



Construction Plan Review Checklist

Project Number:	Date:
Project Name:	DE:
Location:	Engineer:

Code sections refer to Public Works Standards (PWS) except as noted otherwise. GCDC = Gresham Community Development Code

STANDARD	Code	Complete	Needs Revision	Missing	N/A
SUPPORTING DOCUMENT SUBMITTALS					
Developer's Information Form submitted (<i>DE provide to Program Tech</i>).	Link				
Authority to sign submitted if owner is not an individual (<i>example: operating agreement or letter of authority</i>)					
Engineer's Estimate Template submitted.	Link				
Impervious and Pervious Surface Site Drawing submitted.	Link				
Final storm report submitted that includes the infiltration test, graphically shows expected impervious area of each lot (should be at least 2,500 square feet per lot).					
Stormwater Facility Tracking Form submitted and includes the required attachment.	Link				
Water Meter Sizing Chart submitted.	Link				
Any necessary design modifications submitted on correct form with supporting documents included.	Link				
If right-of-way by separate instrument is required, a site plan and a legal description of dedication submitted.					
Right-of-way permit submitted. <i>Proof of insurance and traffic control plan may be deferred until just before Notice to Proceed.</i>	Link				
If a Stormwater Agreement Maintenance agreement is needed, cross section of raingardens, over flow elevations and any other applicable pertinent stormwater features were provided.					
If an encroachment license is needed, a site plan showing type, location of encroachment, and height, width and depth of encroachment. A legal description of the site (not encroachment) is also needed.					
If a reimbursement district is requested, all required submittal items were submitted as outlined on the application form.					
Preliminary PGE Plan that shows the electricity to development and street lights. Final plan required before construction plan approval.					

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GENERAL					
Vicinity map. Must be at a scale and clarity that is useful.	CAD Manual				
Index of sheets.	CAD Manual				
Complete legend of symbols used.	CAD Manual				
General and construction notes pertinent to project. Check for standard notes.	Link				
Project Number (07 number) in Title Block.					
Temporary and/or permanent benchmarks used, along with descriptions, elevations of benchmarks and datum. National Geodetic Vertical Datum of 1929, 1947 adjustment.	CAD Manual				
Must reference a City of Gresham Benchmark, and be verified by Austin Bennington (City Surveyor) or via Gresham Control Points Map on City Website.	Link				
Engineer's name, address, phone number and seal.	CAD Manual				
Developer's/owner's name, address and phone number.	CAD Manual				
Provide contact phone number for all affected utility companies, including City utilities and Transportation.	Link				
Show tax lot numbers and address provided by Addressing Technician. Use existing address for land divisions.	CAD Manual				
22" x 34" Standard sheet size with City frames.	CAD Manual				
Conditions of Approval related to public facilities construction met.					
Plat Sheet included and consistent with public facilities plans, such as easement types, easement ownership, and rights-of-way dedications.					
Where profiles are drawn on the same sheet as the plan view, the profile shall be immediately below the plan view (aligned) with the same horizontal scale as the plan sheet.	CAD Manual				
Sheets to have match line for adjoining sheets.	CAD Manual				
Correct City street name shown and classification.					
North arrow, bar scale, and narrative scale on each sheet.					
Public Utility Easements shown on plans shall be 20' minimum (depending on depth and size of utility). Utilites greater than 8' 8" in depth and/or 8" in diameter may need wider easements.	2.07.02				
Show all existing and proposed easements on the site and identify easements as public or private.	CAD Manual				
Site composite utility plan of entire project with street right-of-way and/or subdivision layout is at a scale that is easy to read.	CAD Manual				
Location of all underground utilities within 100 feet of project (if they are affected by the project), existing utility poles and guy anchors, valves, manholes, catch basins, fire hydrants, meter boxes and vaults, signs, etc.	CAD Manual				

