



**RECYCLED WATER PLAN CHECKLIST**

PROJECT NAME \_\_\_\_\_ PLAN CHECKER \_\_\_\_\_ DATE \_\_\_\_\_

	1 <sup>ST</sup> Check	2 <sup>nd</sup> Check	3 <sup>rd</sup> Check	Mylars	Comments
<b>I. ALL SHEETS</b>					
A. Medium					
1. 24"x36" size Mylar film conforming to City format					
2. No "sticky back", glued or taped on sections					
3. Drawn with waterproof ink or reproduced on photographic emulsion Mylar film, no Diazo or Xerographic copies					
B. Signed by the Engineer-of- Work, date of expiration of registration adjacent to signature					
C. Marked with the name, address and telephone number of the firm preparing the plans and date of preparation					
D. Consecutively numbered & the total number of sheets					
E. Lettered in a neat and legible style, no hand lettering smaller than 1/8" and no machine letter smaller than 1/10"					
F. Name and phase of development. Street name & construction limits. See I.O. (N/A to title sheet)					
G. Confirm City benchmark identification, location and elevation noted					
H. Prepared to appropriate scale(s)					
I. Scale noted. North arrow (oriented up or to right) & bar scale					
J. Use standard details to maximum extent. Check drawing for dimensions shown on plans. Show detail for non-std improvements					

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K. Note all reference drawings on plans					
L. Clearly designate between existing conditions (dashed) and work proposed (solid)					
M. No duplication of any section or detail designation					
N. Use City standard Title Block per Std 6004					
O. Title block with “Recycled Water Improvement Plan & Profile” (top line); street name (2 <sup>nd</sup> line) and limits of construction “From <u>street intersection</u> to <u>street intersection</u> (or <u>XXX’ N,S,E,W</u> )” (3 <sup>rd</sup> line)					
P. Acceptance block// Recommended By: Louis Abi-Younes/Asst. City Engineer RCE 44485 Exp 3-31-08. Accepted By: John P. Sullivan/City Engineer RCE 24079 Exp 12-31-07. (public facilities only)					
Q. All existing and proposed easements clearly shown. Clearly indicate public or private. (City min. width 15’) 20’ on dead ends over 300’					
R. Public rec. water mains 8” or larger, within a public & private streets with an easement, or with sag or rise requires Plan & Profile					
S. Compare to Conditions of Approval & approved Tentative Map or Site Plan					
T. Review master plan water study for location & size					
<b>II. TITLE SHEET</b>					
A. Heading centered at top of sheet “Recycled Water Improvement Plans for _____ in City of Ontario”					
B. Consultant recommendation for acceptance block (public facilities only)					
C. Standard general notes and construction notes provided. Construction notes match plans  Construction notes and #s with Standard Drawings called out on each sheet. Only notes applied to the sheet are shown					
D. Additional notes are designated as “Special Notes”					

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E. Confirm general note 17 states that stationing is per pipe CL					
F. Where shut down of existing main is required, add to general note "All shut down of existing water main to be done by & coordinated with the city Utility Division. Contractor shall notify all affected water users 72 hours in advance of shut down"					
G. Basis of bearing provided					
H. Index Map					
1. Scale is 1" = 100' or 1" = 500'					
2. Sheet coverage shown					
3. Located on Title Sheet					
4. Street Names shown					
5. Identify areas in County					
6. Show recycled water line with BO & AR (Info may be on "System Map" on sheet 2					
I. Vicinity Map					
1. Orient north as on index map					
2. Arterial streets shown					
3. Project location shown					
J. Legend					
1. Symbols per City standards 6002-6003					
2. Non-standard symbols and abbreviations used are listed and described					
K. All reference drawings are listed					
L. Owners/Developers name and address shown					
M. Separate written justification for deviations provided					
N. Quantity estimates provided and broken out between public and private & per tract if multi-tract					

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project (Private facilities are not to be included in cost estimate)					
O. Underground service alert					
P. Is there a completed "Legal Description of Property"? Match title report					
<b>III. RECYCLED WATER IMPROVEMENT PLANS</b>					
A. Plan View shows:					
1. Horizontal scale 1" = 40' maximum					
2. Show only construction notes used on sheet					
3. Lot Lines, centerline, right-of-way lines, City limits adjacent to project match st imp & FM					
4. Approved name of street shown (when available)					
5. Bearing and centerline curve data. Include deflection couplings as required					
6. Show all driveways, domestic water & sewer mains and laterals					
7. State whether the recycled water system is "public" or "private" (property owner owned and maintained). The jurisdictional boundary must be clearly delineated.					
8. If the recycled water system is "private", is it depicted as showing one or more master-meters for the entire site, located in the public right-of-way or in a City easement at the property entrance?					
9. Stationing to match existing plans. New stationing shall increase west to east or south to north, except where street ends in west or south dead end or Cul De Sac					
10. Identical stationing on consecutive sheets.					
11. Bearing & stationing of all street centerlines.					
12. Show recycled waterline station at beginning & end of improvement & at BO, AR services &					

