

Johnson County Wastewater Commercial Permit Plan Requirements

- A. **COMMERCIAL PERMITTING:** A Sanitary Sewer Commercial Permit Site Plan is required for projects that will include any exterior waste piping. The Site Plan is issued as a part of the permit, indicates the requirements for installation and serves as record of the installation. This Commercial Permit Plan Requirements document is to assist applicants in development of their Site Plan and other project drawings as required for permitting. Providing the required information in the proper format to JCW allows for a timely review and may identify potential opportunities and challenges for the project. Please contact the JCW Permit Department at 913-715-8520 with any questions about the commercial permit process, application or Site Plan requirements.

Johnson County Wastewater (JCW) Commercial Permitting is required for:

- **New Buildings.** Permitting is required for all new buildings other than single family residential or duplexes with a separate connection to the main for each unit.
- **Tenant Finish Projects.** Permitting is required for all tenant finishes where the usage of the space is changing or for installation or replacement of grease or sand/oil interceptors. Examples: Retail to Salon, Office to Medical Office.
- **Building Additions.** Permitting is required for all building additions.
- **Modification of an existing use.** Permitting is required where use or processes are changing. Example: A manufacturing process change at an existing industry.

JCW Commercial permitting primarily reviews the following parameters:

- **Site Development Issues.** The review will ensure JCW's system is protected and can be readily operated and maintained, and to ensure that other properties will not be cut off from service.
- **Peak Flow Limits.** The density of the proposed development shall be such that peak flows do not exceed the design flow rate of 0.025 cfs/acre. Calculations demonstrating this requirement shall be provided for high density and commercial developments. For older areas of the JCW system, lower maximum flow rates may be required due to lower design flow capacities in the existing system.
- **Building service.** The review will focus on minimizing the length of exterior sewer service line needed to serve the building, which in turn, minimizes the potential for infiltration and inflow to the system.
- **Building Plumbing and Building Construction.** The review will focus on potential sources of prohibited discharge to the sanitary sewer system, including storm water, ground water, chemicals, or grease, etc.
- **Interceptors.** The review will assure that grease interceptors as required by the Johnson County Environmental Department and Sand-Oil interceptors as required by JCW are installed.
- **Wash Bays and Pools.** Orificed discharges are required for all wash bays and for all pools that are required under the Johnson County Environmental Department's code to connect filter backwash to the sanitary sewer system.

- **Fees.** Permit fees will be calculated and charged and taxing units set for all buildings based on building size and building usage.

B. SUBMITTAL REQUIREMENTS: The following items are included on the checklists available at www.jcw.org. The following items 1, 2, and, as applicable, 3 are required to initiate the permit review process (applications without these items will not be reviewed):

1. **Application.** Submit completed Johnson County Wastewater (JCW) Sanitary Sewer Commercial Permit Application. The application is available at www.jcw.org. Items 7 and 8 listed below are also required with the initial submittal if the submittal involves a swimming pool and/or a car wash.
2. **One complete set of project plans** including: complete building plans (architectural, plumbing (with riser diagrams), structural and foundation drawings), complete civil Site Plans, landscape plans and a Site Plan for JCW permitting. The Site Plan shall show the existing sewers, the building connection to the sanitary sewer system, interceptors, orifice basins, and all other structures and piping associated with sanitary sewer service, as well as, all site improvements. PLEASE NOTE: The Site Plan will be attached to and becomes part of the sewer connection permit at permit issuance. Field installation shall match the Site Plan permitted by JCW.
3. **Draft Final Plat (or other lot revision instrument), if applicable.** A copy is required if site will be platted or re-platted (or the existing lot is otherwise to be revised) for this project. Please note that update of the lot shown on JCW's as-built drawings for the sewer mains is also required for all lot revisions. Please contact the engineering company that prepared the as-built drawings to coordinate and submit the revised as-built drawings and a copy of the plat (or other lot revision instrument) to JCW's As-built Department.

Items 4, 5 and 6 are required for JCW permit issuance as noted.

4. **Letter of Representation.** The permit shall be issued to the building owner of record. An executed original Letter of Representation from the Building Owner authorizing another individual to execute the permit on the Building Owner's behalf is required for issuance of all permits unless the Building Owner will execute the permit. The Letter of Representation form is available in the Commercial Permitting page at www.jcw.org.
5. **Grease Interceptor Letter** from Johnson County Environmental Department (JCED), 913-715-6900, is required for permit issuance for all facilities with any type of food or beverage preparation area. Grease interceptor size, location and all associated exterior piping must be indicated on the JCW Permit Site Plan.
6. **Prohibited Discharge Statement.** Executed original from the building owner or tenant is required for all projects that include areas with

potential sources of prohibited discharges. Required for permit issuance as applicable to building usage. The statement form is available in the Commercial Permitting page at www.jcw.org.

Items 7 and 8 are required with the initial submittal as applicable.

