

JOHN N. HUGHES  
*Attorney at Law*  
Professional Service Corporation  
124 WEST TODD STREET  
FRANKFORT, KENTUCKY 40601

Telephone:  
(502) 227-7270

Telecopier:  
(502) 875-7059

August 22, 2005

Beth O'Donnell  
Executive Director  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40601

RECEIVED

AUG 22 2005

PUBLIC SERVICE  
COMMISSION

Case No. 2005-00148

Dear Beth:

Northern Kentucky Water provides the DOW permit for Item 8 of Exhibit O, referred to as the Grand Avenue project. Bids will be opened on August 8<sup>th</sup> and will expire November 28<sup>th</sup>. Bid tabs and related information will be filed as soon as available.

If there are any questions about this, please contact me.

Very truly yours,

  
John N. Hughes

Attorney for Northern Kentucky  
Water District

Attachment

CC: Attorney General



ERNIE FLETCHER  
GOVERNOR

**ENVIRONMENTAL AND PUBLIC PROTECTION CABINET**

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

DIVISION OF WATER

14 REILLY ROAD

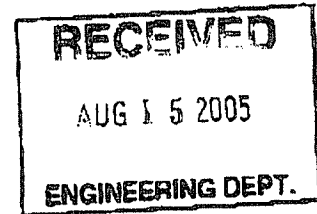
FRANKFORT, KENTUCKY 40601-1190

www.kentucky.gov

August 8, 2005

LAJUANA S. WILCHER  
SECRETARY

Steve Boering, Engineering Technician  
Northern Kentucky Water District  
3049 Dixie Highway  
P.O. Box 17010  
Covington, KY 42701



Re: Northern Kentucky Water District  
PWS-2485  
DW No. 0590220-05-027  
Grande Avenue 8" Main Replacement  
Activity ID: APE20050027  
Kenton County

Dear Mr. Boering:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 8,535-feet of 8-inch DI water line. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the enclosed waterline extension construction permit.

If you have any questions regarding this decision, please contact Shanaka Ewing, at (502) 564-2225, extension 529.

Sincerely,

A handwritten signature in dark ink, appearing to read "Donna S. Marlin".  
Donna S. Marlin, Manager  
Drinking Water Branch  
Division of Water

DSM/SCE  
Enclosure

CC: CDS Associates, Inc.  
Kenton County Health Department  
Public Service Commission



**Distribution-Water Line Extension**  
Northern KY Water Service  
Facility Requirements

Activity ID No.: APE20050027

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**PORT01 (WATER LINE) 8,535-feet of 8" DI:**

**Limitation Requirements:**

Condition No.	Parameter	Condition
L-1	Depth	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a Depth $\geq 6$ in below the bottom of the pipe. [Recommended Standards for Water Works 8.5.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-2	Depth	All water lines shall be covered to a Depth $\geq 30$ in to prevent freezing. [Recommended Standards for Water Works 8.5.3, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Diameter	All new and existing water lines serving fire hydrants or where fire protection is provided shall have Diameter $\geq 6$ in. [Recommended Standards for Water Works 8.1.2] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Distance	Water lines shall have a sufficient quantity of valves so that inconvenience and sanitary hazards will be minimized during repairs. A valve spacing Distance $\leq 800$ feet should be utilized in non-commercial districts. Alternatively, non-commercial districts should utilize a valve spacing Distance $\leq 1$ block. Commercial districts should utilize a valve spacing Distance $\leq 500$ ft. [Recommended Standards for Water Works 8.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-5	Distance	Hydrant drains shall not be connected to sanitary sewers or storm drains and shall be located a Distance $> 10$ ft from sanitary sewers and storm drains. [Recommended Standards for Water Works 8.3.4] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-6	Distance	Except when not practical, water lines shall be laid a horizontal Distance $\geq 10$ ft from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, water lines may be installed closer to a sewer provided that the water lines shall be laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water line is at least 18 inches above the top of the sewer. [Recommended Standards for Water Works 8.6.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

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**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-1	<p><b>Additional Limitations:</b> Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]</p>
T-2	<p>This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]</p>
T-3	<p>Unless construction of this project is begun within 1 year from the issuance date of this permit, the permit shall expire. If requested prior to the permit expiration, an official extension from the Division of Water may be granted. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]</p>
T-4	<p>During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]</p>

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 Northern KY Water Service  
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**GACT82 (Grand Avenue 8" Repl.) 8,535-feet of 8" DI:**

**Monitoring Requirements:**

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new or relocated water line(s). Take samples at connection points to existing lines, at 1 mile intervals, and at dead ends without omitting any branch of the new or relocated water line. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7), 401 KAR 8:150 Section 4, Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

**Submittal/Action Requirements:**

**Coliform:**

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet. Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]

Condition No.	Condition
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

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**Narrative Requirements:****Additional Limitations:**

Condition No.	Condition
T-7	<p><b>Additional Limitations:</b> No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]</p>
T-8	<p><b>Additional Limitations:</b> If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]</p>
T-9	<p><b>Additional Limitations:</b> No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]</p>
T-10	<p><b>Additional Limitations:</b> If a fire sprinkler system is to be installed, a double check detector assembly approved for backflow prevention shall be utilized. The double check detector assembly of the system shall be accessible for testing. [401 KAR 8:100 Section 1(7)]</p>

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**Monitoring Requirements:**

Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

**Narrative Requirements:**

**Additional Limitations:**

Condition No.	Condition
T-1	Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-2	Additional Limitations: Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). [Recommended Standards for Water Works 8.0.1]
T-3	Additional Limitations: At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]
T-4	Additional Limitations: All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]
T-5	Additional Limitations: A fire hydrant or blow-off shall be required at the end of each dead end line. [Recommended Standards for Water Works 8.1.6]
T-6	Additional Limitations: For each fire hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]

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**Limitation Requirements:**

Condition No.	Parameter	Condition
L-7	Distance	<p>When water lines and sewers cross,</p> <ol style="list-style-type: none"> <li>1) water lines shall be laid such that either</li> <li>a) the top of the water line is a vertical Distance <math>\geq</math> 18 in below the bottom of the sewer line or</li> <li>b) the bottom of the water line is a vertical Distance <math>\geq</math> 18 in above the top of the sewer line,</li> <li>2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and</li> <li>3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</li> </ol> <p>The open end of an air relief pipe from automatic valves shall be extended a Distance <math>\geq</math> 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-8	Distance	<p>Pipes shall not be installed unless all points of the distribution system remain designed for ground level. Pressure <math>\geq</math> 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-9	Pressure	<p>Pressure <math>\geq</math> 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.</p>
L-10	Pressure	<p>New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection <math>\geq</math> 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform.</p> <p>If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-11	Residual Disinfection	<p>Each blow-off or fire hydrant shall be sized so that Velocity <math>\geq</math> 2.5 ft/sec can be achieved in the water main served by the blow-off or hydrant during flushing. [Recommended Standards for Water Works 8.1.6.b, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-12	Velocity	