

Policy # 2011- A

Koontz Lake Regional Sewer District

Guidelines for Building Sewer Construction

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Guidelines for Building Sewer Construction

Koontz Lake Regional Sewer District, Starke and Marshall Counties, Indiana

The following guidelines shall apply for all residential, commercial, industrial and institutional users connecting to the Koontz Lake Regional Sewer District (the District) sanitary sewer collection system. These guidelines cover the administrative procedure and the construction of gravity sewer lateral, pressure sewer lateral, and low pressure sewer lateral from any serviced structure to an existing low pressure main or grinder pump station within the jurisdiction of the Koontz Lake Regional Sewer District.

The Provisions of this document are intended to retire existing septic systems and to implement uniform sewer connection procedures to prevent infiltration and contaminants from entering and damaging the District sewer system.

Part 1 – Administrative

1.1 Forms

The following documents shall be executed during the building sewer application process and are included as attachments herein.

1. Building Sewer Connection Agreement (**Form A**)
2. Application for Building Sewer Connection Permit. (**Form B**)
3. Building Sewer and Sewer Lateral Location Sketch. (**Form C**)
4. Septic Tank Abandonment and Internal Piping Verification (**Form D**)
5. Grinder pump manufacturer's warranty authorization form. (**Waived for properties connected during public sewer construction project**)
6. Building Sewer Certificate of Approval. (**Form E**)
7. Easement (if necessary).

1.2 Submittals

Property owners seeking connection to the District sanitary sewer system are required to submit the following prior to start of any building sewer connection work:

1. Fully executed Building Sewer Connection Agreement
2. Fully executed Application for Building Sewer Connection permit.
3. Building Sewer Lateral (gravity or pressure) location sketch with dimensions.
4. Required Insurance Certificates from Contractor and/or Landowner.
5. Payment of a connection charge at the rate stipulated in the Sewer Rate Ordinance Fee Schedule. (**Waived for properties connected during public sewer construction project.**)
6. Payment of the inspection fee at the rate stipulated in the Sewer Rate Ordinance.

Part 2A – Codes, Standards and Ordinances

The following codes, standards and ordinances are all applicable to the work herein described, either in part or entirety, except that where more stringent requirements are set forth under codes, laws and ordinances of federal, state and/or local governing bodies having jurisdiction, those more stringent requirements take precedence.

- A. Sewer Use Ordinance No. **2010-A** as adopted by the District.
- B. Sewer Rate Ordinance No. **2010-B** as adopted by the District.
- C. BOCA National Plumbing Code, current edition, with Indiana amendments
- D. NFPA 70 National Electrical Code, current edition, with Indiana amendments
- E. Indiana State Department of Health, Bulletin S.E. 13 “On Site Water Supply and Wastewater Disposal for Public and Commercial Establishments”, current edition
- F. Indiana Administrative Code 410 IAC 6-8.1 “Residential Sewage Disposal Systems”

Part 2B – Insurance

Prior to execution of the work, all contractors must procure and maintain insurance of the types and limits specified by the Board from a carrier licensed to do business in the State of Indiana. All such insurance must be evidenced by a “Certificate of Insurance” to be submitted with the “**Application for Building Sewer Connection Permit**”.

Certificate of Insurance Requirements:

Before the District will accept the “**Application for Building Sewer Connection Permit**” The contractor shall show one of the following proofs of insurance when filing the application.

- 1) Public Liability and Property Damage Insurance in an amount not less than one Million dollars (\$1,000,000.00) in the case of damage or injury to one or more persons.
- 2) Public Liability and Property Damage Insurance filed with and in the amounts specified and required by the County in which the Contractor is engaged in the business of sewer construction or other ancillary work related to construction in the Koontz Lake Regional Sewer District within that County. Insurance filed with said County shall list the Koontz Lake Regional Sewer District as an additional insured.

Homeowners completing work without a contractor shall either present a Property Owner’s policy amended, or obtain a separate policy, to cover damages to the public sewer system from their operations. Such coverage shall be issued in the amount of \$10,000 and be evidenced by a “Certificate of Insurance” to be submitted with the “**Application for Building Sewer Connection Permit**”.