7. **Completed Wash Bay Application**, associated calculations and all information as required in the Wash Bay Application. The Wash Bay Application is required for all types of wash bays including single wash bays, multiple bay car washes, etc. The Wash Bay Application is available in the Commercial Permitting page at www.jcw.org.
8. **Completed Swimming Pool Application**, associated calculations, and all information as required in the Swimming Pool Application. The Swimming Pool Application is required for all public swimming pools. The Swimming Pool Application is available in the Commercial Permitting page at www.jcw.org.

C. ADDITIONAL INFORMATION: JCW Service Line Design and Construction Standards, Procedures for Privately Financed Gravity Sewer Main Extensions, Minimum Plan Requirements for Gravity Main Extensions, other forms, and details are available at www.jcw.org in the Privately Financed Projects page. Information from AIMS mapping, showing existing sanitary sewer main, property information, and sanitary sewer main as-built plans is also available at www.jcw.org in the Sanitary Sewer Maps section. The AIMS mapping applications may be used to locate existing sewer mains in the vicinity of the project. As-builts for the existing sewer mains are also found in the mapping application and may be used to locate existing connection points for a property. The JCW Permit Department at 913-715-8520 can answer questions about using the mapping application and about locating information on existing mains and connection points.

D. SITE PLAN: The following information must be shown on the Site Plan unless otherwise noted:

1. **PLAT NAME AND LOT NUMBER OR LEGAL DESCRIPTION**
 - a. Provide the plat name and lot number for lots in plats that are recorded or that the City will require to be recorded for the project. For all new plats that the City will require to be recorded for the project, please provide a copy of the plat that will be recorded for the project.
 - b. Provide the boundary legal description for lots that the City will not require to be platted for the project.
 - c. Updated as-builts for the sanitary sewer main the building will connect to are required where parcels are platted, re-platted, subdivided, or the boundary of the lot has been modified by certificate of survey and does not match the lot information shown on the current as-built records for the sanitary sewer mains. Updated as-builts for the existing sanitary sewer main showing the new lot information are required. This is a time sensitive issue that can delay permit issuance. Please contact the engineering company that prepared the as-built drawings to

coordinate submittal of the revised as-built drawings and a copy of the plat, lot split document, or certificate of survey, as applicable to the JCW As-built Department as soon as possible. Please contact the JCW at 913-715-8500 and request the As-Built Department to help with any questions about the as-built submittal process.

- d. If necessary, please increase all sanitary sewer easements to meet current JCW easement width requirements on all new plats. The engineering company that prepared the as-built drawings will be familiar with these requirements.

2. SITE LOCATION MAP

- a. Provide a reduced scale site location map showing the entire lot boundary, the building on the lot and the nearest cross streets on the site plan.
- b. For remodel and tenant finish projects, provide a building key plan which indicates all tenant spaces within the building and which space(s) the applicant tenant shall occupy in relationship to the other tenant spaces in the entire building.
- c. Provide a north arrow and scale for the Site Plan, the site location map and, if applicable, the key plan.

3. PROPERTY LINES

- a. The entire lot must be shown on the site plan. For exceptionally large lots, the entire lot may be shown clearly on the site location map.
- b. Show and label all property and/or lot lines including proposed lot lines. Use P/L or L/L labels as applicable.

4. SEWER MAIN AND MANHOLES

- a. Show all existing and proposed sewer mains and manholes on the lot.
- b. Existing sanitary manholes must be labeled by the JCW district (basin) manhole number designations (Example: BRM1(88)108). The JCW manhole designations can be found in the Sanitary Sewer Map application at www.jcw.org.
- c. Proposed manholes shall be labeled as noted on the main extension plans. These plans can also be found on the as-built plans in the Sanitary Sewer Map application, or if the as-builts are not yet available, can be found by contacting the Consulting Engineer that prepared the main extension drawings.
- d. Pipe type shall be identified for all existing sanitary sewer mains as noted on the as-built drawings if fill is placed over the existing main.

5. CONNECTION POINT

- a. The existing tee or manhole stub connection point on the sanitary sewer main must be used for the building. See the sanitary sewer as-built drawings for existing connection point information or the main extension plans for proposed stub information. These plans can also be found on the as-built plans in the Sanitary Sewer Map application, or if the as-builts are not yet available, can be found by contacting the Consulting Engineer that prepared the main extension drawings.

