



KIVA No: _____ **Project Name:** _____

Reviewed by: _____ **Phone Number:** _____ **Date:** _____

Engineer: _____ **Phone Number:** _____

The purpose of this checklist is to offer comments on plan design for construction of water main pipe, fittings, and fire hydrants and to set the minimum submittal requirements for water main plans. Source of water development code and design policy is the Water Services Department Design Standards Manual for Water and Wastewater Systems, August 2004

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for public water main construction in the public right-of-way or public water easement. Plan approval and issuing permits depend on compliance with the comments made on the check prints and this checklist. The engineer of record shall satisfy themselves of the completeness and accuracy of the design.

A completed checklist must be attached to the water plans when submitted for first review. The following Certification Statement must be signed by the Engineer of record certifying that all applicable requirements on this checklist have been met.

CERTIFICATION

I CERTIFY THAT THE REFERENCED PLANS COMPLY WITH ALL APPLICABLE CITY ORDINANCES AND STANDARDS, INCLUDING FEDERAL, STATE AND COUNTY REQUIREMENTS AND REGULATIONS. IN ADDITION, I CERTIFY THAT THIS CHECKLIST HAS BEEN COMPLETED ENSURING ALL ITEMS LISTED ARE PROPERLY ADDRESSED. I UNDERSTAND THAT IF I FAIL TO ADDRESS ALL APPLICABLE ITEMS IN THIS CHECKLIST, THE PLANS MAY BE IMMEDIATELY RETURNED TO ME WITHOUT ANY FORMAL REVIEW BEING PERFORMED.

ENGINEER'S NAME: _____

ENGINEER'S SIGNATURE: _____ DATE: _____

Please complete and return this checklist and the check prints with your next submittal. Discussion of redline comments on plans or this checklist should be directed to the plan reviewer listed above.

Use the following symbols as applicable:

[X] REQUIRED [√] ADDRESSED [N/A] NOT APPLICABLE

Engineer of record must fill out all boxes in the first column as either "[√] ADDRESSED" or "[N/A] NOT APPLICABLE".

Civil plan reviewer shall check the second column as "[X] REQUIRED" when requirements have not been properly addressed.

GENERAL REQUIREMENTS:

- [] [] Plan shall be on 24" X 36" sheets, submit 3 sets of water plans.
- [] [] Symbols shall be per M.A.G. Specifications and Details supplemented by Water Services Department Details.
- [] [] Orientation of each plan sheet shall be shown by a north arrow and scale of drawing. (North arrow to be up or to the right.)
- [] [] A separate cover sheet shall be submitted at time of approval
- [] [] A cover sheet is required on plans of more than two (2) sheets.
- [] [] Each sheet shall be identified by sheet number, project name, and match lines.
- [] [] All sheets shall have the Civil Engineer's Arizona registration seal with original signature and date prior to any plan submittal.
- [] [] All plan sheets shall be sufficiently clear to allow legible prints to be reproduced from microfilm. The size of lettering and

symbols shall be 1/8 inch minimum. Shading or zip tape is not permitted. Refer to Water Services Department Design Standards Manual (P-68) for information required on record drawings ("As-Builts").

- [] [] This project is subject to a waterline repayment as redlined on the plans. If you have any questions, phone 602-262-6551, Civil Engineering Permit Counter. Connection fee must be paid prior to issuance of permit.
- [] [] D.I.P. required in major (mile) and collector (half-mile) streets, and all easements (MINIMUM CLASS 50 PIPE).

COVER SHEET REQUIREMENTS:

- [] [] Appropriate processing numbers including:
KIVA#, CCPR# or CSPR #, SDEV #, Abandonments, and City Quarter Section Number in lower right corner.
- [] [] Project title block with name and address of project on all sheets.
- [] [] Developer's name, address, and telephone number.
- [] [] Engineer's name, address, and telephone number.
- [] [] Signature Approval Block. (In lower right-hand corner)

APPROVED FOR:
THE CITY OF PHOENIX

COUNTY HEALTH DELEGATE
DEVELOPMENT SERVICES DEPARTMENT

DATE

- [] [] Provide an As-Built Certification statement as follows:

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER

DATE _____

REGISTRATION NUMBER

- [] [] Key map is required on plans with more than two (2) sheets. A key map is a small-scale map of the project site that provides a system overview and is used to index the plan sheets. The key map shall clearly show the following:
 - All streets with names, alleys, easements, tracts, and parcels shall be identified or shown "unsubdivided."
 - Water mains with types and sizes, fire hydrants, valves and production facilities (tanks, boosters, etc.) proposed and existing
 - Index of plan sheets indicated by single line with arrows showing beginning and end of each sheet
 - Identify all pressure zones
- [] [] Blue Stake notification decal affixed.
- [] [] Material list (for right-of-way or easement work and on-site pipe lengths - make two [2] separate lists).
- [] [] Benchmark and City of Phoenix datum. Phone 602-495-2075 for Benchmark data.

