

DESIGN REQUIREMENTS FOR WATER, SANITARY SEWER, AND/OR FIRE LINE EXTENSIONS

2-101 General

The information provided in this section describes design criteria, and guidelines for water and sanitary sewer line construction, at the preconstruction and post-construction stages of the development process. Required content necessary for preliminary plans, construction plans, and final record drawings are outlined as they pertain to the standards of WMU. (Note: The current approved standards set forth by the Kentucky Cabinet for Natural Resources and Environmental Protection must also be in compliance for enforcement by the Commonwealth of Kentucky.) All designs for water and sanitary sewer facilities shall be in compliance with the current Ten States Standards, (Edition 1997).

All entities or persons, within the WMU service area, proposing to develop land or install new water or sanitary sewer facilities must submit sewer and/or water development plans to WMU for review. Information provided within the Application for Extension (Figure 1-1) and on the plans shall adequately assess the physical and environmental characteristics and the potential impact on existing infrastructure.

Additional review may be required to assess impacts on existing infrastructure and improvements for future development.

2-102 Drafting and Media Requirements

All drawings to be submitted to WMU shall be on a standard drafting sheet (24"X36") and shall be legibly drawn. Line work that is submitted shall be drawn neatly and uniformly. (Prepared plans that are drafted in a poor quality or are illegible will be returned to the designer to be redone without a review of the technical aspects of submitted material.) Plan sheets must contain a standard engineers name block and north arrows. A consistent style of lettering shall be used throughout any given sheet, and all lettering shall be a minimum of .10 inches in height. (Freehand lettering shall be either slanted or vertical.)

Preliminary plans may be submitted in pencil and ink drawings on a reproducible material. (Preliminary plans submitted on photo-enlargements of aerial mosaics must be drawn in ink for clarity.)

2-103 Plan Submittal

Preliminary and construction plans shall contain: Title sheet, Plan Index sheet, Plan and Profile sheet(s), Special Detail(s), and Typical Standard Detail(s). Final Record Drawings shall contain Plan and Profile sheet(s) and Special Details sheet(s) only.

2-103.1 Title Sheet

A title sheet shall include: the name of the proposed development, a vicinity map showing the location of the development, a table of contents listing the item and sheet number, the name and address of the developer, the name and address of the engineering firm, engineers stamp and signature, a designation of the drawing number, the date plotted, zoning, and the proposed usage of the lots.

2-103.2 Plan Index Sheet

A plan index sheet shall contain reference to location(s) for profiling the water, sanitary sewer, and/or fire line extension(s) on each plan sheet if the profile is on a separate sheet. (Note: The plan index sheet may reside on the project map, on the title sheet, for smaller developments.)

2-103.3 Plan and Profile Sheet(s)

The plan view for water and sanitary sewer line(s) and sanitary sewer profile sheet(s) generally are illustrated on the same sheet with the plan view on the top and the profile on the bottom. To provide better clarity, the plan sheet(s) and the profile sheet(s) may be portrayed on separate sheets. However, in this instance, the plan sheet(s) and the profile sheet(s) must be cross-referenced.

Plan View/Profile View

Information that is required on both the plan and profile sheets shall include, but is not limited to the following:

- Location(s) of all proposed water line bends and degree of angle
- Location(s) of all proposed fire hydrants
- Location(s) of all proposed sewer manholes and service laterals
- Location of proposed casing pipes for water service lines
- Existing water lines, sanitary sewer lines and appurtenances at the point of connection to the existing system
- Sizes and locations of stubs and drop inlets
- All existing pipes, culverts, and conduits of any nature crossing the proposed water and/or sanitary sewer location shall be plotted and labeled
- The 100-year flood elevation line, if the proposed sanitary sewer line lies within the 100-year flood plane. (Note: If the 100-year flood elevation is not indicated, then the 100-year storm flow elevation must be shown.)

Cross-referencing must be annotated on each sheet to identify the location of either a plan or a profile sheet if the sanitary sewer line construction is larger than one (1) sheet.