- b. Show the provided connection point and label the connection point as a “Tee” or manhole stub (“MH Stub”) as applicable. The location of a tee must be labeled with the distance from the stub to the nearest downstream manhole (“__ feet DDS MH _____”).
- c. Label the end of stub elevation, stub length, and stub pipe size as provided on the main extension plans. For manhole stubs, the angle between the stub and the downstream main or the right angle coordinates for locating the end of the manhole stub must be shown as provided on the main extension plans.
- d. A new manhole stub or installation of a new tee on the main shall be approved by JCW only in the absence of an existing connection point for the lot. The location and type of connection shall be as required by JCW. In the absence of an existing connection point, installation of connections shall be as follows:
 - i. In the absence of an existing connection point on a polyvinyl chloride (PVC) pipe, installation of a new tee will be required. Please provide and reference the JCW Tee Orientation and Riser detail for new tee installations. This detail is available on the JCW Standard Detail Sheet in the Privately Financed Projects page at www.jcw.org.
 - ii. In the absence of an existing connection point on a vitrified clay (VCP) pipe, saddle of the main may be allowed by JCW. Please provide and reference the JCW standard Saddle and the Tee Orientation and Riser details for saddle installations. These details are available from JCW upon request.
 - iii. For manhole connections, the connection to the manhole shall be core drilled and made by a PSX type manhole adaptor. Please provide and reference the JCW Concrete Manhole Adaptor detail for manhole connections. Please label the incoming flow line elevation for the new connection and outgoing flow line elevation for the main at the manhole. The maximum allowed difference in elevation between the flow line elevation out of the manhole and the flow line of the new connection into the manhole is 6-inches. If the maximum 6-inch drop has been provided and the top of the pipe for the new connection would still be lower than the top of the pipe for the outgoing pipe, please match crowns of the outgoing and incoming pipes. Please include notes for reforming the invert of the manhole. Manhole invert information is shown on the JCW Standard Precast Manhole detail. All of the above referenced details are included on the JCW Sanitary Sewer Standard Details sheet available in the Privately Financed Projects page at www.jcw.org.
 - iv. Mains 18-inch or larger shall not be saddled nor a tee installed in any case. Connections to 18-inch or larger mains shall be made only at a manhole.
- e. See Section 21 for required abandonment of unused existing connection points.

6. SERVICE LINE ROUTING AND LENGTH

- a. A single service line from the building to the main shall be provided for each building. Show the entire service line routing from the building to the existing connection point on the sewer main or to the existing manhole stub and label the distance to and changes in direction for the routing of the service line.
- b. The building plumbing shall be routed through the building so that the distance from the point the plumbing exits the building to the existing connection point on the main is as short as possible.
- c. Plumbing for building additions and/or tenant finish revisions shall be routed into the interior building plumbing unless the addition is constructed within 5 feet of the existing building service line.
- d. Label the length of the service line from the end of the provided stub to the exit of the plumbing from the building.
- e. When the length of service line installed within the boundaries of the lot served will exceed 100 feet:
 - i. The JCW Sewer Service Line Agreement and Covenant document shall be executed by the property owner(s) prior to permitting.
 - ii. The owner shall provide a to scale plot plan as on record with the City or other jurisdictional agency showing the following: a north arrow, street address, Plat with #, Lot #, Block # (for unplatted lots, legal boundary description shall be included), Lot dimensions including all easements, structures, sanitary sewer and storm structures and pipe, utilities, all water courses, all bodies of water, entire route (with direction changes and distances noted) of the service line from the building to the connection on the main (with building exit location, building plumbing and main flow lines, pipe length and slope, and cleanouts with locations shown and labeled) for JCW approval prior to permitting.
- f. The service line for one lot may enter another lot only where all of the following criteria are met:
 - i. The other lot is contiguous to the lot served or located immediately across the street right-of-way.
 - ii. The length of service line beyond street right-of-way on the other lot is no more than seven and one-half (7.5) feet.
 - iii. The service line is located in the sanitary sewer easement (or utility easement) for the sanitary sewer main.
- g. The service line shall not cross a water course in any case. A water course is defined as a channel in which a flow of water occurs, either continuously or intermittently.
- h. 90-degree bends are not allowed in the sanitary service line. 90-degree turns are to be accomplished with two 45-degree bends with a minimum of one foot of pipe between the 45-degree bends.
- i. The routing of the sanitary service line shall be coordinated with and match all applicable plan sheets for the project.
- j. Existing service lines, or portions thereof, may be reused only when the line meets current service line specifications. Inspection (video

and spot excavation at locations required by JCW) and testing of existing service line to be reused shall occur and be witnessed by JCW prior to approval of the Site Plan. Services installed prior to October of 1982 shall be entirely replaced from the building to the main.

7. SERVICE LINE MATERIAL AND SIZE

- a. Label the service line material identifying size, type, classification, and joint type. The service line material shall meet the JCW Service Line Design and Construction Standards. The Standards are found in the Commercial Permitting page at www.jcw.org.
- b. Coordinate the service line pipe identification labels between the Site Plan, the Plumbing Plan and the project specifications.
- c. Pipe type shall be identified for all existing sanitary service lines as noted on the as-built drawings.
- d. When the length of service line installed within the boundaries of the lot served will exceed 100 feet, the following shall apply:
 - i. HDPE pipe shall be used. The pipe, class, and joint type shall be noted on the plot plan.
 - ii. A continuous tracer wire shall be installed along the full length of the pipe alignment so the alignment can be detected. The tracer wire shall be a minimum AWG #12 XHHW copper wire. The tracer wire shall be taped to the top of the pipe and shall be brought to the ground surface at access points located at a maximum of every 300 hundred feet. Access points may include clean out castings, valve boxes, hand holes, manholes, vaults or other covered access devices. Access point covers shall be clearly marked with the type of facility. The tracer wire shall be continuous without splices between the access points. Splices in the tracer wire should be connected by means of a split bolt or compression type connector to ensure continuity. The contractor shall perform continuity tests on the tracer wire after installation. A standard 5 watt generator shall be used to provide an AC current on the wire for the continuity test. The generator signal frequency is restricted to 33 kHz or less. A standard hand held detector shall be used to tract the signal. Tracer wire shall be accepted if the tracer wire is accessible at all access points and the tracer wire can be traced from access point to access point. If the tracer wire fails the continuity test, the Contractor shall locate the damage to the wire, repair the wire and retest and repair until the continuity test is passed.

