



CONSTRUCTION & RECORD DRAWING REQUIREMENTS

DEVELOPMENT ENGINEERING



CONSTRUCTION & RECORD DRAWING REQUIREMENTS *Includes Cash Bond Requirements

THE PURPOSE

To clearly define the process and requirements for preparers of construction and record drawings so that the information will be accurate, consistent, and compatible with the City's GIS system. Plan preparers should review this document prior to beginning any drawings that will be submitted to the City to ensure that the eventual record drawing format, datum, and content will meet City standards.

WHY DOES THE CITY REQUIRE RECORD DRAWINGS?

A primary responsibility of the City of Redmond is to maintain the City's infrastructure. Information about Redmond's infrastructure such as locations, sizes types, and other relevant data are maintained by the City in order to support City operations, developers, consultants, business owners/operators, other government agencies, private utility operators, citizens, etc. for planning, design, and maintenance purposes. Having accurate information in a consistent and accessible format is critical to supporting these users and functions.

Site construction drawings are engineering documents that are required for improvements to a particular site, and they are required to be submitted for review and approval, prior to issuance of a Building or Site Construction permit. After the site construction is substantial complete and determined by the City Inspector, the City of Redmond requires record drawings to be submitted and reviewed for all improved and as-built conditions to be mapped accurately, consistently, and compatible with the City's GIS system.

This document highlights the requirements for preparing the construction and record drawings submittal for GIS review.

PREPARER AND DATUM REQUIREMENTS

Construction and Record Drawing Preparer

Construction and Record Drawings shall be prepared and certified by Professional Engineer and/or Registered Professional Land Surveyor currently licensed in the State of Washington.

Coordinate System, Horizontal and Vertical Survey Control

Beginning with the initial survey of existing conditions, the CAD file for design must be properly geo-referenced to WASHINGTON STATE PLAN NORTH, NAD 83 (91-HARN) coordinate system and tie the project to at least two (2) City of Redmond Horizontal Control Monuments. In addition, locate project in the City's vertical datum (NAVD 88) and tie the project to two (2) City of Redmond Vertical Control Datum benchmarks. The coordinate system, horizontal and vertical control information are required to be shown on the cover sheet or first page of the project. NO ASSUMED coordinate system is allowed.

For City's Horizontal Control Monuments information, the information can be found on our website at [City Horizontal Control Notebook](#) or come to Development Services Center on the 2nd Floor at the City Hall.

For City's Vertical Control Survey Network, the information can be found on our website at [City Vertical Control Survey Notebook](#)

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APPROVED CONSTRUCTION DRAWINGS SUBMITTAL (At 1ST and Last CCR Intakes)

Refer to CCR Process and Intake Checklist, Sub-Section 2A,

[CCR-Process-and-Intake-Checklist-PDF](#)

RECORD DRAWINGS SUBMITTAL

- [Record Drawing Requirements and Digital Submittal Checklist](#)
- [Leap Transfer Site Instructions \(PDF\)](#)

RECORD DRAWINGS CASH DEPOSIT BOND

A cash deposit bond is required to ensure record drawings are completed. The record drawings deposit is due before construction Mylar approval. Below is a list of required bond amounts for different types of project.

Large Commercial (> 1 Acre)	\$75,000
Small Commercial (\leq 1 Acre)	\$15,000
Plat (\leq 10 Lots)	\$15,000
Plat (11-25 Lots)	\$25,000
Plat (\geq 26 Lots)	\$50,000
Single Family Offsite Construction (Per Lot)	\$2,500
E.g. Frontage Improvements	
E.g. Utility Extension (\leq 100 feet)	
Utility Extension (Each additional 100 feet)	\$1,000
Tenant Improvement Related Civil Project	\$5,000
E.g. Frontage Improvements, PIV Relocation, and etc.	



Redmond
WASHINGTON

RECORD DRAWING REQUIREMENTS

Effective August 2020

Approved for Use

DocuSigned by:

Steve Flude

2/8/2021

Steve T. Flude, P.E.