Part 2C – Bonds

In addition to Insurance, all contractors and their subcontractors engaged in providing all or any part of the work of connecting a building or buildings to the main sewer system with a building sewer must furnish guaranteed surety to the Koontz Lake Regional

Sewer District in the form of a permit bond in the amount of \$5000, in the event that the contractor or subcontractor damages any part of the public sewer system for which corrective action must be taken by the District.

Part 2D – Contractor County Registration

Contractor shall obtain and maintain a current Contractor Registration if required in the County in which the Contractor plans on engaging in the business of sewer construction or other ancillary work related to the sewer construction within the Koontz Lake Regional Sewer District within that County.

Part 3 – Materials

3.1 Gravity Sewer and Pressure Sewer Laterals

- A. Sewer laterals 50' or more from water wells (public or private): Any new building sewer gravity laterals, installed between the structure and the grinder station, shall be SDR 35 Polyvinyl Chloride (PVC) pipe or Schedule 40 Polyvinyl Chloride (PVC) pipe with gasketed, push on joints. Glued-joint pipe is not acceptable. Existing lateral pipe conforming to current Starke or Marshall County Health Department standards may continue to be utilized, provided all other applicable standards herein are maintain.
- B. Sewer laterals within 50' of water wells (public or private): In instances where the proposed gravity sewer laterals must be constructed within a distance of fifty (50) feet of a potable public or private water well, or ten (10) feet of a water main, pipe shall be of waterworks grade, with gasket, pressure grade push on joints (e.g., SDR 21 PVC or Class 52 ductile iron pipe).
- C. Sewer lateral size and scope:
 - a. All sanitary service laterals shall be four (4) inches in diameter.
 - b. Sanitary service laterals shall be laid with a minimum slope of 1.33% and a maximum slope of 12.0%.
 - c. 6 inch diameter laterals (if approved) shall be laid at a minimum slope of 0.67% and a maximum slope of 12.0% and will require a reducer to connect to a grinder station.

(minimum and maximum slopes taken directly from 410 IAC 6-8.2-62)

- D. In instances where pressure sewer laterals must be constructed due to inadequate or negative slope between Building and grinder station, the following special provisions will apply:
 - a. pipe shall be of waterworks grade, with gasket, pressure grade push on joints (i.e., SDR 21 PVC or Class 52 ductile iron pipe)
 - b. the ejector pit shall be located greater than 50 feet of potable water wells (public or private).
 - c. the pump a/o ejector pit shall not be capable of exceeding a flow rate of 14 gallons per minute, and shall not pump waste in intervals exceeding 24 gallons. (sometimes referred to as "slugs")
 - d. the District reserves the right to require anyone obtaining a permit for this type of connection to also provide pump curve performance data and shop drawings for the pump and ejector pit they are proposing to use.

3.2 **Grinder Stations(Waived for properties connected during public sewer construction project.)**

Grinder pumps, basins, controls, and appurtenances shall meet the specific requirements of the low pressure sewer system design and the standards of the District, as well as any applicable federal, state or local authority. System design is based on the use of E-One Corporation Pumps. Any deviation from the specified pump, basin, controls, and appurtenances shall require prior written approval by the District.

3.3 **Low Pressure Sewer Laterals(Waived for properties connected during public sewer construction project.)**

Low pressure sewer laterals, installed between the grinder pump unit and the low pressure sewer main, shall be SDR 11, 160 psi, high density polyethylene (HDPE) pipe, joined by the butt fusion or socket fusion method. All pipe shall be one and one quarter inches (1-1/4") in diameter, unless wastewater flows and pumping rates require larger lateral sizing, and it is specifically approved by the District.

Tapping saddles, check valves, curb stops, curb boxes, and fittings shall conform to the requirements of the District. Refer to Figure 5 for material requirements for low pressure lateral taps. Taps to the mainline forcemain shall only be made by contractors pre-qualified for such work by the District.

Part 4 – Installation

4.1 Building sewers should be installed using the shortest and most direct route to the Grinder station. Interior plumbing modifications are suggested rather than excessive changes of direction in the building sewer. Any new plumbing done inside the house to within 5 feet of the home must be performed by a licensed plumber, unless the homeowner does this work. See Figures 2, 3, and 4 for typical details of installation.

