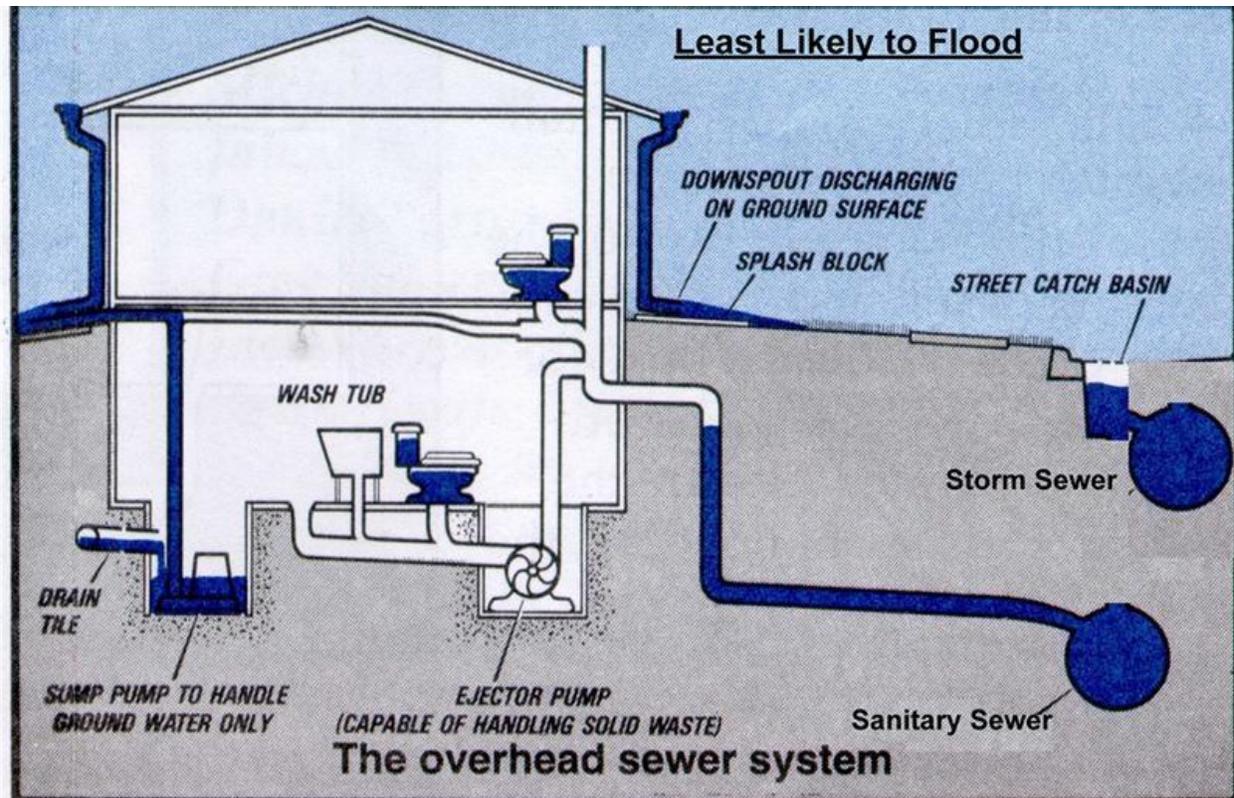


## INTRODUCTION

Sometimes the sanitary sewer system cannot handle the water received during a heavy rain or flood. Due to inflow from illegal storm cross connections, infiltration through loose joints and damaged sewers, and other reasons the sewer mains may become overloaded and backup through the system, and sometimes into the basements and lower levels of homes.



(REQUIRED FOR NEW CONSTRUCTIO)

No one who has experienced a sanitary sewer backup will soon forget it. In addition to the physical damage caused by sanitary sewer backups, there is a concern that a backup may occur again. The City of Danville and the Danville Sanitary District would like to help prevent these occurrences from happening in the future. Assistance is now available through a cost-sharing **OVERHEAD SEWER PROGRAM** which would include the participation of the City of Danville, Danville Sanitary District, and individual property owners to substantially reduce the risk of future backups.



City of Danville Division of Engineering  
1155 E. Voorhees Street, Suite A  
Danville, IL 61832  
Phone: 217.431.2384

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**December 9, 2011**  
**City Council of the City of Danville**

**Re: Proposed Overhead Sewer Program**

Dear Alderman;

The Department of Public Works in partnership with the Danville Sanitary District are pleased to propose a new Overhead Sewer Program to help reduce sewage backups for Danville homeowners. The attached program was modeled after the City of Urbana's and modified for the particulars of our budget and community needs.

Current building codes do not allow gravity sewer connections below the first floor of a home to the public sewer. If there is a basement with drains and / or plumbing fixtures, they must be discharged overhead by means of a grinder pump to the building gravity lateral. This is so that the discharge point is well above the sanitary sewer, drastically reducing the potential for a sewer back up into the home.

Danville has established neighborhoods that were built before the current overhead discharge requirement and many of our homes have basement connections to the public sewer. When the public sewer gets surcharged during rain events or if there is a blockage in it, there is a higher potential for a backup into the home through the basement connection. The proposed Overhead Sewer Program can retrofit these homes to meet current building codes, thereby, reducing the risk of a sewer back up into the lower level of a home.

The system is designed as a cost sharing program that would have the property owner paying 50%, the City 33.3%, and the Danville Sanitary District 16.7% for the typical installation. There are maximum per instance and maximum annual contributions that the City and Sanitary District would commit to. The City portion would be funded as a new line item through the Sanitary Sewer Enterprise Fund.

