



City of Sonoma Public Works Department – Plan Review Checklist

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Plan Review Checklist - Please note, this list is not exhaustive and additional requirements may be imposed on projects that are not included in the lists below.

General Items

1. *Environmental Review (see planning requirements).*
2. *Development Review & Zoning Information (see planning requirements).*
3. *Prepare Drainage Study (anything over 10,000sf)*
4. *Prepare Traffic Study by a registered Traffic Engineer*
5. *Prepare construction documents for public improvements (e.g. water, sewer, reclaimed, drainage, roadway, curb, gutters, sidewalk, signing, striping and streetlights) per City of Sonoma Standards.*
6. *Topography and Boundary Survey of existing site (minimum 50-feet beyond property lines).*
7. *Width and location of all public or private Easements (e.g. utilities) & Boundary Survey by Land Surveyor (if applicable).*
8. *Design plans for improvements, stamped by a registered engineer (24"x36" or 22"x34").*
9. *Water & Sewer allocation study (existing baseline, if applicable and future use).*
10. *Architectural Plans.*
11. *Nexus Improvements (upstream or downstream system improvements necessary to facilitate future development) for Roads (frontage improvements includes curb, gutter and sidewalk and/or traffic signals) and Utilities (i.e. water, sewer & storm drain).*
12. *Soils/Geotechnical Report – Including but not limited too: Pavement, foundation and slab structural sections recommendations, borings, groundwater levels, percolation tests, etc...*
13. *Proper location and abandonment of any existing wells, pipelines or septic tanks.*
14. *Demolition plan and permit (if required) – shall include proper abandonment of any existing on-site wells, septic tanks or underground fuel storage tanks (per abandonment permit from Sonoma County Permit Resource Management Department).*
15. *Electrical & Communication - All frontage existing overhead utilities shall be installed underground.*
16. *Electrical & Gas - Coordinate with PG&E for design, construction, and service.*
17. *Communication — Coordinate with local providers typically AT&T and Comcast (TV, Internet, Telephone, etc...) for design, construction, and service.*
18. *Utility Letters – Letters from developer w/ plans to all existing utility providers for their review*
19. *Use the City of Sonoma Standards & Applicable Notes & Reference standards*

Traffic/Roads

- Pavement/Concrete Structural Section details (w/dimensions). If no soils report, use R-value=5.0 (submit pavement calculations).
- Frontage Improvement Plan & Profile (e.g. sidewalk, curb & gutter, street lights, driveway geometry, offsite utilities, road dimensions/sections, road widening, gutter flow line grades, etc...). City requires the project frontage to have ADA compliant sidewalk, curb, gutter, and ramps. Any existing damaged curb, gutter, sidewalk, driveway and ramps shall be replaced as part of project and be brought up to current ADA compliant standards.
- Striping and Signage plans (if required).
- Survey Control Plans (for new roads, centerline bearings and distances – i.e. curve radius, curb return, control points, etc...).
- Street Plan and Profile (for new roads, vertical curve information, etc...).
- Traffic Signal Plan (if required).
- Handicap Ramps shall be provided at all intersections and crosswalks where sidewalks exist or are proposed.
- Parking Study & plan.
- Traffic Impact Study (prepared by a licensed Engineer).
- Right-of-Way widths of existing/proposed roads.
- Typical roadway section (w/dimensions).
- Verify Adequate turn radius for emergency or truck access.
- Caltrans Coordination (if applicable) – including encroachment permits by Caltrans.
- Traffic Control Plan (if applicable).

Water

- Follow the City of Sonoma Water Standard requirements.
- Mains may not be designed outside the street right-of-way without Director approval.
- Any offsite, water improvements needed to serve the project must be shown on the improvement plans; including upgrades to existing mains that may be required as a result of an approved flow analysis or modeling effort.
- Materials for services shall be copper, PVC or Ductile Iron Pipe
Materials for 8"-12" mains shall be PVC minimum pressure Class 150(DR18), unless above 100psi (Class 200 required) or Ductile Iron Pipe Pressure Class 350.
- Connections to public mains – Cut-in Tee's w/ appropriate valving (unless otherwise authorized).
Inspection required by Public Works Dept.
- Appropriate Disinfection, Bacties, and pressure testing required.

Water (...continued)

- Main sizing:
 - Minimum Main size is 8-inch or 12-inch (if serving commercial or multifamily residential).
 - Maximum flow velocity of 7.5fps.
 - Sized to meet maximum day + required fire flow – Analysis may be required.
 - Larger mains may be required than needed for the development, in which applicant may apply for oversize reimbursement.

- Provide Tracer Wire (#10) and marker tape (12" below grade) on all underground mains and laterals.

- Horizontal/Vertical Separation - Conform to California State Department of Public Health "Criteria for the Separation of Water Main and Sanitary Sewers". Minimum 4-feet from gas, electrical, communication, or telephone.

- Minimum Cover – 36" (for 4" to 8" pipe), 40" (for 10"), 44" (for 12"), 48" (for 16" or larger).