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Show all franchise utility crossings at intersections. Conduit to be provided, if actual utility not installed prior to paving.					
All non-City franchise utilities should be located in a GUE where available unless approved by Transportation as a design modification.	Detail 601				
Single family only: verify street tree spacing, and number of trees. <i>Single family attached: One tree per frontage.</i> <i>All other uses: One tree per 30'.</i> <i>Collector or higher classification: at least two trees, three if a corner lot.</i>	6.02.18				
Verify that street trees are not within 15 feet of street lights and catch basins, within 5 feet of driveway cuts or underground public utilities or 12 feet of nearside of a crosswalk or vehicular approach side of an intersection.	Table 6.02.18 Notes 2 and 3				
Verify that street trees are a minimum of 1.75" caliper.	6.02.18				
Review plans for any trees that qualify as a Major Tree and possible design modifications that could be approved to protect/retain them.	Internal Hyperlink				
For single family residential development the plans must include a note that the street trees and sidewalks are to be installed with home construction.					
Verify street tree type is on the approved list and appropriate for the planter strip width.	Link				
Trees in rain gardens must be on the approved street tree list as well as the draft Stormwater Plant List.	Link				
Verify tree protection/fencing is shown on plans.					
Verify environmental overlay zones (HCA & ESRA) are shown on plans.					
Grading plan with back lot drainage swales and private storm lines shown on plans.					
Erosion control plan shown.	CAD Manual				
Erosion Control Plan notes included.	Link				
Erosion Control Plan details Included from Stormwater Management Manual.	EPSC-2 - EPSC-21				
GENERAL STANDARD DETAILS	Detail #				
Will centerline monument box be required as part of this project? Required with new street or adjusted centerline for collector streets and higher. Note: 5/8" iron rod required for local streets.	634				
Does the project include placement of utilities in the public right-of-way?	601				

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TRANSPORTATION					
Street, sidewalk, and right-of-way width to City standards (see staff report).	6.02.02 6.04.01				
Pavement width illustrated (curb to curb) on each plan view sheet.					
Each roadway shall indicate its functional classification on the plan sheet associated with its construction.					
Verify no encroachments in rights-of-way unless approved by Senior Transportation Engineer. This includes building overhangs and appurtenances for 'zero lot line' buildings. Any approved encroachments must be shown on the construction plans and as-built. <i>See Right-of-way Encroachment Permit Review Type document for guidance.</i>	Internal Link				
To reduce damage by parking cars, no above ground infrastructure, trees and signs should be proposed within 5 feet of curb where cars back toward bump outs.					
Sidewalks fronting greenways and other public owned areas to be installed by developer.					
Sidewalks shall have unobstructed passage width of 5 feet. 48" minimum clear sidewalk width with manager's approval.	6.04.01				
Include handrails or fences where there is a vertical drop of 30" or greater at back of sidewalk.	6.04.01				
Check for ADA sidewalk ramps and conflicts with catch basins and raingardens.					
Show spot elevations at all four corners of ADA curb ramp and landing for a total of 6.					
Two ADA ramps required for each corner of intersection.	6.04.02				
If there is a sidewalk and no existing ramp at corners opposite the development site, an ADA ramp is required.	6.04.02				
Show curb profile in cul-de-sacs.					
Curb return data shall be on the same sheet the return is shown.					
Show gutter elevations at ¼ points around curb returns.					
Check minimum curb return radius is 30' for standard and major arterials, 25 for minor arterials and collectors, 20' for local streets except for minor access and alley which are 15'.	Table 6.02.14				
Profile both tops of curbs when street is warped.					
For new streets and street realignments, verify design speed and horizontal curve radii.	6.02.05 & 6.02.06				
Street Barricades (#633) or End of Road Markers (#628) at all dead-end streets. Use End of Road markers except where a drop off hazard exists (slopes steeper than 3:1 for at least 18").	Detail 628 & 633				
If an existing street is being extended, add note: Contractor is to call the City for barricade removal.					
Profile with existing ground or street shown.	CAD Manual				

