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## SECTION 1

# General Information

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## 1.1 Introduction

The Auburn Water Resource Management (WRM) Department Design and Construction Manual (Manual) has been prepared to provide an understanding of the requirements of the WRM Department and to assist in providing the basis for consistent design standards and policies. It sets forth requirements and policies that should be followed to expedite the processing and approval of projects. This Manual also sets forth the minimum requirements for designing and constructing water, sewer, and erosion and sediment control facilities.

### 1.1.1 Purpose of the Manual

The purpose of the Manual is to provide the requirements for engineering design and construction of projects within the City of Auburn (City) and its planning jurisdiction, as applicable to water distribution services provided by the Water Works Board of the City of Auburn (AWWB), wastewater collection services provided by the City, and stormwater quality management. Also, the Manual addresses the objective of protecting the public health, safety and welfare by focusing on sound design and construction requirements.

The Manual consolidates the regulatory requirements of the City. Due to the authoritative and legal nature of some of these documents, it is important to note that this Manual will not, wholly, function as a substitute nor is it intended to replace some regulations. It is intended to complement existing ordinances and policies with the intent of helping the City in maintaining current technical standards pertinent to engineering design and construction.

### 1.1.2 Use of the Manual

This Manual establishes the standards and requirements governing the quality of design and construction that must be adhered to in preparing plans and constructing improvements for projects. Those doing business with the City are required to use this Manual to ensure compliance with all applicable design and construction standards.

In using the Manual, it should be recognized that compliance with the Manual's standards and requirements may not meet all conditions and requirements necessary for approval of a project. Other City departments, as well as state and federal agencies, may have requirements other than those contained in the Manual that must be addressed to obtain approval.

The Manual is not intended to hinder good engineering judgment or creative and innovative efforts; however, any deviations from the requirements of the Manual are subject to approval by the WRM Department Director.

### 1.1.3 Authority

The WRM Department is responsible for the protection and management of water resources within the City in three principal areas of service, as follows:

1. Potable water treatment and distribution services provided by the AWWB.

2. Wastewater treatment and collection services provided by the City.
3. Stormwater quality management, erosion and sedimentation control, and Best Management Practice (BMP) implementation within the City.

Therefore, the WRM Department has adopted this Manual as the primary guide for design and construction of projects as appropriate for work under these areas.

This Manual is established in pursuance of the authority conferred by Resolution No. 10-232 of the City Council of the City of Auburn, Alabama, which was adopted on November 2, 2010; and by the AWWB, which was adopted on November 18, 2010; and is effective as of January 1, 2011.

#### **1.1.4 Fines and Penalties**

Any person committing an offense within the corporate limits of the City, which is in violation of this Manual existing or hereafter enacted, shall, upon conviction, be punished by a fine of not more than five hundred dollars (\$500). In addition thereto, any person so convicted may be imprisoned or sentenced to hard labor for the City for a period not exceeding six (6) months, at the discretion of the court trying the case. However, no penalty shall consist of a fine or sentence of imprisonment exceeding the maximum fine or sentence of imprisonment established under state law for the commission of substantially similar offenses. The penalty imposed on a corporation shall consist of the fine only, plus costs of court. Each day's violation shall constitute a separate offense unless otherwise provided.

## 1.2 Abbreviations, Acronyms, and Definitions

### 1.2.1 Purpose

It is the purpose of this section to define words, terms, and phrases contained within this Manual. In the event that a term is not listed in this section; or is not defined elsewhere in the Zoning Ordinance, the City Code, the Subdivision Regulations, or Sections 11-52-30 through 11-52-36 of the 1975 Code of Alabama, as amended; then the conventional meaning of such term shall apply.

### 1.2.2 Word Usage

The present tense includes the future tense and the future tense includes the present tense. The singular number includes the plural, and words in the plural number include the singular. The word “shall” or “must” is mandatory. The word “may” is permissive and indicates an action or choice that is usually beneficial. The word “lot” includes plot or parcel and the word “building” includes structure.

Where any word specifically defined in the Zoning Ordinance, Subdivision Regulations or other codes of the City is used in this Manual but not specifically defined herein, then the definition contained in the applicable ordinance or code shall apply.

Any confusion or questions regarding the definition of a term used in this Manual or a conflict with the definition as used in other City ordinances or codes shall be decided by the WRM Department Director, who shall have the right to interpret the definition of any word.

### 1.2.3 Abbreviations and Acronyms

The following abbreviations and acronyms are referenced within the Manual and are intended to have the following meanings:

AASHTO	American Association of State Highway and Transportation Officials
AC	Acre
ac-ft	acre-feet
A <sub>f</sub>	surface area of the filter bed
ADEM	Alabama Department of Environmental Management
ADF	average daily flow
ALDOT	Alabama Department of Transportation
ALOA	Auburn, Lee County, Opelika, and Auburn University
ANSI	American National Standard Institute
ARV	air release valve
AWWA	American Water Works Association
AWWB	Water Works Board of the City of Auburn
BMP	best management practice

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BOD <sub>5</sub>	5-day biochemical oxygen demand
BWA	Beauregard Water Authority
C	critical
CBMPP	Construction Best Management Practices Plan
CD	compact disk
CEP	construction exit pad
cfs	cubic feet per second
CN	curve number
COD	Conservation Overlay District
CPv	channel protection volume
CWP	Center for Watershed Protection
CWA	Clean Water Act
DCBA	double check backflow assembly
DO	dissolved oxygen
DRT	Development Review Team
ECB	erosion control blanket
ED	extended detention
EPA	U.S. Environmental Protection Agency
EPDM	ethylene-propylene-diene M-class rubber
ESC	Erosion and Sediment Control Ordinance
FEMA	Federal Emergency Management Agency
fps	feet per second
ft	feet
ft/day	feet per day
ft/sec	feet per second
ft <sup>2</sup>	square feet
ft <sup>3</sup>	cubic feet
GA	general application
GFI	ground fault interrupter
GIS	geographic information system

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gpd	gallons per day
gpm	gallons per minute
GPS	global positioning system
H:V	horizontal:vertical
HDPE	high-density polyethylene
hp	horsepower
Hz	Hertz
IEEE	Institute of Electrical and Electronics Engineers
in./hr	inches per hour
ISO	Insurance Services Office
IFC	International Fire Code
IPC	International Plumbing Code
ISR	impervious surface ratio
k	coefficient of permeability
kHz	kilohertz
LA	limited application
LEED	Leadership in Environmental and Energy Design
LID	low-impact development
LWA	Loachapoka Water Authority
mA	milliamp
Manual	<i>Water Resource Management Design and Construction Manual</i>
MG	million gallons
mg/L	milligrams per liter
mm	millimeter
MOV	metal oxide varistor
MS4	municipal separate storm sewer system
NAD	North American Datum
NAVD	North American Vertical Datum
NC	noncritical
NEC	National Electrical Code

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NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NGVD	National Geodetic Vertical Datum
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NTU	nephelometric turbidity unit
O&G	oil and grease
O&M	operation and maintenance
PAM	polyacrylamide
PE	Professional Engineer
PLS	Professional Land Surveyor
PMP	Probable Maximum Precipitation
ppm	parts per million
PRV	pressure-reducing valve
psf	pounds per square foot
psi	pounds per square inch
PVC	polyvinyl chloride
QCI	Qualified Credentialed Inspector
QCP	Qualified Credentialed Professional
Qf	100-year storm event
Qp25	overbank flood protection
Qwq	peak discharge
Qwr	water quality stream
ROW	right-of-way
rpm	revolutions per minute
RPBA	reduced pressure backflow assembly
RTK	real time kinematic
SCADA	supervisory control and data acquisition
SCS	Soil Conservation Service

sec	seconds
SF	square feet
tc	time of concentration
TDCBA	testable double check backflow assembly
TKN	total Kjeldahl nitrogen
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorus
TR	Technical Release
TSS	total suspended solids
UL	Underwriters Laboratories, Inc.
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
V	volt
VAC	volts alternating current
WQv	water quality volume
WRM	Water Resource Management

#### 1.2.4 Definitions

When used, the following terms shall have the meanings herein ascribed to them:

**ADEM:** Alabama Department of Environmental Management. State regulatory agency charged with protecting water quality in the State of Alabama.

**Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas (Alabama Handbook):** Manual that provides standard design and construction guidelines for erosion and sediment control best management practices in Alabama.

**ANSI:** American National Standards Institute (ANSI), originally known as the American Standards Association published procedures in 1949. This activity of the American Association of Nurserymen, Inc. developed the first standardized system of sizing and describing plants to facilitate trade in nursery stock in the 1920's.

**Alternative Grease Removal Technology or Device:** Any approved device, other than a conventional grease trap, engineered to collect, contain, or remove food wastes and FOG from the wastewater prior to discharge into the public sanitary sewer collection system. Typically used in applications where grease traps are considered unfeasible. Such devices shall include an

automatic grease recovery mechanism. Small volume, passive interceptors shall not be an acceptable alternative grease removal device.

**Applicant:** One (1) individual who is duly authorized to submit development plans for review, request waivers or changes in zoning classification, and apply for any form of development approval with respect to a development site. An applicant may be the property owner(s), or any person having written authority from the property owner(s). This written authority shall be provided in any form that the Planning Director and/or the City Engineer determine to be appropriate.

**Application for Development:** The application forms and all accompanying documents required by these regulations or other regulations for the approval of subdivision plans or site plans.

**Apron:** A platform below a storm drain outlet to protect against erosion. Also used to describe the area outside of the formed invert in the bottom of a sanitary sewer manhole, which is typically sloped from the walls of the manhole to the invert.

**Backflow Protection Device:** A device installed on all connections to a public water supply system used for domestic, irrigation, or fire protection services which prevents cross-contamination, backsiphonage, backpressure, or any other type backflow into the public water supply system. The type of device required for an individual connection is specified based on the degree of hazard that exists if a contamination occurs from the private source.

**Backwater Valve:** A device installed on sanitary sewer laterals to prevent sanitary sewer overflows from entering a structure.

**Baffle Wall:** A flat board or plate, deflector, guide, or similar device constructed or placed in flowing water or storm water storage systems to cause more uniform flow velocities, and to divert or guide liquids.

**Best Management Practices:** A physical, structural or managerial practice, which has gained general acceptance for its ability to prevent or reduce environmental impacts.

**Calendar Day:** Every day shown on the calendar, beginning and ending at midnight, Sundays and holidays included.

**Capital Improvements Program (CIP):** Potential capital projects based on goals established by the City Council and the AWWB and on established standards for the appropriate provision of services, regulatory compliance, and availability of funds. The CIP outlines a schedule for the expenditure of enterprise funds for public physical improvements. It consists of two components: a capital budget, which lists and describes the capital projects to be undertaken during the coming fiscal year, and a capital program, which lists and describes the capital projects proposed to be undertaken during each of the following six (6) years. The CIP is monitored continuously and updated every two years as part of the City's and the AWWB's biennial budgetary process and is subject to change.



**Certified Survey:** The orderly process of determining data relating to the physical characteristics of the earth, the primary purpose of which includes, but is not limited to, determining the perimeter of a parcel or tract of land by establishing or re-establishing corners, monuments, and boundary lines for the purpose of describing and locating fixed points, which has been signed and sealed by a professional surveyor licensed in the State of Alabama according to the standards of practice for surveying in the State of Alabama.

**City:** The City of Auburn, Alabama.

**City Attorney:** The licensed attorney designated by the City Council to furnish legal assistance in the administration and enforcement of these regulations.

**City Council:** The City Council of the City of Auburn, Alabama.

**Collection System:** A pressurized or non pressurized piping network capable of conveying waste water to a Water Pollution Control Facility or storm water to an appropriate discharge point.

**Concept Plan:** A generalized plan showing the entire development site of a conservation subdivision and meeting the requirements of the Auburn Subdivision Regulations.

**Conservation Subdivision:** A development design technique that concentrates buildings on a part of the site to allow the remaining land to be used for open space or preservation of environmentally sensitive areas. The open space may be owned by either a private or public entity.

**Constructed Wetland:** Wetlands constructed specifically for the purpose of treating stormwater before re-entering a stream or other body of water or being allowed to percolate into the groundwater.

**Construction Best Management Practices Plan (CBMPP):** A plan designed and sealed by a licensed professional engineer in the state of Alabama, or a QCP, that details erosion and sediment control best management practices to be installed on a construction site to minimize erosion and protect water quality.