Date

City Engineer

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Purpose of Document

The purpose of this document is to outline the minimum standards and requirements the City of Redmond will accept for Record Drawing submissions. Plan preparers should review this information prior to beginning and submitting any drawings to the City to ensure that the eventual record drawing format, datum and content will meet City standards

Private Development Submittal Requirements

This process should be completed within 4 ½ months from the date of notification to submit record drawings. If the record drawings are not completed in a timely manner the record drawing cash deposit may be forfeited.

The preparer will be notified when to start each phase below.

- **Phase I - Construction Inspection and Engineering Review**
 - One (1) full size "Gold Set" of plans (original contractor's "red-line" markups including all approved Request for Information (RFI) or field changes)
 - One (1) full size bond set of print, 22" x 34" (Record Drawings)
- **Phase II - GIS Review** (after receiving approval from engineering review)
 - Upload one composite DWG file (AutoCAD 2018 or earlier file format via the City of Redmond's file transfer site. (See File Transfer Site instruction document for detailed instructions)
 - Completed "Digital Submittal Checklist" (Appendix A)
 - One full-size record drawings in PDF format (All sheets in one file)
- **Phase III - Final Submittal** (after receiving approval of the preliminary record drawings)
 - One (1) searchable PDF of the drawing file
 - Upload to the City of Redmond's File Transfer Site, full-size record drawings in TIFF (one (1) file per drawing sheet with the specific record drawing number labeled as filename. E.g. 20-1000.tif, 20-1001.tif, 20-1002.tif, and so on) format at minimum of 300 DPI

Datum Requirements

The datum will be recorded on the cover sheet and shall read exactly as follows:

Horizontal datum: Washington State Plane North, NAD 83 (91-HARN)
Vertical datum: Vertical: NAVD 88

AutoCAD drawings are to be drafted utilizing this datum for insertion into the City's GIS system. In addition, tie the project to two (2) City of Redmond Horizontal Control Monuments and two (2) City of Redmond Vertical Control Datum benchmarks. For Horizontal Control information, please contact Development Engineering at (425) 556-2876 or come to the 2nd floor of City Hall. Vertical Control Survey information can be found at <http://gis.redmond.gov/vertical/vertical.aspx#/MapView>.

Drawing Standards

(See Appendix B for additional requirements)

- A. Record drawings shall be accurate, clean, clear and easily readable. In congested areas, additional blow-up details will be required for readability.
- B. The record drawings must be prepared and certified by a Professional Engineer and/or Professional Land Surveyor currently licensed in the State of Washington. Their stamp and signature must be on each sheet.
- C. The following wording must be shown on each page and must appear as shown: "RECORD DRAWING"
- D. The City of Redmond's six-digit record drawing number shall be in the lower right corner of each sheet in sequential order starting with the project index number on the cover sheet.
- E. Provide flow direction arrows on utility systems and manhole numbers when applicable.
- F. Manhole numbers are assigned by City staff.
- G. The digital drawing shall match paper drawing; the record drawings (TIFF and PDF formats) shall match the AutoCAD file.
 - a. AutoCAD drawing shall be one composite file in model space.
 - b. Include all third-party files in the composite such as: street lighting and conduit etc.
 - c. No reference files and no locked or frozen layers will be accepted.
 - d. **Tip:** when "binding" reference files into the current drawing use the *INSERT* option, then *EXPLODE* the block reference that was created during the bind.
- H. Do not alter, modify, or erase original approved construction drawing text. Show changes in invert elevations, dimensions, notes, etc. by lining out the original text and placing the new information near it.
- I. J. Items or sheets not built shall be put on a "Not Built" (NBLT) layer and crossed out. The NBLT layer shall be included in the composite DWG file.
- J. K. Record drawings shall include the "As-Built" certification block. (Development projects only)
- K. L. Record Drawing submittal must include all sheets listed in approved construction plan sheet index.

Private Development Submittal Process

Uploading Documents to the City of Redmond's File Transfer Site:

Go to website: <https://redmond.leapfile.net>

Upload all files. Zipped files can be accepted as one file.

(see File Transfer Site Instructions sheet for detailed instructions)

Capital Improvement Projects Submittal Process (CIP)

Purpose

The purpose of this document is to outline the minimum standards and requirements the City of Redmond will accept for Record Drawing submissions. Plan preparers should review this information prior to beginning and submitting any drawings to the City to ensure that the eventual record drawing format, datum and content will meet City standards.

