to each meter. Wastewater mapping is to be completed to the mains and directly connected features such as manholes. Stormwater mapping will be carried out in the unserved areas, on streets which now have storm drains, including all features such as manholes and catch basins.

The Scope of Work covers the update of all the above layers to reflect the most current state using as-built construction plans. It does not include a field survey using GPS; however, the City has this equipment and an effort can be made by our team or City staff to locate field-visible assets to provide valuable input for this effort. The Scope includes four options for each utility:

- Missing Feature Data Entry: In certain cases, there is existing GIS data for some or most of the City, but detailed data is missing. An example is the lack of water meters and/or water services. This task involves adding the missing features to the existing GIS. This will provide a consistent level of detail throughout the City. Automation such as connecting meters to mains will be employed to minimize the required effort.

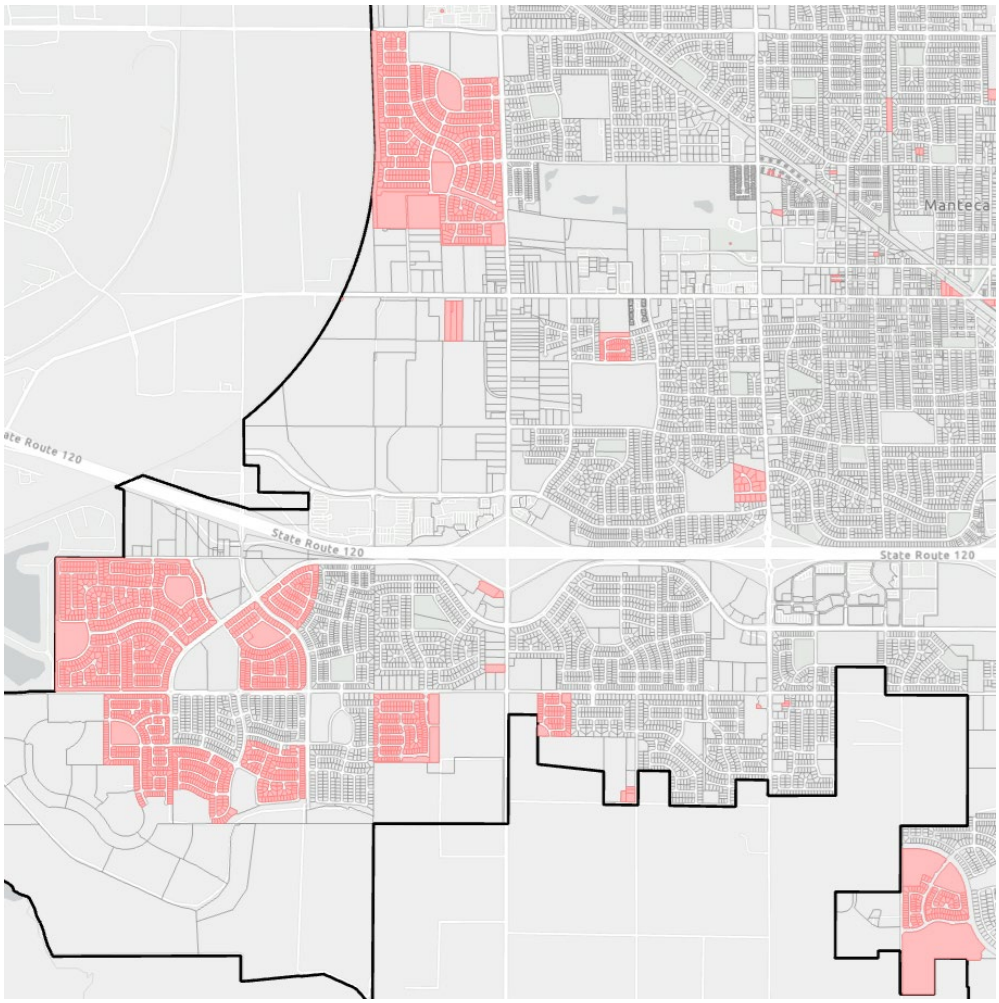
- Topology Corrections: In existing areas, all point and line features will be checked and corrected to ensure they are snapped. This will provide the ability to perform network tracing and other analysis. This can be completed with an automated process we already use.