8. SERVICE LINE SLOPE

- a. Label the actual slope of the service line and the flow line elevations for the service line at the building and at the upstream end of the existing connection point. Please note under typical installation practice, the plumber will install a riser at the end of the stub to an elevation that will allow the installation of the service line at the minimum slope allowed for the pipe size back to the building. It is suggested that slopes and elevations be labeled accordingly.

- b. Slope minimum is 2 percent for 4 inch and 1 percent for 6 inch service lines.
- c. Risers shall be installed on service lines at the main to decrease the depth of the service in the minimum distance.
- d. The slope of a service line shall not exceed 100%.

9. CLEANOUT LOCATION AND DETAIL

- a. Show and label all cleanouts and dimension the location of all cleanouts.
- b. The number of exterior cleanouts is to be limited to the greatest extent possible.
- c. A cleanout is required for service lines greater than 100 feet. The maximum allowable distance between cleanouts is 100 feet. Where a cleanout is required, the cleanout should be located near the midpoint of the service line.
- d. Provide and reference the JCW standard cleanout detail on the Site Plan or Plumbing Plan drawing.
- e. Cleanouts shall be placed outside of pavement to the greatest extent possible.

10. BUILDING FINISH FLOOR ELEVATION (FFE)

- a. Label the lowest building finish floor elevation (FFE) or minimum serviceable floor elevation (MSFE).
- b. FFE or MSFE must be equal to or greater than the MSFE identified for the lot on the main extension plans or as-built drawings.

11. SERVICE LINE AND MAIN PROTECTION

- a. All structures such as trash enclosures, carports, and entrance signage, etc, shall not be constructed over or within the sanitary sewer easement.
- b. Show and label the sanitary sewer main and all exterior sanitary plumbing on the landscaping plans. Trees shall not be placed over any exterior sanitary plumbing or fixtures such as cleanouts, interceptors, basins, etc. or within sanitary sewer easements unless required by city codes and reasonable alternate locations are not available. Where plantings are required in sanitary sewer easement to comply with City codes, the following note must be added to the Site Plan and to the landscape plans: "In the event of work in or on the JCW sanitary main, any trees or plantings placed within the sewer easement may be removed without replacement or compensation there-of and shall be replaced by the property owner as required by the City." Please also provide confirmation of the City requirement for the plantings.
- c. Retaining walls shall not parallel the sanitary sewer main within the sanitary sewer easement and shall be located one horizontal foot away from the sewer main for every foot of depth of the main.
- d. Where retaining walls must cross a service line or main, the crossing shall be in a perpendicular fashion and the service line or main shall be encased in reinforced concrete (RCE) or installed in a steel sleeve

(casing) meeting the JCW standard specifications. The following elevations at the location the wall crosses the service line or main shall be noted on the Site plan: flow line elevation of the pipe, finish grade at top of the wall, finish grade at the bottom of the wall, and elevation of the bottom of the foundation. The length of RCE or casing along the pipe on each side of the wall shall be equal to the depth of the pipe on each side of the wall. See the JCW Minimum Plan Requirements for Gravity Main Extensions in the Privately Financed Projects page at www.jcw.org for additional requirements. Retaining walls shall not bear weight directly or indirectly on sanitary service lines or mains.

12. STRUCTURE TO MAIN SEPARATION

- a. Structures shall be located one horizontal foot away from the sewer main for every foot of main depth of the main with a minimum horizontal distance of 10 feet.
- b. Structures shall not encroach on a sewer easement. See the JCW Minimum Plan Requirements Gravity Main Extensions document in the Privately Financed Projects page at www.jcw.org for easement requirements.