Datum Requirements

The datum will be recorded on the cover sheet and shall read exactly as follows:

- Horizontal datum: Washington State Plane North, NAD 83 (91-HARN)
- Vertical datum: Vertical: NAVD 88

AutoCAD drawings are to be drafted utilizing this datum for insertion into the City's GIS system.

In addition, tie the project to

- two (2) City of Redmond Horizontal Control Monuments, and
- two (2) City of Redmond Vertical Control Datum benchmarks.

For Horizontal Control information, please contact Development Engineering at (425) 556-2876 or visit the 2nd floor of City Hall.

Vertical Control Survey information can be found at

<http://gis.redmond.gov/vertical/vertical.aspx#/MapView>.

Start of Design

The Record Drawing Requirements will be sent to the Consultant.

30% Design Submittal

The City will provide the Consultant with record drawing numbers for the project.

As part of the design submittal, the Consultant will submit the following to GIS for an intake review:

- Upload to the City of Redmond's File Transfer Site with one composite DWG file (AutoCAD 2018 or earlier)
- Completed "Digital Submittal Checklist" (Appendix A of the Record Drawing Requirements)

Project Closeout

The project manager and inspector will review the construction markups on the Inspector's plan set and the set provided by the Contractor. The project manager will send the marked-up plan set to the consultant, once satisfied that all changes have been noted.

The Consultant will use the marked-up plan set to update their project CAD file per the requirements in the City of Redmond's Record Drawing Policy.

When complete, the Consultant will submit the following to the City for GIS review:

- Upload to the City of Redmond's File Transfer Site, one composite DWG file (AutoCAD 2018 or earlier)
- Completed "Digital Submittal Checklist" (Appendix A of the Record Drawing Requirements)

Comments or recommendations for changes or corrections will be provided and returned to the Consultant. The Consultant will make corrections and resubmit the digital CAD file and Digital Submittal Checklist. This process will continue until all comments have been addressed.

Drawing Standards

(See Appendix B for additional requirements)

- A. Record drawings shall be accurate, clean, clear and easily readable. In congested areas, additional blow-up details will be required for readability.
- B. The record drawings must be prepared and certified by a Professional Engineer and/or Professional Land Surveyor currently licensed in the State of Washington. Their stamp and signature must be on each sheet.
- C. The following wording must be shown on each page and must appear as shown: "RECORD DRAWING"
- D. The City of Redmond's six-digit record drawing number shall be in the lower right corner of each sheet in sequential order starting with the project index number on the cover sheet.
- E. Provide flow direction arrows on utility systems and manhole numbers when applicable.
- F. Manhole numbers are assigned by City staff.
- G. The digital drawing shall match paper drawing; the record drawings (TIFF and PDF formats) shall match the AutoCAD file.
 - a. AutoCAD drawing shall be one composite file in model space. Include all third-party files in the composite such as: street lighting and conduit etc.
 - b. No reference files and no locked or frozen layers will be accepted.
 - c. **Tip:** when "binding" reference files into the current drawing use the *INSERT* option, then *EXPLODE* the block reference that was created during the bind.
- H. Do not alter, modify, or erase original approved construction drawing text. Show changes in invert elevations, dimensions, notes, etc. by lining out the original text and placing the new information near it.
- I. Items or sheets not built shall be put on a "Not Built" (NBLT) layer and crossed out. The NBLT layer shall be included in the composite DWG file.
- J. Record drawings shall include the "As-Built" certification block. (Development projects only)
- K. Record Drawing submittal must include all sheets listed in approved construction plan sheet index.

CIP Record Drawing Submittal

How to Succeed with Your Submittals

The drawings must include the following features in addition to the information required by the Record Drawing Requirements document:

- The horizontal datum on the cover sheet must read "Washington State Plane North, NAD 83(91-HARN)".
- The vertical datum on the cover sheet must read "NAVD 88".
- The CAD file and the plans must match.
- Record Drawing numbers are in sequential order on each sheet.
- Have the certified professional stamp with signature and date on each sheet.
- Have "Record Drawings" or "As-Built" labeled on each sheet.
- Manhole numbers on the Wastewater Plan sheets and Wastewater Profile Sheets must match.