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Vertical curves: Specify beginning, end, points of intersection, low points, high points, and length. Profile of existing centerline grade shall extend at least 250 feet beyond end of the improvement.	CAD Manual				
Street grades shown. Minimum 0.5%. Maximum 6% for major and standard arterials, 8% for minor arterials, 10% for collectors, 12% for local street classifications unless approved by manager using criteria in PWS.	6.02.11				
Grade tie-in to existing streets and future extension of streets accurate.					
No saw cuts in the wheel paths are proposed.					
Street lights:	6.02.17				
a. Check streetlight proposal for water meter and other conflicts.					
b. Shows all existing poles and lighting on both sides of street(s).					
c. For the following standards, proposal complies with draft Table 6.02.14a located in the current Streetlight Package available from the City Development Engineering Specialist:	Table 6.02.17				
*Frontage Spacing					
*Staggering					
*Height					
*Luminaire Style					
*Location from curb & trees.					
d. Transformer locations shown.					
e. Street light conduit shown. Required along entire site's frontage.					
f. Proposed detail provided for streetlights in raingarden. <i>Note: no street lights permitted in raingardens unless there is no alternative.</i>					
On 190th from SE 30th to Cheldelin, Transportation Engineering has reviewed and approved the elevations.					
Transportation Engineering Review:					
Existing signal conduits and detector loops are shown.					
Proposed new signal interconnect conduit and junction boxes are shown.					
Determine if installation of underground signal interconnect conduit is appropriate for frontage(s).					
Striping plan submitted and meets criteria.	6.02.20 & Cad Manual				
Signage plan submitted and meets criteria.	6.02.19 & Cad Manual				
If the project is on a bus route, indicate all bus stops along frontage(s) and note distance to nearest bus stops beyond the frontage in each direction of the applicable frontage.					

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If bus stop along frontage, determine if concrete pads are needed across planter strip for front and back door bus access.					
Review median design.					
Verify median detail included	Detail 636				
TRANSPORTATION STANDARD DETAILS		Detail #			
Does the project include the construction of public street?	603-613				
Does the project include a rain garden in the public right-of-way?	GS-101 - GS-110				
Does the project include the need to trench through concrete?	640				
Does the project include grind and inlay of pavement?	637				
Does the project include installation of curb?	620-622				
Does the new street section include a cul-de-sac?	615				
Does the new street section include a branch turnaround?	616				
Does the development include a dead end street?	628 or 630				
Will the project include new driveway approaches?	617-619				
Will the project include construction of sidewalk?	623				
Will the project include the installation of sidewalk ramps?	624				
Will an end of sidewalk marker be required?	629				
Will the project require any street signage?	631				
Does the project include the installation of speed bumps?	635				
Does the project include a public facility access road?	602				
Does the project include a public pedestrian or bicycle accessway?	626 & 627				
Does the project include the construction of a multi-use path (including on street paths)?	626 & 627				
Does the project include the installation of street trees ?	641 or 642				
Does the proposal include the installation of a fiberglass pole for street lighting.	643				
Does the proposal include the installation of an aluminum pole for street lighting.	644				
Does the proposal include the installation of a decorative acorn street light?	645				
Does the proposal include the installation of a decorative pendant street light?	646				
Does the proposal include the installation of a street light on a wood pole mast arm?	647				
Verify junction box detail included when needed. Verify that the proposal complies with detail.	648				
Verify signal communications conduit detail included when needed.	651				

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Verify street light disconnect detail (649) included when new public street lights installed and Streetlight Electrical Service Pedestal Detail (650) if CUP-4111 installed. If 17x30 jbox installed instead of CUP-4111, the installation is in a junction box per PGE's specs.	649 & 650				
STORMWATER					
Is stormwater addressed for every lot?					
Are backyard storm drains needed to protect lots from adjacent drainage? Private storm drains shall meet UPC.	4.13 & 4.14				
Explicitly note all WQ facilities outside of the ROW as "public" or "private" as applicable.					
Arrows showing direction of flow in street if profile not provided.	CAD Manual				
Standard corridor location 5 feet south or east of street centerline.	4.03.01				
Check composite sheet for horizontal and vertical alignment conflicts. All vertical separation of less than 1-foot must be specifically dimensioned on plans.					
Public storm pipe shall be reinforced concrete, HDPE solid wall, 3034 PVC, or polypropylene smooth interior corrugated exterior pipe. Specific pipe material must be called out on plans.	401.02 or 4.04				
Pipe cover minimum 30" in paved areas, 36" in unpaved areas.	4.03.02				
Max pipe bury 20' for ASTM D3034 SDR-35 PVC. Max pipe bury 20' for Polypropylene (dual-wall). See 2.08 for all other pipe types.	2.08				
For pipe size changes at a manhole, match crowns instead of inverts.	4.05.02				
Note included for new connections to existing manholes to rotate manhole cone/flat top and realign steps.					
Manhole spacing 500' maximum and at all changes in slope, alignment, size, and type, and at grade breaks and intersections.	4.05.02				
Flat top manholes shall be used when rim to crown is less than 4 ft.	Detail 203				
Blind 'T's only permitted for 4-inch and 6-inch stormwater laterals. All others, connection at a manhole, not a cleanout.	4.05.02				
Access structures (manholes, cleanouts) located within an easement are within 14 feet of edge of curb, measured from center of structure lid unless a commercial grade access is provided that allows for maintenance trucks to get within 14 feet of the structure.	4.05.01				
Inlet manhole required if two or more pipes discharge to structure or pipe is larger than 6" or design peak flow from onsite system exceeds 0.5 cfs.	4.05.03B				
150' max MH spacing for detention pipes when off-line from stormwater line.	Detail 406				
72" manhole normally required for detention structures. MH shall be shown on detention pipe profile.					
Minimum 4.5-foot vertical inside clearance between cartridge and top of water quality manhole or vault.					