Plan View (Only)

Items that must be included on the plan view sheet include, but are not limited to the following:

- Horizontal scale shall be standard scale 1"=10' up to 1"=50'.
- Location(s) of future connection(s).
- Delta angles at all Points of Intersection except where more than one sanitary sewer line intersects the same manhole. In those instances, the angles relating to all sanitary sewer lines shall be shown. All delta angles shown must include a direction, either left or right, as the station increases. All angles shall be shown to the nearest second.
- Dimensions to the easement lines, and to the appropriate property lines shall reference the location of the sanitary sewer centerline.
- Benchmarks shall be properly annotated with a description and a location, including a station point and an offset, for each proposed sanitary sewer line. (The Benchmarks shall be the basis for the record drawing elevations and slopes of the sanitary sewer line extension).
- All existing underground or overhead utilities shall be shown (i.e., gas lines, oil lines, telephone conduits, etc.).
- All existing and proposed fire hydrants, water lines, gate valves, water line bends and proposed angle in degrees, service lines, meter locations, conduits, manholes, sanitary sewer line(s), and storm water structures.
- All highways, street names, alleys, and streams must be annotated. (Streets that have been proposed and have no name as of yet shall be designated as Street "A", Street "B", and so forth. However, actual street names shall be shown on record drawings).
- The direction of flow shall be annotated on all sanitary sewer line extension(s) between manholes.
- Sanitary sewer line stations shall be annotated above each 100-foot station.

Profile View (Only)

The information contained in the profile section shall include, but is not limited to the following:

- Water and sanitary sewer line stations and elevation datum shall be shown on a base grid set up on a 2-inch square basis. The vertical scale for the plans shall be 1"=5'.
- The limits, by station, shall be shown for all concrete encasements, concrete caps, tunnels, and encasement pipes (whether bored and jacked or open cut).
- The limits of the public right-of-way, including its width, shall be shown where water mains, gravity sewer, force main, or sewer lateral cross. The type and width of pavement shall also be shown.
- The ASTM designation and pipe classification shall be shown below each reach of water and sanitary sewer pipe(s), and where the type and classification

changes due to depth or other considerations, the station number of the transition shall be shown.

- Notation of an existing grade line to indicate the proposed depths in relation to water and sanitary sewer lines.
- The water line size shall be shown and indications for high points in elevation and the proposed location of the air release valve.
- The sanitary sewer size and grade shall be indicated between all manholes. This information shall be parallel to and shown above smaller sanitary sewers. (On sanitary sewers of sufficient diameter, information shall be placed inside the water and/or sanitary sewer line. All grades shall be shown as decimal feet of fall per foot of run.)
- Invert elevations shall be shown to the nearest hundredth of a foot at the following locations:
 - 1) Centerline of standard manholes with continuous grade
 - 2) Entrance and Outfall of standard manholes where the grade is not continuous through the manhole
 - 3) Both pipe invert edges when there is a drop or slant inlet
 - 4) Where there is an intersecting sanitary sewer
 - 5) Breaks necessary for profile continuation onto another sheet
 - 6) Other conduits critical to the sanitary sewer gradient
- All manhole rim elevations shall be shown to the nearest tenth of a foot, based on plan finish grade in the area.
- The elevations of ponding or flooding areas shall be shown.
- Existing and proposed ground profile, including any proposed street grades or other improvements shall be shown.

2-103.4 Special Details

The special detail(s) sheet covers all proposed construction which is not covered on the standard detail sheet. The special detail(s) shall be illustrated on a standard plan sheet, and shall clearly and accurately depict the proposed construction. (Railroad crossings and special pipe bedding are typical examples of items requiring special details.)

2-103.5 Standard Details

The standard detail sheet strictly defines the requirements of WMU for the design and construction aspect of the development process and is illustrated in the technical section (section 3) of the Developer's Manual. The standard details are designed in AutoCAD format and are available for purchase from WMU.

2-104 Design Guidelines

The items provided in this section outline the criteria used to define the design of water, sanitary sewer, and/or fire line extensions proposed for development.

WMU has established a minimum level of service for water, sanitary sewer, and/or fire line extensions. See figure 2-1, WMU policy 402.1 (Minimum level of service for water, sanitary sewer, and/or fire line extensions).

Extension of water and/or sanitary sewer lines shall be in accordance with WMU policy 408.1 (Extension of Water and/or Sanitary Sewer Lines). See Figure 2-2.

Extension of backbone sanitary sewer infrastructure shall be in accordance with WMU policy 413.1 (Backbone Water Infrastructure Extensions), figure 2-3, and policy 411.1 (Backbone Sanitary Sewer Infrastructure Extensions), figure 2-4.