If you have any questions, please call the Project Manager assigned.

How to submit record drawings

Contact the project manager assigned to the project for instructions.

APPENDIX A: Digital Record Drawing Submittal Checklist

IMPORTANT: Please submit this checklist with your digital CAD file of the approved Record Drawing.

Project Name:

Redmond Drawing Number

Please fill out the contact information for the person who drafted the CAD drawing and can answer questions about the digital CAD file:

Name:

Company:

Phone:

Email:

Digital Submittal Specifications: (please initial and date each item below as completed)

Initial	Date	
		Single CAD Drawing -AutoCAD drawing shall be one composite file in model space. Include all third-party files in the composite such as: street lighting and conduit etc. No reference files and no locked or frozen layers will be accepted. Include only one composite DWG file on each file per submittal. <i>Tip: when "binding" reference files into the current drawing use the INSERT option, then EXPLODE the block reference that was created during the bind.</i>
		File is in the following Coordinate System: --Horizontal: Washington State Plane North, NAD 83 (91-HARN) --Vertical Datum: NAVD 88 --Survey Feet
		CAD Format -AutoCAD 2018 DWG or earlier
		All set drawings as individual PDF files labeled with drawing title and drawing number
		Full-size record drawings in TIFF (one file per drawing sheet with the specific record drawing number labeled as filename.) Format at minimum of 300 DPI
		Checklist completed and included with flash drive.

Digital CAD Layer/Level Documentation

Site Plan CAD Drawing File Name (example:RedmondCityHall.dwg)

Feature Groups	Digital CAD Layer Name or Level Number
New Stormwater Drainage/Mgt and annotation	
Existing Stormwater Drainage/Mgt and annotation	
New Natural Resource and annotation	
Existing Natural Resource and annotation	
New Wellhead Protection and Annotation	
Existing Wellhead Protection and Annotation	
New Water System and annotation	
Existing Water System and annotation	
New Sanitary Sewer and annotation	
Existing Sanitary Sewer and annotation	
Other Utilities and Easements	
Telecommunications	
Demolition/Abandonment	
New Transportation and annotation	
Existing Transportation and annotation	
New Buildings and annotation	
Existing Buildings and annotation	
Parcels and annotation	
Temporary Shoring Wall/Soil Anchors	
Landscaping	
Not Built (NBLT)	

Features to be included on approved record drawing digital submittal:

NOTE: Detailed Description of Special Features included in Appendix B

<p>Stormwater Management: Pipes Catch basins Manholes Inlets Culverts Underdrains Vaults Ponds Biofilters/Swales/ Ditches Infiltration Systems/French Drains Other Drainage Features (as appropriate)</p> <p>Natural Resources: Streams Wetlands</p> <p>Wellhead Protection: Monitoring Wells</p> <p>Water System: Hydrants Service Lines Meters</p>	<p>Water System continued: PRV Fire System Private Fire Pipe Monitoring Stations Backflow Devices Easements Water Pipe Tie-in</p> <p>Sanitary Sewer: Manholes Pipes and Fittings Side Sewer Valves Sewer pipe Manhole Additions Cleanouts Grease Interceptors/Oil Water Separators Easements Pump Stations</p> <p>Other Utilities and Easements: Other Utilities Easements</p> <p>Telecommunications: Antennas Radio Equipment Cables</p>	<p>Demolition/Abandonment</p> <p>Temporary Shoring Wall/Soil Anchors</p> <p>Transportation: Pavement Curb Ramp Numbers Curb and Gutter Driveways Channelization Signage Sidewalk Street Lighting and Cabinets Traffic Signals and Cabinets Monument Cases Conduit Junction Boxes Loop Detectors</p> <p>Landscaping: Irrigation Trees/Plantings</p> <p>Not Built (NBLT): Crossouts</p> <p>Bridges</p>
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APPENDIX B: Specific Feature Requirements

Record Drawings must show accurate locations of storm, sewer, water mains, other water appurtenances, structures, conduits, power poles, light standards, vaults, width of streets, sidewalks, landscaping areas, building footprints, temporary shoring wall/soil anchors, channelization and pavement markings, property lines, easements, etc.

The following is a partial list of the tolerance limits and construction features to be incorporated into the Record Drawings.