**Contaminant:** Any substance that will impair the quality of the water to a degree that it creates a serious health hazard to the public leading to the poisoning or spread of disease.

**Contiguous Area:** Any property adjacent to a development site and that would be immediately affected by extension of water and/or sanitary sewer service through a property.

**County:** Lee County

**Cover:** The straight line distance between the top of a utility pipe to the ground surface in any location.

**Crown:** The vertex of an arch or arched surface (i.e., the top of a pipe).

**Curve Number (CN):** A number between 0 and 100 that indicates the runoff-producing potential of a soil/vegetation combination when the ground is not frozen.

**Cul-de-sac:** A local street with one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

**Design Storm:** The rainfall or precipitation amount and distribution adopted over a given drainage area.

**Design Storm Flows:** A storm whose magnitude, rate, and intensity do not exceed the design load for a storm drainage system or flood protection project.

**Detention Basin (Pond):** A relatively small storage lagoon for slowing stormwater runoff, generally filled with water for only a short period of time after a heavy rainfall.

**Developer:** The legal or beneficial owner(s) of a lot or parcel or any land proposed for inclusion in a development, including the holder of an option, contract to purchase, or a lease.

**Development:** The division of a parcel of land into two (2) or more parcels (See Subdivision); the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any buildings; any use or change in use of any buildings or land; any extension of any use of land or any clearing, grading, or other movement of land, for which an approved development plan is required pursuant to the Zoning Ordinance or other regulations, codes and ordinances of the City.

**Development Agreement:** A written contract between the City and a developer that articulates infrastructure commitments and off-site improvements necessary to maintain an appropriate level of service standard and mitigate impacts of a particular development. These commitments include, but are not limited to, improvements to ensure that adequate water, sewer, stormwater detention/retention, and traffic infrastructure capacities are maintained and protected. This agreement is binding on the developer and its successors and assigns.

**Development Phase:** A portion, part or geographical area within a development site that constitutes a stage of the development project with each stage being capable of existing independently of the other stages.

**Development Review Team (DRT):** A team of City officials responsible for the review and approval of all engineering/construction plans involved with development within the City of Auburn. The team consists of the Assistant City Manager, Public Safety Director, Planning Director, Public Works Director, Water Resource Management Director, and the Director of Environmental Services or designee.

**Development Site:** One (1) or more parcels of land included in a single development plan, and preferably under common ownership, which constitute the entire area of development shown on a site plan or subdivision plat. The development site must include all land needed for required open space, buffer yards, landscaping, parking (except as provided for in the Zoning Ordinance), internal access roads or driveways, and other physical design features needed to serve the proposed development.

**Distribution System:** A pressurized piping network capable of delivering potable water and fire protection services through underground water mains to individual customer connections.

**Drainage:** The removal of surface water or ground water from land by drains, grading, or other means. Drainage includes the control of runoff to minimize erosion and sedimentation during and after development and includes the means necessary for water-supply preservation or prevention or alleviation of flooding.

**Drainageway:** Minor watercourses, ravines, and ditches, natural or man-made, which are defined either by soil type or the presence of intermittent or perennial streams.

**Drawings:** All officially approved plans, which are on file with the City, or exact reproductions thereof, showing alignment, layout and design of structures, profiles, typical cross-sections, accessory features, and particular location, character, dimensions, and details of the work covered by the contract or included in a project.

**Easement:** The privilege or right of one property owner making limited use of another property owner's adjacent property.

**Easement, Public:** An easement intended to accommodate utilities and/or drainage facilities; or to provide public access to pedestrian ways, bikeways, greenways, public parks and other public facilities. Such easements shall be accepted for dedication by resolution of the City Council or the AWWB.

**Energy Dissipation:** Any loss of energy due to change in flow paths, generally by conversion into heat; quantitatively, the rate at which this loss occurs.

**Energy Gradient:** Total available energy in a system including potential and kinetic energy.

**Engineer:** The company or person designated by the Developer, Owner, or City acting within the scope of authority and/or the particular duties entrusted to him for engineering design and inspection services.

**Engineering Plan:** Plans prepared by a registered engineer in the State of Alabama showing details of the design and construction of required improvements in a proposed subdivision and/or site.

**Erosion:** The process by which rain, running water, waves, moving ice, and wind dislodge the upper layers of soil. As usually employed, the term includes weathering, solution, corrosion, and transportation.

**Erosion Control:** Measures and actions which are to be taken to control potential erosion and sedimentation problems.

**ESC Ordinance:** City Ordinance that regulates erosion and sediment control practices in the City of Auburn.

**Fats, Oils, and Grease (FOG):** Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules. These substances are detectable and measurable using analytical test procedures established in 40 CFR 136.

**Fire Line:** Any unmetered connection to the AWWB's distribution system that serves sprinklers, private hydrants, standpipes, and fire pumps, for the purpose of supplying water for fire protection.

**Fixture Unit:** Equal to one cubic foot of water (approximately 7.48 gallons) per minute.

**Fixture Unit Value:** A number assigned by the applicable plumbing code for each type of plumbing fixture based off of a standard fixture unit indicating the flow requirements for the specific fixture.

**Floodplain:** Any land area susceptible to flooding

**Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge a base flood without cumulatively increasing the water surface elevation more than a designated height.

**Food Service Facility (FSF):** Any restaurant, eatery, food caterer, cafeteria, or institution which cuts, processes, cooks, bakes, prepares, serves, or makes available for consumption any food products, or which disposes of food related wastes.

**Freeboard:** The vertical distance between a design maximum water level and the top of a structure such as a channel, dike, floodwall, dam, or other control surface. The freeboard is a safety factor intended to accommodate the possible effect of unpredictable obstructions, such as ice accumulations and debris blockage that could increase stages above the design water surface.

**Geographic Information System (GIS):** The City's organized collection of computer hardware, software, geographic data, and personnel designated to efficiently capture, store, update, manipulate, analyze and display forms of geographically referenced information.

**Geotextile:** A fabric made from petroleum products or fiberglass. It has four major uses; drainage, filtration, separation, and reinforcement.

**Grade:** The slope of land or stream bed or a built feature such as a conveyance pipe, specified in percentage terms.

**Gravity Flow:** The downhill flow of water or sanitary sewage through a system of pipes, generated by the force of gravity.

**Grease Trap:** An approved device designed to collect, contain, or remove food wastes and FOG from the wastewater prior to discharge to the public sanitary sewer collection system. These devices shall consist of large containment boxes, commonly located outside of a facility, equipped with the appropriate inspection manholes, sampling ports, and baffle design and shall be capable of providing an adequate retention time inside the device for the intended use

in accordance with the current City design standards. Small volume, passive interceptors shall not be an acceptable means of protection for FOG entering the public sanitary sewer collection system.

**Greenway:** Interconnected corridors of natural land, preserved as open space, which follow natural, water, or man-made features. They connect people and places together, and when they include trails, they provide routes for alternative non-motorized transportation; a specific type of greenspace.

**Habitable Structure:** Any building or structure primarily designed for human occupancy.

**Hundred (100) Year Flood:** Flood created by a 100-year rainfall event; a storm having a one percent chance of being equaled or exceeded in any given year.

**Hundred (100) Year Floodplain:** The area of land inundated as a result of the 100-year rainfall event.

**Hydraulic Grade Line:** The measure of flow energy represented by the total head available to a fluid (energy gradient) minus the velocity head. If the hydraulic grade line is above the crown of the pipe, pressure flow conditions exist.

**Hydraulic Radius:** The cross-sectional area of a stream of water or pipe divided by the length of that part of its periphery in contact with its containing conduit; the ratio of area to wetted perimeter.

**Hydrograph:** A graph showing stage, flow, velocity, or other hydraulic properties of water with respect to time for a particular point on a stream.

**Hydrologic Soil Group:** The classification of soils by their reference to the intake rate of infiltration of water, which is influenced by texture, organic matter content, stability of the soil aggregates, and soil horizon development.

**Impervious Surface:** A surface that does not absorb water. Buildings, parking areas, driveways, roads, sidewalks, and any areas of concrete or asphalt are impervious surfaces.

**Impervious surface ratio (ISR):** A measure of the intensity of land use, which is determined by dividing the total area of all impervious surfaces on a development site by the total area of the site.

**Imperviousness:** The portion of a sub-basin, sub-watershed, or watershed, expressed as a percentage, which is covered by surfaces such as roof tops, parking lots, sidewalks, driveways, streets, and highways.

**Infiltration:** The process whereby the downward movement of precipitation is interrupted and redistributed.

**Infiltration Capacity:** The maximum rate at which the soil, when in a given condition, can absorb falling rain or melting snow.

**Infrastructure:** Facilities and services needed to sustain industrial, residential, and commercial activities. Infrastructure may include, but not be limited to, water and sewer lines, streets, communication lines, drainage facilities, and utilities.

**Invert:** The floor or bottom of a conduit, junction box, inlet, and manhole.

**Lakes and Ponds:** Natural or artificial bodies of water which retain water year round. A lake is a body of water of two (2) or more acres. A pond is a body of water of less than two (2) acres. Artificial ponds may be created by dams or may result from excavation. The shoreline of such bodies of water shall be measured from the maximum condition rather than from the permanent pool in the event of any difference.

**Lot:** A parcel of land occupied by, or designated to be developed for one (1) or more buildings or principal uses, and the accessory buildings or uses customarily incidental to such uses including such open spaces and yards as are designed and arranged or required by this Manual for such building, use or development (See also Development Site).

**Lot Frontage:** Lot width measured at the street lot line.

**Lot Line:** A line bounding a lot which divides one lot from another or forms a street or any other public or private space.

**Main:** See Sanitary Sewer Gravity Main, Sanitary Sewer Force Main, and Water Main

**Manhole Height:** Vertical distance between the exiting invert elevation and the rim elevation of a manhole.

**Master Development Plan:** A conceptual plan, meeting the requirements of the Zoning Ordinance and depicting a mixture of land uses, showing an entire development site and all component stages or phases which express the overall development concept for the site at buildout.

**Monument:** A permanent object serving to indicate a limit to or mark a boundary.

**Nomograph:** A chart that represents an equation containing three variables by means of three scales so that a straight line cuts the three scales in values of the three variables, thus satisfying the equation.

**NRCS Curve Number (CN) Method:** Relates soil type, soil cover, land use type, and antecedent moisture conditions to a curve number. Used to determine the depth of runoff for a given area.

**Oil and Grit Separator:** A receptacle designed for the collection of oils and greases commonly associated with car washes, equipment wash bays, automotive service stations, mechanical service stations and garages and the accumulation, separation, and removal of sand, grit, rocks and other similar debris.

**Orifice:** As used in water studies, an opening with a closed perimeter, usually sharp edged and of regular form in a plate wall or partition through which water may flow. An orifice is used for

the measurement or control of water. This term is also used to describe the area used for intake and evacuation of air in an air release valve (ARV).

**Owner:** A person who, or entity which, alone, jointly or severally with others, or in a representative capacity (including, without limitation, an authorized agent, attorney, personal representative or trustee) have legal or equitable title to any property in question.

**Parcel:** See Lot, Development Site.

**Peak Flow:** The maximum anticipated flow rate.

**Peak Demand:** The maximum amount of treated water required to serve a development through a connection to the public water supply system, typically determined by fixture count values.

**Planning Commission:** The Auburn Planning Commission created by the City of Auburn under the authority of Chapter 52, Article 1, of the Code of Alabama, 1975, as amended.

**Plans:** See Drawings

**Plat:**

**Preliminary Plat:** A map and related materials indicating the proposed layout of a development, including all proposed easements submitted for preliminary approval in accordance with all requirements.

**Final Plat:** The map or plan or record of all or a portion of a subdivision, including all permanent easements, and any accompanying materials presented for final approval and recording as required.

**Pollutant:** Any foreign substance, that if permitted to get into the public water system, will degrade its quality so as to constitute a moderate hazard, or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably effect such water for domestic use.

**Pond:** See Lakes and Ponds.

**Ponding:** The natural formation of a pond in a stream by an interruption of the normal streamflow.

**Project Manager/Inspector:** An authorized representative of the City or Engineer, assigned to review any or all portions of materials furnished and work performed by the Contractor.

**Qualified Credentialed Inspector (QCI):** An operator, operator employee, or operator designated qualified person who has successfully completed initial training and annual refresher Qualified Credentialed Inspection Program (QCIP) training in the State of Alabama, and holds a valid certification from an ADEM approved cooperating training entity.