The design of water and/or sanitary sewer line extension(s) must contain, but is not limited to the following elements:

- Location of the horizontal alignment that will benefit the level of service to the customer, while complying with the separation requirements of the Division of Water and WMU.
- Vertical restrictions on establishing sewer alignment including: depths required to serve customers, minimum coverage of pipe, conflicts with underground facilities, maintaining the required hydraulic gradients, and elevation of the existing system at the point of connection.
- The design and potential future flows of both water and sanitary sewer which must be accommodated.
- Necessary appurtenances and special structures required.
- The size and material requirements of the various lines.

2-104.1 General Location

Water and sanitary sewer line extensions shall be designed using sound engineering judgement to allow for the alignment which will most benefit the entire tributary area.

Design criteria for water line extensions shall include, but are not limited to:

- Appropriate elevation to provide minimum cover depths to prevent freezing and minimize stress load where water lines may pass under traffic areas.
- Appropriate elevation requirements to provide separation between sanitary sewer lines and storm sewer lines where they may intersect.
- Anticipation of further extensions of streets and developments.
- Interconnection to the existing distribution system.
- Every effort should be made to eliminate "dead ends" or areas of low pressure by looping the water line.

Design criteria for sanitary sewer line extensions shall include, but are not limited to:

- Appropriate elevation to provide service to all persons within the design area. (Special consideration to construction of sanitary sewer facilities inside basements of buildings)
- High water elevations for existing and proposed developments including drainage basin(s)
- Anticipation of further extensions of streets and developments
- Location of proposed and existing water and sanitary sewer facilities

2-104.2 Horizontal Alignment

Water mains and sanitary sewer lines are generally constructed on opposite sides of the roadway. The water main and sanitary sewer main lines shall be placed a minimum of five (5) feet from the edge of roadway structures (storm water inlets, curbs, etc.). However, in no instance will it be accepted that a sanitary sewer or water main line be constructed partially under a paved area or curb line without WMU approval to do so. Manhole frames, covers, and water main valve boxes that must be placed in a paved area shall be completely in the paved area and outside the limits of normal drainage flows (25-year flood event). Design of all sanitary sewer lines must be completely straight between manholes.

2-104.3 Vertical Alignment

All water and sanitary sewer line sections must have at least a minimum cover of 3 feet. A minimum of 4 feet of cover is desired in sections that are subject to residential vehicular traffic for both water and sanitary sewer line sections. For areas that are subject to commercial vehicular traffic, it is desirable to have 5 feet of cover for both water and sanitary sewer line sections. (The WMU Engineering Department may make specific exceptions to these minimum requirements on a case-by-case basis)

A minimum cover of 2 feet shall be maintained on all sanitary sewer lines which are crossing under existing streams and/or existing proposed channel improvements, providing that the sanitary sewer is encased or capped with concrete or is contained within an encasement pipe.

In establishing the elevation of proposed sanitary sewers, the elevations of existing or proposed interceptor sewers, or the elevation of inflow pipes to existing pump stations shall be considered. Also, elevations of the proposed sanitary sewer shall provide service for all those in the tributary area and beyond the proposed boundary for future development, while maintaining an upstream flow.

Separate parallel collector sewers shall be connected to existing interceptor sewers and trunk lines that reach extreme depths, at a higher elevation ending with a drop manhole into the interceptor sewer.

2-104.4 Stationing

Stationing of water lines should always begin with 0+00.00. When it is not possible to use station 0+00.00 at the beginning of a water line, a minus stationing will be permitted as long as it is located within 100 feet. If an existing water line needs to be extended, then the stationing shall continue from the last existing station point.

All sanitary sewer line stationing shall increase upstream. Stationing of a sanitary sewer line should always begin with 0+00.00 at the downstream end. When station 0+00.00 is not possible at the beginning of a sanitary sewer, but is within 100 feet, a minus stationing will be permitted. If an existing sanitary sewer line needs to be extended, then the stationing should continue from the last existing station point. The P.I. (Point of Intersection) Stations and deflection angles or interior angles shall be shown on the plans at all changes in alignment.

2-104.5 Line Designations

The first line in a water line extension shall clearly illustrate the beginning of construction, showing the connection point to the existing line. All water line extensions shall have the designation of the type and size of pipe that is to be used in the construction process.