- Attribute Updates: In existing areas, missing attribute data will be added to the extent possible given the availability of as-built construction plans. Inconsistent or incorrect attributes will be updated. Automation will be used here too, to minimize effort. No significant issues were found during our initial review

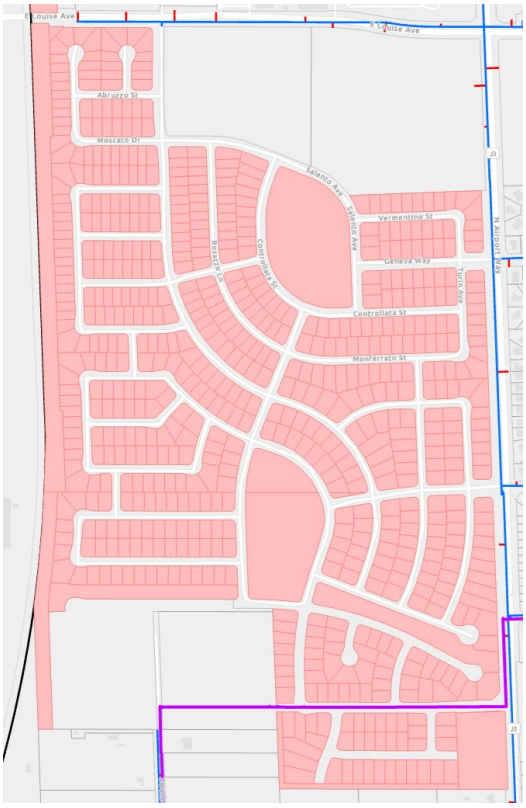
- New GIS Data Entry: In areas which currently lack GIS mapping, mapping will be completed from available as-built construction plans, including topologically correct points, lines, and fully populated attributes. These attributes shall include links to the source plans.

To ascertain how much of the City currently has utilities mapped and the associated level of detail, parcels were selected based on proximity to water mains. Further, parcels were selected to determine how many had detailed service-level data (i.e. meters and water services). The latter provides a count of parcels requiring missing feature data entry. In the case of wastewater and stormwater - features which do not have services at each parcel - street miles with and without mapping were used to determine the amount of new GIS data entry required. In the map below, there are parcels more than 100ft from a water main which should not be included in the counts, and were subsequently omitted. Outlying areas

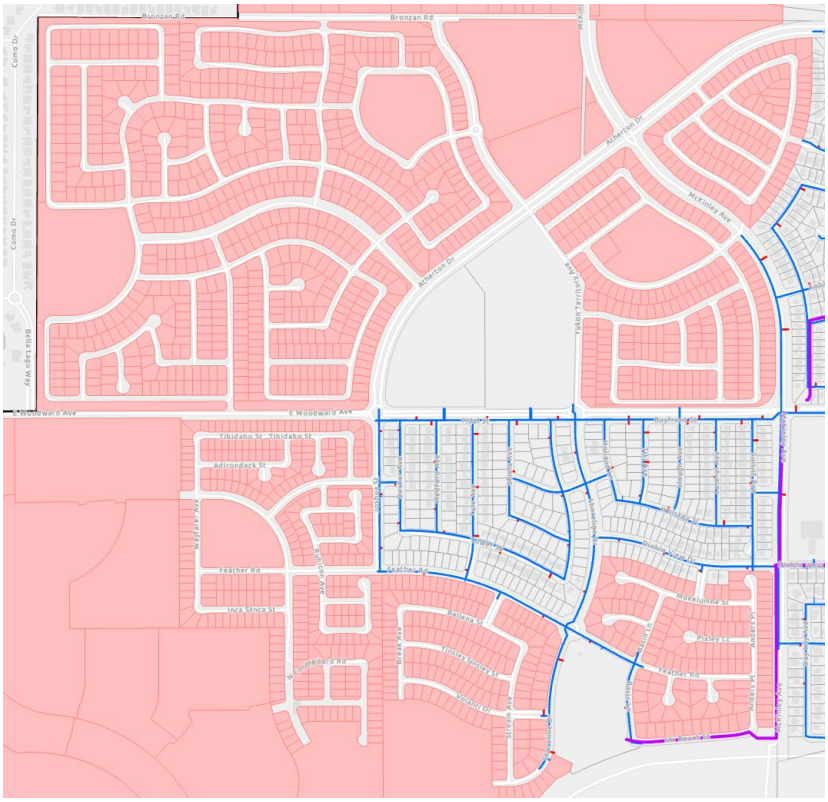
with agricultural uses are one such example. Although an imprecise method, this high-level approach still highlights areas requiring new GIS data entry.



