ORDINANCE NO. 96-2

SPECIFICATIONS AND REQUIREMENTS FOR SANITARY DRAIN CONNECTIONS TO THE MAIN SEWER SYSTEM

INTRODUCTION

PURPOSE

The provisions of this set of minimum standards are intended to retire existing septic systems, and to implement uniform sewer connection procedures to prevent infiltration and contaminants from entering and damaging the main sewer system, protecting its integrity.

WORK DESCRIPTION

BUILDING SANITARY SEWER

Provide all required labor, materials, equipment, tools, permits, insurance, and applicable taxes to install a complete and operational building sanitary sewer connecting the building sanitary drain to the main sewer system for which a lateral connection is provided to the right-of-way line at properties. Building sanitary sewer will consist of either gravity flow or force main piping.

Related work covered elsewhere:

A. Existing septic tanks, holding tanks, and drywells
B. Inspections
C. Tests
D. Restoration

GENERAL REQUIREMENTS

DEFINITIONS

For the purpose of sewer connection requirements, the following terms used throughout are defined as follows.

Backwater Valve: A device installed in a drain or pipe to prevent backflow of sewage.

Building Sanitary Drain: The lowest horizontal piping which receives wastewater discharge and conveys it to a point approximately five (5) feet outside the building.

Building Sanitary Sewer: That part of the drainage system which extends from the end of the building sanitary drain and conveys its discharge to the main sewer system.

Cleanout: An accessible opening in the drainage system used for removal of obstructions.

Force Main: A building sanitary sewer which extends from a sewage ejector pump and conveys its discharge to the main sewer system under pressure.

Lateral Connection: That point at the right-of-way line where provision is made with a 6" diameter sewer line for building sanitary sewer hook-up to main sewer system.

Main Sewer System: A collection of gravity flow and force main piping the primary purpose of which is to transport wastewater from individual point sources to a treatment facility.

Sewage Pump: A permanently installed mechanical device for removing sewage.

Wastewater: Water in which sewage has been discharged.

PERMITS, LICENSES, AND FEES

All Contractors and/or Property Owners to obtain and pay for a building sewer permit and inspection fee required by the Bass Lake Conservancy Board prior to start of work.

CODES, STANDARDS, AND ORDINANCES

The following codes and ordinances are all applicable to the work described herein, either in part or their entirety, except that where more stringent requirements are set forth under codes, laws, and ordinances of Federal, State, and local governing bodies having jurisdiction, those greater requirements will take precedence and be adhered to.

A. *Sewer Use Ordinance No. 96-1* as adopted by the Bass Lake Conservancy Board.

B. *BOCA National Plumbing Code*, 1990 edition, with 1991 Indiana amendments.

C. *NFPA 70, National Electrical Code*, 1993 Edition, with 1994 Indiana amendments.

D. *CABO One & Two Family Dwelling Code*, 1989 edition, with 1990 Indiana amendments.

E. *Indiana State Department of Health Bulletin S.E. 13*, "On Site Water Supply and Wastewater Disposal for Public and Commercial Establishments," 1988 edition.

F. *Indiana State Department of Health Ordinance*, IC 16-20-1-26, "Health Nuisances."

INSURANCE

Prior to execution of the work, all Contractors must procure and maintain insurance of the following types and limits from a carrier either licensed to do business in the State of Indiana or having an acceptable Best and Company rating. All such insurance must be evidenced by a "Certificate of Insurance" made available to the Bass Lake Conservancy Board.

A. Comprehensive General Liability:

General Aggregate	$ 1,000,000
Products and Completed Operations	500,000
Bodily Injury and Property Damage	500,000
Underground Hazards	500,000

B. Excess Liability:

General Aggregate	$ 1,000,000

C. Worker's Compensation:

Statutory as required by law

D. Comprehensive Automobile Liability:

Combined Single Limit	$ 500,000

In the event Property Owners elect to complete the work on their own without a Contractor, either their present property owner's policy must be

amended or separate policy be obtained to cover damages to the main sewer system from their operations. Such coverage would be issued in the amount no less than $500,000 and evidenced by a certificate.