**Qualified Credentialed Professional (QCP):** A Professional Engineer, an Alabama Natural Resources Conservation Service professional designated by the State Conservationist, or a Certified Professional in Erosion and Sediment Control (CPESC). A QCP includes a registered landscape architect, a registered land surveyor, a Professional Geologist, a registered forester, a Registered Environmental Manager as determined by the National Registry of Environmental Professionals (NREP), and a Certified Professional Soil Scientist (CPSSc) as determined by ARCPACS, and other ADEM accepted professional designations, certifications, and/or accredited university programs that can document requirements regarding proven training, relevant experience, and continuing education, that enable recognized individuals to prepare CBMPPs, to make sound professional judgments regarding Alabama NPDES rules, the requirements of this Chapter, planning, design, implementation, maintenance, and inspection of construction sites, receiving waters, BMPs, remediation/cleanup of accumulated offsite pollutants from the regulated site, and reclamation or effective stormwater quality remediation of construction associated land disturbances, that meet or exceed recognized technical standards and guidelines, effective industry standard practices, and the requirements of this Chapter. The QCP shall be in good standing with the authority granting the registration or designation.

**Registered Engineer:** An engineer properly licensed and registered in the State of Alabama.

**Registered Land Surveyor:** A land surveyor properly licensed and registered in the State of Alabama.

**Reserved Water Capacity:** The ability of the AWWB to account for treated water availability to serve the domestic and fire protection needs of a development in both treatment capacity and conveyance. May be as a result of system upgrades required for the particular development.

**Reserved Sewer Capacity:** The ability of the City to account for the waste water treatment needs of a development in both treatment capacity and conveyance. May be as a result of system upgrades required for the particular development.

**Residual Pressure:** The system pressure in a water supply distribution system experienced during a significant flow event such as a fire-flow situation.

**Retention Pond:** A permanent pond used to slow storm water runoff and promote infiltration into the groundwater. See Wet Detention or Retention Pond.

**Return Period:** The mean number of such time units necessary to obtain a value equal to or greater than a certain value one time. For example, with a 1-year interval between observations, a return period of 100 years means that, on average, an event of this magnitude or greater is not expected to occur more often than once in 100 years.

**Right-of-Way:** A strip of land used or intended to be used for passage of the general public, and occupied or intended to be occupied by a street, road, bicycle path, pedestrian way, crosswalk, utilities, railroad or similar facility; and dedicated to public use through acceptance by the City Council.

**Roadway:** The portion of a right-of-way intended for use by vehicular and bicycle traffic.



**Sanitary Sewer Gravity Main:** Any section of a nonpressurized conveyance piping system, owned and maintained by the City of Auburn, used to collect public sanitary sewer and transport to a Water Pollution Control Facility.

**Sanitary Sewer Force Main:** Any section of a pressurized conveyance piping system, owned and maintained by the City of Auburn, extending from a sanitary sewer pump station and used to collect public sanitary sewer and transport to a Water Pollution Control Facility.

**Sanitary Sewer Service Lateral:** Any connection from a privately owned residence, residential complex, business, or commercial center to the City of Auburn's public sanitary sewer collection system. Sanitary Sewer Service Laterals are privately maintained to the ROW or easement, typically to a manhole or cleanout.

**Scale:** The relative proportion of the size of different elements of the built environment to one another; the measurement of the relationship of one object to another.

**Sediment Forebay:** Stormwater design feature that employs the use of a small settling basin to settle out incoming sediments before they are delivered to a stormwater BMP. Particularly useful in tandem with infiltration devices, wet ponds, or marshes.

**Sedimentation:** The act or process of depositing sediment from suspension in water. All the processes whereby particles of rock material are accumulated to form sedimentary deposits. Sedimentation, as commonly used, involves not only aqueous but also glacial, aeolian, and organic agents.

**Service Lateral:** See Sanitary Sewer Service Lateral and Water Service Lateral.

**Setback:** The required minimum distance between any features or structures.

**Sewer Basin:** An area served by gravity sanitary sewer, which typically corresponds to the stormwater drainage watershed, except where pump stations are installed or where the line depths are such that gravity service is capable of extending outside the normal drainage divide.

**Sewer Ordinance:** City Ordinance, as currently amended, that regulates all discharges into the sanitary sewer collection system in the City of Auburn.

**Sheet Flow:** An overland flow or downslope movement of water taking the form of a thin continuous film over relatively smooth soil, grass, or rock surfaces and not concentrated into channels.

**Shop Drawings:** Fabrication plans for any part of the work including, but not limited to, water and sanitary mains and appurtenances, precast concrete items, structural steel items, or other metal items, and connections thereof, which the contractor is required to submit to the Engineer.

**Sidewalk:** A paved path provided for pedestrian use.

**Siltation:** The deposition of finely divided soil and rock particles upon the bottom of stream and river beds and in reservoirs.

**Site Plan:** A plan, drawn to scale by a licensed engineer or other qualified professional, showing uses, structures, and all other physical features proposed for the development site, including bufferyards, parking, landscaping, and drainage facilities, in accordance with the requirements of the Zoning Ordinance.

**Specifications:** Written technical and other requirements for the Work, prepared by or on behalf of the City, which are on file with the City, containing directions, provisions, and technical and general requirements for the Work, together with such as may be added as Supplemental Specifications or Provisions.

**Standard Details or Drawings:** Drawings approved for repetitive use, showing details to be used where appropriate.

**Standard Specifications:** A book of specifications approved for general application and repetitive use.

**State:** The State of Alabama.

**Static Pressure:** The system pressure in a water supply distribution system experienced during normal operating conditions.

**Steep Slopes:** Land surface inclination as categorized in Section 4.3.1.1., unless otherwise specified. Surface inclination and slope is determined from on-site topographic surveys prepared with a two-foot contour interval.

**Storm Water Phase II:** The federal regulations requiring smaller communities to address storm water management and requiring coverage by a National Pollutant Discharge Elimination System (NPDES) permit.

**Stream, Ephemeral:** A stream channel or reach of stream channel that carries surface water runoff for short durations as a result of precipitation events. The channel bottom is always above the groundwater table.

**Stream, Intermittent:** A stream that flows at least six months out of a year but does not flow during part or all of the summer and may carry water during or after a rainstorm.

**Stream, Perennial:** A natural watercourse which contains flowing water, year around.

**Subcontractor:** Any properly qualified individual, firm, or corporation undertaking the performance of any part of the Work under the terms of the Contract, by virtue of any agreement between himself and the Contractor.

**Subdivision:** Any division, redivision, or consolidation of a tract, parcel, or lot of land by means of mapping, platting, conveyance, change or rearrangement of boundaries in accordance with the Subdivision Regulations. All subdivisions are also developments (See Development).

**Subdivision Jurisdiction:** All land located within the corporate limits of the City and within five (5) miles thereof, and not located within the corporate limits of any other city or within the

subdivision jurisdiction of any other city having a planning commission, in accordance with Chapter 52, Article 2, Section 11-52-30 of the Code of Alabama, 1975, as amended.

**Subdivision Regulations:** The Subdivision Regulations of the City of Auburn, Alabama.

**Subgrade:** The soil or rock leveled off to support the foundation of a structure or roadway.

**Sump:** A low-lying place, such as a pit, that receives drainage.

**Surety:** The corporate body, licensed under the laws of the State, bound with and for the Contractor for the acceptable performance of the Contract, and also, for the payment of claims recoverable under the Contract Bonds.

**Swale:** An open drainage channel used for the conveyance of stormwater.

**Tap:** Any connection to a water or sanitary sewer main made without requiring any section of the public utility to be taken out of service to make the connection.

**Time of Concentration:** The time required for water to flow from the hydraulically farthest point on the watershed to the gauging station, culvert, or other point of interest.

**Transmission Main:** A water main designed specifically to convey water over an extended distance, typically greater than 1000 feet, to serve an area or development with no intermediate service connections.

**Waiver:** Modification of certain specific design standards, dependent upon a finding by the WRM Director that extraordinary hardships or practical difficulties peculiar to the land or that such standards are inappropriate in relation to a specific development will result from strict compliance with the WRM Design and Construction Manual and/or the purposes of the WRM Design and Construction Manual may be served to a greater extent by an alternative proposal, provided that such waiver shall not have the effect of nullifying the intent and purpose of the WRM Design and Construction Manual and result in detriment to the public interest. In granting waivers, the WRM Director may impose such additional conditions as will, in its judgment, secure substantially the objectives of the requirements that are waived.

**Wastewater, Sanitary Sewer, or Sewage:** Any liquid waste generated from bathrooms, toilets, kitchens, home laundries, and other similar facilities.

**Water Feature:** Any stream, creek, pond, lake, pool, fountain, etc., either man-made or naturally occurring, that holds, stores, or conveys water in a regular manner in dry weather conditions.

**Water Main:** Any segment of a pressurized conveyance piping network used to distribute potable water to the public.

**Water Service Lateral:** Any metered connection to the AWWB's distribution system. Water Service Laterals are privately maintained from the customer's side of the backflow prevention device.

**Water Supply:** The system made up of water sources, treatment, and conveyance systems to

provide potable water and fire protection to the community.

**Waters of the State:** All waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.

**Waters of the US:** All waters included in one of the following classifications:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairiepotholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

**Watershed:** A watershed is an extent of land where stormwater drains downhill into a body of water, such as a creek, river, lake, reservoir, estuary, wetland, or ocean. The watershed includes both the streams and rivers that convey the water as well as the land surfaces from which water drains into those channels, and is separated from adjacent watersheds by a drainage divide. The watershed acts like a funnel, collecting all the water within the area covered by the watershed and channeling it into a waterway. Each watershed is separated topographically from adjacent watersheds by a geographical barrier such as a ridge, hill or mountain, which is known as a water divide.

**Weir:** A device for determining the quantity of water flowing over it from measurements of the depth of water over the crest or sill and known dimensions of the device.

**Wet Detention or Retention Basin (Pond):** Constructed basins that have a permanent pool of water throughout the year or wet season and generally are found in locations where groundwater is high and/or percolation is poor.

**Wetland:** An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that, under normal circumstances, does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. (Wetlands generally include swamps, marshes, bogs, and similar areas). Standards for defining wetland boundaries consider hydrology, vegetation and soil conditions.

**Zoning Ordinance:** A set of land use regulations enacted by the local governing body to create districts, which permit certain land uses and prohibit others. Land uses in each district are regulated according to type, density, height and the coverage of buildings.

## **1.3 Development Review Process**

### **1.3.1 Overview**

Any development within the City of Auburn is classified as a site plan project or subdivision project. Based on the classification of the development, the review and approval processes may vary. This section will identify the types of developments within the City and give guidance on the type of process to be followed to receive approval. The applicant for a development should consult with the Planning Department during the early stages to obtain specific information on the review and approval process.

### **1.3.2 Site Plan Project**

Site plan projects include all proposed non-residential construction projects, as well as certain residential development types such as multiple unit developments (apartment complexes and condominiums) and manufactured home parks. These particular developments are described in greater detail in the Zoning Ordinance. This will also include clubhouses or other ancillary facilities within a residential subdivision. Site plan approvals could require rezoning, conditional use approval and a traffic impact study; however, all site plans are presented to the Development Review Team (DRT) for approval before any construction is allowed on the site.

#### **1.3.2.1 Rezoning**

When an application to develop land involves a need for rezoning, the DRT and/or site plan approval shall not be granted prior to approval of the requested rezoning. The rezoning request and conditional use approval (if required) can be addressed at the same meeting; however, a rezoning decision must be rendered before approval of the conditional use. A request to rezone land to zoning districts specified in the Zoning Ordinance may require certain engineering analysis and/or traffic studies.

#### **1.3.2.2 Permitted Uses**

The Zoning Ordinance identifies uses which are permitted by right. It shall be the responsibility of the property owner or the owner's authorized representative to coordinate with the Planning Department to determine that the proposed project is a permitted use that meets all provisions of the Zoning Ordinance. If the project is not a permitted use, conditional use approval is required by the City Council.

#### **1.3.2.3 Conditional Uses**

The Zoning Ordinance identifies uses which are permitted only upon approval of a conditional use application. The Planning Commission, after holding a public hearing, shall recommend that the conditional use be approved, approved with conditions or denied to the City Council. The City Council then, after holding a public hearing, either approves or denies the proposed conditional use with any additional conditions that may be imposed subject to a site plan that meets all conditions of approval.

