14920 W. Camelback Road

Litchfield Park, AZ 85340

MARICOPA & YAVAPAI COUNTIES

DEVELOPMENT GUIDE

(Water and Sewer Service)

Liberty Utilities (Litchfield Park Water & Sewer) Corp.
Liberty Utilities (Black Mountain Sewer) Corp.
Liberty Utilities (Beardsley Water) Corp.
Liberty Utilities (Cordes Lakes Water) Corp.

June 2023

Note: All new projects will be subject to an initial deposit prior to review of reports and construction plans

www.LibertyUtilities.com

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SECTION ONE

GENERAL DEVELOPMENT INFORMATION

CONTACT INFORMATION

NAME	TITLE	RESPONSIBILITY	DIRECT	EMAIL ADDRESS
Main Office		General Inquiries	623-935-9367	
New Service Request team		Service Requests	623-240-2195 or www.libertyutilities.com	newservicerequests@libertyutilities.com
David Snow	Engineer IV	Master Plan & Design Report Review	623-240-2201	David.Snow@libertyutilities.com
Tommy Barnes	Lead Inspector	Inspections & Fire Flow Test Witness	480-881-9812	Tommy.Barnes@libertyutilities.com
Julie Perry	Plan Reviewer	General Coordination Line Extension Agreements & Will Serve Letters	623-240-2195	Julie.Perry@libertyutilities.com
Rovell Foggy	Plan Reviewer	Plan Review & General Inquires	623-240-2195	Rovell.Foggy@libertyutilities.com
Aaron Newell	Manager Business & Asset Development	New Development	480-851-7734	Aaron.Newell@libertyutilities.com

Main office FAX number is 623-935-1020

To apply for Water and or Wastewater service (online or printable application) and for the rates in your community please visit www.libertyutilities.com

POLICY CONCERNING UTILITY OWNERSHIP OF FACILITIES AND FINAL PLAT INFORMATION

All water facilities on the Utility side of the service, including meter, shall be Utility owned. Fire sprinkler taps, isolation valves, and that portion of fire sprinkler services in the street right-of-way or dedicated public utility easement shall be Utility owned.

All main sewer lines shall be Utility owned, unless otherwise specified by the Utility. The portion of individual service lines located in the street right-of-ways or dedicated public utility easement shall be Utility owned. The customer shall be responsible for owning and maintaining all privately owned facilities as delineated within the applicable executed agreement(s), which is typically, but not always, anything beyond the point of connection. In any event, the Utility will only be responsible for line stoppages in the Utility owned sewer line and service lines, which is typically, but not always, prior to the point of connection.

The facilities described above shall become the sole property of the Utility when accepted by Utility, and full legal and equitable title thereto shall be vested in Utility, free and clear of any liens.

All final plats shall contain Utility's plat dedication verbiage or a separate easement will be required. *See Page 15 for dedication verbiage. See Page 14 for easement exhibit requirements.*

All plan cover sheets shall have Utility's owner information. *See Section Three, Construction Plan Requirements.*

Note: Utility means Liberty Utilities (Litchfield Park Water & Sewer) Corp., or Liberty Utilities (Black Mountain Sewer) Corp.

Project/Developer Information

GENERAL INFORMATION

Owner Name: _____

Contact Name: _____

Address: _____

Phone #: _____ Email: _____

Applicant Name (if other than owner): _____

Address: _____

Phone #: _____ Email: _____

Project Engineer: _____

Contact Name: _____

Address: _____

Phone #: _____ Email: _____

Name of Development: _____

Project Name to be known as (if different than above):_____

Location: _____

Parcel #: _____

AGREEMENT INFORMATION

Name of company entering into the agreement: _____

Name, title, and address of individual who will sign the agreement: _____

_____

_____

State of incorporation of company (AZ, CA, etc.): _____

Type of company (Inc., LLC, LP, etc.): _____

County and State where agreement will be notarized: _____

PROJECT INFORMATION

Utility you are requesting service from:

☐ Liberty Utilities (Litchfield Park Water & Sewer) Corp. ☐ Liberty Utilities (Black Mountain Sewer) Corp.

General Description of what Utility service is being requested and for what purpose (i.e. requesting sewer service for 132 single-family lots):

_____

_____

_____

Have preliminary plans been developed? If yes, please attach a copy. If no, please attach any available site plans.

Water: Yes ☐ No ☐

Sewer: Yes ☐ No ☐

Estimated Start Date: Water: _____ **Estimated Completion Date:** Water: _____

Sewer: _____ Sewer: _____

No. of water meters required and sizes, including irrigation (i.e. 36 – ¾ inch meters): _____

No. of fire services required, including sizes (contact local Fire Department for requirements):_____

IF MULTIPLE USES, PLEASE FILL OUT ALL THAT APPLY

RESIDENTIAL PROJECTS - SINGLE FAMILY

Total residential acreage: _____ Total Number of lots: _____

Project Amenities (check all that apply):

☐ Pool
Occupancy: _____
Showers? : _____

☐ Clubhouse
Occupancy: _____
Showers? : _____
Kitchen? : _____

☐ Park
No. of bathrooms: _____
No. of Parking Spaces: _____

☐ Other
Please give a detailed description : _____

_____

_____

RESIDENTIAL PROJECTS - MULTI-FAMILY

Total acreage: _____ Number of units: _____

Project Amenities (check all that apply):

☐ Pool
Occupancy: _____
Showers? : _____

☐ Clubhouse
Occupancy: _____
Showers? : _____
Kitchen? : _____

☐ Park
No. of bathrooms: _____

☐ Laundry
No. of machines: _____

☐ Theater (if separate from clubhouse)
No. of seats: _____

☐ Other
Please give a detailed description : _____

_____

_____

COMMERCIAL PROJECTS

☐ **Retail**

(a) Total Site Acreage: _____

(b) Square Footage of store area: _____

☐ **Office**

(a) Total Site Acreage: _____

(b) Square Footage of office space: _____

(c) Total occupancy: _____

☐ **Restaurant**

(a) Total Site Acreage: _____

(b) Square Footage of building: _____

(c) Total occupancy: _____

(d) Estimated number of meals served per day: _____

☐ **School**

(a) Total Site Acreage: _____

(b) Number of Staff: _____

(c) Number of Students: _____

(d) Grade (i.e. K - 8): _____

(e) Check all that apply:

☐ Cafeteria ☐ Gym ☐ Showers ☐ Boarding

☐ **Other**

(a) Total Site Acreage: _____

(b) Square Footage of Building(s): _____

(c) Relevant Information: _____

_____

THIS FORM MUST BE ACCOMPANIED BY A WRITTEN REQUEST FOR SERVICE SIGNED BY THE OWNER, WITH AN ATTACHED WRITTEN LEGAL DESCRIPTION. This request must include the owner's name, project name and location (Parcel No., cross streets, address), type of service being requested (water, sewer – commercial, residential, multi-family), estimated start and completion dates, and an estimate of the water demand and/or sewer flows required for this project. Please address the letter to the Manager of Development Services.

I, the owner or owner's legal representative, hereby certify:

1) The information contained on this form is true and correct to the best of my knowledge. I understand that this information will be used to determine my initial administrative deposit, which will be due prior to the review of Construction Plans and Master Plans and any further coordination.

2) I have been provided with a copy of Utility's Development Guide, and General Construction Guide to read and understand. It is understood that this Development Guide outlines procedural requirements for water and/or sewer line extensions and additions, as well as A.A.C. R14-2-406.

3) I understand I will be responsible for all costs related to my development as it pertains to obtaining utility service. These costs can include, but are not limited to, hook-up fees (if applicable), other costs (if applicable), and costs related to the design, construction, and installation; which includes inspections and plan review, as well as utility administration to prepare appropriate agreements. It is further understood that these costs will be outlined in a Line Extension Agreement and/or Service Connection Agreement.

_____ _____

Name Title

_____ _____

Signature Date

LINE EXTENSION AGREEMENT (LXA) INFORMATION

In order to complete the water and/or sewer agreements, the following information is needed, separately for water and sewer (as applicable for your project):

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).
- Number of water meters per size of water meter. Segregate out irrigation meters per size of meter.
- 8 1/2" X 11" full written legal description of property, including acreage, stamped and signed by an P.E. or R.L.S.
- 8 1/2" X 11" Metes and Bounds map exhibit showing the outline of development that matches the legal description, exhibit stamped and signed by an P.E. or R.L.S.
- 8 1/2" X 11" water and/or sewer facilities map showing the facilities that we will own, including services. This information should be presented separately for water and sewer.
- 8 1/2" X 11" cost estimate of materials, quantities, unit costs, and total line item costs of water/wastewater facilities that will be owned by Utility (for example, 8-inch ductile iron pipe, 1,200 ft., $60 per foot, $72,000) stamped and signed by an P.E. Engineering, labor costs, permits, traffic control, etc. This information should be presented separately for water and sewer components as separate agreements are developed for water and sewer.