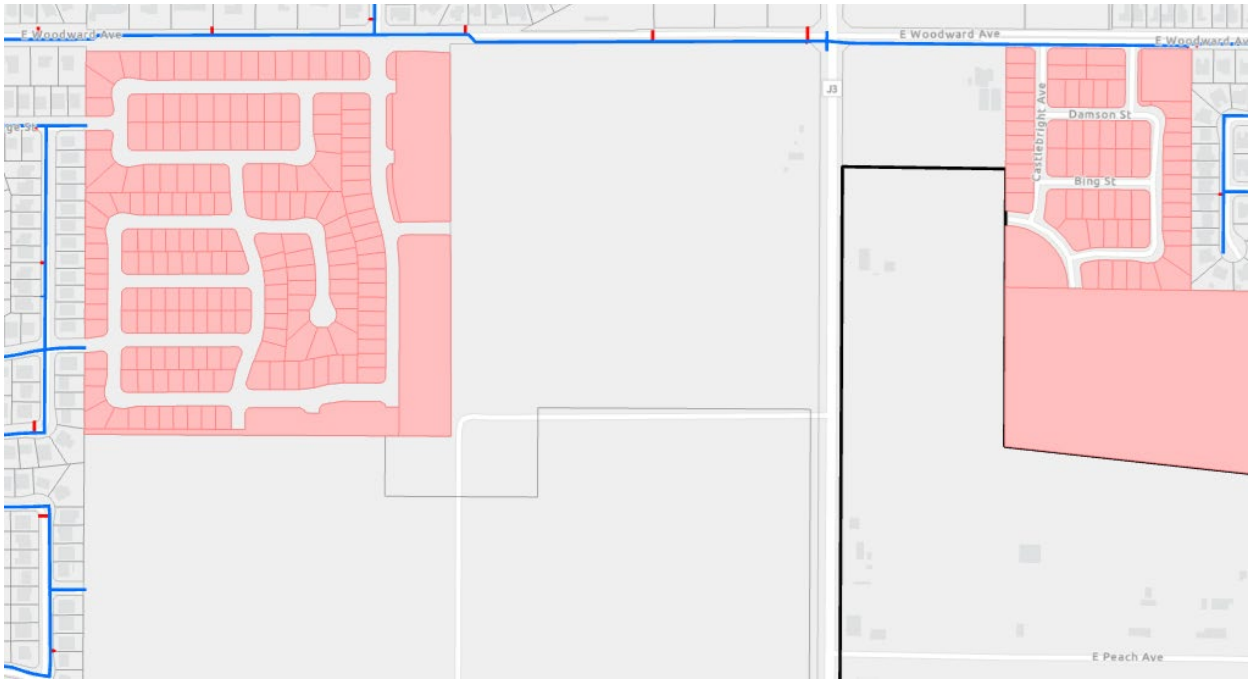
Manteca Parcels more than 100ft from a Public or Private Water Main


E Louise Ave
Abruzzo St
Moscato Dr
Salento Ave
Vermentino St
Geneva Way
Controllata St
Monferrato St
N Airport Way