The first line in a sanitary sewer line shall be designated as "Line A." The next extension upstream from that sanitary sewer line shall be marked as "Line B" with the point being station point 0+00.00. This method shall continue throughout the collection system and subsequent sanitary sewer lines shall be assigned appropriate designations by subsequent letters. Line sections that extend the length of the letter "Z" shall continue with double letters beginning with "AA." (Short line sections not continuing past one (1) manhole will be allotted designations such as "B-1")

2-104.6 Flooding and Ponding Areas

The top elevation for sanitary sewer manholes shall be a minimum of one (1) foot above existing, proposed, or projected high water elevations. If this top elevation cannot be met, then the top of the manhole shall be lowered to an elevation not less than the 25-year flood or stream event. (A water tight manhole lid and frame shall be specified) When sanitary sewer lines extend across a detention or retention area, ductile iron pipe will be required as specified in the technical section, (section three), of this manual.

2-104.7 Minimum Clearances

Proposed/existing water mains and existing sanitary sewer line sections shall conform to the following minimum clearances:

- A) **Horizontal Clearance:** A minimum of 10 feet shall be maintained for horizontal clearances between proposed water and sanitary sewer line extensions.
- B) **Vertical Clearance:** A minimum of 18 inches shall be maintained for vertical clearances between proposed water and sanitary sewer line sections. The sanitary sewer shall be located below the water line. (Special precautions and extensive exfiltration testing will be required if the sanitary sewer cannot be located below the water line.) The nearest joint in a sanitary sewer main or water main shall be no less than 5 feet from the point of crossing when measured from the nearest side of the crossing pipe. (An encasement pipe will be required when it is impossible to meet requirement due to joint length of existing pipe.)

2-104.8 Railroad Crossings

The design or planning of water and sanitary sewer line extensions shall strictly comply with the following criteria to conform to railroad right-of-ways and facilities:

- Water and sanitary sewer main lines shall cross railroad tracks at an angle as close to 90 degrees, but never less than 45 degrees. Water and sanitary sewer main lines shall not be constructed under railroad bridges where the possibility of restricting the required waterway area of the bridge or where the possibility of endangering the foundation of the bridge exists.
- Water and sanitary sewer main lines that cross under railroad tracks and right-of-way shall be constructed in bored and jacked encasement pipes or four-flanged liner plate tunnels, unless open-cut construction will be permitted by the railroad company. Sanitary sewer lines shall be provided a sufficient size encasement pipe or liner plate for adjustment of the gradient prior to being filled with grout.
- Encasement pipes or liner plate tunnels under railroad tracks and across railroad right-of-ways shall be extended a minimum of 25 feet from the centerline of the outside track, and sealed on both ends. A minimum of five and a half (5 1/2) feet shall be measured from the top of the encasement pipe or tunnel plate to the bottom of the rail. The top of the encasement pipe or tunnel liner shall not be above the invert of existing or proposed ditches.
- A minimum cover of 4 feet shall be placed on top of all pipes placed along railroad right-of-ways.
- Water and sanitary sewer main line extensions that are constructed longitudinally along railroad right-of-ways shall be designed as far away from the tracks or other important structures as possible. Lines that are located within 50 feet of the centerline of railroad tracks, or if the danger of damage from leakage to any bridge, building or other structure exists, will require either an encasement pipe or a special approved design by WMU. Water and sanitary sewer line extensions

within 50 feet of the centerline of the railroad tracks must have at least 5 feet of cover over the pipe or casing.

2-104.9 Highway Crossings

Installation of water and sanitary sewer lines under roadways shall meet the following criteria set forth by their maintaining or governing agencies:

- Water or sanitary sewer line extensions shall cross the roadway at an angle as close to 90 degrees as possible. (Never less than 45 degrees without permission by WMU and the governing or maintaining agency)
- Water and sanitary sewer lines shall not be constructed under roadway bridges where the possibility of restricting the required waterway area may exist or where the possibility of damaging the bridge foundation may exist.
- Steel encasement pipe or four flanged liner plates shall be used under roadways.
- The encased crossings shall be no less than 3 feet in depth from the top of the encasement pipe or tunnel liner plate to the surface elevation. Encasement pipe or tunnel liner plate shall not be above the invert or proposed ditches.
- The encasement pipe or tunnel liner plate shall extend a minimum of 10 feet outside the existing paving. (The highway agency may require greater distances) The distance shall be measured at right angles to the centerline of the roadway or to the toe of the slope when roadway is on deep fill.
- Water, sanitary sewer, and/or force main line extensions that are placed longitudinal on highway right-of-ways shall be located far enough from the edge of the pavement to allow for sufficient working room and provide maximum safety to motorists should maintenance be required. All lines located within the roadway right-of-way of state or federal highways, but not located under paved areas, shall have no less than 4 feet of cover.