FOR EXHIBIT REQUIREMENTS SEE PAGE 10

We will also need the following information to submit the agreement to the Arizona Corporation Commission for approval:

- Copy of the Approval to Construct issued by Maricopa County Environmental Services Department ("MCESD"). When a project is exempt, a letter stating exemption issued by Maricopa County Environmental Services Department with an itemized cost estimate shall be submitted to Utility. **NO EXCEPTIONS.**

Additionally, your project may be of a scope, size, or complexity to warrant a master plan or hydraulic modeling. You will be advised of this requirement as part of the review effort.

The Line Extension Agreement will also stipulate other conditions, such as requirements for as-builts, copies of the Approval to Construct form or waiver, the Approval of Construction form, copies of invoices and actual costs summary exhibits, a bill of sale transferring ownership of the facilities to Utility, advance for CC&N expansion legal and administrative costs (if applicable), payment of applicable capacity fees, hook-up fees, an address and lot number list (with tax parcel numbers is available), etc. If your project involves a CC&N expansion, a MAG 208 or other regulatory agreements and/or plan amendments may be required. The Agreement may be recorded with the Maricopa County Recorder's office.

1 . Developer must execute the applicable Agreement and pay all applicable fees prior to plan approval of required facilities.

2. Developer must provide an easement for all Utility owned water and sewer mains and related facilities to be placed on private property, or have Utility's plat dedication verbiage on the final plat and on the water/sewer plans.

3. "Advances in Aid of Construction" are refunded to the Developer in accordance with Arizona Corporation Commission Rules and Regulations.

LXA EXHIBIT REQUIREMENTS

All exhibits submitted to the Development Services Department for review shall be prepared in accordance with the guidelines listed below. **Water and sewer exhibits are to be separate.**

Exhibits shall be at least a minimum of 10-point font and shall have no lines going through the text.

Exhibit A
Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Legal Description.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Call out acreage.
6. Each page needs to have the name of the engineering firm that prepared the exhibit.

Exhibit A
Metes & Bounds Map Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Metes and Bounds.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.
6. Show streets and nearest cross streets.

Exhibit B
Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "B"**, Facilities Map.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or building outline.
11. Call out number of lots (if applicable).
12. Multiple pages will be allowed, for larger projects,

Exhibit C
Cost Estimate Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "C"**, Cost Estimate.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Exhibit needs to include the total cost to install (includes material, labor, permits, traffic control, etc.)
6. Exhibit is to be signed and stamped by a P.E.
7. Cost estimate must be itemized. See example below.

Example (costs are for example purposes only)**:**

Item	Quantity	Unit	Unit Cost	Total
8" DIP CL 350	1,200	LF	$100.00	$120,000.00
8" RW Gate Valve	3	EA	$1,300.00	$3,900.00

WATER SERVICE CONNECTION AGREEMENTS

When a water service is being installed on an existing water main and the facilities are public, review/ approval of the proposed water service will be required.

When a water service is being installed from an existing service and meter box to the building and the facilities are private, no plans or approval will be required.

Water meter boxes shall be supplied by Utility and installed by the contractor. Contact Utility's Construction Inspector 623-935-9367 with lot/ building count to order meter boxes, meter boxes will be delivered to the construction site. After the meter boxes have been delivered any additional meter boxes due to damage, miss ordered, etc. will be the responsibility of the contractor/ developer.

Utility may not stock or have available, all size water meters. To eliminate construction delays please give yourself ample lead time and coordinate with Utility to assist you with this matter.

Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results must be sent to Utility prior to activation of service by Utility. Water meter needs to be placed prior to Backflow testing.

A Water Service Connection Agreement may be required for non-LXA Water projects. In the event the water facilities are private, or require only a service to be installed on an existing Utility water line a Water LXA may not be required. However, developer may be required to enter into a Water Service Connection Agreement with Utility, and pay associated fees. This Agreement may be recorded with Maricopa County Recorder's office.

Developer may be required to execute a Water Service Connection Agreement prior to plan approval of required facilities.

In order to complete the Water Service Connection Agreement, the following information is needed:

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).

An 8 1/2" X 11" legal description, metes & bounds exhibit and a water facilities map showing the facilities that Utility will own.

Exhibits shall be at least a minimum of 10-point font and shall have no lines going through the text.

Exhibit A
Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Legal Description.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Call out acreage.
6. Each page needs to have the name of the engineering firm that prepared the exhibit.

Exhibit A
Metes & Bounds Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Metes and Bounds.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.

4. Project name is to be on the exhibit.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.
6. Show streets and nearest cross streets.

Exhibit B
Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "B"**, Facilities Map.
3. Project name is to be on the exhibit.
4. The exhibit needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or building outline.
11. Call out number of lots (if applicable).
12. Multiple pages will be allowed, for larger projects,

SEWER SERVICE CONNECTION AGREEMENTS

A Sewer Service Connection Agreement may be required for non-LXA Sewer projects. In the event the sewer facilities are private, or require only a service to be installed on an existing Utility owned sewer line a Sewer LXA will not be required. However, developer may be required to enter into a Sewer Service Connection Agreement with Utility, and pay associated fees. This Agreement may be recorded with Maricopa County Recorder's office.

Developer may be required to execute a Sewer Service Connection Agreement prior to plan approval of required facilities.

In order to complete the Sewer Service Connection Agreement, the following information is required:

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).

An 8 1/2" X 11" legal description, metes and bounds exhibit, and sewer facilities map showing the facilities that Utility will own will be required.

Exhibits shall be at least a minimum of 10-point font and shall have no lines going through the text.

Exhibit A
Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Legal Description.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Call out acreage.
6. Each page needs to have the name of the engineering firm that prepared the exhibit.

Exhibit A
Metes & Bounds Map Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Metes and Bounds.
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.
6. Show streets and nearest cross streets.

Exhibit B
Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 ½" x 11"). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "B"**, Facilities Map.
3. Project name is to be on the exhibit.
4. The exhibit needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or building outline.
11. Call out number of lots (if applicable).
12. Multiple pages will be allowed, for larger projects.

EASEMENTS AND EASEMENT EXHIBITS

A separate dedicated easement shall be provided when the Utility's plat dedication verbiage is not on the final recorded plat and the Utility owned facilities are outside of the dedicated right of ways. Easements shall be signed by the developer or appropriate party prior to plan approval. Easements shall have a minimum width of 16 feet, unless otherwise specified by Utility, and shall be centered about the centerline of the Utility owned facilities. A minimum width of 20 feet is required when two lines are in the same easement, unless otherwise specified by Utility.

- An 8 1/2" X 11" easement legal description of property, including acreage.

- An 8 1/2" X 11" metes and bounds exhibit showing outline of the easement legal description.

All exhibits submitted to the Development Services Department for review shall be prepared in accordance with the guidelines listed below. Utility may require other exhibits and/or other documentation.

Exhibits shall be at least a minimum of 10-point font and shall have no lines going through the text.

Exhibit A
Easement Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Legal Description
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Call out acreage.
6. Each page needs to have the name of the engineering firm that prepared the exhibit.

Exhibit A
Easement Metes and Bounds Map Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page is to be labeled **Exhibit "A"**, Metes and Bounds
3. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.
6. Show streets and nearest cross streets.

PLAT DEDICATION VERBIAGE

The following plat dedication verbiage shall be on the final recorded plat if Utility owned facilities are outside of dedicated right of ways and separate easements are not provided:

PERPETUAL WATER AND SEWER EASEMENTS ('EASEMENTS") AS DESCRIBED IN THE PLAT ARE GRANTED TO LIBERTY UTILITIES AND THEIR SUCCESSORS AND ASSIGNS (COLLECTIVELY, "GRANTEE"), TO CONSTRUCT, OPERATE, AND MAINTAIN WATER AND SEWER LINES AND APPURTENANT FACILITIES (COLLECTIVELY, "FACILITIES") UPON, ACROSS, OVER AND UNDER THE SURFACE OF THE EASEMENTS, TOGETHER WITH THE RIGHT TO CONSTRUCT, OPERATE, REPAIR, REPLACE, MAINTAIN, AND REMOVE THE FACILITIES FROM THE PREMISES; TO ADD OR TO ALTER THE FACILITIES, AND TO PROVIDE GRANTEE WITH REASONABLE INGRESS AND EGRESS TO THE FACILITIES. GRANTEE WILL HAVE UNRESTRICTED ACCESS TO THE EASEMENT FOR THE ACTIVITIES DESCRIBED ABOVE AND FORMAL NOTIFICATION OR APPROVAL BY ANY ASSOCIATION PRIOR TO ACCESSING THE EASEMENT WILL NOT BE REQUIRED.

NEITHER GRANTOR NOR THE OWNERS OF ANY PART OF THE PREMISES SHALL ERECT, CONSTRUCT OR PERMIT TO BE ERECTED OR CONSTRUCTED ANY BUILDING OR OTHER STRUCTURE WITHIN THE LIMITS OF THE EASEMENTS; HOWEVER, THEY SHALL HAVE THE RIGHT TO CONSTRUCT AND ERECT FENCES, TO INSTALL LANDSCAPING, PARKING FACILITIES AND DRIVEWAYS, AND TO ESTABLISH OTHER USES WHICH ARE NOT INCONSISTENT WITH USES WITHIN THE LIMITS OF SAID EASEMENTS IN A MANNER WHICH WILL NOT UNREASONABLY INTERFERE WITH GRANTEE'S ACCESS TO THE FACILITIES IN ACCORDANCE WITH ARIZONA CORPORATION COMMISSION RULES AND REGULATIONS. GRANTEE SHALL NOT BE HELD LIABLE FOR DAMAGE TO STRUCTURES, FENCES, LANDSCAPING, PARKING FACILITIES DRIVEWAYS OR ANY OTHER PRIVATELY OWNED IMPROVEMENTS ERECTED WITHIN THE LIMITS OF THE EASEMENTS DUE TO REPAIR, REPLACEMENT, CONSTRUCTION OR RELOCATION OF THE GRANTEE OWNED WATER AND SEWER LINES.