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 sanitary sewer must furnish guaranteed surety to the Bass Lake Conservancy District in the form of a permit bond in the amount of One Hundred Thousand Dollars ($100,000.00) for damage to any part of the main sewer system, including the lateral connection.

PREQUALIFICATION

The Bass Lake Conservancy Board or its duly authorized agents at its/their own discretion may choose to disqualify a Contractor or Property Owner from performing the sewer connection work described herein, for whatever reason deemed necessary, if by their engagement in the work is perceived to potentially damage the integrity and operation of the main sewer system.

TERMINATION

The Bass Lake Conservancy Board or its duly authorized agents may at its/their will void the permit and terminate the work for non-compliance with any of the requirements listed herein.

EXISTING CONDITIONS

UNDERGROUND UTILITIES

Prior to start of work, contact locating service for each utility company providing service to the area, giving adequate notice for location. Protect all buried drains, pipes, conduits, cables, culverts, etc., during the course of the work. Repair or pay for repairs for all damage.

STRUCTURES, DRIVES, WALKS, TREES, SHRUBS, AND LAWNS

Protect all adjacent structures, concrete, asphalt, landscaping from damage caused by operations during execution of the work. Repair or replace as necessary all existing property to its condition prior to either direct or indirect damage.

SPECIAL CONDITIONS

Any unusual conditions not specifically covered by these requirements or any existing installations requiring changes may be done only if the condition is brought to the attention of the Inspector so that an alternative may be considered for final sewer hook-up. Failure to receive this determination prior to execution of the work is done at the risk of the Property Owner.

BUILDING SANITARY SEWER INSTALLATION

EXISTING SEPTIC TANKS, HOLDING TANKS, AND DRYWELLS

All existing septic tanks, holding tanks, and drywells, including any and all other buried containers and receptacles presently tied into the building sanitary drain, collecting waste, must be disconnected and either abandoned or removed.

All tanks, basins, containers, etc. prior to backfill or removal must be emptied clean by a licensed and insured pumping service. Such work can be evidenced to the Inspector by a receipt.

Containers or receptacles constructed of metal, wood, or other material subject to deterioration over a short time span must be removed and hauled from site, backfilled with a suitable granular material, and tamped in place.

Those tanks, basins, or drywells constructed of concrete or masonry may remain in place if found in sound condition. Tops or lids must be removed and hauled from site. If built with solid bottoms, material must be broken up to allow for proper drainage, adding a layer of washed gravel, then backfilled with a granular material tamped in place.

EXISTING BUILDING SANITARY SEWER

Those existing sewer lines presently connecting the building sanitary drain to the the septic tank or other holding tank, or tied directly to the lake or to a storm drain emptying into the lake must be disconnected and abandoned.

EXISTING HOOK-UP LOCATIONS

Prior to start of work, both the location and elevation for the building sanitary drain and lateral connection to the main sewer system must be found to determine if slope is available in the allowable distance. The

main sewer lateral location and approximate depth can be obtained from record drawings at the Plant Superintendent's office on County Road 450 South.

If insufficient slope exists, the building sanitary sewer may be upsized to 6" from a minimum 4" diameter gravity flow pipe, requiring less slope. Rerouting the building sanitary drain beneath the floor to drain toward the main sewer connection is another alternative.

Should inadequate or negative slope exist, the only method of sewer hook-up available would be the use of a sewage pump and force main connection.

TRENCHING, BEDDING, AND BACKFILLING

Excavate trench to proper depth to ensure that sewer pipe rests on solid, continuous bearing, and to proper width to provide adequate clearance to place and joint sewer pipe properly. Remove any rocks and unstable soil if encountered in trench replacing with compacted granular fill.

Cradle or bed sewer pipe to at least 12" above pipe with either excavated material, if acceptable, or a suitable granular material. Bedding material should be placed along both sides of pipe and tamped in place in even lifts to retain proper alignment.

Once sewer pipe embedment is complete, carefully place loose fill in trench in even lifts, tamped in place, to proper subgrade for restorative work.

Under no circumstances should the bottom of the trench extend below the 45° bearing plane of the bottom edge of a wall foundation or footing when excavating parallel to foundations, as detailed on Figure I attached.

All trenches and excavations must be kept open until the piping has been inspected, tested, and approved.