NOTES FOR WATER PLANS:
(to appear on cover sheet)

- [] [] Development Services Department's Field Inspection Group shall be notified 48 hours before any construction begins, telephone (602) 262-7811.
- [] [] All water valve boxes shall be per City of Phoenix Detail P1391, type A only.
- [] [] All construction to conform to M.A.G. Specifications and Details, City of Phoenix Supplement to M.A.G. Specifications and Details, unless modified on the plans.
- [] [] The following M.A.G. Details are specifically NOT approved:
 - 321 Standard water meter vault
 - 345-1 3", 4", and 6" water meter
 - 345-2 4" and 6" water meter with on-site fire hydrants
 - 370 Vertical realignment of water mains
 - 381 Anchor blocks for vertical bends
 - 390 Curb stop with flushing pipe
 - 391-1 Valve box installation
- [] [] Compaction shall comply with M.A.G. Sec. 601 & COP Supplements
- [] [] Approval of these plans shall not prevent the City from requiring correction of errors in the plans where such errors are subsequently found to be in violation of any law, ordinance or other health/safety issue.
- [] [] Pipe deflection per manufacturers' - recommendations.
- [] [] Traffic Regulations: All work must comply with requirements of the current City of Phoenix "Traffic Barricade Manual".
- [] [] A six (6) foot minimum horizontal separation from any underground utility shall be provided for sewer mains, sewer services, water mains, and water services. The minimum horizontal separation is measured from outside of sewer main, sewer service, water main, or water service to outside of underground utility.
- [] [] A one (1) foot minimum vertical separation from any dry underground utility crossing shall be provided for sewer mains, sewer services, water main, or water service to outside of underground utility.
- [] [] A two (2) foot minimum vertical separation shall be provided between any sewer main or storm drain crossing a water main. The minimum vertical separation is measured from outside of water main to outside of sewer main or storm drain main. See M.A.G. Standard Detail 404 for additional information and/or provisions for clearance.
- [] [] Exceptions or deviations from the above minimum clearances must be approved and shown on the approved water and sewer plans. When utility conflicts are found during construction, all changes and revisions must be preceded by an approved plan revision.
- [] [] Any and all more stringent requirements required by Federal, State, County, or Local codes or ordinances take precedence.
- [] [] Water services shall be installed perpendicular from the water main to the meter box. Water services at the end of cul-de-sacs may vary as necessary, but will be approved on a case by case basis.
- [] [] All services shall run in a straight line from the water main to the meter box.
- [] [] Neither water service meter box or any portion of a water service shall be installed under an existing or proposed driveway or sidewalk ramp.
- [] [] Concrete or asphalt damaged during the course of construction shall be removed and replaced in kind prior to final inspection.
- [] [] In accordance with AAC R18-4-119, all materials added after January 1, 1993 which may come into contact with drinking water shall conform to National Sanitation Foundation Standards 60 and 61.
- [] [] Per City of Phoenix Ordinance G-4396, these plans are for official use only and may not be shared with others except as required for the construction of the public works facilities shown hereon. The Project Owner, and the Owner's Lenders, Consultants, Contractors and Subcontractors are prohibited from disclosing the plans and specifications to any persons other than those who have a need to know the information for the purpose of the Project." (NOTE IS REQUIRED ON ALL SHEETS INCLUDING COVER SHEET)
- [] [] A pavement cut surcharge shall be assessed on this project for any trenching or potholing in new asphalt pavement that is less

than 30 months old. Surcharge fees assessed are in addition to the regular permit fees and are over and above any special backfill, compaction, and pavement replacement stipulations that may be imposed as a condition of permitting. Pavement cut surcharge fees is assessed in accordance with Section 31-38 of the Phoenix City Code.