GRANTEE SHALL HOLD GRANTOR AND OWNERS OF ANY PART OF THE PREMISES HARMLESS FROM DAMAGES, CLAIMS, LIABILITIES OR EXPENSES, WHICH RESULT FROM GRANTEES USE OF EASEMENT TO OPERATE, MAINTAIN, REPAIR, REPLACE AND INSTALL UTILITY OWNED INFRASTRUCTURE. THIS HOLD HARMLESS DOES NOT COVER NEGLIGENT ACTIONS FROM GRANTOR OR OWNERS THAT RESULT IN ANY CLAIM, AS WELL AS GRANTEE IS NOT HELD LIABLE FOR DAMAGE TO STRUCTURES, FENCES, LANDSCAPING, PARKING FACILITIES, DRIVEWAYS OR ANY OTHER PRIVATELY OWNED IMPROVEMENTS ERECTED WITHIN THE EASEMENT. GRANTOR AND GRANTEE AGREE THAT ALL EASEMENTS WILL ALSO BE GOVERNED BY ARIZONA ADMINISTRATIVE CODE R14-2-405C AS AMENDED. GRANTEE AGREES TO EXERCISE REASONABLE CARE TO AVOID DAMAGE TO THE PREMISES AND ALL PROPERTY THAT MAY AT ANY TIME BE THEREON.

SPECIFIC REQUIREMENTS FOR DEVELOPER DESIGNED AND BUILT WATER/SEWER MAIN EXTENSIONS

1. **UTILITY DOES NOT GUARANTEE AND IS NOT RESPONSIBLE FOR FIRE FLOW. MEETING LOCAL OR STATE REGULATORY REQUIREMENTS FOR FIRE FLOW IS THE RESPONSIBILITY OF THE DEVELOPER AND SHALL BE AT NO COST TO THE UTILITY.** Any upgrades to Utility's system must be approved by the Utility.

2. Developer shall prepare and submit Water and/or Sewer Plans in accordance with the Utility's "Minimum Water and/or Sewer Plan Requirements", *see Section Three, Page 33, Construction Plan Requirements*.

3. Easement legal descriptions and exhibits for Utility owned facilities shall be required for all Utility owned facilities not within dedicated right of ways. Easements shall have a minimum width of 16 feet, unless otherwise specified by Utility, and shall be centered about the centerline of the Utility owned facilities, minimum width of 20 feet when two lines are in the same easement, unless otherwise specified by Utility. The easement legal description and exhibits shall be submitted on 8½" X 11" sheets also signed and sealed by a Professional Civil Engineer or Land Surveyor registered in the State of Arizona. *See page 14 for easement exhibit requirements.* Easement(s) shall be signed by the developer or appropriate parties prior to plan approval.

4. Developer must supply the Utility with an "Approval to Construct" (ATC) as issued by the Maricopa County Environmental Services Department prior to commencing construction. When a project is exempt, a letter stating exemption issued by MCESD, along with an itemized cost estimate that is signed and stamped by a P.E. registered in Arizona shall be submitted to Utility. An ATC or exemption letter shall be submitted prior to plan approval.

5. Developer shall construct system in accordance with the Standards and Specifications of the Arizona Department of Environmental Quality, Maricopa Association of Governments, and Utility's General Specifications, Notes and Details.

6. Utility will conduct periodic inspections of the installation. Utility does not provide full time on-site inspection. Responsibility for proper installation rests with the developer. Such inspection, as Utility personnel may perform, in no way relieves the developer of this responsibility.

7. Developer shall not make any changes from approved plans and specifications without prior written approval of the Utility. Change orders authorizing changes in the approved plans and specifications must be co-signed by the Utility and engineer of record prior to construction.

8. Utility will give Final Acceptance upon completion of all construction, including final adjustments of all valve boxes, manholes, meter boxes, etc. and submittal of any other required documentation as outlined in the Line Extension Agreement and development guide.

9. Any changes required by the Utility to correct work that has been deemed sub-standard shall be completed at no cost to the Utility.

10. The date of Final Acceptance shall be the date of the letter from the Utility to the developer. The developer shall be responsible for the repair of the facilities installed for two years from the date of final acceptance.

11. Meters will not be released until completion of the project, meaning the project has been granted Final Acceptance, which includes items A through D. Some meters may be released at Operational Acceptance, as defined in the executed agreement, upon Utility's discretion.

    A. Developer must supply the Utility with an Approval of Construction ("AOC") as issued by MCESD.

    B. Bill of Sale. Water and Sewer (if applicable) will be separate. (Utility will provide a template)

C. Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results must be provided to Utility prior to activation of service. **No exceptions**.

D. Invoice package to establish actual cost of construction. Developer shall provide the following:

a. Copies of all invoices (pay applications or final pay application that reflects completion, including all change orders) for material and labor for that portion of the work to be owned by the Utility. The invoices must be itemized and should include engineering; construction supervision, actual installation costs, and any other costs directly associated with the project.

b. Developer shall provide all unconditional final lien releases from all contractors, subcontractors and material suppliers for all water and sewer construction.

c. Itemized cost breakdown similar to Exhibit C in the LXA. (For example, 8-inch ductile iron pipe, 1,200-feet., $100 per foot, $120,000). Water and Sewer (if applicable) are to be separate. Engineering, labor costs, permits, traffic control, taxes, etc. should be provided as well. See below example.

Example (costs are for example purposes only):

Item	Quantity	Unit	Unit Cost	Total
8" DIP CL 350	1,200	LF	$100.00	$120,000.00
8" RW Gate Valve	3	EA	$1,300.00	$3,900.00

12. Developer shall provide an "As-Built" plan of facilities installed generated from an approved and signed set of plans. As-Builts must have a copy of the original cover sheet with all signatures from all parties. The "As-Built" plans shall include the locations of all vertical and horizontal pipe bends, valves, manholes, sewer taps, etc., by station/offset. The plan must be produced on 4 mil Mylar and certified for correctness by a Professional Civil Engineer registered in the State of Arizona. *Reference the "As-Built" section, Section Three, Page 37 Construction Plan Requirements, for detailed "As-Built" plan requirements.* One set of 4-mil Mylar, two sets of black-line on bond and AutoCAD (2004 or later) and PDF files on CD. As-Built plans need to be submitted and approved by Utility prior to Final Inspection being conducted.

13. Refunds for "Advances in Aid of Construction" will be made as outlined in the agreement.

DEPOSITS AND FEES ASSOCIATED WITH LINE EXTENSION AGREEMENT

Initial Administrative Deposit

All new projects will be subject to an initial deposit prior to review of the master plan (report), construction plans, and design coordination with the engineer, developer, contractor and/or any regulatory agency. Contact Plan Reviewer for requirements. The Project Information form on pages 5-8 must be filled out and submitted to Development Services. An Initial Administrative Deposit Agreement will be provided to the Developer or Applicant for signature, outlining the required deposit.

Administrative Costs

Upon execution of the Line Extension Agreement, the Developer shall submit the Deposit to Utility for Utility's reasonable fees, costs and expenses incurred in connection with its review of the engineering plans and specifications for the Facilities, inspection and testing of the Facilities during and after their construction, and other fees, costs and expenses reasonably and necessarily incurred by Utility with respect to preparation of this Agreement, as well as other necessary administrative, engineering or legal services (collectively, "Administrative Costs"). The amount of the Deposit shall be 5% of the estimated cost of construction of the Facilities with a minimum Deposit of $5,000. In the event Utility's Administrative Costs exceed the amount of the Deposit, Utility shall provide Developer invoices supporting such Administrative Costs, and payment shall be made by Developer on or before the fifteenth (15th) day of the calendar month following the month in which Utility's invoice is received by Developer.

Central Arizona Groundwater Replenishment District ("CAGRD")

In the event the Developer enrolls, or applies to enroll, the Property within the Development as "membership land" in the Central Arizona Groundwater Replenishment District ("CAGRD") pursuant to ARS § 48-4401 et seq., or the property in any way becomes subject to that law as it may be amended, then and in that event the Developer shall pay a one-time charge of $2,500.00, which shall be consider an advance to the Utility for the establishment of the reporting procedure mandated by the CAGRD. For all Lots within the Development that become subject to the CAGRD, the Developer shall provide to the Utility the following information for each parcel. (i) the APN number as assigned to that Lot by the applicable taxing authority as and when available; (ii) the street address of each Lot; and (iii) any other information necessary for the Utility to comply with the requirement of the CAGRD. Said information for all Lots and parcels within the Development shall be provided to the Utility prior to the Utility's obligation to serve water to any Lot or parcel within the Development. Payment of the CAGRD fee shall be made upon execution of the line extension agreement.