Besides being a great benefit to the property owner, the City and Sanitary District also have a vested interest in reducing basement backups. The Illinois EPA views sewer backups as a Capacity, Management, Operation, or Maintenance (CMOM) issue with the public sewer and asks for corrective measures when they occur. Having a program such as this in place shows that Danville is making a best faith effort to remedy a violation condition.

Please read through the program and do not hesitate to contact me if you have suggestions or questions.

Very truly yours,

*R. David Schaefer*

City Engineer, City of Danville

**CITY OF DANVILLE**  
**OVERHEAD SEWER PROGRAM**

*2012*



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## PROGRAM DESCRIPTION

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The purpose of the **OVERHEAD SEWER PROGRAM** is to substantially reduce the occurrence of sanitary sewer overflows (SSO's). The City initiated the sanitary sewer enterprise fund in 2003 and since its inception, has provided approximately \$1 million annually to the repair, reconstruction, and maintenance of the public sanitary sewer collection system. The fund has helped to improve the system capacity and has reduced basement backups significantly. However, there are still homes that have lower level sewers that have a higher risk of basement backups. The City of Danville and the Danville Sanitary District have developed this program to help Danville homeowners in older homes, with basement drains, pay for the installation of a sewage ejector system with overhead plumbing to prevent backup problems. Due to the potential for unexpected sewer failure or obstruction, power failure, extreme weather conditions or other unforeseen factors, it cannot be guaranteed that a sanitary sewer backup will never occur again.

The property must be located within the City of Danville Corporate Limits. The property owner must complete and submit the application package to the City of Danville Public Works Department. Upon approval, the homeowner may perform the work themselves and be reimbursed for the materials, measured in place, and equipment used or contract a licensed plumber and electrician to install the system. The reimbursement for the construction from this program is subject to a final system inspection by the City of Danville's Plumbing and Electrical Inspectors. Once the construction has been approved, the property owner can submit a copy of the paid receipt to the City of Danville Public Works Department for partial reimbursement (up to 50% of the construction costs, not to exceed \$3,750) or the materials, measured in place, and equipment used, if installed by the homeowner (up to 100% of materials and equipment used, not to exceed \$3,750).

<b>COST TO OWNER</b>	<b>COST TO CITY</b>	<b>COST TO DISTRICT</b>	<b>TOTAL COST</b>
<i>50% MIN</i>	<i>33.33% MAX</i>	<i>16.67% MAX</i>	<i>100.0%</i>
\$1,250.00	\$833.25	\$416.75	\$2,500.00
\$3,750.00	\$2,500.00	\$1,250.00	\$7,500.00
\$4,250.00	\$2,500.00	\$1,250.00	\$8,000.00

Maximum annual contributions to the program are as follows:

CITY MAXIMUM ANNUAL CONTRIBUTION	\$30,000
DANVILLE SANITARY DISTRICT MAXIMUM ANNUAL CONTRIBUTION	\$15,000

## **MINIMUM OVERHEAD SEWER SYSTEM REQUIREMENTS TO QUALIFY FOR COST SHARE PROGRAM**

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- 1) An existing basement drain connection to the public sanitary sewer.
- 2) The overhead sewer system shall pump sewage from below existing grade levels only. All above grade plumbing fixtures are required to gravity drain.
- 3) A battery backup, high water and pump malfunction alarm mounted within the interior space of the residence is recommended for all installations when a pump failure could cause flooding without the owner being immediately aware of such a condition.
- 4) A sketch illustrating the proposed overhead sewer system, including the following information:
  - a. Floor Plan (not to scale) of existing lower level or basement sanitary plumbing. This sketch shall display the location of all lower level fixtures, floor drains, and wet drains serving upper level fixtures. When necessary, approximate elevations of pipe may be shown in reference to basement floor (“+50” = 50 inches above basement floor, “-12” = 12 inches below basement floor). All existing items shall be shown by dashed lines. All proposed items shall be shown with continuous lines. Profile views are NOT required (See attached sample sketches & diagrams for reference).
  - b. Proposed location of the sewage ejector pump station plotted on the plan of the existing conditions. All proposed items shall be shown by solid continuous lines.
  - c. Proposed relocation of any sewer drain piping required to separate the upper (gravity) and lower (pumped) systems.
  - d. A note describing proposed pump station venting location and whether this is an existing vent or proposed vent.
  - e. Diagram of proposed sewage ejection pump and sanitary force main system.
- 5) All plumbing work shall conform to current Illinois plumbing codes and acceptable practices.
- 6) All work performed on private property shall be done by the homeowner or an Illinois contractor licensed for the work they are performing.
- 7) The contractor shall comply with the Illinois Prevailing Wages Act and shall submit certified payrolls prior to payment.
- 8) The bid shall state in writing if the owner will need to separately perform any additional finish carpentry or other work in order to conceal any newly installed plumbing or wiring within a finished living space, upper or finished lower levels.
- 9) Any storm water and groundwater sources (i.e. perimeter drainage, down spouts, yard drains, driveway drains, etc.) shall be separated from the sanitary sewer and may under no circumstances remain connected to the sanitary sewer collection system. If the installation of a sump pump is required, it shall meet all current Illinois plumbing codes.

- 10) An exterior pump station to convey all of the home's waste (below & above grade plumbing) may be installed, but needs to be individually reviewed and approved by the City of Danville Engineering Department.
- 11) All installations shall be permitted through the City and final acceptance is subject to a plumbing inspection performed by the City and the Danville Sanitary District. The City will coordinate with the Danville Sanitary District to schedule a final inspection.