4.2 Prior to the start of the work, both the location and elevation for the building sanitary drain and lateral connection to the sewersystem must be identified to determine if slope is available in the allowable distance. The Grinder Station location can be obtained from record drawings maintained by the District. (see 3.1 C b & c herein for minimum slopes)

If insufficient slope exists, the building sanitary sewer may be upsized to 6 inches from a minimum 4 inches diameter gravity flow pipe, requiring less slope.

Should inadequate or negative slope exist, the only method of sewer hookup available would be the use of a sewage ejector pump and pressure sewer lateral.

4.3 All fittings shall be installed to guide sewage in the direction of flow. There shall be no elbows or bends greater than 45 degrees.

4.4 When connecting laterals to pipe of differing material, a Fernco connection (or approved equivalent) shall be used. This is the only location such connector shall be used.

- 4.5 Any open trench lateral construction shall be bedded in a minimum of 3" granular material conforming to Indiana Department of Transportation (INDOT) No. 53 or No. 8 gradations. Native soils may be used only if they consist of sand or other similar materials. Native materials that include vegetable or other organic matter, all types of refuse, large pieces or fragments of concrete, large stones, boulders, or other similar materials shall not be used. Bedding shall be carefully placed up to the spring line of the pipe making sure that the lower quadrants of the pipe are firmly bedded and supported. The trench section from the spring line of the pipe to a point 3 feet above the pipe shall be carefully backfilled with suitable excavated material.

Suitable excavated material used for backfill shall consist of loam, sand, or other similar materials. Backfill materials that include vegetable or other organic matter, all types of refuse, large pieces or fragments of concrete, large stones, boulders, or other similar materials shall not be used.

At all times during the work, proper care must be taken to keep the trench and any other excavation free from any ground and surface water. Such equipment must be supplied and maintained to keep excavations dry until the sewer pipe bedding and backfill are complete. Drain or pump water away from the work to a suitable location without interference to adjoining property

Refer to Figure 3 for pipe bedding and backfill requirements.

- 4.6 A sewer cleanout shall be installed a minimum of 18 inches and a maximum of 4 feet from the building.
- 4.7 Sewer cleanouts shall be installed a maximum of every 100 feet along any gravity type building sewer. Accessible cleanouts shall also be installed at every change of direction.
- 4.8 Cleanouts shall be extended to grade, pipe liners (frost sleeves) are recommended to be placed around the cleanout extension to grade. The cleanout shall be a "Y" fitting installed in the direction of sewer flow with a 45 degree fitting directed to grade. See Figure 4 for a detail of cleanout construction.
- 4.9 Cleanouts shall be the same diameter as thesewer lateral pipe.
- 4.10 Cleanout access shall not be covered and shall be readily accessible. Cleanouts shall be plugged or capped with an approved watertight lid.
- 4.11 All existing septic tanks, holding tanks and drywells , including any and all other buried containers and receptacles presently tied into the building and collecting waste, shall be disconnected and properly abandoned or removed. All tanks, basins, containers, etc. shall, prior to backfill or removal, be emptied clean by a licensed septage service. Such work can be evidenced by a receipt.

Containers or receptacles constructed of materials subject to deterioration over a short period of time shall be removed and hauled from site.

Those septic tanks constructed of concrete or masonry may remain in place if found in sound condition. Tops or lids shall be removed and hauled from site or crushed into the

tank. If built with solid bottoms, material must be broken up to allow for proper drainage, then backfilled with a debris-free sand or granular material, compacted in place to prevent settling. Where flowable mortar is used, the septic tank top may remain intact, provided all voids within the tank are filled adequately.

Septic tank abandonment shall be inspected by the District to ensure compliance with all local and State of Indiana regulations.

Properly grade and establish vegetative cover.

If electrical power is involved, it must be disconnected at the source and all control and lines removed.

The contents of the septic tank must be disposed of in a way meeting all Local and State health department standards.