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WQ manhole: 48" min for 1- and 2-cartridge; 60" min for 3-cartridge. More than 3 cartridges requires a vault.					
Maximum detention pipe size of 36".	4.04				
Catch basin maximum spacing 400-feet	4.05.03				
Catch basin leads: minimum 12-inch diameter.	4.04				
Catch basin required on upstream side of intersection.	4.05.03				
Catch basin required at end of dead end street with descending grade.	4.05.03				
Catch basin required at upstream or downstream end of street improvement abutting unimproved roads or property.	4.05.03				
Double catch basins required at low point (sag) of vertical curves.	4.05.03A Detail 401D				
Stationing included for all services and structures.					
Is upstream drainage inlet provided?					
Is outfall protection noted and adequate (rip-rap, energy dissipater, flared ends, etc.)?	4.12.04				
Do rip-rap dimensions meet PWS?	4.12.04				
Downstream property or pipe not adversely affected by concentration, point of discharge, volume or pollutants.	4.08				
Stormwater not to be discharged onto other property without easement.	4.01				
If in a wellhead protection area, a paved area shall be placed underneath and around any area where hazardous material loading and unloading will be conducted. <i>To be verified by Wellfield staff; Development Engineering to alert.</i>	Wellfield Reference Manuals: 3.4.2				
If in a wellhead protection area and if drainage from a loading or unloading area can enter a stormwater conveyance system, drain covers, absorbent booms, diking material sufficient to isolate spilled material, or a quick-closing valve and proper signage shall be provided. <i>To be verified by Wellfield staff; Development Engineering to alert.</i>	Wellfield Reference Manuals: 3.4.2				
If a proprietary vault is being used for public WQ treatment, verify with City staff the make and model are on the approved list.					

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STORMWATER STANDARD DETAILS		Detail #			
Does the project include the installation of stormwater manholes? <i>Manhole</i> - 27" diameter or less: Standard: 301, Shallow: 303 / 30" or greater diameter: Standard 302, Cast in place: 306 <i>Frame</i> - Suburban: 307, Industrial: 308, Water/tamper proof: 309 <i>Cover</i> - Standard: 413B, Tamperproof: 413A <i>Step</i> - 313 or Hanging Ladder: 411	Multiple				
Does the project include installation of new public stormwater pipe? <i>Pipe Bedding and Backfill</i> - 214 <i>AC Pavement Restoration</i> - 639; <i>PCC Pavement Restoration</i> - 640, <i>Trench and Resurfacing</i> - 315 <i>Joints (only for large diameter pipes)</i> - 310-312	Multiple				
Does the project include installation of catch basins? <i>Standard</i> - 401A-C, <i>Double</i> - 401C-D, <i>Non-grated</i> - 403	Multiple				
Does the project include the installation of a ditch inlet? <i>Ditch Inlet</i> - 404 A & B <i>Inlet Manhole</i> - Standard: 405A&B, Alt Top: 405C, Non-grated: 405D	Multiple				
Does the project include detention pipe?	405A & B and 406				
Are the invert, orifice, and overflow elevations shown on flow control MH detail 407?	405A				
Does the project include a storm sump (drywell) system? <i>Standard</i> - 407, <i>Retrofit</i> - 408	409 & 410				
Does the project require that the height of a manhole be adjusted following changes to the adjacent pavement height?	638				
WASTEWATER					
Standard corridor location 5 feet north or west of street centerline.	3.03.01				
Future line extension provided. Show topography for at least 100 feet beyond site boundary.	CAD Manual, 2.02.07 & 2.02.08				
Pipe depth shall be minimum to provide for future extension.	3.01				
Max pipe bury 20' for ASTM D3034 SDR-35 PVC. See 2.08 for all other pipe types.	2.08				
Check composite sheet for horizontal and vertical alignment conflicts. All vertical separation of less than 1-foot must be specifically dimensioned on plans.					
Minimum clear distance from water mains 5' horizontal, 18" vertical (sewer beneath water main).	Detail 510 & 5.02.04				
DI pipe required where vertical separation is less than 18", or horizontal separation is less than 5', or when cover is less than 3' from subgrade.	Detail 510				
If waterline crosses under the sewer line, center standard length of sewer pipe at crossing.	Detail 510				