Facility Costs/Hook-Up Fees and Meter Fees

Contact Development Services Department for water and or sewer (if applicable) facility costs/Hook-Up Fees and meter fees.

*** All fees paid by check must be in the form of a Cashier's Check made payable to the applicable Utility. For example, "Liberty Utilities (Litchfield Park Water & Sewer) Corp." or "Liberty Utilities (Black Mountain Sewer) Corp."**

100 YEAR ASSURED WATER SUPPLY,
GRANDFATHERED RIGHTS "EXTINGUISHMENT CREDITS"

Prior to the approval of a plat and the issuance of a public report for a new development, Arizona law requires that the development secure a 100-year Assured Water Supply. The developer secures a Certificate of Assured Water Supply (CAWS) for the proposed development. Currently, Utility does not possess a Designation of Assured Water Supply (DAWS) and it is therefore the developer's responsibility to secure a Certificate of Assured Water Supply for the proposed development. Utility requires that developers of subdivisions and commercial properties on lands having Irrigation Grandfathered Rights (groundwater pumping rights) file with the state to "extinguish" the rights and deed the rights to Utility. This requirement is included in the Line Extension Agreement.

If Irrigation Grandfathered Rights or Type I Non-Irrigation, Grandfathered Rights are associated with the land to be developed, the developer shall, within 30 days of plat recordation or prior to execution of a Membership Agreement with the Central Arizona Groundwater Replenishment District (CAGRD), whichever occurs first, submit to the Director of the Arizona Department of Water Resources (ADWR), a notarized Statement of the Intent to Extinguish the Grandfathered Rights, including the Certificate of Grandfathered Right to be Extinguished. If the Grandfathered Right is a Type I right, proof of ownership of the land shall be submitted with the statement of intent. Any forms required to be submitted by ADWR shall also be included with the Statement of Intent.

The Statement of the Intent to Extinguish the Grandfathered rights shall include the statement, "It is requested that the Director of the Department of Water Resources make the extinguishment credits available for later use by Liberty Utilities in its application for a designation of assured water supply". A statement granting the credits to Utility shall also be indicated as appropriate on the extinguishment forms submitted. A copy of the Statement of the Intent to Extinguish Grandfathered Rights with all enclosures shall be mailed to:

Liberty Utilities
Attn: Business & Asset Development
14920 W. Camelback Road
Litchfield, AZ 85340

Note: The following verbiage is required if Utility is to sign the plat for Certificate of Assured Water Supply.

CERTIFICATE OF ASSURED WATER SUPPLY

THIS DEVELOPMENT IS LOCATED WITHIN THE SERVICE AREA OF LIBERTY UTILITIES AND HAS BEEN GRANTED A CERTIFICATE OF ASSURED WATER SUPPLY FROM THE ARIZONA DEPARTMENT OF WATER RESOURCES.

_____ _____
LIBERTY UTILITIES (LITCHFIELD PARK WATER & SEWER) CORP. DATE

NON-RESIDENTIAL "WATER" PROJECTS LESS THAN $50,000

Pursuant to A.R.S. § 49-353 and A.A.C. R18-5-505 (as amended), water line revisions, additions, extensions, or modifications are exempt from the application of the MCESD plan review requirements provided:

1) The total project cost for Utility owned water facilities is less than $50,000, as verified by a cost estimate prepared by a professional engineer who is registered in Arizona.

2) The project is planned and designed by a professional engineer who is registered in Arizona.

3) The construction of the project is reviewed for conformance with contract documents and designed by a professional engineer who is registered in Arizona.

4) The project is not a water supply system for a new subdivision requiring plat approval by a city, town, or county.

Utility will require plan review and approval, by Utility, for all projects regardless of size. Upon completion of the project, a notice of compliance may be required.

When a project is exempt, a letter stating exemption issued by MCESD with an itemized cost estimate shall be submitted to Utility. **NO EXCEPTIONS.**

Water meter boxes shall be supplied by Utility and installed by the contractor. Contact Utility's Construction Inspector 623-935-9367 with lot/ building count to order meter boxes, meter boxes will be delivered to the construction site. After the meter boxes have been delivered any additional meter boxes due to damage, miss-ordered, etc. will be the responsibility of the contractor/ developer.

Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results must be provided to Utility prior to activation of service. **NO EXCEPTIONS.**

It is the developer's or its representative's responsibility to confirm the above information with ADEQ and/or MCESD.

ARTICLE 4. WATER UTILITIES

R14-2-406. Main extension agreements

A. Each utility entering into a main extension agreement shall comply with the provisions of this rule which specifically defines the conditions governing main extensions.

B. An applicant for the extension of mains may be required to pay to the Company, as a refundable advance in aid of construction, before construction is commenced, the estimated reasonable cost of all mains, including all valves and fittings.

1. In the event that additional facilities are required to provide pressure, storage or water supply, exclusively for the new service or services requested, and the cost of the additional facilities is disproportionate to anticipated revenues to be derived from future consumers using these facilities, the estimated reasonable cost of such additional facilities may be included in refundable advances in aid of construction to be paid to the Company.
2. Upon request by a potential applicant for a main extension, the utility shall prepare, without charge, a preliminary sketch and rough estimate of the cost of installation to be paid by said applicant. Any applicant for a main extension requesting the utility to prepare detailed plans, specifications, or cost estimates may be required to deposit with the utility an amount equal to the estimated cost of preparation. The utility shall, upon request, make available within 45 days after receipt of the deposit referred to above, such plans, specifications, or cost estimates of the proposed main extension. Where the applicant accepts utility construction of the extension, the deposit shall be credited to the cost of construction; otherwise the deposit shall be nonrefundable. If the extension is to include oversizing of facilities to be done at the utility's expense, appropriate details shall be set forth in the plans, specifications and cost estimates.
3. Where the utility requires an applicant to advance funds for a main extension, the utility shall furnish the applicant with a copy of the Commission rules on main extension agreements prior to the applicant's acceptance of the utility's extension agreement.
4. In the event the utility's actual cost of construction is less than the amount advanced by the customer, the utility shall make a refund to the applicant within 30 days after the completion of the construction or utility's receipt of invoices related to that construction.
5. The provisions of this rule apply only to those applicants who in the utility's judgment will be permanent customers of the utility. Applications for temporary service shall be governed by the Commission's rules concerning temporary service applications.

C. Minimum written agreement requirements

1. Each main extension agreement shall include the following information:
a. Name and address of applicant(s)
b. Proposed service address
c. Description of requested service
d. Description and map of the requested line extension
e. Itemized cost estimate to include materials, labor, and other costs as necessary
f. Payment terms
g. A clear and concise explanation of any refunding provisions, if applicable
h. Utility's estimated start date and completion date for construction of the main extension
2. Each applicant shall be provided with a copy of the written main extension agreement.

D. Refunds of advances made pursuant to this rule shall be made in accord with the following method: the Company shall each year pay to the party making an advance under a main extension agreement, or that party's assignees or other successors in interest where the Company has received notice and evidence of such assignment or succession, a minimum amount equal to 10% of the total gross annual revenue from water sales to each bona fide consumer whose service line is connected to main lines covered by the main extension agreement, for a period of not less than 10 years. Refunds shall be made by the Company on or before the 31st day of August of each year, covering any refunds owing from water revenues received during the preceding July 1st to June 30th period. A balance remaining at the end of the ten-year period set out shall become non-refundable, in which case the balance not refunded shall be entered as a contribution in aid of construction in the accounts of the Company, however, agreements under this general order may provide that any balance of the amount advanced thereunder remaining at the end of the 10 year period set out, shall thereafter remain payable in whole or in part and in such manner as is set forth in the agreement.

The aggregate refunds under this rule shall in no event exceed the total of the refundable advances in aid of construction. No interest shall be paid by the utility on any amounts advanced. The Company shall make no refunds from any revenue received from any lines, other than customer service lines, leading up to or taking off from the particular main extension covered by the agreement.

E. Amounts advanced in aid of construction of main extensions shall be refunded in accord with the rules of this Commission in force and effect on the date the agreement therefore was executed. All costs under main extension agreements entered into after the adoption of this rule shall be refunded as provided herein.

F. The Commission will not approve the transfer of any Certificate of Public Convenience and Necessity where the transferor has entered into a main extension agreement, unless it is demonstrated to the Commission that the transferor has agreed to satisfy the refund agreement, or that the transferee has assumed and has agreed to pay the transferor's obligations under such agreement.

G. All agreements entered into under this rule shall be evidenced by a written statement, and signed by the Company and the parties advancing the funds for advances in aid under this rule or the duly authorized agents of each.

H. The size, design, type and quality of materials of the system, installed under this rule location in the ground and the manner of installation, shall be specified by the Company, and shall be in accord with the requirements of the Commission or other public agencies having authority therein. The Company may install main extensions of any diameter meeting the requirements of the Commission or any other public agencies having authority over the construction and operation of the water system and mains, except individual main extensions, shall comply with and conform to the following minimum specifications:

1. 150 p.s.i. working pressure rating and
2. 6" standard diameter. However, single residential customer advances in aid of construction shall not exceed the reasonable cost of construction of the 6-inch diameter main extension.