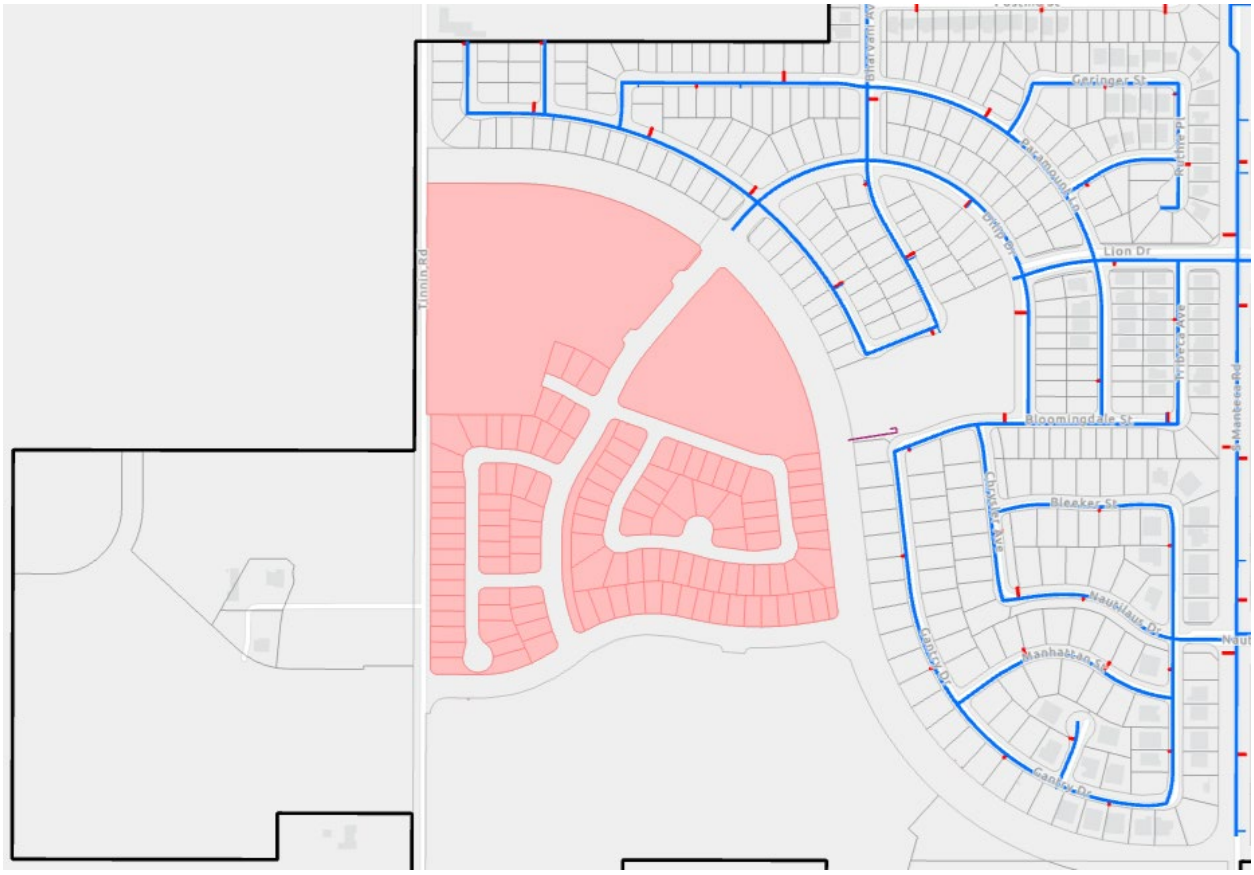
Area #1


Bronzan Rd
Como Dr
Atherton Dr
McKinley Ave
E Woodward Ave
Tibidabo St
Adirondack St
Feather Rd
Inca Sinca St
Ballena St
Pixley Ct
Mokelumna St