- 4.12 Those existing sewer lines presently connecting the building sanitary drain to the septic tank, holding tank, that are also tied directly to the lake, or to a storm drain or other structure emptying into the lake must be disconnected and abandoned.
- 4.13 When it is required to tap an active low pressure sewer main for a new low pressure sewer lateral, every effort shall be made to prevent wastewater discharge from the system. This may be accomplished through tapping the active sewer in accordance with Figure 5. The District shall be notified a minimum of 48 hours prior to the tapping of any active sewer. The completed tap shall be approved by the District prior to being backfilled. Tapping an active low pressure sewer main shall only be performed by a contractor pre-qualified by the District.
- 4.14 The property owner shall make every effort necessary to avoid prohibited connections, which include but may not be limited to the following: rain, surface or subsurface water, sump pumps collecting rain and/or ground water, septic tanks, holding tanks, dry wells, and field drains. Internal piping shall be verified and inspected by the District before any connections are made. All Piping and fixtures on the property of the customer are assumed to be in satisfactory condition at the time the sewer connection is made and sewer service furnished. The District reserves the right to require the correction of any unsatisfactory plumbing condition that may affect the integrity of the District sewer system if, during the inspection, such condition is found to exist. The District reserves the right to make any necessary repairs, if the customer refuses to do so, and shall bill the customer for the cost of said repairs.
- 4.15 The sewer lateral for all non-residential properties engaged in food service or food processing must include an acceptable self-contained grease trap.

Part 5 - Inspections

- 5.1 All building sewers and sewer laterals shall be inspected by the District to ensure compliance with these standards. A 72-hour notice for inspections is recommended.
- 5.2 The entire installation and final hookup shall be inspected prior to backfilling in order to verify materials and installation. Any building sewer lateral backfilled prior to an inspection approval shall be re-excavated at the owner's expense for inspection. In

instances where service laterals are installed by directional drilling, the owner shall retain a sample of the piping material for verification by the inspector.

- 5.3 Building sewers and service laterals shall be pressure tested in the presence of the District's inspector to verify that no leaks are present. The contractor and/or property owner must make all arrangements to conduct the test, as well as furnish all labor, materials, tools, equipment, and apparatus. Gravity building sewers shall be tested by a low-pressure air test at 4.0 psig for durations as listed in Table 5-1. Pressure sewer laterals shall be air tested at maximum operating pressure for 15 minutes based upon pipe Manufacturer's specifications prior to connection to District sewer. All laterals shall be tested from the first cleanout near the building to the District connection point.

Table 5-1

Low Pressure Air Test Minimum Time required for 0.5 psig Pressure Drop	
Length (ft)	Time (min:sec)
Up to 597	1:53
Greater than 597	0.190 * L

L = length of pipe (ft)

- 5.4 If it is to remain in place, the existing septic tank abandonment must be inspected prior to backfill.
- 5.5 No building sewer or sewer lateral installation or excavation of the lateral connection shall be allowed prior to completion of the District's main sewer collection and treatment systems.

Part 6 - Special Connections

- 6.1 Any condition where the property owner must provide a new tie into the main sewer line with a lateral connection or where multiple connections are necessary will be considered on an individual basis by the District for required materials, inspections and tests.

KOONTZ LAKE REGIONAL SEWER DISTRICT

P.O. Box 204
Walkerton, IN 46574

BUILDING SEWER CONNECTION AGREEMENT

(Please type or print clearly)

I (we) _____ am (are) Owner(s) of real
(Name(s))
Property, within the boundaries of the Koontz Lake Regional Sewer District, Located at

(Property Address)

It is my (our) understanding that I (we) am (are) asking to connect my (our) residence (occupied structure) to the sanitary sewer collection system that has been constructed by the Koontz Lake Regional Sewer District. The subject property to be connected to the sanitary sewer collection system is more particularly described as follows: *(tax code or legal description. Attach current deed or other documents).*

I (we) hereby agree to grant the Koontz Lake Regional Sewer District the right to inspect, test, measure flows or otherwise monitor each underground building sanitary service to confirm all grey water drains are connected to the District sewer and any natural precipitation or groundwater is not connected to the District sewer pursuant to sections 2.3.6 and 2.3.7 of Ordinance #2010-A or by Ordinances of the Koontz Lake Regional Sewer District in effect as of the date of this agreement and as subsequently amended from time to time.