I. All pipelines, valves, fittings, wells, tanks or other facilities installed under this rule shall be the sole property of the Company, and parties making advances in aid of construction under this rule shall have no right, title or interest in any such facilities.

J. The Company shall schedule all new requests for main extension agreements, and for service under main extension agreements, promptly and in the order received.

K. An applicant for service seeking to enter into a main extension agreement may request that the utility include on a list of contractors from whom bids will be solicited, the name(s) of any bonded contractor(s), provided that all bids shall be submitted by the bid date stipulated by the utility. If a lower bid is thus obtained or if a bid is obtained at an equal price and with a more appropriate time of performance, and if such bid contemplates conformity with the Company's requirements and specifications, the Company shall be required to meet the terms and conditions of the bid proffered, or to enter into a construction contract with the contractor proffering such bid. Performance bond in the total amount of the contract may be required by the utility from the contractor prior to construction.

L. Any discounts obtained by the utility from contracts terminated under this rule shall be accounted for by credits to the appropriate account dominated as Contributions in Aid of Construction.

M. All agreements under this rule shall be filed with and approved by the Utilities Division of the Commission. No agreement shall be approved unless accompanied by a Certificate of Approval to Construct as issued by the Arizona Department of Health Services. Where agreements for main extensions are not filed and approved by the Utilities Division, the refundable advance shall be immediately due and payable to the person making the advance.

Historical Note

Adopted effective March 2, 1982 (Supp. 82-2). Amended subsections (D) and (K) effective September 28, 1982 (Supp. 82-5). Amended to correct subsection numbering (Supp. 99-4).

SECTION TWO

MASTER PLAN AND DESIGN CRITERIA

REQUIREMENT FOR 8" DIAMETER SECONDARY DISTRIBUTION MAIN

Utility requires that distribution systems be designed in accordance with Utility's design requirements, applicable state and county requirements, sound engineering practices, and other applicable codes or recognized standards. Distribution systems should be designed with sufficient "looping" and other redundancies as may be necessary to minimize outages to customers in the event of main breaks, routine maintenance, and repairs. Distribution systems should be sized to accommodate sufficient fire flows as may be required. The design and sizing of the distribution systems should include a main break analysis to ensure the provision of adequate fire flows and service to our customers.

Utility requires that distribution systems include a secondary 8" diameter distribution main in addition to normally required "backbone" or larger diameter distribution mains. This requirement is most easily achieved by increasing the size of portions of typically 6" diameter distribution piping to 8" diameter. The selected alignment of the secondary 8" distribution main would ideally traverse the center of the development or phase of development, originating and terminating at larger "backbone" mains. This requirement is not to be construed as a request for over sizing, rather as a sound engineering design condition. In accordance with Arizona Corporation Commission rules and regulations, no waterlines less than 6" in diameter will be accepted.

Plan submittals will be reviewed for the inclusion and acceptability of the 8" secondary distribution main and its alignment. Developers are strongly encouraged to coordinate this important design element with Utility during the preliminary master planning and design process.

An approved water distribution analysis is required to accompany all waterline Construction Plans. The analysis shall identify proper distribution sizing based on the required flow parameters, as well as the criteria listed above.

GENERAL MASTER PLAN CRITERIA FOR WATER STORAGE, BOOSTER, AND DISTRIBUTION SYSTEMS

The purpose of the Master Plan Report is to establish capacity requirements and necessary infrastructure to provide the development with water service in compliance with federal, state and local regulatory agency requirements. A hydraulic analysis using the current version of Water CAD, EPANET,or approved equal must be generated and submitted for the proposed water distribution system as part of the Master Plan. The Master Plan shall be prepared in accordance with Utility's master plan outline. 24" X 36" color exhibit showing water line locations, sizes, property boundaries, demand nodes, contour elevations, etc. shall be submitted as part of the Master Plan. The Master Plan shall be signed and sealed by a Registered Professional Civil Engineer in the State of Arizona and submitted to Utility for review and approval. Any and all criteria not listed herein shall be in accordance with, but not limited to, the following governmental agency requirements and any such criteria presented in the Master Plan shall be referenced appropriately for Utility's review: Environmental Protection Agency (EPA), Arizona Department of Environmental Quality Engineering Bulletin No. 8 and 10 as administered by the Maricopa County Environmental Services Department, Arizona Department of Water Resources, Maricopa Association of Governments, Maricopa County Health Code Chapter V, the applicable local, state, and federal Fire Code, Maricopa County Planning and Zoning Requirements, and appropriate municipality regulations, if development is in a municipality serviced by Utility.

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

Land Use	Avg Day Demand (gpcd)	Capita/DU	Max Day Peaking Factor	Peak Hour Peaking Factor
Active Adult	160	1.9	1.8	3.0
Single Family	150	3.2	1.8	3.0
Multi Family	110	2.0	1.8	3.0
Commercial	1,700 gpd/acre	n/a	1.8	3.0
Developed Open Space	1,800 gpd/acre	n/a	n/a	n/a

Pressures
Minimum Pressures :
40 psi @ peak hour, 20 psi @ max day + fire flow in accordance with the Uniform Plumbing Code. Any structure experiencing pressures greater than 80 psi shall have an individual pressure reducing valve on the customer side of the meter. Maximum system pressures in excess of 90 psi static shall be approved by Utility in writing prior to submittal of any master plan.

Velocity & Headloss:
8 fps maximum velocity for distribution system; 2 fps minimum and 6 fps maximum velocity.
For well transmission lines 5 ft. headloss per 1,000 linear feet of pipe for well transmission lines.

Hazen-Williams Coefficient:
For all design instances utilizing the Hazen-Williams coefficient a factor of 130 shall be used. The Darcy-Weisbach equation must be used for booster station design.

Fire Flows
Fire flows must be in accordance with jurisdictional Fire Department requirements. Provide a written statement from the jurisdictional Fire Marshal that states the required flows and duration by class of customer. If the location of the development is not governed by a jurisdictional Fire Marshal, fire flow requirements must be in accordance with the latest version of the applicable local, state, or federal Fire Code.

The letter from the Fire Marshal must be current and dated within one year of commencement of the waterline construction.

A fire hydrant flow test shall be conducted on the line connecting the proposed development to the Utility's system for purposes of demonstrating sufficient fire flow and pressure for the development. Fire hydrant flow tests must be conducted within one year of the Master Plan submittal. This effort shall be coordinated with Utility's Development Services Department and results shall be documented in the Executive Summary of the Water Master Plan, at no cost to Utility.

The fire flow test must also be scheduled with and witnessed by Utility. **If a Utility employee is not present during the fire flow test Utility will consider the fire flow test invalid.**

Utility is not responsible for any changes in Fire Flow requirements made by the local jurisdictional Fire Marshal.

Minor Losses
Need to be accounted for in PRVs and PSVs, but can be neglected in long pipe runs. It is the engineer's judgment to determine long pipe runs.

Storage Requirements
Equalization 30% of max day.
Emergency reserve 10% of max day.
Fire Flow Storage is the fire flow rate times the required duration. Contact local fire department for fire flow requirements.

Booster Pump Station
Firm Capacity: shall meet or exceed the greater of peak hour flow or max day + fire flow with the largest booster pump out of service for the pressure zones that the booster station serves as required by the jurisdictional fire department.

Water Piping
Per A.A.C. R14-2-406-H-2, six inch (6") minimum line size unless otherwise approved by the ACC.

Water Valves
Number of Valves = number of radiating mains at intersection – 1.
Valve spacing shall be in accordance with ADEQ Bulletin #10.
Valves in well transmission mains shall be kept to a minimum.

Wells
Firm Capacity: Any well field feeding a booster station must meet the maximum day demand for the entire station with the largest well out of service.

Fire Hydrants
Fire Hydrant spacing shall be in accordance with the applicable local, state, and federal Fire Code, and local Fire Marshal, or any applicable local jurisdictional agency.

Air Release/Combination Valves
Air release/combination valves shall be located at all the high points, at vertical realignments of the water line or as approved by Utility.

Pressure Reducing Valves
Pressure reducing valves shall be located on "trunk" transmission/distribution mains to maintain design pressure ranges in accordance with established or proposed water master plans. These locations must be in accordance with and approved by Utility. PRV sizing shall be based on anticipated minimum/maximum flow ranges.

Wash Crossings

All waterlines crossing washes shall be cased in accordance with Utility Specifications through the wash and both sides. Minimum cover shall be 2' below the 100-yr storm scour depth, 4'minimum below the wash bottom for minor wash crossings. Minimum cover shall be 4' below the 100 yr. storm scour depth, 8' minimum below the wash bottom for major wash crossings.

Service Lines

Every Residential unit must have its own separate water service connection and meter, except for apartment developments, group homes, commercial or similar projects, as approved by Utility. Minimum service line size shall be 1 inch for residential. Minimum service line size shall be 2 inches for commercial and apartment developments or similar projects, or as approved by Utility. Minimum service line for irrigation shall be 1½ inches, or as approved by Utility. A shut off valve (ball valve) and small round irrigation style box and cover installed in line is required after the meter on the customer side of the service.