Tolerance Limits:

- Surveyed sewer and storm water elevations includes: pipe invert elevations, top of casting manholes, inlets, etc..... ±0.01 feet
- Surveyed water elevations..... ±0.25 feet
- Horizontal and vertical alignment..... ±0.10 feet

The following requirements provide a minimum guide to the engineer of record and should be used along with good engineering practices and shall be field verified and/or surveyed as outlined.

Storm Drainage

Storm drainage features are intended to move rainwater runoff and/or groundwater. Record drawings shall indicate all necessary information about the storm drainage system to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for storm drainage, at minimum, should include, but not be limited to:

Feature	Field Verify	Survey	Redraw	Recalculate	Indicate
Pipes	Material and diameter.	Inverts and location of ends (not in structures).	Pipe if moved 2 feet or more.	Slope based on record length and surveyed inverts.	New information on plans (slope, length, diameter etc.).
Catch Basins, Manholes, Inlets	Size, type, cover type, throat, vane grate, etc.	Rim elevation, bottom elevation, and location of structure.	Structure if moved 2 feet or more.	–	New information on plans (size, type, etc.).
Culverts	Material, shape and size and indicate if flowline is undisturbed, exposed culvert material or filled with streambed sediment.	Location of ends, inverts of structure ends and inverts of stream.	Culvert if moved 2 feet or more.	Slope based on record length and surveyed inverts.	New information on plans (slope, length, diameter etc.).
Underdrains	Pipe location, material, cleanout locations.	Not required.	Underdrains if moved 2 feet or more.	–	New information on plans (slope, length, diameter etc.).
Other Drainage Features	–	–	Feature if moved 2 feet or more.	–	–

Stormwater Management

Stormwater Management features are intended to control the rate and/or quality of the rainwater runoff. Record drawings shall indicate all necessary information about the stormwater management system to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for stormwater management, at minimum, should include but not be limited to:

Feature	Field Verify	Survey	Redraw	Recalculate	Indicate
Vaults	Material, type, size, control systems (orifice size, weir dimensions).	Control structure location, control elevations (orifice inverts, weir elevations), bottom elevation, and access locations.	Structure if moved 2 feet or more.	–	New information on plans (control volume, control elevation, live storage volume, floor elevation, size, shape, etc.).
Ponds	Size and shape.	Control structure location, control elevations (orifice inverts, weir elevations), overflow elevation, bottom elevation, and water surface shape (spot locations around edge of water surface, enough to indicate shape/location—six shots minimum).	Pond if moved 10 feet or more.	Size based on water surface shape.	New information on plans (size, shape, etc.).
Biofilter, Swales	Length and width.	Inlet invert and outlet invert.	Biofilter/Swale if moved 2 feet or more.	–	–
Infiltration system, French drains	Material, size and pipe (size, type and diameter).	Inlet inverts and bottom elevation.	Feature if moved 2 feet or more.	–	–

Natural Resources

Natural Resources features are non-structural features that convey and/or hold water. Record drawings shall indicate all necessary information about the Natural Resources to evaluate whether the constructed features will be able to function as intended by the design.

Feature	Field Verify	Survey	Redraw	Recalculate	Indicate
Streams	Ordinary High Water Marks (both banks) of stream.	–	Streams Swale and Ordinary High Water Marks (both banks) of stream if moved 2 feet or more.	–	–
Wetlands	As needed to delineate for survey.	Boundary of created or modified wetlands.	Wetland if moved 10 feet or more.	Size based on wetland shape.	New information on plans (size, shape etc.).

Wellhead Protection

Wellhead protection features are systems that monitor groundwater. Record drawings shall indicate all necessary information about the natural resources to evaluate whether the constructed features will be able to function as intended by the design.

Feature	Field Verify	Survey	Redraw
Monitoring Well	Size (diameter of well) and state reference number.	Locations, cap elevation, and ground elevation (if different then cap elevation).	Monitoring wells if moved 2 feet or more.