\*Please contact the City of Danville Engineering Department at (217) 431-2284 with any questions.

## **APPLICATION PACKAGE**

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In order to participate in the Overhead Sewer Program, applicant must submit the following items to the City of Danville Public Works Department for review:

- Proof of existing lower level sanitary gravity system
- Sketch (not to scale) illustrating the proposed Overhead Sewer System (typically prepared by plumbing contractor)
- Application Form
- Bids from three (3) Illinois licensed plumbing contractors
- Bids from three (3) Illinois licensed electrical contractors

## INSTALLATION SKETCH CHECKLIST

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- NORTH ARROW
- EXISTING ITEMS SHOWN BY DASHED LINES
- PROPOSED ITEMS SHOWN BY CONTINUOUS LINES
- ALL EXISTING LOWER LEVEL FIXTURES AND DRAINS ARE SHOWN AND LABELED
- ALL EXISTING WET DRAINS SERVING UPPER LEVELS ARE SHOWN
- EXISTING ELEVATIONS ARE SHOWN ON ALL DRAIN LINES ABOVE LOWER LEVEL FLOOR (AS MEASURED AT THE WASTE STACK)
- PROPOSED APPROXIMATE ELEVATIONS OF ALL
- PROPOSED LOCATION OF SEWAGE EJECTOR PUMP STATION IS SHOWN
- PROPOSED PUMP VENTING LOCATION IS SHOWN
- NOTE REGARDING ADDITIONAL FINISH REQUIREMENTS (IF NOT INCLUDED IN BID) TO CONCEAL PROPOSED VENTING, WIRING, OR OTHER PIPING

**OVERHEAD SEWER SYSTEM SKETCH FORM**

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A large rectangular area filled with a fine grid of small squares, intended for sketching an overhead sewer system. The grid is composed of approximately 30 columns and 40 rows of squares, providing a detailed workspace for technical drawing.

# OVERHEAD SEWER PROGRAM APPLICATION FOR REIMBURSEMENT

DATE: \_\_\_\_\_

I/We, \_\_\_\_\_, am/are owner(s) and primary residents of  
(NAME OF PROPERTY OWNER)

the house located at \_\_\_\_\_ in Danville, IL \_\_\_\_\_.  
(PROPERTY ADDRESS) (ZIP CODE)

I/We experienced sanitary sewer backups on the following dates:

DATE	TYPE OF DAMAGE/EXTENT OF DAMAGE (Include whether the backup caused water damage and how extensive the damage was)	TYPE OF EVIDENCE SUPPORTING THE EXTENT OF THE DAMAGE (Correspondence from the City or insurance company; photographs; cleaning bills; etc.) *

\*Please attach copies of evidence. Please attach additional sheets as necessary.

Please check all of the following that apply:

I/We submitted bids from three (3) plumbing contractors and three (3) electrical contractors, which were approved by the Engineering Division.

I/We completed \_\_\_\_\_ percentage of the work by myself/ourselves and understand I/We will be reimbursed for the cost of materials and equipment rental for this portion of the project. The Engineering Department approved an itemized estimate of the project before beginning the project.

I/We understand that as part of this program, the City of Danville assumes no liability for any defective work or other damage, injury, or loss resulting from any act or omission of the Contractor in their performance of this work.

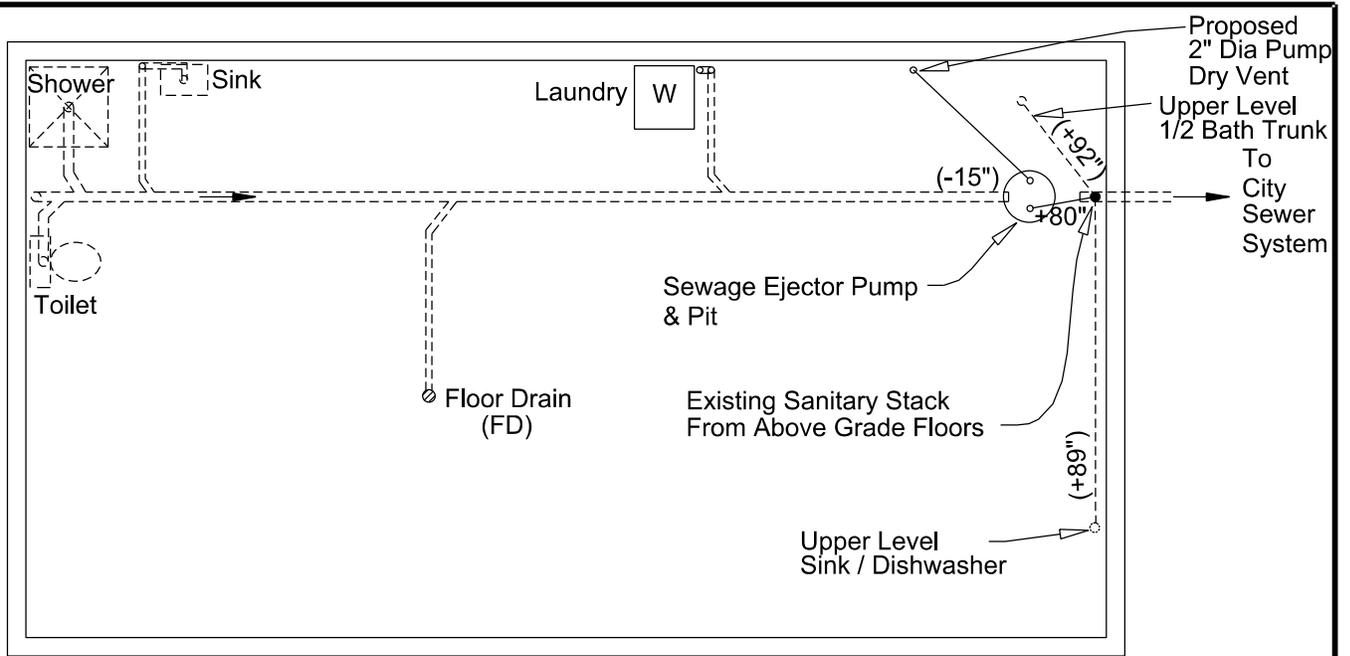
I/We also understand that the installation of an overhead sewer is not a guarantee against future sanitary sewer backups.