Residential Potable Water Meter Criteria (minimum)

All residential meters shall be sized as follows or per the current Uniform Plumbing Code (UPC), and any applicable municipal or other governmental requirements. When the water meter is a lesser size than the service line, adapters (reducers) are to be furnished and installed by contractor. Adapters are to be a one-piece Ford meter adapter or approved equal.

Meter Location

Meters need to be doubled up on lot lines where possible, and not be installed at road intersection corners or installed adjacent to fire hydrants. No U-Branch (manifold) services.

WATER MASTER PLAN OUTLINE

The following outline needs to be used for the preparation of the master plan reports: Master plans shall be submitted in PDF format.

1. Cover Sheet
   a) Title (Development Name), Date, Revision Date(s)
   b) Developer and engineer's contact information.
   c) Sealed by a Professional Engineer registered in the state of Arizona.
   d) Leave a 4-inch wide by 3.5-inch high blank space on the cover sheet for the utility's stamp.
2. Table of Contents
3. Executive Summary
   a) 1 or 2 pages with emphasis on proposed facilities to serve the development.
4. Introduction
   a) Plan Objective - state purpose of the report
   b) Site Location w/ vicinity map
   c) Proposed Development
5. Design Criteria
   a) Demands, Pressures, Storage, Booster Pumps, Wells, Distribution System (pipe sizing), proposed and existing
      i. Utility Development Guide criteria
      ii. MAG, ADEQ, other governmental agency criteria as applicable
      iii. Utility's General Specifications
6. Demands
   a) Single family, multi family, commercial, school, open space, parks, etc.
   b) Quarterly projections of demands from beginning of construction (construction water) to build out.
   c) Summary of demands table. Discuss which demand scenario governs design (Peak Hour or Maximum Day plus Fire flow)
   d) Tabular calculations (spreadsheet) of all demands.
   e) Current Fire Flow Report
   f) Current letter from the Fire Marshal accepting the current pressure and flow rate of the system
7. Existing Facilities/Conditions
   a) Reference previous master plans as applicable.
8. Proposed Facilities
   a) Required storage, proposed location, or expansion of existing if applicable.
   b) Required booster pump capacity.
   c) Required well capacity, number of wells if applicable.
   d) Distribution system piping, onsite as well as any offsite infrastructure needed, including required upsizing of existing Utility infrastructure.
   e) PRV's if applicable.
   f) Phasing if applicable.
9. Water Model
   a) Describe modeling software used.
   b) Method
      i. Pump curves obtained from fire flow tests or addition to existing approved master plan.
      ii. Criteria used in the model.

c) Scenario Results

10. Summary/Conclusions

a) Discuss how the objective of report has been met, i.e. proposed facilities will serve the proposed development in accordance with established criteria.

b) List major facilities required and phasing as applicable.

11. Appendices

a) Water Modeling Results Organized by:

i. Average Day

ii. Maximum Day

iii. Peak Hour

iv. Maximum Day plus Fire Flow

b) The following information is to be included for the above scenarios:

i. Junction/Node report showing node label, elevation, demand, hydraulic grade line in feet, and pressure in psi.

ii. Pipe report showing pipe label, to/from node, length, diameter, Hazen-Williams "C" value, - discharge, velocity, head loss, and head loss gradient.

iii. Pump report showing pump label, elevation, discharge, discharge pump grade, and pump head.

iv. Valve report showing valve label, elevation, diameter, valve status, discharge, and from/to hydraulic grade line.

v. Tank report showing tank label, base elevation, maximum elevation, volume, hydraulic grade line, and outflow.

vi. Reservoir report showing reservoir label, elevation, hydraulic grade line, and outflow.

vii. A separate fire flow report for the maximum day plus fire flow scenario may be submitted. The fire flow report is to show the following information for all nodes: node label satisfies fire flow constraint, needed fire flow, available fire flow, available fire flow, total flow available, residual pressure, minimum system pressure and minimum system pressure node.

viii. An extended period model showing storage tank levels varying with time may be required to verify adequate fire flow storage for complex system designs.

c) Plans – 8.5” x 11", 11” x 17" or 24" x 36" for large developments as applicable color exhibit for max day plus fire flow or peak hour, whichever is limiting. Average day and maximum day/peak hour exhibits may also be required. Exhibits to include:

i. Pipes and nodes labeled.

ii. Pressures and available fire flow (if applicable) at nodes.

iii. Major roadways labeled.

iv. Pipe size shown by color.

v. Major contour lines shown.

d) Cost Estimate Figures, exhibits, tables, spreadsheet tabulations, etc. to be placed in the body of the report. Electronic files of all drawings and models shall also be provided on CD ROM and included in the Appendix.

12. Master Plans may be submitted for review prior to construction plans; however, if the scope of the work outlined in the Master Plan does not match the construction plans, the Master Plan and/or construction plans shall be revised accordingly.

FIRE FLOW

UTILITY EXPRESSLY DISCLAIMS ANY RESPONSIBILITY OR OBLIGATION TO PROVIDE WATER AT A SPECIFIC PRESSURE OR GALLONS PER MINUTE FLOW RATE AT ANY FIRE STANDPIPE, OR FIRE HYDRANT, OR FOR FIRE PROTECTION SERVICE. IN THE EVENT FIRE PROTECTION SERVICE IS INTERRUPTED, IRREGULAR, DEFECTIVE, OR FAILS FROM CAUSES BEYOND THE UTILITY'S CONTROL OR THROUGH ORDINARY NEGLIGENCE OF ITS EMPLOYEES, SERVANTS OR AGENTS, THE UTILITY WILL NOT BE LIABLE FOR ANY INJURIES OR DAMAGES ARISING THEREFROM.

GENERAL MASTER PLAN CRITERIA FOR WASTEWATER COLLECTION SYSTEMS

The purpose of the Master Plan Report is to establish capacity requirements and necessary infrastructure to provide the development with wastewater service in compliance with federal, state and local regulatory agency requirements. A hydraulic analysis must be performed for the proposed wastewater collection system and impacted downstream facilities and submitted as part of the Master Plan. A lift station design report is required for any developments that include a new lift station or impact downstream lift stations. The lift station design report should be included with the Master Plan Report.

The design methodology shall be presented and appropriately referenced. The results of this analysis shall be spiral bound presented in tabular form using sewer CAD or excel, with at least the following information presented: pipe number, to/from manhole number, pipe size, pipe slope (slopes which are greater than minimum design shall be noted), average daily flow, peak hour flow, d/D ratio at peak hour, and velocity at peak hour. An analysis of sewer force mains must be performed, including impacts due to pump surge, and submitted as part of the master plan. Force main hydraulic losses shall be performed using the Darcy-Wiesbach equation. A 24"X36" color exhibit showing flow contributing area, sewer line number, and manhole number locations, flow direction, property boundaries, contour elevations, etc. shall be submitted as part of the Master Plan. The Master Plan shall be signed and sealed by a Registered Professional Engineer and submitted to Utility for review and approval.

Lint traps or grease interceptors or other similar devices are required for any proposed commercial or high density residential laundry or kitchen facilities. These devices should be addressed in the Master Plan.

Industrial facilities may be subject to utilities pretreatment program. Master Plan should include information on Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), nitrogen loadings (ammonia, nitrate, nitrite), pH, or any other parameters of concern that may affect utilities National Pollutant Discharge Elimination System (NPDES) or Aquifer Protection Program (APP) discharge limits. Additional information may be requested.

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

Master Plans may be submitted for review prior to construction plans; however, if the scope of the work outlined in the Master Plan does not match the construction plans, the Master Plan and/or construction plans shall be revised accordingly.

Average Daily Flow	100 gpcd
Commercial/Industrial Average Daily Flow	1,500 gal/acre/day
Population Density Active Adult Single Family Multi Family	 1.9 persons per DU 3.2 persons per DU 2.0 persons per DU
Peak Hour Factor	3.0
Sewer Depth of Cover (Based on site conditions and approval by Utility)	7.5 ft. minimum for trunk-lines 5.0 ft. minimum for all other provided that service lines have 4.5 ft. minimum cover at the property line.
Rim Elevations	Above 100 year floodplain

Manning's Roughness Coefficient	n = 0.013
Sewer Pipe Material	Epoxy lined D.I.P. or concrete encased PVC SDR 35 at wash crossings. PVC SDR 35 for all other.
Velocities	2.0 fps minimum at peak hour 2.0 fps minimum at average daily flow for trunk lines. 10.0 fps maximum.
Cleanouts	At end of lines less than 200 ft.
Sewer Capacity Ratio	d/D = 0.75 maximum at peak hour
Minimum Pipe Diameter	8" or 12" along section lines 6” for force mains
Minimum Manhole Diameter	5' with 30” ring and cover (no steps)
Note: Manhole covers shall be labeled "[Utility Name] Sanitary Sewer" per MAG Detail 424. For example, “LPSCO Sanitary Sewer” or “BMSC Sanitary Sewer”	
Force Main Velocities	3.0 fps minimum 7.0 fps maximum
Force Main Air Release Valves	Sized and located per manufacturer's recommendation at high points.
Wash Crossings	Epoxy lined DIP or Concrete encased PVC SDR 35 with the following cover: 2' below the 100-yr storm scour depth, 5' minimum below the wash bottom for minor wash crossings 4' below the 100-yr storm scour depth, 8' minimum below the wash bottom for major wash crossings
Manhole Invert Drops < 45° direction change > 45° direction change	 0.1' drop across manhole 0.2' drop across manhole
Manhole/Lift Stations (wet wells) lining	Sewer Shield 100, Sauereisen 210, Raven 405/A10, Con Shield, Q or T Loc, or approved equal applied by a certified applicator for: All force main connection manholes. All lift stations (wet wells) All manholes on sewer lines >_ 15" diameter and Sewer lines that have >_ 1.44 MGD flow
MAG STD DTL 426 Type `A' drop manholes if the sewer line serves more than 200 homes. MAG STD DTL 426 Type `B' drop manholes except for sewer lines that serve less than 50 homes.	

