



### SEWER PLAN REVIEW CHECKLIST

LOG NUMBER: 13893-  
PROJECT: \_\_\_\_\_

REVIEWER: 1st \_\_\_\_\_ Date \_\_\_\_\_  
2nd \_\_\_\_\_ Date \_\_\_\_\_  
3rd \_\_\_\_\_ Date \_\_\_\_\_

KEY: / = Acceptable                      X = Not Applicable  
      O = Not Acceptable or Missing      ? = Unable to Determine Acceptability Status

**PLEASE RETURN THIS ORIGINAL CHECKLIST WITH THE NEXT SUBMITTAL.**

Complies	Requirement
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#### PLAN PREPARATION AND SUBMITTAL

- \_\_\_\_\_ 1. The First Submittal of the Sewer Plans shall include, at a minimum, the following items (unless previously submitted):
  - a. Master Sewer Plan covering the entire development that includes, at a minimum:
    - 1. Full description of all existing lines being tied into,
    - 2. Peak Hour Flow calculations,
    - 3. Pipe sizing calculations,
    - 4. Sewer System Map showing all sewer lines, pipe sizes, manhole locations, and other appurtenances, both existing and proposed.
  - b. Certification that the Treatment Plant capacity is sufficient to include the increased flow resulting from the construction of the subdivision.
  
- \_\_\_\_\_ 2. The Sewer Plans shall be submitted on 24" x 36" sheets bound or stapled in sets. The Plans shall be at a minimum scale of 1" = 40'.
  
- \_\_\_\_\_ 3. Each sheet of the Sewer Plans must be signed and sealed by the Engineer preparing the plans.
  
- \_\_\_\_\_ 4. The minimum height of all text, numbering, and lettering shall be 0.1" (one tenth of one inch).

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- \_\_\_\_\_ 5. If an Easement or Right of Way dedication is required by Separate Instrument, the following exhibits and/or information must be provided with the Easement Document:
- a. The Subdivision Name.
  - b. The Type of Easement or Right of Way.
  - c. The Reason or purpose of the Easement or Right of Way and why it is required.
  - d. A Vicinity Map showing the major cross streets.
  - e. The Legal Description and exhibit with RLS certification.
  - f. A Detail Map showing the Easement or Right of Way alignment with dimensions and bearings, True Point of Beginning, Section, Township, and Range.
  - g. Current Title Report (6 months or less).

**COVER SHEET REQUIREMENTS**

- \_\_\_\_\_ 6. The Name of the proposed development must be shown on the Title Block of the cover sheet, with the Legal Description of the property, including Town, County, and State.
- \_\_\_\_\_ 7. The Developer's name, address and phone number must be shown on the cover sheet.
- \_\_\_\_\_ 8. The Engineer's name, address, and phone number must be shown on the cover sheet.
- \_\_\_\_\_ 9. The following Town Standard Notes must be shown, on the cover sheet:
- a. General Notes
  - b. Sewer Notes
- \_\_\_\_\_ 10. Detailed typical street sections for all streets shall be shown on the cover sheet or on a separate detail sheet. The street section shall include, at a minimum, the following items with dimensions and applicable standard detail identification:
- a. Right-of-Way,
  - b. Roadway with curb and gutter identified by type,
  - c. Sidewalks,
  - d. Public Utility Easements,
  - e. All underground utility locations dimensioned relative to the centerline or monument line of the street or the right of way line.
- \_\_\_\_\_ 11. All elevations shown on the plans must be referenced to an approved Town benchmark (NAVD 88). The benchmark description must be shown on the cover sheet.

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_____	12. The Basis of Bearings must be shown on the cover sheet.
_____	13. An Index Map with the following information is required on the cover sheet: <ol style="list-style-type: none"> <li>a. Existing sewer system, both internal and perimeter, including pipe sizes,</li> <li>b. Proposed sewer system including pipe sizes, manhole locations and clean-out locations,</li> <li>c. Flow arrows indicating direction of flow,</li> <li>d. Street Names,</li> <li>e. Sheet Numbers,</li> <li>f. Phase limits and numbers if applicable</li> <li>g. Lot Numbers and Tract Designations,</li> <li>h. Retention Basin Designations.</li> </ol>
_____	14. A Vicinity or Site Location map is required on the cover sheet.
_____	15. A Quantity Tabulation is required on the cover sheet.
_____	16. A "Utility Coordination Block" shall be included on the cover sheet showing the names of the utility companies servicing the area of the Development and the date(s) plans were submitted to them.
_____	17. A Legend shall be shown on the cover sheet, or detail sheet, for all symbols used on the sewer plans.
_____	18. A Detail for water and sewer trench width, bedding, and backfill shall be shown on the cover sheet with appropriate references to the MAG Standard Specification 601.
_____	19. A separate Sewer Trench Detail shall be provided on the cover sheet or detail sheet showing trench excavation for sewer lines greater than 15 feet in depth.
_____	20. A Sewer Service Tap Detail is required to be shown on the Cover Sheet. The Detail shall include the following items: <ol style="list-style-type: none"> <li>a. The standard tap location relative to the side Lot Line,</li> <li>b. The required minimum separation of 6 feet between water and sewer services,</li> <li>c. Reference to MAG Standard Detail No. 440,</li> </ol>
_____	21. A Manhole Service Tap Detail is required to be shown on the Cover Sheet if taps are proposed to be constructed into manholes. The Town of Florence (TOF) does not allow taps into manholes.