\_\_\_\_\_  
Signature of Property Owner

\_\_\_\_\_  
Signature of Property Owner

Please mail the application package to:

R. David Schnelle  
City Engineer  
Danville Public Works Department  
1155 E. Voorhees St. Suite A  
Danville, IL 61832

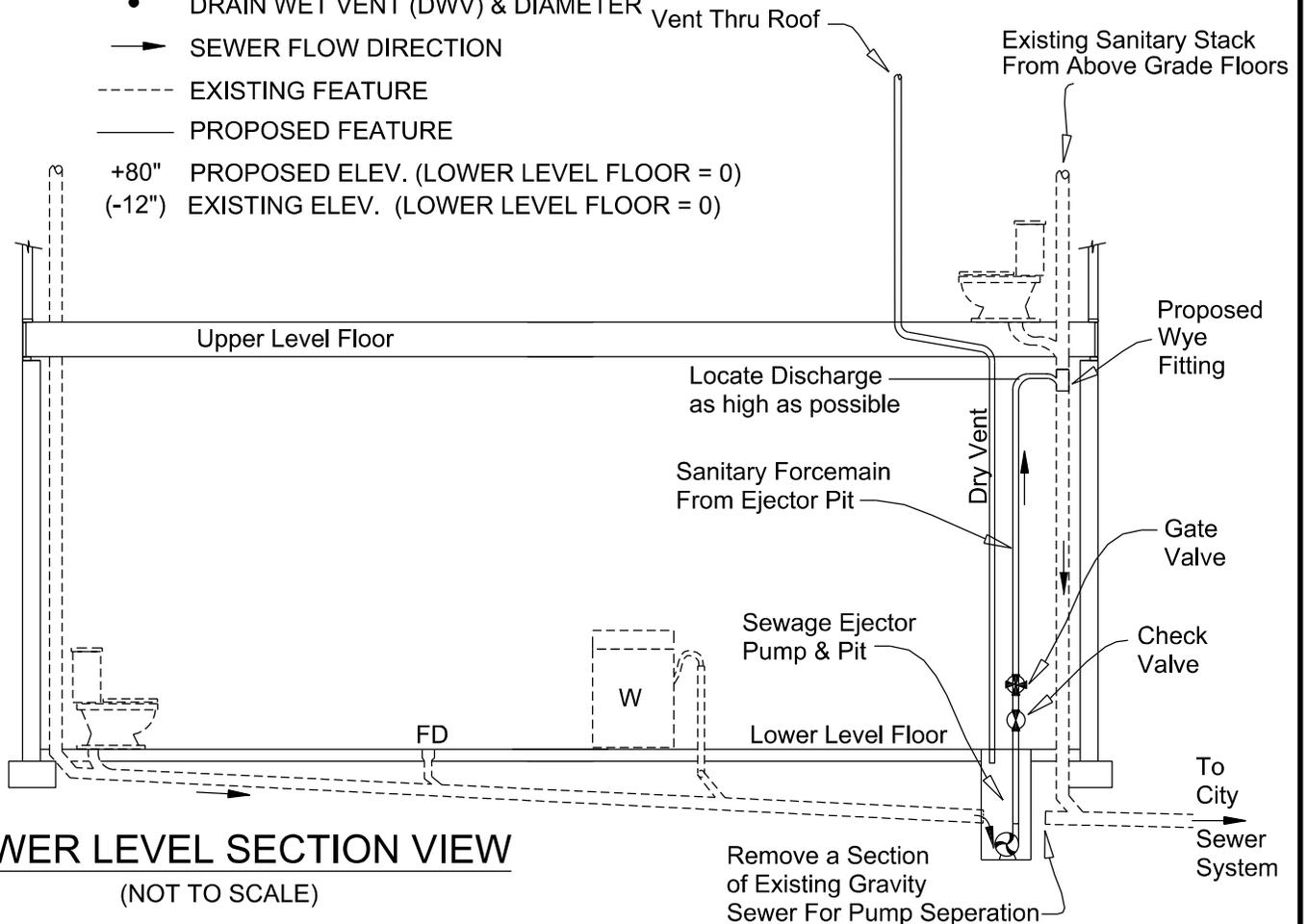


**LEGEND**

- DRY VENT LOCATION
- DRAIN WET VENT (DWV) & DIAMETER
- ➔ SEWER FLOW DIRECTION
- - - - EXISTING FEATURE
- PROPOSED FEATURE
- +80" PROPOSED ELEV. (LOWER LEVEL FLOOR = 0)
- (-12") EXISTING ELEV. (LOWER LEVEL FLOOR = 0)