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mainline valves.					
13. Are section views of all RW mains which cross sewer & water shown in the profile view					
14. Are section views of all recycled water mains (which cross domestic water & sewer mains) shown in the profile view of the other plans?					
15. Recycled water mains and laterals should conform to City Standards.					
a. Correct size (Mains: 8" min; Service Laterals: size based on calculations.					
b. Acceptable material for NMC plans: purple PVC C-900 Class 200 for 12" & less. Purple PVC C905 for sizes up to 16". CML/CMC for 18"+ (optional for 16"). Services 2" and less to have purple PE tubing (see Gen Note #13)					
c. Acceptable radius of curvature of pipeline layout (for main lines, allowable curvature dependant upon pipe size and material: laterals must be straight)					
d. Minimum amount of overhead cover for main of 8" or less is 54". For main of 12" or more cover is 60" min. Recycled water is always to be 1' below domestic water or special precautions are to be taken.					
e. Horizontal clearance with other utilities (std 1302-1304) (10 feet, where feasible, from sewer; minimum 4' from storm drain, domestic water, and hydrocarbon; otherwise, protective encasing or higher grade pipe material required. City Standard No. 4001					
f. Vertical clearance w/ other utilities (min 1' w/out joints, recycled waterlines above other pipelines except domestic water). If other utilities must be above the recycled water, add the note "Center one length of pipe underneath the <u>utility</u> ". City Std 4001					
g. Check St Imp plans for low or high points in system (including temp dead end) which may require air relief valve (@ HP)					

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or relocation of BO (@ LP)					
h. ARVs & BOs to be perpendicular to mains. 16" & + mains require ARV on downstream & BO on upstream side of all mainline valves. Place behind curb radius.					
i. Distance off curb face (8' typical) located on opposite side from DW per Std 1302-1304. In NMC where chokers are used, adjust distance for 5' from curb face					
i. All plan sheets to have lateral location block (design station & as-built station)					
16. 15' min easement width for recycled water facilities. Additional 10' for each additional utility within the easement					
17. Show easement limits & course. Easement not to be centered on Lot Line					
18. Meters placed within public ROW per City std 4201-4204, 4209					
19. Separate meters required for landscaping and domestic purposes for restaurants, commercial & industrial development					
20. A minimum of 3 meters is required for manifolding recycled water meters. Otherwise, each meter must come off the main line with individual service laterals. Manifolds depicted on the plans must have a minimum of 4 meters each (std 4209).					
21. Recycled Water service laterals cannot be connected to fire lines.					
22. Connection of FH to recycled water is prohibited					
23. Connection of hose bibs or "Garden Centers" to recycled water is prohibited					
24. Recycled water service laterals cannot come off of other service laterals.					
25. Recycled water service laterals require backflow prevention devices					

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26. Recycled water laterals cannot cross PL					
27. Show meters for recycled landscape & meter boxes at each angled meterstop.					
28. "Hot Taps" shall indicate installation & size of tapping valve & tapping sleeve (welded nipple & flange in case of steel mains for CML).					
29. Plans must show landscape areas being served by recycled water					
30. Show existing pipelines, irrigation lines, & structures in the ROW or adjacent to the ROW					
31. Show existing & proposed street lights, FH, & utilities (label & dimension)					
32. Blow-offs are required to be installed at the end of all mains (including temp dead ends) and large service stub outs for testing and flushing. Efforts should be made to locate BO near manholes 4107-4109, 4112					
33. Show existing FH on both sides of street					
34. Potable and recycled water facilities are not to be installed in the same trench					
35. Show existing street lights on both sides of street. City to determine new st light locations. Show with sta					
36. All existing recycled water facilities should be completely and correctly depicted.					
37. All existing proposed points of connection to existing recycled water facilities should be properly depicted.					
38. Install only 2 gate valves @ all "T" on North and East lines when possible					
39. Install only 3 gate valves @ all "+" on North, South, and East lines when possible					
40. All valves to be AWWA C509 DI resilient seat gate valves (to 12") per std 4020. Use AWWA					

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C504 Class 150B DI butterfly valves for 14"+ per Std 4006					
41. Maximum shut off valve spacing to be @ 2000'.					
42. All fittings to be labeled & detailed as necessary. For PVC, use compact DI ANSI/AWWA A21.53/C153. See Design Guidelines for other materials					
43. Call out joints per City std. For PVC use restraint joints per 4010. For steel pipe use std 4002. See Design Guidelines for other materials					
44. Add note for restoration of existing pavement (OMC). No cutting of new pavement will be allowed in NMC					
45. Cross-connections between recycled water facilities and potable water facilities are forbidden.					
B. Profile View shows:					
1. Horizontal scale same as plan view					
2. Vertical scale at 1" = 4' (new); 1" = 2' (existing)					
3. Plan & profile must align					
4. Label all profiles					
5. Names & CL stationing of intersecting streets					
6. Datum elevation at both ends of each street					
7. 100' stationing at bottom of profile					
8. Existing & finished surface on top of water line					
9. Label & show connection to existing water, existing elevation & grade. Denote existing elevation & grade in parenthesis. Add note to verify elevation of existing water FL prior to construction					
10. Label and show stations and elevations at end of recycled water, at crossings, & at all BC &					

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EC points					
11. Call out "Install XX.XX LF ( <i>size</i> ) of ( <i>material of recycled water main</i> )"					
12. Recycled waterline grade is correctly shown					
13. Show location and bottom or top elevations of all crossings or parallel pipes or structures that might enter into design of recycled water					
14. Elevations in profile and plan section match					
15. Profiles and elevations are the same on each sheet or section of match lines					
16. Compare design to existing plans, if any.					

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