I (we) hereby agree that the above-mentioned property shall be connected to the sanitary sewer collection system operated by the Koontz Lake Regional Sewer District. I (we) further agree that in connecting to the aforementioned sanitary sewer system, I (we) have paid the required fees and debt service charge associated with the connection of the property to the sanitary sewer system. Furthermore, I (we) agree to pay the monthly sewer service charge currently assessed by the District. It is also understood that this commitment runs with the premises and therefore will be binding upon any subsequent landowner or successor in interest to said property.

It is further my (our) understanding that upon execution of this agreement pursuant to the terms and conditions stated above and upon sending the required sewer connection tap-on charge with this agreement to the office of Koontz Lake Regional Sewer District, I (we) agree to connect to the Koontz Lake Regional Sewer District.

THIS AGREEMENT and commitment is entered into this ____ day of _____ 20____.

Mailing Address

Signature of Owner

City

State

Zip

Signature of Owner

KOONTZ LAKE REGIONAL SEWER DISTRICT

P.O. Box 204
Walkerton, IN 46574

APPLICATION FOR BUILDING SEWER CONNECTION PERMIT

(Please type or print clearly)

Date: _____

Name of Property Owner: _____

Mailing Address: _____

Phone Number: _____

Installing Contractor: _____

Contractor Address: _____

Contractor Phone Number: _____

Contractor License Information: _____

Contractor County Registration enclosed (if required). _____

Property Address(if Different from mailing address): _____

Type of Structure: _____

Proposed Date of Connection: _____

Permit fee enclosed: _____

Certificate of Insurance enclosed: _____

Permit Bond enclosed: _____

Before sewer excavation or construction begins, the owner or installing contractor must apply for a building sewer connection permit, submit all required insurance and bond information, and pay all applicable fees, charges, and costs payable to the Koontz Lake Regional Sewer District. Before a building sewer or sewer lateral may be buried or put into use, it must be inspected and approved by a District Inspector as to be in compliance with minimum requirements for design, materials and workmanship.

A COMPLETED SKETCH must be included with this application form upon its return for approval. **Form C**, listing required information, is attached for your use.