OPTIONAL NOTES FOR WATER PLANS:

- [] [] For Lot Nos. _____, the contractor is responsible for installing the water service. When the service is ready for the wet tap, the contractor is to contact the Development Services Civil Engineering Inspector to coordinate with the City of Phoenix Water Distribution staff to install the wet tap. The contractor is responsible to pay the City of Phoenix for the wet taps on a time and materials basis.
- [] [] This plan is approved subject to completion of lines labeled "EXISTING" which have been proposed as part of another development. The developer of this project may be required to construct those lines per City requirements prior to receiving service for this project.

PLAN SHEETS REQUIREMENTS:

The plan sheets shall show the following to proper scale:

- [] [] Indicate the locations of the beginning(s) and the end(s) of the construction, and all valves, fire hydrants, pipe fittings, and service connections. Their locations must be shown by stationing and dimensioning from appropriate monument lines, or in their absence, appropriate easement references. No dimensioning from points of curvature or tangency is acceptable. The drawings must clearly indicate the specific points of reference.
NOTE: In all cases where the pipe is constructed within or parallel, in close proximity, with the right-of-way, all stationing and dimensioning must be from the nearest appropriate monument line and monument line intersection.
- [] [] The water services stationing shown must specify the location of the taps at the main and their intended use called out, i.e., domestic or irrigation. Their locations must be measured perpendicular or radial relative to the appropriate right-of-way monument line or easement centerline. Service tap locations must be indicated by using the following method throughout the plan set. All stationing rounded to nearest foot. No negative stationing allowed.
NOTE: Stationing in the same general direction along a straight or curvilinear pipe run starting with the nearest appropriate monument line intersection, or in their absence, appropriate easement line references shall be designated as 0 + 00. The relative stationing of all monument line intersections along such pipe runs must also be shown. When monument line intersection occurs along such pipe runs, the plans preparer begins the stationing again with station 0 + 00 at the intersection and repeats this process to the end of the pipe run. Do not locate 0 + 00 at the closed end of a cul-de-sac or similar type street.
- [] [] All streets, alleys, and easements. Streets shall be identified by name. Streets, alleys, and easements shall be dimensioned at least once per sheet and at all breaks. Monument lines of streets shall be shown.
- [] [] Location, by dimensions, all existing and proposed utilities, structures, paving, and other topographic features affected by construction.
- [] [] Existing valves to be shut down during construction shall be shown with valve numbers as shown on the City of Phoenix Quarter Section map.
- [] [] A profile is required for 12" lines in major streets and for all size of lines in special situations where conflicts arise with other utilities. In profile, vertical scale shall be 1" = 2' or 1" = 4'. Horizontal scale shall not be smaller than 1" = 40'. For major streets and cases of unusual topography or complex situations where more detail is necessary, then the scale shall be 1" = 20'.
- [] [] All piping to end with _____" x 2" tapped cap and 2" I.P. Corp.
- [] [] Street name and match lines to be on all sheets.
- [] [] Show all existing and proposed utilities with size, material, and location in right-of-way or easements and dimensioned or stationed from the monument line
- [] [] Right-of-way and easement limits shall be shown. Show both sides of streets.