#### **1.3.2.4 Traffic Study**

Depending on the type, size, and intensity of a development, a traffic impact study may be required. The study may be required concurrent with a rezoning request, conditional use request, or during the site plan project approval process. The guidelines for submittal of a

traffic impact study are discussed in detail in the Public Works Design and Construction Manual.

### **1.3.2.5 Development Committee**

The Development Committee is chaired by the Planning Director and is comprised of various City Department Heads including Economic Development, Public Works, Water Resource Management, Finance, the Office of City Manager, and others as needed.

Because each proposed development project is unique in terms of its infrastructure needs and requirements, the Planning Director exercises discretion in placing a project on the Development Committee agenda for its review. As a result, the Committee is convened as needed.

The Development Committee is tasked with evaluating how a proposed project will impact existing public infrastructure or necessitate additional public investment in infrastructure to accommodate the project. More specifically, the committee evaluates the infrastructure impact, availability, and immediate or future needs associated with the development; and, based on that assessment, determines the public costs associated with the provisions of new or improved public infrastructure that are only necessitated because of the proposed development.

The Development Committee is typically involved in developments proposed on recently annexed property on the outer periphery of the City. However, Development Agreements have also been required in certain instances where the project was already zoned and considered to be an “infill” use but the need for infrastructure improvements was necessary.

The Development Committee process begins once a master plan is submitted for review. The Development Committee analyzes the proposal in terms of:

- Infrastructure (roads, water, sewer, traffic control devices)
- Greenways
- Bikeways
- Environmental concerns (wetlands, creeks, etc.)
- City services (garbage/trash/recycling service, fire protection, etc.)

In most cases, the developments referred to the Development Committee will cause a “Development Agreement” to be formulated which articulates two (2) items. The first analyzes what the various impacts and expenses will be and the second depicts how those items will be addressed for the purposes of ensuring that the infrastructure needs associated with the project, and surrounding area, if appropriate, are secured.

Once the analysis is complete, the City Manager or his designee will serve as the central point of negotiation with the developer. Negotiations will address the findings of the Development Committee and identify the financial responsibilities and commitments of each party. A development agreement is then drafted which is ultimately submitted to City Council for its consideration.

It is also important to note, when a proposed development requires improvements and/or reconstruction of City-maintained infrastructure; the developer will be required to provide a

Performance Bond prior to the issuance of any permits for construction. This Performance Bond will be required to cover the costs associated with the improvements and/or reconstruction.

### **1.3.2.6 Engineering Plans**

As part of the site plan approval process, full engineering plans are required for submission. Regardless of the size of the development, engineering plans must be approved before any work can begin on the site. Some building expansions do not require submission of full engineering plans, but those are evaluated on a case by case basis. The engineering plans must be reviewed and approved through the DRT, as outlined in Section 1.3.4 of the Manual.

## **1.3.3 Subdivision**

The subdivision of land must be in accordance with the requirements of the Subdivision Regulations and must be approved by the Planning Commission. It is, therefore, the responsibility of the property owner or the property owner's representative to make application to the Planning Commission for approval of a proposed subdivision.

### **1.3.3.1 Rezoning**

When an application to develop land involves a need for rezoning, the DRT and/or subdivision project approval shall not be granted prior to approval of the requested rezoning. The rezoning request and conditional use approval can be addressed at the same meeting; however, a rezoning decision must be rendered before approval of the conditional use. A request to rezone land to zoning districts specified in the Zoning Ordinance may require certain engineering analysis and/or traffic studies.

When plat approval is requested for land that must be rezoned to permit the proposed development of the land to be subdivided, the plat approval shall not be granted prior to approval of the requested rezoning (see the Zoning Ordinance). The rezoning request and subdivision plat approval can be addressed at the same meeting; however, a rezoning decision must be rendered before considering the subdivision plat.

### **1.3.3.2 Lot Layout Plans**

The Auburn Subdivision Regulations require the submission of a Lot Layout Plan to the Planning Department prior to the submission of the Preliminary Plat for subdivisions resulting in twenty-five (25) or more lots at complete build-out.

### **1.3.3.3 Preliminary Plat**

The information required on a preliminary plat and details of the approval process are specified in the Auburn Subdivision Regulations. Preliminary Plat approval by the Planning Commission is required prior to submitting engineering plans to the DRT for all subdivisions except Administrative Subdivisions. If the subdivision (or lot consolidation) involves dedication of right-of-way, then a preliminary plat must be approved by the Planning Commission even if it involves four (4) or less lots of record.

### **1.3.3.4 Engineering Plan**

As part of the subdivision project approval process, full engineering plans are required for submission. Regardless of the size of the development, engineering plans must be approved before any work can begin on the site. The engineering plans must be reviewed and approved through the DRT, as outlined in Section 1.3.4 of the Manual.



### **1.3.3.5 Final Plat**

The Subdivision Regulations sets forth the requirements and procedure for approval of a Final Plat. To be considered for approval by the Planning Commission and the City Council, the Final Plat must be certified by the City Engineer as meeting all the requirements for street and utility improvements. Prior to receiving signatures for recording of the Final Plat, all improvements must be installed to the satisfaction of the City Engineer as evidenced by a signed statement or a Performance Bond based on an approved engineering estimate of required improvements and approved to form by the City Attorney. Furthermore, any plat that contains the dedication of right-of-way must be approved by the City Council.

The Final Plat shall be accompanied by an engineer's estimate of the costs of any required improvements yet to be constructed. The engineer's estimate must include all remaining items of infrastructure plus contingency costs for erosion control/grassing, street repair, utility adjustments, and other items as deemed necessary by the City Engineer.

### **1.3.3.6 Bonding**

If the improvements outlined above are not completed and accepted at the time the Final Plat is requested, bonding can be initiated as in the Subdivision Regulations. The bonding shall be in the form of a performance bond with a commercial surety, an irrevocable letter of credit, or a bank certificate of deposit in an amount equal to one hundred twenty-five percent (125%) of the outstanding improvements.

In addition to bonding requirements for subdivisions, any infrastructure work within right-of-way or easements that will be affected, as shown on the approved engineering plans, by a site plan project must post a Signature Bond for the affected infrastructure prior to the issuance of the Erosion and Sediment Control Permit. This can include, but is not limited to, sidewalk, curb and gutter, roadways, striping, and utility connections. A copy of the bond can be found in Appendix X of the Public Works Design and Construction Manual. A separate Completion and Warranty Bond will be required for any development that includes a sanitary sewer pump station prior to the final plat being approved in accordance with Section 3.5.11.4 of this Manual.

Infrastructure improvements for site plan projects not covered by a Development Agreement must also comply with this requirement. See Section 1.3.3.8 of this Manual for information related to Development Agreements.

### **1.3.3.7 Traffic Study**

Depending on the type, size, and intensity of a development, a traffic impact study may be required. The study may be required concurrent with a rezoning request, conditional use request, or during the subdivision project approval process. The guidelines for submittal of a traffic impact study are discussed in detail in the Public Works Design and Construction Manual.

### **1.3.3.8 Development Committee**

The Development Committee is chaired by the Planning Director and is comprised of various City Department Heads including Economic Development, Public Works, Water Resource Management, Finance, the Office of City Manager, and others as needed.

Because each proposed development project is unique in terms of its infrastructure needs and requirements, the Planning Director exercises discretion in placing a project on the Development Committee agenda for its review. As a result, the Committee is convened as needed.

The Development Committee is tasked with evaluating how a proposed project will impact existing public infrastructure or necessitate additional public investment in infrastructure to accommodate the project. More specifically, the committee evaluates the infrastructure impact, availability, and immediate or future needs associated with the development; and, based on that assessment, determines the public costs associated with the provisions of new or improved public infrastructure that are only necessitated because of the proposed development.

The Development Committee is typically involved in developments proposed on recently annexed property on the outer periphery of the City. However, Development Agreements have also been required in certain instances where the project was already zoned and considered to be an “infill” use but the need for infrastructure improvements was necessary.

The Development Committee process begins once a master plan is submitted for review. The committee analyzes the proposal in terms of:

- Infrastructure (roads, water, sewer, traffic control devices)
- Greenways
- Bikeways
- Environmental concerns (wetlands, creeks, etc.)
- City services (garbage/trash/recycling service, fire protection, etc.)

In most cases, the developments referred to the Development Committee will cause a “Development Agreement” to be formulated which articulates two (2) items. The first analyzes what the various impacts and expenses will be and the second depicts how those items will be addressed for the purposes of ensuring that the infrastructure needs associated with the project, and surrounding area, if appropriate, are secured.

Once the analysis is complete, the City Manager or his designee will serve as the central point of negotiation with the developer. Negotiations will address the findings of the Development Committee and identify the financial responsibilities and commitments of each party. A development agreement is then drafted which is ultimately submitted to City Council for its consideration.

It is also important to note, when a proposed development requires improvements and/or reconstruction of City-maintained infrastructure; the developer will be required to provide a Signature Bond prior to the issuance of any permits for construction as identified above.

### **1.3.4 Development Review Team**

#### **1.3.4.1 DRT Process Overview**

The DRT will conduct a weekly meeting except where conflicts with the City holiday schedule exists. For additional information regarding the DRT meeting schedule, submittal requirements,

applications, forms, and processes please visit the City's website at [www.auburnalabama.org](http://www.auburnalabama.org). The DRT applications are also available through the Public Works Department.

In order for an applicant's plans to be reviewed at the weekly meeting, they must submit the required number of copies of all plans and all other required documents to the Public Works Department's Plans Review Engineer at least twenty-two (22) days before the regularly scheduled meeting at which time the plans are to undergo final review. The applicant will receive, within fifteen (15) days of the submittal deadline, from the City via e-mail, a detailed list of all comments concerning the submitted documents. This will give the applicant six (6) days to address the comments before appearing before the DRT, whereby the applicant will be asked to address each comment.

If, at the first meeting, all comments are addressed to the satisfaction of the DRT then the applicant will receive *Approval*, and the DRT Approval Form will be signed by all department representatives. If the applicant has not addressed all comments to the satisfaction of the DRT, three (3) other actions are possible.

#### **Conditional Approval.**

A conditional approval may be granted in cases where the remaining issues are few and will not require substantial review time or significant coordination with other departments. If a conditional approval is granted, it is the applicant's responsibility to address each of the remaining issues to the satisfaction of the respective departments. It is also the applicant's responsibility to obtain each remaining department's signature on the DRT Approval Form.

#### **Continuance.**

A continuance may be granted (or requested by the applicant) when there are more than a few outstanding issues and/or the outstanding issues are significant in nature. A continuance may be to a date certain but not to exceed six (6) months from the date of the initial meeting.

#### **Denial.**

A denial may be issued in situations where outstanding issues are very significant and will require a substantial amount of review time by staff. A denial may also be issued if a continuance beyond six (6) months from the date of the submittal is effectuated. If a denial is issued, the applicant must resubmit plans to the DRT and begin the process again, including the payment of all applicable fees.

#### **1.3.4.2 Pre-Construction Meeting**

Upon receiving approval and having all departments sign-off on the DRT Approval Form, the project may be scheduled for a pre-construction meeting. To schedule a pre-construction meeting, the applicant should contact the Public Works Inspections Manager. The applicant is responsible for ensuring that representatives for the following parties are present at the pre-construction meeting:

1. The general contractor
2. The contractor(s) performing the site and utility work
3. The engineer of record

Representatives from other City departments will be in attendance at the pre-construction meeting as well as representatives from various private utility companies when appropriate. Typically, a pre-construction meeting can be scheduled to occur within one week of the request.