Water System

Water system features are intended to move or hold potable water. Record drawings shall indicate all necessary information about the water system to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for the water system, at minimum, should include, but not be limited to:

Feature	Field Verify	Survey	Redraw	Indicate
Pipes and Fittings	Manufacturer, material, size, joint type, fitting. Distance between fittings (center of tees, crosses, and bends). Location of all inverts and utility crossings. Depth of pipes (verify during installation at every fitting and appurtenance).	Horizontal location of main -Outside of ROW, every 100 feet -Within ROW, distance off centerline of road (use pipe locator for location)	Pipe if moved 2 feet or more horizontal or 0.5 feet or more vertically.	New information on plans (manufacturer, material, diameter, horizontal and vertical location of main, length between fittings, joint type, backfill material etc.).
Valves	Size, type, valve manufacturer, depth of operating nut, length of valve nut extension used.	Horizontal location as follows: -Gate Valve –center of valve (same as center of box) -Butterfly Valve –center of valve and box -Air & Vacuum–center of meter box assembly, and center of stand pipe at post -Blow Off –center of meter box assemble	Valve if moved 2 feet or more.	New information on plans (manufacturer, size, type etc.).
Hydrants	Manufacturer and hydrant bury depth.	Horizontal location of hydrant (center of valve stem). Vertical elevation of safety flange.	Hydrant if moved 2 feet or more.	New information on plans (manufacturer, bury depth).
Service Lines	Material, size, and locations.	Not required.	Service lines and setter, if moved 2 feet or more.	New information on plans (size, type, etc.).
Meters	Type, size, vault or box and size.	Horizontal locations of center of box and four corners of vault.	Box or vault if moved 2 feet or more.	New information on plans (size, type, etc.).

Pressure Reducing Valve	Size, vault size, vault drain data.	Horizontal locations of relief pipe, catch basin, air vac stand pipe and four corners of vault.	Vault if moved 2 feet or more.	New information on plans (size, type, etc.).
Fire System/Private fire pipe	Materials, sizes, locations of pipe and appurtenances.	Horizontal locations of Post Indicator Valve (PIV), center of Fire Dept. Connection (FDC), and four corners of vault. All valves, connections to city mains.	Pipe, vault, PIV, and FDC if moved 2 feet or more.	New information on plans (size, type, etc.).
Monitoring Stations	Service line size, drain.	Horizontal locations of station (center), tap, and drain.	Station if moved 2 feet or more.	New information on plans (size, type, etc.).
Backflow Devices–Interior to building Easements	Device brand, type, size, service line size, and location of drain. Not required.	– Coordinate easement area with all facilities to be included in easement. Plot easement legal description.	–	– Show easement edges from surveyor’s legal description and recording numbers.
Water Pipe Tie-in	–	–	–	Show inverts and length of pipe from upstream and downstream valves or fittings.

Sanitary Sewer

Sanitary sewer system features are intended to transport sanitary waste into a collection system. Record drawings shall indicate all necessary information about the sewer system to evaluate whether the constructed features will be able to function as intended by the design. At a minimum, record drawing information for sanitary sewer should include, but not be limited to:

Feature	Field Verify	Survey	Redraw	Recalculate	Indicate
Manholes	Manhole diameter, type, and manufacturer.	Horizontal locations of center of manhole, center of lid, and elevations of rim and all inverts.	–	–	Note all changes (manufacturer, type, etc.) and correct elevations.
Pipes–Gravity Sewer Main	Manufacturer, material, and size. Distance to each side sewer tee location from downstream manhole.	Horizontal length of pipe from center of manhole to center of manhole.	Pipe if moved 2 feet or more.	Slope based on record length and surveyed inverts.	New information (manufacturer, slope, length, diameter, etc.).
Pipe and Fittings–Force Main	Manufacturer, material, size, joint type, and fittings. Distance between fittings (center of tees, crosses, bends). Location of any invert and of any utility crossings. Depth of pipes (verify during installation at every	Horizontal location of main: -Outside of ROW, every 100 feet -Within ROW, distance off centerline of road (use pipe locator for location)	Pipe if moved 2 feet or more.	Slope based on record length and surveyed inverts.	New information (manufacturer, slope, length, diameter, etc.).

