# OTAY WATER DISTRICT
# POTABLE / RECYCLED / SYSTEM CHECKLIST
# FOR THE CONSTRUCTION OF A WATER SYSTEM

PROJECT NAME: _____PROJECT NO.: _____

PLAN REVIEWER: _____PEER REVIEWER: _____

*DISTRICT REQUEST MYLAR:* _____

## I. ALL SHEETS

| | 1ST Check | | 2nd Check | | 3rd Check | | 4th Check | | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| A. Medium<br>1. 24"x36" in size conforming to District format<br>2. No "sticky back", glued or taped on sections | | | | | | | | | |
| B. Tile block | | | | | | | | | |
| C. Drawings have been verified to assure that every phase conforms to the SAMP and/or the OWD Master Plan, and the Water Agencies Design Guidelines | | | | | | | | | |
| D. Marked with the name, address and telephone number of the firm preparing the plans and date of preparation | | | | | | | | | |
| E. Consecutively numbered with total number of sheets | | | | | | | | | |
| F. Standard abbreviations are per WAS Standard Specification Section 01070 | | | | | | | | | |
| G. Drawings are uncluttered, legible and easy to understand and have a high degree of uniformity | | | | | | | | | |
| H. Standard symbols are per WAS Standard Drawings WI-06 and or SI-06 and are shown in the legend on the plans | | | | | | | | | |
| I. Text sizing is per WAS Design Guidelines Section 1.1.4.I.2 | | | | | | | | | |

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| J. Civil drawings shall generally have a scale of 1 inch = 40 feet for pipelines over 1000' or a scale of 1 inch = 20 feet for pipelines less than 1000', unless otherwise approved by the Agency Engineer. Other scales are acceptable only with prior approval. Scale shall be shown on each plan view sheet | | | | | | | | | |
| K. Profile Views: Civil drawings shall generally have a vertical scale of 1 inch = 1 foot, 1 inch = 4 feet or 1 inch = 8 feet. A vertical scale of 1 inch = 8 feet shall be reserved for steep terrain only. Changing the scale to avoid break lines is not acceptable. | | | | | | | | | |
| L. Each project must be designed as a "stand alone project" with a temporary end cap and Blow Off (per WB-05) and / or Air Vac (per WA-02) when it is planned to be tied into a future project. Indicate the connecting project number or as-built number, station number, and existing pipe size at all points of connection | | | | | | | | | |
| M. Each project must be designed as a "stand alone project" with an end cap and Blow Off (per WB-04) and / or Air Vac (per WA-02) when it is not planned to be tied into a future project or existing project | | | | | | | | | |
| N. North Arrow is shown on all plan view sheets | | | | | | | | | |

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| O. Water, Recycled Water, and / or Sewer data tables are included on all plan view sheets | | | | | | | | | |
| P. Pipe class and pressures zones are shown on all plan view sheets. Profiles are shown for all sections of pipe. Profiles include pipe elevations at all changes in grade, minimum cover, and all Air Vac and Blow Off locations | | | | | | | | | |
| Q. OWD revision block is included on all sheets | | | | | | | | | |
| R. OWD Project# shown horizontally in the bottom right side corner of the plan | | | | | | | | | |
| S. OWD Permit # shown horizontally in the bottom right side corner of the plan | | | | | | | | | |
| T. OWD Reviewed By Block (On all consecutive sheets after the Title sheet) | | | | | | | | | |
| U. Engineers signed seal is included on all sheets | | | | | | | | | |
| V. District easements are a minimum of 20' wide for water mains. Easements that share water & sewer must be a minimum of 30' wide with a 10' offset between mains. Easements should have a drivable surface where practical | | | | | | | | | |

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| W. Fire hydrants are located correctly per WAS standard drawing WF-04, at 24" behind the curb or sidewalk. System valves are located so that segments of mainline can be isolated with no more than three fire hydrants being placed out of service at any given time | | | | | | | | | |
| X. Air Vacs are shown at high points on the water line segments and must remain clear of the intersections where possible. Air Vac sizing to be as follows:<br>- 6"- 12" pipe = 2" AV (per WA-02)<br>- 14"- 20" pipe = 4" AV (per WA-04)<br>- > 24" pipe = 6" AV (per WA-05) | | | | | | | | | |
| Y. Blow Offs are shown on the low end of water line segments and must remain out of the intersection where possible. Blow Off sizing to be as follows:<br>-6" – 12" pipe = 2" BO (per WB-01)<br>-14"– 20" pipe = 4" BO (per WB-02)<br>->20" pipe = 6" BO (per WB-03) | | | | | | | | | |
| Z. Water mains ending on a Cul-De-Sac end with a Blow Off and Air Vac at the end of the main unless the Cul-De-Sac has less than 10 units. If Less than 10 units a Blow Off only is required on the low end or an Air Vac on the high end | | | | | | | | | |