Approved by: _____ Date: _____

KOONTZ LAKE REGIONAL SEWER DISTRICT

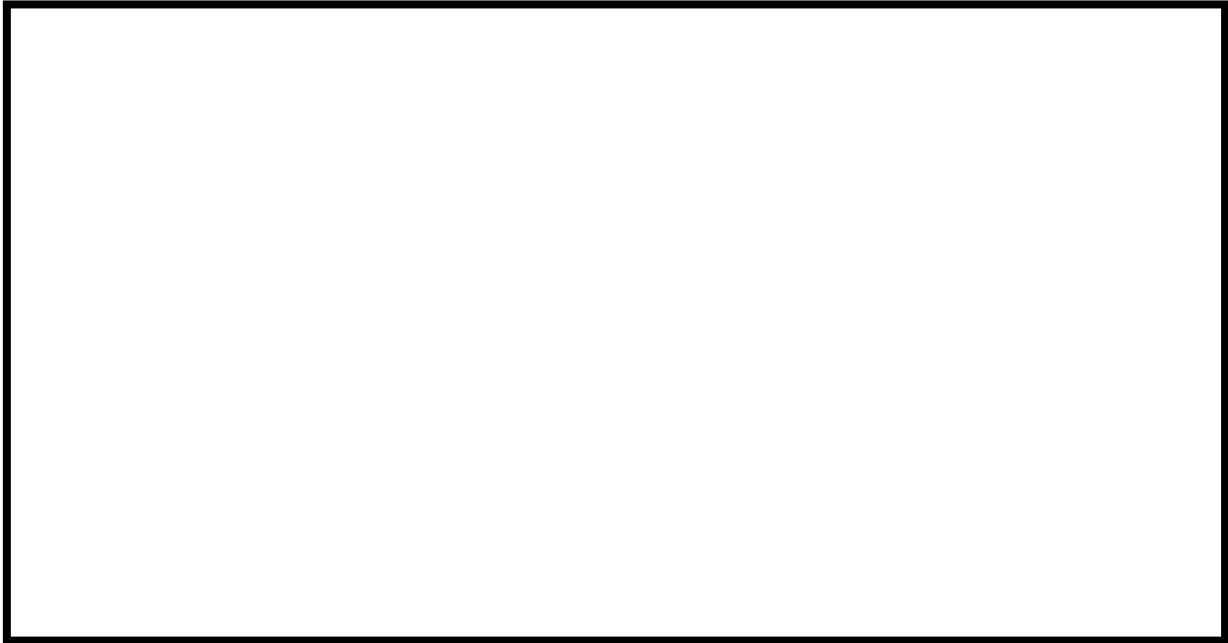
P.O. Box 204
Walkerton, IN 46574

BUILDING SEWER AND SEWER LATERAL LOCATION SKETCH

(Please type or print clearly)

Name: _____

Property Address: _____



SHOW ON SKETCH:

1. Indicate North direction with arrow.
2. Locate streets and alleys.
3. Locate any potable wells on the property.
4. Locate building on lot.
5. Show lot size.
6. Sketch location of proposed building sewer from the building to the grinder station, location of the grinder station, and location of the sewer lateral to the sewer main. (see figure 2)
7. If applicable, sketch the location of the building sewer from the building to the private ejector pit. Sketch the pressure sewer lateral, including size, from ejector pit to grinder station.
8. Indicate proposed location of cleanouts.
9. Indicate length and pipe material of any gravity or pressure sewer runs.
10. Approximate depth of the gravity, force main and low pressure pipe runs.

KOONTZ LAKE REGIONAL SEWER DISTRICT

P.O. Box 204
Walkerton, IN 46574

SEPTIC TANK ABANDONMENT & PIPING VERIFICATION

(Please type or print clearly)

Name(s) of Property Owner: _____ Date _____

Address of Property: _____

Contact Phone Number: _____

Name of Resident if different than above: _____

Check if complete

Septic tank abandoned (attach documentation) _____

Clean out installed _____

Internal grey water lines re-routed to sewer _____

Surface and groundwater lines re-routed elsewhere _____

Bedding material under laterals _____

Piping and fixtures are in satisfactory condition or have been corrected to meet the rules and regulations of the District _____

Lateral & gasket installed _____

Flexible coupling on the outlet _____

Results of piping pressure tests attached _____

Material used for lateral if not installed by Contractor: _____

This verification does not release the contractor or property owner from any responsibility or liability of workmanship or performance.

Notes:

Name of Contractor: _____ Signature: _____ Date: _____

Name of Inspector: _____ Signature: _____ Date: _____

Form D (May 11, 2011)

KOONTZ LAKE REGIONAL SEWER DISTRICT

P.O. Box 204
Walkerton, IN 46574

BUILDING SEWER CERTIFICATE OF APPROVAL

(Please type or print clearly)

Name and Address of Property Owner: _____

Description of Building: _____

Location of Building: _____

Address: _____

Parcel County ID #: _____

----- **FOR DISTRICT USE ONLY** -----

This certifies that the building sewer and appurtenances for the above building has passed final inspection and the building is accepted for service by the Koontz Lake Regional Sewer District.

This approval is subject to any applicable laws, rules and regulations.

Total user charges are due and payable commencing _____, 20__.

1. Received Building Sewer Connection Agreement – Form A
Date _____ Initial _____
2. Received Application for Building Sewer Connection Permit – Form B
Date _____ Initial _____
3. Received Building Sewer and Sewer Lateral Location Sketch – Form C
Date _____ Initial _____
4. Received Septic Tank Abandonment & Piping Verification – Form D
Date _____ Initial _____
5. Inspection fee paid Date _____ Initial _____
6. Application fee paid Date _____ Initial _____
7. Connection charge paid Date _____ Initial _____
- (Waived for properties connected during public sewer construction project.)**
8. Easement (if required) Date _____ Initial _____

Date: _____, 20 ____

Koontz Lake Regional Sewer District

By: _____