Below are the minimum required items for all plan or subdivision construction plans to pass the Land Use Review completeness check process: The information outlined below can be found in the Utility Criteria Manual Sections 2.5 through 2.9.4, Standard Specifications, Standards Manual and the Site Plan Application Instructions.

GENERAL REQUIREMENTS

- ❑ All plat, preliminary plans, site plan and subdivision construction cases shall be submitted in PDF (.pdf) format to allow electronic review by AW. Any other file types will be rejected.
- ❑ Engineer's dated signature and seal of a Professional Engineer licensed in the State of Texas on each plan sheet.
- ❑ Project title
- ❑ An Index on the cover sheet or on the 2nd page of drawings
- ❑ Location, size and material of all existing water, reclaimed water and wastewater mains, lines, services and appurtenances. Provide AW project and/or project ID #s, GIS #s, wastewater profile #s and water intersection numbers.
- ❑ Size, pipe material and location of main including services with respect to easements and rights-of way. Existing and proposed mains 24 inches and larger shall be shown by double lines indicating pipe outside diameter. For proposed connections to water mains or facilities to be constructed by others: identify the project by name, the design engineer and service extension number.
- ❑ Include current version of the Austin Water General Information and Construction Notes for Commercial Sites and Subdivision Plans sheet for stamps, latest Standard Austin Water Construction Notes, Service Extension Request documentation, meters, fire flow tests etc. All boxes from this sheet must be included for submittal. With the exception of providing the required information, do not remove, revise or reduce any text, Title Block, or tables on this sheet without prior authorization from Austin Water Pipeline Engineering. For current version of required AW General Info Sheet and other documents, please visit ***http://austintexas.gov/page/pipeline-engineering***
- ❑ All plans shall provide available fire demand at 20 psi in gallons per minute (GPM) (Not "flow rate" from the fire flow test) pursuant to the current International Fire Code (IFC) on the Austin Water General Information and Construction Notes for Commercial Sites and Subdivision Plans sheet. Indicate building size and type, required fire flow, velocity in feet per second, percentage of reduction and reduced fire flow in GPM if applicable, i., e., site has a dedicated fire line(s) and private internal fire sprinkler system.
- ❑ A profile view shall be provided for all water mains, reclaimed water mains and wastewater mains per UCM 2.5.1.F.3 which requires that the plan view and associated profile view shall appear on the same sheet with the plan view at the top half of the sheet.
- ❑ Where water, wastewater, and/or reclaimed water mains cross each other, details shall be shown to indicate compliance with TCEQ requirements.
- ❑ North arrow and scale must be shown. The standard horizontal scale for plan and profile sheets shall be 1" =, 40', 30 or 20' for the plan view. The vertical scale shall be 1" =, 4', 3' or 2'. The same scale shall be used on all plan and profile sheets. For sheets other than plan and profile, horizontal scales of 1" = 40', 30' or 20' may be used as appropriate. Plans must be on 24" by 36" sheets.

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- ❑ A general location map with street names.
- ❑ Copy of recorded final plat or land status determination letter/report; or, with Pipeline Engineering approval, an approved final plat case (awaiting recording).
- ❑ Indicate on cover sheet all required permit numbers such as development permit, Texas Department of Transportation permit, railroad crossing permit, etc.
- ❑ Recordation number and/or Volume and page number of existing recorded easements, right of way reserve etc… (Declarations of use) and of any temporary working space easements.
- ❑ City limit line, when located in or near the site, property lines, street addresses verified by the Address Division of Communications and Technology Management (CTM) and lot dimensions, legal description, subdivision file number, lot and block numbers, right-of-way dimensions, and curb and sidewalk locations and street names.
- ❑ Location, size and description of all existing and proposed, wet and dry, underground and overhead utilities where they may conflict with water or wastewater mains or other service lines. Existing and proposed utilities 24 inches and larger shall be shown by double lines indicating the outside diameter.
- ❑ Acknowledgement on the cover sheet by the engineer of record indicating that information about existing and proposed utilities has been incorporated into the design of the water, reclaimed water and/or wastewater utility infrastructure.
- ❑ Existing and proposed streets, alleys and private drives adjacent to and within property including median cuts; existing, dedicated right-of-way should be indicated next to street name; proposed right-of-way and all pavement widths.
- ❑ All existing and future dedicated easements.
- ❑ Typical cross sections showing multiple utilities proposed to be within private streets or easements
- ❑ Location of all proposed and existing structures to remain; indicate any demolition's by dashed footprint.
- ❑ Show limits of construction, including access drives.
- ❑ Label all roadways, drives, overpasses, bridges, culverts, and decorative/pervious pavers and identify as designed to support the loads imposed by heavy fire department apparatus.
- ❑ The locations, types and limits of existing site improvements to be retained (structures, parking lots, planted areas, etc.)
- ❑ The location of 25-year and 100-year floodplains, limits per ATLAS 14, Critical Water Quality zone, & Erosion Hazard Zones, storm sewers, and easements and centerline of existing watercourses, drainage features shall be shown; note on the cover sheet if a 100-year floodplain exists on site.
- ❑ If not on City sewer system, delineate drain field.
- ❑ Location of all existing and proposed fire hydrants, including all existing public fire hydrants located within 500 feet of the property boundaries.
- ❑ Physical obstructions (utility poles, trees, storm sewer inlets, etc.) in right-of-way which could affect sidewalk/driveway locations.
- ❑ Accessible route of travel connecting all accessible elements and spaces on the site that can be negotiated by a person using a wheelchair and is usable by persons with other disabilities (indicated by dotted lines, a shading pattern or other identifiable legend).
- ❑ Location and width of sidewalks on site plan.
- ❑ The location and design of all pedestrian sidewalk ramps.
- ❑ Construction drawings shall contain Overall Location Maps and Key Maps for any individual water, reclaimed water, or wastewater line that requires three or more plan and profile sheets.