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| AA. Fire hydrant are used in place of a blow off only where it can be installed within 50' of the typical blow off location. Where serving dual purposes call outs should reflect both appurtenances (i.e. FH/ BO) | | | | | | | | | |
| BB. Show all potable and non-potable services or laterals with a minimum of 4' of horizontal separation between trenches | | | | | | | | | |
| CC. Design all potable – non potable crossings and paralleling lines per WAS standard drawings WI-01, WI-02, and WI-03. | | | | | | | | | |
| DD. Crosses and tees with butterfly valves or crosses with gate valves must have DI spools included between the fitting and the valves. Spool sizing shall be per WAS specification section 15056_3.05 | | | | | | | | | |
| EE. All horizontal pipe bends and upward facing vertical bends must be called out and have sized thrust blocks. All downward facing vertical bends must be called out and have sized anchor blocks. All thrust block and anchor block sizing must be calculated by the Engineer. Thrust blocks shall be sized in square feet while anchor blocks are to be sized in cubic feet. All calculations shall be per WAS Design guideline section 5.2 | | | | | | | | | |

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| FF. FLG X FLG resilient wedge gate valves are used on pipe sizes up to 12". FLG X FLG butterfly valves are used for pipe sizes 14" and larger and the class must be designated (CL150-up to 140psi and CL250- 141 psi and up). | | | | | | | | | |
| GG. Valves are require at a maximum of 1320' apart on distribution mains and a maximum of 2500' apart on transmission mains. Valve are to be place so that there are no more than 3 fire hydrants between isolation valves. All branches off of the main must have a valve. | | | | | | | | | |
| HH. District looping criteria: Systems are to be looped if the main is greater than 1320' supplied by a single feed, and / or serves more than 70 EDU's | | | | | | | | | |
| II. Water lines constructed within a public road or street right-of-way shall normally be located within the easterly or southerly half of the right-of-way, per OWD Code of Ordinances Section 36.01 B.1 | | | | | | | | | |
| JJ. Water lines constructed within an easement shall normally lie along the centerline of said easement if the easement will not contain other utilities. If other utilities are allowed within the pipeline easement, the water pipe shall be located within the easterly or southerly half of the easement, per OWD Code of Ordinances Section 36.01 B.2 | | | | | | | | | |

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| KK. Potable, recycled, and sewer mainlines are designed a minimum of 5' off of face of curb in private and public roads | | | | | | | | | |
| LL. Depth of mains below finished grade:<br>Potable mains up to 12"- 3.5'<br>Potable mains 14" and larger - 4.5'<br>Recycled mains – 4.5'<br>Any mains proposed for depths less than 3.5' or greater than 8' must be approved by the District | | | | | | | | | |
| MM. Slope cut off walls are shown for any slopes with grades 20-50%. Slope pipe protection pads and cut off walls are shown on any slopes with grades greater than 50%. WAS standard drawing WP-05, WP-06, and WP-07 are referred to for slope protection requirements | | | | | | | | | |
| NN. Pipe class and requirements:<br>4"-12" PVC C900- CL305-DR14 (used up to 200 psi)<br>16"- 36" PVC C900-CL165-DR25 (used up to 133 psi) 80% of class<br>16"- 36" PVC C900-CL235-DR18 (used up to 188 psi) 80% of class | | | | | | | | | |

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| OO. Steel pipe used where pressures exceed those listed in MM. or where the slope is 30% or greater. Note: All steel pipe must have cathodic protection. Supporting calculations for the CP system must be submitted to the District Engineer for review and approval. | | | | | | | | | |
| PP. Easement document numbers are shown on all sheets where easements are specifically granted for the District's improvements. This includes any required pop-out easements | | | | | | | | | |
| QQ. Stationing is shown with 100' intervals labeled | | | | | | | | | |
| RR. Tie in locations shown type, size, class of exiting material, station numbers and elevations of existing pipe are included and the OWD note for a connection to an existing system is included (where required) | | | | | | | | | |
| SS. All existing and proposed utilities and are shown | | | | | | | | | |
| TT. Distances are shown to utilities and Road /Easement width from centerline. | | | | | | | | | |
| UU. Street names are shown on all sheets | | | | | | | | | |