13. SITE GRADING

- a. A minimum of 30 inches of cover shall be maintained over the top of the service line and a minimum of 36 inches of cover shall be maintained over the top of the sanitary sewer mains and stubs. The amount of cover over the service line must be indicated on the Site Plan. If 30 inches of cover is not available, 24 inches of cover may be permitted as approved by JCW if ductile iron pipe (DIP) with polyethylene or Protecto 401 linings and polyethylene encasement is used.
- b. Manholes impacted by the project shall be adjusted to be flush with the finish grade. Label all adjustments to manholes, including the existing top elevation(s) and the proposed top elevation(s). Please provide and reference the JCW Standard Precast Manhole detail and notes. The detail is included on the JCW Sanitary Sewer Standard Details sheet which is available in the Privately Financed Projects page at www.jcw.org.
- c. Manhole wall thickness shall be increased as required for manholes that are adjusted to a depth that will exceed 16 feet. When adjusting a manhole, the JCW Standard Precast Manhole detail must be provided on the Site Plan or provided in the plan set and referenced on the Site Plan.
- d. Where fill is placed over existing mains or service lines, improvements to the existing main or service line shall be provided as necessary to meet JCW pipe design requirements. Please see JCW's Procedures for Privately Financed Gravity Main Extension and Minimum Plan Requirements for Gravity Main Extension documents available in the Privately Financed Projects page at www.jcw.org for providing plans for pipe replacement.

- e. The site finish grade shall not cause the depth (to the flow line of the pipe) of sanitary sewer mains or service lines to exceed 20 feet to the flow line of the main or service line.
- f. Additional sanitary sewer easement in conformance with current easement requirements shall be provided when fill is placed over a sanitary sewer main. See the JCW Minimum Plan Requirements Gravity Main Extensions for easement requirements when placing additional fill over an existing main. This document is available in the Privately Financed Projects page at www.jcw.org.

14. SITE PLAN SCALE

- a. Provide full size plans that are drawn to a suitable scale to readily show all required information with the scale identified on the plans.

15. STORM AND WATER

- a. Storm Sewers – Show and label storm sewers, roof drains and foundation drains on the Site Plan. Label the storm sewer sizes and flow line elevations and sanitary sewer mains or service line flow lines elevations at all crossings. Reinforced concrete encasement (RCE) of the sanitary sewer main or service line shall be provided where a storm sewer crosses within 30 inches of vertical clearance of the sanitary sewer main, where the storm sewer is 36 inches or larger or where the storm sewer crosses below the sanitary sewer main or service line. A minimum horizontal separation of 7.5 feet shall be provided between a storm sewer or sanitary sewer main where the two parallel. RCE shall be provided on the sanitary sewer main or service line at storm sewer inlets when the horizontal distance between the inlet and the pipe is less than the difference in elevation between the bottom of the inlet structure and the flow line elevation of the sanitary. See the JCW Minimum Plan Requirements Gravity Main Extensions document in the Privately Financed Projects page at www.jcw.org for additional requirements.
- b. Detention / Retention Basins – Show and label all detention or retention basins on the site including the maximum water surface elevation (MWSE) and the boundary of the maximum water surface elevation. All proposed sanitary sewer lines (mains or service lines) near proposed or existing detention or retention basins shall be located two (2) horizontal feet away from the maximum water surface of the basin for each foot of depth to the flow line of the sanitary service line or main. A sanitary sewer line may be located one (1) horizontal foot away from the maximum water surface for each foot of depth if the line is constructed of ductile iron pipe, with required lining and polyethylene encasement, and installed in compacted clay backfill (no granulated bedding). See the JCW Minimum Plan Requirements Gravity Main Extensions at www.jcw.org for additional information.
- c. Water Lines - Ten feet of horizontal separation and two feet of vertical separation shall be provided between water lines and sanitary sewer line (main or service). See the JCW Minimum Plan Requirements Gravity Main Extensions available in the Privately Financed Projects

page at www.jcw.org for requirements when the referenced separations are not available.

16. EXTERIOR DRAINS AND PAVED AREAS

- a. Exterior drains shall not be connected to the sanitary sewer.
- b. Manholes and cleanouts are to be installed behind curbs or otherwise out of pavement to the greatest extent possible. Modifications to the main may be required where manholes or cleanouts are to be located in pavement. Contact JCW Commercial Permitting Department at 913-715-8520 to discuss requirements in those instances.
- c. For existing manholes or cleanouts that must be located in pavement, a protective concrete pad shall be installed around the lid and frame in accordance with JCW standards. Please contact JCW for detail information. The detail for this pad shall be shown on the Site Plan for the project.

17. SERVICE CAP OFFS

- a. The service line for any existing building that is connected to the sanitary sewer and is to be demolished shall be temporarily or permanently capped prior to the demolition of the building. Please contact JCW's Permit Department at 913-715-8520 to request a cap-off inspection. Fee credits for existing structures connected to the sanitary sewer system shall be applied to new permits only upon JCW inspection and approval of the cap-off for the existing building to demolished and subsequent demolition of the existing building.
- b. Temporary and permanent cap offs shall be inspected and approved by JCW inspectors prior to issuance of a demolition permit by the City. Any existing connection point(s) on a property that will not be used for the project, shall be exposed and permanently capped. Include notes describing the requirements for any permanent caps on the Site Plan. For manhole stubs that must be permanently capped, the piping shall be removed from the manhole wall, the manhole wall shall be repaired, and the invert of the manhole reformed. Include notes for this work. JCW inspection of the completed work is required.
- c. Please contact Johnson County Environmental Department at 913-715-6900 to obtain a septic tank or holding tank decommissioning permit for all buildings served by septic systems or holding tanks that are connecting to the sanitary sewer system. A copy of this permit is required for sewer permit issuance.