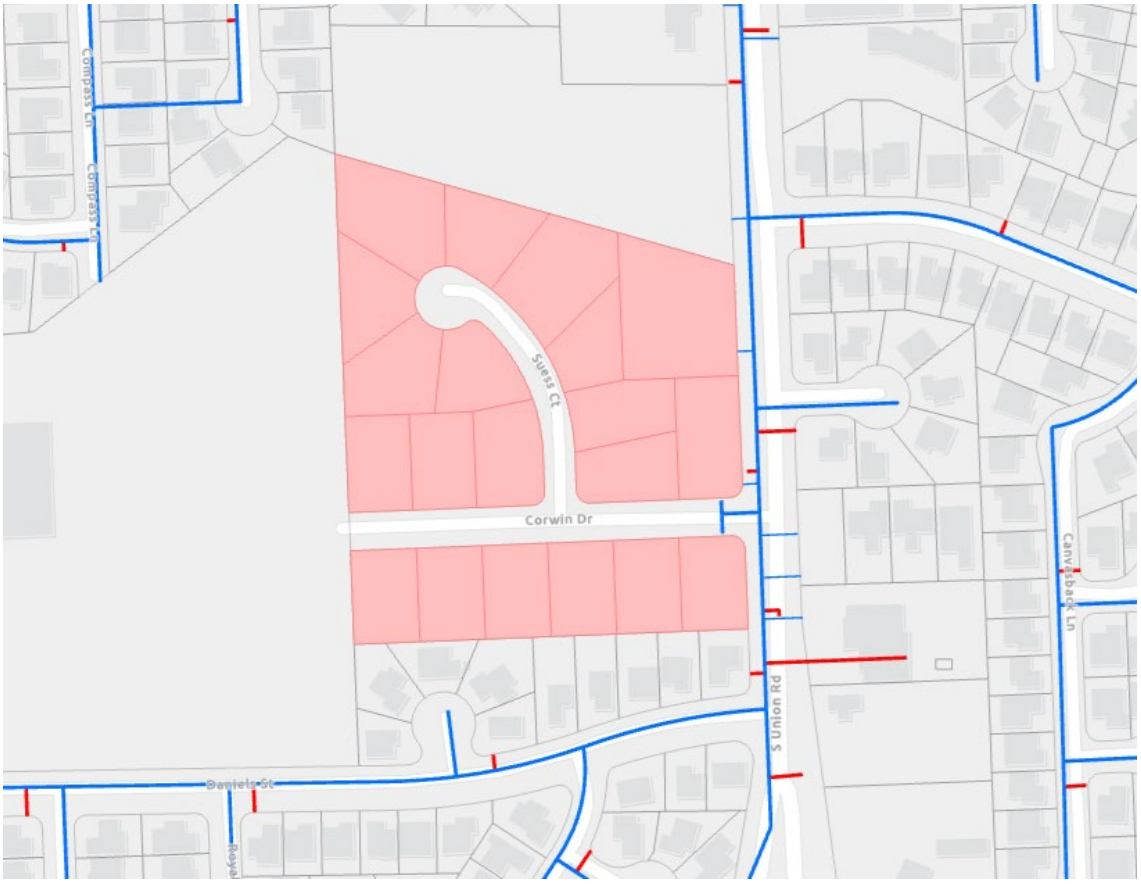
Area #2


E Woodward Ave
E Woodward Ave
J3
Castlebright Ave
Damson St
Bing St
E Peach Ave

Area #3


Timm Rd
Gerringer St
Lion Dr
Bloomingdale St
Bleeker St
Manhattan St

Area #4


Corwin Dr
Daniels St
S Union Rd

Area #5

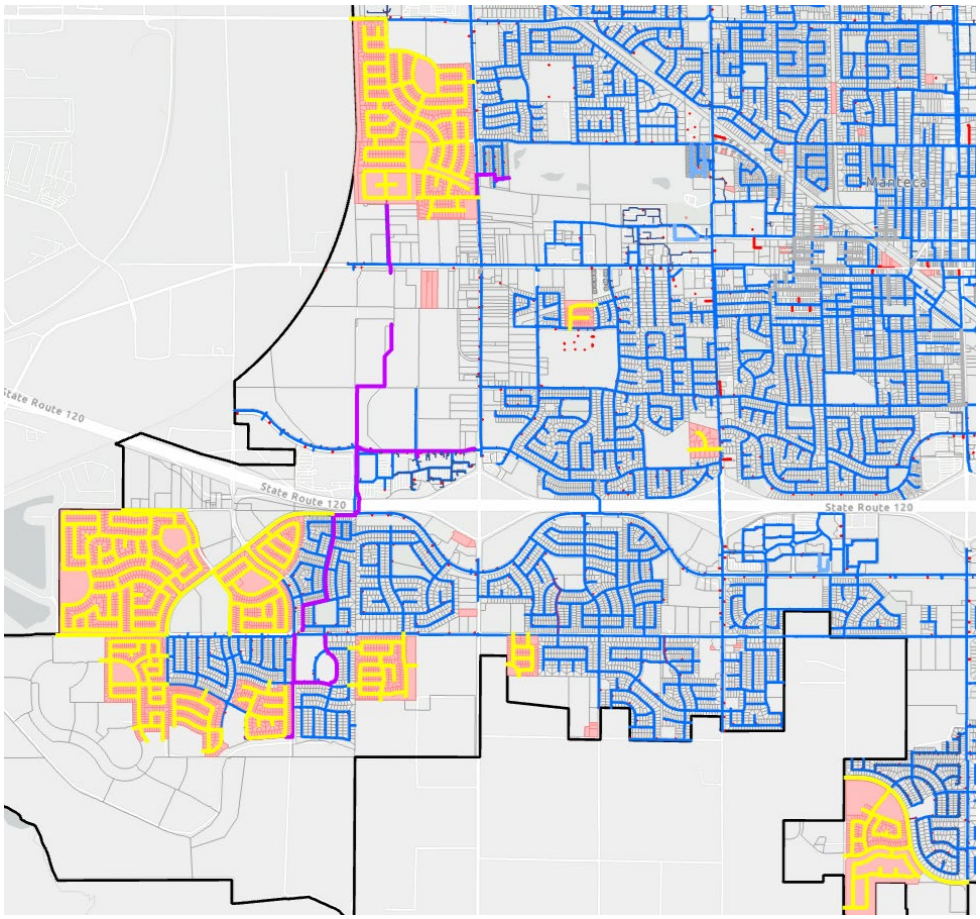

Tuscany Dr
Santiago Way
Weybridge Way
Aberdeen Ct
Marino Way
Marino Way
Avendale Dr
Flaxen Ct
Flaxen Ct
Thomas St
Thomas St
Teresa Pl
Enrico Ln

Area #6

Level of Effort Assumptions

To identify the level of effort for each utility, the unserved parcels were used to select street segments requiring utility mapping, and the total number of street miles were calculated to be 29.0. The segments used for this calculation are depicted below.

Of the 305 miles of water main, 62 have either services directly connected or meters within close proximity. An automated process can be run to add meters to the ends of services, and to add services to connect meters to the water mains. This leaves 243 miles of existing water main which lack services and meters. A separate line item in the Scope is included for this work. If the City elects to GPS meters instead, they can be periodically imported to the Water system as that work is completed.



Street segments requiring utility mapping

Previous utility GIS mapping projects similar in scope have provided insight into the required level of effort this this project:

- Water: Complete mapping including all appurtenances and services/meters: 10 hours / mile
- Water: Add services/meters to existing water mains: 4 hours / mile
- Wastewater with no services: 8 hours/mile
- Stormwater: 4 hours/mile

Project Cost

To complete this project, SDI will employ the services of our existing GIS resource from Eckersall LLC. The project will require 1,610 hours to complete. The resourcing for this project will be billed at a discounted hourly rate of $105 (discounted from our contractual rate for GIS services of $125) resulting in a total cost of $169,050.

