



Requirements for CAD Submittal of Approved Improvement Plans and Record Drawings

The following requirements for submittal of CAD data have been prepared for the purpose of incorporating the digital submittal information into the City's Geographic Information System (GIS) base mapping, so that accurate data may become available to emergency responders, construction inspectors, city planners, engineers, and the larger development community.

- CAD file must contain public utility infrastructure and plat information within a single drawing in DWG format and created using AutoCAD, Civil 3D, or a product approved by the City of Lincoln. Files in DXF, DWF, or DGN format are not acceptable. The drawing must be "stand-alone" without the necessity of attaching Reference or XREF files, exploding internal References saved as blocks, or modifying levels and layers.
- The CAD data is not meant to be printed. As such, it should not be all inclusive of the information displayed on the plan sheets. Objects normally set up in the layout tab ("paper space") for the purposes of plotting plan sheets, such as title blocks, page borders, legends, vicinity maps, and north arrows, should NOT be included in the CAD file. Callout detail boxes also should not be included.
- CAD data must be drawn at full scale (1:1), and oriented to true north.
- The data must be tied to City monumentation data, in real world coordinates, and spatially referenced to the city's GIS projected coordinate system: North American Datum 1983 (NAD83), California State Plane, Zone 2 FIPS 0402; Units: US Feet.
- All polygons must close without overlaps. All lines must be snapped at their endpoints and free of gaps or dangles. Annotation text that breaks the continuity of lines should be shifted out of the way of the line.
- Public utility infrastructure and plat information must be organized into separate layers within a single drawing of a DWG dataset. The layers must be separated according to feature type and drawn as polylines (except for annotation). All layers must be turned on and visible/unfrozen. **IMPORTANT:** Layer names should be intuitive and descriptive of the objects on that layer. Features must be cleanly segregated into their appropriate layer, and not appear on other unrelated layers. Remnants of lines or points used in the development of the drawing but not representative of actual real-world features (trim lines, transit points, etc.) should be removed from the drawing. Existing infrastructure should be on separate layers from proposed infrastructure and should be differentiated as such in

layer names (i.e., “EXIST_WATER_MAIN” versus “PROP_WATER_MAIN”). Features that should appear in the drawing on separate layers are listed below. Any additional features not listed are optional and must also be on separate layers with clear, understandable layer names.

Public Infrastructure:

- Fire Hydrants
- Water Mains with line breaks at new material and/or diameter connections
- Water Service Line
- Water Valves
- Water Meters
- Water Sampling Stations
- Water Pumps
- Water Storage Tanks
- Water Annotation: pipe sizes, valve, and material types

- Reclaimed Water Mains with line breaks at new material and/or diameter connections
- Reclaimed Water Service Line
- Reclaimed Water Valves
- Reclaimed Water Annotation: pipe sizes, valve, material types

- Sewer Gravity Mains with line breaks at new material and/or diameter connections
- Force Mains with line breaks at new material and/or diameter connections
- Sewer Service
- Sewer Pump Stations
- Sewer Manholes
- Cleanouts
- Sewer Annotation: pipe sizes, invert elevations, structure depths, rim elevations, material types

- Storm Mains with line breaks at new material and/or diameter connections
- Storm Manholes
- Inlets
- Headwalls
- Outfalls
- Culverts
- Stormwater BMP and Treatment (e.g., Trash Capture Devices, Treatment Basin Boundaries, Treatment Basin piping/exits, etc.)
- Other drainage structures (e.g., lined ditches, valley gutters, etc.)
- Storm Annotation: pipe sizes, invert elevations, structure depths, rim elevations, material types

- Abandoned Water, Reclaimed Water, Sewer, and Storm Mains
- Abandoned Water, Reclaimed Water, Sewer, and Storm Structures (e.g., valves, manholes, etc.)
- Streetlight
- Streetlight electrical circuit
- Streetlight point of connection
- Streetlight pull box
- Fiber or conduit

Plat Information:

- Subdivision boundary
- Parcel lot lines
- Street centerlines
- ROW lines
- Retaining Walls
- Easements, fire lanes
- Plat Annotation: street labels, parcel lot numbers, easement types and sizes
- Buildings
- Paving (e.g., edge of pavement, front of curb, parking area, striping, etc.)

Park Information:

- Irrigation System
- Park amenities (e.g., playground/fitness equipment, sport fields/courts, grill, etc.)
- Park assets (e.g., bench, garbage can, table, fence, drinking fountain, flagpole, gate, etc.)
- Park structures (e.g., restroom, maintenance building, event center, etc.)
- Park utilities
- Park irrigation system
- Park electrical system and lighting
- Trails (e.g., path, mile marker, sign location, etc.)
- Landscape