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| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| VV. Water line appurtenances (meter boxes, Air Vacs, Blow offs, fire hydrants, test stations, and ect) are located within the public right of way or easement and are clear of any structures, driveways, or pedestrian ramps | | | | | | | | | |
| WW. All service laterals/appurtenances are stationed 90° to the main | | | | | | | | | |
| XX. Pipe is extended beyond intersections | | | | | | | | | |
| YY. Station numbers are shown at changes in pipe size, material, and direction | | | | | | | | | |
| ZZ. Water services (2" or less) have >2' of separation | | | | | | | | | |
| AAA. Water services and appurtenances (greater than 2") have >10' of separation | | | | | | | | | |
| BBB. Cathodic protection is shown for all copper tubing | | | | | | | | | |
| CCC. Restraint lengths and limits are called out on all restrained sections of pipe | | | | | | | | | |
| DDD. OWD notes for restraint devices are included on all sheets where restraints are used | | | | | | | | | |
| EEE. High deflections couplings are called out for all horizontal and vertical curved alignments. | | | | | | | | | |

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| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| FFF. (Profile)Stations and elevations are shown at all changes in pipe class, size, or material | | | | | | | | | |
| GGG. (Profile)Existing grade and proposed grade is shown over the pipeline | | | | | | | | | |
| HHH. (Profile)Minimum of 12" of separation is provided at all utility crossings | | | | | | | | | |
| III. (Profile)Existing or proposed utility crossings are shown | | | | | | | | | |
| JJJ. (Profile)Stations and elevations at TOP are shown at all changes in slope and at the beginning and end of vertical curves | | | | | | | | | |

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| II. TITLE SHEET | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1ST Check | | 2nd Check | | 3rd Check | | 4th Check | | Comments |
| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| A. OWD Signature Block – Including:<br>1. OWD Project #<br>2. OWD Permit #<br>3. Recycled Water Pressure Zone<br>4. Potable Water Pressure Zone | | | | | | | | | |
| B. Declaration of responsible charge is included: OWD must be listed in the statement as not being liable for the design | | | | | | | | | |
| C. Note covering standard specifications. Must refer to the latest edition of the WAS (Water Agencies' Standard) | | | | | | | | | |
| D. Revision block to cover all changes made to the OWD portions of work. | | | | | | | | | |
| E. Engineer's record drawing / as built block | | | | | | | | | |
| F. Water / Sewer legend showing Standard symbols per WAS Standard Drawings WI-06 and or SI-06 (if shown on title sheet) | | | | | | | | | |
| G. Marked with the name, address and telephone number of the owner and developer | | | | | | | | | |
| H. OWD water /sewer notes (if included on title sheet) | | | | | | | | | |
| I. Table of contents / Sheet Index | | | | | | | | | |
| J. Basis of coordinates | | | | | | | | | |

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| | 1ST Check | | 2nd Check | | 3rd Check | | 4th Check | | Comments |
| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| L. Vicinity Map | | | | | | | | | |
| 1. Orient north arrow as on key map | | | | | | | | | |
| 2. Arterial streets shown | | | | | | | | | |
| 3. Project boundary street shown | | | | | | | | | |
| 4. APN or site address | | | | | | | | | |
| 5. Scale | | | | | | | | | |
| 6. Thomas Brothers Page and Grid Number | | | | | | | | | |
| M. Project legal description / address, APN, and map number | | | | | | | | | |
| N. Engineers stamp and contact information | | | | | | | | | |
| O. Geotechnical Engineers certification | | | | | | | | | |
| P. Contact information for the Developer / Property owner | | | | | | | | | |
| Q. Underground service alert notification block | | | | | | | | | |
| R. Description of work to be done | | | | | | | | | |

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| III. ROAD SECTIONS, DETAILS & SPECS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1st Check | | 2nd Check | | 3rd Check | | 4th Check | | Comments |
| | ENG | OWD | ENG | OWD | ENG | OWD | ENG | OWD | |
| A. OWD water and / or sewer standard notes are included (if not included on the title sheet) | | | | | | | | | |
| B. Index / Key map showing the entirety of the project, plan sheet numbers, street names, lots, and neighborhood numbers. Scale to be a called out with a minimum 100' scale | | | | | | | | | |
| C. Water / Sewer legend (if not included on the title sheet) showing Standard symbols per WAS Standard Drawings WI-06 and or SI-06 | | | | | | | | | |
| D. Fire notes, indicating whether residential, commercial, or industrial fire hydrants are required | | | | | | | | | |
| E. Typical road sections showing easement or right of way limits, and fire hydrant locations according to WAS standard drawing WF-04 | | | | | | | | | |
| F. OWD revision block is included on all sheets | | | | | | | | | |
| G. OWD Reviewed By Block (On all consecutive sheets after the Title sheet) | | | | | | | | | |
| H. Highline, shutdown, and / or project sequencing notes are included for all projects which will have an impact on existing customer services or transmission mainlines | | | | | | | | | |