In addition, the City has indicated that it wishes to establish a budget for the ongoing maintenance of the utilities layers after completion of the Utilities Layers Update project. Without specific knowledge regarding the level of activity that may occur throughout Fiscal Year 2025-26, SDI's recommendation is that the City establish a maintenance budget of 25 hours per month for the fiscal year; thus, for the period July 1, 2025 through June 30, 2026, our recommendation would total 300 hours. The rate for these services would be $115, resulting in a total of $34,500 to support ongoing utilities layers updates. The following table details the required level of effort to complete this project.

Utility	Description	Miles	Mile Rate	Hours	Rate	Total
Water	Complete mapping including all appurtenances and services/meters, highlighted areas	29	10	290	$105	$30,450
Water	Add services/meters to existing water mains	243	4	972	$105	$102,060
Wastewater	Mapping without residential services / cleanouts, highlighted areas	29	8	232	$105	$24,360
Stormwater	Complete mapping, highlighted areas	29	4	116	$105	$12,180
	SUB-TOTAL Utilities Layers Update			**1,610**		**$169,050**
Monthly Maintenance of Utilities Layers (25 hours per month for 12 months)				300	$115	$ 34,500
	TOTAL Utilities Layers Update and Monthly Maintenance			**1,910**		**$203,550**

SDI only bills for actual hours worked on a monthly basis, substantiated by detailed invoices.

We welcome the opportunity to provide these services to the City of Manteca. Once you have had an opportunity to review this proposal, please let me know if you have any questions or concerns. I can be reached at 714-975-4150 or by email at pgriffin@sdipresence.com.

Sincerely,

Patrick Griffin, Managing Director
Advisory & Consulting Practice
SDI Presence LLC