18. GREASE OR SAND/OIL INTERCEPTOR PIPING

- a. Show piping serving the interceptor on the Site Plan. Interceptor pipe length shall be minimized to the greatest extent possible. Please note, routing piping into and out of the side of the interceptor (at the end of the interceptor) reduces pipe length and bends in the piping and should be used for most installations. Please see the JCW Standard Interceptor detail for pipe arrangements. The detail is available in the Commercial Permitting page at www.jcw.org.

- b. Label the pipe slope and flow line elevations at the location the plumbing exits the building, at the interceptor inlet and outlet and, where applicable, at the location the plumbing re-enters the building or connects to the building service line.
- c. Label the lengths of pipe from the building to the interceptor and from the interceptor back to the building or to the building service line as applicable.
- d. Label the pipe material by identifying size, type, classification, and joint type. Please note that piping on the interior of the interceptor shall be ABS with solvent-cemented joints as noted on the standard interceptor detail.
- e. A minimum of 30 inches of cover shall be maintained over the top of the interceptor piping. The amount of cover over the service line must be indicated on the Site Plan by spot grade elevations or topography lines. If 30 inches of cover is not available, 24 inches of cover may be permitted as approved by JCW if ductile iron pipe with polyethylene or Protecto 401 linings and polyethylene encasement is used. Show, label and dimension the location of the sampling port and the vent piping.
- f. If a lift pump is required due to plumbing elevation issues, the pump shall be located inside the building. Exterior pumps shall not be permitted.

19. GREASE OR SAND/OIL INTERCEPTOR DETAIL

- a. Provide and reference the JCW standard grease interceptor detail on the Site Plan, plumbing drawings, or detail sheets. Reference to the location of the interceptor detail shall be provided on the Site Plan. Label the actual capacity of the interceptor as required by Johnson County Environmental Department on the detail. Revise the dimensions for the interceptor on the detail as needed to reflect the required capacity of the interceptor. The detail is available in the Commercial Permitting page at www.jcw.org.
- b. Please revise the detail to show only the pipe arrangement to be provided for the proposed project.

20. GREASE OR SAND/OIL INTERCEPTOR SIZE

- a. Label the interceptor size in gallons on the Site Plan.
- b. Grease interceptor size shall be as required by the Johnson County Environmental Department (JCED). Contact JCED at 913-715-6900 for submittal requirements.
- c. Sand/oil interceptors shall be sized to provide 30 minutes of detention at peak flow. Peak flow should be determined by fixture units. See the JCW sizing information sheet. Calculations for the sand/oil interceptor sizing shall be provided. The calculations must be sealed, signed and dated by a P.E. licensed in the State of Kansas.

21. MISCELLANEOUS

- a. Tributary Area: Any property connecting to the sanitary sewer shall extend the sanitary sewer main to the project property boundary to serve tributary areas which lie outside of the project boundary and do not have direct access to the sanitary sewer main. Contact JCW Commercial Permitting at 913-715-8520 with any questions regarding service of tributary areas.
- b. District Enlargement: All areas served by JCW must be in the legally created Consolidated Main Sewer District (CMSD). If the area to be served is not located within the CMSD (and/or JSD and/or LSD, as applicable), the Engineer must submit a legal boundary description and an 8-1/2" x 11" exhibit of the area to be enlarged into the CMSD (and/or JSD and/or LSD) to JCW. The exhibit shall be titled: "Exhibit A - Enlargement to the Consolidated Main Sewer District" (and/or to the Joint Sewer District and/or to the Lateral Sewer District, as applicable) and shall include the following information:
 - i. A written boundary description for the property (if adjacent to a street or streets, the boundary shall be described to the center of adjacent street(s)).
 - ii. An exhibit showing the property boundary with the following clearly identified:
 1. The point of beginning for the boundary description.
 2. The description from the point of beginning to the property boundary
 3. The Section, Township and Range numbers
 4. North arrow
 5. The date of document preparation or subsequent document revision(s).
 6. The Land Surveyor (licensed in the State of Kansas) signature, seal and date
 7. Sample documents are available from JCW.
- c. Treatment Plan Review: Johnson County Wastewater (JCW) and Johnson County Environmental (JCED) require certain information to determine the sewer connection requirements, fees and user charge for industrial facilities. Please provide the following information: Flow rates, gpm and gpd; Total suspended solids, mg/l; BOD (5-day), pounds/day; Grease, mg/l; Nitrogen (as ammonia), mg/l; Phosphorus, mg/l; Color, color units; pH; Heavy metals. Average, maximum daily and peak values would be provided for each applicable parameter. The report must be prepared and sealed by a Kansas Registered Professional Engineer.

In addition, JCW and JCED will also need thorough information about the manufacturing process (including process diagrams) and clean-up procedures, waste flow and strength estimates based upon the proposed facility operations, and building plumbing and layout drawings. Please note an updated engineering report would also be required if production was expanded or changed.