### **1.3.4.3 DRT Submittal Requirements**

All applications to the DRT are required to contain the following items:

#### **Site Plan Projects - Initial Submittal:**

##### *ALWAYS REQUIRED*

- DRT Application for Site Plan developments
- Four (4) sets of civil engineering construction plans
- One (1) full-size copy of the site plan
- One (1) PDF of the overall site plan
- Two (2) copies of the completed and signed Engineering Checklist
- One (1) copy of the Site Plan Sufficiency Checklist
- One (1) copy of the deed(s)
- One (1) copy of the Authorization to Act as Applicant Form

##### *REQUIRED WHEN APPLICABLE*

- One (1) stamped hard-copy, and one (1) PDF of the Drainage Report (include Drainage Report Checklist)
- One (1) copy of relevant permits (ADEM, USACE, ALDOT, etc.)
- Three (3) hard-copies, and one (1) PDF of the traffic impact study
- One (1) copy of the Pump Station Design Worksheet
- Two (2) copies of Fire Flow Calculations
- Submit electronically: Development Water and Sewer Service Application
- Submit electronically: Backflow Protection Information Form
- Submit electronically: Grease Trap Sizing Calculation Data Sheet

#### **Site Plan Projects - Final Submittal (after approval):**

- Five (5) full sets of stamped civil engineering plans
- Three (3) separate, full-size copies of the site plan

- One (1) - 11x17 reduction copy of the site plan
- One (1) copy of signed offsite easements
- One (1) copy of the recorded Stormwater Storage Facility Operation and Maintenance Agreement (submitted prior to issuance of the Certificate of Occupancy)
- One (1) - CD or DVD containing PDF files of the following:
  - Engineering plans
    - Use a separate file for each sheet
    - Name each file according to the sheet name
    - Use a minimum resolution of 300 dpi
  - Final Traffic Impact Study
  - Final Drainage Report
  - Any other items that were revised from the initial submittal

**Subdivision Projects - Initial Submittal:**

*ALWAYS REQUIRED*

- DRT Application for Subdivision Developments
- Four (4) sets of civil engineering construction plans
- One (1) PDF of the overall street layout plan
- Two (2) copies of the completed and signed Engineering Checklist
- One (1) copy of the deed(s)
- One (1) copy of the Authorization to Act as Applicant Form

*REQUIRED WHEN APPLICABLE*

- One (1) stamped hard-copy, and one (1) PDF of the Drainage Report (include Drainage Report Checklist)
- One (1) copy of relevant permits (ADEM, USACE, ALDOT, etc.)
- Three (3) hard-copies, and one (1) PDF of the traffic impact study
- One (1) copy of the Pump Station Design Worksheet
- Two (2) copies of Fire Flow Calculations
- Submit electronically: Development Water and Sewer Service Application
- Submit electronically: Backflow Protection Information Form
- Submit electronically: Grease Trap Sizing Calculation Data Sheet

**Subdivision Projects – Final Submittal (after approval):**

- Five (5) full sets of stamped engineering plans
- One (1) copy of signed offsite easements
- One (1) copy of the recorded Stormwater Storage Facility Operation and Maintenance Agreement (submitted prior to issuance of the first Certificate of Occupancy)
- One (1) – CD or DVD containing PDF files of the following:
  - Engineering plans
    - **Use a separate file for each sheet**
    - Name each file according to the sheet name
    - Use a minimum resolution of 300 dpi
- Final Traffic Impact Study
- Final Drainage Report
- Any other items that were revised from the initial submittal

**1.3.4.4 DRT Forms and Checklists**

The DRT submittal will not be considered complete unless the appropriate checklists are attached, completed-in-full, and signed. It is also important to note that the checklists are not intended to be all-inclusive. Therefore the completeness of each checklist does not alleviate the obligation of the designer to meet all City codes, regulations, ordinances, and specifications. The forms and checklists are provided to expedite the review process and provide staff with the basic project information. Not all forms are required for all projects as indicated in the individual form description.

The following checklists and/or worksheets have been made part of this Manual and are attached in Appendix B and can also be found on the City's website.

- *Site Development Plans Engineering Checklist* – This checklist must be submitted with every set of engineering construction plans for site developments (conditional & permitted use projects). The checklist must be filled out entirely and signed.
- *Subdivision Construction Plans Engineering Checklist* - This checklist must be submitted with every set of engineering construction plans for subdivision improvements. The checklist must be filled out entirely and signed.
- *Development Application for Water and Sewer Services* – This application form is required to be submitted electronically for any project proposing to utilize water from the AWWB or sewer service from the City.
- *Backflow Protection Information Form* – This form shall be submitted electronically for any development that proposes to connect to the AWWB water distribution system.

- *Pump Station Calculation Worksheet* - This worksheet shall be submitted for any development that proposes to utilize a sanitary sewer pump station.
- *Grease Trap Size Calculation Data Sheet* - This form is required to be submitted electronically for any development utilizing a grease trap.

The following forms and worksheets can be found within the Public Works Design and Construction Manual.

- *Site Plan Sufficiency Checklist* - This checklist is to assist in review by the Planning Department and must be submitted with the site plan.
- *Drainage Checklist* - This checklist must be submitted for all projects requiring stormwater detention.
- *Stormwater Drainage Forms*
  - Gutter Spread Table
  - Pipe Design Table
  - Pre-Development Conditions Worksheet
  - Post-Development Conditions Worksheet
  - Basin/Sub-Basin Peak Discharge Summary Table
  - Total Peak Discharge Summary Table

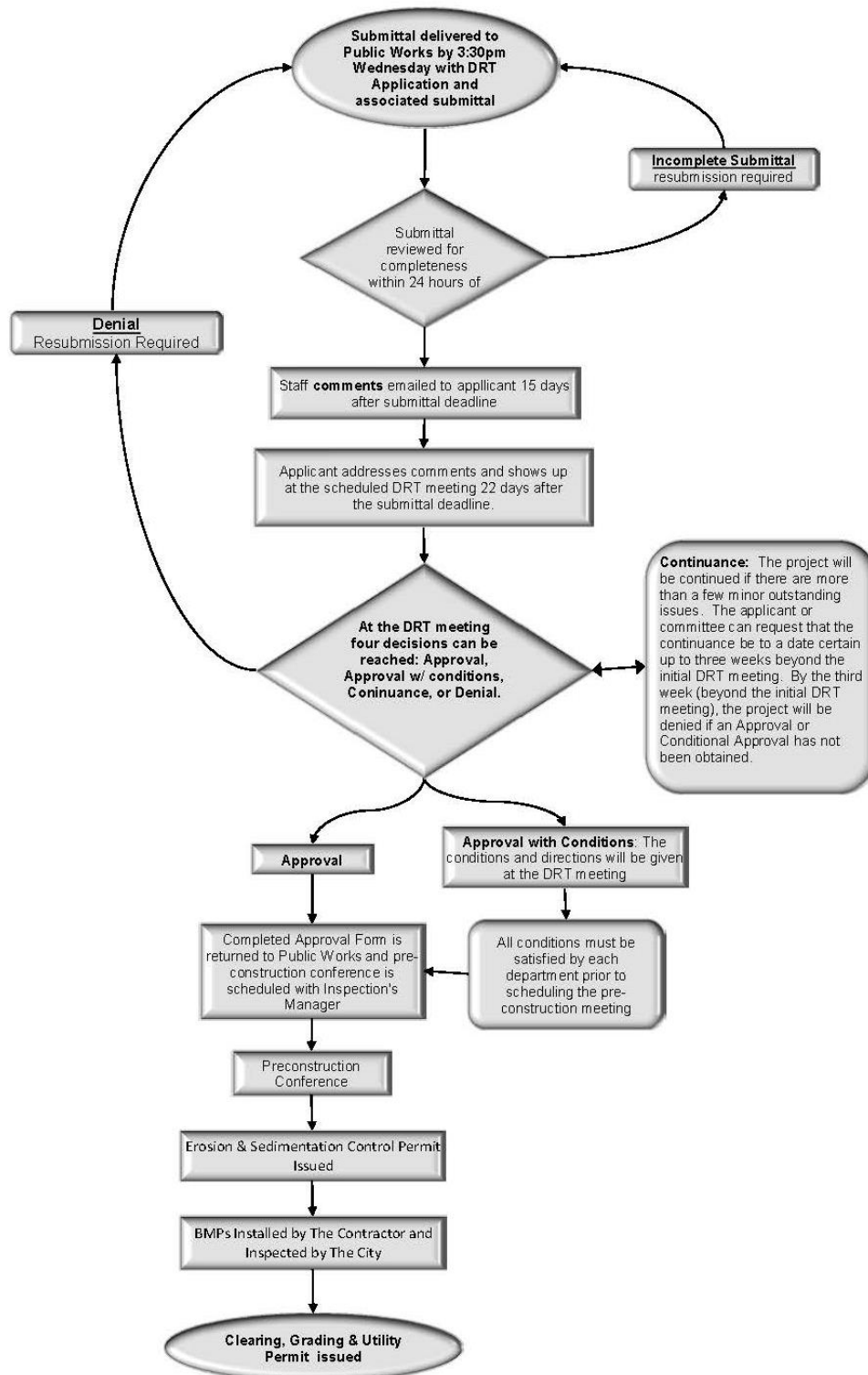
#### **1.3.4.5 Final Approval**

All approvals from other boards must be granted prior to receiving a full DRT approval. It is important to note that the approval will expire, unless construction has commenced, within eighteen (18) months following the date of approval. If the conditional use approval or plat expires, the DRT approval subsequently expires. The applicant must formally request an extension on the DRT application commensurate with the extension of the conditional use or plat approval. Furthermore, any substantial changes that effects the approved engineering plans before DRT expiration may require updated plans be submitted to the DRT and receive approval by the appropriate board.

#### **1.3.4.6 DRT Process Flowchart**

Figure 1-1 provides a development review process flowchart. This flowchart is meant to summarize the processes to be followed by the DRT and by the development submittal applicant.

## Development Review Process



**FIGURE 1-1**  
Development Review Process



### 1.3.5 Permits

Permits are required by the City to ensure that proper requirements, conditions, and standards are used in design and construction and to assist City staff in the monitoring of progress and assurance of quality in the constructed projects.

There are several departments within the City from which permits are required during specific points in the design and construction process. Pertinent permits that are issued by the City include the following:

- Demolition Permit
- Burn Permit
- Erosion and Sedimentation Control Permit
- Clearing, Grading, and Utility Permit
- AWWB Water Main Connection Permit
- Blasting Permit
- Zoning Certificate
- Building Permit
- Sign Permit

Each permit is discussed in some detail in the following subsections. The discussion of each permit is not meant to provide all information regarding that particular permit. The applicant should refer to the appropriate regulation, ordinance, or code that will describe the permit requirements in more detail.

It also is important to note that performing any work without the required and appropriate permit will result in a stop work order and a potential fine.

#### 1.3.5.1 Demolition Permit

The City requires that a demolition permit be acquired to demolish existing structures. The Demolition Permit is issued by the City Public Safety Department – Codes Enforcement Division.

#### 1.3.5.2 Burn Permit

Burn Permits are issued by the City's Public Safety Department - Fire Division. For information regarding Burn Permits, please contact the Auburn Fire Department.

#### 1.3.5.3 Erosion and Sedimentation Control Permit

The Erosion and Sedimentation Control Permit is administered by the Public Works Department. It will be issued prior to the Clearing, Grading and Utility Permit. However, to obtain the Erosion and Sedimentation Control Permit, Erosion and Sediment Control Plans must be submitted to and approved by the DRT. All DRT submittal requirements still apply and the review is subject to the same dates and deadlines as any other required DRT submittal.

The Erosion and Sedimentation Control Permit allows the applicant to perform limited clearing of site vegetation required to install BMP measures around the proposed site.

Prior to issuance of the Erosion and Sedimentation Control Permit, a copy of an approved NPDES Permit from ADEM must be provided to the City, when required. If ADEM is only requiring submission of the NPDES Permit application and acknowledgement of receipt prior to commencement of land disturbing activities, the City will issue the Erosion and Sedimentation Control Permit after a copy of the acknowledgement of receipt is provided from ADEM. Once the NPDES Permit has been received, the City shall be provided with a copy. Additionally, a U.S. Army Corps of Engineers' (USACE) permit may be required for the site. In those cases, as well, the City must be provided with a copy of that permit before issuance of the Erosion and Sedimentation Control Permit.

On large or complex projects, a pre-construction meeting may be required to specifically address best management practice (BMP) installation. This type of pre-construction meeting does not take the place of the final pre-construction meeting after receiving a full engineering plan approval. Upon approval of the BMP plans and the pre-construction meeting being held, if required, an Erosion and Sedimentation Control Permit may be issued.

*NOTE: No other permits will be issued until full construction plans have been granted approval. A complete submittal for the issuance of concurrent permits can be achieved through the DRT process.*

#### **1.3.5.4 Clearing, Grading, and Utility Permit**

The Clearing, Grading and Utility Permit is administered by the Public Works Department. This permit allows the developer to clear site vegetation, begin grading operations, and install required site utilities. Clearing, Grading and Utility permits may be obtained only after the DRT has approved the engineering plans.