WATER *AND RECLAIMED WATER* SYSTEM CHECKLIST

All plan view and profile view drawings shall include all applicable items listed in the General Requirements above plus the following items.

- ❑ Station numbers for all proposed connections to existing or proposed water mains and GIS/ID #s of existing valves, pressure reducing valve stations at pressure zone boundaries.
- ❑ Station numbers for mains shall be identified for beginning points, ending points, points of curvature, points of tangent, points of reverse curve, points of intersection, valves, fire hydrants, other appurtenances and grade breaks.
- ❑ Station numbers and flow line elevations shall be identified for the water mains where they cross any other utility.
- ❑ Details of appurtenances shall be shown.
- ❑ The location of all existing and proposed water services, water mains, valves, fire hydrants, water meters, including water meter size, and backflow preventers shall be identified.
- ❑ Calculated design pressure in pounds per square inch at highest and lowest lot served (water Layout Sheet)
- ❑ Pipe restraint when required shall be identified from beginning station to ending station on the plan and profile view and shall include the Standard Products List number of the type of restraint being installed. Fittings and valves shall be mechanical joint. Restrain all pipe-to-fitting and pipe-to-valve connections using lug (wedge)-type external restraint devices. Restrain all valve-to-fitting connections using MJ x MJ adaptors. External joint restraint devices and MJ x MJ adaptors shall be listed on SPL WW-27A. Pipe shall be push-on joint. Where restraint of pipe with push-on joints is specified, use joint restraint gaskets as per SPL WW-27G. *[Include the following note on the sheets showing encased pipe installation.]* Push-on joint pipe installed in casing shall be restrained using joint restraint gaskets. That pipe shall be installed by pulling, not pushing, the pipe through the casing.
- ❑ Retaining walls, including geogrid, straps, tie-backs and all other components shall be shown and identified.
- ❑ Include and identify all existing and proposed culverts, bridges and other drainage structures.
- ❑ Fire hydrants, located so as not to conflict with ADA features, traffic signal foundations, sign supports, and other surface features.
- ❑ Auxiliary water sources, if any, shall be shown and identified.
- ❑ The existing ground profile and proposed street finish grade.
- ❑ Identify pipe size, percent grade and pipe material to be used including ASTM and/or AWWA designation. If an alternate material is to be allowed, both should be listed (example “D.I. Class 350 or 250 or DR14 C900 PVC”). Lines must be included to indicate pipe flowline and crown.
- ❑ Station numbers and elevations for all utility crossings, starting points, ending points, point of intersection, grade breaks, valves, fire hydrants, air release valves, pressure/flow regulating valves and at intermediate points every 100 feet.
- ❑ Include and identify all retaining walls, including geogrid, straps, tie-backs and all other components.
- ❑ Include and identify beginning and ending stations of the encasement pipe (per UCM 2.9.1.D), size, material type and thickness of encasement pipe, spacers and factory end seals and the beginning and ending stations of the carrier pipe restraint. Non-shrink grout is not acceptable for filling and/or closing the encasement pipe.
- ❑ Air valve vaults, and piping from the main to the vault shall be included in the profile view. The rim elevation for the vault shall be shown along with the ground profile from the main to the vault.

WASTEWATER SYSTEM CHECKLIST

All plan view and profile view drawings shall include all applicable items listed in the General Requirements mentioned above plus the following items.