- Valving – Minimum 1,000 ft spacing, Minimum 3 @ Tee's, 4 @ crosses (unless existing valve within 250-feet); Valves on all hydrant leads.

- Water meter, backflow (separate for domestic & irrigation).

- Water Supply Calculation for Fire Protection (provide minimum required fire flow, per City Fire Chief & Pressure).

- Pressure – Minimum 35 psi required (at any faucet) otherwise booster system is required.

- Reduced Pressure Detector Assemblies required as backflow devices for all domestic, fire and irrigation services (USC listed).

- Pipes with slopes greater than 15% require joint restraint and possible concrete harness.

- Pothole/survey utilities or other structures critical to vertical alignment.

- Prepare a Water Demand Analysis if demand usage is not on standard use tables.

Storm Drainage

- Drainage plan (include all applicable inverts, pipe diameters, rim elevations, slopes, materials, locations of outfalls, and locations of receiving water bodies).

- Drainage profiles and cross-sections for storm mains, open channels, and detention basins. Show 10 and 100-yr HGL's, provide required freeboard, and meet all applicable standards in Sonoma County Water Agency Flood Control Design Criteria.

- Approvals for other government-issued stormwater permits, e.g. CA Dept. of Fish & Wildlife, Army COE, and CA RWQCB. Most projects do not require stormwater permits from other agencies, however, where applicable, evidence must be submitted that these permits have been approved by the issuing agency.

- Stormwater Control Plan for projects that create or replace more than 2500 square feet of impervious surface. Use the Bay Area Stormwater Management Agencies Association Post Construction Manual, available free online at:

<http://basmaa.org/Board-and-Committees/Phase-II>

Storm Drainage (...continued)

- Erosion and Sediment Control Plan for projects that result in soil disturbance due to clearing, excavation, or filling during construction. To determine Erosion and Sediment Control Plan requirements, use the checklist available at:
- http://www.sonomacity.org/Services/Q-Z/Stormwater-Maintenance/ESC_or_SWPPP_Guidance_Form.aspx
- Identify plant species to be used within landscaped drainage swales or other open conveyances.
- Acceptable conduit materials are RCP, CIPP, and HDPE and must conform to Sonoma City Standards.
- Minimum horizontal and vertical separations between storm drains and other underground utilities as follows: Horizontal separation of storm drain line from sanitary sewer shall be a minimum of 5 feet clear (i.e., outside of pipe to outside of pipe), except at pipe crossings. Horizontal separation from water mains and other utilities, gas, underground electric, underground television cable, etc., shall be a minimum of 4 feet clear.
- Curved alignments must have a minimum 300 ft. radius for RCP and CIPP. A minimum 765 ft. radius is required for 20 ft. sections of HDPE.
- Curb inlets shall be per Sonoma City Standard Drawing 303.
- Manhole size – minimum 48" diameter if conduit is less than 36" and minimum 60" diameter if conduit is 36" or larger.
- Manhole spacing – Maximum 500-feet. Manholes shall be provided at all junctions or bends.
- Minimum Cover – 12" for Class III RCP and HDPE. Minimum 1.5 ft. HGL invert at inlets.
- Pothole/survey utilities or other structures critical to vertical alignment.
- Minimum slopes: 8-inch is 0.0035, 10" is 0.0025, 12" is 0.0020, 15" is 0.0015
- Watershed Map for project – include hydrology for 10 and 100 year flows, pipe sizes, slopes, capacities, watershed boundaries, watershed acreage, time of concentration, imperviousness assumptions, overland release pattern, and critical release grades.
- Locate public mains in public right-of-way. If infeasible, easements or dedications shall be provided by owner with a 15-foot minimum width or a 20-foot minimum width if shared with other utilities.
- Indicate flood plain elevations and provide FEMA Letter of Map Change or Letter of Map Revision as applicable.

Grading/Site/Tree's

- Clearly show ADA compliant route and grading @ 10-scale.
- Clear Grading plan at reasonable scale (e.g. show adequate spot grades for construction, retaining walls, slopes, swales, and general drainage patterns, etc...).

- Clearly show Grading Tie-in points and/or typical sections where proposed meets existing...show general off-site drainage directions around project site (typically 50-ft around project).

Grading/Site/Tree's (...continued)

- Pad/Finish Floor Elevations.
- Show 100-year flood plain contour (if applicable).
- Existing and Proposed contours.
- Curb Return spot grading details for each new curb return (*if required*).
- Earthwork Quantities (Excavation & Embankment).
- Tree Preservation Plan (may show on grading plan if appropriate, include tree protection detail, and conform to City's tree preservation ordinance).
- Overland Release Design (show path and critical release grades).

Construction Completion

- Developer to provide City As-Built or Record Drawings & specs in both CAD and hardcopy formats.
- Complete project per contract documents and replace any facilities damaged during construction (i.e. building, curb, gutter, sidewalk, road, ramps, driveways, etc...) to City acceptance.