STANDARD	Code	Complete	Needs Revision	Missing	N/A
No curved sewers allowed.	3.03				
4" Maximum hole for 8" Main taps unless otherwise approved by Wastewater Senior Engineer.	Detail 308				
Is a wastewater lateral provided for every lot?					
Stationing included for all laterals and structures.					
Minimum pipe diameter 4-inch for laterals.	3.06				
Laterals shall be placed at 90 degrees to the main.	3.06				
Keep laterals 10' min from P/L to avoid water meters and utility vaults.	3.06				
Existing houses and vacant lots, which are a part of the development, shall be provided with laterals.	GCDC A5.102				
Minimum pipe diameter 8-inch for mains.	3.04				
Drop Elevation:	3.05.02				
a. Min 0.2-foot drop through MH for horizontal deflection over 45 degrees; 0.1-foot drop for 0 - 45 degrees. If sewers in and out are equal size <i>and</i> pass straight through MH, no added elevation change is required.					
b. Shallow inside drop MH required for drop less than 2' to provide smooth flow lines unless the drop is less than 0.1 foot or 0.2 foot as specified in last checklist requirement.	Detail 302				
c. Drop connection required when vertical distance between flow lines exceeds 2' at MH.	Detail 301				
MH finish grade minimum of 1' above existing ground in unimproved area; at grade in existing street; and at future grade in proposed street. In unpaved vehicular accessways, a 5' x 5' x 4" AC pad shall be placed to finished grade centered around frame.	302.03.06				
Shallow MH with slab top shall be used in lieu of cone top when less than 4' between MH shelf and top of lid.	3.05.02 & Detail 203				
Manhole spacing 500' maximum and at all changes in slope, alignment, size, type, and at grade breaks and intersections.	3.05.02				
Insert note for all new connections to existing manholes to rotate manhole cone/flat top and realign steps to meet requirements of MH details.	Details201, 203, & 204				
Cleanouts are permitted at the end of non-extendable sewer mains which do not exceed 250' in length or serve more than 8 lots.	3.05.03				
Access structures (manholes, cleanouts) located within an easement are within 14 feet of edge of curb, measured from center of structure lid unless a commercial grade access is provided that allows for maintenance trucks to get within 14 feet of the structure.	3.05.01				

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WASTEWATER STANDARD DETAILS		Detail #			
Does the project include the installation of wastewater manholes? <i>Manhole</i> - 27" diameter or less: Standard: 201, Shallow: 203 / 30" or greater diameter: Standard 202, Inside Drop: 301, Cast in place: 204 <i>Frame</i> - Suburban: 205, Industrial: 206, Water/tamper proof: 207 <i>Cover</i> - Standard: 303, Tamperproof: 304, Hinge: 305; Pin: 306 <i>Step</i> - 210	Multiple				
Does the project include the installation of new public wastewater pipe? <i>Pipe Bedding and Backfill</i> - 214 <i>AC Pavement Restoration</i> - 639; <i>PCC Pavement Restoration</i> - 640 <i>Joint</i> - 310-312	Multiple				
Is a cleanout required?	210				
Are anchor walls required (pipes with slopes 20% or greater)?	212				
Is concrete encasement required (pipe in waterway that cannot meet coverage requirements of 3.03.06)?	213				
Does the project include the installation of laterals? <i>Lateral</i> - 307, <i>Tap in Existing Main</i> - 308, <i>Cleanout</i> - 211; <i>Siamese not permitted</i> .	Multiple				
Does the project require that the height of a manhole be adjusted following changes to the adjacent pavement height?	638				
WATER					
Normal corridor location 12 feet south or east of centerline.	5.02.01				
Is service level pressure zone identified?					
Are internal mains looped?	5.01 & 5.03				
Pipe size requirements: - 4-inch pipe shall be used in residential zones, on dead end streets, only when approved by the Engineer. The maximum length may not exceed 250 feet. Not more than 12 services may be connected. - 6-inch pipe shall be the minimum standard size of distribution mains and shall only be used on looped systems larger than 6-inches. No hydrants are permitted on 6-inch lines. - 8-inch pipe shall be used for mains supplying hydrants requiring a flow rate of 1,000 GPM. - 10-inch or larger pipe shall be required as specified in the Master Plan and as required by the Engineer to meet Commercial and Industrial usage or fire flow demands exceeding 1,000 GPM.	5.03				
One water sampling station required for every 20 lots in subdivisions (none required if less than 20 lots).	5.08 Detail 504				