	fitting and appurtenance).				
Side Sewer–Plats	Material, size, and length of side sewer stub and side sewer 2x4 locations.	Locations of side sewer ends (marked by 2x4). Ground elevation at 2x4, length of exposed 2x4. Calculate side sewer invert elevation.	–	–	For all changes show side sewer tee station, length of stub and invert elevation.
Side Sewer–Commercial	Material, size, and length of side sewer stub and distance between each cleanout.	Horizontal location and ground elevation of all side sewer surface cleanouts.	–	–	Note all changes, show location and ground elevation of side sewer cleanouts.
Valves	Size, type, valve brand, depth of operating nut, length of valve nut extension used and manufacturer.	Horizontal location as follows: -Gate Valve–center of valve (same as center of box) -Air & Vacuum–center of meter box assemble and center of stand pipe at post -Blow Off–center of meter box assemble	Valve if moved 2 feet or more.	–	New information on plans (manufacturer, size, type etc.).

Feature	Field Verify	Survey	Redraw	Recalculate	Indicate
Sewer Pipe					
Manhole Additions (Tie in a manhole to existing pipe.)	Manhole diameter, type, and manufacturer.	Lengths, invert elevations.	–	Length of pipe from new and existing manholes.	Note all changes. Slope and new information on plans (manufacturer, diameter, type, etc.).
Cleanouts	Size.	Horizontal location of, and rim elevation at center of box.	Structure if moved 2 feet or more.	–	New information on plans.
Grease Interceptor/Oil Water Separators	Pipe materials, size and vault dimensions and size.	Horizontal locations of four corners of the vault.	–	–	Show vault dimensions and size, and pipe elevations.
Easements	Not required.	Coordinate easement area with all facilities to be included in easement. Plot easement legal description.	–	–	Show easement edges from surveyor’s legal description and recording numbers.
Pump Station	See Engineer.	See Engineer.	See Engineer.	See Engineer.	See Engineer.

Other Utilities and Easements

Record drawings shall indicate all necessary information about other utilities and easements when encountered and/or new utilities constructed. Other utilities include but not limited to: communications, fiber, natural gas, and power. Record drawing information for other utilities and easements, at minimum, should include but not be limited to:

Feature	Field Verify	Survey	Recalculate	Indicate
Other Utilities	Location and depth of all existing utilities encountered, and new utilities constructed.	Not required.	–	Show utilities encountered and their depth.
Easements	Not required.	Coordinate easement area with all facilities to be included in easement. Plot easement legal description.	–	Show easement edges from surveyor's legal description and recording numbers.

Temporary Shoring Wall/Soil Anchors

Shoring systems utilizing soil anchors are temporary structures used to support excavations for the construction of retaining walls and building foundations. Record Drawings shall indicate all necessary information about the temporary shoring wall system to evaluate whether the constructed features were installed as designed. Record drawing information for the temporary shoring system, at a minimum should include, but not be limited to:

Feature	Field Verify	Survey	Redraw	Indicate
Shoring Wall	Size, type, location.	Horizontal wall alignment.	If moved for than 2 feet or more.	New information, horizontal location, top of wall elevation.
Anchors	Size, type, location.	Not required.	If moved 2 feet or more.	New information, horizontal location, top of wall elevation.

Telecommunications

Telecommunications features are cellular facilities including but not limited to: antennas, radio equipment, and cables. Record drawings shall indicate all necessary information about the cellular facilities to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for cellular facilities at minimum, should include but not be limited to:

Feature	Field Verify	Survey	Show
Antennas	Location.	Not required.	On record drawing.
Radio Equipment	Location.	Not required.	On record drawing.
Cables	Location.	Not required.	On record drawing.

Demolition/Abandonment

Place all features that are to be demolished or abandoned on the Demolition/Abandonment CAD layer. New features shall not be added to Demolition/Abandonment CAD layer. Demolition/Abandonment CAD layer shall show features demolition or abandonment only.