**LOWER LEVEL PLAN VIEW**

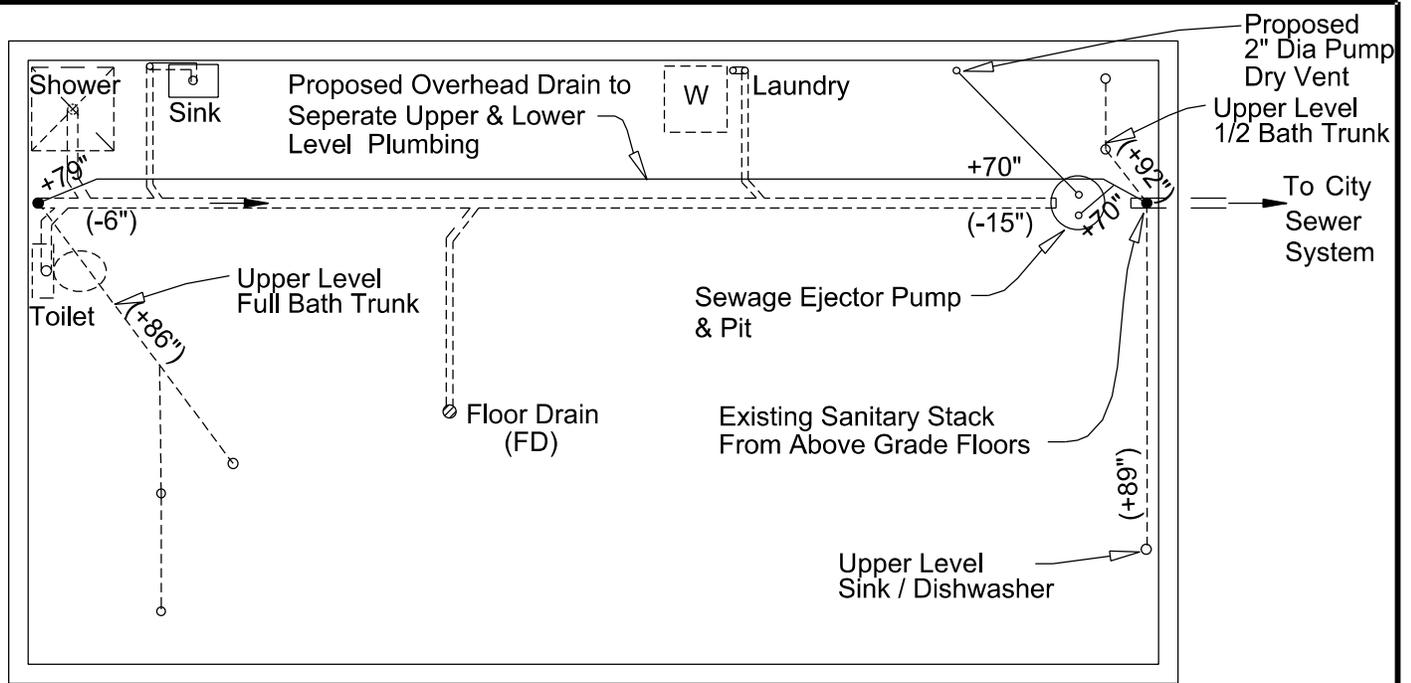
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**LOWER LEVEL SECTION VIEW**

(NOT TO SCALE)



