



Knoxville Utilities Board

Check Date: June/18/2019

Vendor Number: 0000002033

Check No. 215163

Invoice Number	Invoice Date	Voucher ID	Gross Amount	Discount Taken	Paid Amount
TDEC PLANS REVIEW RICH ROAD	Jun/17/2019	00317945	75.00	0.00	75.00

  

Check Number	Date	Total Gross Amount	Total Discounts	Total Paid Amount
215163	June/18/2019	75.00	0.00	75.00



**Knoxville Utilities Board**

P.O. Box 51326  
Knoxville, TN 37950-1326

87-719/642

**215163**

June/18/2019

Pay Amount \$75.00\*\*\*

Pay \*\*\*\*Seventy-Five And 00/100 Dollars\*\*\*\*

To The Order Of  
STATE OF TENNESSEE  
DIVISION OF WATER RESOURCES  
11TH FL, WM R SNODGRASS TN TOWER  
312 ROSA L PARKS AVE .  
NASHVILLE, TN 37243

*Sal J. Beer*

*Mark A. Walker*

FIRST TENNESSEE BANK



Knoxville Utilities Board

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June 19, 2019

Vojin Janjic, Manager Water-Based Systems  
Manager, Municipal Facilities Section  
Department of Environment and Conservation  
Division of Water Pollution Control  
William R. Snodgrass TN Tower  
312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
Nashville, Tennessee 37243-1534

Dear Mr. Janjic:

**RE: 110 S Rich Road Low Pressure Sewer Design**

Enclosed for your review and approval is one (1) electronic copy of the construction plans and details and one (1) copy of Low Pressure Sewer hydraulic calculations for the subject project. The project will be built using the Knoxville Utilities Board's standards and specifications. Also enclosed is a check in the amount of \$75.00 to cover the review fee.

If you have any questions or need additional information, please contact me at (865) 558-2260.

Sincerely,

A handwritten signature in blue ink that reads "Travis L. Franklin".

Travis L. Franklin, P.E.  
Engineering

TLF/tsj

Enclosures



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**DIVISION OF WATER RESOURCES**  
 William R. Snodgrass – Tennessee Tower  
 312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
 Nashville, TN 37243-1102

**WASTEWATER PLANS REVIEW FEES WORKSHEET**

<b>Consulting Engineer Contact Information</b>	
Organization Name:	Address:
Contact Name:	Email:
Contact Title:	Phone Number: (     )
<b>Project Description</b>	
<p>Depending on project type, including but not limited to:            Linear feet, diameter, and type, (force main, gravity sewer, low pressure sewer); engineering drawings with utility signature; treatment/pumping capacity. For line rehabilitation: linear feet and size by activity, e.g., replacement, pipe-bursting, cured-in-place, slip-line, TV inspection, smoke testing; number of manhole or service lateral rehabs.</p>	
<b>Submitted Files</b>	
Preliminary Engineering Report	Engineering Report
Preliminary Plans	Calculations
Specifications	Plans
Other:	Copy of Check, with routing, account number, and any other confidential information redacted
Estimated Construction Cost (\$):	
<b>Utility Contact Information</b>	
Organization Name:	Address:
Contact Name:	Email:
Contact Title:	Phone Number: (     )
<b>Project Location</b>	
County:	City:
NPDES or SOP Number (If not a treatment project, submit which serves the proposed improvements):	
<b>System Information</b>	
System Name:	
Is your system on a moratorium?	
Is it self-imposed?	
If yes, provide information that the proposed project would be in compliance with existing moratorium restrictions:	
<b>Utility Letter</b>	
<p>A letter is attached from the utility demonstrating:</p> <ol style="list-style-type: none"> <li>1) It has conducted the capacity analysis for this project and it will not create any capacity or overflow problems</li> <li>2) They approved the design, and agree to own, operate and maintain the proposed projects once in operation</li> </ol>	