DEWATERING

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 and backfill are completed. Drain or pump water away from the work to a suitable location without interference to other property.

LAYING AND JOINTING SEWER PIPE

Lay all gravity flow sewer pipe in sloped trench accurately to line and grade with manufacturer's printed identification in a recognizable position.

Under no circumstances will 90° elbows be allowed when turning a corner horizontally. Use two (2) 45° elbows connected with a minimum 24" length of sewer pipe.

Install 4" diameter cleanouts every 100' maximum with one (1) cleanout minimum located within 3' of hook-up at building sanitary drain for gravity flow connections.

Force main pipe, if required, to be installed to a depth with 4'minimum cover.

Minimum slope for gravity flow sewer pipe as follows:

Diameter	Slope
4"	1.33%
6"	0.61%

SEWER PIPE MATERIALS AND EQUIPMENT

EXISTING SEWER PIPE:

6" diameter PVC pipe designated SDR 26 in place for lateral connection to main sewer system.

BUILDING SANITARY SEWER PIPE:

Minimum 4" diameter or 6" diameter, if required or preferred, PVC pipe designated SDR 35 with bell-and-spigot rubber gasketed joints. No glued joints permitted.

SEWER PIPE FITTINGS:

All fittings, PVC plastic with rubber gasketed joints and same design strength as connecting pipe.

MISCELLANEOUS FITTINGS:

Elastomeric sleeves or adapters with stainless steel bands specifically designed for use in connecting PVC pipe to pipe constructed of dissimilar size and material.

FORCE MAIN PIPE:

PVC pipe designated SDR 21 with bell-and-spigot rubber gasketed joints or high density polyethylene pipe designated SDR7 or SDR11; size based on distance from outfall connection, friction loss, flow capacity, pump size, and other recommended factors.

SEWAGE PUMP:

Electrically operated pump/motor assembly complete with check valve and controls; size per manufacturer's recommendations considering number of fixtures and frequency of operation.

INSPECTIONS

THE ENTIRE LENGTH OF BUILDING SANITARY SEWER, INSTALLED AS EITHER A GRAVITY FLOW PIPE OR FORCE MAIN, INCLUDING HOOK-UPS AT BUILDING SANITARY DRAIN AND LATERAL CONNECTION, WILL BE INSPECTED FOR COMPLIANCE WITH ALL REQUIREMENTS AS FOLLOWS:

A. AN INSPECTOR MUST OBSERVE THE INITIAL EXPOSURE OF THE LATERAL CONNECTION AFTER WHICH TIME THE LATERAL MUST BE PROTECTED UNTIL CONNECTION TO SAME.

B. PRESSURE TEST FOR BUILDING SANITARY SEWER LINE MUST BE WITNESSED BY AN INSPECTOR.

C. PRIOR TO BACKFILL THE ENTIRE SEWER LINE, INCLUDING CONNECTIONS, MUST BE INSPECTED.

D. THE FINAL HOOK-UP TO THE LATERAL CONNECTION MUST BE COMPLETED BY A LICENSED PLUMBER, AND MUST ALSO BE INSPECTED.

E. IF IT IS TO REMAIN IN PLACE, THE EXISTING SEPTIC TANK MUST BE INSPECTED PRIOR TO BACKFILL.

F. ALL INSPECTIONS WILL BE CONDUCTED AS THE INSPECTOR'S SCHEDULE ALLOWS.

TESTS

Testing must be completed on the entire building sanitary sewer before

final connections are made to ensure the integrity of the line. The Contractor and/or Property Owner must make arrangements to conduct the test, furnishing all necessary labor, materials, equipment, and apparatus to do so. The test results must be witnessed by an Inspector. Testing will be conducted as follows:

A. Gravity Flow Sewer: Low pressure air test at 4.0 psig for durations listed on attached Table I.

B. Force Main: Hydrostatic pressure test at maximum operating pressure for fifteen (15) minutes.

CLEARANCES

Maintain minimum horizontal distance required from building sanitary sewer for structures, property lines, water supply wells, streams, and ditches as required by Federal, State, and local governing agencies.