2-105 Benchmarks

Benchmarks shall be located a sufficient distance from water and sanitary sewer line centerlines to avoid being destroyed from the construction process at a maximum interval of 300 feet. Permanent structures, such as stone or concrete foundations, shall be used at all times possible. (Railroad spikes in trees and power poles may be used if permanent structures are unavailable.) All benchmarks shall be referenced to the centerline of water and sanitary sewer lines by station and offset, and shall be properly described on the plans.

2-106 Plat Contents

Plats shall be a size of 22" X 17" and shall contain the following information:

- North Arrow.
- Key Map.
- Scale.
- Legend.
- Notes.
- Street Name(s).
- Lot lines, lot numbers, and addresses of proposed lots.
- Easement sizes and descriptions.
- Easement angles.
- Engineer's firm name, Deed Book(s), and Page Number(s).
- Land Surveyor's Stamp, Certification, Signature, and Date.
- Owner's Certification, Date, Deed Book(s), and Page Number(s).
- Typical Street section illustration.

See figure 1-14 for sample plat.

2-107 Record Drawing

Record Drawings must be submitted by the Engineer after construction has been completed. The Record Drawing is a final illustration of the development, as constructed by the contractor, and shall be an accurate portrayal of the actual installation. Any inaccuracies, based on field inspection(s) by WMU, will constitute a warranty item to be corrected before the termination of the Developer's Warranty.

Record Drawing's must be submitted on double matte, Mylar based drafting film with a minimum thickness of three (3) mils. The drawings must be submitted with waterproof fast drying black India ink or plastic leads, which have been designed for use on Mylar film. (Plotter inks designed for Mylar film will also be accepted) Record drawings shall reflect locations and elevations of the water and sanitary sewer lines, post-construction, and any other pertinent information as may be required by WMU. An example record drawing is shown in figure 1-13.

(Figure 2-1)
WINCHESTER MUNICIPAL UTILITIES
POLICY AND PROCEDURES

SECTION: 400

SECTION NUMBER: 402.1

EFFECTIVE DATE: 01-97

SUBJECT: MINIMUM LEVEL OF SERVICE
FOR WATER, SANITARY
SEWER, AND FIRE LINE
EXTENSIONS

RE: ORDINANCE NO. 14-139

STATEMENT OF POLICY - The WMU Commission has established a minimum level of service for water, sanitary sewer, and fire line extensions. The minimum level of service requirements are:

Water:

- Minimum working pressure of 30 psi.
- Minimum residual pressure of 20 psi.
- WMU will maintain the WMU water service line to the meter, as defined in Policy 408.1. Water meters shall be located within the right-of-way or easement limit.

Sanitary Sewer:

- Sanitary sewers shall be of sufficient depth to receive wastewater from the first, grade-level floor served. In areas where the first, grade-level floor served is below the top of either of the two adjacent WMU maintained manholes or where basement service is provided but the basement floor elevation does not meet minimum requirements with respect to the two adjacent WMU maintained manholes, neither the city of Winchester nor the Winchester Municipal Utilities shall be responsible for backups of the sanitary sewer system resulting in personal property damage, in accordance with Section 14-139 of the City of Winchester Code of Ordinances.
- WMU will maintain the WMU sanitary sewer service lateral to the sanitary sewer service lateral clean-out, as defined in Policy 408.1. Clean-outs shall be located within the right-of-way or easement limit.

Fire Line:

- Minimum fire flow shall be 1,000 gpm for two hours in the following corridors:
 1. Industrial Park;
 2. Bypass Area;
 3. Central Business District, (bound by Maple Street, Iron Works Road, Highland Street, and Boone Avenue); and
 4. Lexington Avenue, Maryland Avenue to Bon Haven, McCann Drive, and Floyd Clay Drive.
- All other areas shall have a minimum fire flow of 750 gpm for two hours.
- WMU will maintain the fire line from the water main up to the first valve of the backflow prevention device located inside the vault. The fire line and vault shall be located within the right-of-way or easement limit.

STATEMENT OF PROCEDURE - All plans and specifications shall be reviewed in accordance with WMU established design standards and minimum level of service requirements.