Master Plan submittals shall be PDF format

SECTION THREE

CONSTRUCTION PLAN REQUIREMENTS

MINIMUM WATER/SEWER CONSTRUCTION PLAN REQUIREMENTS

1. All new projects will be subject to an Initial Administrative Deposit prior to review of the master plan (report), construction plans and any coordination with the developer, engineer, contractor, and/or any regulatory agency.
2. **An LXA (Line Extension Agreement) and or Service Connection Agreement needs to be executed and applicable fees paid prior to plan approval. The scope and design of the construction plans must match the scope and design of the executed agreement (including phasing, lot count, etc.)**
3. Submit address, lot number and APN list for development. If available, submit at time of construction plan submittal. If not available at time of construction, list must be submitted prior to the first meter being released, unless otherwise approved by Utility.
4. The plans need to be labeled "Water and/or Sewer Plan", as applicable.
5. The plans need be signed and sealed by a Professional Civil Engineer registered in the State of Arizona.
6. The plan needs to meet the requirements of the Arizona Department of Environmental Quality, Engineering Bulletin #10 for water, #11 for sewer and A.C.C. R18-9-E301.
7. The plans need to be on 24"x36" black line on bond.
8. Two copies of the plans shall be submitted to the utility for approval. In addition, at time of plan approval, submit one set of plans or mylar cover sheet to be signed by Utility and returned for your use.
9. Water/ Sewer Reports (master plan) as outlined in the development guide need to be reviewed/ accepted by Development Services and the Engineering Department prior to plan approval.
10. The plans, along with an application for "Approval to Construct", shall be submitted to Maricopa County Department of Environmental Quality (MCESD). Plans are to be approved by MCESD and "Approval to Construct" must be forwarded to Utility. If the project is exempt, i.e. non-residential water projects less than $50,000, a letter stating exemption issued by MCESD with cost estimate must be submitted to Utility prior to plan approval.
11. Full legal description shall be on the cover sheet for all projects or as otherwise approved by Utility.
12. Total acreage shall be shown on the cover sheet. For commercial properties, also show building square footage and occupancy. For residential, show total number of lots.
13. Water and Sewer may be combined on the same plan set, as applicable. Plans that include paving may not be accepted.
14. If the plan covers Developer-owned facilities, a clear distinction between Utility owned and Developer owned facilities shall be made.
15. Fire Marshal approval signature block shall be on the cover sheet of the plans, if applicable.
16. Utility's approval signature block shall be on the cover sheet of the plans "Liberty Utilities (Litchfield Park Water and Sewer) Corp." or "Liberty Utilities (Black Mountain Sewer) Corp." as applicable.
17. Utility's As-built signature block shall be on the cover sheet of the plans.
18. Itemized quantities shall be separate for water and sewer and Utility owned and private facilities and shall be on the cover sheet or as directed by Utility.
19. The cover sheet shall contain a vicinity map.
20. The cover sheet shall contain a key map showing water and/or sewer facilities as well as corresponding sheet numbers, include line size, services, valves, manholes with manhole number, etc., existing facilities are to be dashed. Facilities need to be legible. For larger projects, key map may be on sheet two or three.
21. Utility's "General Notes" shall be shown on the plans. Water and Wastewater General Notes including separate Water General Notes and Wastewater General Notes can be obtained from Development Services. General notes are to be on the cover sheet or sheets 2 or 3. All notes must be on the same plan sheet.
22. The water plans should show the size and location of all water services and meters.
23. The sewer plans should include sewer services to the easement or right-of-way line.
24. Water meters and backflow prevention assemblies for domestic/ irrigation water services shall be placed as close as possible to the Utility owned water line. Any service that is needed for fire protection, whether it is residential, commercial, or industrial, shall be equipped with a backflow device.

25. Construction notes on plan sheets shall be separate for water and sewer and Utility owned (public) and private facilities. See below example. Public water, private water, public sewer and private sewer shall have different symbols.

    Example:

    Public Water Construction Notes

    8" DIP CL 350

    Private Water Construction Notes

    2" domestic RPZ backflow prevention device

    Public Sewer Construction Notes

    8" SDR 35 PVC

    Private Sewer Construction Notes

    6" Clean-out

26. Existing Utility owned water and sewer facilities (including valves, manholes, etc.) shall be shown on the applicable plan sheets along with the construction plan set (as-builts) name.

27. Waterlines 12" or larger shall be shown in profile with appropriate elevations. Vertical deflections of waterlines shall be profiled regardless of size, call out entire joint restraint lengths. Utility crossing of waterline shall be shown in profile and dimensioned for minimum clearances and/or separations.

28. The plans shall show easements for Utility owned facilities on private property.

29. The plans shall show existing ROW.

30. Pipeline shall be located via roadway centerline stationing and centerline offset.

31. Sewer tap on grinder pump system, install 1 ½" PVC check valve at curb (just outside of ROW or easement) and an 1 ½" PVC ball valve (just upstream of check valve) with valve box and cover and shall be imprinted "Sewer" per MAG Detail 270. See below example. The position on grinder pumps is that they are privately owned.

    ————————Street————————Curb

    O----1 ½" FM Sewer------Check Valve------Bal Valve--------→House

32. A sewer valve shall be called out and detail shall be shown on plans for all sewer service lines. (for projects where Utility only owns/ operates the sewer facilities).

33. Grease interceptors and sand separators or similar Utility required devices shall be shown for commercial projects as applicable.

34. The following Utility information shall be on the cover sheet of plans:

UTILITY OWNER INFORMATION

WATER AND/OR SEWER* OWNER/OPERATOR

Liberty™

14920 W. Camelback Road
Litchfield Road, AZ 85340
Main Office (623) 935-9367
Construction Inspector
(480) 881-9812

***As Appropriate**

35. Blue Stake Callout Logo included at the bottom of the sheet.

36. REFER TO UTILITY'S GENERAL NOTES, STANDARDS AND SPECIFICATIONS, AND DETAIL FOR FURTHER INFORMATION.

MARICOPA COUNTY GENERAL CONSTRUCTION NOTES, WATER NOTES, AND SEWER NOTES ARE NOT A

PART OF THE DEVELOPMENT GUIDE. IF YOU DO NOT HAVE A COPY OF UTILITY'S GENERAL NOTES, PLEASE CONTACT THE UTILITY FOR A COPY OF THE GENERAL NOTES.

THE GENERAL CONSTRUCTION NOTES, WATER NOTES, AND SEWER NOTES (AS APPLICABLE) ARE TO BE PART OF THE CONSTRUCTION PLANS.

"AS-BUILT" PLAN REVIEW REQUIREMENTS

1. Plans size 24”x36” (Mylar and two black line on bond copies).
2. AutoCAD and PDF files on CD
3. Plans must be fully approved and signed by all required agencies.
4. Stamped and signed by a Professional Civil Engineer registered in the State of Arizona.
5. Station/offset (where applicable) and GPS coordinates on all water fittings: including valves, tees, and bends, all vertical and horizontal changes, etc.
6. Station/offset (where applicable) and GPS coordinates on all sewer manholes, clean-outs and other facilities.
7. Swing ties to fixed points may be required for commercial projects that do not have a roadway centerline for stationing within a reasonable distance from the project.
8. Distances from lot lines to sewer taps.
9. Call out all water and sewer pipe lengths between fittings and branches.
10. Elevations at all bends for all dip sections regardless of the pipe diameter.
11. As-Built profiles for all sewer lines 8" and larger including manhole rim and invert elevations.
12. As-Built profiles for all water lines 12" and larger.
13. As-Built profiles for all utility crossings
14. As-Built all changes in pipe materials and sizes.
15. Correct Street names and lot numbers.
16. As-Builts must have a copy of the original cover sheet with all signatures and the following as-built certification on the cover sheet.

WATER/SEWER "AS-BUILT" CERTIFICATION

I hereby certify that the "as-built" measurements as shown hereon were made under my supervision or as noted, and are correct to the best of my knowledge and belief and are in conformance with the approved construction plans Additionally, I hereby certify that all mains and services have been installed within the limits of dedicated LIBERTY UTILITIES easements or inside dedicated street right-of-ways.

Seal

SECTION FOUR

CONSTRUCTION INSPECTION

WATER LINE CONSTRUCTION INSPECTION REQUIREMENTS

To schedule appointments for the following, contact the Construction Inspector no less than 48 hours (2 business days) in advance or see Page 3 for other contact information.