A Clearing, Grading and Utility Permit will not be issued until after the preconstruction meeting has been conducted.

Upon installation of all site BMPs, the developer must contact the Public Works Department and request a field inspection before proceeding with clearing, grading and utility installation. If the inspector determines that all site BMPs have been installed according to the approved Erosion and Sedimentation Control Plan, the developer may obtain a Clearing, Grading, and Utility Permit.

#### **1.3.5.5 AWWB Water Main Connection Permit**

The AWWB requires a permit for all connections made to existing water mains inside the AWWB's distribution system. These permits are administered by the WRM Department on behalf of the AWWB. Applicants must notify the WRM Department of the proposed connection prior to installation and shall submit a plan sheet detailing the connection if plans were not submitted through the DRT.

All connections made to the AWWB's distribution system shall be coordinated with and done in the presence of a representative of the AWWB or City inspector. The AWWB representative or City inspector shall be certified as an Alabama Grade I Water Operator to inspect the system connection. The Water Main Connection Permit will be provided to the appropriate AWWB

representative or City inspector by the WRM Department upon approval for the authorization of the connection.

Because of the potential health hazard that exists as a result of contamination to the potable water system from improper system connections, only authorized connections will be allowed to the AWWB's distribution system. Persons making unauthorized connections to the AWWB's distribution system shall be subject to prosecution for theft of service in accordance with Alabama Criminal Code Section 13A-8-10 to 10.3 and for tampering with a public water system in accordance with Section 1432 of the Federal Safe Drinking Water Act.

#### **1.3.5.6 Blasting Permit**

The City requires a permit for blasting on any proposed project within the City. These permits are administered by the Codes Enforcement Division of the Public Safety Department. Applicants must notify the Codes Enforcement Division about the place and time the blasting will occur. Before issuing the permit, Codes Enforcement will perform a license check to determine that the blasting company is a licensed company within the State of Alabama. The applicant is advised to consult the City's standard specifications for information regarding blasting.

#### **1.3.5.7 Zoning Certificate**

The Zoning Ordinance sets forth the regulations and requirements for a Zoning Certificate, which must be granted before any development permitted by the Zoning Ordinance, including accessory and temporary uses, may be established or an existing building altered with respect to its use. The Codes Enforcement Division will not issue a Building Permit unless the DRT and the Planning Department have granted the developer approved site plans and a Zoning Certificate.

All applications for Zoning Certificates shall be filed with the Planning Director.

Following site plan and/or conditional use approval, an applicant shall have 18 months from the date of approval to obtain the necessary certificate and permits and to begin construction. In addition, an applicant shall have 90 days from the date of issuance of a Zoning Certificate to begin construction. The beginning of construction is defined as the date on which a Building Permit is issued by the City for the construction, renovation, modification, or other work required.

#### **1.3.5.8 Building Permit**

Building Permits issued by the City are administered by the Codes Enforcement Division of the Public Safety Department. The Codes Enforcement Division will not issue a building permit unless the DRT and the Planning Department have granted the developer approved site plans and a Zoning Certificate. The approved site plans are valid for an 18-month period and, within that period, the developer may obtain the Zoning Certificate and the Building Permit.

The applicant is allowed to submit plans and specifications to the Codes Enforcement Division and the DRT concurrently to begin the permitting process. Again, no Building Permit will be issued until the Zoning Certificate has been issued and the proposed site plan has been approved and is on file in the office of the Codes Enforcement Division.

Building Permits are discussed in more detail in the Zoning Ordinance. It also is important to note that there are three additional permits required by the City after the building permit has been issued:

- Electrical Permit
- Plumbing Permit
- Mechanical Permit

These permits will be issued only after the building permit has been approved.

#### **1.3.5.9 Sign Permit**

The City requires that all signs be permitted prior to installation. For a sign permit to be processed, a site plan showing the sign location and a scaled drawing are required. For additional information regarding Sign Permits, refer to the City's Zoning Ordinance.

#### **1.3.5.10 Other Permits**

Although it is not the responsibility of this Manual or of the City to inform each development applicant of all permits that may be required in other areas, it is important to note that other governmental agencies may require additional permits under their respective jurisdictions. The applicant may be required to obtain various permits from county, state and federal agencies for a particular project. It is the applicant's responsibility to determine any and all permits that may be required for a particular development.

## 1.4 Construction

### 1.4.1 Approved Plans and Revisions

Construction shall not begin without approved construction plans conforming to all applicable design standards in this Manual. Any changes in the design after the approval of the plans must be resubmitted to the Public Works Department's Plans Review Engineer. The Public Works Department Plans review Engineer will distribute the plans to the appropriate Department for review and approval. During construction, if changes are required, construction in the area of the changes shall halt until such time as the plans have been revised, submitted, and approved.

### 1.4.2 Materials

The materials required to be used for construction shall be as required by the City's Standard Specifications. The City may require detailed submittal information for any product being installed. Any product found not to be in compliance with the specifications shall be removed and replaced at the developer's expense.

### 1.4.3 Submittals

After approved plans have been issued and prior to construction beginning on public infrastructure, a material submittal package shall be provided to the City for review and approval. The material submittal package shall include all product specifications and material data sheets for public infrastructure that are to be installed during construction, and are to be owned and operated by the AWWB and/or the City. Submittal packages shall be provided to the Public Works Inspection Division Manager or the Project Manager. Submittals shall not be provided for infrastructure that is to be owned and operated by other private or public owners or entities.

All material submittals shall clearly detail all necessary product information as applicable including, but not limited to; product ID, dimensions, type, material, construction, strength or rating, graphical schematic, picture or sketch, standard technical specifications, or any other attribute critical to the design and function of the appurtenance. Material submittals for concrete structures such as manholes, vaults, or wet wells shall clearly detail all dimensions, reinforcement, layout of affected appurtenances, hatch or cover specifications, and associated fabrication manufacturer.

Each material submittal package shall include a minimum of five (5) full sets of all necessary appurtenance data sheets with a cover sheet detailing all included submittals.

The City will review and approve, conditionally approve (as noted), or reject the material submittals for the specific proposed application in accordance with the requirements detailed in this Manual, and the City's Standard Specifications. The City will keep three (3) copies of the material submittals, and will return the remaining two (2) copies to the developer and the contractor. Additional copies of the material submittals shall be included in the package if more than two (2) approved copies are needed.

It is the responsibility of the contractor to be familiar with the standard requirements of the AWWB and the City specifications prior to submittal. All rejected material submittals shall be resubmitted as required and approved prior to the commencement of construction.

### 1.4.4 Installation Requirements

Installation and construction shall follow the manufacturers' recommendations and the City's Standard Specifications. Where a discrepancy exists between the manufacturers' recommendations and the City's Standard Specifications, the more stringent of the requirements shall apply.

A Utility Installation Flow Chart for site plan development projects and residential subdivision development projects is included in Appendix C of this Manual.

### 1.4.5 Inspection and Testing

The City will assign an inspector for the project. This inspector will be responsible for the inspection of the construction. The inspector shall be present for all water and sewer connections and testing procedures.

- Testing of the street construction shall follow the City's Standard Specification, Section 10 for Streets.
- Testing of the sanitary sewer system shall follow the City's Standard Specification, Section 12 for Sanitary Sewer Systems.
- Testing and disinfection of the water mains and appurtenances shall follow the City's Standard Specifications, Section 14 for Water Mains and Appurtenances.

All testing and disinfection procedures shall be coordinated with the inspector. The City's Standard Specifications shall govern testing requirements for infrastructure not listed above.

### 1.4.6 Contacts

During construction activities, the first point of contact for the developer or contractor with the City for project related issues or questions shall be the assigned inspector. Where further technical assistance or clarification is required, the inspector will contact the appropriate Department. Any direction received from the City authorizing changes in design or construction methods from the approved plans or the City Standard Specifications and Details shall be at a minimum acquired in writing. Verbal approval shall not be an acceptable authorization to deviate from the approved plans or standards. Changes in the approved design will typically require revision to the plans to be submitted and approved.

All water and sewer locate requests shall be called into Alabama One Call at 1-800-292-8525.

The developer or contractor shall establish any preferred contact sequence for City staff to follow during construction activities at the development pre-construction meeting.

## 1.5 As-Built Drawings

As-built drawings are required to be submitted for any development where infrastructure such as water mains and services, sanitary sewer mains and services, and/or storm sewer structures are installed and where any ownership and maintenance of said infrastructure is to be administered by the City or the AWWB. The as-built drawings shall provide precise locations and elevations for all installed infrastructure for the entire approved development phase(s) including any offsite infrastructure or infrastructure in subsequent phases or developments that provide service for the particular development phase(s) seeking approval. In no case will hand drawn "red line" construction plans be accepted for as-built drawings. Any project specific requirements for as-built drawing feature collection will be discussed at the preconstruction meeting for the development. The as-built drawings shall be submitted and approved prior to a building permit being issued for the Subdivision Projects and prior to the Certificate of Occupancy for Site Plan Projects. In no case will the AWWB set a water meter or activate a water account for a Subdivision Project that has not submitted a complete set of as-built drawings. The City or the AWWB may waive the as-built requirement for small developments that are not installing more than 100 feet of publicly maintained water, sanitary sewer, or storm sewer mains.

### 1.5.1 Surveying

As-built drawings shall be surveyed and certified by a licensed professional land surveyor (PLS) in the State of Alabama. All coordinates shall conform to the Alabama East State Plane (0101) Coordinate system referenced to the North American Datum (NAD) 83 (2011) EPOCH 2010 for horizontal control, the North American Vertical Datum (NAVD) 88 for vertical control, and the National Geodetic Survey (NGS) GEOID12A model. All measurements must be recorded in US survey feet (Northing and Easting) to the nearest one hundredth of a foot.

As-built drawing features may be surveyed using traditional surveying methods or Real Time Kinematic (RTK) corrected Global Position System (GPS) methods. When utilizing GPS surveying methods, the survey shall reference the following Alabama Department of Transportation (ALDOT) Continuously Operating Reference Station (CORS):

CORS Name:	ALAU
IP Address:	205.172.52.26
Port Number(s):	14302

More information regarding the ALDOT CORS Network can be found at the following website: <http://aldotcors.dot.state.al.us>. Any GPS or traditional surveys that do not reference the ALDOT CORS shall reference a control point set by the City of Auburn. The surveyor shall contact the WRM Department to have the appropriate control points set for the development.

All points that are collected utilizing GPS surveying methods (including control points) shall be submitted with the degree of accuracy listed for each survey point. Coordinates and measurements that are provided using GPS technologies shall be classified as either Critical (C) or Noncritical (NC) in terms of the degree of accuracy required for those survey points. Critical coordinates and measurements shall generally be considered as any points used for establishing control (horizontal and vertical) or for purposes of attaining vertical positioning of sanitary or

storm sewer rim and invert elevations (including pump stations), or where horizontal or vertical tolerance of the specific feature is minimal. All Critical coordinates and measurements shall be provided with a degree of accuracy of no greater than +/- 0.03 feet (sub-centimeter) with a minimum observation time of 30 epochs. All other GPS coordinates and measurements (horizontal and vertical) shall be considered Noncritical and shall in no case exceed a degree of accuracy of +/- 0.5 feet with a minimum observation time of 10 epochs. All GPS survey points shall be collected with a maximum Position Dilution of Precision (PDOP) value of 3.

In order for the as-built survey to be considered complete for a development, all of the following surveyed features, coordinates, and information shall be included, where applicable:

#### 1. Water Distribution Features

- a. Water main location, top of pipe elevation, size, and material (one (1) coordinate provided every 100 feet minimum along straight sections of pipe, every 40 feet minimum where pipe is being deflected, and at all bends and fittings along the main). Note: Main locations should be marked by the contractor during installation with a 2 inch diameter vertical PVC pipe at all bends, fittings, elevation transitions, and at a minimum of every 100 feet in accordance with the standard specifications. (NC). In lieu of installing the vertical PVC pipe for features to be located, survey shots can be made on the exposed feature during installation.
- b. Water valve location (center of valve box cover), cover elevation, size, and type. (NC). For butterfly valves, a shot shall be taken on the valve box cover and the main adjacent to the valve box cover. Note: valve location shots are not to be counted as the main line shots referenced in 1.5.1.1.a.
- c. Fire hydrant location, finished grade elevation, manufacturer, and year (surveyed in front of the hydrant steamer nozzle at the finished grade elevation). (NC).
- d. Service line location, finished grade elevation, and size (typically at a meter box or meter vault at the edge of the easement or ROW). Approximate location of main line connection shall be field verified (where possible) and provided on the as-built drawings. (NC).
- e. Blow-off and air release valve location (center of cover), cover elevation, size, type, and manufacturer. (NC)

#### 2. Waste Water Collection Features

- a. Sewer manhole location, size, material, rim elevation (center of cover), manhole type, cover type. (C).
- b. All main line invert elevations entering or exiting a manhole including proper connectivity to the appropriate manhole Object ID's (service line connection elevations are not required). "Memphis tee" drop connections in a manhole shall only be recorded for the highest vertical connection. (C).
- c. Sewer gravity main location, size, and material at all manholes. (C).