- ❑ Station numbers at all proposed connections to existing or proposed wastewater mains.
- ❑ The location, alignment and structural features of the wastewater mains including manholes and concrete retards, if applicable.
- ❑ Station numbers and GIS #s for beginning points, ending points, manholes, clean-outs and other appurtenances.
- ❑ Details of all required appurtenances.
- ❑ Location of all existing and proposed wastewater services, mains and manholes.
- ❑ The location of 25-year and 100-year floodplains, limits per ATLAS 14, Critical Water Quality zone, & Erosion Hazard Zones, storm sewers, and easements and centerline of existing watercourses, drainage features shall be shown; note on the cover sheet if a 100-year floodplain exists on site.
- ❑ Retaining walls, including geogrid, straps, tie-backs and all other components.
- ❑ Existing and proposed culverts, bridges and other drainage structures.
- ❑ Identify locations of bolted manhole covers.
- ❑ A plan view detail of the invert of each manhole or junction box having three or more pipes connecting to it, regardless of the pipe sizes, or when two pipes connect to a manhole at an angle other than 180 degrees from each other.
- ❑ Station numbers and flowline elevations shall be identified for the mains where they cross any other utility.
- ❑ The existing ground profile and proposed street finish grade or finished grade if not under pavement.
- ❑ Identify the pipe size, percent grade and pipe material to be used including ASTM and/or AWWA designation. If an alternate material is to be allowed, both should be listed (example SDR 26 PVC").
- ❑ Station numbers and elevations of all utility crossings, for starting points, ending points, manholes, clean-outs and other appurtenances and at intermediate points every 100 feet.
- ❑ Peak wet and dry weather design flows in each pipe shall include Quantity in gallons per minute, Depth of flow in inches, Velocity in feet per second and "n" factor of 0.013 per TCEQ.
- ❑ Retaining walls, including geogrid, straps, tie-backs and all other components.
- ❑ Existing and proposed culverts, bridges and other drainage structures.
- ❑ Rim elevations for manholes.
- ❑ Flow line elevations and pipe sizes for all pipe connections at manholes.
- ❑ Include and identify beginning and ending stations of the encasement pipe (per UCM 2.9.1.D), size, material type and thickness of encasement pipe spacers and factory end seals. Non-shrink grout is not acceptable for filling and/or closing the encasement pipe.
- ❑ If proposed, and/or revisions to, public force mains and/or lift stations are included in the plans, the design and submitted material shall conform to the current Utility Criteria Manual Sections 2.7 and 2.9.4 for Lift Stations.

FACILITY ENGINEERING CHECKLIST:

All plan view and profile view drawings shall include all applicable items mentioned in the AW Construction Plan Information and Submittal Requirements Checklist plus

the following items:

- Need to see wastewater Service Extension Request (SER) and the lift station design report that is called for in the Utility Criteria Manual (UCM). The SER needs to be final and approved, when required, before an official review & approval can take place.
- All lift stations should be designed using AW standard drawings and specifications.
- Show the force main from end to end as well as the lift station design drawings complete with full electrical design must be submitted together even if they are designed by multiple consultants and/or even if they are to be bid and constructed under multiple contracts. Plans for the lift station and the full length of force main (FM) shall both be submitted in order to do an official review of either set of plans.
- A Lift Station Report needs to be submitted as described in the Utility Criteria Manual for a review of the force main (FM) to be done. Include peak wet and dry weather design flows in each pipe shall include quantity in gallons per minute, depth of flow in inches, velocity in feet per second (min 3ft/sec) and "n" factor of 0.013 per TCEQ 217.
- The manhole where the force main discharges into the gravity sewer needs to be a polymer concrete manhole with the entrance and exit elevations the same, to minimize turbulence at the discharge. Show the exiting elevation and size of the pipe.
- Wastewater air release valve or air vacuum valves shall be installed at the high point in all force mains. See the enclosed example detail.
- Station numbers at all proposed connections to existing or proposed wastewater mains. Include all utility crossings, for starting points, ending points, manholes, clean-outs and other appurtenances and at intermediate points every 100 feet.
- Show minimum depth of cover and rim elevations for manholes, per UCM 2.9.0.
- Include and identify beginning and ending stations of the encasement pipe, size, material type and thickness of encasement pipe spacers and factory end seals. Non-shrink grout is not acceptable for filling and/or closing the encasement pipe.
- If proposed, and/or revisions to, public force mains and/or lift stations are included in the plans, the design and submitted material shall conform to the current Utility Criteria Manual Sections 2.7 and 2.9.4 for Lift Stations.
- Show W/WW easement recording information for the lift station and all FM locations unless it is actually on the ROW. Wastewater force mains must be located on a water & Wastewater easement or on the public right of way. Use of existing P.U.E. are considered on a case by case basis.
- All coordination with an electric utility shall be done by the design engineer.
- The LS project specifications shall be submitted, reviewed and approved before or at the same time as the plans are approved. Any and all changes to Austin Water's standard specifications must have changes clearly identified and AW's prior approval.
- Provide a line for Facility Engineering to sign off on the drawings on each sheet that has any lift station and/or force main component. It should include the works "Austin Water Facility Engineering" and "Date".

Codes Cited - 25-4-191, 25-4-192, 6-4-11(E), 15-9-9, 15-9-152, TCEQ 210, 217, 290, 291.93, 291.94 and 291.95.94 and 291.95