1. Trench inspection prior to pipe installation.

2. After pipe, bends, fittings, joint restraints, tracer wire, etc. has been installed on 4 inches of bedding, but before shading is started to verify position and type.

3. Blocking and thrust blocks where required.

4. After bedding (from bottom of trench to one [1] foot above pipe) has been placed into trench and properly compacted.

5. Installation of marking tape and tracer wire prior to other backfilling of trench.

6. After each lift of backfill material has been placed into the trench and properly compacted.

7. Third party passing compaction testing results.

8. Pressure test for tapping sleeve.

9. Pressure test for waterline.

10. Waterline chlorine injection and sampling.

11. Third party passing bacteriological sampling to be witnessed by a Utility representative. All results sent to Utility for review and approval.

12. Continuity testing for all tracer wire.

13. Operational Inspection, Final Inspection, and re-inspection if required.

NOTES:

1. When appointments are arranged at least 48 hours (2 business days) in advance, the inspection/test will be conducted as scheduled. When appointments are requested for the same day, the Construction Inspector will conduct the inspection/test based upon his availability.

2. If Contractor proceeds with construction before having approval of Construction Inspector, Contractor will be required to expose the pipeline, valve, thrust blocks, etc., at no cost to Utility, to permit inspection by the Construction Inspector. The required exposure of pipeline by Contractor shall not deem acceptance of facility. Utility reserves the right to reject any facility not properly scheduled for inspection by Utility for any reason. The rejection shall be final.

2. If developer chooses to proceed with construction without a signed Agreement, signed plans, and an MCESD issued ATC (Approval to Construct) or exemption letter, the project will be considered “At Risk”. The Utility reserves the right to deny inspections until the previously mentioned items are completed and any required changes shall be at the developer’s expense.

WATER LINE OPERATIONAL/ FINAL APPROVAL

To schedule Operational or Final inspections, contact the Construction Inspector (623) 935-9367 no less than 48 hours (2 business days) in advance.

The following must be completed prior to issuing a passing Operational Inspection:

1. The appropriate agreements must be executed.
2. All facilities have been installed and constructed per approved plans, any discrepancies have been resolved and facilities are connected to a distribution system that is operational. If the facilities are not installed and constructed per approved plans, the Utility reserves the right to deny inspections until any discrepancies have been resolved at the developer's expense.
3. All water services (verify correct size) installed, excluding water meter boxes.
4. Entire project has passed pressure testing.
5. Disinfection/ flushing/ bacteriological testing (passing results from lab sent directly to Utility's inspector for approval).
6. All water valves including auxiliary (fire hydrant) valves are accessible and keyed to ensure that they are in the open position to provide adequate water service and fire flows.
7. Compaction sampling test results. Passing test results sent to Utility's inspector for approval.
8. Approval to Construct. Water mains must have an Approval of Construction ("AOC") before approval to tie in mains to Utility's existing lines.

The following must be inspected prior to issuing a passing Final Inspection:

As-builts must be received prior to final inspection

1. Fire Hydrant
   a) Installed per MAG STD DTL 360 and 362, location as shown on as-builts, pumper nozzle pointed in correct direction, and good condition in appearance with bollards if required.
   b) Painted yellow (Flow color-coded if required by jurisdictional fire agency/ department) per Utility's Water Notes.
   c) Painted RED if private and not utility owned.
   d) Flange is at proper grade.
   e) Chains and caps are on and secure.
   f) Caps are on and threads not damaged.
   g) Fire hydrant must be flow tested at walkthrough.
2. Valve & box
   a) Installed per MAG STD DTL 391 Type 'A' location as shown on as-builts.
   b) Verify valve is fully open and then close ¼ turn.
   c) Box is at grade with concrete collar if in pavement.
   d) Box and lid not damaged, no gaps where dirt can enter.
   e) Tracer wire has been tested and is accessible.
3. Meter box
   a) Installed per Utility's specifications and location as shown on as-builts.
   b) Box is level and just above/ at grade (1" above grade typical).
   c) Box is uniform with other boxes.
   d) Box is not damaged or cracked and lid is not missing.
   e) No apparent leak at meter connections.
4. Blow-off
   a) Install per MAG STD DTL 390 'A' and location as shown on as-builts.
   b) Box is level and just above/ at grade (1" above grade typical).
   c) Box is not damaged or cracked and lid is not missing.
   d) Corporation ("Corp.") stop is in serviceable condition and threads not damaged. If corp. is capped, remove cap and check for leaky valve.
   e) No apparent leaks.
5. Air release valve
   a) Install per Utility's specifications and location as shown on as-builts.
6. Projects requiring a backflow prevention assembly must be inspected prior to activation of service by an Arizona certified technician and passing test results sent to Utility.

SEWER LINE CONSTRUCTION INSPECTION REQUIREMENTS

To schedule appointments for the following, contact the Construction Inspector no less than 48 hours (2 business days) in advance or see page 3 for other contact information.

1. Trench inspection prior to pipe installation.
2. After pipe has been installed in trench and before backfilling is started.
3. After bedding (from bottom of trench to one [1] foot above pipe) has been placed into trench and properly compacted.
4. Installation of marking tape and tracer wire prior to other backfilling of trench.
5. After each lift of backfill material has been placed into the trench and properly compacted.
6. Third party passing compaction testing results.
7. Installation of manhole bases.
8. Each connection to an existing manhole and/or stub.
9. Deflection test on sewer line.
10. Low-pressure air test on sewer line.
11. Insecticide coating of manholes
12. Continuity testing for all tracer wire.
13. The contractor shall uniform slope test all sewer lines by videotape; and vacuum or water test all Manholes in accordance with A.A.C. R18-9-E301. These tests shall also be coordinated with the Construction Inspector. Documented results and videotape shall be submitted to Utility for approval.
14. Operational Inspection, Final inspection and re-inspection if required.

NOTES:

1. When appointments are arranged at least 48 hours (2 business days) in advance, the inspection/test will be conducted as scheduled. When appointments are requested for the same day, the Construction Inspector will conduct the inspection/test based upon his availability.
2. If Contractor proceeds with construction before having approval of Construction Inspector, Contractor will be required to expose the pipeline, manhole, etc., at no cost to Utility, to permit inspection by the Construction Inspector. The required exposure of pipeline by Contractor shall not deem acceptance of facility. Utility reserves the right to reject any facility not properly scheduled for inspection by Utility for any reason. The rejection shall be final.
3. If developer chooses to proceed with construction without a signed Agreement, signed plans, and an MCESD issued ATC (Approval to Construct) or exemption letter, the project will be considered "At Risk". The Utility reserves the right to deny inspections until the previously mentioned items are completed and any required changes shall be at the developer's expense.

SEWER LINE OPERATIONAL/ FINAL APPROVAL

To schedule Operational or Final inspections, contact the Construction Inspector (623) 935-9367 no less than 48 hours (2 business days) in advance.

The following must be completed prior to issuing a passing Operational Inspection:

1. All facilities have been installed and constructed per approved plans, any discrepancies have been resolved and facilities are connected to a collection system that is operational.
2. Low Pressure Air Test of pipe.
3. Mandrel Test of pipe, Inspector to OD tape measure diameter of mandrel to verify correct dimension prior to and after testing:
   8" pipe, SDR 35, 5% deflection = 7.28"
   10" pipe, SDR 35, 5% deflection = 9.08"
   12" pipe, SDR 35, 5% deflection = 10.79"
   15" pipe, SDR 35, 5% deflection = 13.20"
   18" pipe, SDR 35, 5% deflection = 16.13"
4. Videotape (DVD) of 100% of pipe and manholes.
5. Passing Compaction sampling test results must be submitted to Utility.
6. The collection system must be free of dirt and debris by the process of hydro-vac jetting water and must be connected to a downstream collection system that is operational.
7. If applicable, verify watertight manhole frame and cover were installed in accordance with approved plans
8. Sewer valve or approved equal has been installed in accordance with approved plans (for projects where Utility only owns/ operates the sewer facilities, without corresponding water utility ownership).

The following must be completed prior to issuing a passing Final Inspection:

1. As-builts must be received prior to Final Inspection.
2. Tracer wire has been tested and is accessible.
3. Manhole
   a) Installed per MAG STD DTL 420,423,424,426 (as specified on plans) with a 30" ring and cover, cover has appropriate labeling, no steps and location as shown on as-builts.
   b) All manholes shall be collared with concrete, with a minimum of 18" of concrete from grade ring to edge of concrete.
   c) Inside completely grouted and grout is secure to walls and grade rings.
   d) No debris or trash inside manhole, verify that there is no dirt or debris in the pipe.
4. Insecticide coating inside manhole.
5. Vacuum test of manholes.
6. Hydrogen-sulfide protective coating (SewerShield 100 or approved equal), installed by a certified applicator, as called out on the plans.
7. The collection system must be re-verified that is it free of dirt and debris.
8. Cleanout
   a) Installed per MAG STD DTL 441 and location as show on as-builts.
   b) No standing water observable.
   c) No concrete or foreign material.
   d) Pipe is not damaged.