<b><u>Activity</u></b>	<b><u>Fee Paid</u></b>	<b><u>Fee Due</u></b>
<b>1. <u>Wastewater Plants:</u></b>		
Major Industrial Facility w/flow $\geq$ 5 MGD	=	\$ _____ \$1,500.00
Major Industrial Facility w/flow < 5 MGD	=	\$ _____ \$1,000.00
Minor Industrial Facility w/flow $\geq$ 0.1 MGD	=	\$ _____ \$ 500.00
Minor Industrial Facility w/flow < 0.1 MGD	=	\$ _____ \$ 250.00
Sewage Treatment Facility w/design flow $\geq$ 5 MGD	=	\$ _____ \$1,500.00
Sewage Treatment Facility w/design flow $\geq$ 1 but < 5 MGD	=	\$ _____ \$1,000.00
Sewage Treatment Facility w/design flow > 0.075 but < 1 MGD	=	\$ _____ \$ 500.00
Sewage Treatment Facility w/design flow $\leq$ 0.075 MGD	=	\$ _____ \$ 250.00
<b>2. <u>Collection Systems:</u></b>		
Collection Lines - \$25.00 per 250 feet (or portion thereof) of sewage collection line not to exceed \$1,500.00	=	\$ _____
<b>3. <u>Equalization Basins:</u></b>		
Holding Capacity $\geq$ 5 million gallons (MG)	=	\$ _____ \$ 300.00
$\geq$ 1 MG but < 5 MG	=	\$ _____ \$ 200.00
$\geq$ 0.075 MG but < 1 MG	=	\$ _____ \$ 100.00
< 0.075 MG	=	\$ _____ \$ 50.00
<b>4. <u>Pumping Stations:</u></b>		
Design Capacity $\geq$ 5 MGD (3473 GPM)	=	\$ _____ \$ 300.00
$\geq$ 1 MGD but < 5 MGD (695 GPM – 3473 GPM)	=	\$ _____ \$ 200.00
$\geq$ 0.075 MGD but < 1 MGD (52 GPM – 695 GPM)	=	\$ _____ \$ 100.00
< 0.075 MGD (52 GPM)	=	\$ _____ \$ 50.00
<b>5. <u>Wastewater Plant and/or Collection System Modifications:</u></b>		
The plans review fee for modifications to wastewater plants and/or collection systems shall be 20% of the full review fee based on the category and size of the resulting facility.	=	\$ _____
<b>6. <u>Engineering Report Review</u></b>		
Major Industrial Facility w/flow $\geq$ 5 MGD	=	\$ _____ \$1,500.00
Major Industrial Facility w/flow < 5 MGD	=	\$ _____ \$1,000.00
Minor Industrial Facility w/flow $\geq$ 0.1 MGD	=	\$ _____ \$ 500.00
Minor Industrial Facility w/flow < 0.1 MGD	=	\$ _____ \$ 250.00
Sewage Treatment Facility w/design flow $\geq$ 5 MGD	=	\$ _____ \$1,500.00
Sewage Treatment Facility w/design flow $\geq$ 1 but < 5 MGD	=	\$ _____ \$1,000.00
Sewage Treatment Facility w/design flow $\geq$ 0.075 MGD but < 1 MGD	=	\$ _____ \$ 500.00
Sewage Treatment Facility w/design flow $\leq$ 0.075 MGD	=	\$ _____ \$ 250.00
<b>TOTAL PLANS REVIEW FEE (sum of all individual fees)</b>	=	\$ _____



Environment One Corporation

**Pressure Sewer Preliminary  
Cost and Design Analysis**

**For**

**Dollar General - 110 S Rich Rd**

**Prepared For:**

**Knoxville Utilities Board**

**4505 Middlebrook Pike**

**Knoxville**

**Tenness37921**

**USA**

**Tel: 865-558-2260**

**Fax:**

**Prepared By: Travis Franklin**

**July 16, 2019**



PRELIMINARY PRESSURE SEWER - PIPE SIZING AND BRANCH ANALYSIS

Dollar General - 110 S Rich Rd

Prepared By:  
Travis Franklin

July 16, 2019

Zone Number	Connects to Zone	Number of Pumps in Zone	Accum Pumps in Zone	Gals/day per Pump	Max Flow Per Pump (gpm)	Max Sim Ops	Max Flow (GPM)	Pipe Size (inches)	Max Velocity (FPS)	Length of Main this Zone	Friction Loss Factor (ft/100 ft)	Friction Loss This Zone	Accum Fric Loss (feet)	Max Main Elevation	Minimum Pump Elevation	Static Head (feet)	Total Dynamic Head (ft)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE																	
Friction loss calculations were based on a Constant for inside roughness "C" of: 150																	
1.00	2.00	1	1	200	11.00	1	11.00	1.25	2.44	100.00	1.88	1.88	8.18	907.00	897.00	10.00	18.18
2.00	2.00	2	3	200	11.00	2	22.00	2.00	2.38	530.00	1.19	6.30	6.30	907.00	903.00	4.00	10.30

Note: This analysis is valid only with the use of progressive cavity type grinder pumps as manufactured by Environment One.

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PRELIMINARY PRESSURE SEWER - ACCUMULATED RETENTION TIME (HR)  
Dollar General - 110 S Rich Rd

Prepared By:  
Travis Franklin

July 16, 2019

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE							Gals per Day per Dwelling			200
1.00	2.00	1	1.25	7.52	100.00	7.52	200	26.59	0.90	4.17
2.00	2.00	3	2.00	15.40	530.00	81.64	600	7.35	3.27	3.27



## **Dollar General - 110 S Rich Rd**

**Prepared by :** Travis Franklin

**On:** July 16, 2019

**Notes :**

**<<<< END OF NOTES >>>>**