- d. Service line location and size (typically at a clean out or stub out at the edge of the easement or ROW). Approximate location of main line or manhole connection shall be field verified (where possible) and provided on the as-built drawings. (NC).
  - e. Grease trap location (approximate center), finished grade elevation, and size. (NC).
  - f. Pump station site plan, which shall graphically display all pertinent features of an installed pump station site including but not limited to: property boundary, finished grade contours, fence boundary, gates, access road, water service, yard hydrant, concrete slabs, wet well and valve vault perimeter, wet well and valve vault hatch, standby diesel pump, electrical control panel, utility pole, telemetry pole, wet well vent, quick connection piping, force main piping, gravity main piping, manholes, drainage and storm sewer features, streams and applicable buffers, and any other appurtenance or notable feature within the pump station site. Also, the site plan and survey data shall include all of the following elevations: wet well rim, wet well floor, valve vault rim, valve vault floor, liquid level floats, onsite gravity inverts, and manhole rims. (C).
  - g. Sewer force main location, top of pipe elevation, size, and material (one (1) coordinate provided every 100 feet minimum). Note: Main locations should be marked by the contractor during installation with a 2 inch diameter vertical PVC pipe at all bends, fittings, elevation transitions, and at a minimum of every 100 feet in accordance with the standard specifications. (NC).
  - h. Sewer force main valve location (center of valve box cover), cover elevation, size, and type. (NC).
  - i. Sewer force main air release valve location (center of cover), cover elevation, size, type, and manufacturer. (NC).
3. Storm Water Features
- a. Storm sewer manhole/inlet location, rim elevation (center of cover), type, and condition, outlet structure. (C).
  - b. Storm sewer headwall location at pipe terminus, type, presence of rip rap, and condition. (C).
  - c. All invert elevations entering or exiting the manhole/inlet or headwall including proper connectivity to the appropriate manhole/inlet or headwall Object ID's. (C).
  - d. Storm sewer main size, shape, material, and condition. (C)
4. The PLS certification shall be provided on each as-built plan sheet and shall state:

I HEREBY CERTIFY THAT ALL PARTS OF THIS AS-BUILT SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR SURVEYING IN THE

STATE OF ALABAMA TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF BASED ON EVIDENCE VISIBLE ON THE SURFACE

Surveyor's Signature: \_\_\_\_\_

Alabama License Number \_\_\_\_\_ Date \_\_\_\_\_

### 1.5.2 Engineering

As-built drawings shall be certified by the engineer of record responsible for the design of the project infrastructure and utilities or a licensed professional engineer (PE) in the State of Alabama with sufficient knowledge of the project. The engineer is responsible for reviewing the installed items for compliance with the approved construction plans and with the design standards detailed in this Manual.

The engineer of record certification shall be provided on each as-built plan sheet and shall state:

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED BY \_\_\_\_\_, REGISTERED LAND SURVEYOR No. \_\_\_\_\_, AND SHOWN ON THIS AS-BUILT DRAWING HAS BEEN REVIEWED FOR COMPLIANCE WITH THE APPROVED PLANS FOR THE PROJECT AND DOES COMPLY WITH THE INTENT AND PURPOSE OF THE DESIGN IN ACCORDANCE WITH THE APPLICABLE ENGINEERING DESIGN STANDARDS OF THE CITY OF AUBURN AND/OR THE WATER WORKS BOARD OF THE CITY OF AUBURN TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Engineer's Signature: \_\_\_\_\_

Alabama License Number \_\_\_\_\_ Date \_\_\_\_\_

### 1.5.3 Submittal

As-built drawings shall be submitted directly to the WRM Department at 1501 West Samford Avenue. The WRM Department will distribute the drawings to the necessary departments of the City for review and approval. The review of the submittal and any subsequent comments should be completed within 10 business days. The drawings shall be reviewed and approved prior to a building permit being issued for Subdivision Projects and prior to Certificate of Occupancy for Site Plan Projects. In no case will the AWWB set a water meter or activate an account for a development that does not have an approved set of as-built drawings. The initial submittal package shall include four (4) hard copies printed on 24 x 36 inch plan sheets as well as one (1) digital copy provided on CD.

The completed as-built drawings shall include the following information:

1. Title block.
2. North arrow.
3. Graphic scale.
4. Overall plan view of the project.
5. Horizontal and vertical coordinates of all established survey control points.

6. Horizontal and vertical coordinates of all sanitary and storm sewer manholes and inverts.
7. All applicable bearings, distances, pipe sizes, slopes, materials, etc.
8. All applicable property line and easement information.
9. The hard copies shall be certified by the PLS and PE on each plan sheet with the applicable notation, signature, and seal.
10. All plan sheets shall be clearly marked in the title block with the notation "AS-BUILT".

The digital copies of the as-built drawings shall be submitted in a format compatible to the City's software. Each digital copy of the as-built drawings shall include a copy of all as-built plan sheets in both DWG and PDF formats. PDF files shall be a minimum resolution of 300 dpi. Each applicable feature provided in the DWG file shall be located in a separate and clearly labeled layer. In addition to the drawings, each digital copy shall also include the survey data in tabular form as an Excel (XLS) spreadsheet. The layout of the tabular data shall be in accordance with the standard template spreadsheet provided by the City for the appropriate feature being collected. All fields associated with that feature shall be populated as designated or required, and any applicable quality control query errors included in the spreadsheet template shall be addressed prior to submittal. The tabular data required is for features that will be imported into the City's GIS database and is not intended to be all inclusive of the survey collection that may be required to adequately compile the as-built drawing information. Additional feature data may be required on the as-built drawings for graphical display of installed conditions that are not specifically requested as part of the tabular data to be submitted.

Upon approval of the initial submittal package, two (2) final hard copies and one (1) digital copy shall be provided.

## 1.6 Easements

### 1.6.1 Discussion

Easements shall be dedicated for all publicly owned and maintained infrastructure that are not located on public ROW or covered by an existing easement. Any easements that are needed for the development shall be dedicated in a manner acceptable to the City either by plat or by document. Specific language for the easement dedication shall be prepared by the City and shall be used for the dedication.

No fences, canopy trees, or any other obstructions shall be allowed in easements without prior approval of the City. Where it can be demonstrated that it is not possible to locate a necessary obstruction outside an easement, the City and/or the AWWB may approve the placement of the obstruction with the execution of a Hold Harmless Agreement as defined in Section 1.7.1 of this Manual. The location of the obstruction within an easement shall be such that the conflict with proposed or existing infrastructure is minimized to the maximum extent practical. Approval from the City shall be acquired prior to the placement of any necessary obstruction in an easement. Obstructions placed in easements without prior approval shall be removed, as directed, at no cost to the City or the AWWB.

All permanent easements where public infrastructure has been installed shall be graded and smoothed to allow sufficient access and use for mowing equipment and maintenance vehicles prior to acceptance by the AWWB or the City. The permanent easement shall be completely cleared of all trees, brush, boulders, and debris. All rocks shall be buried, crushed, or removed from the easement where, in the opinion of the AWWB or the City, they present a hazard for access and use of the easement. Typically, no rock shall remain on the ground surface that is larger than a No. 1 stone classification. All creek and ditch crossings shall also be made accessible for mowing and maintenance equipment as deemed appropriate by the AWWB and the City prior to acceptance of the public infrastructure.

No water or sewer services shall be activated prior to the actual legal dedication of all necessary easements. All testing and water main disinfection procedures may proceed prior to easements being dedicated in order to complete construction, but domestic services will not be provided until the necessary easements are granted.

All easements needed for the development shall be identified during the plan review process. The standard easement width for water, sewer, and storm drain is based on two times the depth of cover (measured from finished grade to the bottom of the pipe or structure), rounded up to the nearest multiple of 10 feet, with a minimum easement width of 20 feet. Easements for installation of water and sewer utilities may require additional width to ensure adequate separation between structures and the installed utility is achieved to allow reasonable excavation of the utility without compromising the structures foundation. Generally, a minimum separation of 15 feet would be acceptable to the City where depths of the utility are less than 10 feet; however, the City reserves the right to request additional easement width based on the site specific circumstances of the easement. The engineer of record shall be responsible for evaluating the foundation design and separation required on a case specific basis and may provide any applicable design information to the City for consideration in determining required easement widths. The actual easement width shall be calculated based on the actual installed depths. The infrastructure shall be centered in the easement, and shall be

verified with the as-built drawings. If it is determined that the water, sewer, or storm drain line was not installed in the previously dedicated easement to allow for the proper maintenance, the easement shall be promptly rededicated in the installed location. The City will typically accept tolerance of up to four feet before a rededication of the easement will be required.

All water and sewer utility and storm drain easements shall be dedicated to the City as Drainage and Utility Easements unless otherwise approved and shall not be combined with any other utility easements (i.e. gas, electric, communications, etc.). City Drainage and Utility Easements are exclusive and are not to be used to install any other non-City owned and maintained utility. An exception to this would be a perpendicular crossing of another utility. Where other utilities must be installed inside a City Drainage and Utility Easement, and where approved by the City, an Easement Encroachment Agreement will be required with the encroaching utility as defined in Section 1.7.2 of this Manual.

### **1.6.2 Dedication by Document**

Easements to be dedicated by document shall include a legal description of the easement area, a surveyed drawing titled 'Exhibit A' showing the easement limits and the installed location of the utility, as well as a vicinity map showing the general location of the property. The legal description and exhibit shall be prepared by a licensed professional land surveyor in the State of Alabama. The legal description, exhibit, and vicinity map for easements shall be submitted to the City for review and approval with the as-built drawings for the development.

After the legal description and exhibit have been submitted and approved, the City will assist the developer in preparing the easement document, and submitting to City Council for approval. Proof of ownership will be required prior to the recording of the easement document, and must be in a form acceptable to the City Attorney. The actual recording of the document will be coordinated with the City after the review and approval of the easement document by City Council.

### **1.6.3 Dedication by Plat**

Easements to be dedicated by plat shall be identified during the review process and shall be identified on the preliminary plat included in the plans. All plats shall be prepared by a licensed professional land surveyor in the State of Alabama and shall be submitted to the Planning Department to be routed for review and shall be in accordance with all applicable City Zoning Ordinances and Subdivision Regulations. All easements shall be shown and clearly labeled on the plat. The easement widths shall be clearly identified and shall be in accordance with the standard easement width requirements based on installed depths.

All easements shown on the final plat shall be in the as-built location of the utility and shall be surveyed by a licensed professional land surveyor in the State of Alabama prior to submittal. If the final plat is recorded prior to infrastructure being installed, the recorded plat shall be checked against the surveyed as-built drawings by the City prior to acceptance of the utility. If any discrepancies are discovered between the recorded easement and as-built utility locations or installed depths that, according to the City, would hinder the maintenance or repair of the infrastructure, the developer/owner will be required to revise the plat and easements as necessary prior to preliminary acceptance of the affected water or sewer infrastructure in question.

### 1.6.4 Easement Language

The easement wording shall be reviewed by the City and the AWWB for approval. All plans and plats shall include the following standard notation:

- “No permanent structures may be constructed or placed on easements. Fences may be erected perpendicularly across the easement provided there is a minimum 12 foot wide access gate installed. If the gate is to be locked there must be a City approved lock installed in conjunction with the owners lock. No canopy trees shall be planted within 10 feet of utilities.”
- “By placing obstructions within or encroaching onto the easement, the property owner(s) does for itself, its successors, and assigns agree to indemnify, hold harmless and defend the City of Auburn, its officials, representatives, agents, servants and employees from and against all liability and loss which may be sustained as a result of claims, demands, costs or judgments arising out of the location of the obstruction within the easement including its reasonable costs in defending against any such claims and further agrees to release and discharge the City of Auburn from any damages to the obstruction arising from utility maintenance work within the easement or any damages to the obstruction resulting from its placement in the easement.”
- By placing any portion of an irrigation system within the easements or right of way, the property owner does for itself, its successors and assigns agrees to hold harmless and defend the City of Auburn, its officials, representatives, agents, servants, and employees from and against all liability and loss which may be sustained as a result of claims, demands, cost or judgments arising out of the location of the obstruction within the easements or right of way including its reasonable cost in defending against any such claims. The property owner further agrees to release and discharge the City of Auburn from any damages to the irrigation system arising from any work or maintenance work within the granted easement or right of way or any damages to the irrigations system resulting from its placement within the easement or right of way. Irrigation systems are limited to only laterals being placed within any easements or right of way.