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Check composite sheet for horizontal and vertical alignment conflicts. All vertical separation of less than 1-foot must be specifically dimensioned on plans.					
Proper pipe class noted.	501.02.02				
Minimum cover 36" from existing or future street grade; 48" minimum in unpaved areas.	5.02.02				
Temporary and permanent dead-end mains shall terminate with a properly sized blow-off assembly.	5.03 Details 506 A & B				
Minimum water tap spacing of 18 inches along main.	5.01.03.04				
Is a water service provided for every lot?					
Stationing included for all services and structures.					
Fire hydrant spacing 300' max in commercial & industrials areas; 400' max in residential areas.	5.04.03				
Where no sidewalk exists around hydrant, place 6' x 6' x 6" concrete pad around hydrant. Place adjacent sidewalk panel(s) at time hydrant pad is poured.	502.03.01 Detail 501C				
Air release valve required at main highpoints without hydrants.	5.04.04				
Valves located at intersections.	5.04.04				
Butterfly valves required on 12" and larger main.	501.02.13				
Intersection detail for valves and fittings required when scale is smaller than 1"=20'.	CAD Manual				
Fittings identified (MJ x MJ, FLJ x MJ, etc.)	CAD Manual				
Install only minimum number of valves necessary to effect a shutdown of no more than one block out of service. 2 valves at "T" intersection and 3 valves at cross.	5.04.01				
Maximum length of shutdown 500' in commercial/industrial areas, and 800' in other areas.	5.04.01				
Backflow prevention required all new commercial construction, irrigation and fire sprinklers systems.	5.05				
Rockwood, Portland, Lusted, Butler Creek waterlines shown on plans. (DE to send copy of plans to affected City/District).					
WATER STANDARD DETAILS	Detail #				
Does the project include the installation of a fire hydrant?	501A- C				
Does the project include installation of new public water pipe?	214				
Does the project require the installation of an air valve unit?	505A & B				
Does the project require the installation of a blow-off?	506A & B				
Is thrust blocking required to deal with abrupt changes in horizontal (#507) or vertical (#508) alignment?	507 & 508				
Does the project require the installation of a straddle block?	509				

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Will the water pipe be installed in proximity to gravity sanitary sewer pipe?	510				
Is a valve box required (4-6" blow off - 512; everything else - 511)?	513 or 514				
Does the project include the installation of water services and meters? <u>1" Service (w/ 3/4" - 1" Meter Box) - 502 & 515A, 2" Domestic (w/ 1.5"-2" Meter Box) - 503 & 515B, Larger than 2" - per plan (tap to main w/ stub out to site typically performed by City at developer's expense), 3" and Larger Meter Vault - 513A-D</u>	Multiple				
Is a backflow prevention assembly (of appropriate size based on the meter or service installation) required to be installed? <u>3" or Larger DCVA or DDCVA Installation - 514A-B (& 514 C if DDCVA for a dedicated fire service line) 3/4" - 2" DCVA installation - 514D</u>	Multiple				
Is a reduced pressure principal backflow assembly required to be installed? (Typically industrial/manufacturing development or on domestic or irrigation services for properties with existing wells in use for irrigation.) <u>3" or larger RPBA - 514G, 2.5" or smaller RPBA - 514F</u>	514F, 514G				
Does the project include the installation of a sampling station?	504				