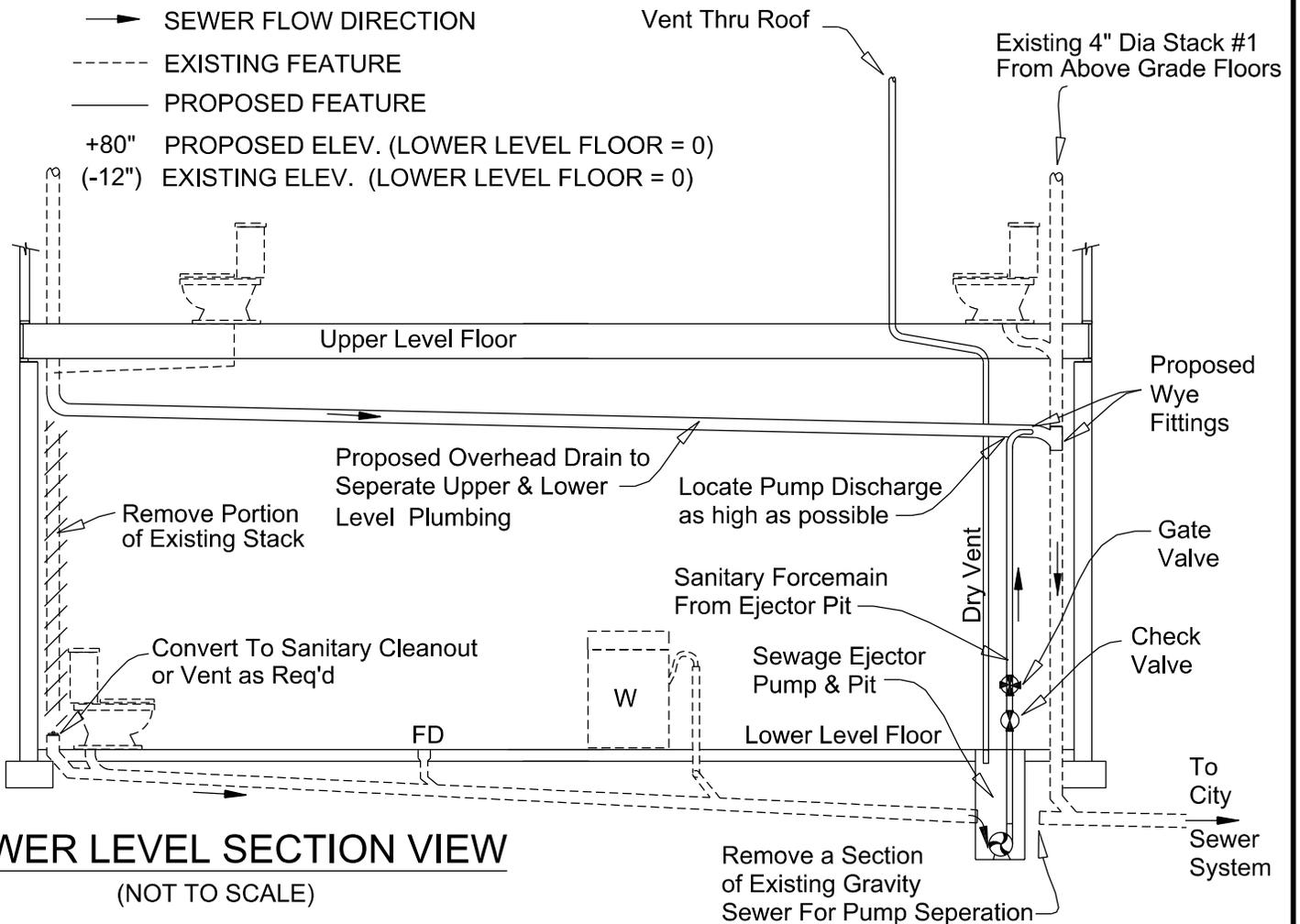


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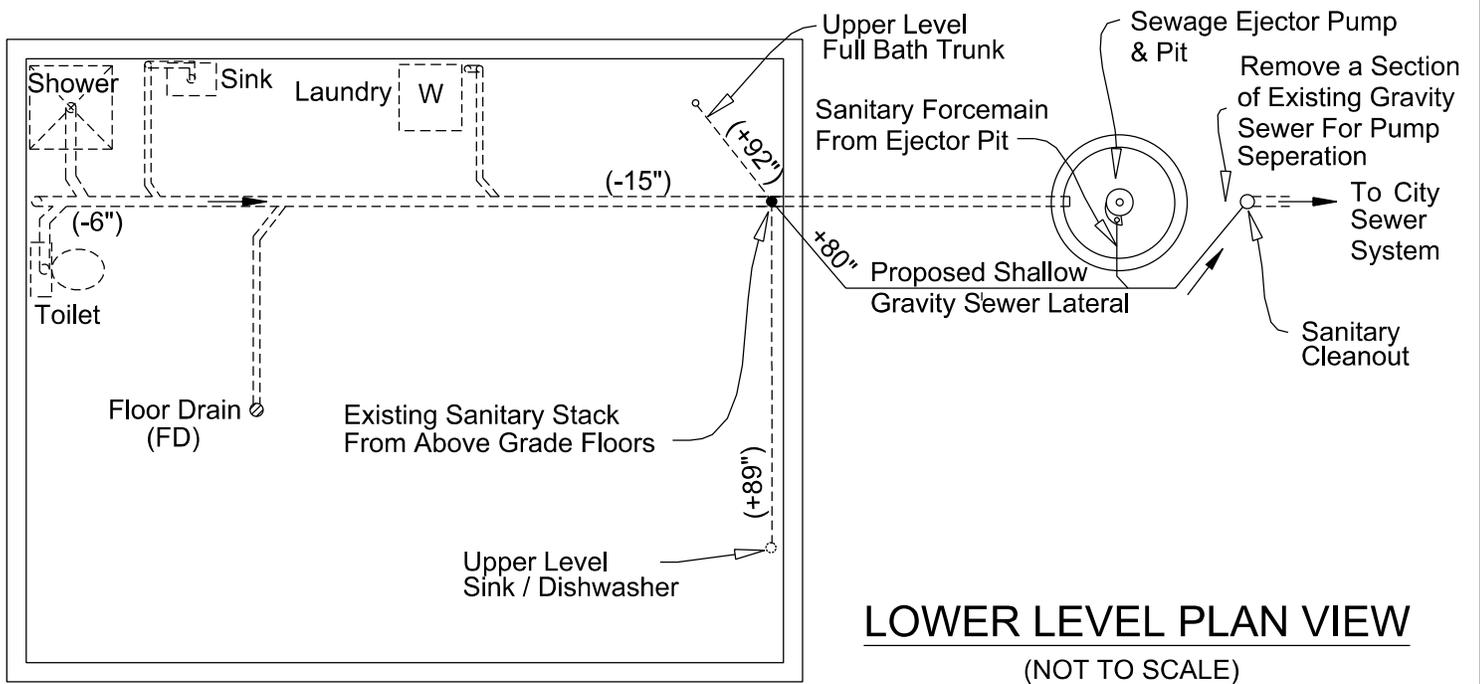
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**LOWER LEVEL SECTION VIEW**

(NOT TO SCALE)