A list of discharges that are prohibited from entering the sanitary sewer system may be found in the Prohibited Discharge Statement located in the Commercial Permitting page at www.jcw.org. Please also contact Roger Harmon at Johnson County Environmental Department (JCED) at 913-715-6900 to inquire about industrial pre-treatment requirements that may apply to this facility. Where pretreatment is required, full drawings, specifications and design memo information shall be provided.

- d. Septic to Sewer Review: For lots that are on a septic system and are connecting to the sanitary sewer, the applicant must provide a copy of the receipt for the Johnson County Environmental Department (JCED) Decommissioning Permit.
- e. When a project includes multi-unit buildings such as duplex, 3-plex, 4-plex buildings, etc., or other commercial buildings located on a common lot a separate service stub may be provided for each unit in the building .

If units within the building WILL be sold individually the following are required:

1. A single service line may be provided for the entire building; however, Covenants specifying that the service line (from the building to the main or manhole) and all plumbing common to more than one unit in the building shall be maintained and repaired by a common "Association".
2. Covenants shall also provide for access to the units and grounds for all maintenance and repair activities. Provide a draft covenant document to JCW for review. The plans cannot be released for construction until the draft Covenant is accepted by JCW and Johnson County Legal Department.
3. The Covenant document shall be recorded against the property with the Johnson County Department of Records and Tax Administration (RTA). A recorded copy of the document shall be provided to JCW before installation of the service line.
4. In addition, the following note shall be provided on the Site Plan sheet in bold print: "***SEWER SERVICE LINES AND BUILDING PLUMBING COMMON TO MORE THAN ONE UNIT SHALL BE REPAIRED AND MAINTAINED BY THE " (INSERT ASSOCIATION NAME) ASSOCIATION". SEE RECORDED COVENANTS, BOOK _____, PAGE _____, DATE _____.***" The book, page and date information shall be completed prior to service line installation and JCW inspection.

If units within the building WILL NOT be sold individually the following is required:

1. Provide the following restrictive language indicating creation of a Home's Association and Covenants for the subdivision on the recorded plat in the event that individual units with the building(s) are sold: "***The undersigned proprietor, for itself, and its successors and assigns, hereby agrees that the respective owner(s), of buildings on the above described tract of land shall be responsible***

for the maintenance and repair of all building plumbing and sanitary sewer service lines common to more than one unit and service lines from the point of connection at the building to the point of connection at the main. Individual unit owners shall allow access to the units by the owners association as needed for proper maintenance, repair and/or replacement of plumbing lines that are common to more than one unit. In the event the property is replatted to allow the sale of individual units within the building(s), the undersigned proprietor, its successors and assigns shall establish an owners association and record a restrictive covenant obligating such association to repair and maintain the aforesaid service lines from such building(s) to the main prior to sale of an individual unit within such building(s).”

- f. Easements: If fill is proposed over an existing main, all sanitary sewer easements shall be increased to meet current JCW easement width requirements. Copy of draft easement is required with initial project submittal.

E. PLUMBING PLAN: Provide a Plumbing Plan for the entire building or tenant space, showing and labeling all proposed and existing fixtures, cleanouts, and sanitary waste line routing (including routing for existing if known). The following information must be shown on the Plumbing Plan unless otherwise noted:

1. **LEGEND**
 - a. Provide a Plumbing Plan legend identifying all abbreviations, fixtures, and line types.
2. **RISER DIAGRAM**
 - a. Provide a riser diagram showing all fixtures to be connected to the sanitary sewer system on the Plumbing Plan sheet.
3. **FIXTURES**
 - a. Show and label all fixtures to be connected to the sanitary sewer on the Plumbing Plan sheet. If fixtures cannot drain by gravity, an internal lift pump connected to interior plumbing shall be used. Exterior lift pumps shall not be used. Lift pumps shall not be located in any food preparation, service or storage areas.
4. **LINE SIZES**
 - a. Label the size(s) of all plumbing piping on the Plumbing Plan sheet.
5. **FLOOR DRAINS**
 - a. Vehicle Accessible Areas. Floor drains and floor cleanouts should not be located in vehicle accessible areas to the greatest extent possible. Floor drains and floor cleanouts that are located in vehicle accessible areas must be routed through an exterior sand oil separator in accordance with JCW sizing standards and detail. The detail is

available in the Commercial Permitting page at www.jcw.org. The separator shall be permitted through JCW. Cleanouts that must be located in vehicle accessible areas should be made wall cleanouts or, in the absence of nearby walls, may be cast in raised -reinforced concrete curbs.

- b. Chemical Containing Areas. Floor drains and floor cleanouts located in areas containing chemicals shall have a specific method in place for containing the chemical in the event of a spill. Explain the necessity of the floor drain in this area and show and label, on the Plumbing Plan sheet, the proposed method and containment volume that shall be provided for containment of chemicals and the method to prevent potential discharge of chemicals to the floor drain in the event of spill.