RESTORATION

All exposed surface areas which are destroyed or marred by execution of the work are to be restored to a condition equal to, or better than, the condition existing at the start of work. Driveways, sidewalks, curbs, stairs, retaining walls, or other hard surfaced areas are to be restored with materials of the same grade and thickness, as removed. Sawcut edges of all asphalt and concrete to be restored to ensure neat, straight lines. Replace all trees, shrubs, plantings, and lawns damaged or removed by the work. Repair or replace other landscape items damaged during the course of sewer hook-up, including but not limited to fences, planters, edging, borders, lighting, and irrigation.

CONNECTIONS

ALLOWABLE CONNECTIONS

Plumbing fixtures, drains, and appliances used to receive or discharge liquid wastes or sewage must be connected to the building sanitary drain.

PROHIBITED CONNECTIONS

Rain, surface or subsurface water, or any sump collecting same cannot be connected to or discharge into the building sanitary sewer.

Septic tanks, holding tanks, drywells, or drain fields cannot be connected to or discharge into the building sanitary sewer.

SPECIAL CONNECTIONS

Any condition where the Property Owner must provide a new tie-in to the main sewer line with a lateral connection or where multiple connections are necessary, will be considered on an individual basis by the Inspector for required materials, inspections, and tests.

NO BUILDING SANITARY SEWER INSTALLATION OR EXCAVATION OF THE LATERAL CONNECTION WILL BE ALLOWED PRIOR TO COMPLETION OF THE MAIN SEWER SYSTEM.

FIGURE I

PIPE LOCATION WITH RESPECT TO FOOTINGS

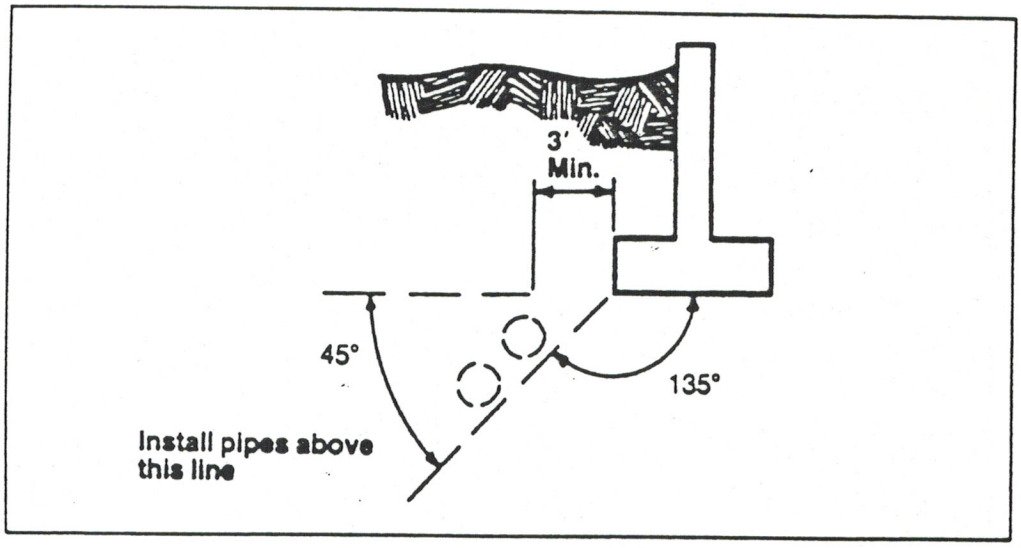

TABLE I

MINIMUM SPECIFIED TIME REQUIRED FOR A 0.5 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q = 0.0015

1 Pipe Diameter (in.)	2 Minimum Time (min: sec)	3 Length for Minimum Time (ft)	4 Time for Longer Length (sec)	Specification Time for Length (L) Shown (min:sec)							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	1:53	597	.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	298	.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
15	7.05	159	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02
18	8:30	133	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:20	99	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	45:35	51:17
27	12:45	88	8.653 L	14:25	21:38	28:51	36:04	43:16	50:30	57:42	46:54
30	14:10	80	10.683 L	17:48	26:43	35:37	44:31	53:25	62:19	71:13	80:07
33	15:35	72	12.926 L	21:33	32:19	43:56	53:52	64:38	75:24	86:10	96:57
36	17:00	66	15.384 L	25:39	38:28	51:17	64:06	76:55	89:44	102:34	115:23