Builders/property owners shall be given a copy of this policy at the time service is requested. It is the builders/property owners responsibility for determining compliance with Section 14-139 of the City of Winchester Code of Ordinances prior to occupancy of any residential or commercial building.

Chairman - WMU Commission

Date

(Figure 2-2)
WINCHESTER MUNICIPAL UTILITIES
POLICY AND PROCEDURES

SECTION: 400

SECTION NUMBER: 405.1

EFFECTIVE DATE: 01-97

SUBJECT: WMU DEVELOPMENT
MANUAL PURCHASE FEE

RE: ORDINANCE NO. N/A

STATEMENT OF POLICY - Persons requesting a WMU Development Manual shall be charged a purchase fee of \$50.00. Development Manual updates are \$25.00. The WMU Development Manual purchase fee is charged to recover WMU's expenses for the manual's development and periodic updates. This manual is intended to provide engineers, developers, and contractors the information necessary to comply with WMU's standards and specifications for water, sanitary sewer, and fire line extensions.

STATEMENT OF PROCEDURE - Developers, engineers, contractors desiring a WMU Development Manual must complete an application for the WMU Development Manual and pay the appropriate fee. All Development Manual holders will be notified of manual updates.

Chairman - WMU Commission

Date

(Figure 2-3)
WINCHESTER MUNICIPAL UTILITIES
POLICY AND PROCEDURES

SECTION: 400

SECTION NUMBER: 411.1

EFFECTIVE DATE: MARCH 16, 2000

SUBJECT: BACKBONE SANITARY
SEWER
INFRASTRUCTURE
EXTENSIONS

RE: ORDINANCE NO. N/A

STATEMENT OF POLICY - WMU will be responsible for the design, acquisition of easements, and construction of backbone infrastructure extensions to serve growth. Such extensions will be in accordance with the Sanitary Sewer Master Plan as adopted by the Commission.

The purpose of this policy is:

- To provide for the orderly growth and expansion of the sanitary sewer infrastructure;
- To ensure that costs for backbone infrastructure are allocated equitably among all benefited property owners; and
- To ensure that backbone sanitary sewer infrastructure is properly designed and constructed, thereby relieving WMU and WMU's ratepayers of the burden of the costs of upsizing or relocating infrastructure in the future

In areas where backbone infrastructure improvements are necessary to serve only growth, the costs for design, easement acquisition, and construction of base infrastructure shall be borne by the initial developer in the watershed for sanitary sewer infrastructure. Base infrastructure is defined as that which is necessary to serve the identified development and which meets minimum size requirements as outlined in WMU Policy and Procedure No. 408.1. Development plan approval by WMU for the identified development shall be contingent upon the developer granting acceptable utility easements to WMU across the developer's property as necessary to serve the entire watershed as defined by the Sanitary Sewer Master Plan, in addition to those necessary to serve the identified development. Costs for upgrade of sanitary sewer infrastructure to meet watershed requirements above base sizes and as outlined in the Sanitary Master Plan will be allocated to benefited property(ies). The allocation of costs will be based on capacity (percent of flow in the backbone infrastructure being constructed to serve a particular watershed) necessary to serve the benefited property(ies) and shall be in lieu of specific on- and off-site improvements which would otherwise be the responsibility of benefited property owners and/or developers. Costs allocated to benefited property(ies) shall include financing costs to account for the time value of WMU's investment in the backbone infrastructure and other associated financing costs.

In areas where backbone infrastructure improvements are necessary to serve both growth and existing customers, the costs for design, easement acquisition, and construction of base infrastructure shall be borne by the initial developer in the watershed for sanitary sewer infrastructure. Base infrastructure is defined as that which is necessary to serve the identified development and which meets minimum size requirements as outlined in WMU Policy and Procedure No. 408.1. Development plan approval by WMU for the identified development shall be contingent upon the developer granting acceptable utility easements to WMU across the developer's property as necessary to serve the entire watershed as defined by the Sanitary Sewer Master Plan, in addition to those necessary to serve the identified development. Costs for upgrade of sanitary sewer infrastructure to meet watershed requirements above base sizes and as outlined in the Sanitary Master Plan will be allocated to benefited property(ies). The allocation of costs will be based on capacity (percent of flow in the backbone infrastructure being constructed to serve a particular watershed) necessary to serve the benefited property(ies) and shall be in lieu of specific on- and off-site improvements which would otherwise be the responsibility of benefited property owners and/or developers. The costs of improvements for backbone infrastructure to serve existing customers of WMU shall be borne by WMU. The costs for improvements to serve developed but unserved property(ies) shall be allocated to the developed but unserved property(ies). Costs allocated to benefited property(ies) shall include financing costs to account for the time value of WMU's investment in the backbone infrastructure and other associated financing costs.