## 1.7 Agreements

### 1.7.1 Hold Harmless and Indemnity

There may be certain unavoidable situations where an obstruction that would interfere with the maintenance or repair of infrastructure may be required to be placed on or adjacent to a dedicated easement or in the ROW. Where it can be demonstrated that it is not possible to locate the necessary obstruction outside the easement or ROW, the City and/or the AWWB may approve the placement of the obstruction with the execution of a Hold Harmless Agreement.

The City shall be notified prior to the construction or placement of any such obstruction and will make the determination if the encroachment will be allowed. A plan sheet shall be submitted to the City detailing the obstruction and its relative location to the easement for approval. The location of the obstruction within the easement or ROW shall be such that the conflict with existing or proposed infrastructure is minimized to the maximum extent practical. If the City decides the obstruction or encroachment will be allowed, the owner will be required to enter into a Hold Harmless Agreement with the AWWB and/or the City. The approved plan shall be attached to the Hold Harmless Agreement as 'Exhibit A' and shall be referenced in the agreement. The executed Hold Harmless Agreement shall be recorded in the Office of the Judge of Probate in Lee County, Alabama.

The exact format and language of this Hold Harmless Agreement will be determined by the City and the AWWB. A sample standard Hold Harmless Agreement is provided in Appendix B, but is subject to modification to fit the site specific request and conditions.

### 1.7.2 Easement Encroachment

There may be certain situations where other utilities that are not owned by the City or the AWWB may be required to be placed on an existing dedicated easement.

The City shall be notified prior to the construction or placement of any such utility and will make the determination if the encroachment will be allowed. A plan sheet shall be submitted to the City detailing the extents of the encroachment on the easement for approval. The location of the utility within the easement shall be such that the conflict with existing or proposed infrastructure is minimized to the maximum extent practical. If the City decides the utility encroachment will be allowed, the owner of the utility will be required to enter into an Easement Encroachment Agreement with the City and/or the AWWB. The approved plan shall be attached to the Easement Encroachment Agreement as 'Exhibit A' and shall be referenced in the agreement. The executed Easement Encroachment Agreement shall be recorded in the Office of the Judge of Probate in Lee County, Alabama.

The exact format and language of this Easement Encroachment Agreement will be determined by the City and the AWWB. A sample standard Easement Encroachment Agreement is provided in Appendix B, but is subject to modification to fit the site specific request and conditions.

## 1.8 Acceptance

### 1.8.1 Authorities

The AWWB may accept ownership and maintenance of all public water mains, services, and related appurtenances installed for a development up to any metered connection or approved backflow prevention assembly inside the ROW or at the edge of an easement that is directly connected to the AWWB distribution system and that was designed, installed and tested in accordance with the applicable standards detailed in this Manual. The AWWB maintains all meters and backflow prevention assemblies for domestic and irrigation connections services connected to the AWWB distribution system up to and including the associated meter. The AWWB does not maintain backflow prevention assemblies installed for isolated fire protection systems, but will regularly inspect these assemblies for proper maintenance and operation by the owner. It is the customer's responsibility to maintain the service beyond the AWWB's meter. The customer is also responsible for any maintenance associated with an unmetered fire protection system connected to the AWWB's system beginning at the AWWB's isolation valve. The customer's responsibility includes any backflow prevention assembly installed on a service connection, which shall be maintained, tested, and inspected in accordance with the AWWB's Backflow Prevention and Cross-Connection Control Policy.

The WRM Department, Sewer Division may accept ownership and maintenance of all public sanitary sewer gravity mains, pump stations, and force mains installed for a development inside the ROW or easement that connects to the City's sanitary sewer collection system and that was designed, installed, and tested in accordance with the applicable standards detailed in this Manual.

The Public Works Department may accept ownership and maintenance of all public storm drain infrastructure, streets, sidewalks, and bicycles facilities installed for a development inside the ROW or easement that was designed, installed, and tested in accordance with the applicable standards detailed in this Manual. The City does not maintain stormwater storage facilities, but will inspect these facilities annually to ensure proper maintenance and operation by the owner.

### 1.8.2 Preliminary Acceptance

A development will be eligible for preliminary acceptance of public water and sanitary sewer infrastructure by the AWWB and the City upon completion of the following items (in particular order):

1. Submittal and approval of construction plans in accordance with the applicable standards detailed in this Manual for both water and sanitary sewer design.
2. Construction inspection provided by the AWWB or the City or adequately documented in accordance with the City Standard Specifications and Details for water and sewer construction.
3. Successful testing procedures performed and results documented in accordance with the City Standard Specifications for water and sewer testing.
4. Proper disinfection achieved and documented for all water mains and appurtenances installed in accordance with the City Standard Specifications for water main disinfection.



5. As-built drawings submitted and approved in accordance with this Manual for all water and sewer infrastructure.
6. Final inspection by the AWWB and the City for all water and sewer infrastructure and all noted deficiencies corrected. The final inspection shall be scheduled with the project inspector, the Water Distribution Manager, and the Sewer Collection System Manager after all applicable testing and disinfection has been successfully completed for the water and sewer infrastructure and as-built drawings have been submitted to the WRM Department. Sewer pump stations shall be inspected in accordance with the requirements in Section 3.5.11.3 of this Manual.
7. All appropriate Drainage and Utility Easements dedicated in accordance with Section 1.6 of this Manual and the final development plat signed (if being platted).
8. All necessary Hold Harmless Agreements or Easement Encroachment Agreements executed in accordance with Section 1.7 of this Manual.

The WRM Department will issue a written preliminary acceptance letter upon completion of the items covered in this Section. Preliminary acceptance is not granted by the City for storm drain or transportation infrastructure.

### **1.8.3 Final Acceptance**

Final acceptance of water and sewer mains and appurtenances will not be granted by the AWWB or the City until such time that all local construction activity for the entire development phase taking place on the ROW or easements in which the water and sewer are located is substantially completed, which is including but not limited to; other utilities, storm sewer construction, major grading, sidewalk installation, and roadway preparation, including curb, subbase, base, or binder placement. If more than 12 months has expired from the date of the preliminary acceptance letter, when final acceptance is requested by the developer, a second final inspection shall be scheduled with the Water Distribution Manager and Sewer Collection System Manager prior to final acceptance being issued. Upon substantial completion of construction and successful correction of all noted deficiencies at the time the final acceptance is requested, the WRM Department will issue a written final acceptance letter.

Final acceptance of storm drain and transportation infrastructure will occur after placement of the final wearing surface and subsequent final inspection by the Public Works Department. Any deficiencies noted for correction during the final inspection must be completed before final acceptance is granted. Subdivision completion bonds will be released after all City and AWWB infrastructure receives final acceptance.

## 1.9 Warranty Period

The developer is responsible for all damages caused to infrastructure within the development due to construction activity as well as any defects in materials and workmanship associated with the installed infrastructure for a period of not less than one year from the date of the City's final written acceptance of the infrastructure, or the signing of the final plat, whichever is later.

Due to the health risks associated with contamination of the potable water supply and regulations associated with maintaining a public water distribution system, only AWWB personnel are authorized to operate or work on water mains connected to the AWWB distribution system. As a result, the AWWB will provide all operation, maintenance, repair, and emergency response services after preliminary acceptance has been issued and the service has been activated for public use, including during the warranty period. The City will also provide repair, and emergency response services for sanitary sewer related issues within the development after preliminary acceptance and during the warranty period if not timely and satisfactorily addressed by the developer.

All costs associated with any necessary repairs or emergency response services provided by the AWWB or the City during the preliminary acceptance or warranty periods due to damages caused by construction activity, or defects in materials or workmanship shall be the full responsibility of the developer including all labor, equipment, and materials required to perform the work. The AWWB or the City will invoice the developer for all such costs.

## **1.10 Fees and Charges**

### **1.10.1 Discussion**

There are multiple fees associated with obtaining water and sewer services from the AWWB and the City. These fees include, but are not limited to, access fees, deposits, tap fees, and meter set fees. All applicable fees for any new development or redevelopment will be due for both water and sewer services, where provided by the AWWB or the City prior to the issuance of a building permit. All associated fees shall be paid at the Water Revenue Office at 1501 West Samford Avenue. A current rate schedule of all normally applicable water and sewer fees can be found on the City's website.

### **1.10.2 Water and Sewer Fee Estimates**

During the plan review process, the WRM Department may provide an estimate for access fee credits and charges at locations with existing water and/or sewer accounts. The estimate provided will be based on information derived from the plans submitted and the published rates available on the date of the estimate. The rates are subject to change and are not guaranteed by the estimate. The estimate amount provided will not include any tap fees, meter set fees, or deposits that may also be applicable for the project. All required water and sewer fees shall be paid at the Water Revenue Office prior to the issuance of a building permit for the development, and will be based on the published rates at the time the fees are collected.

## 1.11 Updates and Waivers to the Manual

Updates to this Manual will be made periodically as deemed necessary. These updates will be posted to the City's web site, along with a brief overview of any of the changes made, the reason for the change, and a date the changes will go into effect.

### 1.11.1 Updates

The users of this Manual are encouraged to suggest changes and or/ revisions to the Manual. These suggestions will be considered and, if deemed appropriate, a revision will be made to the Manual. It is expected that updates will be provided on an annual basis. Any individual who believes that a change is necessary to the Manual is encouraged to submit the suggestion in writing to the City for consideration.

Periodically, as revisions are made to the Manual, the changes will be posted to the City's website. It is the responsibility of the users of this Manual to make certain that they are using the current version.

### 1.11.2 Project-specific Waivers

#### 1.11.2.1 Waiver Criteria

The City may make project-specific waivers to an existing City standard when any one of the conditions described below applies. It should be noted that the City is not required to make a waiver just because one of the conditions below applies, but these are the only circumstances under which a waiver will be considered:

1. The standard is not applicable to the particular situation.
2. Topography, ROW, or other geographical conditions impose undue hardship to the applicant or extraordinary environmental damage; and an equivalent alternative that can achieve the same design objective is available and does not compromise public safety.
3. A waiver is required to address a specific design or construction problem that will result in an undue hardship to the applicant with little or no material benefit to the public, if not granted.
4. A new technology is available that results in a benefit to the project, accomplishes the same design objective, reduces environmental intrusion, and does not compromise public safety.

#### 1.11.2.2 Procedure

For items that meet the Waiver Criteria specified in Section 1.11.2.1 of this Manual, the following procedure applies:

- Waiver request
- City's review and request disposition
- Appeal

The elements of the procedure are discussed in more detail in the following subsections.

## Waiver Request

Any person may request a waiver to a City standard contained in this document as pertaining to the purview of the WRM Department by submitting a written request to the WRM Department Director. The written request must state the desired waiver, the reason for the waiver, and a comparison of the waiver to the existing standard. The written request shall be on the City's Request for Design and Construction Standard Waiver form (Appendix B) and shall include, at a minimum, the following information:

1. A completed "Request for Design and Construction Standard Waiver" form.
2. A narrative description that includes the following information for each requested waiver:
  - a. State what the waiver request is and compare it to the existing City standard.
  - b. State the reason for the waiver and describe how it meets the Waiver Criteria specified in Section 1.11.2.1.
3. Reference any relevant industry standards or specifications that support the waiver request.

## City's Review and Request Disposition

The City will review all properly completed forms and take one of the following actions:

- Approve as requested
- Approve with noted conditions
- Deny the request

The City's response will be in writing. A conditional approval or denial of the request will be accompanied with a brief explanation. Any approved waiver is project-specific and does not constitute a precedent for the modification of a standard.

## Appeal

An applicant may appeal a denied waiver request to the AWWB for all waivers related to the AWWB's potable water distribution system and to the Planning Commission for all other standard waivers.