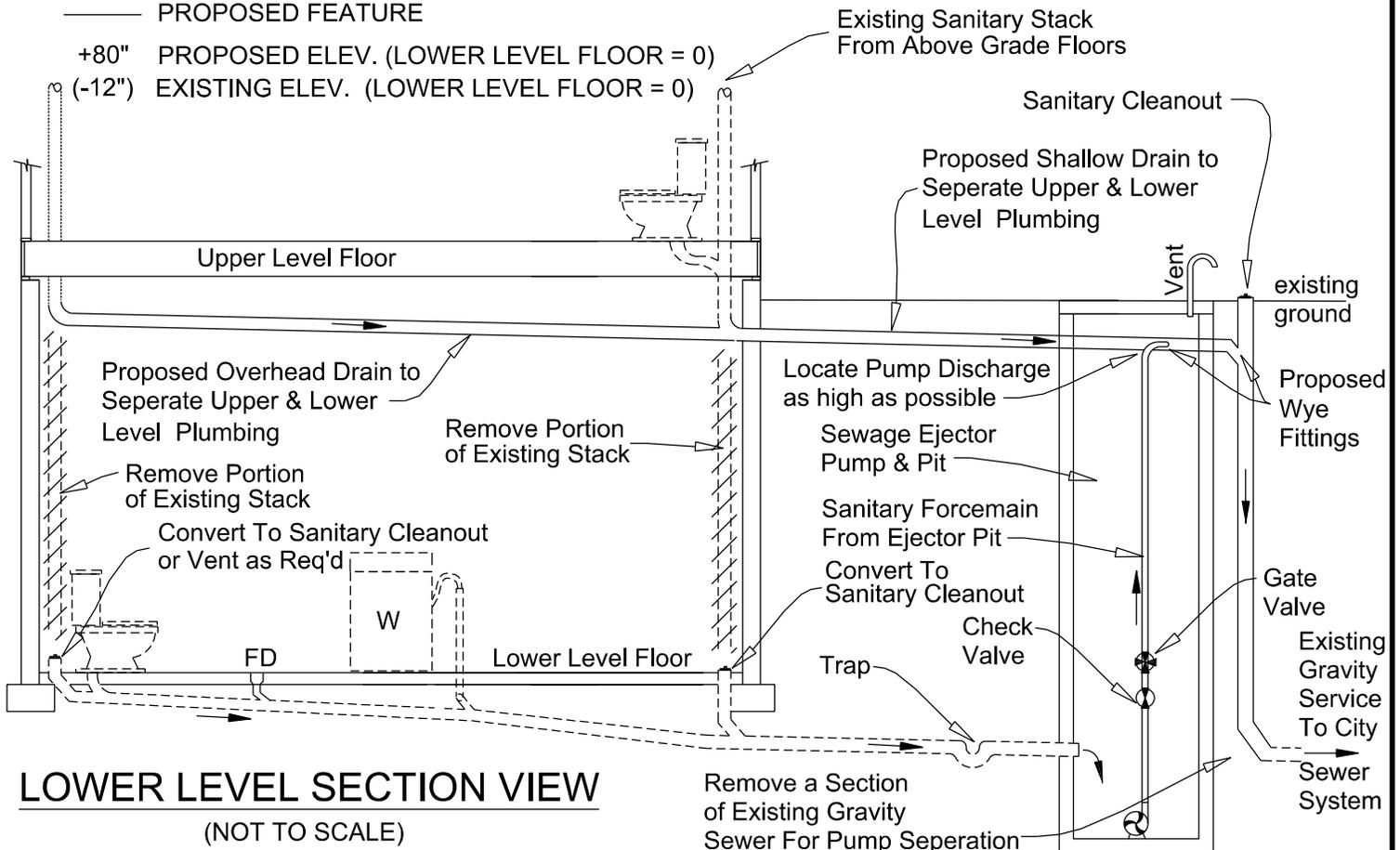
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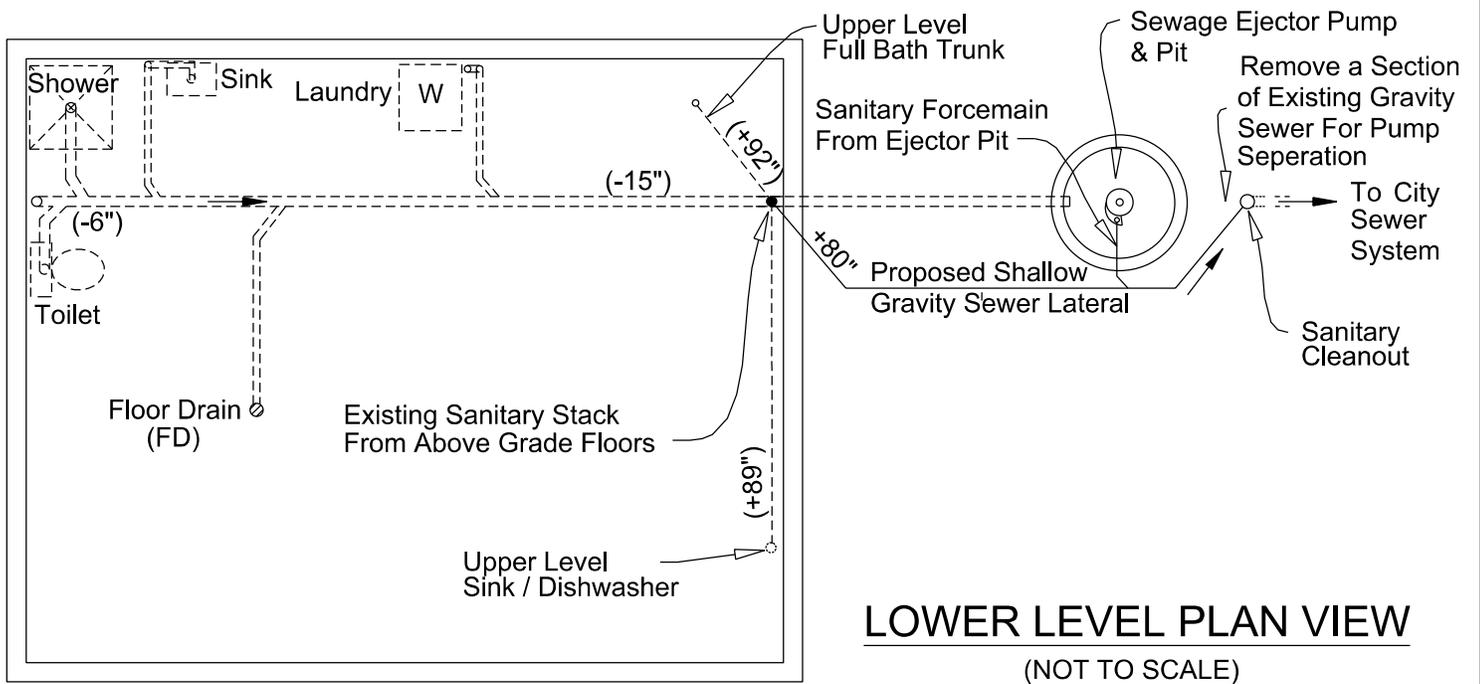
**NOTE:** A High Water and Pump Malfunction Alarm shall be installed within the residence on all Exterior Sewage Ejector Systems