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\_\_\_\_\_ 22. A Review by the Arizona Department of Environmental Quality (ADEQ) is required prior to Approval by the Town Engineer. The following Approval Block shall be added to the cover sheet, above the Town Engineer's Approval Block.

<b>APPROVED</b>	
<hr/>	
<b>ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY</b>	<b>DATE</b>

\_\_\_\_\_ 23. A review by the private sewer company serving the area of the subdivision is required, if applicable, prior to the Approval by the Town Engineer. The following Approval Block shall be included on the cover sheet, above the Town Engineer's Approval Block:

<b>APPROVED:</b>	
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<b>REPRESENTATIVE (PRIVATE SEWER COMPANY)</b>	<b>DATE</b>

\_\_\_\_\_ 24. The following Approval Block for the Town Engineer shall be included in the lower right of the cover sheet:

<b>APPROVED:</b>	
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<b>TOWN ENGINEER TOWN OF FLORENCE, ARIZONA</b>	<b>DATE</b>

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\_\_\_\_\_ 25. The following "As Built Certification shall be included on the cover sheet:

<b>AS BUILT CERTIFICATION</b>	
I HEREBY CERTIFY THAT THE "AS BUILT" MEASUREMENTS AS SHOWN OR NOTED HEREON WERE MADE BY ME OR UNDER MY SUPERVISION AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	
_____	_____
REGISTERED LAND SURVEYOR	DATE
(SEAL)	

**GENERAL INFORMATION REQUIRED ON THE PLAN SHEETS**

- \_\_\_\_\_ 26. A North arrow and scale must be shown on each sheet of the Plans. Horizontal and vertical scales must be shown on the Profile view of each plan and profile sheet.
- \_\_\_\_\_ 27. Match lines, with stationing and sheet references, must be shown on each sheet, as applicable. Show match line stations on plan and profile with invert elevations at all match lines.
- \_\_\_\_\_ 28. Phase limits and numbers, if applicable, must be shown on each applicable sheet.
- \_\_\_\_\_ 29. Existing storm drainage facilities such as retention basins, catch basins, scuppers, and storm drain pipes must be shown on plans.
- \_\_\_\_\_ 30. Existing buildings and other significant structures must be shown on the Plans.
- \_\_\_\_\_ 31. All existing sewer lines being tied into must be shown in both plan and profile views.
- \_\_\_\_\_ 32. Dimensional ties, station and offset from the street centerline, must be provided for all existing sewer lines being tied into.
- \_\_\_\_\_ 33. All proposed sewer lines must be shown in both plan and profile views
- \_\_\_\_\_ 34. The sewer line must be installed in the standard location and shall not cross or re-cross the street centerline. Where the sewer cannot be installed in the standard location and parallel to the street centerline, prior approval of the variation is required by the Town Public Works Director.