Benefited properties, including both developed but unserved and undeveloped properties, which refuse to pay the cost allocation associated with their property, as determined by WMU, shall be denied service until such time as the full cost allocation plus all other applicable fees and charges, are paid.

STATEMENT OF PROCEDURE

1. In reviewing the replacement and expansion needs of the sanitary sewer infrastructure, including those necessary to serve growth, WMU staff will prioritize and recommend to the WMU Commission those improvements that are identified in WMU's Sanitary Sewer Master Plan.

Only those improvements identified in the Sanitary Sewer Master Plan will be considered for design and construction under this policy. Improvements to other undeveloped properties will be considered as an on- or off-site developer responsibility. Any sanitary sewer line which is eight inches in diameter or smaller will not be considered for construction by WMU under this policy.

Recommendations to the WMU Commission will include an analysis of the projected financial impact to WMU and the allocation of costs to benefited properties.

2. Upon authorization of the WMU Commission, WMU will proceed with design, easement acquisition, and construction of the recommended improvements. The WMU Commission will approve the allocation of costs to all benefited properties and will

document such findings of fact in the minutes of the meeting(s) at which such findings are made.

3. Owners of benefited, undeveloped properties will be notified of WMU's intent to construct improvements or extensions to the sanitary sewer systems. In such notification, the owners of undeveloped, benefited parcels will be advised as to their allocated share of the infrastructure improvement costs.
4. Owners of developed but unserved, benefited properties will be notified of WMU's intent to construct improvements or extensions. Collection of the connection fees and cost recovery of the local sanitary sewer infrastructure will include costs associated with both the backbone infrastructure and local collection systems. Construction and cost recovery may be through Special Assessment Projects as ordained by either the Winchester City Commission or the Clark County Fiscal Court.
5. The allocation of costs among the benefited property owners shall be determined based on the percent of capacity allocated to a specific benefited property as determined by WMU. Costs shall include all costs for project development including engineering, legal, administration and construction observation, easement acquisition, and actual construction. The allocation of costs shall include financing costs as authorized by the WMU Commission.
6. Allocated costs must be paid by the initial developer or benefited property owner at the time that the initial development or portion thereof is dedicated to WMU for ownership and perpetual maintenance. Allocated costs for other benefited property(s) must be paid by owners of undeveloped, benefited property(ies) at the time that on-site developer lines are dedicated to WMU for ownership and perpetual maintenance. Allocated costs must be paid by owners of developed but unserved property(ies) before service is initiated. Owners of undeveloped properties may, at their option, pay their full allocation of costs at the time of allocation to avoid the accumulation of financing costs.

DEFINITIONS

- Base Infrastructure – That infrastructure which is necessary to serve an identified development and which meets minimum size requirements as outlined in WMU Policy and Procedure No. 408.1.
- Benefited Properties – Those properties which will benefit from the provision of sanitary sewer service. Such properties previously would not have had on-site access to sanitary sewer service provided by WMU.
- Connection Fees – Tap Fees, System Development Charges (SDCs) and/or other fees as may be established by WMU policy or city ordinance.
- Developed But Unserved Properties – Properties which have been improved by the construction and habitation of residences or businesses but which are not served by

public sanitary sewers but are served by on-site disposal systems or private disposal systems.

- Growth – New Development; Service addresses that previously did not exist.
- Local Collection System – Neighborhood sanitary sewers constructed to serve a developed but unserved property.
- Local Sanitary Sewer Infrastructure – Same as Local Collection System.
- Off-Site Improvement(s) – Extensions of WMU's sanitary sewer system on property not owned by a developer but necessary to serve an identified development.
- On-Site Improvement(s) – Extension of WMU's sanitary sewer system on property owned by a developer.
- Sanitary Sewer Master Plan – A WMU plan that defines by watershed the general size and location of infrastructure necessary to provide sanitary sewer service to that watershed.
- Undeveloped Properties – Properties which have not been improved by the construction of residences or businesses.