+80" PROPOSED ELEV. (LOWER LEVEL FLOOR = 0)  
(-12") EXISTING ELEV. (LOWER LEVEL FLOOR = 0)



**LOWER LEVEL SECTION VIEW**  
(NOT TO SCALE)



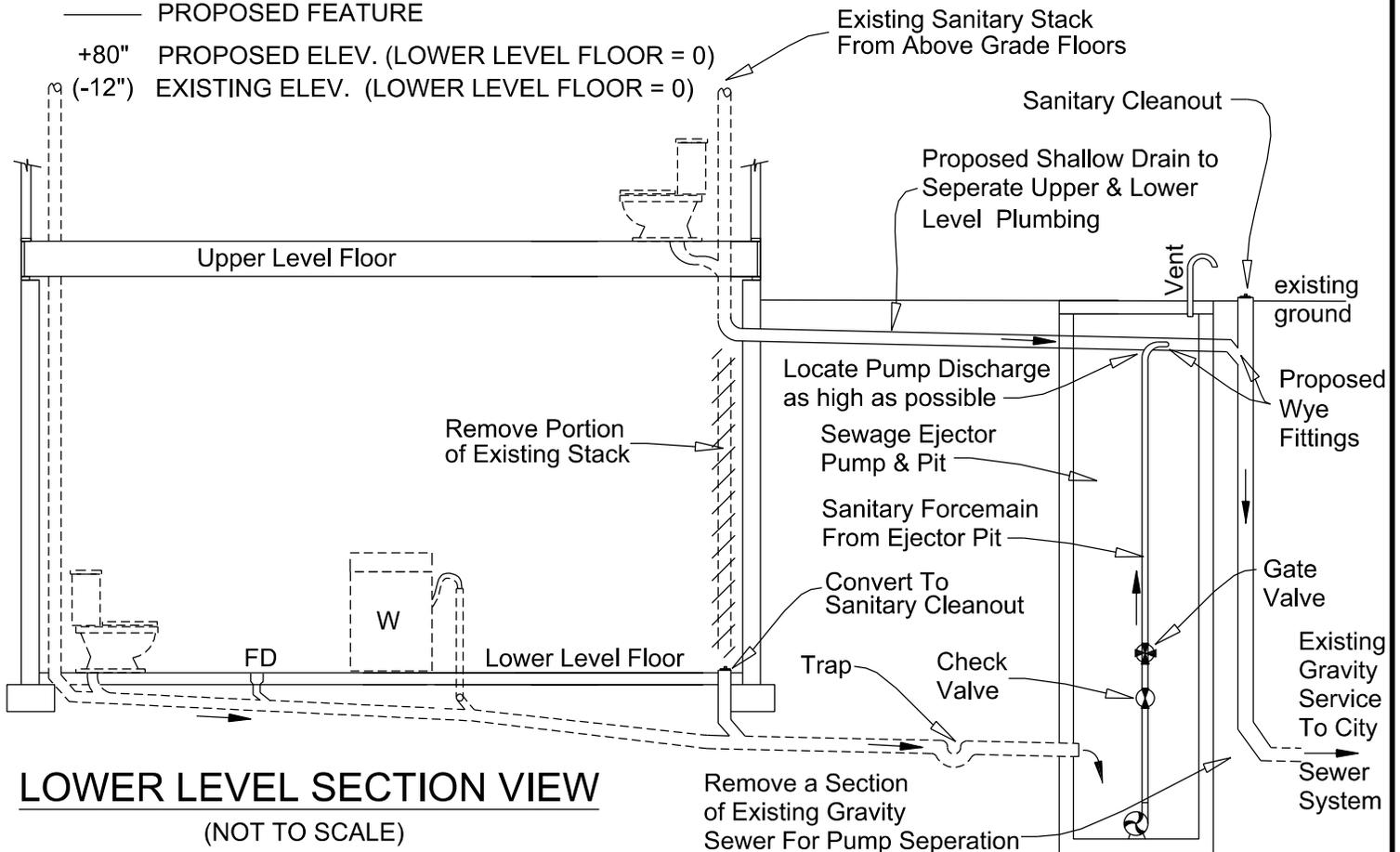


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**LOWER LEVEL SECTION VIEW**  
(NOT TO SCALE)