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_____	<p>35. A manhole must be constructed wherever the sewer changes slope, horizontal alignment or size, or intersects another sewer. The following conditions also must be met:</p> <ul style="list-style-type: none"> <li>a. Sewer lines of different sizes entering the same manhole must not have their soffits lower than the soffit of the largest pipe.</li> <li>b. Sewer intersections must be between 90° and 180° inclusive.</li> <li>c. Sewer lines intersecting at an angle from 90° to less than 120° must have a 0.10' minimum drop across the manhole.</li> <li>d. For sewers greater than 15" in diameter, inverts at junctions must be designed to maintain the energy gradient across the junction and to prevent backflow.</li> </ul>
_____	<p>36. The following information must be shown on the plans:</p> <ul style="list-style-type: none"> <li>a. For existing and proposed manholes: <ul style="list-style-type: none"> <li>1) Rim elevation. To the nearest 0.1' (one tenth of one foot)</li> <li>2) Invert elevations,</li> <li>3) Sewer stationing,</li> <li>4) Dimensional ties, i.e., station and offset, from the street centerline to manhole,</li> <li>5) Where a proposed manhole is constructed on an existing sewer, the horizontal distance from the nearest downstream manhole and the slope of the existing sewer must be shown.</li> </ul> </li> <li>b. Sewer stationing, invert elevation, and rim elevation of cleanout.</li> <li>c. Distance from centerline to centerline of manholes.</li> <li>d. Distance from centerline of manhole to centerline of cleanout.</li> <li>e. Standard detail number for manholes (MAG Standard Detail 420) and cleanouts (MAG Standard Detail 441).</li> <li>f. The following street centerline survey data must be shown: <ul style="list-style-type: none"> <li>1) Stations at changes in horizontal alignment of the street.</li> <li>2) For tangents: bearing and distance.</li> <li>3) For curves: radius, central angle, arc length, and radial bearing for non-tangent curves.</li> </ul> </li> </ul>
_____	<p>37. The minimum cover allowed for a sewer is 4 feet.</p>
_____	<p>38. If the cover on the sewer service tap is less than 4 1/2 feet at the property line, the service must be ductile iron pipe and coordination with dry utilities is required.</p>
_____	<p>39. Manhole and cover sizes must conform to the following standards:</p> <ul style="list-style-type: none"> <li>a. Invert depth of 10 feet or less: - 4 foot diameter manhole is required, with steps, and with a 24" diameter cover.</li> <li>b. Invert depth greater than 10 feet: - 5 foot diameter manhole is required, without steps, and with a 30" diameter cover.</li> <li>c. For sewer pipe 15 inch or greater in diameter, a 5' diameter manhole is required without steps, and with a 30" diameter cover.</li> </ul>

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_____	40. Bedding must conform to MAG Standard Specification 601 or all types of pipe at all depths.
_____	41. The sewer line slope must be shown and it must meet the minimum A.D.E.Q. requirements.
_____	42. The maximum distances between manholes and between manholes and cleanouts must comply with the following: <ul style="list-style-type: none"> <li>a. 15 inch line size or less: manhole spacing at 400 feet.</li> <li>b. 18 inch to 30 inch line size: manhole spacing at 600 feet.</li> <li>c. 36 inch to 60 inch line size: manhole spacing at 800 feet.</li> <li>d. 60 inch or greater 60 inch line size: manhole spacing at 1300 feet.</li> <li>e. 18 inch diameter or less: manhole to cleanout spacing at 150 feet.</li> </ul>
_____	43. All crossings of the following existing utility lines must be shown in both plan and profile views <ul style="list-style-type: none"> <li>a. Water and sewer.</li> <li>b. Reclaimed water (4" or larger).</li> <li>c. Telephone, electric, gas, cable, and other buried utilities where appropriate.</li> </ul>
_____	44. Extra protection (ductile iron pipe or concrete encasement) is required in certain instances; see MAG Standard Detail 404 for applicability.
_____	45. All abandoned sewer taps must be capped at the main connection.
_____	46. A sewer service tap with station, either sewer station or station in relation to the nearest downstream manhole, must be shown for each lot.
_____	47. A sewer stub-out must be shown at each manhole adjacent to undeveloped property, unless otherwise justified. Sewer stub-outs also must be provided for all major parcels within, or adjacent to, the development. Sewer stub-outs must extend, wherever possible, sufficiently beyond paved surfaces to avoid pavement cutting at time of future connection. Sewer stub-outs must be shown in both plan and profile views.

Provide soils/pavement report indicating required pavement section. For connecting to existing streets match existing section or per Design Report, whichever is thicker.

Coordinate plans for this development with all current and proposed adjacent projects, including private developments and Town of Florence projects.

If portions of the improvements shown are within another jurisdiction, coordinate with that jurisdiction and acquire appropriate permits. Indicate the permit number on the cover sheet.

Provide service to all lots and parcels. Provide stationing, elevations and offsets for all services.

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Sewer lines located within easements shall have a minimum 20-foot wide dedication.

Maintain a minimum 6-foot horizontal separation between water and wastewater taps.

Wastewater line sizes and depths must conform to the Town's Water and Wastewater Master Plan.

All existing wastewater lines being tied into must be shown in both plan and profile views.

All proposed wastewater lines must be shown in both plan and profile views.

Wastewater line slope must be shown and meet minimum velocity of 2 fps.

Changes in slope or alignment are permitted only at manholes.

Encasement shall be required as applicable per MAG Standard Detail 404.

A wastewater service line shall be provided for each lot with stationing, offset, and invert elevations.

Provide a manhole service tap detail on the cover or detail sheet. A maximum of 4 wastewater laterals per manhole is permitted.

Provide material specifications.

Provide special details as required.

**Lift Stations / Force Mains**

Public lift stations and force mains shall be designed in accordance with most current water resources standards and requirements.

Private lift stations and force mains shall be maintained by a Homeowners Association as stated on the final plat.

Label lift stations and force mains as public or private and indicate who is responsible for maintenance on the cover sheet.

Indicate size and material of force main.