- [] [] Call out pavement replacement thickness and type per M.A.G. Sec. 336 and COP DTL P-1200, type B, or replace in kind, whichever is greater (no "T" Top allowed within the City of Phoenix). Type A is allowed with cuts parallel to traffic.
- [] [] Show existing and proposed utility crossings in profile (if used) and include encasements if any. Show complete dimensional data measured from street monument lines. Label type of pipe of both proposed and existing, i.e., ACP, DIP cl.50, etc.
- [] [] Show existing and proposed paving.
- [] [] 3' - 0" minimum horizontal clearance between water services.
- [] [] 6' - 0" minimum horizontal clearance between water and sewer lines, water and sewer services, and between water mains and all utility lines; outside of pipe to outside of pipe.
- [] [] Water mains to be 6' minimum from property line unless there is an adjacent P.U.E. on site.
- [] [] Proposed water and sewer to be in standard utility locations per City of Phoenix "Standard Utility Locations" . Pavement cuts will not be a valid reason for not using "Standard Utility Locations."
- [] [] Provide minimum water main easement per Table 3.3 in the Design Standards Manual.
- [] [] Encasements between water and sewer lines shall be per MAG DTL 404.
- [] [] Valves shall be located at point of curvature of the curb return at intersections and at property lines in mid-block.
- [] [] Location of fire hydrants and valves at intersections shall be referenced from the intersection monument line.
- [] [] All fittings shall be identified and stationed.
- [] [] Fire hydrants installed at intersections shall be located in accordance with C.O.P. Standard Detail No. P-1362.
- [] [] Mid-block fire hydrants shall be located on the lot line between two lots, but 4' out of D/W wings.
- [] [] Fire hydrant placements to be per Fire Hydrant Location Policy dated April 2002.
- [] [] Meter service connections shall be shown to each lot or parcel. Services may be stationed from street intersection monuments, except on curved streets and in cul-de-sacs where the tap will be angled, therefore, the tap must be stationed on the main and dimensioned to the applicable property line. Intended use of the service shall be noted, i.e., domestic, irrigation, etc.
- [] [] Meter box locations must be out of traveled roadway/walk/driveway. They may be located in planter areas, parking lot islands, etc., and should be set sufficiently above finished grade to minimize flooding. Meter locations shall be easily accessible from a street or traveled way and must be located in right-of-way or easements.
- [] [] When replacing existing sidewalk, curb and gutter, show and label existing and proposed concrete. Construct sidewalk ramps to accommodate access per ADA requirements. One half (1/2) sack slurry backfill is highly recommended.
- [] [] Water quarter section data indicates leaded joint pipe. Engineer to make a special note on the plan regarding leaded joint pipe and use caution when excavating; "To hand dig if necessary."
- [] [] Tunneling under curb and gutter should not be shown on plans. Plans should indicate removal and replacement of the curb when crossing under the curb. The field inspector will determine if tunneling is acceptable based on the condition of the curb. Tunneling under sidewalks is not acceptable.

ITEMS REQUIRED BEFORE FINAL APPROVAL:

- [] Utility conflicts from appropriate utility companies or print disclaimer on plan signed and sealed by engineer - attached with 1st review comments.
- [] [] Signed agreement form indicating a standard or repayment agreement. Either way, the signed form is required - attached with 1st review comments.
- [] [] Sealed cost estimate.
- [] [] Water Design Report sealed and signed by Engineer.

- Approval to Construct Form.
- Application for Approval to Construct Form.
- Environmental Responsibility Form.
- Print disclaimer on plan and sign and seal by engineer (to be on cover sheet). Disclaimer can only be used for single cuts perpendicular to traffic.

Utility Conflict Notice Disclaimer:

I hereby certify that all utility companies with facilities in the area of this project have been contacted and the data provided is shown on this plan. I agree to indemnify, defend, save and hold harmless the City of Phoenix, its officers, officials, agents, employees and volunteers from any and all claims, demands, actions, liabilities, damages, losses or expenses incurred for any utility conflicts that may arise.

Signature and seal

Date

- Application for main extension – attached with 1st review comments.
- Red lines of this review.
- Special notes from this reviewer.

ADVISORY:

- A pavement cut surcharge may be assessed on this project for trenching in new asphalt pavement or overlay. This fee may be assessed in addition to the regular permit fees and is over and above any special backfill, compaction, and pavement replacement stipulations that may be imposed as a condition of permitting. Surcharge affects streets newly paved and newly overlaid.
- This project may be eligible for a repayment agreement. SEE ATTACHED INFORMATION.

PLANS FOR REVISION OR UPDATE:

- All plans revised after the original approval shall be reapproved with the revision number shown. The nature of the revision must also be called out on the bottom of the cover sheet and on the sheet(s) being revised. The revision number itself shall consist of a numeral within a delta;

(Only revisions for approval after initial plan approval shall use deltas.)
- Resign the engineer's seal and redate. If the plan is by a new engineer, the plan must be resealed and signed.
- A new signature approval block with a delta to the left and numbered accordingly.
- Signature Approval Block for revised plans:

APPROVED FOR:
THE CITY OF PHOENIX

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DEVELOPMENT SERVICES DEPARTMENT

UPDATES

All plans submitted for update require a new signature approval block and a reseal by the submitting engineer. Plan approvals for update approvals are valid for a period of one year from the date of approval signature.

This publication can be made available in alternate formats (Braille, large print, computer diskette, or audiotape) upon request. Contact the Development Services Department at (602) 262-7811 (voice) or (602) 534-5500 (TTY).

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