6. GREASE WASTE LINES

- a. If a grease interceptor is required, the internal plumbing fixtures connected to the grease interceptor shall be approved by Johnson County Environmental Department (JCED). JCED can be contacted at 913-715-6900. Any revisions to the plan to reflect JCED requirements must also be submitted to JCW. See the Grease Interceptor requirement sections, D.17, D.18, and D.19, of this document for additional information.
- b. Ensure that extra depth is provided on the interior building plumbing to accommodate installation of future plumbing for exterior grease interceptor(s) if food preparation areas are possible in the future.

7. FOUNDATION DRAINS

- a. Show and label the foundation drains and foundation drain pump (if applicable) in the plan set. Indicate the discharge location for the drains on the Site Plan sheet. Foundation drains shall not be connected to the sanitary sewer.
- b. If foundation drains will not be provided, please add a note stating this on the Site Plan sheet.

8. ROOF DRAINS

- a. Show and label the roof drains, scuppers, gutters and downspouts in the plan set. Indicate the discharge location for the drains on the Site Plan sheet. Roof drains, gutters and downspouts shall not be connected to the sanitary sewer.
- b. If roof drains will not be provided, please add a note stating this on the Site Plan sheet.

9. CHEMICAL DISCHARGE

Under JCW's Sanitary Use Code, certain materials shall not be introduced into the public sanitary sewer system which may cause pass through, interference or significant inhibition of microbial activity. A list of such materials may be found in the Prohibited Discharge Statement. The Prohibited Discharge Statement form can be found in the Commercial Permitting page at www.jcw.org.

- a. If the intended building use indicates a potential for any suspect material, the building owner or tenant shall read and execute the Prohibited Discharge Statement document and return the original executed document confirming there will be no prohibited discharges to the sanitary sewer for sewer permit issuance.
- b. Identify whether X-rays or photos will be processed at this facility. If so, verify whether the processor produces a discharge to the sanitary sewer. If a discharge to the sanitary sewer is produced proposed?, show and label a silver recovery unit on the Plumbing Plan sheet and show or verify in writing why a silver recovery unit is not required.
- c. Identify whether there will be any processing of plaster. If so, include plaster traps where applicable on the Plumbing Plan sheet.
- d. Show and label all laboratory areas on the Plumbing Plan. Also show and label an acid neutralization basin for treating all applicable lab wastes on the Plumbing Plan sheet, or explain in writing why a neutralization basin is not required.
- e. For swimming pools, provide written documentation of the pool chemical material types and volumes that will be stored in the pool equipment room on the pool plan sheet.

10. ELEVATOR SUMP PLUMBING

- a. For elevator shafts, please show and label the sump and the discharge location for the pump on the Plumbing Plan sheet. Note that the elevator shaft sump pump may not discharge to the sanitary sewer.
- b. Verify the allowable discharge location with the City and whether an oil-sensing type system will be required on the sump. If the sump is equipped with an oil sensing float switch that will sound an alarm and not allow the sump pump to operate until manually reset, explain what is done if oil is detected and the alarm sounds. Also, explain how and where the water and oil, etc. will be disposed of if the alarm is activated. Use general notes to provide this information on the Plumbing Plan sheet.

11. LINE LAYOUT

- a. Exterior sewer piping shall be minimized to the greatest extent possible. The plumbing is to exit the building at a single location closest to the provided connection point on the main. Dimension the location the plumbing exits the building foundation from a building corner on the Plumbing Plan sheet. This dimension is to be coordinated to match the dimension provided on the Site Plan sheet.
- b. Provide the following note on the Plumbing Plan, "All sanitary sewer piping outside the building foundation is shown on Sheet ___ (*the JCW Permit Site Plan*). This piping shall meet Johnson County Wastewater standards and shall be inspected by Johnson County Wastewater".
- c. The flow line elevation of the sanitary sewer piping at the location the piping exits the building foundation does not need to be shown on the Plumbing Plan sheet if a note is included to refer to the Site Plan sheet for the information. If the flow line information is shown on the

Plumbing Plan sheet, it shall match the information shown on the Site Plan sheet.

- d. Multi-Unit Building Plumbing
 - i. Plumbing drawings for each building or building type are needed which show all fixtures to be connected to the sanitary sewer system and the location the plumbing exits the building foundation. The plumbing exit location must match the service line routing on the Site Plan for each building OR don't show any exit locations and include a note in BOLD on each plumbing layout to see the JCW Permit Site Plan for the location the plumbing shall exit the building.
 - ii. For multi-unit buildings such as duplex, 3-plex, 4-plex buildings, etc., or other commercial buildings located on a common lot, a single service line exiting at a single location closest to the provided connection point is required for each building. Subdivision covenants specifying that the all common plumbing within each building and the service line (from the building to the main or manhole) for each building shall be maintained and repaired by the "Association (insert Association name)". Please see the Covenant Agreement Document for Multi-Unit Buildings paragraph in the Miscellaneous section under Site Plan.