Feature	Field Verify	Survey	Redraw	Indicate
Demolition/Abandon	–	If required.	–	–

Transportation

Transportation system features are intended to move vehicles/pedestrians etc. in a safe manner about the city. Record drawings shall indicate all necessary information about the transportation features to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for transportation, at minimum, should include but not be limited to:

Feature	Field Verify	Survey	Redraw	Indicate
Pavement/Speed Humps	Material, depth, width, height.	Not required.	If moved by 2 feet or more	New information on plans.
Curb and Gutter	Location of face of curb and type.	Not required.	If moved 2 feet or more.	New information on plans (type etc.).
Driveways	Location, width and type.	Not required.	If moved 2 feet or more.	New information on plans (type etc.).
Channelization	Materials and layout.	Not required.	If moved 2 feet or more.	New information on plans.
Signage	Location, size, and type.	Not required.	If moved 2 feet or more.	New information on plans.
Sidewalk	Location, material, and width.	Not required.	If moved 2 feet or more.	New information on plans (type etc.).
Street Lighting	Location.	Pole and electrical service cabinet locations.	If moved 2 feet or more.	New information on plans (pole material, wattage, height, arm length, luminaire type, lamp type, etc.).
Traffic Signals/Traffic Control Devices	Not required	Pole, traffic signal, and electrical service cabinet locations.	If moved 2 feet or more.	New information on plans (manufacturer, size, type etc.).
Monument Cases	Location and materials.	Horizontal coordinates.	If anything changes	New information on plans.
Conduit/Cable	Location, depth, materials, and size.	Not required.	If moved 2 feet or more.	New information on plans.
Junction Boxes	Location, type and conduit entrances.	Not required.	If moved 2 feet or more.	New information on plans.
Loop Detectors	Location.	Not required.	If moved 2 feet or more.	New information on plans.
ADA Ramps	Location and curb ramp number. Slopes and measurements of all ramp elements including ramp, wings, and landings.	Capture all slopes with a calibrated 4-ft digital level. Confirm all measurements including lengths and widths. Non-compliant ramps must have Maximum Extent Practicable approval from the City.	If anything changes	New information on plans.

Landscaping

Landscaping features are intended to enhance the natural environment. Record drawings shall indicate all necessary information about the landscaping to evaluate whether the constructed features will be able to function as intended by the design.

Feature	Field Verify	Survey	Indicate
Irrigation	Not required.	Not required.	Have entire irrigation system shown including meter.
Trees/Plantings	Not required.	Not required.	Note any plantings or trees that were not planted or retained.

Not Built (NBLT)

Do not alter, modify, or erase original approved construction drawing items or sheets. Items or sheets not built shall be crossed out and placed on NBLT CAD layer; new features will be added to appropriate CAD layer with updated annotation on record drawings. New features shall not be added to NBLT CAD layer. NBLT CAD layer shall show only proposed features not built.

Feature	Field Verify	Survey	Redraw	Indicate
Crossouts	Not built features.	If required.	Crossouts if moved 2 feet or more.	Crossouts with new information on plans (size, type, etc.).

Bridges

Bridges serve a vital link between different parts of the City. Record drawings shall indicate all necessary information about the bridge structure to evaluate whether the constructed features will be able to function as intended by the design. Record drawing information for bridges at minimum, shall include but not be limited to:

Requirement	Field Verify	Survey	Redraw	Indicate
Foundation /Substructure Elements	Type, Location and elevation	Survey	Re-draw if changes materially impact the structural design, operations, or maintenance of the bridge or elements move by 0.5 feet or more.	New information on plans
Superstructure Elements	Type, Location and elevation	Survey	Re-draw if changes materially impact the structural design, operations, or maintenance of the bridge or elements move by 0.5 feet or more.	New information on plans
		Survey		New information on plans
Approach Slab	Type, Location and elevation		Re-draw if changes materially impact the structural design, operations, or maintenance of the bridge or elements move by 0.5 feet or more.	
				New information on plans
Bridge deck	Type, Location and elevation	Survey	Re-draw if changes materially impact the structural design, operations, or maintenance of the bridge or elements move by 0.5 feet or more.	
Load Rating Data				Provide Final Report
Earthquake analysis data				Provide Final Report

Scour evaluation, if applicable				Provide Final Report
Drill Shaft Inspection Records				Provide Records
Pile Driving Records				Provide Records
Record of Engineer approved repairs due to request for corrections				Provide Records
Any structural special inspection reports				Provide Final Reports
Material Certification test data				Provide Final Testing Results
Construction Specifications				Provide final Project Specifications
Maintenance Agreements				Provide Final Agreements
Any third-party Agreements				Provide Final Agreements